Condominium Reserves Workbook

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Condominium Reserves Workbook

A reserve study provides a current estimate of the costs of repairing and replacing components parts of the association property (such as roofs or pavement) over the long-term. The study simply involves determining: (i) what components of the association property[1], the Association is obligated to maintain, repair or replace; (ii) how long will those components last before work is required; and (iii) how much will the repair or replacement cost when it is eventually required. Ideally, all major repair and replacement costs will be covered by funds set aside by the Association as replacement reserves for these predictable expenditures.

This workbook should be used in conjunction with its companion reference manual, *Condominium Reserves Reference Manual*, for a more complete understanding of condominium reserves. The manual and workbook will be available at the initial seminars on this subject. Subsequent to the seminars the workbook will be available from the Hawaii Real Estate Research and Education Center, College of Business, University of Hawaii, Manoa, 2404 Maile Way Room, B-201, Honolulu, Hawaii 96822.

This workbook was developed as part of the Hawaii Real Estate Research and Education Center's ("Center") program of work. The Center assists the Hawaii Real Estate Commission with carrying out the education and research missions of their Condominium Management Education Fund and the Real Estate Education Fund. The research, development and publication of this workbook and reference manual is supported in part by the Condominium Management Education Fund.

This workbook is designed to assist users of the *Condominium Reserves Reference Manual* with their understanding of the materials and information contained in the manual. It is distributed with the understanding that the publisher, authors, contributors and editors are not engaged in rendering legal, accounting, engineering, appraisal, contracting, or other professional services. The Center makes all reasonable efforts to provide the users of this workbook with the most current information and materials available at the date of publication. However, research, law, and industry practices change rapidly. Thus, readers are advised to take reasonable steps to update the information and materials prior to its use.

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All procedures and forms discussed or illustrated in this workbook are suggestions only and have been included for educational and academic purposes. Each association may need to change the forms and procedures depending on the specific circumstance of each case. The authors, editors , publisher, and contributors specifically disclaim any liability, loss or risk incurred as a result of the use and application, either directly or indirectly, of any advice and information contained in this publication, whether or not negligently provided. Neither, the State

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1 "Association property," is generally defined as those parts of a condominium project which an Association is obligated to maintain. These parts include, but are not limited to:

common elements of the project as determined from the project's declaration and by-laws, and any master deed, restrictive covenants or other documents affecting the property;

any real property which is not part of the common elements, but which is either owned or leased for a term of more than one year by the Association, such as a manager's apartment purchased by the Association after the project was developed;

any personal or movable propety owned or leased by the Association; and

any fixtures owned or leased by the Association. "Association property" does not include any part of the project which is "exempt association property" or which less than all owners are obligated to maintain, such as apartments or certain limited common elements.

of Hawaii Real Estate Commission, nor the Department of Commerce and Consumer Affairs, State of Hawaii, necessarily endorses or approves of the views, opinions, findings, or conclusions set forth in this workbook.

The law specifies that the condominium association perform a reserve study. However, it appears that the law does not prohibit an association from hiring or retaining an expert individual, condominium managing agent, or firm to assist the board in performing the reserve study. Nevertheless, by following the suggestions set forth in this workbook together with the accompanying manual, associations may understand how to perform a reserve study. More importantly, if an association hires an expert, the Association will know about some of the work products to expect from that expert.

Throughout this workbook and seminars on the subject, references may be made to the Hawaii Real Estate Commission's DRAFT OF PROPOSED RULES. At the time of the publication of this workbook and companion manual, the Hawaii Real Estate Commission has not adopted any rules to implement the replacement reserves requirement. Thus, the DRAFT OF PROPOSED RULES included in the companion manual has no effect of law and is not binding. However, the DRAFT OF PROPOSED RULES has been included in the companion manual for information only and to solicit the reader's comments about them. **Comments may be sent directly to the Condominium Specialist at the Hawaii Real Estate Commission at 250 South King Street, Room 702, Honolulu, Hawaii 96813.**

Throughout this workbook, and seminars on the subject, references may be made to names of specific individuals, organizations, or firms. The Center makes these references in keeping with the spirit of "academic discourse and freedom." The references made are not endorsements by or opinions by the Center of any particular professional service, individual, firm , or organization. In some instances, the individuals, organizations, or firms are regulated by the State of Hawaii or other regulatory agencies and may require licenses to render professional services. You are advised to make the appropriate inquiry and investigation into the license status of individuals, firms, or organizations before engaging their services.

The exercises in this workbook have been designed for individuals who are beginners in conducting a condominium reserve study. Those who are more experienced in this field may contribute to this important condominium management education project by sharing their experiences with the process. Please send any additional comments and suggestions directly to:

Attention: Condominium Education Manager
Hawaii Real Estate Research and Education Center
2404 Maile Way, B-201
Honolulu, Hawaii 96822

Condominium Reserves Workbook
Table of Contents

Exercises 1-A & 1-B
Identifying the Components For the Reserve Study

The objectives of these exercises are to assist individuals with:

- *identifying properties and the components of the properties, the association is obligated to repair, maintain, or replace;*
- *compiling a list of condominium association properties and the components of the properties.*

Suggested Guidelines:

A Board may begin the identification process by examining the following documents for descriptions, or statements about association properties and the components of such properties:

- ➤ the condominium declaration especially the declaration's description of the condominium's common elements;
- ➤ the master deed or lease, public report, developer's disclosure abstract;
- ➤ the covenants, conditions, restrictions, and other agreements affecting the property;
- ➤ the by-laws, house rules , board resolutions, minutes of board actions, records of purchases and any other documents.

The list may include components defined as "association property" noted in the NOTE below. **Add to the list of components compiled above any overlooked association property discovered from a walk through and around the condominium project.**

NOTE:

"Association property," is generally defined as those parts of a condominium project which an Association is obligated to maintain. These parts include, but are not limited to:

common elements of the project as determined from the project's declaration and by-laws, and any master deed, restrictive covenants or other documents affecting the property;

any real property which is not part of the common elements, but which is either owned or leased for a term of more than one year by the Association, such as a manager's apartment purchased by the Association after the project was developed;

any personal or movable propety owned or leased by the Association; and

any fixtures owned or leased by the Association. "Association property" does not include any part of the project which is "exempt association property" or which less than all owners are obligated to maintain, such as apartments or certain limited common elements.

Exercise 1-A:

On pages W-3 through W-10 (**Column 1**), read about ABC Condominium Project-A Fictitious Condominium.

In **Column 1**, underline all items that may be included in a list of property which ABC Association must maintain, replace, or repair.

Compare your answers with the answers provided in the **Column 2 - Answer Column.**

Additional notes:

Exercise 1-A
Column 1

Facts About ABC Condominium —a Fictitious Condominium

EXCERPTS FROM A HYPOTHETICAL DECLARATION OF CONDOMINIUM PROPERTY REGIME — INCLUDED HERE FOR INSTRUCTIONAL PURPOSES ONLY AND NOT FOR PURPOSES OF ILLUSTRATING LEGAL DRAFTING:

I. DECLARATION OF CONDOMINIUM PROPERTY REGIME:

This Declaration is made by _____ (the "Declarant') which is the owner of the Land referred to in this document

1. Submittal of Property; Establishment and Name of Condominium; and Declarations.

1.01 In order to create a condominium project consisting, of certain land and the improvements constructed or to be constructed thereon the Declarant does hereby submit said land and improvements and all of Declarant's estate, right, title and interest therein to a Condominium Property Regime (the "Condominium'') as established by this document pursuant to Chapter 514A of the Hawaii Revised Statutes, as amended (the "Condominium Property Act").

1.02 The name of the Condominium is _____

1.03 In furtherance of said submission, the Declarant does hereby make the declarations contained in this document as to the divisions, limitations, restrictions, covenants and conditions applicable to the Con-

Exercise 1-A
Column 2 - Answer Column

dominium, and does hereby declare that the property submitted to the Condominium shall be held, conveyed, mortgaged, encumbered, leased, rented, used, occupied and improved subject to said declarations and those in the By-Laws of the Association of Apartment Owners of _____(the "By-Laws") duly recorded concurrently with this document (or nearly so), as each of them may from time to time be amended. Said declarations are and shall constitute equitable servitudes and liens and covenants running, with the land and shall create mutual servitudes upon each apartment within the Condominium and reciprocal rights between the respective owners thereof and are and shall be binding on and inure to the benefit of the Declarant, its successors and assigns, and all owners and lessees of all or any part of the Condominium and their respective successors, heirs, personal representatives and assigns.

2. Land Description. The real property (the "Land') submitted in fee simple to the Condominium is described in Exhibit "A" (omitted) attached hereto and by reference made a part hereof.

3. Description and Division of the Buildings, Improvements and 'Apartments.

3.01 The buildings and other improvements of the Condominium are as shown on the plans recorded in the Bureau of Conveyances of the State of Hawaii as Condominium Map No.___as the same may from time to time be lawfully amended (the "Condominium Map"), and are also as described in Exhibit "B" (omitted) attached hereto and by reference made a part hereof.

3.02 The Condominium is divided

Exercise 1-A
Column 1

into 136 fee simple condominium apartment estates. The term "apartment" as used in this Declaration shall mean an apartment unit as herein described, including, unless clearly repugnant to the context, the common interest, limited common elements and other easements appurtenant thereto.

The Condominium contains: one hundred thirty-six (136) apartment units located in fourteen (14) two-story wood framed buildings, without basements. All buildings are built basically of concrete, wood, glass and allied building materials. There are 261 uncovered on-grade parking stalls located near the buildings. At least one parking stall is assigned to each apartment. Fourteen (14) stalls are set aside for visitors. Two (2) stalls are set aside for car wash use.

There are 4 basic types of apartment units, Type A, Type B, Type C and Type D.

Each apartment will have carpeting (except in the kitchen and bathroom or rooms which will be sheet vinyl), range and oven with hood, garbage disposal and a water heater. The water heaters for Type B and Type D units are located on the first floor level in an exterior compartment adjoining the building. Each compartment contains 4 water heaters, one for each of two adjoining first story apartments and one for each of the two second story apartments above. The water heater for each apartment (including related piping serving only that unit) is a part of that apartment, even if it is located outside the perimeter of the unit.

3.04 Limits of Apartments. The perimeter of each of the apartments is established by the floor area computed in accordance with Condominium Rule 16-

Exercise 1-A
Column 2 - Answer Column

Exercise 1-A
Column 1

107-6. This floor area is (i) the net living area of the enclosed portion of the apartment measured from the interior undecorated surface of the apartment perimeter walls, plus (ii) lanai area. Each apartment unit includes: all walls, partitions, floors, ceilings and other improvements within its perimeter; the adjacent lanai shown on the Condominium Map; all air space within the perimeter and the floors and ceilings of the unit; the interior decorated or finished surfaces of the perimeter walls, floors and ceilings; all appliances originally furnished with the unit including a water heater and related piping which services the unit (even if located outside of the perimeter); all pipes, plumbing, wires, conduits or other utility or service lines serving only the unit; and all glass, windows and window frames, doors and door frames along the perimeter of the unit. An apartment unit does not include any common elements within it.

NOTE: As stated and referred to in this Declaration, the "net living areas" of apartments have been determined from the Condominium Map. As constructed, the net living area of each apartment may, and indeed most probably will, vary to a minor degree from the area indicated on the Condominium Map. Purchasers and prospective purchasers should also be aware that "net living area" calculated in accordance with Condominium Rule 16-107-6 may be significantly less than "apartment area" calculated according to some other method or methods with which purchasers and prospective purchasers may be familiar.

Common Elements. The common elements shall consist of all portions of the land and improvements, other than the apartments, including all elements of the Condominium generally described as common

Exercise 1-A
Column 2 - Answer Column

Common Elements. The common elements shall consist of all portions of the land and improvements, other than the apartments, including all elements of the Condominium generally described as common

Exercise 1-A
Column1

elements in the Condominium Property Act which are actually constructed on the Land. Without limitation to the generality of the foregoing, the common elements shall include:

4.01 The Land in fee simple, together with and subject to such easements, rights and restrictions as are described in Exhibit "A" attached hereto.

4.02 All foundations, floor slabs, columns, girders, beams, supports, load-bearing walls, main walls, interior walls separating adjacent apartments in the same building (except the inner decorated surfaces of such walls), and roofs of the building; all exterior stairs, stairways, landings, and railings (except lanai railings); and other building appurtenances, including but not limited to, the electrical cabinets and compartments for water heaters located on the exteriors of the buildings.

4.03 All yards, grounds, landscaping, fences (including those fences which enclose the limited common element yard areas adjoining ground floor apartments) and trash enclosures (as shown on the Condominium Map).

4.04 All sidewalks, pathways, parking areas, parking stalls (including the 14 "Guest" parking stalls and the 2 extra parking stalls for car wash use as designated in Exhibit "B" hereto), loading zones (designated as such on the Condominium Map), driveways and roads within the Condominium.

4.05 All ducts, electrical equipment, transformers, wiring and other central and appurtenant installations for power, light, water, sewer, cable television and telephone;

Exercise 1-A
Column 2 - Answer Column

elements in the Condominium Property Act which are actually constructed on the Land. Without limitation to the generality of the foregoing, the common elements shall include:

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4.05 All ducts, electrical equipment, transformers, wiring and other central and appurtenant installations for power, light, water, sewer, cable television and telephone;

Exercise 1-A
Column 1

all pipes, plumbing, wires, conduits or other utility or service lines which are utilized by or serve more than one apartment, including any such lines which run through any apartment; and central air conditioning and like utilities, if installed.

4.06 All the rights, benefits and privileges, if any, inuring to the Land or to the Condominium from all easements shown on the Condominium Map or listed in said Exhibit 'A".

4.07 All other portions of the land and improvements that are not specifically designated for use by one or more specific apartments, but which are intended for common use (including the "Directory" facility located near building N, as shown on the Condominium Map), and all other devices and installations the use of which exists for, is rationally allocated to or is necessary to the existence, upkeep and safety of more than one apartment or the Condominium Project as a whole.

Unless clearly repugnant to the context thereof, the term "common elements" also means and includes the limited common elements hereinafter described.

(a) Each apartment will have appurtenant to it at least one parking stall. The Condominium Map identifies each stall by a parking stall number. A parking stall marked with a "C" designation on the Condominium Map indicates a parking stall which is "compact" in size. A parking stall marked with an "HC" designation on the Condominium Map indicates a parking stall which is oversized for the handicapped. A listing of the parking stalls (not including the "C" or the "HC" designations) and the apartments to which they will be appurtenant initially is as fol-

Exercise 1-A
Column 2 - Answer column

all pipes, plumbing, wires, conduits or other utility or service lines which are utilized by or serve more than one apartment, including any such lines which run through any apartment; and central air conditioning and like utilities, if installed.

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Unless clearly repugnant to the context thereof, the term "common elements" also means and includes the limited common elements hereinafter described. . . .

Exercise 1-A
Column 1

lows:

LIMITED COMMON ELEMENTS: Certain parts of the common elements, called "limited common elements", are set aside and reserved for the exclusive use of certain apartments. The limited common elements are as follows:

(a) Each apartment will have appurtenant to it at least one parking stall The Condominium Map identifies each stall by a parking stall number. A parking stall marked with a "C" designation on the Condominium Map indicates a parking stall which is "compact" in size. A parking stall marked with an "HC" designation on the Condominium Map indicates a parking stall which is oversized for the handicapped. A listing of the parking stalls (not including the "C" or the "HC" designations) and the apartments to which they will be appurtenant initially is as follows: . . .

II. Records of Purchases.

Financial Ledgers indicate the association made the following expenditures in the last 3 years:

solar panels 6

portable office for its security building

security alarm system for all apartments connected to own security and central system connected to police and fire

III. Journal Log of Resident Manager

6/18/92 Emergency generator checked and routine cleaning performed today..

Exercise 1-A
Column 2 - Answer Column

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Financial Ledgers indicate the association made the following expenditures in the last 3 years:

solar panels 6

portable office for its security building

security alarm system for all apartments connected to own security and central system connected to police and fire

III. Journal Log of Resident Manager

6/18/92 Emergency generator checked and routine cleaning performed today..

Exercise 1-A
Column 1

7/89/90 Roof antennas on all buildings fixed

IV. Maintenance Records:

Maintenance Records indicate that the association properties discussed in the project declaration above are checked annually and maintenance performed immediately . The records indicate the following repairs were performed in the last 4 years:

Reprimed and Painted entryway of the security building facing ocean side:
3/3/89 $10,000.00

Resealed entry way into left driveway ocean side; 5/20/88 $9,000.00

Patched roofing above entry way into security building facing ocean side; 10/9/88 $12,000.00

Exercise 1-A
Column 2 - Answer Column

7/89/90 Roof antennas on all buildings fixed

IV. Maintenance Records:

Maintenance Records indicate that the association properties discussed in the project declaration above are checked annually and maintenance performed immediately. The records indicate the following repairs were performed in the last 4 years:

Reprimed and Painted entryway of the security building facing ocean side:
3/3/89 $10,000.00

Resealed entry way into left driveway ocean side; 5/20/88 $9,000.00

Patched roofing above entry way into security building facing ocean side; 10/9/88 $12,000.00

Exercise 1-B:

From **Exercise 1-A, Column 2 - Answer Column:**

- Choose 5 items which are association property;
- List those items in **Worksheet 1-B, Column 1 - "Association Property" (pg. W-12)**

On the same **Worksheet 1-B, Column 2 - "Component's of Association Property" (pg W-12):**

- List components which make up the association property listed in Column 1. Note that some property does not have components.

(See example of answers in **Worksheet 1-B Answer Sheet, pg W-13**))

Additional Notes

Worksheet 1-B

(Column 1) Association Property	(Column 2) Components of Association Property

Worksheet 1-B Answer Sheet

Association Property	Components of Association Property
Land	
Foundations	
Floor slabs	
Girders	
Beams	
Supports	
Load bearing walls	
Interior Walls	
Exterior stairs	
Stairways	
Landings	
Railings	
Electrical Cabinets	
Compartments for Water Heaters	
Yards	
Grounds	
Landscapping	
Fences	
Trash Enclosures	
Sidewalks	
Pathways	
Parking Stalls	
Ducts	
Electrical equipment	
Transformers	
Wiring and other central and appurtenant installations	
Pipes	
Wires	
Conduits	
Columns	
Solar Panels(6)	
Security Station	
Alarm System	
Carbon Monoxide Monitor (Garage)	
Antennas	
Roofing	Wood shingles
	Sheeting
	Hurricane Clips
Parking Areas	Asphalt Concrete
Main Walls	Painting, Exterior stucco
Tennis court	Surface
	Nets (2)
Air conditioning equipment	
Plumbing	Hot and Cold Water Pipes

Exercise 1-C
Designating Which Components of the Association Property to Include In the Reserve Study at a Particular Point in Time

> *The objective of this exercise is to assist individuals in deciding whether and when to include association property and components of the association property in the reserve study.*

Suggested Guidelines:

Time Frame

Professionals disagree on the appropriate time frame for a reserve study. A good rule of thumb is to forecast for a time period that will include the replacement year of a component with the longest estimated useful life. Professionals generally 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 omitted from the reserve study. **However, if there is reason to expect the item to wear out before the building does and if due to the age of the apartments, the item may wear out within the time span of the reserve study, then that item (e.g., the electrical or plumbing system in a condominium) should be included as a reserve study component.**

Obviously, the ability to estimate accurately is more reliable in the near term. Estimates of costs that are 20 to 40 years away are at best an educated guess. However, a reserve study is incomplete and may be misleading unless it covers the life of the longest-lived component . Since studies should be reviewed annually as a part of the Association's regular budget cycle, estimates can be updated as necessary.

Subject to further study and research, the Center is suggesting that any association property component with an estimated remaining life of 20 years or less be included in the reserve study.

Exercise 1-C:

In doing this exercise please keep in mind that ABC Condominium is 15 years old. Assume the time frame for inclusion of a component in a reserve study is an estimated remaining life of 20 years or less.

Place a yes or no in the last column on Worksheet 1-C, indicating that the property or that the components of the property more than likely should be included in ABC's condominium reserve study.

Additional Notes:

Worksheet 1-C

Association Property	Components of Association Property	Current Age	Estimated Useful Life	Estimated Remaining Life	Yes or No
Roofing	Wood shingles 12,820 Sq. Ft.	15yrs	20 yrs	5 yrs	
	Sheeting 3/4 inch thick plywood				
	Hurricane Clips				
Parking Areas	Asphalt Concrete 56.000 sq.ft.	15yrs	8 yrs	0	
Main Walls	Painting, Exterior stucco 20,000 sq. ft.	15yrs	7 yrs	15 yrs	
Tennis court	Asphalt Surface (10,000 sq. ft)	15yrs	4 yrs	0	
	Nets (2)				
Plumbing	Hot and Cold Water Pipes 50 ft. 2" diameter	15yrs	35 yrs	20 yrs	
Ducts		15yrs	55 yrs	40 yrs	
Columns		15yrs	60 yrs	45 yrs	

Worksheet 1-C Answer Sheet

Note: All figures contained in Worksheet 1-C Answer Sheet are Hypothetical ones.

Association Property	Components of Association Property	Current Age	Estimated Useful Life	Estimated Remaining Life	Yes or No
Roofing	Wood shingles 12,820 Sq. Ft.	15yrs	20 yrs	5 yrs	Yes
	Sheeting 3/4 inch thick plywood				
	Hurricane Clips				
Parking Areas	Asphalt Concrete 56.000 sq.ft.	15yrs	8 yrs	0	Yes
Main Walls	Painting, Exterior stucco 20,000 sq. ft.	15yrs	7 yrs	8 yrs	Yes
Tennis court	Asphalt Surface (10,000 sq. ft)	15yrs	4 yrs	0	Yes
	Nets (2)				Yes
Plumbing	Hot and Cold Water Pipes 50 ft. 2" diameter	15yrs	35 yrs	20 yrs	Yes
Ducts		15yrs	55 yrs	40 yrs	No
Columns		15yrs	60 yrs	45 yrs	No

Exercise 2
Specifying the Quantity of Each Component

> *The objective of this exercise is to assist the individual in describing and quantifying components of association property; resulting in more reliable estimates of useful and remaining lives, and replacement costs*

Suggested Guidelines:

Although existing condominium file plans, maps, and construction drawings of the development may serve as a guide to component quantities, a detailed site (**including the walk around and through the project**) and building analysis is the best way to obtain an accurate count of these items. For some components (e.g., streets, roofs, fences) the square or linear footage must be measured in order to describe the quantity while for other items (e.g., utility room doors), it may be sufficient to know the number required. Floor plans, and "As—built" drawings are an excellent source of information for these[2] quantities, but in their absence, the items should be accurately measured.

For components of the association 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 neglect the "extra" pieces that are, in fact, necessary to the construction of such essential items as roofs, siding, and irrigation systems.

Once the quantity and constituent parts of the components of the association are detailed, it is necessary to consider the quality and specifications of those parts. (Is the asphalt two inches thick or four inches? is it a two-ply roof? ...what grade paint was used?) An accurate description of the materials is essential to determining adequate reserves.[3] 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 exposures as compared to the square footage with eastern or northern exposures).

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2 The construction drawings filed when the development was begun usually represent builder plans rather than the development as actually built. As such, they are useful but should be verified by physical inspection. The practice of requiring construction drawings as part of the condominium project registration has been replaced by the procedure requiring the filing of condominium maps.

3 While the Association may wish to change the quality of the asset at the time of replacement, this is a separate decision. The law may limit upgrades with the prior approval from a percentage of the apartment owners as provided in the declaration. §514A-11 (12) HRS

Exercise 2: Following each component, provide a more specific description of the item, include for example, quality of material, width, height, square footage, and number quantity. An example of a more specific description of "Main Walls" is: the southern wall vinyl siding, 9 x 10 square feet. Some of the information is found on either page W-17 or W-18. Also include possible factors that could affect condition.

a. Main Walls: _____

_____

b. Tennis court surface: _____

_____

c. Hot and cold water lines (30% corroded):

_____

_____

Answers to Exercise 2

Descriptions and quantities (possible conditions are underlined):

a.	Painting Main Walls:	Exterior walls facing ocean 20,000 sq. ft.; stucco
b.	Tennis Court Surface:	Asphalt 10,000 square feet; nets torn
c.	Hot and Cold Water Lines:	Copper pipes 2 " diameter 50 feet; 15 ft. need replacement.

Exercises 3-A & 3-B
Determining the Useful and Remaining Life of Each Component of The Association

> *The objective of these exercises is to assist individuals with:*
> - *identifying the limitations of and factors impacting the estimated "useful and remaining lives of association property and its components.*

Suggested Guidelines:

Estimated useful life" is generally defined as the period: (1) a new component, or (2) an existing component which has been newly restored or refurbished, will serve its intended function without requiring capital expenditures or major maintenance. Factors which may affect "estimated useful life" include but are not limited to:

- quality of component materials (i.e. inferior, good, average, excellent proper maintenance)
- proper installation and workmanship
- location of component
- exposure of component
- usage of component

Appendix F of the *Condominium Reserves Reference Manual* lists a number of research sources for estimates of average estimated useful life for a number of major association components. Some commercially available manuals also have estimates of useful life. However, published data may not be consistent with the location, exposure, or type of a particular component. **For these reasons, the information reported in Appendix F of the manual should be weighed together with the information in Appendix G . 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 vary considerably from manual to manual, from vendor to vendor, from contractor to contractor, etc. Consulting more than one source may minimize the risk of under-or over estimating the useful life of a major component[4] . In any case, the source(s) of component estimates should be identified specifically.

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4 The variations found from manual to manual is dependent on the assumptions and qualifiers upon which the author's base their estimates. For example Marshall & Swift in its publication *Marshall Valuation Service* in section 97 Page 7 states the following caveats in regards to its "Life Expectancy Guidelines:" ". . . Lives may be shortened under severe requirements due to heavy wear, corrosive contact and/or atmospheric conditions, etc. or lengthened under very light usage, mild, circumstances, protective coatings. etc.. . . " Different life expectancies are reported in this service under different columns entitled "Low, AVG, Good, Excl."

"Estimated remaining life" is generally defined as any period: (1) which is shorter than the estimated useful life of a component; and (2) for which the component will continue to serve its intended function without requiring capital expenditures or major maintenance. If the development is new and the developer-prepared maintenance and description of warranties are correct, the remaining life might be estimated simply by subtracting the age of the development from the "estimated" useful life of each component of the association. The older the components the less accurate this method will be.

The factors that affect the "estimated remaining life" of a component are somewhat the same as those discussed under "estimated useful life." However, add to that list, the past maintenance of the property or component, or the absence of maintenance; and the apparent physical condition.

The current age of the component can generally 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.

> **Word of Caution:** In determining the "estimated" remaining life of an component, *a certain level of continued preventive maintenance is assumed.* These maintenance assumptions should be stated explicitly so that proper maintenance can be continued throughout the component's remaining life.

The "estimated remaining life" of a component implicitly specifies the year in which it must be repaired or replaced. A budget time line can be used to show the year of estimated replacement for each component. This time line can serve as a schedule for expected component replacements and can be updated or changed when the component study is updated or as components last for shorter or longer periods than expected.

"Estimated remaining life" of a component is determined by subtracting the component's current age from the component's estimated useful life.

Exercise 3 -A:

Using **Table 3-A (below)** complete **Worksheet 3-A** by indicating in the respective column for each component: the current age, estimated useful life, estimated remaining life, and replacement year. Remember the current age of the condominium is 15 years old.

Table 3-A

Component	Current Age (as of 10/92)	Estimated Useful Life
Main Walls; exterior painting	15yrs	7yrs
Paving; parking areas driveway	15yrs	8yrs
Roofing	15yrs	20yrs
Tennis court	15yrs	4yrs
Hot and Cold Water Lines	15yrs	35yrs

Additional Notes:

Worksheet 3-A

Determining the Replacement Schedule				
Component	Current Age (as of 10/92)	Estimated Useful Life	Estimated Remaining Life	Year to Replace
Main Walls; exterior painting	15yrs			
Paving; parking areas driveway	15yrs			
Roofing	15yrs			
Tennis court	15yrs			
Hot and Cold Water Lines	15yrs			

Worksheet 3-A Answers

Component	Current Age (as of 10/92)	Estimated Useful Life	Estimated Remaining Life	Year to Replace
Main Walls; exterior painting	15yrs	7yrs	0yrs	1992
Paving; parking areas driveway	15yrs	8yrs	0yrs	1992
Roofing	15yrs	20yrs	5yrs	1997
Tennis court	15yrs	4yrs	0yrs	1992
Hot and Cold Water Lines	15yrs	35yrs	20yrs	2012

Exercise 3 -B:

Read the following "Purpose and Uses" provision of the sample declaration and review the information about ABC condominium [Exercise 1-A, (pages W-3 - W-10]. Decide whether the estimated remaining life for any of the components written in the **Table 3-A in Exercise 3-A** should be adjusted. Indicate your answer on **Worksheet 3-B**, by placing (+) for an adjustment upward; (—) for an adjustment downward; and (0) for no adjustment.

9. Purposes and Uses[5].

9.01 Subject to the rights reserved to the Declarant in other parts of this Declaration or in the By-Laws, each of the apartments is intended for and shall be restricted to the following uses, which, together with the restrictions stated in the By-Laws and in the Rules and Regulations, are intended and shall be deemed to be cumulative.

(a) An apartment shall be occupied and used for residential purposes. The apartment may be also used as a tenement or rooming house or for or in connection with the carrying on of any business, trade or profession whatsoever. An apartment may be rented by which the occupants of the apartment are provided customary hotel or like services, such as room service for food and beverage, maid service, laundry and linen service, or bellboy service. . . .

(b) The apartments in the project or any interest therein may be sold, transferred, conveyed, leased, occupied, rented or used for or in connection with any timesharing purpose or under any timesharing plan, arrangement or program, including without limitation any so-called "vacation license", "travel club membership", or "time interval ownership" arrangement. . . ..

5 Excerpts from CPR Report for educational purposes only

Worksheet 3-B

Component	Current Age (as of 10/92)	Estimated Useful Life	Estimated Remaining Life	Adjustments to Estimated Remaining Life, +, -, 0
Main Walls; exterior painting	15yrs	7yrs	0yrs	
Paving; parking areas driveway	15yrs	8yrs	0yrs	
Roofing	15yrs	20yrs	5yrs	
Tennis court	15yrs	4yrs	0yrs	
Hot and Cold Water Lines	15yrs	35yrs	20yrs	

Worksheet 3-B Answers:

The Condominium Fact Sheet "Maintenance Records" portion on page W-10 indicates that this condominium is located across the ocean and more than likely will experience the effects of salt and wind-carried salt sea spray. The maintenance records also indicate that the roof was patched on the side facing the ocean. For these reasons, the adjustment may be made downwards.

On the other hand, patching the roof when needed may have increased the remaining life of the roof. An individual familiar with estimating the remaining life of the roof may be able to assist the Board in deciding what the best estimate should be in these circumstances.

Component	Current Age (as of 10/92)	Estimated Useful Life	Estimated Remaining Life	Adjustments to Estimated Remaining Life, +, -, 0
Main Walls; exterior painting	15yrs	7yrs	0yrs	0
Paving; parking areas driveway	15yrs	8yrs	0yrs	0
Roofing	15yrs	20yrs	5yrs	- or +
Tennis court	15yrs	4yrs	0yrs	0
Hot and Cold Water Lines	15yrs	35yrs	20yrs	-

Exercise 4:
Determining the "Estimated Cost of Replacement"

The objectives of this exercise are to assist individuals with:

- *identifying factors which affect estimates of replacement cost;*
- *modifying estimates of replacement costs for a particular reserve study.*

Suggested Guidelines:

Estimated replacement costs may be obtained from manufacturers or their representatives on some items, from vendors, and local licensed contractors on others. ***It is important to remember that the cost of the component replacement should also include the cost of removing the existing component.*** See Appendix F and G of the *Condominium Reserves Reference Manual* for beginning points in researching estimated replacement costs.

Most professional component study preparers obtain their **initial** replacement cost estimates from such manuals. Cost estimates are generally comparable among manuals **intended for the same geographic area,** so there is less need to consult multiple manuals for cost estimates than for estimates of useful life. **However, there are some cautions to be observed in using these manuals to determine costs, such as:**

- national averages probably under estimate cost of labor and materials for the different islands of Hawaii;
- national averages for some estimates assume an average grade of replacement materials, (local building codes may impact the grade of materials used for replacement);
- national cost averages may not include the cost of removing the replaced component;
- national averages probably do not account for interest that may be earned on reserve accounts as "Off-Sets,"which impact on a "true cost of replacement" for the association.
- base year in which the manual's cost estimates were made, in some instances do not include cost of inflation. Note also that costs of construction in Hawaii often exceed inflation rates.

Exercise 4: Consider the following additional information about ABC Condominimum:

- Developers used high quality materials beyond code specifications
- Local labor costs increased 5% over the pervious year's average

Replacement reserve account is in excess of the statutory minimum (approx 75% of the full amount needed).

Using the Table 4 below indicate with either +. -, or 0 sign, next to the future cost to replace figure, whether the estimated replacement costs obtained from a manual or a contractor should be adjusted upward (+), downward (-), or remain as estimated (0).

Table 4

Component	Qty & Units	Unit Cost	Current Cost to Replace (1989)	Future Cost to Replace 1/1/2000* (average)	Adjustments to Future Costs
Painting, exterior stucco	20,000 sq. ft.	0.50	$10,000	$10,941	
Paving, asphalt	56,000 sq. ft.	0.25	$14,000	$16,022	
Roofing, wood shingle	12,820 sq. ft.	2.34	$30,000	$35,913	

*inflation factor is 4.6% per annum; cost is average cost

Answers to Table 4:

+'s should appear in the last column "Adjustments to Future Costs"

Adjustments upward may be in order because future cost to replace represent average costs and do not account for the higher costs connected with the use of high quality materials and increased labor cost over the previous year's average.

Exercises 5-A & 5-B
Establishing Adequate Replacement Reserves (The Reserve Funding Goal) and Determining How To Fund Towards the Goal

The objectives of these exercises are to assist individuals with:

- *calculating adequate reserves for components of the association property for a projected period of time;*
- *developing a plan to fund the results of the condominium reserve study in compliance with the statutory minimum; and*
- *developing, without resort to the use of large special assessments, a fair and acceptable plan to fund the results of the condominium reserve study in excess of the statutory minimum.*

Abstract of the Reserve Law §514A-83.6, HRS:

The law requires that by January 1, 2000, the association must assess apartment owners to fund a minimum of fifty per cent of the total estimated replacement reserves. In each fiscal year, beginning January 1, 2000 and thereafter, an association is required to collect a minimum of fifty per cent of the full amount required to fund the estimated replacement reserves for that fiscal year. The law also allows funding of the estimated replacement reserves in increments after January 1, 1993 and prior to January 1, 2000 as provided by the Rules of the Hawaii Real Estate Commission.

The associations may use with proper written disclosure, different funding methods as provided by Commission rules. But by January 1, 2000, an existing association must have, in its reserve account, a minimum of fifty percent of the full amount required to fund the estimated replacement reserves. For each fiscal year thereafter, existing associations, must collect a minimum of fifty percent of the full amount required to fund the estimated replacement for that fiscal year in its reserve account. The law also permits in accordance with Rules adopted by the Real Estate Commission, to fund in increments over three years, estimated replacement reserve amounts which have been substantially depleted by an emergency.

Suggested Guidelines:

As specified above, the law sets a bare minimum funding level. Clearly, however, the financial viability of the Association will depend a great deal on the ability of the Association to replace components as they wear out and to avoid delaying major maintenance items. For these reasons, associations may consider funding reserves at levels higher than what the law requires.

The component study portion of the reserves study provides the estimates for expected expenditures by year for each component of the association property. Adding these component replacement requirements together, by year, gives the estimate of needed funds over time.

An important policy issue for the Board is the decision to use current costs, or estimated future costs. Whichever method is used, inclusion of an inflation cost rate and for interest earned on the reserves during the estimated life of the component should result in a more realistic projection.

> If the Board uses **current costs**, it is essential that the Board redo 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 estimated remaining life. THIS APPROACH IS VALID ONLY IF REPEATED EACH YEAR.
>
> If the Board chooses to use an **inflation rate**, it would apply an average annual long-term cost inflation rate to all components from the time of the study until the year of replacement (based on recent average component replacement cost data). To keep this plan current, it is important to annually review and update projected expenditures, inflation factors and other assumptions.

There are a number of ways to select an inflation rate for estimating replacement costs in future years. For sources of information for inflation factors in Hawaii are the following:

- the Federal Bureau of Labor Statistics
- published information from construction cost estimating companies such as R.S. Means Company, Inc.
- the Honolulu Consumer Price Index for All Urban Consumers
- the Hawaii Data Book

Funding the Goal

Once the Board decides on a funding goal, the board must then decide how much

to assess the apartment owners and by what means. The better practice is to assess beyond the bare minimum of the law by means of regular assessments. Special assessments and borrowing of funds are other methods for obtaining the monies needed to fund the replacement reserves. These methods, however, should not be the board's first choice. Income from planned regular assessments and interests earned from the reserve accounts are preferred methods for funding the total estimated replacement reserves.

Estimating Association Reserve Fund Income

The ideal funding mechanism for building the replacement reserves is the regular (usually monthly) assessments paid by Association members. A specific dollar amount of regular Association payments must be earmarked for reserves, and deposited into the 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 is due for repair or replacement. This funding mechanism 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.

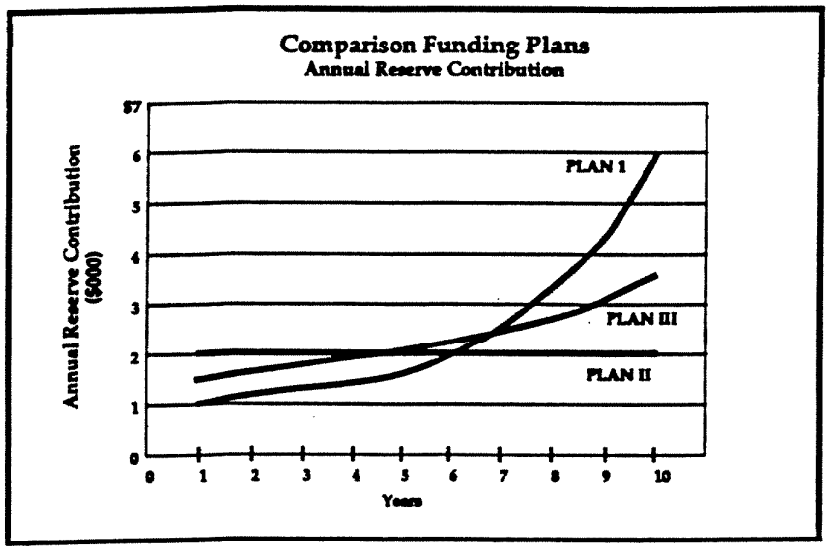
Income from regular assessments must be calculated for each year, based on the number of apartments and the level of assessment per apartment. In Associations with several rates for different types or sizes of apartments, the expected income should be calculated for each class of apartment and then added. Assessment increases, if any, should be estimated by year.

As replacement of components comes due in future years, it will draw against replacement reserves funds. Hopefully, the initial reserve account, augmented by regular contributions from routine apartment owner assessment payments, should provide enough "cushion" to pay for replacements as they are needed. However, in some cases, the replacement reserves accounts will not be enough. The cash flow analysis will identify instances where estimated operating expenses, including required expenses for components for which reserves must be established, for a given year exceed estimated revenues. In these cases, additional funds from special assessments (or other sources, if any) would be needed to increase the replacement reserves at least to required levels.

Worksheet 5-A Answer (pg W-35) summarizes for a projected period of 7 years, the estimated replacement cost concepts in a spreadsheet, The rows in the spreadsheet show individual component replacement costs. The columns show the years included in the funding study; in this case, we have assumed a funding plan period of seven years.

Funding the reserve study results may be done by one of the following methods or a combination:

- regular plan assessments
- special assessments
- borrowing of funds per statutory requirements.



Different levels and types of assessments approved by the Board impact on the amount of future assessments. The chart* on the left illustrates the impact.

Whatever the Board decides to do about the reserve goal and amount and type of assessments including borrowing, the Board must:

- Update the reserve data and information,
- Document the reserve information with its limitations and assumptions,
- Disclose the reserve information and any underfunding to association members, and
- Comply with all other requirements of §514A-83.6 Hawaii Revised Statutes.

---

* . . Plan I is simple and effective, but the artificially low contributions in the early years will unfairly burden the owners during the latter years. Plan II, using amortization equations, is an improvement, but due to deficit reduction forced in the first years it often requires a high contribution at that time. Plan III requires the most decision-making on the part of the analyst, but can result in the lowest and most equitable recommendation over time." Nordlund, Robert, "Performing A Reserve Study" Common Ground, July/August 1989, pgs 20 and 29.

Excercise 5-A — Adequate Reserves:

The formula for calculating adequate replacement reserves for each association property or component of the association property may be stated as the product of:

(1) The projected (estimated replacement cost) capital expenditure or major maintenance required for the asset at the end of its estimated useful life ; and

(2) A fraction which has as its numerator the component's estimated useful life minus its estimated remaining life and as the denominator the component's estimated useful life.

The total of the adequate replacement reserves for each component shall be an adequate replacement reserve for the association.

Using **Worksheet # 5-A (below)**, do the following:

1. For the component "Paving," fill in the useful life and remaining life figures in boxes 1 and 2 in the column entitled "End of Year 7, 2000."

2. Calculate for the "Paving" component, the replacement cost for the end of year 7 and enter the figure in box 3 (assume the annual inflation factor is 4.6% per annum).

3. Calculate for the "Paving" component, the estimated replacement reserve that should be in the reserve account at the end of year 7 and enter the figure in box 4 (this figure represents 100% of the estimated replacement reserves needed).
   ◄ Use the formula from Column 1 on this page.

4. Calculate for the "Paving" component, 50% of the estimated replacement reserve that should. be in the reserve account at the end of year 7 and enter the figure in box 5 (this figure represents 50% of the estimated replacement reserves required by law as of January 1, 2000)

5. Using the amounts in the end of the year 7 column, calculate the estimated replacement reserves (unfunded liability) at an assessment level of 75% for each unit (total of 136 units) and compare the amount with the required assessment of 50% of the estimated replacement reserves. Which assessment level would result in a smaller special assessment and or loan

Worksheet 5-A

Major Component Replacement Liability		End of Year 0, 1993	End of Year 1, 1994	End of Year 2, 1995	End of Year 3, 1996	End of Year 4, 1997	End of Year 5, 1998	End of Year 6, 1999	End of Year 7, 2000
Painting	Useful life	5	5	5	5	5	5	5	5
	Remaining life	2	1	0	4	3	2	1	0
	Replacement cost	$10,000	$10,460	$10,941	$11,444	$12,522	$13,098	$13,695	$14,331
	Liability	$6,000	$8,368	$10,941	$2,394	$4,788	$7,513	$10,956	$14,331
	50% of the estimated replacement reserve	$3,000	$4,184	$5,471	$1,144	$2394.08	$3,756	$5,478	$7,166
Paving	Useful life	7	7	7	7	7	7	7	1
	Remaining life	3	2	1	0	6	5	4	2
	Replacement cost	$14,000	$14,644	$15,318	$16,022	$16,759	$17,530	$18,366	3
	Liability	$8,000	$10,460	$13,130	$16,022	$2,394	$5,009	$7,858.44	4
	50% of the estimated replacement reserve	$4,000	$5,230	$6,565	$8,061	$1,197	$2,504.50	$3,929	5
Roofing	Useful life	15	15	15	15	15	15	15	15
	Remaining life	4	3	2	1	0	14	13	12
	Replacement cost	$30,000	$31,380	$32,823	$34,333	$35,913	$37,565	$39,293	$41,100
	Liability	$22,000	$25,104	$28,447	$32,044	$35,913	$2,504	$5,239	$8,220
	50% of the estimated replacement reserve	$11,000	$12,552	$14,224	$16,022	$17,957	$1,252	$2,619.53	$4,110
Total	Liability	$36,000	$43,932	$52,518	$50,461	$43,095	$15,026	$24,053	$33,529
	50% of the estimated replacement reserve (unadjusted for revenues and expenditures	$18,000	$21,966	$26,260	$25,175	$21,548	$7,513	$12,027	$16,765

Answers to Exercise 5-A:
Adequate Reserves

Ques. 1-4. **Paving Figures**

Box 1— **7**

Box 2— **3**

Box 3— $18,366 x .046 (assumed 4.6% per annum inflation rate) = $845 + $18,366=**$19211**

Box 4— $19,211 X (7-3) / 7 = **$10,978**
(formula for adequate estimated replacement reserves explained on pg. W-32)

Box 5— $10,978 / 2 = **$ 5489**
(50% estimated replacement reserves required by law)

5. $33.529 x .075 = $25,147 / 136 units = $185
$33,529 x .05 = $16,765 / 136 units = $123

Arguably, funding at the 75% level may result in smaller special assesment amounts at the time when the repair or replacement cost is needed.

Worksheet 5-A Answer

Major Component Replacement Liability		End of Year 0, 1993	End of Year 1, 1994	End of Year 2, 1995	End of Year 3, 1996	End of Year 4, 1997	End of Year 5, 1998	End of Year 6, 1999	End of Year 7, 2000
Painting	Useful life	5	5	5	5	5	5	5	5
	Remaining life	2	1	0	4	3	2	1	0
	Replacement cost	$10,000	$10,460	$10,941	$11,444	$12,522	$13,098	$13,695	$14,331
	Liability	$6,000	$8,368	$10,941	$2,394	$4,788	$7,513	$10,956	$14,331
	50% of the estimated replacement reserve	$3,000	$4,184	$5,471	$1,144	$2394.08	$3,756	$5,478	$7,116
Paving	Useful life	7	7	7	7	7	7	7	7
	Remaining life	3	2	1	0	6	5	4	3
	Replacement cost	$14,000	$14,644	$15,318	$16,022	$16,759	$17,530	$18,366	$19,211
	Liability	$8,000	$10,460	$13,130	$16,022	$2,394	$5,009	$7,858	$10,978
	50% of the estimated replacement reserve	$4,000	$5,230	$6,565	$8,061	$1,197	$2,504	$3,929	$5,489
Roofing	Useful life	15	15	15	15	15	15	15	15
	Remaining life	4	3	2	1	0	14	13	12
	Replacement cost	$30,000	$31,380	$32,823	$34,333	$35,913	$37,565	$39,293	$41,100
	Liability	$22,000	$25,104	$28,447	$32,044	$35,913	$2,504	$5,239	$8,220
	50% of the estimated replacement reserve	$11,000	$12,552	$14,224	$16,022	$17,957	$1,252	$2,619	$4,110
Total	Liability	$36,000	$43,932	$52,518	$50,461	$43,095	$15,026	$23,575	$33,529
	50% of the estimated replacement reserve (unadjusted for revenues and expenditures)	$18,000	$21,966	$26,260	$25,175	$21,548	$7,513	$11,788	$16,765

Exercise 5-B

Adjusting estimated replacement reserves for revenues and expenditures as required by §514A-83.6 as amended, Hawaii Revised Statutes:

The law requires that estimated replacement reserves include;

- adjustments for revenues which will be received and expenditures which will be made before the beginning of the fiscal year to which the budget relates; and
- separate designated reserves for each part of the property for which capital expenditure or major maintenance will exceed $10,000.

The law appears to be ambiguous as to what expenditures and revenues must be included in the adjustments for the estimated replacement reserves. The process illustrated by **Worksheet 5-B Answer (pg W-39) suggested by the Center's consultant on this subject**, is one method that may meet the estimated replacement reserves adjustment requirement. This method involves adjusting the estimated replacement reserve amount for expenditures, i.e., taxes on reserve fund, major component replacement costs and for revenues (i.e., interest earned on the reserve account amounts). Whatever process is used will impact on the amount that is required to be assessed. The following exercise is intended to assist in understanding the adjustment process employed in Table 5-A.2. However, the full ramifications of the adjustment process is beyond the scope of this workbook and reference manual. You are advised to seek the professional service of an accountant or other expert on the subject.

NOTES to Worksheet 5-B:

1. The amounts for row 1 "Total Estimated Replacement Reserves," represent the sum of all components' estimated costs to replace or repair.

2. The amounts for row 2 "Total Revenues to be received. . ." represent i.e. interest earned on the reserve fund.

3. The amounts for row 3 "Total expenditures made in prior year. . ." represent expenditures actually made at the end of the fiscal year, prior to the year for which the budget is being prepared, i.e. where applicable, taxes to be paid on any interest earned on the reserve fund, and replacement costs for components.

4. The amounts for row 4 "Adjusted Estimated Replacement Reserves," represent the amounts in row 2 (revenues) **subtracted** from the amounts of row 1. The resulting amounts are adjusted further by adding the amounts of row 3 (expenditures) to the resulting amounts.

5. The amounts for row 5 "50% of Adjusted Estimated Replacement Reserves,' represent the amounts in row 4 **divided** by one-half or 2. These amounts represent 50% of the estimated replacement reserves which the law requires to be funded.

6. The amounts for row 6 "Assessments for each owner," represent the amount each owner must be assessed in order to fund the required 50% estimated replacement reserve. In the fictitious case of ABC condominium there are 136 units in the project. Thus, the amounts in row 5 are divided by 136 in order to arrive at the amounts in row 6.

The NOTES to Worksheet 5-B explain how the figures in the worksheet are determined.

Now complete the following in **Worksheet 5-B (below):**

1. Enter the amount that should appear in Box 1.
2. Enter the amount that should appear in Box 2.
3. Enter the amount that should appear in Box 3.

Major Component Replacement Liability	End of Year 0, 1993	End of Year 1, 1994	End of Year 2, 1995	End of Year 3, 1996	End of Year 4, 1997	End of Year 5, 1998	End of Year 6, 1999	End of Year 7, 2000
1. Total Estimated Replacement Reserves	$36,000	$43,932	$52,518	$50,461	$43,095	$15,026	$24,053	$33,529
2. Total Revenues to be received; i.e., earned interest (hypothetical)	0	$1,271	$1,430	$1,013	$312	$229	$350	$545
3. Total expenditures made in prior year; i.e., estimated major component replacement cost (hypothetical)	0	$2,771	$1,500	$5,000	$12,145	$1,430	$13,695	$4,050
4. Adjusted Estimated Replacement Reserves	$36,000	$42,432	$52,448	$46,474	$31,262	$13,825	$10,708	Box 1
5. 50% of Adjusted Estimated Replacement Reserves	$18,000	$21,216	$26,224	$23,237	$15,631	$6,912.50	$5,354	Box 2
6. Assessment for each owner (136 units)	$132	$156	$193	$178	$115	$51	$39	Box 3

Additional Notes

Worksheet 5-B Answer (figures are hypothetical)

Major Component Replacement Liability	End of Year 0, 1993	End of Year 1, 1994	End of Year 2, 1995	End of Year 3, 1996	End of Year 4, 1997	End of Year 5, 1998	End of Year 6, 1999	End of Year 7, 2000
1. Total Estimated Replacement Reserves	$36,000	$43,932	$52,518	$50,461	$43,095	$15,026	$24,053	$33,529
2. Total Revenues to be received; i.e., earned interest (hypothetical)	0	$1,271	$1,430	$1,013	$312	$229	$350	$545
3. Total expenditures made in prior year; i.e., estimated major component replacement cost (hypothetical)	0	$2,771	$1,500	$5,000	$12,145	$1,430	$13,695	$4,050
4. Adjusted Estimated Replacement Reserves	$36,000	$45,432	$52,588	$54,448	$54,928	$16,227	$37,398	$37,034
5. 50% of Adjusted Estimated Replacement Reserves	$18,000	$22,716	$26,294	$27,224	$27,464	$8,114	$18,699	$18,567
6. * Assessment for each owner (136 units)	$132	$167	$193	$200	$202	$60	$137	$136

* Row 6 must be adjusted for the owner's percentage share of common profits and expenses of the condominium.