BUILDING
RESERVES

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# Presentation Overview

1. What is a reserve study and what are the benefits of a reserve study?
2. Conducting a reserve study.  What to expect
3. What are the contents of a reserve study?
4. How projections for repair/replacement schedules are made.
5. How costs are projected
6. Planning and customization - How to utilize information in the reserve study
7. Additional planning tools
8. Long term use of reserve studies – hypothetical
9. Selecting a reserve study provider/engineer

# What is a Reserve Study?

A Reserve Study is a long-term capital plan for a property, its infrastructure, and surrounding assets. It provides an in-depth analysis of a property’s physical condition, as well as an evaluation of the financial health of the property’s reserve funds.

A Reserve Study includes a detailed list of property components that are commonly owned and maintained, including component quantities, ages, conditions, and useful lives.

A Reserve Study will recommend replacement times for each capital asset, dependent upon component conditions and available funding.

# Primary Benefits of a Reserve Study

Minimize the Probability of Special Assessments and Loans

Ensure that an accurate budget is in place for future projects

Streamline scheduling of capital projects

Use your reserve study to more accurately review vendor bids

Help predict future capital costs

Easily plan, schedule and coordinate repair and replacement projects

Comply with state laws and statutes

Ensure that your current reserve funds will be sufficient to fund the future inflated cost of capital projects

# Additional Benefits

Compliance with ever increasing 2nd mortgage loan underwriting – Fannie Mae, Freddie Mac, VA and other programs

Prepare for borrowing money from banks if needed in the future

Improving marketability as older HOA's financial health is evaluated more critically by buyers & realtors

Deferred maintenance that leads to structural issues are being evaluated by mortgage companies now

# Reserve Study Process
## *Property Investigation*

PROPERTY INVESTIGATION

- Review declaration
- Identify property boundaries
- Create component list
- Determine responsibilities of assets


PROPERTY OVERVIEW

Client Profile

Community Description

BUILDING RESERVES

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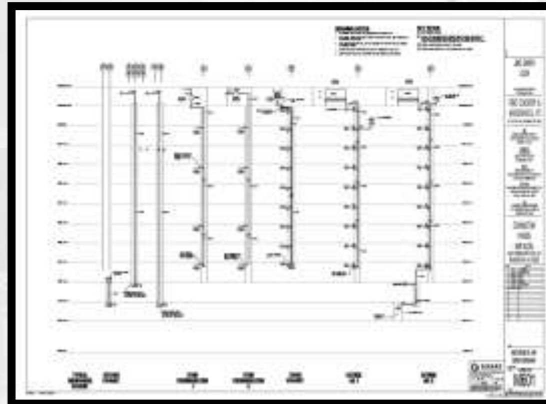
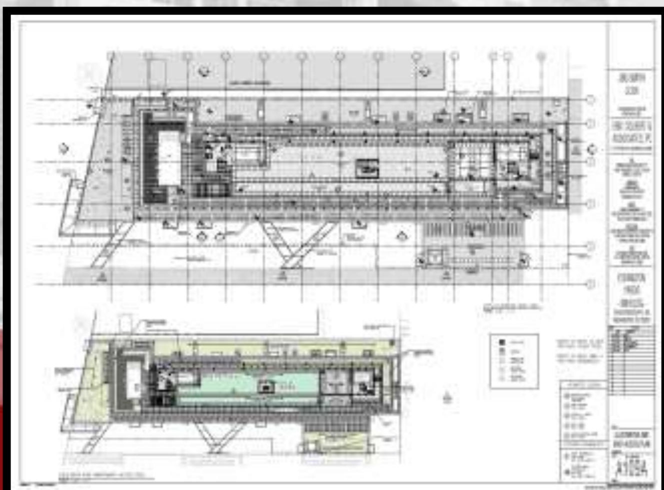
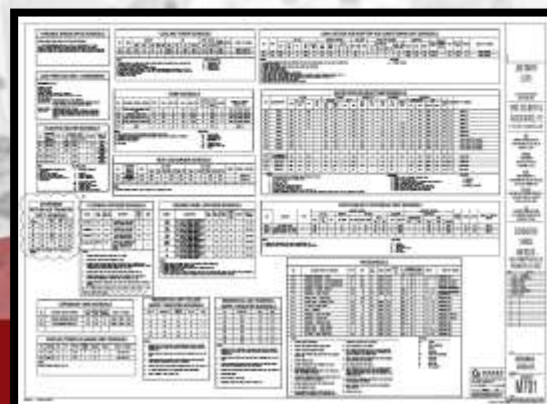
# Reserve Study Process
## *Property Investigation*

PROPERTY INVESTIGATION

- Review architectural drawings (Floor Plans, Elevations, Material Lists, Plumbing, Mechanical, Electrical, Fire Suppression, Civil)







# Reserve Study Process
## *Defining Component Responsibility*

DEFINING COMPONENT RESPONSIBILITIES

- Association Reserve Components

*Roofs, Gutters, Downspouts*
*Soffits & Fascia*
*Siding Paint & Repairs*
*Entry Stairs & Railings*
*Exterior Light Fixtures*
*Concrete Driveways*
*Concrete Sidewalks*

# Reserve Study Process
## *Defining Component Responsibility*

DEFINING COMPONENT RESPONSIBILITIES

- Association Reserve Components
- Operating Expenses

*Gutter & Downspout Cleaning*
*Landscaping & Grounds*
*Light Bulbs*
*Touch-Up Painting*

# Reserve Study Process
## *Defining Component Responsibility*

DEFINING COMPONENT RESPONSIBILITIES

- Association Reserve Components
- Operating Expenses
- Long-Lived

*Foundations*
*Building Frames*

# Reserve Study Process
## *Defining Component Responsibility*

DEFINING COMPONENT RESPONSIBILITIES

- Association Reserve Components
- Operating Expenses
- Long-Lived
- Homeowner

  *Windows*
  *Garage Doors*
  *Entry Doors*
  *Balconies*

# Reserve Study Process
## *Defining Component Responsibility*

DEFINING COMPONENT RESPONSIBILITIES

- Association Reserve Components
- Operating Expenses
- Long-Lived
- Homeowner
- Others

  *Public Street*
  *Utility Meters*

# Reserve Study Process

## *Defining Component Responsibility*

Responsibility Matrix

*Who is responsible for which assets?*

*What is, and what is not included in the funding plan?*

**RESPONSIBILITY MATRIX**

| Component Name | Association-Responsibility | | | | |
|---|---|---|---|---|---|
| | Reserve | Operating | Long-Lived | Owner | Other |
| Asphalt Pavement, Crack Repair, Patch and Seal Coat | X | | | | |
| Asphalt Pavement, Repaving, Full-Depth Replacement, Phased | X | | | | |
| Bent Creek Court (Street Pavement, Curbs, Gutters, Catch Basins) | | | | | X |
| Catch Basin, Capital Repairs | | X | | | |
| Chimney Exterior Components (Caps, Screens, Chases, Serving Individual Unit(s) | | | | X | |
| Chimney Interior Components (Flues, etc.), Serving Individual Unit(s) | | | | X | |
| Concrete Flatwork, Partial Replacement | X | | | | |
| Concrete Sidewalk Along Old Plum Grove Road | | | | | X |
| Doors (Entry, Storm, Patio), Serving Individual Unit(s) | | | | X | |
| Electrical and Plumbing Systems, Serving Individual Unit(s) | | | | X | |
| Electrical Systems, Common, Capital Repairs | | X | | | |
| Electrical Systems, Common, Complete Replacement | | | X | | |
| Fences, Wood, Patio Dividers, Paint Finishes | | X | | | |
| Fences, Wood, Patio Dividers, Replacement | X | | | | |
| Fire Hydrants | | | | | X |
| Fireplaces, Serving Individual Unit(s) | | | | X | |
| Foundations | | | X | | |
| Garage Doors and Operators, Serving Individual Unit(s) | | | | X | |

# Reserve Study Process
## *Component Condition*

Component Conditions are documented (Overall & Isolated Conditions)

*Hundreds of photographs*

*Investigative Property Research*

*Thorough Site Inspection*

**Isolated Condition:**

Curling and uplift at asphalt shingle roof

# Reserve Study Process
## *Component Condition*

Component Conditions are documented (Overall & Isolated Conditions)

*Hundreds of photographs*

*Investigative Property Research*

*Thorough Site Inspection*

**Isolated Condition:**

Weak mortar joint above garage lintel

# Reserve Study Process
## *Component Condition*

Component Conditions are documented (Overall & Isolated Conditions)

*Hundreds of photographs*

*Investigative Property Research*

*Thorough Site Inspection*

**Overall Condition:**

Varying ages of window sealant;

Adhesion failure at sealants

# Reserve Study Process
## *Component Condition*

Component Conditions are documented (Overall & Isolated Conditions)

*Hundreds of photographs*

*Investigative Property Research*

*Thorough Site Inspection*

**Isolated Condition:**
Pavement deterioration at catch basin surround

# Reserve Study Process
## *Component Condition*

Component Conditions are documented (Overall & Isolated Conditions)

*Hundreds of photographs*

*Investigative Property Research*

*Thorough Site Inspection*

**Overall Condition:**
Fatigue cracking at pavement observed throughout parking lot

# Reserve Study Process

## *Component Condition*

Quantity

Age Data

Condition Photos

Customized Replacement Schedule

Safety Railings at Retaining Walls, Wood, Phased

SITE COMPONENT

PERCENTAGE OF TOTAL FUTURE COSTS: 6.47%    Line Item: 14

| ESTIMATED UNIT QUANTITY | | | ESTIMATED REPLACEMENT COSTS | |
|---|---|---|---|---|
| Present: | 235 | Linear Feet | Current Unit Cost: | $60.00 |
| Replacement Per Phase: | 118 | Linear Feet | Current Cost Per Phase: | $7,050 |
| Replaced in Next 30-Years: | 235 | Linear Feet | Total Cost Next 30-Years: | $15,388 |

| ESTIMATED AGE AND REPLACEMENT YEARS | | CONDITION AND USEFUL LIFE | | |
|---|---|---|---|---|
| Estimated Current Age in Years | to 33 | Overall Current Condition: | Poor | |
| Remaining Years Until Replacement | 1 | Useful Life in Rolling Meadows, IL | 30 to 35 | Years |
| Estimated First Year of Replacement | 2021 | Full or Partial Replacement | Full | |

| PRIORITY RATING | | PRIORITY SCORE | |
|---|---|---|---|
| Priority Rating | Highly Recommended | Priority Score | 118 |

Leaning wood safety rail

Wood safety rail atop retaining wall

Damaged section of safety rail

Deterioration at wood post and rails

Schedule of Replacements Costs

| | | | | | |
|---|---|---|---|---|---|
| 2020 | $0 | | | | |
| 2021 | $7,254 | 2031 | $0 | 2041 | $0 |
| 2022 | $0 | 2032 | $0 | 2042 | $0 |
| 2023 | $0 | 2033 | $0 | 2043 | $0 |
| 2024 | $0 | 2034 | $0 | 2044 | $0 |
| 2025 | $8,133 | 2035 | $0 | 2045 | $0 |
| 2026 | $0 | 2036 | $0 | 2046 | $0 |
| 2027 | $0 | 2037 | $0 | 2047 | $0 |
| 2028 | $0 | 2038 | $0 | 2048 | $0 |
| 2029 | $0 | 2039 | $0 | 2049 | $0 |
| 2030 | $0 | 2040 | $0 | 2050 | $0 |

Engineering Narrative

Wood safety rails are located atop the timber retaining walls at the eastern portion of the site. Wood components are deteriorated, poor connection details were noted, and sections of damaged or missing rails exist. We recommend budgeting for the phased replacement of the safety rails in 2021 and 2025. Expenditure amounts reflect the installation of maintenance-free railing materials, such as aluminum or vinyl, which do not require paint finishes and will achieve longer useful lives than wood components.

Costs (present & future)

Condition

Priority

Customized Engineer Comments

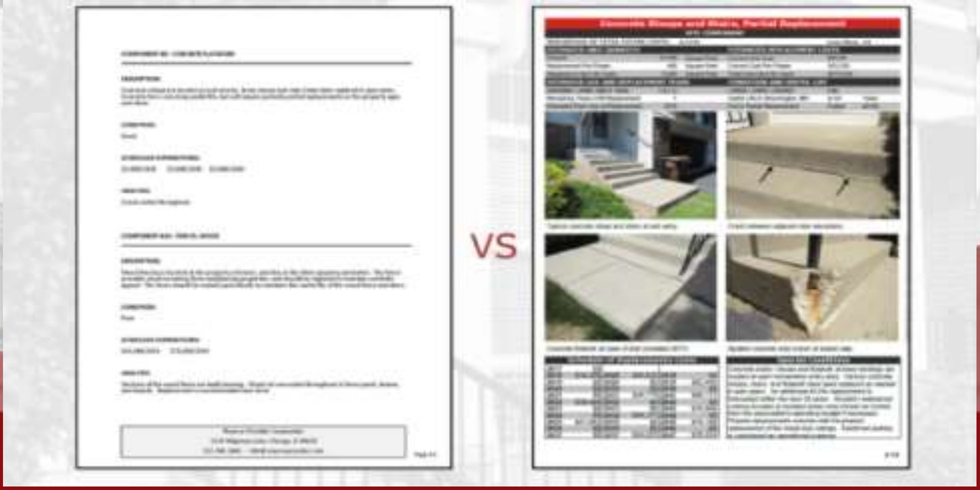
One easy-to-read page

# The Building Reserves Difference

- Easy-to-read and understand

- Photographed component conditions are included.  This provides evidence for replacement schedules.

- Many reserve study providers use generic text to describe your reserve components.  This leaves you guessing about the condition of components as well as the context or scope of what is being analyzed.



# Reserve Study Process

## *Prioritization*

**Condition**
**Impact on Livability**

↓

**Low Priority** → **Medium Priority** → **High Priority**

# Reserve Study Process
## *Prioritization*

**Condition**
**Impact on Livability**

**Low Priority** | **Medium Priority** | **High Priority**

# Reserve Study Process

## *Prioritization*

Priority Rating System considers:

- **Condition**
- **Impact on Livability**

### PRIORITY CHART

#### Priority Rating System

| Impact on Livability | Very Good | Good | Fair | Poor |
|---|---|---|---|---|
| High Impact | Medium Priority | High Priority | High Priority | High Priority |
| Moderately High Impact | Medium Priority | Medium Priority | Medium Priority | High Priority |
| Moderate Impact | Low Priority | Medium Priority | Medium Priority | Medium Priority |
| Low Impact | Low Priority | Low Priority | Low Priority | Medium Priority |

Condition

| Reserve Inventory | | Priority Rating, Condition & Impact on Livability Assessment | | |
|---|---|---|---|---|
| Line Item | Reserve Component Listed by Property Class | Priority | Current Condition | Impact on Livability |
| | EXTERNAL BUILDING COMPONENTS | | | |
| 1 | Gutters and Downspouts, Aluminum | High Priority | Good | High Impact |
| 2 | Roofs, Asphalt Shingles | High Priority | Fair | High Impact |
| 3 | Shutters, Vinyl | Low Priority | Good | Low Impact |
| 4 | Walls, Aluminum Siding | Medium Priority | Fair | Moderately High Impact |
| 5 | Walls, Composite Hardboard Trim, Soffits, and Fascia | Medium Priority | Good | Moderately High Impact |
| 6 | Walls, Masonry at Front Facades, Inspection and Capital Repairs | Medium Priority | Fair | Moderately High Impact |
| | SITE COMPONENTS | | | |
| 7 | Asphalt Pavement, Crack Repair, Patch and Seal Coat | Medium Priority | Good | Moderate Impact |
| 8 | Asphalt Pavement, Repaving, Full-Depth Replacement, Phased | Medium Priority | Good | Moderately High Impact |
| 9 | Concrete Flatwork, Partial Replacement | High Priority | Fair | High Impact |
| 10 | Fences, Wood, Patio Dividers, Replacement | Medium Priority | Fair | Moderate Impact |
| 11 | Landscaping Improvements, 2020 | Low Priority | Good | Low Impact |
| 12 | Light Poles and Fixtures, Private Drives | Medium Priority | Fair | Moderate Impact |
| 13 | Mailbox Stations | Medium Priority | Fair | Moderate Impact |
| 14 | Retaining Wall Railings, Replace with Maintenance-Free, Phased | High Priority | Poor | High Impact |
| 15 | Retaining Walls, Replace with Masonry, Phased | High Priority | Fair | High Impact |
| 16 | Signage, Monument / Directional / Address, Replacement | Low Priority | Fair | Low Impact |

# Reserve Study Process

## *Prioritization*

Priority Rating System considers:

**Condition**

***(Highest Weighted)***

**Impact on Livability**

***(Moderately Weighted)***

**Desirability**

***(Lowest Weighted)***

### PRIORITY SCORE

CONDITION - The state of a building system, equipment, or material with regard to its working order, deficiency level or appearance.
1 to 10 Rating: 1 = Poor Condition; 10 = Very Good Condition

IMPACT ON LIVABILITY - The degree to which a building system, equipment, or material is required in order to maintain owner safety and well-being.
1 to 10 Rating: 1 = Low Impact on Livability; 10 = High Impact on Livability

DESIRABILITY - The degree to which a building system, equipment, or material is favorable or attractive, or the degree to which intrinsic community value is added.
1 to 10 Rating: 1 = Low Desirability; 10 = High Desirability

| Reserve Inventory | | Life Analysis | Condition, Impact on Livability, and Desirability Ratings | | | Priority |
|---|---|---|---|---|---|---|
| Line Item | Reserve Component Listed by Property Class | Remaining Useful Life | Condition Rating | Impact on Livability Rating | Desirability Rating | Priority Score |
| 14 | Retaining Wall Railings, Replace with Maintenance-Free, Phased | 1 | 2 | 9 | 8 | 116 |
| 15 | Retaining Walls, Replace with Masonry, Phased | 1 | 3 | 9 | 8 | 109 |
| 2 | Roofs, Asphalt Shingles | 11 | 5 | 10 | 7 | 99 |
| 9 | Concrete Flatwork, Partial Replacement | 0 | 5 | 10 | 7 | 99 |
| 4 | Walls, Aluminum Siding | 11 | 5 | 8 | 7 | 89 |
| 6 | Walls, Masonry at Front Facades, Inspection and Capital Repairs | 3 | 4 | 7 | 5 | 89 |
| 13 | Mailbox Stations | 5 | 3 | 5 | 6 | 87 |
| 1 | Gutters and Downspouts, Aluminum | 11 | 7 | 9 | 6 | 79 |
| 10 | Fences, Wood, Patio Dividers, Replacement | 11 | 5 | 5 | 8 | 75 |
| 16 | Signage, Monument / Directional / Address, Replacement | 9 | 3 | 2 | 7 | 73 |
| 8 | Asphalt Pavement, Repaving, Full-Depth Replacement, Phased | 12 | 6 | 8 | 7 | 72 |
| 12 | Light Poles and Fixtures, Private Drives | 8 | 4 | 3 | 7 | 71 |
| 5 | Walls, Composite Hardboard Trim, Soffits, and Fascia | 30 | 6 | 8 | 7 | 68 |
| 7 | Asphalt Pavement, Crack Repair, Patch and Seal Coat | 0 | 6 | 5 | 7 | 67 |
| 11 | Landscaping Improvements, 2020 | 0 | 6 | 2 | 8 | 53 |
| 3 | Shutters, Vinyl | 21 | 8 | 1 | 8 | 34 |

# Reserve Study Process
## *Customized Replacement Plans*

**When should a component be replaced?**

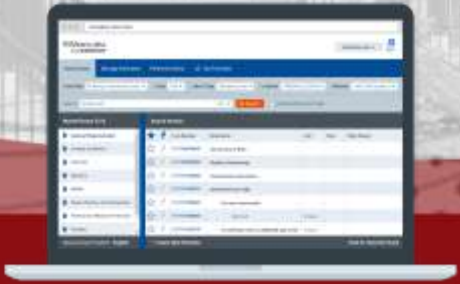
**We consider:**

1. Component **Condition** *(Overall and Isolated)*
2. Component **History** *(Issues, Repairs, Maintenance)*
3. Component **Age**
4. Component **Usage** *(Garage Door Operators, Exercise Equipment)*
5. Component **Priority**
6. Component **Concurrences** *(Roofs replaced with Gutters / Downspouts to use 1 vendor and save time and money)*

# Reserve Study Process
## *Customized Replacement Plans*

### Accurate Component Unit Costs
**Resources Utilized:**

- **RSMeans** (National construction cost database, adjusted regionally)
- **Executed Vendor Bids** (from local similar properties)
- **Proposals from vendors** and ongoing relationship



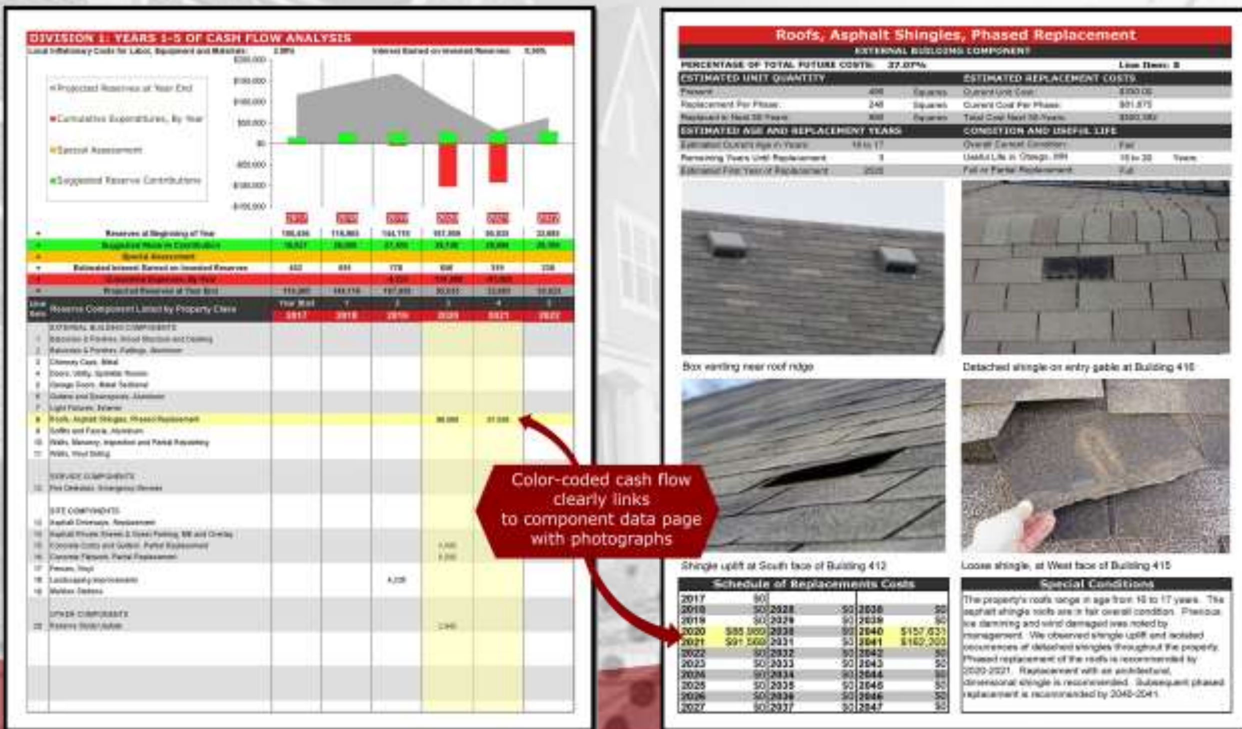

# Reserve Study Process
## *Customized Replacement Plans*

**Customization Options:**

- Single-year increase or phased increases over several years *("Stepped Increase")*
- Defer low-priority projects to later years with higher reserve balances
- Work within constraints of % increases outlined by Board

# Reserve Study Process

## *Customized Replacement Plans*



# Reserve Study – Excel File

**Free Excel File:**

- Experiment with replacement times – easily change project years
- Run “what-if” scenarios to determine funding impact
- Test different funding strategies
- See impact of various interest rates

# Reserve Studies: Long-Term Success

*Year 0 (1987)*

*Reserves: $0*

**$10.49 / unit / month**
**(+ $2.55/ month)**


*Caulking*

*Stucco Repairs*

*Chimney Caps*

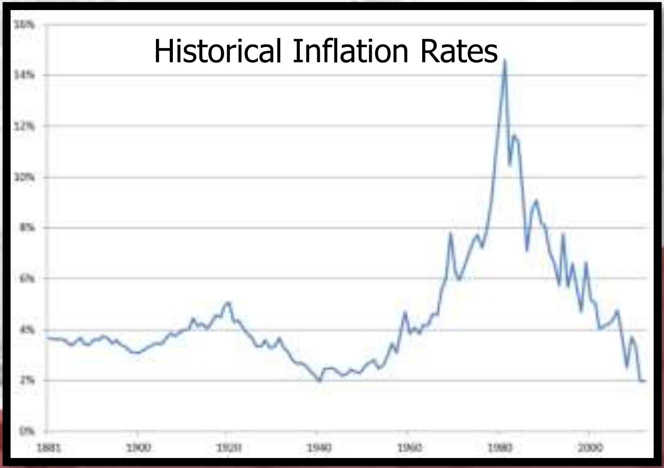
*Stucco Replace*

# Reserve Studies: Long-Term Success

*Year 3 (1990)*

*Reserves: $48,541*

**1st Reserve Study Update: + $0.30 / unit / month**

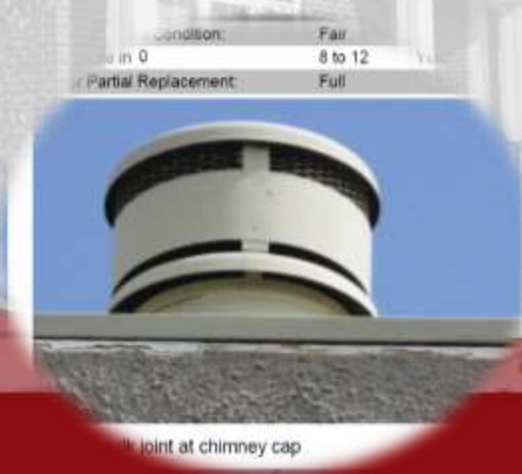


# Reserve Studies: Long-Term Success

*Year 6 (1993)*

*Reserves: $127,651*

**2nd Reserve Study Update:**
**+ $0.42 / unit / month**




**Caulking & Sealants**

EXTERNAL BUILDING COMPONENT

PERCENTAGE OF TOTAL FUTURE COSTS: 15.43%

ESTIMATED UNIT QUANTITY

ESTIMATED REPLACEMENT COSTS

ESTIMATED AGE AND REPLACEMENT YEARS

CONDITION AND USEFUL LIFE

Faded caulk joint at chimney cap

Cracked sealant at window perimeter

**Schedule of Replacements Costs**

| | | | | | |
|---|---|---|---|---|---|
| 1993 | $0 | | | | |
| 1994 | $0 | 2004 | $0 | 2014 | $0 |
| 1995 | $32,420 | 2005 | $0 | 2015 | $0 |
| 1996 | $0 | 2006 | $0 | 2016 | $0 |
| 1997 | $0 | 2007 | $0 | 2017 | $0 |
| 1998 | $0 | 2008 | $0 | 2018 | $0 |
| 1999 | $0 | 2009 | $0 | 2019 | $64,384 |
| 2000 | $0 | 2010 | $0 | 2020 | $0 |
| 2001 | $0 | 2011 | $51,222 | 2021 | $0 |
| 2002 | $0 | 2012 | $0 | 2022 | $0 |
| 2003 | $40,750 | 2013 | $0 | 2023 | $0 |

**Special Conditions**

Sealants are located at the top perimeters of stucco chimney chases (near caps) as well as at window and door perimeters. Sealants are in fair overall condition at 6 years of age, with notable cracking and separation noted throughout the property. Removal of existing caulk and installation of new sealant is recommended every 8 years to ensure a weather-tight building facade.

BUILDING RESERVES

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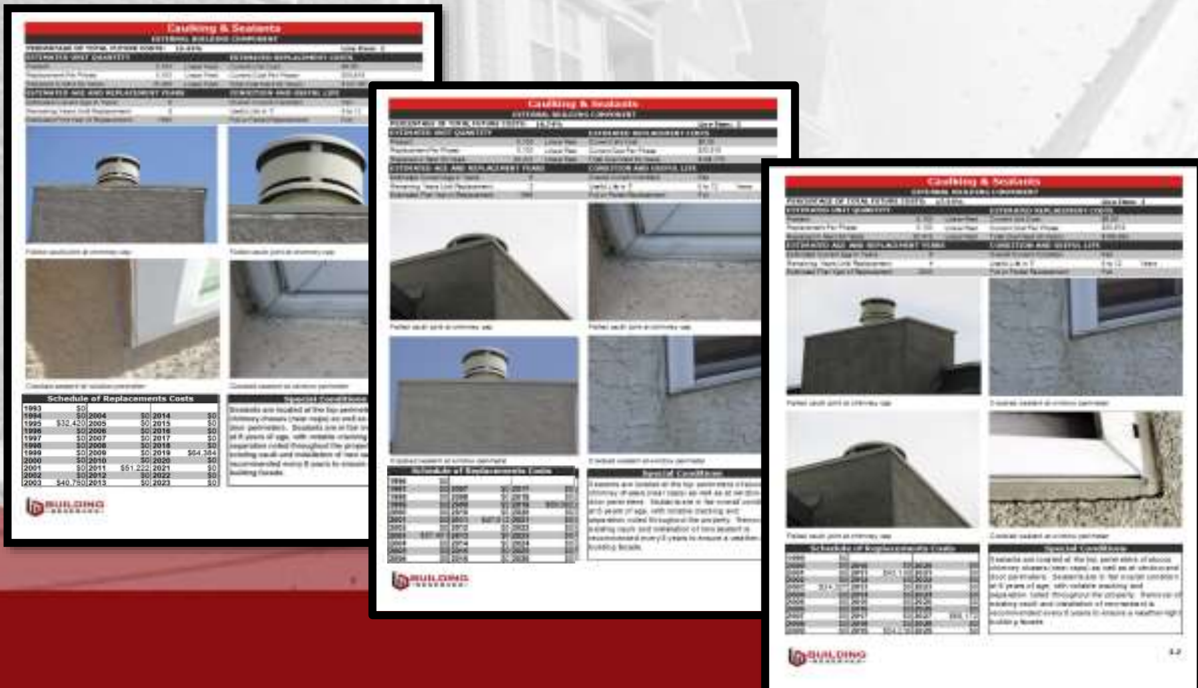
# Reserve Studies: Long-Term Success

*Year 25 (2012)*

*Reserves: $592,459*



# Who is qualified to conduct a reserve study?

- CAI Reserve Specialist designation
- Educational background in Engineering or Architecture
- Experience in conducting Reserve Studies for at least 3 or more years.

# Thank you!