

# Empowered by the Son

2010 NACBA Workshop

## Replacement Reserves ready or not

# How to Annually Budget for the Replacement of Capital assets.

**millerdodson** associates  
Capital Reserve Consultants

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# What is a Capital Asset?

Typically, we are talking about components or groups of components, with a finite useful life of 3 or more years and valued at more than \$1,000.

For smaller facilities this may be reduced to \$500. For larger, \$5,000 may be more appropriate.

An included asset is typically called a **Capital Component** or **Reserve Component**.

# What is not a Capital Asset?

In a nut shell ... Items less than the established amount, long-life items, or items considered to be a normal annual anticipated expense.

Other excluded items are:

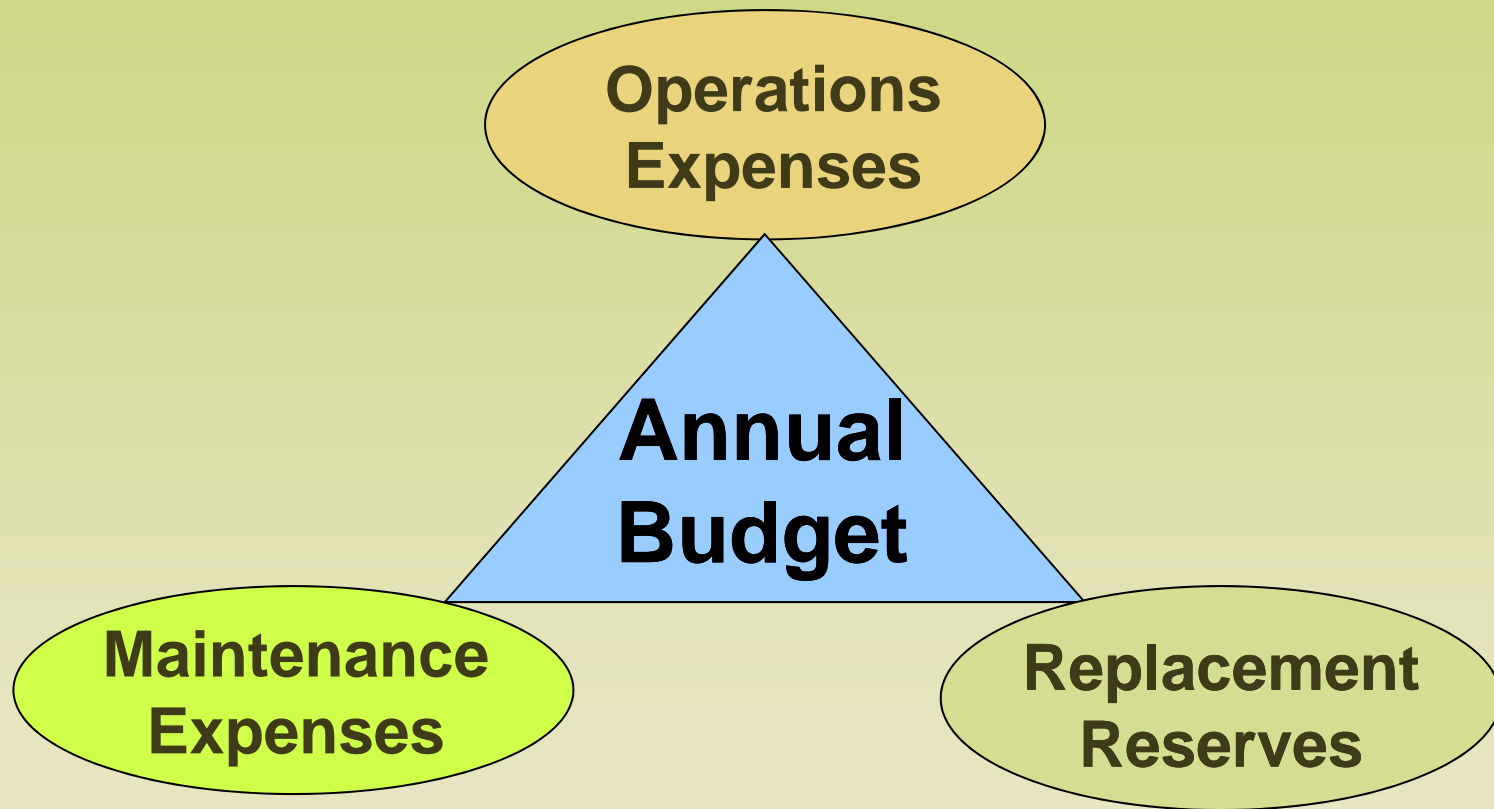
- ✦ Items owned by someone else.
- ✦ Leased items.
- ✦ Utility or government maintained items.
- ✦ Items identified by the facilities management.

These are all called **Exclusions**.

# What are Reserves?

- ✦ Funds set aside for the future ...
- ✦ to be used only for replacement or major repair of a facility's capital components.
- ✦ Reserves should be budgeted for annually.
- ✦ Not to be used for Maintenance and Operation expenses.
- ✦ Not to be used for Capital Improvements or expansion of the facility.

# Where Do Reserves Fit?



# **Why should we have Reserves in our Annual Budget?**

# Consider the following points:

- ✦ Understanding your future expenses will help to ***stabilize your annual budget.***
- ✦ Foreseeing major replacements and repairs will help to ***protect your brick and mortar assets.***
- ✦ Expecting needed funds in an appropriate time frame will ***provide for scheduled replacements.***
- ✦ Understanding the future costs to operate your facility will help ***guard your missionary work*** and protect the funds intended for those purposes .

# **Where does all this Reserve Study concept come from?**

- ✦ Initially developed more than 25 years ago for Condominium Associations.
- ✦ Refined and standardized over the past decade by the Foundation for Community Association Research's, Best Practices, Report #1, Reserve Studies/Management.
- ✦ Now well established and required by State Law for Community Associations in 19 States.

# How does this apply to my Church or Private School?

A building is a building, a parking lot is a parking lot, and a HVAC system, well it's just a HVAC system.

## **A Reserve Study can:**

- ✦ Quantify and model replacement cycles for any facility.
- ✦ Provide understanding of a facility's long-term replacement funding needs.
- ✦ Be the basis for fitting a Reserve Funding Plan into any Annual Budget.

**There is no reason to reinvent the wheel.** Many of our Church and Private School clients are former Association clients who understand that **this useful financial tool, a Reserve Study, can also be applied to the budget of a Church or Private School.**

# What are the basic steps in the Reserve Study process?

Assuming you have never one before ...

The first study, a Level 1, Reserve Study includes:

- ✦ An Inventory of Reserve Components.
- ✦ An onsite visit and condition assessment of the facilities and components.
- ✦ Quantities, life cycles, and replacement costs for each component.
- ✦ The reported Current Funding Status.
- ✦ A Projected Funding Plan.

## There are two other types of Studies.

- ✦ A Level 2, Reserve Study Update, which uses a previous Study's inventory. A site visit is performed, and the rest of the previous study's information and results are brought up to date.

A Level 2 Update is normally recommended every 3 to 5 years.

- ✦ A Level 3, Reserve Study is the same as a Level 2 except there is no site visit. These are generally used to modify a study between the initial study and a Level 2 Update or between Level 2 Updates.

Where do the numbers come from  
and  
what should you expect to find in a  
Reserve Study?

<b>SITE COMPONENTS</b>							
<b>PROJECTED REPLACEMENTS</b>							
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
23	Reset pavers, 15%	sf	475	\$3.50	10	8	\$1,663
24	Pavers, replace	sf	3,200	\$25.00	40	28	\$80,000
25	Wood steps & borders, 33%	sf	150	\$12.00	18	5	\$1,800
26	Wood steps & borders, 33%	sf	150	\$12.00	18	11	\$1,800
27	Wood steps & borders, 33%	sf	150	\$12.00	18	17	\$1,800
28	Carved wood identification sign	sf	70	\$100.00	20	17	\$7,000
29	Site lights, standard heads	ea	10	\$350.00	15	11	\$3,500
30	Site lights, standard poles	ea	9	\$1,200.00	30	26	\$10,800
31	Other landscape lights, 25%	ea	10	\$175.00	12	2	\$1,750
32	Other landscape lights, 25%	ea	10	\$175.00	12	5	\$1,750
33	Other landscape lights, 25%	ea	10	\$175.00	12	8	\$1,750
34	Other landscape lights, 25%	ea	10	\$175.00	12	11	\$1,750
35	Lighting bollards	ea	19	\$600.00	20	11	\$11,400
36	Shed	ea	1	\$5,000.00	20	10	\$5,000
37	Well house, roof	sf	300	\$3.90	20	10	\$1,170
38	Well house, siding	sf	600	\$5.25	35	none	\$3,150
39	Well house, door	ea	1	\$500.00	20	10	\$500
<b>SITE COMPONENTS - Replacement Costs - Subtotal</b>							<b>\$136,583</b>

**KITCHEN**

**PROJECTED REPLACEMENTS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
109	Range/flat-top/ovens	ea	1	\$9,800.00	35	20	\$9,800
110	Convection oven	ea	1	\$5,800.00	25	11	\$5,800
111	Hot table	ea	1	\$3,800.00	15	2	\$3,800
112	Dishwasher	ea	1	\$8,200.00	35	11	\$8,200
113	Hood/fire suppression rebuild	ea	1	\$5,000.00	35	20	\$5,000
114	Freezer/refrigerator	ea	1	\$4,100.00	20	5	\$4,100
115	Refrigerator	ea	1	\$3,300.00	20	5	\$3,300
116	Ice maker	ea	1	\$3,100.00	20	5	\$3,100
117	Small freezers/refrigerators, 50%	ea	2	\$800.00	5	4	\$1,600
KITCHEN - Replacement Costs - Subtotal							\$44,700

**GUEST HOUSE EXTERIOR  
PROJECTED REPLACEMENTS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
141	Guest House, shingle roof	sf	1,800	\$3.90	30	11	\$7,020
142	Guest House, gutters & downspouts	lf	220	\$6.50	30	11	\$1,430
143	Guest House, siding, trim & shutters	sf	3,000	\$5.25	40	11	\$15,750
144	Guest House, repointing	ls	1	\$5,400.00	60	35	\$5,400
145	Guest House, caulking	lf	500	\$2.25	10	1	\$1,125
146	Guest House, windows & skylight	sf	220	\$42.00	35	11	\$9,240
147	Guest House, front door	ea	1	\$1,800.00	25	11	\$1,800
148	Guest House, french doors	ea	1	\$1,500.00	25	22	\$1,500
149	Guest House, sliding door	ea	1	\$1,200.00	25	5	\$1,200
150	Guest House, garage doors	ea	2	\$1,200.00	25	5	\$2,400
151	Guest House, garage door openers	ea	2	\$500.00	10	4	\$1,000
152	Guest House, deck railing	lf	45	\$15.00	15	1	\$675
153	Guest House, decking	sf	470	\$9.50	20	1	\$4,465
154	Guest House, deck structure	sf	470	\$25.00	30	11	\$11,750
<b>GUEST HOUSE EXTERIOR - Replacement Costs - Subtotal</b>							<b>\$64,755</b>

## EXECUTIVE SUMMARY

The Rivers of Hope Interfaith Center Replacement Reserve Inventory identifies 165 Projected Replacements for funding from Replacement Reserves, with an estimated one-time replacement cost of \$1,908,628.

The Replacement Reserve Analysis calculates recommended funding of Replacement Reserves by the Cash Flow Method. The Analysis also evaluates current funding of Replacement Reserves, as reported by the Center. The calculations and evaluation are summarized below:

● **\$110,102** CASH FLOW METHOD MINIMUM ANNUAL FUNDING OF REPLACEMENT RESERVES IN THE STUDY YEAR, 2011.

The Cash Flow Method (CFM) calculates Minimum Annual Funding of Replacement Reserves that will fund Projected Replacements identified in the Replacement Reserve Inventory from a common pool of Replacement Reserves and prevent Replacement Reserves from dropping below a Minimum Recommended Balance.

CFM - Minimum Annual Funding remains the same between peaks in cumulative expenditures called Peak Years.

The first Peak Year occurs in 2022 and the CFM - Minimum Annual Funding of Replacement Reserves in 2023 declines to \$91,959, after the completion of \$1,256,288 of replacements in 2011 to 2022.

After 2022 the CFM - Minimum Annual Funding remains constant for the remainder of the Study Period.

● **\$70,000** CURRENT ANNUAL FUNDING OF REPLACEMENT RESERVES (as reported by the Center).

The evaluation of Current Funding, as reported by the Center, has calculated that if the Center continues to fund Replacement Reserves at the current level, there will NOT be adequate funds for Projected Replacements in 21 years of the 30-year Study Period, and a maximum shortfall of \$-615,653 occurs in 2040.

Pages A2 and A3 explain the Study Year, Study Period, Adjustments (interest & inflation), Beginning Balance, and Projected Replacements. Pages A4 to A5 explain in more detail the calculations associated with the Cash Flow Method and Current Funding.

**PROJECTED REPLACEMENTS - YEARS 1 TO 6**

Item	2011	\$	Item	2012	\$	Item	2013	\$
1	Asphalt pavement, seal coat	\$21,600	52	Repointing, 10%	\$4,305	31	Other landscape lights, 25%	\$1,750
13	Concrete sidewalk (6%)	\$3,230	53	Caulking	\$6,000	40	Wood fencing	\$3,150
38	Well house, siding	\$3,150	59	Stain glass window, lighting	\$4,550	45	Flat membrane roof	\$31,200
131	Center, HVAC, 3 ton, #13	\$9,000	145	Guest House, caulking	\$1,125	48	Siding & trim, 20%	\$24,650
			152	Guest House, deck railing	\$675	89	Keyboard	\$2,100
			153	Guest House, decking	\$4,465	91	Church seating, reseal	\$14,700
						111	Hot table	\$3,800
						133	Church hot water heater	\$1,000
						135	Guest House, asphalt pvmt,	\$320
						160	Guest House, carpet	\$7,020

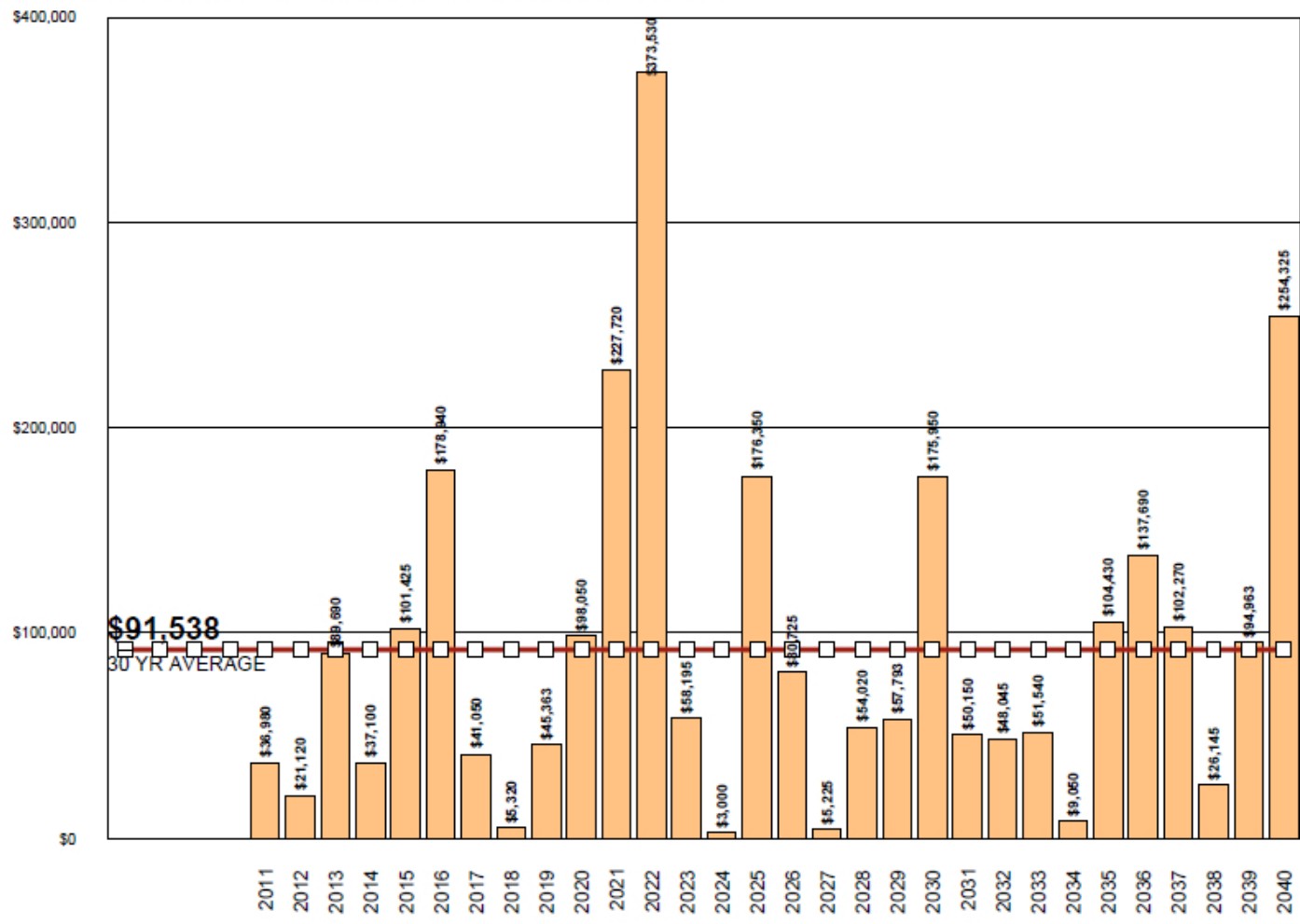
**An appropriate amount of funding in an appropriate time frame, should the organization decide to do the work.**

Total Scheduled Replacements			Total Scheduled Replacements			\$89,690		
Item	2014	\$	Item	2015	\$	Item	2016	\$
3	Concrete curb (6%)	\$5,000	68	Dance floor, refinish	\$1,200	25	Asphalt pavement, seal coat	\$21,600
77	Fire alarm control panel	\$13,200	70	Interior lighting (5% allowan	\$1,650	32	Wood steps & borders, 33%	\$1,800
80	Computer, station	\$9,400	72	Lighting control center	\$15,000	40	Other landscape lights, 25%	\$1,750
102	Meeting room furnishings	\$9,400				48	Siding & trim, 20%	\$24,650

**Not a 'To Do' list.**

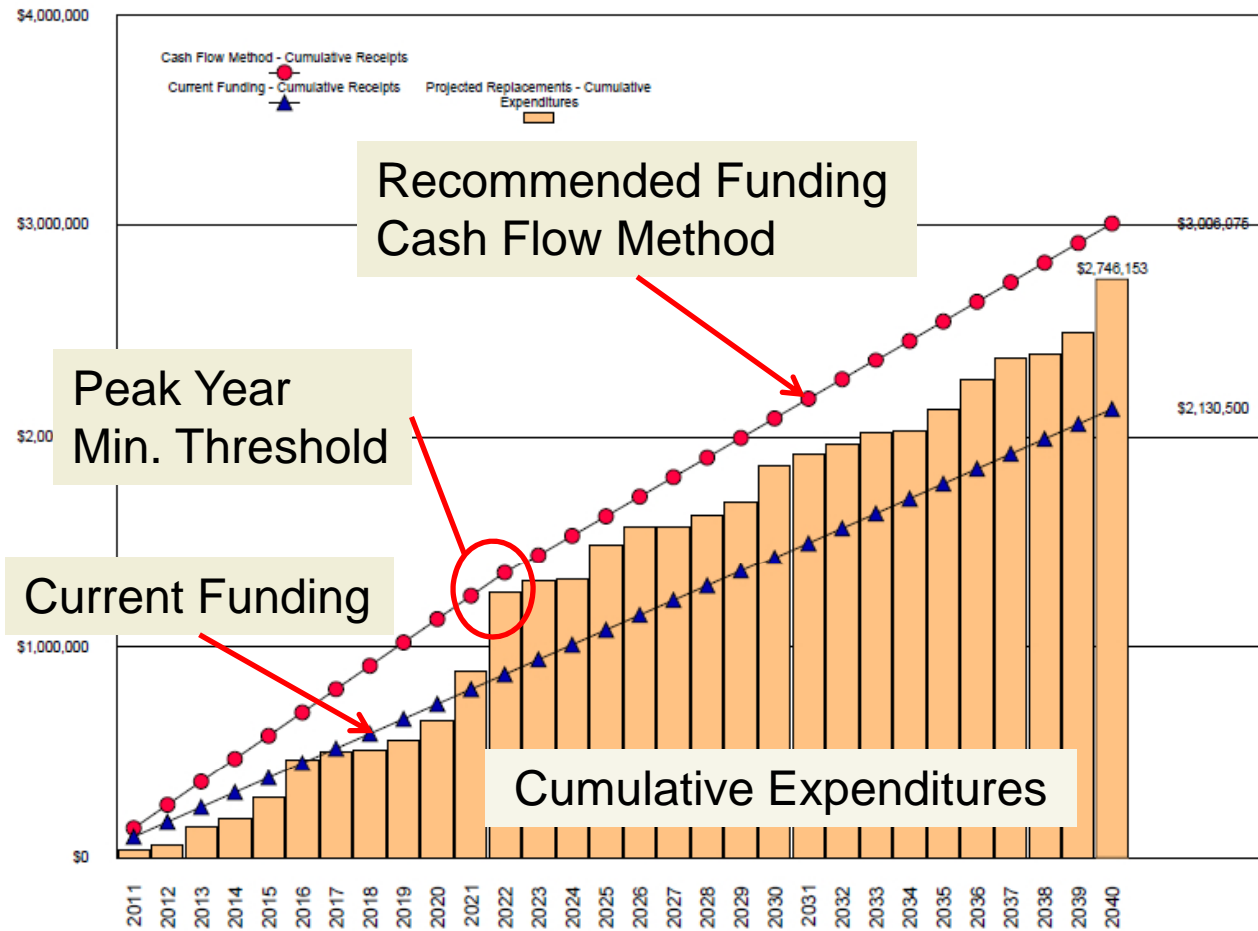
### Graph #1. Annual Expenditures for Projected Replacements

This bar graph summarizes annual expenditures for the \$2,746,153 of Projected Replacements identified in the Replacement Reserve Inventory over the 30-year Study Period. The red line shows the average annual expenditure of \$91,538.



### Graph #2. Comparison of Cumulative Replacement Reserve Funding and Expenditures

The line graph shows Replacement Reserves - Cumulative Receipts over the 30-year Study Period by the Cash Flow Method (red circles) and the Current Funding Plan as reported by the Center (blue triangles). The bar graph shows the Cumulative Expenditures necessary to fund the Project Replacements listed in the Replacement Reserve Inventory (Section B) and summarized in Graph #1.

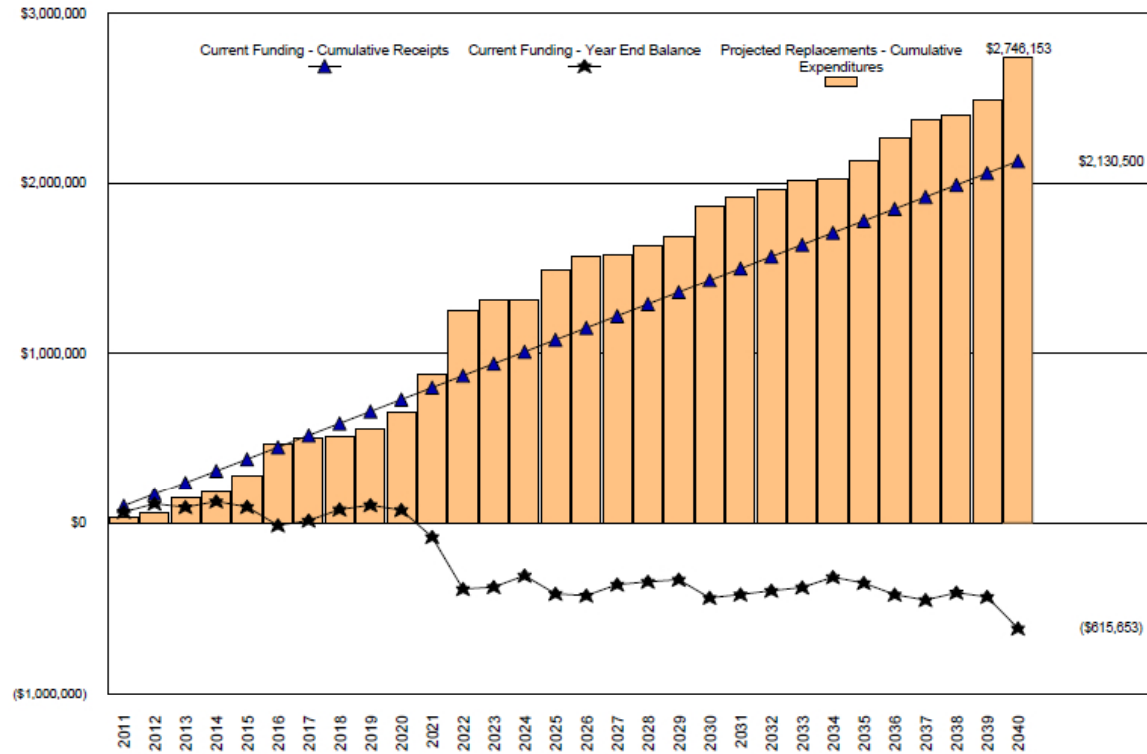


Item	2020	\$
4	Concrete curb (6%)	\$3,000
65	Carpet, church	\$23,400
67	Carpet, halls, meeting room:	\$31,200
70	Interior lighting (5% allowan	\$1,650
80	Computer, station	\$13,200
100	Youth room furnishings	\$6,900
103	Retractable screens	\$3,600
117	Small freezers/refrigerators,	\$1,600
121	Church, HVAC, 2.5 ton #8	\$7,500
132	Center, HVAC, 2 ton, #5	\$6,000
Total Scheduled Replacements		\$98,050

Item	2021	\$
1	Asphalt pavement, seal coat	\$21,600
2	Asphalt pavement, overlay	\$182,250
36	Shed	\$5,000
37	Well house, roof	\$1,170
39	Well house, door	\$500
108	Center restroom refurbishm	\$7,600
162	Guest House, bathroom ref.	\$9,600
Total Scheduled Replacements		\$227,720

Item	2022	\$
26	Wood steps & borders, 33%	\$1,800
29	Site lights, standard heads	\$3,500
34	Other landscape lights, 25%	\$1,750
35	Lighting bollards	\$11,400
51	Siding & trim, 20%	\$24,650
52	Repointing, 10%	\$4,305
53	Caulking	\$6,000
54	Windows, 33%	\$27,000
58	Stain glass window, protecti	\$26,460
60	Doors, main church	\$7,650
62	Doors, hall	\$12,000
78	Phone system	\$18,000
88	Piano	\$3,000
92	Church seating, replace	\$102,900
99	Partition wall, moveable	\$10,000
110	Convection oven	\$5,800
112	Dishwasher	\$8,200
120	Church, HVAC, 3 ton #2	\$9,000
127	Center, HVAC, 5 ton, #3	\$15,000
128	Center, HVAC, 5 ton, #4	\$15,000
129	Center, HVAC, 4 ton, #12	\$12,000
141	Guest House, shingle roof	\$7,020
142	Guest House, gutters & dow	\$1,430
143	Guest House, siding, trim &	\$15,750
145	Guest House, caulking	\$1,125
146	Guest House, windows & sk	\$9,240
147	Guest House, front door	\$1,800
154	Guest House, deck structure	\$11,750
Total Scheduled Replacements		\$373,530

**Graph #5. Current Center Funding - Cumulative Receipts and Expenditures Graph**



**Table #3. Current Funding Data - Years 1 through 30**

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Starting balance	\$30,500									
Annual deposit	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000
Expenditures	\$36,980	\$21,120	\$89,690	\$37,100	\$101,425	\$178,940	\$41,050	\$5,320	\$45,363	\$98,050
Year end balance	\$63,520	\$112,400	\$92,710	\$125,610	\$94,185	(\$14,755)	\$14,195	\$78,875	\$103,513	\$75,463
Cumulative Expenditures	\$36,980	\$58,100	\$147,790	\$184,890	\$286,315	\$465,255	\$506,305	\$511,625	\$556,988	\$655,038
Cumulative Receipts	\$100,500	\$170,500	\$240,500	\$310,500	\$380,500	\$450,500	\$520,500	\$590,500	\$660,500	\$730,500
Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Annual deposit	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000
Expenditures	\$227,720	\$373,530	\$58,195	\$3,000	\$176,350	\$80,725	\$5,225	\$54,020	\$57,793	\$175,950
Year end balance	(\$82,258)	(\$385,788)	(\$373,983)	(\$306,983)	(\$413,333)	(\$424,058)	(\$359,283)	(\$343,303)	(\$331,095)	(\$437,045)
Cumulative expenditures	\$882,758	\$1,256,288	\$1,314,483	\$1,317,483	\$1,493,833	\$1,574,558	\$1,579,783	\$1,633,803	\$1,691,595	\$1,867,545
Cumulative receipts	\$800,500	\$870,500	\$940,500	\$1,010,500	\$1,080,500	\$1,150,500	\$1,220,500	\$1,290,500	\$1,360,500	\$1,430,500
Year	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Annual deposit	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000
Expenditures	\$50,150	\$48,045	\$51,540	\$9,050	\$104,430	\$137,690	\$102,270	\$26,145	\$94,963	\$254,325
Year end balance	(\$417,195)	(\$395,240)	(\$376,780)	(\$315,830)	(\$350,260)	(\$417,950)	(\$450,220)	(\$406,365)	(\$431,328)	(\$615,653)
Cumulative Expenditures	\$1,917,695	\$1,965,740	\$2,017,280	\$2,026,330	\$2,130,760	\$2,268,450	\$2,370,720	\$2,396,865	\$2,491,828	\$2,746,153
Cumulative Receipts	\$1,500,500	\$1,570,500	\$1,640,500	\$1,710,500	\$1,780,500	\$1,850,500	\$1,920,500	\$1,990,500	\$2,060,500	\$2,130,500

So how does it start?

... and ...

Where does it end?

# The process starts with:

- ✦ A Proposal Request, and we recommend three.

You can receive a no cost proposal from **Miller+Dodson Associates** by visiting our web site and clicking the Proposal button.

For additional proposals, we suggest visiting CAI National at **caionline.org**, National Service Directory.

- ✦ After selection and acceptance of a contract, most firms strive to provide an initial report in 60 to 90 days. MDA typically meets this goal in 30 to 60 days.

# How does it end?

After receiving the initial report, the clients who get the most use out of a Reserve Study generally perform the following:

- ✦ Conduct a thorough review by key people within the organization.
- ✦ Combine the concerns and questions.
- ✦ Ask questions and understand the report.
- ✦ Provide a mark-up for revision.
- ✦ Use, review, and consider the final Reserve Study as a financial tool in their Annual Budgeting process

# Thank you for your time and attention.

Please visit our website

**[www.mdareserves.com](http://www.mdareserves.com)**

give us a call at

**1.800.850.2835**

or email Bill at

**[wscrivens@mdareserves.com](mailto:wscrivens@mdareserves.com)**

**millerdodson** associates  
Capital Reserve Consultants

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