

How Stable is your Annual Budget?

Capital Replacement Reserves for Your Church and School



millerdodson
ASSOCIATES | Capital
Reserve
Consultants

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Mr. William I. Scrivens holds a Bachelors of Science Degree in Civil Engineering, with an emphasis in structures, from the Pennsylvania State University.

Mr. Scrivens, with 20 years of experience in structural design and inspection, has personally performed well over 1,800 inspections on wide variety of private, municipal, and military facilities throughout the United States.

Bill is currently a Reserve Specialist, and author and lecturer on the subject of Capital Reserve Funding for Miller-Dodson Associates.



Opening Survey

- Have you heard of a Reserve Study before?
- Are you a member of a Home Owners' Association, Condominium, Resort Timeshare, or Country Club?
- Have you ever served on a Board of Directors for any of the above mentioned properties?
- Have you been concerned about how to budget for your facilities capital assets like roofs, HVAC equipment, and other big ticket items?

Topics

- What are Reserves & Reserve Studies
- Importance of Reserves & Reserve Studies
- Where do Reserves fit into the Budget
- What is in a Reserve Study
- Reserve Studies, the 'nuts and bolts'
- Questions

What are Replacement Reserves?

- Funds typically set aside in a separate account.
- Used only for replacement or major repair of “capital components”.
- Not to be used for “Maintenance and Operation” expenses.
- Not to be used for expansion of the facilities.

Purpose of Adequate Reserve Funds

- Protect, preserve and enhance the **physical assets** and **aesthetic quality** of the facilities!
- **Equitable distribution of costs** over time for the major repair and replacement of physical assets.
- Help **prevent** the need for special funding efforts!

What are Reserves Studies?

- **Financial Recommendation** based on a visual condition assessment of facility's assets.
- Provides a **Budgetary Parameter** for annual funding of long-term capital replacements.
- Should include **Management's Input** reflecting specific needs & goals of the facility.
- May include a **customized funding plan**.

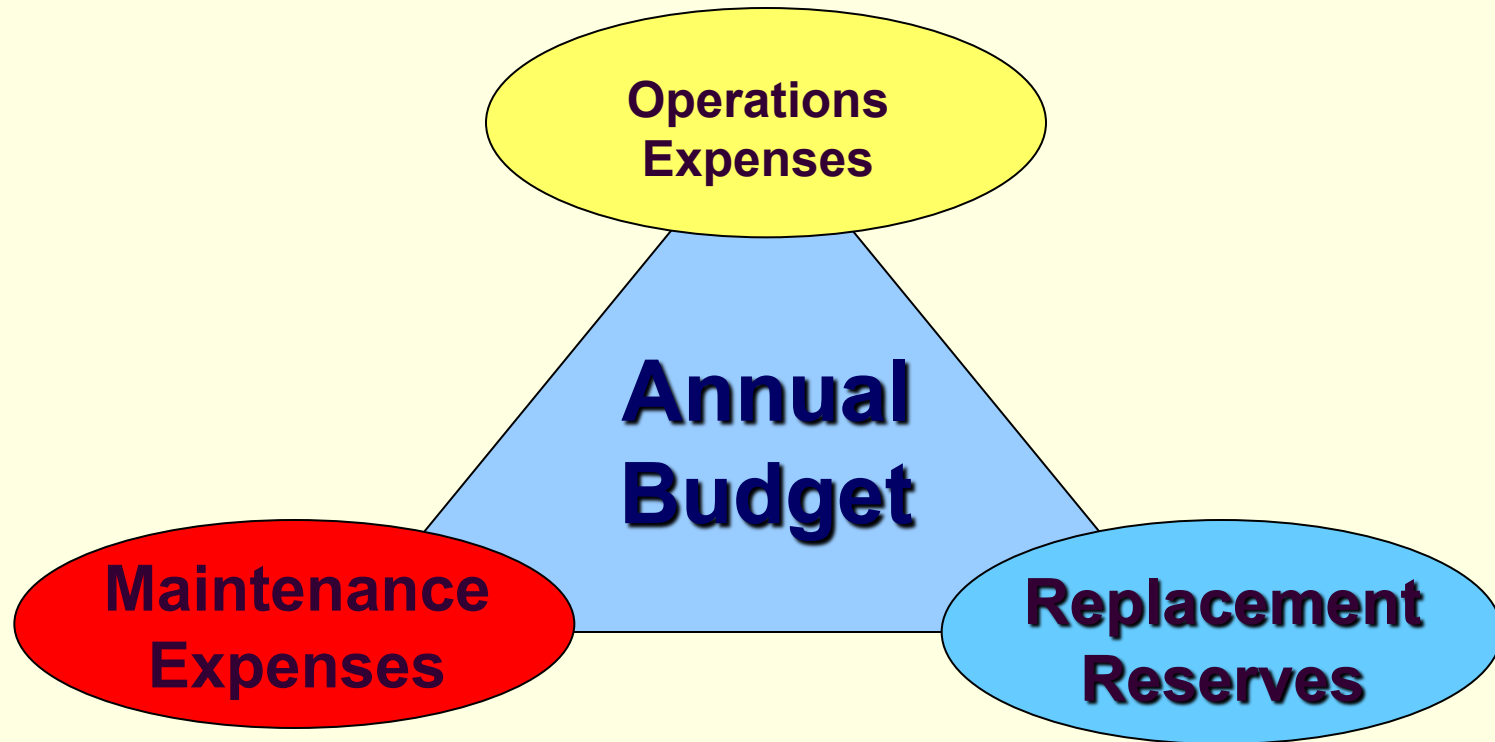
Why is a Reserve Study Important?

- Provides independent skilled assessment of future Reserve funding needs.
- Helps to prevent future financial crises due to lack of long-term financial planning.
- Provides fair and equitable funding of Reserves over time.
- Provides periodic updates of funding needs.

Benefits of a Reserve Study

- Sound Financial Planning Tool!
 - Establish Annual Reserve Contributions
 - Optimize Investment of Reserve Balance
- Documents Reserve Components.
- Documents projected Reserve “expenditures”.
- Maintains consistent model of Reserve needs for the future!

Where Do Reserves Fit?



What is in a Reserve Study?

- Starts with an inventory of components.
- Provides a unit of measure and a replacement cost for each component.
- Sets a normal economic life and remaining economic life for each component

SITE COMPONENT
PROJECTED REPLACEMENTS

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
1	Asphalt pavement, seal coat	sf	101,000	\$0.20	6	none	\$20,200
2	Asphalt pavement, mill & overlay	sf	101,000	\$1.70	18	6	\$171,700
3	Concrete roadway pavement (6%)	sf	10,600	\$9.80	60	none	\$103,880
4	Concrete roadway pavement (6%)	sf	10,600	\$9.80	60	6	\$103,880
5	Concrete roadway pavement (3%)	sf	5,800	\$9.80	60	12	\$56,840
6	Concrete roadway pavement (3%)	sf	5,800	\$9.80	60	18	\$56,840
7	Concrete roadway pavement (2%)	sf	3,900	\$9.80	60	24	\$38,220
8	Concrete roadway pavement (2%)	sf	3,900	\$9.80	60	30	\$38,220
9	Concrete roadway pavement (2%)	sf	3,900	\$9.80	60	36	\$38,220
10	Concrete roadway pavement (2%)	sf	3,900	\$9.80	60	42	\$38,220
11	Concrete roadway pavement (2%)	sf	3,900	\$9.80	60	48	\$38,220
12	Concrete roadway pavement (2%)	sf	3,900	\$9.80	60	54	\$38,220
13	Concrete curb w/ asph pvmt (10%)	ft	450	\$30.00	54	6	\$13,500
14	Concrete curb w/ asph pvmt (10%)	ft	450	\$30.00	54	24	\$13,500
15	Concrete curb w/ asph pvmt (10%)	ft	450	\$30.00	54	42	\$13,500
16	Concrete sidewalk (6%)	sf	2,000	\$8.50	60	none	\$17,000
17	Concrete sidewalk (3%)	sf	1,000	\$8.50	60	6	\$8,500
18	Concrete sidewalk (3%)	sf	1,000	\$8.50	60	12	\$8,500
19	Concrete sidewalk (2%)	sf	670	\$8.50	60	18	\$5,695
20	Concrete sidewalk (2%)	sf	670	\$8.50	60	24	\$5,695
SITE COMPONENT - Replacement Costs - Subtotal							\$828,550

SITE COMPONENT (cont.)**PROJECTED REPLACEMENTS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
21	Site lights, tall, poles	ea	14	\$1,800.00	60	43	\$25,200
22	Site lights, tall, heads	ea	26	\$450.00	30	13	\$11,700
23	Site lights, short poles & heads	ea	14	\$1,500.00	30	none	\$21,000
24	Site lights, front, poles	ea	38	\$1,200.00	50	30	\$45,600
25	Site lights, front, heads	ea	62	\$350.00	25	5	\$21,700
26	Tree & landscape lighting (allowance)	ea	10	\$250.00	5	3	\$2,500
27	Entry monument (allowance)	ls	1	\$1,000.00	10	5	\$1,000
28	Entry gate	ft	120	\$45.00	20	none	\$5,400
29	Tree & foundation planting (allowance)	ls	1	\$8,000.00	15	5	\$8,000
30	Shade awning, refabric	sf	1,880	\$8.00	5	3	\$15,040
31	Shade awning, structure	sf	1,880	\$14.00	40	38	\$26,320
32	Shed (allowance)	ls	1	\$8,000.00	10	5	\$8,000
33	Irrigation controllers (allowance)	ea	2	\$3,000.00	10	3	\$6,000
34	Underground pipe & SWM (allow.)	ls	1	\$25,000.00	20	10	\$25,000
35	Golf carts, used	ea	2	\$5,000.00	20	10	\$10,000
SITE COMPONENT (cont.) - Replacement Costs - Subtotal							\$232,460

TOT LOT**PROJECTED REPLACEMENTS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
36	Tot lot - MP structure	ea	1	\$20,000.00	15	10	\$20,000
37	Tot lot - MP structure (small)	ea	1	\$12,000.00	15	10	\$12,000
38	Tot lot - swing, small tire	ea	1	\$1,200.00	15	10	\$1,200
39	Tot lot - swing, small 2 seat	ea	1	\$1,200.00	15	10	\$1,200
40	Tot lot - swing, 4 seat & tire	ea	1	\$5,000.00	15	10	\$5,000
41	Tot lot - playhouse	ea	1	\$6,000.00	15	10	\$6,000
42	Tot lot - climb	ea	1	\$2,500.00	15	10	\$2,500
43	Tot lot - miscl. play structures	ea	6	\$800.00	15	10	\$4,800
44	Tot lot - deck	sf	250	\$18.00	30	25	\$4,500
45	Tot lot - shade, refabric	sf	150	\$8.00	5	3	\$1,200
46	Tot lot - shade, structure	sf	150	\$14.00	40	28	\$2,100
47	Tot lot - wood border	ft	230	\$9.00	15	10	\$2,070
48	Tot lot - perimeter fencing	ft	220	\$15.00	30	10	\$3,300
49	Bench & exterior furnishing (allow.)	ls	1	\$5,000.00	10	5	\$5,000
50	Exterior worship area, seat & trellis	sf	400	\$12.00	15	5	\$4,800
51	Adelglass Garden (allowance)	ls	1	\$5,000.00	5	3	\$5,000
TOT LOT - Replacement Costs - Subtotal							\$80,670

BUILDING EXTERIOR**PROJECTED REPLACEMENTS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
52	Flat seam copper roof, (repair allow.)	sf	10,200	\$10.00	20	15	\$102,000
53	Standing seam metal roof	sf	4,700	\$9.60	35	18	\$45,120
54	Coal tar pitch roof	sf	100,750	\$9.50	15	3	\$957,125
55	Cap & flashing, repair/replace (allow.)	ft	6,700	\$12.00	15	3	\$80,400
56	Roof hatch	ea	1	\$1,200.00	30	3	\$1,200
57	Skylights	ea	17	\$800.00	15	3	\$13,600
58	Repointing (10% allowance)	sf	6,000	\$12.50	10	10	\$75,000
59	Recaulking	ft	20,000	\$2.00	10	10	\$40,000
60	Concrete repair (allowance)	sf	1,000	\$65.00	10	none	\$65,000
61	Stained glass, refurbish	sf	3,600	\$30.00	40	none	\$108,000
62	Stained glass, protective glazing	sf	3,600	\$40.00	40	none	\$144,000
63	Window, 1/3	sf	2,400	\$45.00	40	5	\$108,000
64	Window, 1/3	sf	2,400	\$45.00	40	10	\$108,000
65	Window, 1/3	sf	2,400	\$45.00	40	20	\$108,000

BUILDING EXTERIOR - Replacement Costs - Subtotal \$1,955,445

BUILDING INTERIOR
PROJECTED REPLACEMENTS

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
71	Sanctuary, arc, refurbish	ls	1	\$25,000.00	30	24	\$25,000
72	Torah, restoration	ea	4	\$1,000.00	10	6	\$4,000
73	Sanctuary, carpet	sf	2,200	\$5.50	10	8	\$12,100
74	Sanctuary, seating, refurbish	ea	675	\$600.00	30	24	\$405,000
75	Sanctuary, lighting, main (refurbish)	sf	12,400	\$10.00	40	3	\$124,000
76	Sanctuary, lighting, general	sf	12,400	\$2.00	40	3	\$24,800
77	Sanctuary, dimmer	ea	1	\$9,000.00	15	none	\$9,000
78	Sanctuary, handicap lift	ea	1	\$13,000.00	20	5	\$13,000
79	Sanctuary, organ electronics	ea	1	\$15,000.00	10	7	\$15,000
80	Sanctuary, releather	ea	1	\$25,000.00	20	7	\$25,000
81	Sanctuary, refelt & clean	ea	1	\$28,000.00	40	7	\$28,000
82	Choir loft, refurbish	sf	1,600	\$10.00	15	none	\$16,000
83	Sanctuary, sound system	ea	1	\$10,000.00	7	none	\$10,000
84	Chapel, arc, refurbish	ls	1	\$3,000.00	30	24	\$3,000
85	Chapel, cork flooring	sf	2,000	\$6.50	35	none	\$13,000
86	Chapel, carpet	sf	300	\$5.50	10	none	\$1,650
BUILDING INTERIOR - Replacement Costs - Subtotal							\$728,550

BUILDING INTERIOR (cont.)**PROJECTED REPLACEMENTS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
122	Vinyl flooring (allowance)	sf	5,000	\$3.90	5	none	\$19,500
123	Interior lighting, general (allowance)	ea	100	\$75.00	10	6	\$7,500
124	Meeting/class/office, ff&e (1/5 allow.)	sf	13,100	\$7.00	15	2	\$91,700
125	Meeting/class/office, ff&e (1/5 allow.)	sf	13,100	\$7.00	15	5	\$91,700
126	Meeting/class/office, ff&e (1/5 allow.)	sf	13,100	\$7.00	15	8	\$91,700
127	Meeting/class/office, ff&e (1/5 allow.)	sf	13,100	\$7.00	15	11	\$91,700
128	Meeting/class/office, ff&e (1/5 allow.)	sf	13,100	\$7.00	15	14	\$91,700
129	Large restroom refurb. (allow)	ea	4	\$6,300.00	10	5	\$25,200
130	Medium restroom refurb. (allow)	ea	6	\$4,600.00	5	5	\$27,600
131	Small/powder restroom refurb. (allow)	ea	4	\$2,800.00	5	5	\$11,200
132	defibrillator	ea	1	\$1,600.00	3	1	\$1,600
133	Ceramic kiln	ea	1	\$3,000.00	20	18	\$3,000
134	Apartment, flooring	sf	1,300	\$4.25	10	none	\$5,525
135	Apartment, kitchen refurbish	ea	1	\$6,000.00	20	none	\$6,000
136	Apartment, kitchen & laundry appl.	ls	1	\$1,800.00	10	5	\$1,800
137	Apartment, bathroom	ea	1	\$4,000.00	20	none	\$4,000

BUILDING INTERIOR (cont.) - Replacement Costs - Subtotal

\$571,425

BUILDING INT. (Kitchens)**PROJECTED REPLACEMENTS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
156	Linz - Line hood w/ fire suppression	ea	1	\$12,000.00	40	23	\$12,000
157	Linz - Fire suppression	ea	1	\$5,000.00	15	2	\$5,000
158	Linz - Stove, 4 burner, single oven	ea	1	\$5,900.00	25	4	\$5,900
159	Linz - Warming drawers	ea	1	\$1,800.00	15	none	\$1,800
160	Linz - Reachin, 2 door refrigerator	ea	1	\$2,800.00	10	none	\$2,800
161	Linz - Kitchen, refurbish	ls	1	\$8,000.00	20	none	\$8,000
162	Linz - Residential ice maker	ea	1	\$1,000.00	10	5	\$1,000
163	Pollman - Residential hood	ea	1	\$900.00	10	5	\$900
164	Pollman - Residential cooktop	ea	1	\$1,100.00	10	5	\$1,100
165	Pollman - Residential double oven	ea	1	\$1,500.00	10	5	\$1,500
166	Pollman - Residential dishwasher	ea	1	\$800.00	10	5	\$800
167	Pollman - Residential ice maker	ea	1	\$1,000.00	10	5	\$1,000
168	Pollman - Reachin, freezer	ea	1	\$2,300.00	10	5	\$2,300
169	Pollman - Reachin, 2 door refridg.	ea	1	\$2,800.00	10	5	\$2,800
170	Pollman - Kitchen, refurbish	ls	1	\$12,000.00	20	15	\$12,000
171	Lounge - Residential hood	ea	3	\$900.00	10	5	\$2,700
172	Lounge - Residential cooktop	ea	3	\$800.00	10	5	\$2,400
173	Lounge - Residential oven	ea	2	\$500.00	10	5	\$1,000
174	Lounge - Residential dishwasher	ea	2	\$500.00	10	5	\$1,000
175	Lounge - Residential ice maker	ea	1	\$1,000.00	10	5	\$1,000
176	Lounge - Kitchen, refurbish	ls	1	\$12,000.00	20	15	\$12,000

BUILDING INT. (Kitchens) - Replacement Costs - Subtotal

\$79,000

BUILDING SYSTEM
PROJECTED REPLACEMENTS

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
186	Elevator cab & door, passenger	ea	1	\$7,900.00	20	3	\$7,900
187	Elevator, hydraulic psngr, controls	ea	1	\$29,500.00	20	3	\$29,500
188	Elevator, hydraulic psngr, piston	ea	1	\$14,800.00	40	28	\$14,800
189	Elevator cab & door, passenger	ea	1	\$20,000.00	20	3	\$20,000
190	Elevator, hydraulic psngr, controls	ea	1	\$37,800.00	20	3	\$37,800
191	Elevator, hydraulic psngr, piston	ea	1	\$19,000.00	40	28	\$19,000
192	Chillers	ea	2	\$100,000.00	25	24	\$200,000
193	Boilers, heat	ea	2	\$30,000.00	40	23	\$60,000
194	Fan coils	ea	75	\$2,100.00	30	13	\$157,500
195	Air handler/coil rebuild (allowance)	tons	40	\$800.00	10	3	\$32,000
196	HVAC control system	ea	1	\$7,000.00	15	10	\$7,000
197	HVAC, split systems	ea	3	\$6,000.00	15	5	\$18,000
198	Hotwater boiler	ea	1	\$12,000.00	30	29	\$12,000
199	Hotwater tank	ea	1	\$2,000.00	10	9	\$2,000
200	Pump 5 to 10 hp, replace	ea	2	\$3,200.00	10	2	\$6,400
201	Pump above 10 hp, rebuild	ea	2	\$2,800.00	15	2	\$5,600
202	Miscl. - Fan, motor, heater	ls	1	\$7,000.00	5	2	\$7,000
203	Building piping (allowance)	ls	1	\$8,000.00	10	8	\$8,000
204	Sump pumps	ea	3	\$1,200.00	10	3	\$3,600
BUILDING SYSTEM - Replacement Costs - Subtotal							\$648,100

BUILDING SYSTEM (cont.)**PROJECTED REPLACEMENTS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
205	Fire alarm system	ea	1	\$21,000.00	15	none	\$21,000
206	Telephone system	ea	1	\$28,000.00	15	12	\$28,000
207	Server computers	ea	2	\$8,000.00	5	3	\$16,000
208	Desktop computers	ea	45	\$1,300.00	3	2	\$58,500
209	Laptop computers	ea	15	\$1,600.00	3	1	\$24,000
210	Miscl, IT (allowance)	ls	1	\$24,000.00	3	none	\$24,000
211	Entry control system	ea	9	\$2,800.00	15	6	\$25,200
212	Security camera	ea	11	\$800.00	15	10	\$8,800
213	Security recorder	ea	1	\$5,000.00	15	10	\$5,000
214	Transformer (allowance)	ea	5	\$1,500.00	10	5	\$7,500
215	Electrical switching gear (allowance)	ls	1	\$40,000.00	20	2	\$40,000

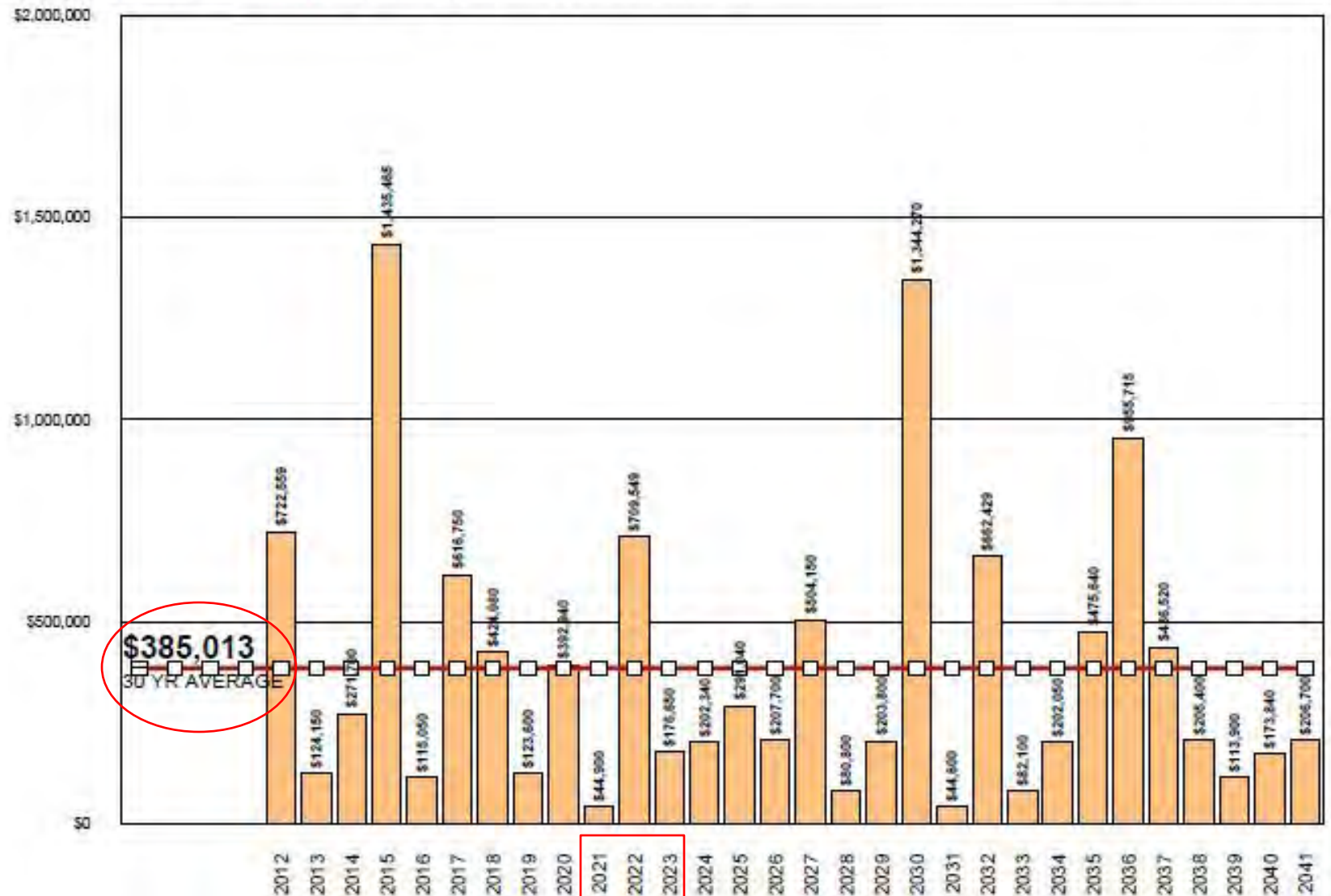
BUILDING SYSTEM (cont.) - Replacement Costs - Subtotal**\$258,000**

PROJECTED REPLACEMENTS - YEARS 10 TO 12

Item	2021	\$	Item	2022	\$	Item	2023	\$
70	Exterior lighting, general	\$1,900	34	Underground pipe & SWM (;	\$25,000	98	Tobian Hall, stage lighting (a	\$5,000
115	Piano voicing & repair (allow	\$7,000	35	Golf carts, used	\$10,000	105	Linz Hall, tapestry cleaning	\$5,000
149	TK Ice maker	\$5,000	36	Tot lot - MP structure	\$20,000	106	Pollman Hall, maple flooring	\$9,450
185	Youth - Audio/video (allowan	\$5,000	37	Tot lot - MP structure (small)	\$12,000	115	Piano voicing & repair (allow	\$7,000
199	Hotwater tank	\$2,000	38	Tot lot - swing, small tire	\$1,200	127	Meeting/class/office, ff&e (1)	\$91,700
210	Miscel. IT (allowance)	\$24,000	39	Tot lot - swing, small 2 seat	\$1,200	208	Desktop computers	\$58,500
			40	Tot lot - swing, 4 seat & tire	\$5,000			
			41	Tot lot - playhouse	\$6,000			
			42	Tot lot - climb	\$2,500			
			43	Tot lot - miscel. play structure	\$4,800			
			47	Tot lot - wood border	\$2,070			
			48	Tot lot - perimeter fencing	\$3,300			
			58	Repointing (10% allowance)	\$75,000			
			59	Recaulking	\$40,000			
			60	Concrete repair (allowance)	\$65,000			
			64	Window, 1/3	\$108,000			
			67	Storefront/plate, glazed door	\$80,000			
			69	Solid door (allowance)	\$2,250			
			86	Chapel, carpet	\$1,650			
			90	Chapel, organ electronics	\$4			
			93	Chapel, sound system	\$4,000			
			109	Pollman Hall, sound system	\$5,000			
			110	Banquet table (allowance)	\$6,250			
			111	Banquet chair (allowance)	\$62,500			
			121	Carpet flooring, general (1/5	\$42,500			
			122	Vinyl flooring (allowance)	\$19,500			
			130	Medium restroom refurb. (all	\$27,600			
			131	Small/powder restroom refur	\$11,200			
			132	defibrillator	\$1,600			
			134	Apartment, flooring	\$5,525			
			141	TK Convection oven, 2 stack	\$6,200			
			142	TK Small grill	\$1,500			
			150	TK Large mixer	\$3,600			
			160	Linz - Reachin, 2 door refrig	\$2,800			
			196	HVAC control system	\$7,000			
			209	Laptop computers	\$24,000			
			212	Security camera	\$8,800			
			213	Security recorder	\$5,000			
Total Scheduled Replacements		\$44,900	Total Scheduled Replacements		\$709,549	Total Scheduled Replacements		\$176,650

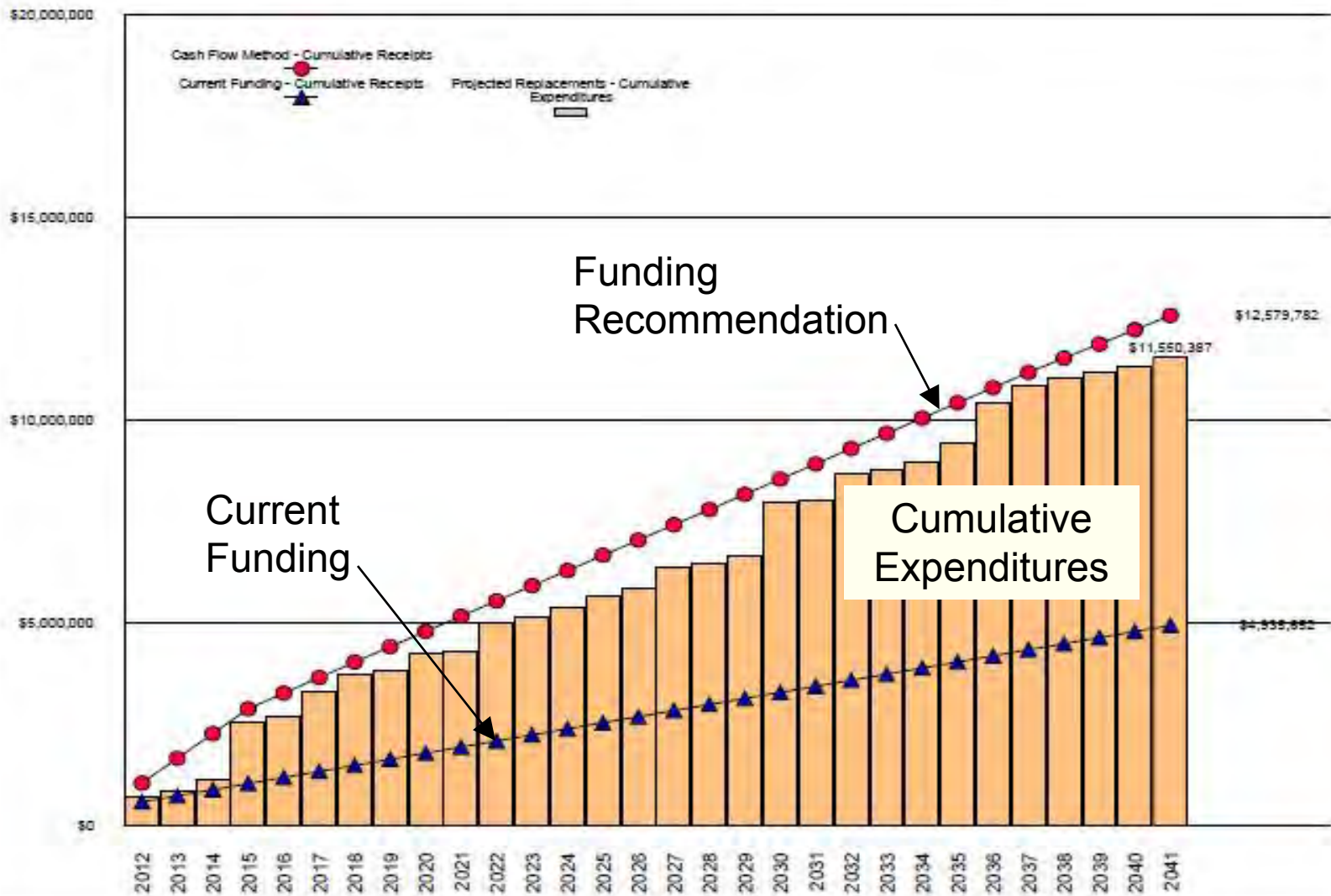
Graph #1. Annual Expenditures for Projected Replacements

This bar graph summarizes annual expenditures for the \$11,550,387 of Projected Replacements identified in the Replacement Reserve Inventory over the 30-year Study Period. The red line shows the average annual expenditure of \$385,013.



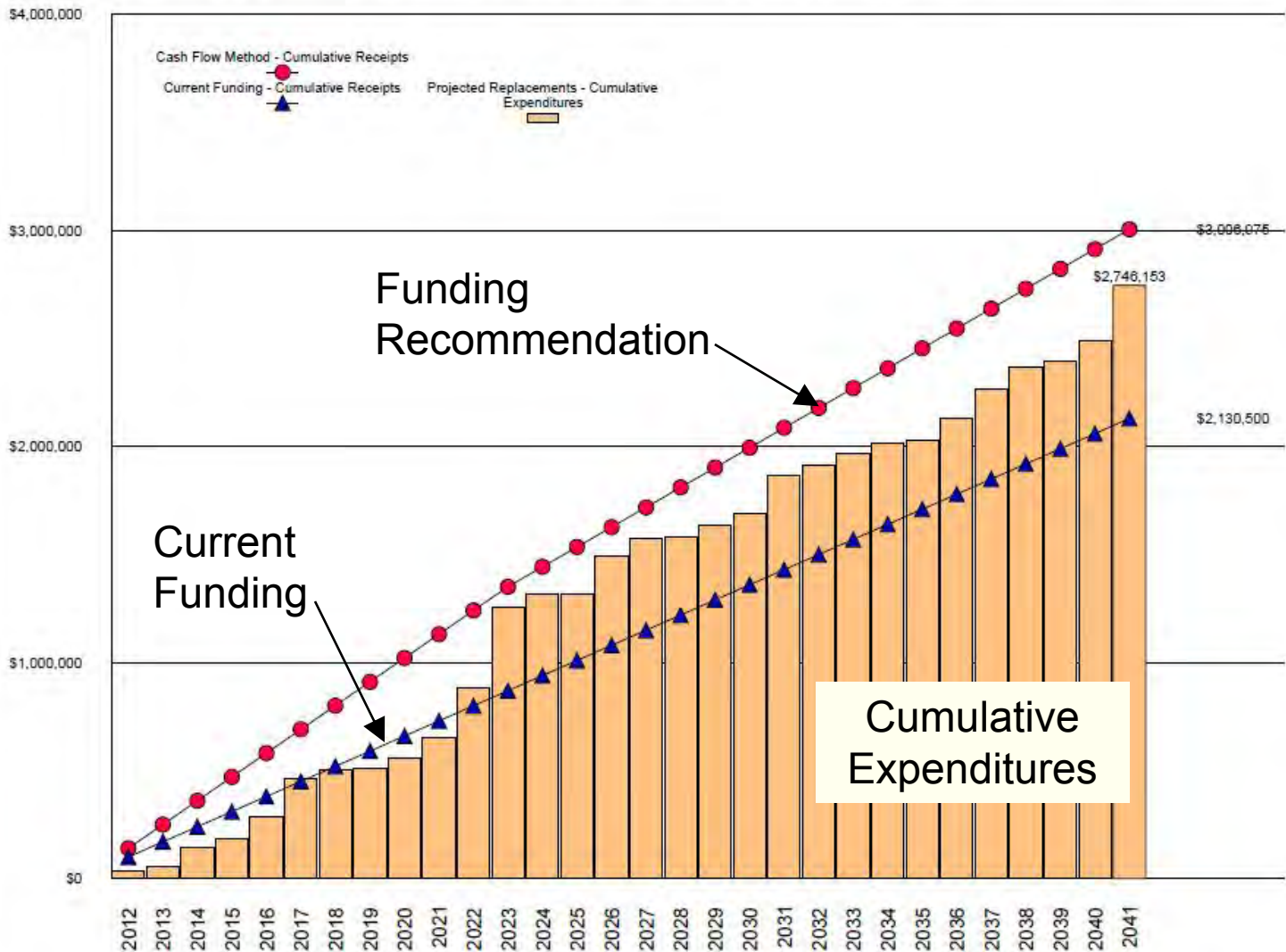
Graph #2. Comparison of Cumulative Replacement Reserve Funding and Expenditures

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 Temple (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.



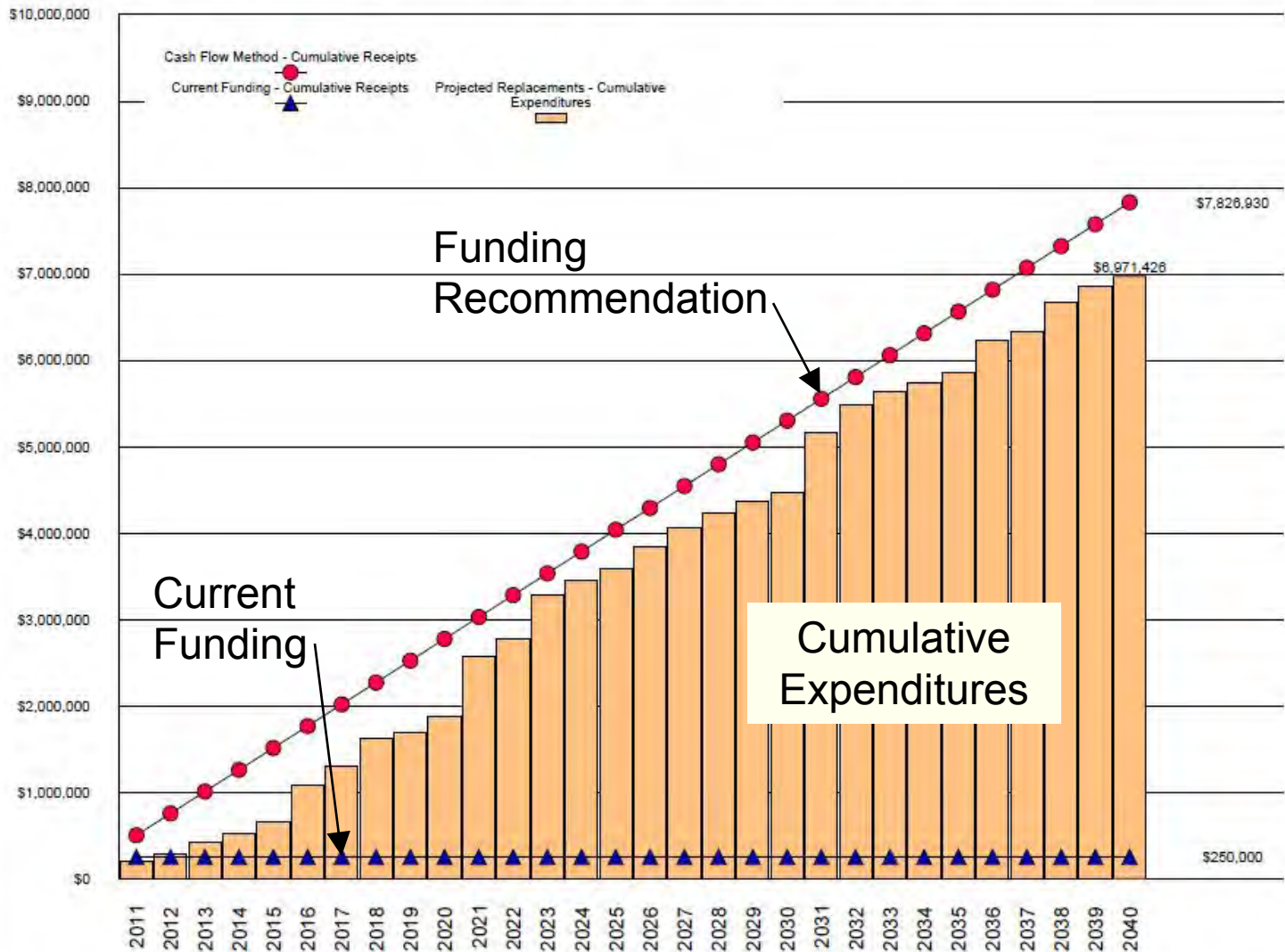
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Graph #2. Comparison of Cumulative Replacement Reserve Funding and Expenditures

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 Church (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.



Graph #5. Current Temple Funding - Cumulative Receipts and Expenditures Graph

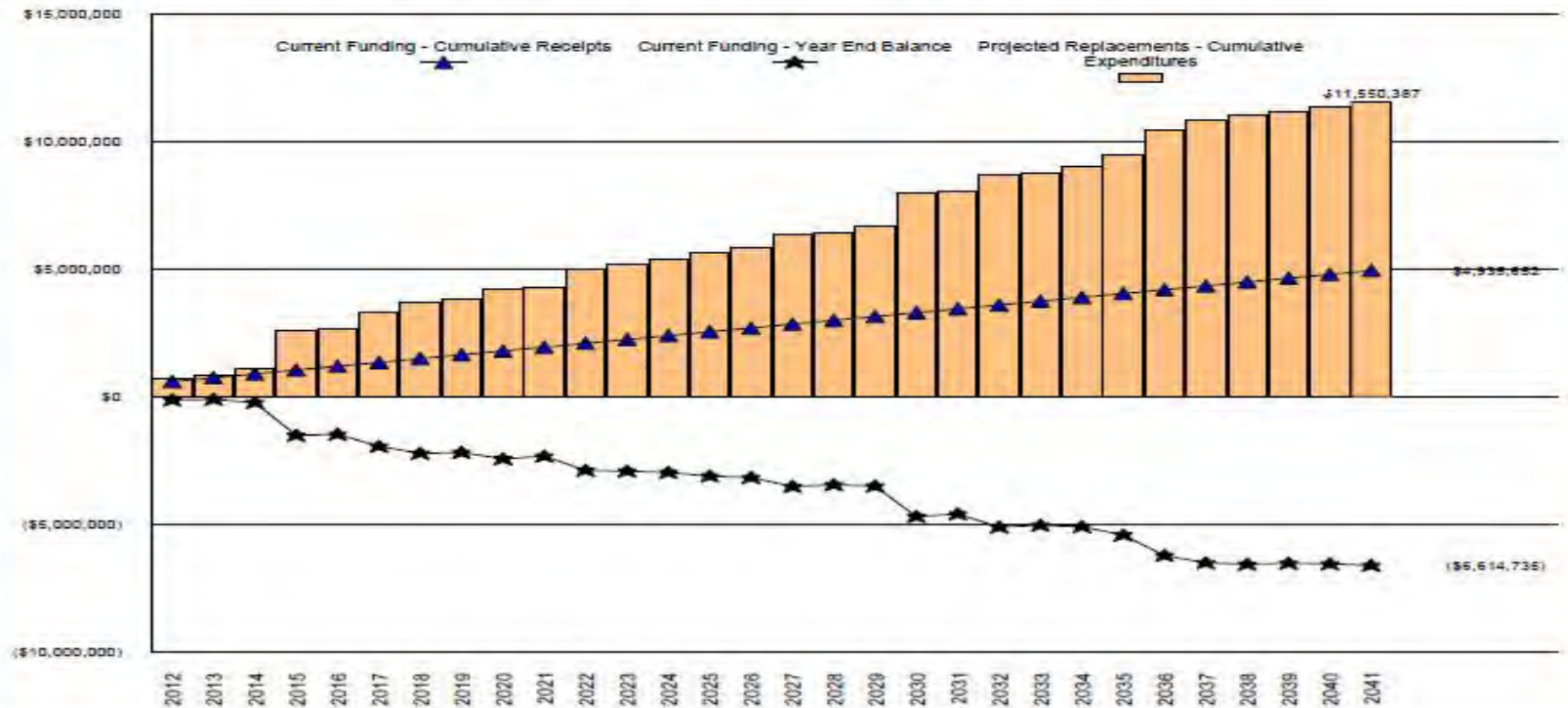


Table #3. Current Funding Data - Years 1 through 30

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Starting balance	\$435,652									
Annual deposit	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000
Expenditures	\$722,559	\$124,150	\$271,700	\$1,435,465	\$115,050	\$616,750	\$424,080	\$123,600	\$392,940	\$44,900
Year end balance	(\$136,907)	(\$111,097)	(\$232,757)	(\$1,516,222)	(\$1,489,272)	(\$1,950,022)	(\$2,224,103)	(\$2,197,702)	(\$2,440,642)	(\$2,335,542)
Cumulative Expenditures	\$722,559	\$846,709	\$1,118,409	\$2,553,874	\$2,668,924	\$3,285,674	\$3,709,754	\$3,833,354	\$4,226,294	\$4,271,194
Cumulative Receipts	\$585,652	\$735,652	\$885,652	\$1,035,652	\$1,185,652	\$1,335,652	\$1,485,652	\$1,635,652	\$1,785,652	\$1,935,652
Year	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Annual deposit	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000
Expenditures	\$709,549	\$176,650	\$202,340	\$291,040	\$207,700	\$504,150	\$80,900	\$203,600	\$1,344,270	\$44,600
Year end balance	(\$2,695,091)	(\$2,921,741)	(\$2,974,081)	(\$3,115,121)	(\$3,172,621)	(\$3,526,971)	(\$3,487,771)	(\$3,511,571)	(\$4,735,841)	(\$4,600,441)
Cumulative expenditures	\$4,980,743	\$5,157,393	\$5,359,733	\$5,650,773	\$5,858,473	\$6,362,623	\$6,443,423	\$6,647,223	\$7,991,493	\$8,036,093
Cumulative receipts	\$2,085,652	\$2,235,652	\$2,385,652	\$2,535,652	\$2,685,652	\$2,835,652	\$2,985,652	\$3,135,652	\$3,285,652	\$3,435,652
Year	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
Annual deposit	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000
Expenditures	\$662,429	\$82,100	\$202,050	\$475,640	\$955,715	\$436,520	\$205,400	\$113,900	\$173,840	\$206,700
Year end balance	(\$5,112,870)	(\$5,044,870)	(\$5,097,020)	(\$5,422,650)	(\$6,328,375)	(\$6,514,895)	(\$6,570,295)	(\$6,534,195)	(\$6,555,035)	(\$6,614,735)
Cumulative Expenditures	\$6,699,522	\$6,780,622	\$6,982,672	\$7,458,312	\$10,414,027	\$10,850,547	\$11,055,947	\$11,169,847	\$11,343,887	\$11,550,387
Cumulative Receipts	\$3,585,652	\$3,735,652	\$3,885,652	\$4,035,652	\$4,185,652	\$4,335,652	\$4,485,652	\$4,635,652	\$4,785,652	\$4,935,652

Graph #3. Cash Flow Method - Cumulative Receipts and Expenditures Graph



Table #1. Cash Flow Method Data - Years 1 through 30

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Starting balance	\$435,652									
Annual deposit	\$613,715	\$610,438	\$610,438	\$610,438	\$385,293	\$385,293	\$385,293	\$375,831	\$375,831	\$375,831
Expenditures	\$722,559	\$124,160	\$271,700	\$1,435,465	\$115,050	\$616,750	\$424,080	\$123,600	\$392,940	\$44,900
Year end balance	\$326,808	\$813,096	\$1,151,834	\$326,808	\$597,051	\$365,594	\$326,808	\$579,039	\$551,930	\$892,861
Minimum rec. funding lvl.	\$326,808	\$326,808	\$326,808	\$326,808	\$326,808	\$326,808	\$326,808	\$326,808	\$326,808	\$326,808
Cumulative expenditures	\$722,559	\$846,709	\$1,118,409	\$2,553,874	\$2,668,924	\$3,285,674	\$3,709,754	\$3,833,354	\$4,225,294	\$4,271,194
Cumulative receipts	\$1,049,367	\$1,659,805	\$2,270,243	\$2,880,682	\$3,265,975	\$3,651,268	\$4,036,562	\$4,412,393	\$4,798,224	\$5,164,055
First Peak Year				Second Peak Year						
Year	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Annual deposit	\$375,831	\$375,831	\$375,831	\$375,831	\$375,831	\$375,831	\$375,831	\$375,831	\$375,831	\$375,831
Expenditures	\$709,549	\$176,650	\$202,340	\$291,040	\$207,700	\$504,150	\$80,800	\$203,800	\$1,344,270	\$44,600
Year end balance	\$559,144	\$758,325	\$931,816	\$1,016,607	\$1,184,738	\$1,066,420	\$1,351,451	\$1,523,482	\$555,043	\$886,274
Minimum rec. funding lvl.	\$326,808	\$326,808	\$326,808	\$326,808	\$326,808	\$326,808	\$326,808	\$326,808	\$326,808	\$326,808
Cumulative expenditures	\$4,380,743	\$5,157,393	\$5,359,733	\$5,650,773	\$5,858,473	\$6,362,623	\$6,443,423	\$6,647,223	\$7,991,493	\$8,036,093
Cumulative receipts	\$5,539,987	\$5,915,715	\$6,291,549	\$6,667,380	\$7,043,211	\$7,419,043	\$7,794,874	\$8,170,705	\$8,546,536	\$8,922,367
Year	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
Annual deposit	\$375,831	\$375,831	\$375,831	\$375,831	\$375,831	\$375,831	\$350,607	\$350,607	\$350,607	\$350,607
Expenditures	\$662,429	\$82,100	\$202,050	\$475,640	\$955,715	\$436,520	\$205,400	\$113,900	\$173,840	\$206,700
Year end balance	\$899,677	\$893,408	\$1,067,189	\$967,380	\$387,496	\$326,808	\$708,721	\$885,488	\$1,029,395	\$1,029,395
Minimum rec. funding lvl.	\$326,808	\$326,808	\$326,808	\$326,808	\$326,808	\$326,808	\$326,808	\$326,808	\$326,808	\$326,808
Cumulative expenditures	\$8,698,522	\$8,780,622	\$8,982,672	\$9,458,312	\$10,414,027	\$10,850,547	\$11,055,947	\$11,169,847	\$11,343,687	\$11,550,387
Cumulative receipts	\$9,298,199	\$9,674,030	\$10,049,861	\$10,425,692	\$10,801,523	\$11,177,355	\$11,527,961	\$11,878,568	\$12,229,175	\$12,579,782

EXECUTIVE SUMMARY

The Temple Replacement Reserve Inventory identifies 215 Projected Replacements for funding from Replacement Reserves, with an estimated one-time replacement cost of \$6,536,154.

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 Temple. The calculations and evaluation are summarized below:

\$613,715 CASH FLOW METHOD MINIMUM ANNUAL FUNDING OF REPLACEMENT RESERVES IN THE STUDY YEAR, 2012.

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 2012 and the CFM - Minimum Annual Funding of Replacement Reserves in 2013 declines to \$610,438, after the completion of \$722,559 of replacements in the Study Year, 2012.

Subsequent Peak Years and declines in Minimum Annual Funding occur in: 2015, 2018, 2037.

\$150,000 CURRENT ANNUAL FUNDING OF REPLACEMENT RESERVES (as reported by the Temple).

The evaluation of Current Funding, as reported by the Temple, has calculated that if the Temple continues to fund Replacement Reserves at the current level, there will NOT be adequate funds for Projected Replacements in 30 years of the 30-year Study Period, and a maximum shortfall of \$-6,614,735 occurs in 2041.

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.

What are the basic

‘nuts and bolts’
of a
Reserve Study?

Getting Started

- Determine Appropriate Level of Service
 - Level 1, 2 or 3 Study?
- Request Proposals
- Review and Accept a Proposal
- Schedule the Work

But what are the different study levels?

Level 1, Reserve Study

with site visit (Initial Study)

- Develops an Inventory of Reserve Components
- Performs Condition Assessments
- Establishes Replacement Cost Estimates and Useful Lives
- Reports the Current Funding Status
- Provides a Projected Funding Plan

Level 2, Reserve Study Update

with site visit

- Modifies an Existing Inventory of Reserve Components
- Performs Condition Assessments
- Revises Replacement Cost Estimates and Useful Lives
- Reports the Current Funding Status
- Provides a Projected Funding Plan

Level 2 Updates recommended every 3 to 5 years.

Level 3, Reserve Study Update

without a site visit

Typically performed annually by telephone interview and through emails between Level 1 and 2 or between Level 2 Studies.

- Revises Replacement Cost Estimates and Useful Lives
- Reports the Current Funding Status
- Provides a Projected Funding Plan

Coordination with Client

- A Reserve Study should reflect the **intended use and mission(s)** of the congregation.
- A Reserve Study should reflect the **aesthetic preferences** of the congregation.

Additional Services

- A Reserve Study provider should be able to meet on site or by electronic media with membership to present the Study and Recommendations.
- A Reserve Study provider should be able to provide a customized funding solution such as a **Strategic Funding Plan**.
- A Reserve Study provider should be able to provide annual or other future Reserve Study Updates.

Points for Churches

Protect your worship and missionary calling with a fuller understanding of your secular responsibilities, including the predictable long-term costs associated with the replacement of your facility's capital assets.

Points for Churches

Keep your banquet and other facilities attractive and inviting, promoting their continued desirability and use by the community and congregation, and thereby promoting fellowship and the goals of your calling.

Points for Churches

Practice true stewardship by understanding the funding needed to maintain the facilities bequeathed to your care, and show by example and practice, the message of stewardship to your congregation, community, and major donors.

Points for Schools

Keep the education of your students as the top priority, by developing a strategic plan and funding model for the replacement of your facilities, including your hi-tech and traditional educational systems.

Points for Schools

Project all costs, including long-term capital replacement costs, equitably to your tuition fees and other revenue streams.

Points for Schools

Track and understand your facility better and all of its components and subsystems, so you can be in a proactive financial position with respect to the funding of your capital replacements.

How Stable is your Annual Budget?

Capital Replacement Reserves for Your Church and School

In wrapping this up then, It is no longer a question of when the roof of your facility will need to be replaced, that is predictable.

But rather, will you be on target financially as the inevitability of the roof replacement approaches.

Capital Replacement Reserve planning will put your Church and School budget in a position of **Financial Strength by Understanding the Long-Term Costs of Your Facility.**



Questions

Thank you for your attention!

and

Thank you NACBA

for inviting

Miller Dodson Associates

Capital Reserve Consultants

800.850.2835

A down load of this presentation is available at

mdaReserves.com