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“Full” Reserve Study



HMC Water System

Herron Island, WA

Report #: 26621-0
For Period Beginning: October 1, 2014
Expires: September 30, 2015

Date Prepared: March 17, 2014



Hello, and welcome to your Reserve Study!

This Report is a valuable budget planning tool, for with it you control the future of your association. It contains all the fundamental information needed to understand your current and future Reserve obligations, the most significant expenditures your association will face.

With respect to Reserves, this Report will tell you “where you are”, and “where to go from here”.

In this Report, you will find...

- 1) A List of What you’re Reserving For**
- 2) An Evaluation of your Reserve Fund Size and Strength**
- 3) A Recommended Multi-Year Reserve Funding Plan**

More Questions?

Visit our website at www.ReserveStudy.com or call us at:

253.661.5437



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3- Minute Executive Summary

Association: HMC Water System Assoc. #: 26621-0
Location: Herron Island, WA
of Units: 397
Report Period: October 1, 2014 through September 30, 2015

Results as-of 10/1/2014:

Projected Starting Reserve Balance:	\$140,173
Fully Funded Reserve Balance:	\$158,806
Average Reserve Deficit (Surplus) Per Unit:.....	\$47
Percent Funded:	88.3%
100% Full Funding 2014/2015 Annual Reserve Contribution.....	\$68,900
70% Threshold Annual Reserve Contribution	\$55,000
Baseline Contribution (min to maintain reserves above \$0)	\$22,439
Recommended 2014/2015 Special Assessment for Reserves:.....	\$0
2013/2014 Budget Recent Reserve Contribution Rate:	\$38,058

Economic Assumptions:

Net Annual "After Tax" Interest Earnings Accruing to Reserves..... 1.00%
Annual Inflation Rate 3.00%

- The information in this Reserve Study is based on our site inspection on March 4, 2014, meets or exceeds all requirements of the RCW and was prepared by a credentialed Reserve Specialist (RS 153).
- Your Reserve Fund is currently 88.3% Funded. Comparatively, the 70-130% level is where associations statistically enjoy fiscal stability with low risk of special assessment and/or deferred maintenance.
- Based on this starting point and your anticipated future expenses, our recommendation is to increase your Annual Reserve Contributions to within the 70% to 100% Full Funding range as noted above (Tables and charts herein reflect Full Funding as our recommended contribution). Full and 70% contribution rates are designed to achieve the stated funding objective by the end of our 30-year report scope.
- See photo pages for detailed component information and the basis of our assumptions.

Table 1: Executive Summary

26621-0

# Component	Useful Life (yrs)	Rem. Useful Life (yrs)	Current Average Cost	Future Average Cost
Capacity				
901 Well Pumps/Motors - Replace	30	28	\$16,000	\$36,607
904 Well Controls - Replace	30	28	\$4,000	\$9,152
Storage				
910 Storage Tank, Concrete - Replace	80	71	\$198,000	\$1,614,761
914 Storage Tank, Exterior - Clean	5	0	\$2,500	\$2,898
Boost				
920 Booster Pumps, 5 HP - Replace	20	18	\$15,000	\$25,536
922 Booster Pump, 15 HP - Replace	40	38	\$20,000	\$61,496
924 Booster Pumps VFD Control - Replace	20	18	\$15,000	\$25,536
Distribution				
940 Distribution Lines, 6"-8" - Replace	70	68	\$947,250	\$7,069,617
941 Distribution Lines, 2" - Replace	40	38	\$62,500	\$192,174
945 Service Connect/Lines - Replace	40	38	\$238,200	\$732,413
946 Service Meters - Replace	10	8	\$119,100	\$150,872
947 Service Meter Box/Setters - Replace	20	18	\$119,100	\$202,760
950 Pressure Reducing Valves - Replace	20	18	\$12,000	\$20,429
954 Blow-Out/Isolation Valves - Replace	30	28	\$35,400	\$80,993
958 Hydrants - Replace	40	38	\$141,450	\$434,928
Buildings/Site				
964 Building Roofs - Replace	40	39	\$3,000	\$9,501
967 Storage Shed, Vinyl - Replace	20	19	\$2,500	\$4,384
969 Building Electrical - Replace	30	28	\$10,000	\$22,879
970 Chain Link Fence - Replace	35	34	\$15,840	\$43,273
Systems/Equipment				
980 Generator, Emergency - Replace	50	10	\$40,000	\$53,757
999 Meter Reader System - Replace	5	3	\$5,000	\$5,464
Financial/Professional				
1006 SWSMP - Update	6	1	\$3,500	\$3,605
1013 Sanitary Survey - Update	5	0	\$2,000	\$2,319

# Component	Useful Life (yrs)	Rem. Useful Life (yrs)	Current Average Cost	Future Average Cost
23 Total Funded Components				

Notes:

Cross reference component numbers with photographic inventory appendix.

Highlighting denotes projects either anticipated to occur in the initial year or unfunded.

A reserve-funding threshold of \$2,000 is established for your water system (expenses below this level expected to be factored within operating budget).

Introduction

A Reserve Study is the art and science of anticipating, and preparing for, an association's major common area repair and replacement expenses. Partially art, because in this field we are making projections about the future. Partially science, because our work is a process of research and analysis along well defined methodologies.

In this Report you will find the Reserve Component List (what you are reserving for). It contains our estimates for Useful Life, Remaining Useful Life, and the current repair or replacement cost for each major component the association is obligated to maintain. Based on that List and your starting balance we computed the association's Reserve Fund Strength (measured as "Percent Funded"), and created a recommended multi-year Reserve Funding Plan to offset future Reserve expenses.

Reserve Study

- Component List
- Reserve Fund Strength
- Recommended Contribs

As the physical assets age and deteriorate, it is important to accumulate financial assets to keep the two "in balance". A stable Reserve Funding Plan that offsets the irregular Reserve expenses will ensure that each owner pays their own "fair share" of ongoing common area deterioration.

Methodology

First we establish what the projected expenses are, then we determine the association's financial status and create a Funding Plan. For this "Full" Reserve Study, we started with a review of your Governing Documents, recent Reserve expenditures, an evaluation of how expenditures are handled (ongoing maintenance vs Reserves), and research into any well-established association precedents. We performed an on-site inspection to quantify and evaluate your common areas, creating your Reserve Component List "from scratch".

Reserve Study Types

- • Full
- Update With-Site-Visit
- Update No-Site-Visit

Which Physical Assets are Covered by Reserves?

There is a national-standard four-part test to determine which expenses should be funded through Reserves. First, it must be a common area maintenance responsibility. Second, the component must have a limited life. Third, the limited life must be predictable (or it by definition is a “surprise” which cannot be accurately anticipated). Fourth, the component must be above a minimum threshold cost. This limits Reserve

Reserve Components

- Common Area
- Limited Useful Life
- Predictable Life Limit
- Cost must be Significant

Components to major, predictable expenses. Within this framework, it is inappropriate to include “lifetime” components, unpredictable expenses (such as damage due to fire, flood, or earthquake), and expenses more appropriately handled from the Operational Budget or as an insured loss.

How are Useful Life and Remaining Useful Life established?

- 1) Visual Inspection (observed wear and age)
- 2) Association Reserves database of experience
- 3) Client Component History
- 4) Vendor Evaluation and Recommendation

How are Cost Estimates Established?

In this order...

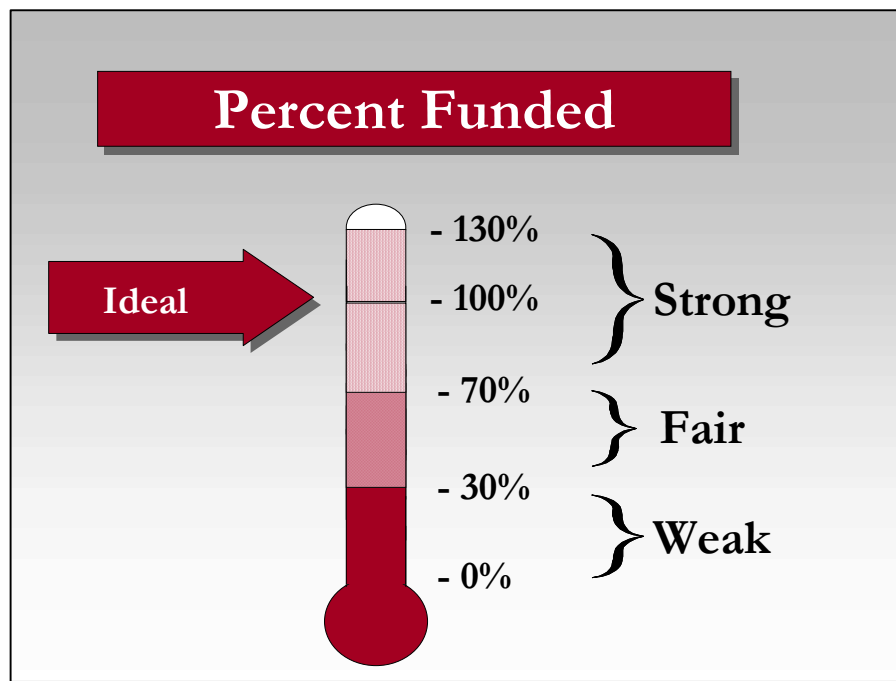
- 1) Client Cost History
- 2) Comparison to Association Reserves database of work done at similar associations
- 3) Vendor Recommendations
- 4) Reliable National Industry cost estimating guidebooks

How much Reserves are enough?

Your Reserve cash Balance can measure reserves, but the true measure is whether the funds are adequate. Adequacy is measured in a two-step process:

- 1) Calculate the association's Fully Funded Balance (FFB).
- 2) Compare to the Reserve Fund Balance, and express as a percentage.

The FFB grows as assets age and the Reserve needs of the association increase, but shrinks when projects are accomplished and the Reserve needs of the association decrease. The Fully Funded Balance changes each year, and is a moving but predictable target.



Special assessments and deferred maintenance are common when the Percent Funded is below 30%. While the 100% point is Ideal, a Reserve Fund in the 70% -130% range is considered "strong" because in this range cash flow problems are rare.

Measuring your Reserves by Percent Funded tells how well prepared your association is for upcoming Reserve expenses. New buyers should be very aware of this important disclosure!

How much should we contribute?

There are four Funding Principles that we balance in developing your Reserve Funding Plan. Our first objective is to design a plan that provides you with sufficient cash to perform your Reserve projects on time. A stable contribution rate is desirable because it is a hallmark of a proactive plan.

Reserve contributions that are evenly distributed over the owners, over the years, enable each owner to pay their “fair share” of the association’s Reserve expenses (this means we recommend special assessments only when all other options have been exhausted). And finally, we develop a plan that is fiscally responsible and “safe” for Board members to recommend to their association.

Funding Principles

- Sufficient Cash
- Stable Contribution Rate
- Evenly Distributed
- Fiscally Responsible


What is our Recommended Funding Goal?

Maintaining the Reserve Fund at a level equal to the physical deterioration that has occurred is called “Full Funding” the Reserves (100% Funded). As each asset ages and becomes “used up”, the Reserve Fund grows proportionally. **This is simple, responsible, and our recommendation.** As stated previously, associations in the 100% range rarely experience special assessments or deferred maintenance.

Allowing the Reserves to fall close to zero, but not below zero, is called Baseline Funding. In these associations, deterioration occurs without matching Reserve contributions. With a low Percent Funded, special assessments and deferred maintenance are common.

Threshold Funding is the title of all other objectives randomly selected between Baseline Funding and Full Funding.

Funding Goals

- 
- Full Funding
 - Threshold Funding
 - Baseline Funding

Site Inspection Notes

During our site visit on March 4, 2014, we noted current conditions, materials, apparent levels of care and maintenance as well as exposure to weather elements.

During our site inspection and subsequent research we were informed which components were being handled from the operational maintenance budget, not reserves.

HMC Water System currently has 397 connections with recent project to replace with new distribution, metering and fire suppression improvements primarily completed in FY 2012/2013

Reserve expenses to anticipate in the near term (next five years) include exterior cleaning of storage reservoir and updating of Sanitary Survey, among others.

The reader should note that the water system obtained loan from USDA with proceeds utilized to help pay for distribution, metering and fire suppression improvements; expense of \$1,738,000 was indicated. Total of annual P&I payments are reportedly \$53,278 with a 40 year term. No impact upon water system maintenance reserves is factored since collections and payments are handled in a separate account for this debt obligation.

Please refer to the detailed photographic inventory appendix (photo pages) to gain a comprehensive understanding for component information and the basis of our assumptions.

Projected Expenses

The figure below shows the array of the projected future expenses at your association. This figure clearly shows the near term and future expenses that your association will face.

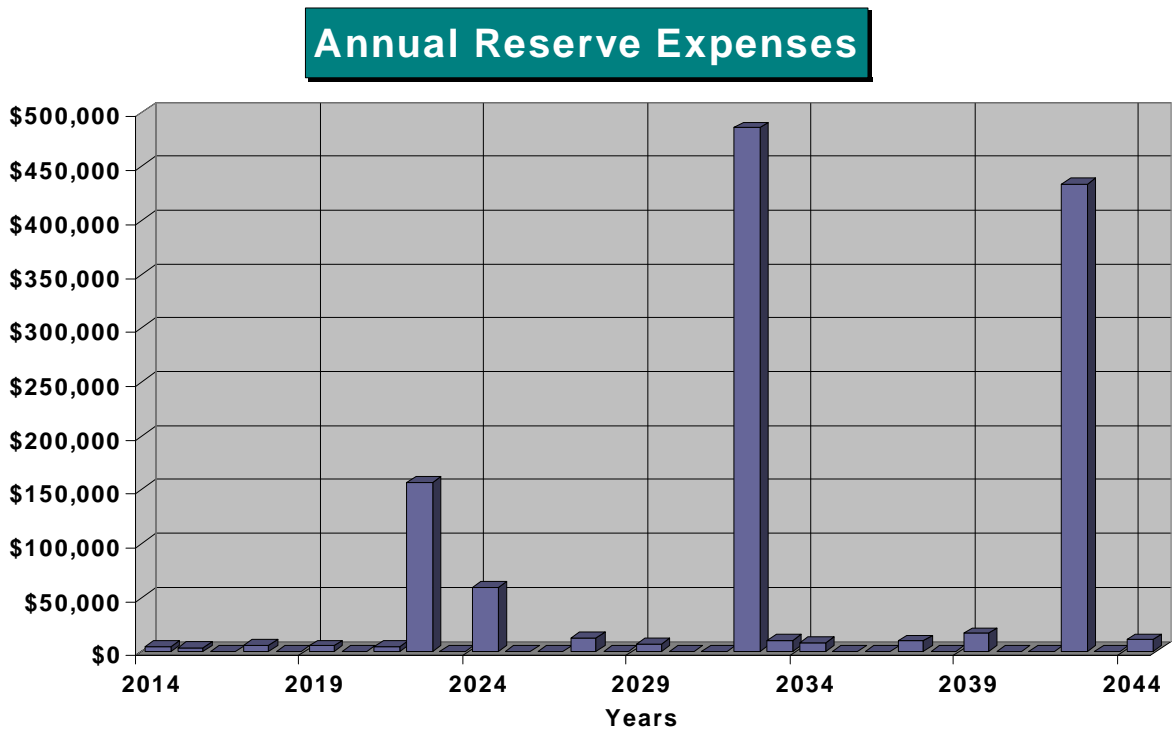


Figure 1

A summary of this information is shown in Table 4, while details of the projects that make up this information are shown in Table 5. Since this is a projection about future events that may or may not take place as anticipated, we feel more certain about “near-term” projects than those many years away. While this Reserve Study is a one-year document, it is based on 30 years worth of looking forward into the future.

Reserve Fund Status

The starting point for our financial analysis is your Reserve Fund balance, projected to be \$140,173 as-of the start of your Fiscal Year on October 1, 2014. As of October 1, 2014, your Fully Funded Balance is computed to be \$158,806 (see Table 3). This figure represents the deteriorated value of your common area components. Comparing your Reserve Balance to your Fully Funded Balance indicates your Reserves are 88% Funded. This currently represents a strong status within the 70%-130% funding level where associations typically enjoy little risk of deferred maintenance and/or special assessments.

Recommended Funding Plan

Based on your current Percent Funded and your projected cash flow requirements, we are recommending Reserve contributions of \$68,900/Annual this Fiscal Year. This represents only the first year of the 30-year Funding Plan shown below. This same information is shown numerically in both Table 4 and Table 5.

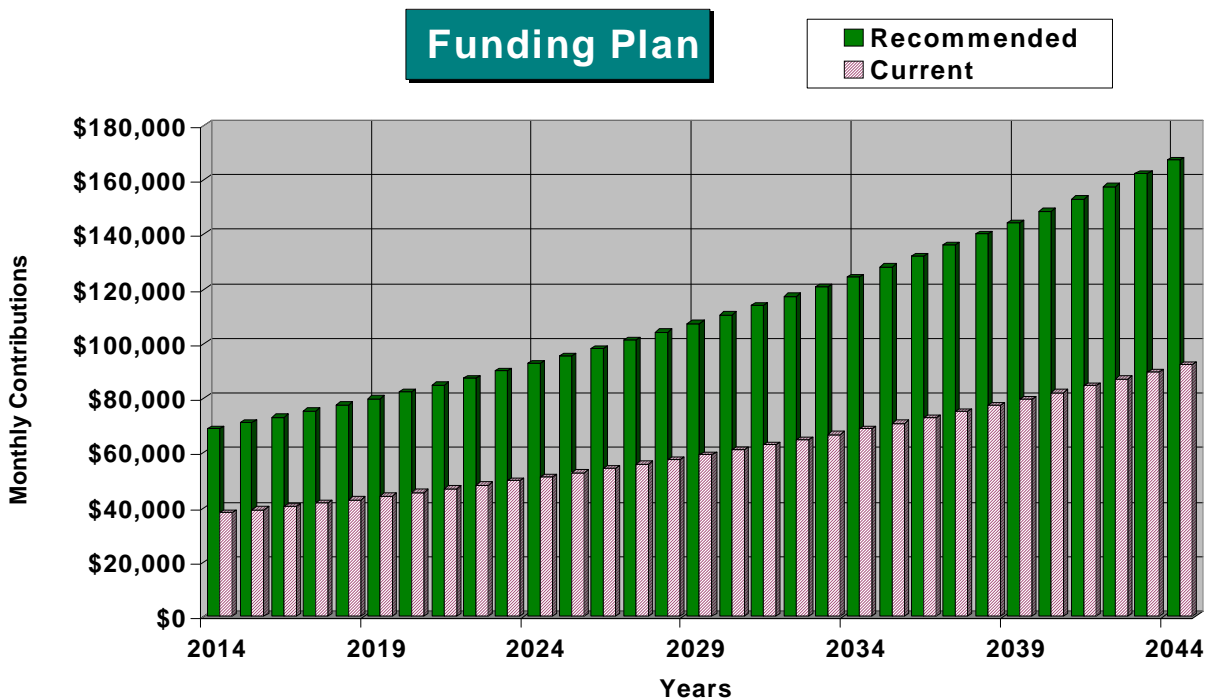


Figure 2

The following chart shows your Reserve balance under our recommended Funding Plan and your current Funding Plan, and your always-changing Fully Funded Balance target.

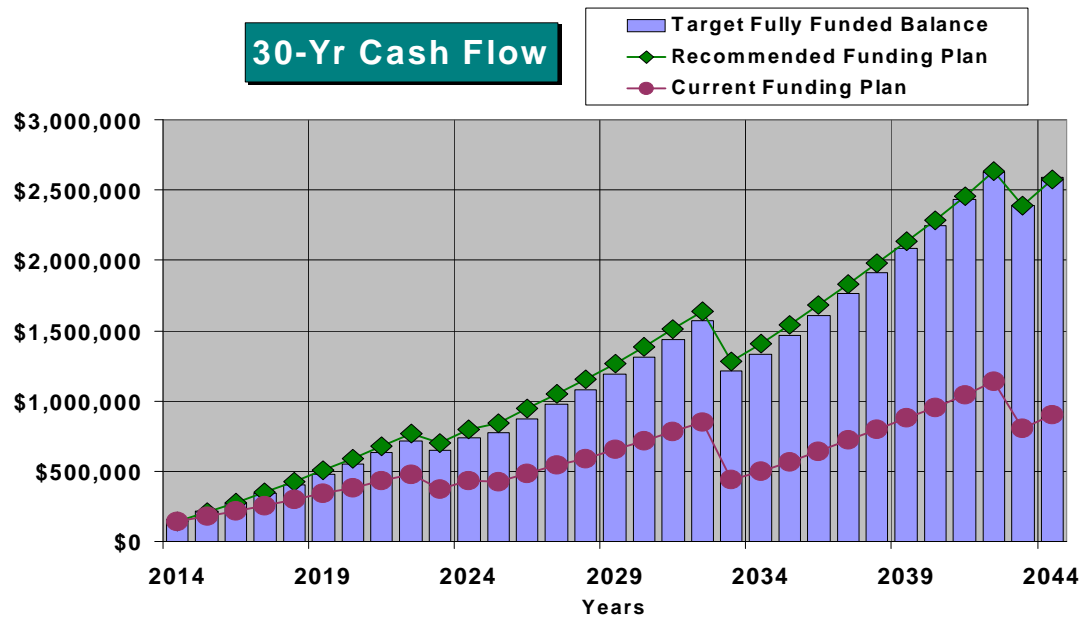


Figure 3

In this figure it is easy to see how your Reserve Fund gradually draws closer to the Fully Funded (100%) level.

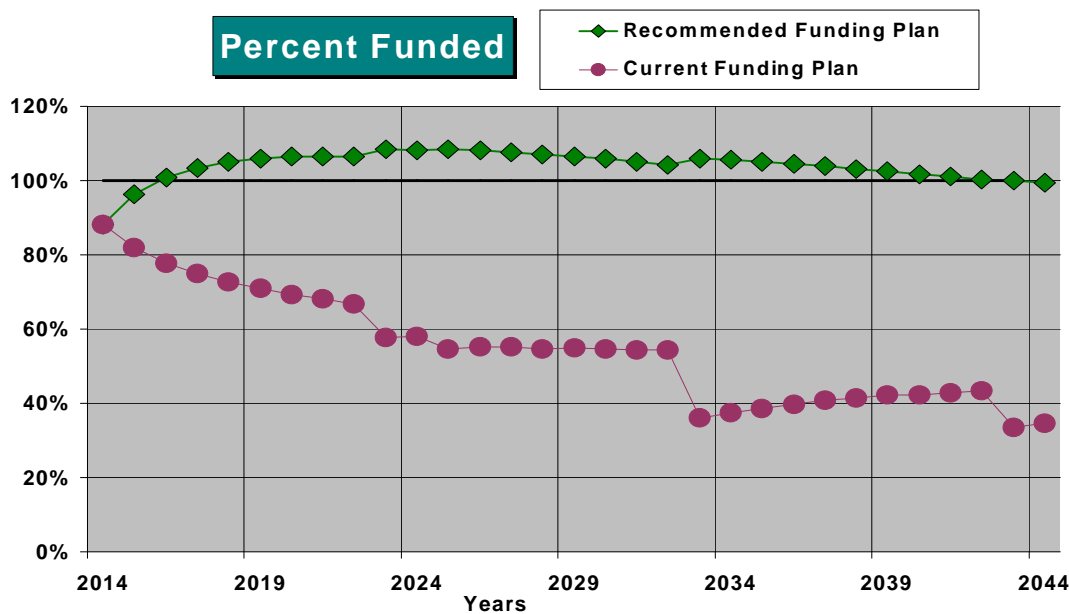


Figure 4

Table Descriptions

The tabular information in this Report is broken down into five tables.

Table 1 summarizes your funded Reserve Components, and is part of the Executive Report summary that appeared earlier in this Report.

Table 2 provides the main component description, life, and cost factors for all components determined to be appropriate for Reserve designation. This table represents the core information from which all other tables are derived.

Table 3 is presented primarily as an accounting summary page. The results of the individual line item Fully Funded Balance computations are shown. These individual quantities are summed to arrive at the Fully Funded Balance for the association as of the start date of the Report. The figures in the Current Fund Balance column and the Annual Reserve Contribution column show our distribution throughout the line items. If the association is under funded, Reserve Funds are distributed first to components with a short Remaining Useful Life. If the association's Reserve Balance is above 100% Funded, funds are distributed evenly for all components. Contribution rates for each component are a proportionate distribution of the total contribution on the basis of the component's significance to the association (current cost divided by useful life). This presentation is not meant to cause clients to redistribute association funds; it simply presents one way to evenly distribute the total among all the different line items.

Table 4: This table provides a one-page 30-year summary of the cash flowing into and out of the association, compared to the Fully Funded Balance for each year.

Table 5: This table shows the cash flow detail for the next 30 years. This table makes it possible to see what components are projected to require repair or replacement each year, and the size of those individual expenses.

Table 2: Reserve Component List Detail**26621-0**

# Component	Quantity	Useful Life	Rem. Useful Life	Best Cost	Current Worst Cost
Capacity					
901 Well Pumps/Motors - Replace	(2) 5 HP submersible, 4"	30	28	\$14,000	\$18,000
904 Well Controls - Replace	(1) two-motor control	30	28	\$3,000	\$5,000
Storage					
910 Storage Tank, Concrete - Replace	(1) 99,000 gallon	80	71	\$178,200	\$217,800
914 Storage Tank, Exterior - Clean	(1) 99,000 gallon	5	0	\$2,000	\$3,000
Boost					
920 Booster Pumps, 5 HP - Replace	(2) Nidec, 5 HP	20	18	\$12,000	\$18,000
922 Booster Pump, 15 HP - Replace	(1) Baldor, 15 HP	40	38	\$18,000	\$22,000
924 Booster Pumps VFD Control - Replace	(1) three pump control	20	18	\$12,000	\$18,000
Distribution					
940 Distribution Lines, 6"-8" - Replace	Approx 26,650 LF	70	68	\$867,300	\$1,027,200
941 Distribution Lines, 2" - Replace	Approx 2,500 LF	40	38	\$55,000	\$70,000
945 Service Connect/Lines - Replace	(397) connections	40	38	\$222,320	\$254,080
946 Service Meters - Replace	(397) meters	10	8	\$99,250	\$138,950
947 Service Meter Box/Setters - Replace	(397) boxes/setters	20	18	\$99,250	\$138,950
950 Pressure Reducing Valves - Replace	(60) metal	20	18	\$9,000	\$15,000
954 Blow-Out/Isolation Valves - Replace	(38) total, assorted	30	28	\$32,200	\$38,600
958 Hydrants - Replace	(41) hydrants	40	38	\$131,200	\$151,700
Buildings/Site					
964 Building Roofs - Replace	Approx 500 square feet	40	39	\$2,500	\$3,500
967 Storage Shed, Vinyl - Replace	(1) 8'x8'	20	19	\$2,000	\$3,000
969 Building Electrical - Replace	Extensive systems	30	28	\$8,000	\$12,000
970 Chain Link Fence - Replace	Approx 720 linear feet	35	34	\$14,400	\$17,280
Systems/Equipment					
980 Generator, Emergency - Replace	(1) Marathon, 60KW	50	10	\$35,000	\$45,000
999 Meter Reader System - Replace	(1) meter, software	5	3	\$4,000	\$6,000
Financial/Professional					
1006 SWSMP - Update	Every 6 years	6	1	\$3,000	\$4,000
1013 Sanitary Survey - Update	Every 5 years	5	0	\$1,500	\$2,500

Table 2: Reserve Component List Detail**26621-0**

# Component	Quantity	Rem.			Current
		Useful	Useful	Best	Worst
		Life	Life	Cost	Cost
23 Total Funded Components					

Table 3: Contribution and Fund Breakdown**26621-0**

# Component	Useful Life	Rem. Useful Life	Current (Avg) Cost	Fully Funded Balance	Current Fund Balance	Reserve Contributions
Capacity						
901 Well Pumps/Motors - Replace	30	28	\$16,000	\$1,067	\$1,066.67	\$685.04
904 Well Controls - Replace	30	28	\$4,000	\$267	\$266.67	\$171.26
Storage						
910 Storage Tank, Concrete - Replace	80	71	\$198,000	\$22,275	\$3,641.98	\$3,179.00
914 Storage Tank, Exterior - Clean	5	0	\$2,500	\$2,500	\$2,500.00	\$642.22
Boost						
920 Booster Pumps, 5 HP - Replace	20	18	\$15,000	\$1,500	\$1,500.00	\$963.33
922 Booster Pump, 15 HP - Replace	40	38	\$20,000	\$1,000	\$1,000.00	\$642.22
924 Booster Pumps VFD Control - Replace	20	18	\$15,000	\$1,500	\$1,500.00	\$963.33
Distribution						
940 Distribution Lines, 6"-8" - Replace	70	68	\$947,250	\$27,064	\$27,064.29	\$17,381.31
941 Distribution Lines, 2" - Replace	40	38	\$62,500	\$3,125	\$3,125.00	\$2,006.95
945 Service Connect/Lines - Replace	40	38	\$238,200	\$11,910	\$11,910.00	\$7,648.88
946 Service Meters - Replace	10	8	\$119,100	\$23,820	\$23,820.00	\$15,297.75
947 Service Meter Box/Setters - Replace	20	18	\$119,100	\$11,910	\$11,910.00	\$7,648.88
950 Pressure Reducing Valves - Replace	20	18	\$12,000	\$1,200	\$1,200.00	\$770.67
954 Blow-Out/Isolation Valves - Replace	30	28	\$35,400	\$2,360	\$2,360.00	\$1,515.65
958 Hydrants - Replace	40	38	\$141,450	\$7,073	\$7,072.50	\$4,542.12
Buildings/Site						
964 Building Roofs - Replace	40	39	\$3,000	\$75	\$75.00	\$96.33
967 Storage Shed, Vinyl - Replace	20	19	\$2,500	\$125	\$125.00	\$160.56
969 Building Electrical - Replace	30	28	\$10,000	\$667	\$666.67	\$428.15
970 Chain Link Fence - Replace	35	34	\$15,840	\$453	\$452.57	\$581.30
Systems/Equipment						
980 Generator, Emergency - Replace	50	10	\$40,000	\$32,000	\$32,000.00	\$1,027.56
999 Meter Reader System - Replace	5	3	\$5,000	\$2,000	\$2,000.00	\$1,284.45
Financial/Professional						
1006 SWSMP - Update	6	1	\$3,500	\$2,917	\$2,916.67	\$749.26
1013 Sanitary Survey - Update	5	0	\$2,000	\$2,000	\$2,000.00	\$513.78

Table 3: Contribution and Fund Breakdown**26621-0**

# Component	Useful Life	Rem. Useful Life	Current (Avg) Cost	Fully Funded Balance	Current Fund Balance	Reserve Contributions
23 Total Funded Components				\$158,806	\$140,173	\$68,900

Table 4: 30-Year Reserve Plan Summary**26621-0****Fiscal Year Beginning: 10/01/14****Interest:****1.0%****Inflation:****3.0%**

Year	Starting Reserve Balance	Fully Funded Balance	Percent Funded		Rating	Annual Reserve Contribs.	Loans or Special Assmts	Interest Income	Projected Reserve Expenses
2014	\$140,173	\$158,806	88.3%		Strong	\$68,900	\$0	\$1,732	\$4,500
2015	\$206,305	\$214,186	96.3%		Strong	\$70,967	\$0	\$2,411	\$3,605
2016	\$276,078	\$273,807	100.8%		Strong	\$73,096	\$0	\$3,141	\$0
2017	\$352,314	\$340,637	103.4%		Strong	\$75,289	\$0	\$3,890	\$5,464
2018	\$426,029	\$405,603	105.0%		Strong	\$77,548	\$0	\$4,669	\$0
2019	\$508,246	\$479,957	105.9%		Strong	\$79,874	\$0	\$5,481	\$5,217
2020	\$588,385	\$553,033	106.4%		Strong	\$82,270	\$0	\$6,324	\$0
2021	\$676,979	\$635,597	106.5%		Strong	\$84,738	\$0	\$7,205	\$4,305
2022	\$764,618	\$718,183	106.5%		Strong	\$87,280	\$0	\$7,330	\$157,206
2023	\$702,022	\$647,797	108.4%		Strong	\$89,899	\$0	\$7,504	\$0
2024	\$799,425	\$739,321	108.1%		Strong	\$92,596	\$0	\$8,196	\$59,804
2025	\$840,412	\$774,155	108.6%		Strong	\$95,374	\$0	\$8,922	\$0
2026	\$944,708	\$873,860	108.1%		Strong	\$98,235	\$0	\$9,984	\$0
2027	\$1,052,926	\$978,850	107.6%		Strong	\$101,182	\$0	\$11,023	\$12,483
2028	\$1,152,649	\$1,076,497	107.1%		Strong	\$104,217	\$0	\$12,103	\$0
2029	\$1,268,969	\$1,192,364	106.4%		Strong	\$107,344	\$0	\$13,252	\$7,011
2030	\$1,382,555	\$1,306,993	105.8%		Strong	\$110,564	\$0	\$14,444	\$0
2031	\$1,507,563	\$1,434,864	105.1%		Strong	\$113,881	\$0	\$15,717	\$0
2032	\$1,637,161	\$1,569,232	104.3%		Strong	\$117,298	\$0	\$14,597	\$485,534
2033	\$1,283,522	\$1,210,270	106.1%		Strong	\$120,817	\$0	\$13,448	\$10,521
2034	\$1,407,266	\$1,332,625	105.6%		Strong	\$124,441	\$0	\$14,722	\$8,128
2035	\$1,538,301	\$1,464,022	105.1%		Strong	\$128,174	\$0	\$16,098	\$0
2036	\$1,682,573	\$1,610,726	104.5%		Strong	\$132,020	\$0	\$17,566	\$0
2037	\$1,832,159	\$1,764,914	103.8%		Strong	\$135,980	\$0	\$19,039	\$9,868
2038	\$1,977,310	\$1,916,740	103.2%		Strong	\$140,060	\$0	\$20,567	\$0
2039	\$2,137,937	\$2,086,556	102.5%		Strong	\$144,261	\$0	\$22,118	\$16,750
2040	\$2,287,566	\$2,247,584	101.8%		Strong	\$148,589	\$0	\$23,727	\$0
2041	\$2,459,883	\$2,434,165	101.1%		Strong	\$153,047	\$0	\$25,481	\$0
2042	\$2,638,410	\$2,629,919	100.3%		Strong	\$157,638	\$0	\$25,119	\$433,562
2043	\$2,387,606	\$2,388,658	100.0%		Strong	\$162,367	\$0	\$24,801	\$0

Table 5: 30-Year Income/Expense Detail (yrs 0 through 4)**26621-0**

Fiscal Year	2014	2015	2016	2017	2018
Starting Reserve Balance	\$140,173	\$206,305	\$276,078	\$352,314	\$426,029
Annual Reserve Contribution	\$68,900	\$70,967	\$73,096	\$75,289	\$77,548
Planned Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$1,732	\$2,411	\$3,141	\$3,890	\$4,669
Total Income	\$210,805	\$279,683	\$352,314	\$431,493	\$508,246
# Component					
Capacity					
901 Well Pumps/Motors - Replace	\$0	\$0	\$0	\$0	\$0
904 Well Controls - Replace	\$0	\$0	\$0	\$0	\$0
Storage					
910 Storage Tank, Concrete - Replace	\$0	\$0	\$0	\$0	\$0
914 Storage Tank, Exterior - Clean	\$2,500	\$0	\$0	\$0	\$0
Boost					
920 Booster Pumps, 5 HP - Replace	\$0	\$0	\$0	\$0	\$0
922 Booster Pump, 15 HP - Replace	\$0	\$0	\$0	\$0	\$0
924 Booster Pumps VFD Control - Replace	\$0	\$0	\$0	\$0	\$0
Distribution					
940 Distribution Lines, 6"-8" - Replace	\$0	\$0	\$0	\$0	\$0
941 Distribution Lines, 2" - Replace	\$0	\$0	\$0	\$0	\$0
945 Service Connect/Lines - Replace	\$0	\$0	\$0	\$0	\$0
946 Service Meters - Replace	\$0	\$0	\$0	\$0	\$0
947 Service Meter Box/Setters - Replace	\$0	\$0	\$0	\$0	\$0
950 Pressure Reducing Valves - Replace	\$0	\$0	\$0	\$0	\$0
954 Blow-Out/Isolation Valves - Replace	\$0	\$0	\$0	\$0	\$0
958 Hydrants - Replace	\$0	\$0	\$0	\$0	\$0
Buildings/Site					
964 Building Roofs - Replace	\$0	\$0	\$0	\$0	\$0
967 Storage Shed, Vinyl - Replace	\$0	\$0	\$0	\$0	\$0
969 Building Electrical - Replace	\$0	\$0	\$0	\$0	\$0
970 Chain Link Fence - Replace	\$0	\$0	\$0	\$0	\$0
Systems/Equipment					
980 Generator, Emergency - Replace	\$0	\$0	\$0	\$0	\$0
999 Meter Reader System - Replace	\$0	\$0	\$0	\$5,464	\$0

Table 5: 30-Year Income/Expense Detail (yrs 0 through 4)**26621-0**

Fiscal Year	2014	2015	2016	2017	2018
Financial/Professional					
1006 SWSMP - Update	\$0	\$3,605	\$0	\$0	\$0
1013 Sanitary Survey - Update	\$2,000	\$0	\$0	\$0	\$0
Total Expenses	\$4,500	\$3,605	\$0	\$5,464	\$0
Ending Reserve Balance:	\$206,305	\$276,078	\$352,314	\$426,029	\$508,246

Table 5: 30-Year Income/Expense Detail (yrs 5 through 9)**26621-0**

Fiscal Year	2019	2020	2021	2022	2023
Starting Reserve Balance	\$508,246	\$588,385	\$676,979	\$764,618	\$702,022
Annual Reserve Contribution	\$79,874	\$82,270	\$84,738	\$87,280	\$89,899
Planned Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$5,481	\$6,324	\$7,205	\$7,330	\$7,504
Total Income	\$593,601	\$676,979	\$768,922	\$859,228	\$799,425
# Component					
Capacity					
901 Well Pumps/Motors - Replace	\$0	\$0	\$0	\$0	\$0
904 Well Controls - Replace	\$0	\$0	\$0	\$0	\$0
Storage					
910 Storage Tank, Concrete - Replace	\$0	\$0	\$0	\$0	\$0
914 Storage Tank, Exterior - Clean	\$2,898	\$0	\$0	\$0	\$0
Boost					
920 Booster Pumps, 5 HP - Replace	\$0	\$0	\$0	\$0	\$0
922 Booster Pump, 15 HP - Replace	\$0	\$0	\$0	\$0	\$0
924 Booster Pumps VFD Control - Replace	\$0	\$0	\$0	\$0	\$0
Distribution					
940 Distribution Lines, 6"-8" - Replace	\$0	\$0	\$0	\$0	\$0
941 Distribution Lines, 2" - Replace	\$0	\$0	\$0	\$0	\$0
945 Service Connect/Lines - Replace	\$0	\$0	\$0	\$0	\$0
946 Service Meters - Replace	\$0	\$0	\$0	\$150,872	\$0
947 Service Meter Box/Setters - Replace	\$0	\$0	\$0	\$0	\$0
950 Pressure Reducing Valves - Replace	\$0	\$0	\$0	\$0	\$0
954 Blow-Out/Isolation Valves - Replace	\$0	\$0	\$0	\$0	\$0
958 Hydrants - Replace	\$0	\$0	\$0	\$0	\$0
Buildings/Site					
964 Building Roofs - Replace	\$0	\$0	\$0	\$0	\$0
967 Storage Shed, Vinyl - Replace	\$0	\$0	\$0	\$0	\$0
969 Building Electrical - Replace	\$0	\$0	\$0	\$0	\$0
970 Chain Link Fence - Replace	\$0	\$0	\$0	\$0	\$0
Systems/Equipment					
980 Generator, Emergency - Replace	\$0	\$0	\$0	\$0	\$0
999 Meter Reader System - Replace	\$0	\$0	\$0	\$6,334	\$0

Table 5: 30-Year Income/Expense Detail (yrs 5 through 9)**26621-0**

Fiscal Year	2019	2020	2021	2022	2023
Financial/Professional					
1006 SWSMP - Update	\$0	\$0	\$4,305	\$0	\$0
1013 Sanitary Survey - Update	\$2,319	\$0	\$0	\$0	\$0
Total Expenses	\$5,217	\$0	\$4,305	\$157,206	\$0
Ending Reserve Balance:	\$588,385	\$676,979	\$764,618	\$702,022	\$799,425

Table 5: 30-Year Income/Expense Detail (yrs 10 through 14)**26621-0**

Fiscal Year	2024	2025	2026	2027	2028
Starting Reserve Balance	\$799,425	\$840,412	\$944,708	\$1,052,926	\$1,152,649
Annual Reserve Contribution	\$92,596	\$95,374	\$98,235	\$101,182	\$104,217
Planned Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$8,196	\$8,922	\$9,984	\$11,023	\$12,103
Total Income	\$900,216	\$944,708	\$1,052,926	\$1,165,132	\$1,268,969
# Component					
Capacity					
901 Well Pumps/Motors - Replace	\$0	\$0	\$0	\$0	\$0
904 Well Controls - Replace	\$0	\$0	\$0	\$0	\$0
Storage					
910 Storage Tank, Concrete - Replace	\$0	\$0	\$0	\$0	\$0
914 Storage Tank, Exterior - Clean	\$3,360	\$0	\$0	\$0	\$0
Boost					
920 Booster Pumps, 5 HP - Replace	\$0	\$0	\$0	\$0	\$0
922 Booster Pump, 15 HP - Replace	\$0	\$0	\$0	\$0	\$0
924 Booster Pumps VFD Control - Replace	\$0	\$0	\$0	\$0	\$0
Distribution					
940 Distribution Lines, 6"-8" - Replace	\$0	\$0	\$0	\$0	\$0
941 Distribution Lines, 2" - Replace	\$0	\$0	\$0	\$0	\$0
945 Service Connect/Lines - Replace	\$0	\$0	\$0	\$0	\$0
946 Service Meters - Replace	\$0	\$0	\$0	\$0	\$0
947 Service Meter Box/Setters - Replace	\$0	\$0	\$0	\$0	\$0
950 Pressure Reducing Valves - Replace	\$0	\$0	\$0	\$0	\$0
954 Blow-Out/Isolation Valves - Replace	\$0	\$0	\$0	\$0	\$0
958 Hydrants - Replace	\$0	\$0	\$0	\$0	\$0
Buildings/Site					
964 Building Roofs - Replace	\$0	\$0	\$0	\$0	\$0
967 Storage Shed, Vinyl - Replace	\$0	\$0	\$0	\$0	\$0
969 Building Electrical - Replace	\$0	\$0	\$0	\$0	\$0
970 Chain Link Fence - Replace	\$0	\$0	\$0	\$0	\$0
Systems/Equipment					
980 Generator, Emergency - Replace	\$53,757	\$0	\$0	\$0	\$0
999 Meter Reader System - Replace	\$0	\$0	\$0	\$7,343	\$0

Table 5: 30-Year Income/Expense Detail (yrs 10 through 14)**26621-0**

Fiscal Year	2024	2025	2026	2027	2028
Financial/Professional					
1006 SWSMP - Update	\$0	\$0	\$0	\$5,140	\$0
1013 Sanitary Survey - Update	\$2,688	\$0	\$0	\$0	\$0
Total Expenses	\$59,804	\$0	\$0	\$12,483	\$0
Ending Reserve Balance:	\$840,412	\$944,708	\$1,052,926	\$1,152,649	\$1,268,969

Table 5: 30-Year Income/Expense Detail (yrs 15 through 19)**26621-0**

Fiscal Year	2029	2030	2031	2032	2033
Starting Reserve Balance	\$1,268,969	\$1,382,555	\$1,507,563	\$1,637,161	\$1,283,522
Annual Reserve Contribution	\$107,344	\$110,564	\$113,881	\$117,298	\$120,817
Planned Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$13,252	\$14,444	\$15,717	\$14,597	\$13,448
Total Income	\$1,389,565	\$1,507,563	\$1,637,161	\$1,769,056	\$1,417,787
# Component					
Capacity					
901 Well Pumps/Motors - Replace	\$0	\$0	\$0	\$0	\$0
904 Well Controls - Replace	\$0	\$0	\$0	\$0	\$0
Storage					
910 Storage Tank, Concrete - Replace	\$0	\$0	\$0	\$0	\$0
914 Storage Tank, Exterior - Clean	\$3,895	\$0	\$0	\$0	\$0
Boost					
920 Booster Pumps, 5 HP - Replace	\$0	\$0	\$0	\$25,536	\$0
922 Booster Pump, 15 HP - Replace	\$0	\$0	\$0	\$0	\$0
924 Booster Pumps VFD Control - Replace	\$0	\$0	\$0	\$25,536	\$0
Distribution					
940 Distribution Lines, 6"-8" - Replace	\$0	\$0	\$0	\$0	\$0
941 Distribution Lines, 2" - Replace	\$0	\$0	\$0	\$0	\$0
945 Service Connect/Lines - Replace	\$0	\$0	\$0	\$0	\$0
946 Service Meters - Replace	\$0	\$0	\$0	\$202,760	\$0
947 Service Meter Box/Setters - Replace	\$0	\$0	\$0	\$202,760	\$0
950 Pressure Reducing Valves - Replace	\$0	\$0	\$0	\$20,429	\$0
954 Blow-Out/Isolation Valves - Replace	\$0	\$0	\$0	\$0	\$0
958 Hydrants - Replace	\$0	\$0	\$0	\$0	\$0
Buildings/Site					
964 Building Roofs - Replace	\$0	\$0	\$0	\$0	\$0
967 Storage Shed, Vinyl - Replace	\$0	\$0	\$0	\$0	\$4,384
969 Building Electrical - Replace	\$0	\$0	\$0	\$0	\$0
970 Chain Link Fence - Replace	\$0	\$0	\$0	\$0	\$0
Systems/Equipment					
980 Generator, Emergency - Replace	\$0	\$0	\$0	\$0	\$0
999 Meter Reader System - Replace	\$0	\$0	\$0	\$8,512	\$0

Table 5: 30-Year Income/Expense Detail (yrs 15 through 19)**26621-0**

Fiscal Year	2029	2030	2031	2032	2033
Financial/Professional					
1006 SWSMP - Update	\$0	\$0	\$0	\$0	\$6,137
1013 Sanitary Survey - Update	\$3,116	\$0	\$0	\$0	\$0
Total Expenses	\$7,011	\$0	\$0	\$485,534	\$10,521
Ending Reserve Balance:	\$1,382,555	\$1,507,563	\$1,637,161	\$1,283,522	\$1,407,266

Table 5: 30-Year Income/Expense Detail (yrs 20 through 24)**26621-0**

Fiscal Year	2034	2035	2036	2037	2038
Starting Reserve Balance	\$1,407,266	\$1,538,301	\$1,682,573	\$1,832,159	\$1,977,310
Annual Reserve Contribution	\$124,441	\$128,174	\$132,020	\$135,980	\$140,060
Planned Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$14,722	\$16,098	\$17,566	\$19,039	\$20,567
Total Income	\$1,546,429	\$1,682,573	\$1,832,159	\$1,987,178	\$2,137,937
# Component					
Capacity					
901 Well Pumps/Motors - Replace	\$0	\$0	\$0	\$0	\$0
904 Well Controls - Replace	\$0	\$0	\$0	\$0	\$0
Storage					
910 Storage Tank, Concrete - Replace	\$0	\$0	\$0	\$0	\$0
914 Storage Tank, Exterior - Clean	\$4,515	\$0	\$0	\$0	\$0
Boost					
920 Booster Pumps, 5 HP - Replace	\$0	\$0	\$0	\$0	\$0
922 Booster Pump, 15 HP - Replace	\$0	\$0	\$0	\$0	\$0
924 Booster Pumps VFD Control - Replace	\$0	\$0	\$0	\$0	\$0
Distribution					
940 Distribution Lines, 6"-8" - Replace	\$0	\$0	\$0	\$0	\$0
941 Distribution Lines, 2" - Replace	\$0	\$0	\$0	\$0	\$0
945 Service Connect/Lines - Replace	\$0	\$0	\$0	\$0	\$0
946 Service Meters - Replace	\$0	\$0	\$0	\$0	\$0
947 Service Meter Box/Setters - Replace	\$0	\$0	\$0	\$0	\$0
950 Pressure Reducing Valves - Replace	\$0	\$0	\$0	\$0	\$0
954 Blow-Out/Isolation Valves - Replace	\$0	\$0	\$0	\$0	\$0
958 Hydrants - Replace	\$0	\$0	\$0	\$0	\$0
Buildings/Site					
964 Building Roofs - Replace	\$0	\$0	\$0	\$0	\$0
967 Storage Shed, Vinyl - Replace	\$0	\$0	\$0	\$0	\$0
969 Building Electrical - Replace	\$0	\$0	\$0	\$0	\$0
970 Chain Link Fence - Replace	\$0	\$0	\$0	\$0	\$0
Systems/Equipment					
980 Generator, Emergency - Replace	\$0	\$0	\$0	\$0	\$0
999 Meter Reader System - Replace	\$0	\$0	\$0	\$9,868	\$0

Table 5: 30-Year Income/Expense Detail (yrs 20 through 24)**26621-0**

Fiscal Year	2034	2035	2036	2037	2038
Financial/Professional					
1006 SWSMP - Update	\$0	\$0	\$0	\$0	\$0
1013 Sanitary Survey - Update	\$3,612	\$0	\$0	\$0	\$0
Total Expenses	\$8,128	\$0	\$0	\$9,868	\$0
Ending Reserve Balance:	\$1,538,301	\$1,682,573	\$1,832,159	\$1,977,310	\$2,137,937

Table 5: 30-Year Income/Expense Detail (yrs 25 through 29)**26621-0**

Fiscal Year	2039	2040	2041	2042	2043
Starting Reserve Balance	\$2,137,937	\$2,287,566	\$2,459,883	\$2,638,410	\$2,387,606
Annual Reserve Contribution	\$144,261	\$148,589	\$153,047	\$157,638	\$162,367
Planned Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$22,118	\$23,727	\$25,481	\$25,119	\$24,801
Total Income	\$2,304,317	\$2,459,883	\$2,638,410	\$2,821,168	\$2,574,774
# Component					
Capacity					
901 Well Pumps/Motors - Replace	\$0	\$0	\$0	\$36,607	\$0
904 Well Controls - Replace	\$0	\$0	\$0	\$9,152	\$0
Storage					
910 Storage Tank, Concrete - Replace	\$0	\$0	\$0	\$0	\$0
914 Storage Tank, Exterior - Clean	\$5,234	\$0	\$0	\$0	\$0
Boost					
920 Booster Pumps, 5 HP - Replace	\$0	\$0	\$0	\$0	\$0
922 Booster Pump, 15 HP - Replace	\$0	\$0	\$0	\$0	\$0
924 Booster Pumps VFD Control - Replace	\$0	\$0	\$0	\$0	\$0
Distribution					
940 Distribution Lines, 6"-8" - Replace	\$0	\$0	\$0	\$0	\$0
941 Distribution Lines, 2" - Replace	\$0	\$0	\$0	\$0	\$0
945 Service Connect/Lines - Replace	\$0	\$0	\$0	\$0	\$0
946 Service Meters - Replace	\$0	\$0	\$0	\$272,492	\$0
947 Service Meter Box/Setters - Replace	\$0	\$0	\$0	\$0	\$0
950 Pressure Reducing Valves - Replace	\$0	\$0	\$0	\$0	\$0
954 Blow-Out/Isolation Valves - Replace	\$0	\$0	\$0	\$80,993	\$0
958 Hydrants - Replace	\$0	\$0	\$0	\$0	\$0
Buildings/Site					
964 Building Roofs - Replace	\$0	\$0	\$0	\$0	\$0
967 Storage Shed, Vinyl - Replace	\$0	\$0	\$0	\$0	\$0
969 Building Electrical - Replace	\$0	\$0	\$0	\$22,879	\$0
970 Chain Link Fence - Replace	\$0	\$0	\$0	\$0	\$0
Systems/Equipment					
980 Generator, Emergency - Replace	\$0	\$0	\$0	\$0	\$0
999 Meter Reader System - Replace	\$0	\$0	\$0	\$11,440	\$0

Table 5: 30-Year Income/Expense Detail (yrs 25 through 29)**26621-0**

Fiscal Year	2039	2040	2041	2042	2043
Financial/Professional					
1006 SWSMP - Update	\$7,328	\$0	\$0	\$0	\$0
1013 Sanitary Survey - Update	\$4,188	\$0	\$0	\$0	\$0
Total Expenses	\$16,750	\$0	\$0	\$433,562	\$0
Ending Reserve Balance:	\$2,287,566	\$2,459,883	\$2,638,410	\$2,387,606	\$2,574,774

Accuracy, Limitations, and Disclosures

Washington disclosure, per RCW 64.34.382:

This reserve study should be reviewed carefully. It may not include all common and limited common element components that will require major maintenance, repair or replacement in future years, and may not include regular contributions to a reserve account for the cost of such maintenance, repair, or replacement. The failure to include a component in a reserve study, or to provide contributions to a reserve account for a component, may, under some circumstances, require you to pay on demand as a special assessment your share of common expenses for the cost of major maintenance, repair or replacement of a reserve component.

Because we have no control over future events, we cannot claim that all the events we anticipate will occur as planned. We expect that inflationary trends will continue, and we expect that financial institutions will provide interest earnings on funds on-deposit. We believe that reasonable estimates for these figures are much more accurate than ignoring these economic realities. The things we can control are measurements, which we attempt to establish within 5% accuracy. Your starting Reserve Balance and current Reserve interest earnings are also numbers that can be identified with a high degree of certainty. These figures have been provided to us, and were not confirmed by our independent research. Our projections assume a stable economic environment and lack of natural disasters.

Because both the physical status and financial status of the association change each year, this Reserve Study is by nature a “one-year” document. This information can and should be adjusted Annual as part of the Reserve Study Update process so that more accurate estimates can be reflected in the Reserve plan. Reality often differs from even the best assumptions due to changing economic factors, physical factors, or ownership expectations. Because many years of financial preparation help the preparation for large expenses, this Report shows expenses for the next 30 years. We fully expect a number of adjustments will be necessary through the interim years to both the cost and timing of distant expense projections. It is our recommendation and that of the American Institute of Certified Public Accountants (AICPA) that your Reserve Study be updated Annual.

Association Reserves, Inc., and its employees have no ownership, management, or other business relationships with the client other than this Reserve Study engagement. James D. Talaga R.S., company president, is a credentialed Reserve Specialist (#66). All work done by Association Reserves is performed under his Responsible Charge. There are no material issues to our knowledge that have not been disclosed to the client that would cause a distortion of the association’s situation.

We have relied upon the client to provide the current (or projected) Reserve Balance, the estimated net-after-tax current rate of interest earnings, and to indicate if those earnings accrue to the Reserve Fund. In addition, we have considered the association's representation of current and historical Reserve projects reliable, and we have considered the representations made by its vendors and suppliers to also be accurate and reliable.

Association Reserves developed component quantities indicated in this Report unless otherwise noted in our "Site Inspection Notes" comments. No destructive or intrusive testing was performed, nor should the site inspection be assumed to be anything other than for budget purposes.

Terms and Definitions

BTU	British Thermal Unit (a standard unit of energy)
DIA	Diameter
GSF	Gross Square Feet (area)
GSY	Gross Square Yards (area)
HP	Horsepower
LF	Linear Feet (length)

Effective Age: The difference between Useful Life and Remaining Useful Life. Note that this is not necessarily equivalent to the chronological age of the component.

Fully Funded Balance (FFB): The Reserve Balance that is in direct proportion to the fraction of life “used up” of the current Repair or Replacement cost. This benchmark balance represents the value of the deterioration of the Reserve Components. This number is calculated for each component, then summed together for an association total.

$$\text{FFB} = (\text{Current Cost} \times \text{Effective Age}) / \text{Useful Life}$$

Inflation: Cost factors are adjusted for inflation at the rate defined in the Executive Summary and compounded Annual. These increasing costs can be seen as you follow the recurring cycles of a component on Table 5.

Interest: Interest earnings on Reserve Funds are calculated using the average balance for the year (taking into account income and expenses through the year) and compounded Annual using the rate defined in the Executive Summary. Annual interest earning assumption appears in the Executive Summary, page ii.

Percent Funded: The ratio, at a particular point in time (typically the beginning of the Fiscal Year), of the actual (or projected) Reserve Balance to the Fully Funded Balance, expressed as a percentage.

Remaining Useful Life: The estimated time, in years, that a common area component can be expected to continue to serve its intended function.

Useful Life: The estimated time, in years, that a common area component can be expected to serve its intended function.

Photographic Inventory Appendix

The primary purpose of the photographic appendix is to provide the reader with the basis of our funding assumptions resulting from our physical analysis and subsequent research. The photographs herein represent a wide range of elements that were observed and measured against National Reserve Study Standards to determine if they meet the criteria for reserve funding:

- 1) Common area maintenance, repair & replacement responsibility
- 2) Components must have a limited life
- 3) Life limit must be predictable
- 4) Above a minimum threshold cost (board's discretion – typically ½ to 1% of annual operating expenses).

Some components are recommended for reserve funding, while others are not. The components that meet these criteria in our judgment are shown with corresponding maintenance, repair or replacement cycles to the left of the photo (UL = Useful Life or how often the project is expected to occur, RUL = Remaining Useful Life or how many years from our reporting period) and a representative market cost range termed “Best Cost” and “Worst Cost” below the photo. There are many factors that can result in a wide variety of potential costs; we are attempting to represent a market average for budget purposes. Where there is no UL, the component is expected to be a one-time expense. Where no pricing, the component deemed inappropriate for Reserve Funding.

Client: 26621A HMC Water System

Comp # : 900 Wells - Replace Quantity: (2) active

Location : 421 West Madrona (Lots 7 and 8, Block 3, Division 5)

Funded? : Yes

History :

Evaluation : There are two wells on the property; both are active and located within 65' of each other. Well #1 was reportedly drilled in in either 1955 or 1959 and Well #2 in perhaps 1982 or 1983. Current depth is ~200' for each with combined 370 GPM pumping output. Detailed information about background, depth, supply, etc... should be found within the comprehensive Water System Plan by Anchor Environmental, LLC (dated September 2009) and the subsequent 2011 Distribution System Replacement Project Report by Northwest Water Systems, Inc.. The WSP details current and future projected water needs. Information within that plan and our research did not indicate any predictable time frame for the need to drill a new well within the current water system planning period which ends in 2028 nor for the distant foreseeable future. Note that without any known deficiencies of aquifer, service life of wells can be very extended, often 100 years or more. Further, existing wells may have potential to be extended rather than selecting new wells/locations. As the community ages and your SWSMP is updated frequently, begin accruing reserve funds to add, modify or replace any wells when basis for future needs or useful life is confirmed to be less than 30 years and then update your long term budget accordingly.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS Criteria for Reserve Funding

Client: 26621A HMC Water System

Comp # : 901 Well Pumps/Motors - Replace

Quantity: (2) 5 HP submersible, 4"

Location : 421 West Madrona (Lots 7 and 8, Block 3, Division 5)

Funded? : Yes

History :

Evaluation : Both well pumps/motors were replaced last in September 2012. Going forward, regular testing and inspection should be factored within the operating budget. Minor repairs/replacements (below \$2,000) of miscellaneous valves, piping, hardware, etc... should also be considered maintenance items. Installing contractor indicated replacement at the typical useful life projection of between 15-30 years for most applications, with longer end of this range for these systems.

Useful Life:
30 years

Remaining Life:
28 years



Best Case: \$14,000

Worst Case: \$18,000

Lower estimate to replace both pumps/motors

Higher estimate to replace both pumps/motors

Cost Source: Client Cost History/Research with Local Contractor

Comp # : 904 Well Controls - Replace

Quantity: (1) two-motor control

Location : 421 West Madrona (Lots 7 and 8, Block 3, Division 5)

Funded? : Yes

History :

Evaluation : Well control panel was recently replaced. Assumption for eventual intervals of controller system replacement to ensure functionality and offset potential parts obsolescence.

Useful Life:
30 years

Remaining Life:
28 years



Best Case: \$3,000

Worst Case: \$5,000

Lower estimate to replace controller

Higher estimate to replace controller

Cost Source: ARI Cost Database: Similar Project Cost History

Association Reserves Washington, LLC

Component Details

Client: 26621A HMC Water System

Comp # : 905

Source Flow Meters - Replace

Quantity: (2) Badger, assorted

Location : 421 West Madrona (Lots 7 and 8, Block 3, Division 5)

Funded? : Yes

History :

Evaluation : Age and model appear to vary but no reported problems; both are assumed to be within allowable accuracy tolerances. Typical life is in the 10-20 year range. Roughly \$1,000-\$1,200 expense of individual replacements, when needed, do not merit reserve designation.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS Criteria for Reserve Funding

Comp # : 907

Filter/Treatment Systems - Add

Quantity: None at present

Location : None at present

Funded? : Yes

History :

Evaluation : No image available since no such systems currently exist. Good water quality reported. Historically water has met applicable health standards without apparent needs to add filtration or treatment systems. Incorporate any significant changes or predictable expense in future reserve study updates as conditions merit.

Useful Life:

Remaining Life:

Photo Not Available

Best Case:

Worst Case:

Cost Source: Does not meet NRSS Criteria for Reserve Funding

Client: 26621A HMC Water System

Comp # : 910 Storage Tank, Concrete - Replace Quantity: (1) 99,000 gallon
 Location : 421 West Madrona (Lots 7 and 8, Block 3, Division 5)
 Funded? : Yes

History :

Evaluation : This above grade concrete tank was reportedly installed in 2005. It is our understanding that water storage capacity is 94,000 gallons for this 99,000 gallon reservoir. No significant cracking, damage or spalling but local efflorescence (mineral staining) was apparent. This is typically indicative of water seepage and we assume ongoing evaluation for stability and leak detection will occur. Interior of concrete tank is without any liner requiring renewal or replacement. Our research suggests planning for typical service life of between 60-80 years for concrete tanks. Continue to monitor closely and perhaps have engineer evaluate if cracking/spalling, or actual leaks become prevalent. Also, inspect access metal work and keep in good repair as ongoing maintenance. Note; some possibility of increased storage needs may exist for future years, as well as multitude of other design criteria - adjust in future reserve updates as conditions merit.

Useful Life:
80 years

Remaining Life:
71 years



Best Case: \$178,200

Worst Case: \$217,800

Lower allowance to replace with similar size

Higher allowance to replace with similar size

Cost Source: ARI Cost Database: Similar Project Cost History

Comp # : 911 Storage Tank, Interior - Seal Quantity: None at present
 Location : 421 West Madrona (Lots 7 and 8, Block 3, Division 5)
 Funded? : Yes

History :

Evaluation : No image of interior available; exterior of tank represented below. Presently no type of interior tank liner exists with no anticipating of such applications for the foreseeable future. Note that if beginning such application of interior coatings, typical life expectancy is 10-15 years and cost would likely be in the \$10,000-\$15,000 range .



Useful Life:

Remaining Life:

Best Case:

Worst Case:

Cost Source: Does not meet NRSS Criteria for Reserve Funding

Client: 26621A HMC Water System

Comp # : 912 Storage Tank, Interior - Clean Quantity: (1) 99,000 gallon

Location : 421 West Madrona (Lots 7 and 8, Block 3, Division 5)

Funded? : Yes

History :

Evaluation : Interior was not inspected but no reported problems at this time. No pattern of previous expense for interior cleaning projects was indicated. For now, assume interior projects such as inspections, flushing, cleaning and disinfecting as operating budget items. Track any significant needs and expense patterns carefully; adjust in future reserve study updates.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS Criteria for Reserve Funding

Comp # : 914 Storage Tank, Exterior - Clean Quantity: (1) 99,000 gallon

Location : 421 West Madrona (Lots 7 and 8, Block 3, Division 5)

Funded? : Yes

History :

Evaluation : Exterior surface is without any protective coating (as typical for concrete reservoir). General grime, mildew and staining was illustrated; needs for cleaning were evident. Recent removal of surrounding trees has increased visible exposure to surrounding owners but day-lighting may help keep tank exterior cleaner in the future. In any event, no preliminary bids or timing for exterior cleaning project were expressed but we have factored an allowance for such to benefit aesthetics.

Useful Life:

5 years

Remaining Life:

0 years



Best Case: \$2,000

Worst Case: \$3,000

Lower allowance to clean exterior

Higher allowance to clean exterior

Cost Source: ARI Cost Database: Similar Project Cost History

Client: 26621A HMC Water System

Comp # : 916 **Storage Tank, Old - Demolish/Remove** Quantity: (1) project

Location : 421 West Madrona (Lots 7 and 8, Block 3, Division 5)

Funded? : Yes

History :

Evaluation : No plans for expense to demolish and remove this decommissioned concrete reservoir at present. Incorporate into future reserve study update as conditions warrant.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS Criteria for Reserve Funding

Comp # : 920 **Booster Pumps, 5 HP - Replace** Quantity: (2) Nidec, 5 HP

Location : 421 West Madrona (Lots 7 and 8, Block 3, Division 5)

Funded? : Yes

History :

Evaluation : Existing domestic supply booster pumps were installed in 2012 as part of system improvements. Note that typical life expectancy is roughly 10-20 years with ordinary maintenance. Upper end of range is likely assuming "clean" power and VFD controls.

Useful Life:
20 years

Remaining Life:
18 years



Best Case: \$12,000

Worst Case: \$18,000

Lower estimate to replace both 5 HP booster pumps

Higher estimate to replace both 5 HP booster pumps

Cost Source: ARI Cost Database: Similar Project Cost History

Client: 26621A HMC Water System

Comp # : 922 Booster Pump, 15 HP - Replace

Quantity: (1) Baldor, 15 HP

Location : 421 West Madrona (Lots 7 and 8, Block 3, Division 5)

Funded? : Yes

History :

Evaluation : Large fire suppression booster pump was also installed in 2012 as part of system improvements. Anticipate longer life as compared to domestic pumps due to assumed minimal usage over time.

Useful Life:
40 years

Remaining Life:
38 years



Best Case: \$18,000

Worst Case: \$22,000

Lower estimate to replace 15 HP booster pump

Higher estimate to replace 15 HP booster pump

Cost Source: ARI Cost Database: Similar Project Cost History

Comp # : 924 Booster Pumps VFD Control - Replace

Quantity: (1) three pump control

Location : 421 West Madrona (Lots 7 and 8, Block 3, Division 5)

Funded? : Yes

History :

Evaluation : Some minor functionality concerns were indicated. Otherwise significant electricity savings is reported since installation of VFD (Variable Frequency Drive) controls. Assume integrated replacement along with booster pumps replacement intervals to maintain contemporary efficiency.

Useful Life:
20 years

Remaining Life:
18 years



Best Case: \$12,000

Worst Case: \$18,000

Lower estimate to replace

Higher estimate to replace

Cost Source: ARI Cost Database: Similar Project Cost History

Client: 26621A HMC Water System

Comp # : 929 **System Components, Small - Replace** Quantity: Assorted systems

Location : Water system, various

Funded? : Yes

History :

Evaluation : There are numerous small connections, meters, gauges, valve assemblies, etc... These ancillary water system components will need rebuilding or replacement from time to time but are expected to also be below the reserve funding threshold cost and therefore should be expensed as general maintenance from within the operating budget per occurrence.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS Criteria for Reserve Funding

Comp # : 930 **Pressure Tanks - Replace** Quantity: (2) 81 gallon

Location : 421 West Madrona (Lots 7 and 8, Block 3, Division 5) of Block 3, Division 5

Funded? : Yes

History :

Evaluation : These small steel pressure tanks are newer as well. Replacement cost is minimal (\$1,500 for both) so replace if needed from operating funds.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS Criteria for Reserve Funding

Client: 26621A HMC Water System

Comp # : 940 Distribution Lines, 6"-8" - Replace

Quantity: Approx 26,650 LF

Location : Throughout community

Funded? : Yes

History :

Evaluation : We noted provided NWS 2011 water line project report and maps indicated that PVC Schedule 40 was to be specified. Instead, new installation of primarily PVC C900 products utilized during 2012 project. In any event, replacements were indicated primarily to replace deteriorated and leaking sections but also improvements to flow and fire protection. Majority of PVC C900 main line is now 6" (25,200 LF) with minor amount of 8" locations. Review of provided materials and research with representative of your current SMA (Satellite Management Agency), Jester @ Northwest Water Systems (NWS), confirmed anticipation for long replacement intervals and costs factored below for existing PVC C900 piping. Although this is a extended life component, eventual and very significant expense is predictable and should be included in prudent planning. We noted 2012 project design and oversight by NWS and assume related connections, road repair, etc... are included in cost projections.

Useful Life:

70 years

Remaining Life:

68 years



Best Case: \$867,300

Worst Case: \$1,027,200

Lower estimate to replace 6"-8" mains/distribution

Higher estimate to replace 6"-8" mains/distribution

Cost Source: Client Cost History/Research with Local Contractor

Association Reserves Washington, LLC

Component Details

Client: 26621A HMC Water System

Comp # : 941 Distribution Lines, 2" - Replace

Quantity: Approx 2,500 LF

Location : Throughout community

Funded? : Yes

History :

Evaluation : Some locations utilize smaller 2" (or less) PVC Schedule 40 with a useful life assumption of roughly 30-40 years as factored below. Track needs and any expense patterns that may emerge and adjust as conditions merit in future reserve study updates. Note, image is representative, not necessarily indicative of project locations.

Useful Life:

40 years

Remaining Life:

38 years



Best Case: \$55,000

Worst Case: \$70,000

Lower estimate to replace 2" (or less)
mains/distribution

Higher estimate to replace 2" (or less)
mains/distribution

Cost Source: Client Cost History/Research with Local Contractor

Comp # : 945 Service Connect/Lines - Replace

Quantity: (397) connections

Location : Service connections throughout community

Funded? : Yes

History :

Evaluation : Some local leak repairs since large project was recently completed. The service lines off of the main water distribution lines are primarily 1.5" poly connecting lines and we have factored a service life of roughly 30-40 years for these lines and associated connections. Continue proactive leak detection, treat minor repair/replacement as needed using operating funds. Note, image is representative, not necessarily indicative of project locations.

Useful Life:

40 years

Remaining Life:

38 years



Best Case: \$222,320

Worst Case: \$254,080

Lower estimate to replace service connection/lines

Higher estimate to replace service connection/lines

Cost Source: Client Cost History/Research with Local Contractor

Client: 26621A HMC Water System

Comp # : 946 Service Meters - Replace

Quantity: (397) meters

Location : Water service points of community

Funded? : Yes

History :

Evaluation : New water meters with sensors were installed as part of recent improvements. Estimated useful life of meters is roughly 10 years with proactive replacement scheduling recommend to help ensure minimal leakage, function and accuracy.

Useful Life:

10 years

Remaining Life:

8 years



Best Case: \$99,250

Worst Case: \$138,950

Lower estimate to replace meters

Higher estimate to replace meters

Cost Source: Client Cost History/Similar Project Cost History

Comp # : 947 Service Meter Box/Setters - Replace

Quantity: (397) boxes/setters

Location : Water service points of community

Funded? : Yes

History :

Evaluation : Note that associated water meter boxes, setters/shut-off valves are life limited as well. Unless more urgent needs arise, we recommend integrated replacement timed to coincide with every other meter replacement project.

Useful Life:

20 years

Remaining Life:

18 years



Best Case: \$99,250

Worst Case: \$138,950

Lower estimate to replace boxes, setters and shut off valves

Higher estimate to replace boxes, setters and shut off valves

Cost Source: Client Cost History/Similar Project Cost History

Client: 26621A HMC Water System

Comp # : 950 Pressure Reducing Valves - Replace Quantity: (60) metal

Location : Water service points of community

Funded? : Yes

History :

Evaluation : PRV's (pressure reducing valves) were installed in select service locations. For general planning purposes, assume estimated useful life of roughly 20 years. Document/track history of any replacement and adjust in future reserve study updates as conditions merit.

Useful Life:

20 years

Remaining Life:

18 years



Best Case: \$9,000

Worst Case: \$15,000

Lower estimate to replace

Higher estimate to replace

Cost Source: ARI Cost Database: Similar Project Cost History

Comp # : 954 Blow-Out/Isolation Valves - Replace Quantity: (38) total, assorted

Location : Water service points of community

Funded? : Yes

History :

Evaluation : Roughly (33) isolation valves [well and gate] and (5) blow-out valves of varying sizes are installed thorough out community at present. All are reportedly newer without problems. We assume routine inspections, exercising and minor repair from operating funds. Anticipate significant replacement at roughly the time frame below for purposes of long term budgeting. Carefully track actual replacement needs and expense history; update future reserve study updates as conditions merit.

Useful Life:

30 years

Remaining Life:

28 years



Best Case: \$32,200

Worst Case: \$38,600

Lower estimate to replace

Higher estimate to replace

Cost Source: ARI Cost Database: Similar Project Cost History

Client: 26621A HMC Water System

Comp # : 958 Hydrants - Replace

Quantity: (41) hydrants

Location : Water distribution throughout community

Funded? : Yes

History :

Evaluation : This component represents the existing fire hydrants that are all newer; installations indicated in 2012. Current coverage is assumed to be code compliant. Anticipated useful life of hydrants is factored below. Testing, cleaning, painting, minor repair, etc..., to sustain until that time is assumed to occur as operating expense.

Useful Life:

40 years

Remaining Life:

38 years



Best Case: \$131,200

Worst Case: \$151,700

Lower estimate to replace hydrants

Higher estimate to replace hydrants

Cost Source: Client Cost History/Similar Project Cost History

Comp # : 960 Building Exteriors-Maintain/Repair

Quantity: Approx 1,400 GSF

Location : 421 West Madrona (Lots 7 and 8, Block 3, Division 5)

Funded? : Yes

History :

Evaluation : Ages vary with no significant deterioration or instability of the older structures evident; no reported problems. Recent exterior painting was noted at the booster system housing. Water system buildings are utility structures, clad largely with vertically installed plywood. Present permanent building inventory includes; Booster Pump Station/Well #1 Housing (~10'x16'), Generator Housing (~10'x16') and an adjacent wood storage shed plus the small Well #2 Dog House (~5x5). Assuming ordinary care, no anticipation of large scale replacements of any of these structures for the foreseeable future. Our research indicated projects for painting and minor repair utilizing operating monies, occasional labor, staff and volunteer will likely continue. Under this pattern of care, no impact upon reserves is factored. Monitor, track expenses closely and adjust as needed within future reserve study updates.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS Criteria for Reserve Funding

Client: 26621A HMC Water System

Comp # : 962 Building Interiors-Maintain/Repair

Quantity: Moderate GSF

Location : 421 West Madrona (Lots 7 and 8, Block 3, Division 5)

Funded? : Yes

History :

Evaluation : Needs for painting of pump house floor were noted. As with exteriors, similar assumptions regarding interior maintenance of these utility structures will apply for projects such as repainting, replacement of lighting, heaters, etc... (maintenance by occasional labor, staff, volunteers and operating funds).

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS Criteria for Reserve Funding

Comp # : 964 Building Roofs - Replace

Quantity: Approx 500 square feet

Location : 421 West Madrona (Lots 7 and 8, Block 3, Division 5)

Funded? : Yes

History :

Evaluation : New standing seam metal roofing; 2013 replacement expense was not provided. Inspect and repair from operating budget. Metal roofing is a long lived product but eventual replacement near the 40 year mark of life due to typical material deterioration (including underlying membrane) is predictable. Also, replace any gutter/downspout along with this project.

Useful Life:

40 years

Remaining Life:

39 years



Best Case: \$2,500

Worst Case: \$3,500

Lower estimate to replace

Higher estimate to replace

Cost Source: ARI Cost Database: Similar Project Cost History

Client: 26621A HMC Water System

Comp # : 967 **Storage Shed, Vinyl - Replace** Quantity: (1) 8'x8'

Location : 421 West Madrona (Lots 7 and 8, Block 3, Division 5)

Funded? : Yes

History :

Evaluation : Small vinyl shed is newer. Plan for replacement due to typical material deterioration and wear at roughly the interval indicated below.

Useful Life:
20 years

Remaining Life:
19 years



Best Case: \$2,000

Worst Case: \$3,000

Lower estimate to replace with similar

Higher estimate to replace with similar

Cost Source: ARI Cost Database: Similar Project Cost History

Comp # : 969 **Building Electrical - Replace** Quantity: Extensive systems

Location : 421 West Madrona (Lots 7 and 8, Block 3, Division 5)

Funded? : Yes

History :

Evaluation : Some recent electrical service upgrades were indicated. No reported problems at this time. Treat electrical system inspection and any minor repair needs as ongoing maintenance expense. Anticipate similar panel and service replacements at roughly the time frame below.

Useful Life:
30 years

Remaining Life:
28 years



Best Case: \$8,000

Worst Case: \$12,000

Lower allowance to repair/replace

Higher allowance to repair/replace

Cost Source: ARI Cost Database: Similar Project Cost History

Client: 26621A HMC Water System

Comp # : 970

Chain Link Fence - Replace

Quantity: Approx 720 linear feet

Location : 421 West Madrona (Lots 7 and 8, Block 3, Division 5)

Funded? : Yes

History :

Evaluation : New condition. Installed in 2013 as a required security improvement; segregated expense was not provided. Inspect, clean and treat for corrosion; repair promptly as needed from operating funds. Eventual replacement of chain link fencing is factored below.

Useful Life:

35 years

Remaining Life:

34 years



Best Case: \$14,400

Worst Case: \$17,280

Lower estimate to replace

Higher estimate to replace

Cost Source: ARI Cost Database: Similar Project Cost History

Comp # : 972

Landscape/Trees - Refurbish

Quantity: Extensive square feet

Location : 421 West Madrona (Lots 7 and 8, Block 3, Division 5)

Funded? : Yes

History :

Evaluation : Extensive tree removal has recently occurred; one-time expense of ~\$8,000 to remove (53) trees was noted. Although typically funded as ongoing maintenance item, this component may be utilized for setting aside funds for larger expenses that do not occur on an annual basis, such as large scale plantings, common area drainage projects, extensive bark mulch every two/three years, resodding lawn areas, landscape improvement projects, etc.. No stated desire to fund at this time, these types of expenses may be incorporated into future reserve study updates.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS Criteria for Reserve Funding

Client: 26621A HMC Water System

Comp # : 980 Generator, Emergency - Replace Quantity: (1) Marathon, 60KW
 Location : 421 West Madrona (Lots 7 and 8, Block 3, Division 5)
 Funded? : Yes

History :

Evaluation : Old emergency generator, likely from either the mid 1970's or perhaps early 1980's, with hour meter indicating 5,472 when we inspected on 3.4.2014. No previous repair history or cost was provided. No reported performance problems and community representative indicated replacement parts are still available at the moment. Regular inspections, confidence testing and repairs are assumed from the operating budget. Our experience is that the typical service expectations are in the 30-50 year range and somewhat driven by actual usage. Eventual intervals of replacement to offset parts obsolescence and maintain functionality are factored below. Include integrated controls, fuel storage tank improvements, etc... in this project as needed.

Useful Life:
50 years

Remaining Life:
10 years



Best Case: \$35,000

Worst Case: \$45,000

Lower estimate to replace emergency generator system

Higher estimate to replace emergency generator system

Cost Source: ARI Cost Database: Similar Project Cost History

Comp # : 990 Office Equipment/Furniture-Replace Quantity: Minor equipment
 Location : Community Building
 Funded? : Yes

History :

Evaluation : Office equipment and furniture is considered the responsibility of HMC Management, not HMC Water System. In any event, varying useful life cycles and modest individual replacement expenses should be funded from HMC Management general operating monies.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS Criteria for Reserve Funding

Client: 26621A HMC Water System

Comp # : 991 Small Equipment/Tools - Replace

Quantity: Minor equipment

Location : 421 West Madrona (Lots 7 and 8, Block 3, Division 5)

Funded? : Yes

History :

Evaluation : Assorted small tools/equipment, portable fuel tanks, utility shelving and benches observed; nothing meriting reserve designation. Evaluate such minor replacement needs as ongoing maintenance and provide from annual operating funds.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS Criteria for Reserve Funding

Comp # : 999 Meter Reader System - Replace

Quantity: (1) meter, software

Location : MPC office

Funded? : Yes

History :

Evaluation : Badger brand meter reader system was recently installed at an expense of ~\$5,000. Meter was out for repairs when we inspected on 3.4.2014. Plan for replacements at roughly the five year interval.

Useful Life:

5 years

Remaining Life:

3 years



Best Case: \$4,000

Worst Case: \$6,000

Lower estimate to replace

Higher estimate to replace

Cost Source: Client Cost History/Similar Project Cost History

Association Reserves Washington, LLC

Component Details

Client: 26621A HMC Water System

Comp # : 1002 Loan - Payoff

Quantity: Principal of ~\$1,302,000

Location : USDA loan

Funded? : Yes

History :

Evaluation : Water system obtained loan from USDA with proceeds utilized to help pay for distribution, metering and fire suppression improvements; expense of \$1,738,000 was indicated. Total of annual P&I payments are reportedly \$53,278 with a 40 year term. No impact upon water system maintenance reserves is factored since collections and payments are handled in a separate account for this debt obligation .

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS Criteria for Reserve Funding

Client: 26621A HMC Water System

Comp # : 1006 SWSMP - Update

Quantity: Every 6 years

Location : Community water system

Funded? : Yes

History :

Evaluation : It is our understanding that a comprehensive Water System Plan (WSP) was completed last in 2009. Going forward, your Group A water system (under 1,000 connections) does not currently have to update such a WSP. However, note that preparation/update of a Small Water System Management Program (SWSMP) is anticipated as an ongoing requirement into the future. We note that DOH expectations are that SWSMP will include comprehensive Operations and Maintenance (O&M) program, plus documenting (among others); short and long lived asset inventory along with current condition assessment, remaining life assumptions (with annual updates), asset replacement and improvement schedule including costs (with annual updates), six year budget (with annual updates) and evaluation of current and future capacity. HMC Water System doesn't currently have to submit SWSMP to DOH, nor is there a regulatory timeframe for updating the plan. We recommend such planning be provided by expert at minimum of the time frame below.

Useful Life:
6 years

Remaining Life:
1 years



Best Case: \$3,000

Worst Case: \$4,000

Lower estimate to update SWSMP

Higher estimate to update SWSMP

Cost Source: Research with Local Contractor

Client: 26621A HMC Water System

Comp # : 1013 Sanitary Survey - Update

Quantity: Every 5 years

Location : Community water system

Funded? : Yes

History :

Evaluation : This component factors cyclical funding for the Washington State required water system sanitary survey, required next in 2014 and then every five years for your community. No bids at present; assume budget allowance factored below will suffice. Update in future reserve updates as conditions merit.

Useful Life:

5 years

Remaining Life:

0 years



Best Case: \$1,500

Worst Case: \$2,500

Lower allowance

Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History
