



Financial viability for small water systems

Financial viability is the ability to obtain sufficient funds to develop, construct, operate, maintain, and manage a public water system in full compliance with local, state, and federal requirements on a continuous basis. In short, that means you should run your water system like a business.

Water systems should manage their finances to ensure they have enough funds for future needs as well as daily ones. However, many small water systems in Washington struggle with aging and failing infrastructure because their owners and operators did not run them like businesses. When you have enough money, you are better able to ensure safe and reliable drinking water now and in the future.

You can work toward financial viability one step at a time, using the following guidelines.



Five steps to financial viability

1. Develop an operating budget

Develop a six-year operating budget with enough income to pay for all regular maintenance and operations needs. Make sure to factor-in inflation by multiplying each year's line-item costs by a 2 to 5 percent inflation factor. Remember, inflation is cumulative. You should add inflation to each year's costs based on the previous year's costs. To select the most realistic inflation factor for your area, check the

Consumer Price Index that your county or nearest city uses. Your budget should also include debt payments and contributions to your reserves (see steps three, four, and five).

Reserve accounts are a vital part of your water system's financial health. Because all water systems are different, there is no set formula for how much goes toward each reserve account. Your water system's operator and board should decide together how much to contribute annually to each reserve based on the water system's needs.

2. Take another look at your rates

Your rates may be keeping you from being financially healthy. Use your six-year operating budget to decide whether to raise your rates to cover projected costs. Many water systems are not charging enough to pay for basic maintenance and operations, contributions to reserve accounts, and debt payments.



Customers who use more water have a greater financial impact on the water system. Consider a rate structure that encourages customers to use water efficiently. Remember, you should always present rate change proposals to your customers in an open forum. For help developing your rates, see the resources on page four.

3. Create and fund an operating cash reserve

An operating cash reserve is extra money set aside to handle problems with cash flow. When you have enough funds set aside for your water system, you can continue paying your bills even if there is a lag in income. One approach is to fund an operating reserve equal to the amount of cash needed to pay for 30 to 45 days of water system costs.

You can fund your operating cash reserve with a one-time charge to customers, move funds from an existing reserve, or gradually set aside funds over a few years. Then be sure to add funds over time as needed.



4. Create and fund an emergency reserve

An emergency reserve account lets you respond to a true emergency such as vandalism, earthquake, storm damage, or flooding. It should have enough funds at all times to replace the most vulnerable part of the water system. You decide which part is most vulnerable as part of your water system planning. Vulnerable parts of your system include:

- A primary production well or other primary water source.
- Pumping equipment.
- Key transmission lines.

You should not use the emergency reserve to fund capital improvements or deferred maintenance problems. You can fund the emergency reserve the same way as the operating cash reserve, or by pre-qualifying for an emergency loan through a local bank or other lender.

5. Create and fund reserves for capital improvements and equipment replacement

You should have some savings to ensure that aging equipment and infrastructure do not become a financial burden for your water system. Use your capital improvement plan (done as part of your Water System Plan or Small Water System Management Program) to determine how much to save in your capital improvement and equipment replacement reserve.

In your capital improvement plan, you develop a list of equipment and infrastructure you will have to replace within the next six years. Make a “best guess” at how many years remain for each item and its replacement cost. You can use the Short-Lived Asset Component Inventory and Assessment table in the *Small Water System Management Program Guide* (331-134) to make these estimates.

You can use a "straight line depreciation" method to calculate a monthly amount to charge for replacing each item. Just add the totals together to determine monthly and annual contributions to this reserve fund.

1. Start with the item's improvement or replacement cost.
2. Divide by the years of useful life that remain.
3. Divide by 12 months.
4. Divide again by the number of water system connections.
5. Repeat for all the items on your replacement list.
6. Add the charges together.

You may also consider assessing fees, or applying for grants and loans as part of your financial plan to pay for capital improvements. Be aware that grant and loan funds are becoming more limited, and you will need to have a solid financial foundation to be competitive for these funds. In addition, if you decide to take out a loan, you might need to adjust your rates to repay the loan.

Benefits of financial viability

Predictable funding for capital improvements

Having available funding and a plan for capital improvements will keep your water system running smoothly and efficiently.

Improved system efficiency

Financially healthy water systems have well maintained and regularly replaced equipment that runs better, saving water, electricity, and wear and tear.

Cost savings

Deferred repair or replacement costs are often much higher when you let equipment age and fail.

Eligibility for grants and loans

Most grant and loan programs require water systems to demonstrate sound finances. If you spend time up front improving financial health, you are more likely to receive grants or loans.

Emergency response

Earthquakes, windstorms, electrical outages, flooding, and vandalism are examples of unforeseen emergencies. Water systems must have adequate cash reserves available to pay the costs associated with emergencies, such as providing bottled water to customers and returning to normal operations.

Peace of mind

When water systems have enough funds to pay for daily maintenance and operations, capital improvements, and unforeseen emergencies, their operators, board members, and customers do not have to worry or struggle to find means of payment.

Financial viability resources

Rural Community Assistance Corporation has free *Financial Viability Software* available online at <http://www.rcac.org/home>

The U.S. Environmental Protection Agency (EPA) offers the Check Up Program for Small Systems (CUPSS) (816-K-08-002). A free, easy-to-use, asset management tool for small drinking water and wastewater utilities, CUPSS is online at <http://water.epa.gov/infrastructure/drinkingwater/pws/cupss/index.cfm>

The following Office of Drinking Water publications are online at <https://fortress.wa.gov/doh/eh/dw/publications/publications.cfm>

Small Water System Management Program Guide (331-134)

Water Rates: Paying for drinking water (331-327)

Asset Management for Small Water Systems (331-445)

Setting Small Drinking Water System Rates for a Sustainable Future
(EPA 816-R-05-006)

Department of Health Office of Drinking Water's Regional Offices

- Eastern Region: Spokane Valley 509-329-2100
- Northwest Region: Kent 253-395-6750
- Southwest Region: Tumwater 360-236-3030

Free technical assistance

- Evergreen Rural Water of Washington: 800-272-5981
- Public Works Board: 360-586-4120
- Rural Community Assistance Corporation: 509-860-5846

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For people with disabilities, this document is available on request in other formats. To submit a request, please call 1-800-525-0127 (TDD/TTY call 711).

SHADING indicates information still under research.

City of Roy
Capital Requirements Illustration

Project ID	Project Description	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
A	Well 1 Land Acquisition	53,000									
B	Reservoir Siting Study	15,000									
C	Reservoir Seismic Retrofit (city match \$87,500)	1,000,000									
D	Acquire Property & Construct Reservoir 2		1,000,000								
E	Rate Study		15,000								
F	System Takeover Feasibility Study		35,000								
G	Radio Read Meters (time frame uncertain)			153,000							
H	Well 1 Pump/Motor Improvements										
I	Additional Valves in distribution system										
J	Reservoir 1 Maintenance & Recoating				300,000						
K	Water Plan Update										
L	Water Rights Expert						50,000				
M	Well 2 Iron and Manganese							30,000			
N	Well 1 backup Power								850,000		
O	Aeration Tower Blower Replacement									242,000	
Estimated capital projects costs		1,068,000	1,050,000	153,000	300,000	-	50,000	30,000	850,000	-	262,000
External Funding Sources											
B	DWSRF Pre-Construction Grant	15,000									
C	FEMA grant	912,500									
D	DWSRF 20-year loan (pmts \$64,000/yr)		1,000,000								
F	DWSRF Consolidation Grant \$30,000		30,000								
H,J,N,O	Pierce County CDBG			153,000					300,000		
L	USDA Rural Dev 40-yr Loan (pmts \$37,000/yr)									850,000	
Estimated sources of funding		927,500	1,030,000	153,000	300,000	-	-	-	850,000	-	262,000
Capital Projects in Additional Future Years											
P	Replace Booster Station pump, 2028										
Q	Replace Aeration Tower blower, 2028										
R	Replace two dosing pumps, 2039		6,000								
S	Replace Reservoir 1, 2067										
T	Replace Aeration Tower, 2078										
U	Replace water mains, 2069-2103								293,000	2,910,000	1,165,000
										375,000	

City of Roy
Capital Requirements Illustration

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Capital Fund Balance Analysis										
Capital fund beginning balance	318,025	143,558	26,194	(70,569)	(154,370)	(218,370)	(332,370)	(426,370)	(527,370)	(628,370)
plus: estimated sources of funding	927,500	1,030,000	153,000	300,000	0	0	0	850,000	0	262,000
minus: estimated project costs	1,068,000	1,050,000	153,000	300,000	0	50,000	30,000	850,000	0	262,000
minus: debt payments - existing	33,967	33,364	32,763	19,801						
minus: debt payments - from estimated funding		64,000	64,000	64,000	64,000	64,000	64,000	64,000	101,000	101,000
Capital fund estimated ending balance	143,558	26,194	(70,569)	(154,370)	(218,370)	(332,370)	(426,370)	(527,370)	(628,370)	(729,370)
Capital Surcharge Revenue Needed										
Capital fund estimated ending balance above	143,558	26,194	(70,569)	(154,370)	(218,370)	(332,370)	(426,370)	(527,370)	(628,370)	(729,370)
Capital surcharge from ratepayers*	125,000	175,000	225,000	275,000	325,000	375,000	450,000	550,000	675,000	750,000
Resulting capital fund estimated ending balance	268,558	201,194	154,431	120,630	106,630	42,630	23,630	22,630	46,630	20,630
A * average surcharge/month/connection (325)	32.05	44.87	57.69	70.51	83.33	96.15	115.38	141.03	173.08	192.31
Current Operations and Maintenance Analysis										
Estimated annual cost, 2% annual increase (does not include city utility tax or debt pmt)	201,184	205,208	209,312	213,498	217,768	222,123	226,566	231,097	235,719	240,434
B average current/month/connection (325)	51.59	52.62	53.67	54.74	55.84	56.95	58.09	59.26	60.44	61.65
C city utility tax on average charges A and B	11.40	13.29	15.19	17.08	18.98	20.88	23.66	27.31	31.84	34.63
A,B,C average monthly bill	95	111	127	142	158	174	197	228	265	289

Large connections and connections outside city limits with 50% surcharge would be higher. Residential-sized connections would be slightly less.

City of Roy Water Rate Structure
Proposed for 2018

Avg Mo Gallons Per Connection	No. of Gallons or Connections	2017 rates average bill	2017 2018 Portions of capital contrib	per connection per month capital	same per gallon on 19,000,000 (7% outside city)	2018 base connection per month	2018 avg bill including tax corrected!
	18,039,977 gallons @	0.005120			0.00512		
	1,295,120 gallons out of city @	0.007680			0.00768		
4455	283 5/8" base connections	29.89	95273.36	28.05		76,599.02	83.43
3247	15 1" base base connections	37.89	6413.28	35.63		5,156.22	91.93
46377	1 1 1/2" base connections	56.61	515.08	42.92		414.12	357.82
2091	1 2" base connection	72.80	821.44	68.45		660.43	152.49
5079	18 5/8" base out of city connect.	44.84	9089.68	42.08		7,308.03	130.59
72238	1 cu.ft. base connection	72.80	821.44	68.45		660.43	560.62
16497	1 1 1/2" base out of city connect.	84.92	956.10	79.68		768.70	307.31
10725	1 multi. 3 occupancies connect.	89.67	1009.96	84.16		812.00	234.93
59116	1 multi. 28 occupancies connect.	836.92	9426.34	785.53		7,578.70	1,954.27
12317	1 multi. 2 occupancies connect.	59.78	673.31	56.11		541.34	186.69
	Total		125,000 capital surcharge		100,685 consumption current operations/maint.	100,499 base	