Chapter 4: Financial Planning

This chapter will help you document the age and condition of your system components and to keep track of the components that will need repair or replacement and when. It also contains a short expense table for you to identify your system’s current and estimated future costs of operations, maintenance, and improvements.

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**CHAPTER TOPICS**

This chapter addresses:

* Component Inventory and Assessment
* Planned Improvements and Replacements
* Water System Expenses

Each section offers a purpose statement, background on the requirement, and instructions. Most sections have links to more information or resources.

4.1 Component Inventory and Assessment

**Purpose**

To inventory each system component (infrastructure), assess its remaining useful life, and create a list of planned improvement projects.

**Background**

The inventory is a list of your system’s components. The assessment is an evaluation of each component to determine whether you need to replace it within the next six years. If you can, include the estimated replacement cost for each component and include the outcome of this exercise in your financial planning activities (Section 4.3). The cost to replace system components will depend on many factors. For instance, it will cost more to replace pipe if you have to tear up a road to reach it. Contact a local contractor for estimates based on your specific system infrastructure.

You **must** submit installation or construction documents for facilities involving source, storage, treatment, or distribution to DOH (WAC 246-290-110 and -120). A professional engineer must prepare these documents. Contact your [DOH regional office](http://www.doh.wa.gov/ehp/dw/Staff_Lists/dwnames.htm) for assistance.

**How to complete this section**

Follow the steps below to complete Forms 4-1A (short-lived components) and 4-1B (long-lived components). Here are some things to consider:

* Just because a component is approaching (or has passed) the life expectancy listed, does not mean you will have to replace it in the near future. Consult with an experienced professional if you believe you can continue to operate an existing component that has reached or passed its expected useful life.
* A relatively new component might be causing trouble and may need replacement even if it is not near its life expectancy. Over time, continued maintenance and emergency repair often costs more than replacement.
* Keep current design documentation for your infrastructure, such as pump specifications, treatment designs, and as-built drawings together in a single chapter of your SWSMP, such as the “system information” chapter.

**Step 1** **Short-lived components.** Take an inventory of each short-lived system component. These facilities have a service life of about **six years or less**. In the space provided in Table 4-1A, list each component’s size, length, or capacity, the number of such components, the year installed or its current age, and the estimated replacement cost.

**Step 2 Long-lived components.** Take an inventory of each long-lived system component. These facilities have a service life of about **seven years or more**. In the space provided in Table 4-1B, list each component’s size, length or capacity, the number of such components, the year installed or its current age, and the estimated replacement cost.

If you do not know the specifics of your system (size or capacity of storage tank), call your [DOH regional office](http://www.doh.wa.gov/ehp/dw/Staff_Lists/dwnames.htm) to arrange a time to review your system’s files.

### **Step 3** **Decide which components to replace.** Compare each component’s age to the estimated life expectancy shown in the table. Decide which (if any) components you should replace in the next **six years**. Check YES or NO for each component. If you check YES, write the year that you expect to make the improvement in the space provided.

**Step 4 Plan for future improvement projects.** Transfer each component (short- and long-lived) that you need to replace in the next **six years** into Table 4-2 (Planned Improvements and Replacements). This will create a record of future projects to use as you budget for current and future system expenses (Section 4-3).

Table 4-1 A   
Short-Lived Component Inventory (service life is 6 years or less)

| **Short-Lived Asset Component** | **Size, Length, Diameter, and/or Capacity**  Where necessary, list each component separately | **Year Constructed or Installed** | **Estimated Life Expectancy** | **Current Age** | **Estimated Cost to Replace** | **Replace in Next 6 Years?** |
| --- | --- | --- | --- | --- | --- | --- |
| Hypo-Chlorination System |  |  | 3-5 Years |  |  | No  Yes  If Yes, Year |
|  |  |  |  |
| UV Light |  |  | 1 Year |  |  | No  Yes  If Yes, Year |
|  |  |  |  |
| Software (SCADA, cross-connection control) |  |  | 5-9 Years |  |  | No  Yes  If Yes, Year |
|  |  |  |  |
| Filters and Filter Media |  |  | 5-9 Years |  |  | No  Yes  If Yes, Year |
|  |  |  |  |
| Pressure Tanks (bladder) |  |  | 6-9 Years |  |  | No  Yes  If Yes, Year |
|  |  |  |  |
| Building Heat and Cooling |  |  | 5-9 Years |  |  | No  Yes  If Yes, Year |
|  |  |  |  |
| Instrument Switches and Gauges |  |  | 5-9 years |  |  | No  Yes  If Yes, Year |
|  |  |  |  |
| Other |  |  | years |  |  | No  Yes  If Yes, Year |

Table 4-1B  
Long-Lived Component Inventory (service life is 7 years or longer)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Long-Lived Component** | **Size, Length, Diameter, and/or Capacity**  Where necessary, list each component separately | **Year Constructed or Installed** | **Estimated Life Expectancy** | **Current Age** | **Estimated Cost to Replace** | **Replace in Next 6 Years?** |
| EXAMPLE  Well | Well 1 8-inch diameter and 200 feet deep | Drilled 1924 | 50-100 years | 87 years |  | No  Yes (Well #1)  If Yes, Year 2014 |
| Well 2 12-inch diameter and 145 feet deep | Drilled 1986 | 25 years |  |
| EXAMPLE  Submersible Well Pump | Well 1 10 hp | Installed 1996 | 10-15 years | 15 years |  | No  Yes  If Yes, Year \_\_\_\_ |
| Well 2 25 hp | Installed 2006 | 5 years |  |
| Well |  |  | 50-100 years |  |  | No  Yes  If Yes, Year |
|  |  |  |  |
| Submersible Well Pump |  |  | 10-15 years |  |  | No  Yes  If Yes, Year |
|  |  |  |  |
| Turbine Well Pump |  |  | 25-50 years |  |  | No  Yes  If Yes, Year |
|  |  |  |  |
| Source Meter |  |  | 15-30 years |  |  | No  Yes  If Yes, Year |
|  |  |  |  |
| Well and Pump House |  |  | 25-100 years |  |  | No  Yes  If Yes, Year |
|  |  |  |  |
| Reservoirs |  |  | 50-100 years |  |  | No  Yes  If Yes, Year |
|  |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Long-Lived Component** | **Size, Length, Diameter, and/or Capacity**  List each individual component separately | **Year Constructed or Installed** | **Estimated Life Expectancy** | **Current Age** | **Estimated Cost to Replace** | **Replace in Next 6 Years?** |
| Pressure Tanks (hydropneumatic) |  |  | 50 years |  |  | No  Yes  If Yes, Year |
|  |  |  |  |
| Booster Pumps |  |  | 10-20 years |  |  | No  Yes  If Yes, Year |
|  |  |  |  |
| Back-up Power Generator |  |  | 15-30 years |  |  | No  Yes  If Yes, Year |
|  |  |  |  |
| Electrical Service/Breaker |  |  | 20 years |  |  | No  Yes  If Yes, Year |
|  |  |  |  |
| Motor Starter/Control Relays |  |  | 10-20 years |  |  | No  Yes  If Yes, Year |
|  |  |  |  |
| Other |  |  | years |  |  | No  Yes  If Yes, Year |

4.2 Planned Improvements and Replacement Projects

**Purpose**

To document all system components that need replacement within the next six years and any other planned improvement projects.

**Background**

Water systems must include a list of planned (or future) improvements in their SWSMP (WAC 246-290-105). Your list should describe the project, anticipated start date, and estimated cost. In Section 4.1, you evaluated your system components and determined which ones you need to replace in the next six years. You can draw on that exercise to create your list of future projects. When you have a list of projects, make sure you have or can obtain the funds to complete them.

**How to complete this section**

Follow the steps below to complete Table 4-2. This will be your list of future improvements and replacement projects.

**Step 1** Refer back to Tables 4-1A and 4-1B. Transfer all short- and long-lived components you need to replace in the next six years to Table 4-2. Include the estimated cost and the anticipated year.

**Step 2** Identify any other improvement projects you intend to complete that are not part of your replacement strategy. Include the estimated cost and anticipated year.

Table 4-2   
Planned Improvements and Replacement Projects

|  |  |  |  |
| --- | --- | --- | --- |
| **Water System Improvement or Replacement Project** | **Estimated Cost** | **Anticipated Year** | **Financing Method**  *Bank loan, public loan, cash on hand* |
|  | $ |  |  |
|  | $ |  |  |
|  | $ |  |  |
|  | $ |  |  |
|  | $ |  |  |
|  | $ |  |  |
|  | $ |  |  |
|  | $ |  |  |
|  | $ |  |  |

4.3 Water System Expenses

**Purpose**

To document current and future water system expenses.

**Background**

Noncommunity water systems need to maintain sufficient funds or have the ability to secure sufficient funds to support the operation, maintenance, and infrastructure replacement needs of the system. Because most noncommunity water systems do not have paying water customers, it’s important for you, as the owner of a noncommunity system, to know how much it currently costs to maintain the system and how much you’ll need to spend in the future.

All water systems must demonstrate that they are and will continue to be financially viable (RCW 70.119A.100). Financial viability is the ability to obtain sufficient funds to develop, construct, operate, maintain, and manage a public water system on a continuing basis, in full compliance with all applicable requirements.

Owners of qualifying nonprofit noncommunity water systems may apply for a low-interest Drinking Water State Revolving Fund (DWSRF) loan to make capital improvements to resolve a public health issue. For information on eligibility requirements, see our [DWSRF webpage](http://www.doh.wa.gov/CommunityandEnvironment/DrinkingWater/WaterSystemAssistance/DrinkingWaterStateRevolvingFundDWSRF.aspx).

**How to complete this section**

Follow the steps below to complete Table 4-3. This will be your list of current and projected system expenses. The template includes suggested items.

**Step 1** Complete the expense table by filling in the information for each applicable item. Keep the following in mind:

* Apply an inflation factor (such as 3 percent per year) to expenses that would not otherwise change.
* Include sanitary survey fees and the cost of any additional required water quality sampling following an unsatisfactory sample.

**Step 2**  The table begins with your actual spending in the current year **(“*Current Year”)*** and continues with the next five years in columns **(*“CY+1”*** through ***“CY+5”).***

**Step 3** Calculate your annual totals by adding the values together for each year. This table will be your list of total annual system expenses.

Table 4-3   
System Expense Table

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Water System Operating Expenses and Payments | | | | | | |
|  | Current Year (CY) | CY +1 | CY +2 | CY +3 | CY +4 | CY +5 |
| Contract operator |  |  |  |  |  |  |
| System insurance |  |  |  |  |  |  |
| Water quality sampling |  |  |  |  |  |  |
| Water treatment chemicals |  |  |  |  |  |  |
| Engineering services |  |  |  |  |  |  |
| Legal services |  |  |  |  |  |  |
| DOH fees: sanitary survey fees and annual operating permit fees |  |  |  |  |  |  |
| Training and travel expenses |  |  |  |  |  |  |
| Planned Improvements and Replacements |  |  |  |  |  |  |
| Debt payments |  |  |  |  |  |  |
| Other expenses: |  |  |  |  |  |  |
| Total System Expenses |  |  |  |  |  |  |