# Best Management Practice



# BMP B: Create an Asset Management Plan

## 1 What and Why?

**What is asset management?** Asset management is a process that helps you to take care of your assets so that you get the most value from them, and to have the financial resources to renew them when necessary.

**Why do we need an asset management plan?** Part of providing safe and secure drinking water is effectively managing your assets, avoiding unexpected failure, and planning for timely renewal.

**How do we prepare an asset management plan?** Here are the main steps in preparing an asset inventory. These steps are explained further in following sections. For each step you create a building block.

Step 1: Make an asset inventory (See other BMP)

Step 2: Work out the priority order in which you should replace your assets

Step 3: Prepare an asset replacement schedule

Step 4: Set up a renewal reserve fund

Step 5: Make sure you are putting enough money into the fund.

## 2 Challenges and Benefits

An asset management plan will help overcome certain challenges and provide several benefits:

|  |  |
| --- | --- |
| Challenges to Overcome | Benefits |
| * You may have limited records and plans of you water system and of the individual components. * You may not know the location of components, their age or condition or their remaining useful life * If you do not know the condition of your assets you cannot work out when they should be replaced or how much money you will have to spend * If you do not know how much money you will need to spend, or when it will be spent, you cannot do effective long-range financial planning. * Managing assets effectively often requires money to be spent systematically and may require increases in water rates. | * It will allow you to make better financial decisions. This will help in several ways such as such as meeting regulatory requirements and upgrading system security. * You can reduce system “down-time” and the number of emergency repairs, since you will have planned for the replacement and rehabilitation of your assets. * Prioritize rehabilitation and replacement needs and provide time to review cost-effective options. * Show customers and regulators that you are using their money effectively. * Improve your access to financing. |

## 3 Creating Building Blocks

**Step 1: What assets do we have?**

Asset Inventory Worksheet

Your tangible assets are the things like pipes and pumps that make up your water system. Before you can create an asset management plan you need to know what assets you have. If you have not already done so, implement the BMP *Make an Asset inventory*. If the asset inventory was done more than year ago you should review and update it by inspecting each component of your system and updating the information. Once you have reviewed your asset inventory to ensure it is current, you can create an asset management plan.

**Step 2: How do we prioritize assets?**

Once you have inventoried your assets, your next step will be to prioritize your assets based on their importance to your system. Prioritization means ranking the assets in your system to help you decide how to allocate resources. There are several ways of prioritizing asset renewal and replacement. Typically assets are prioritized based on their remaining useful life. This may not always be the best way. Factors involved in prioritization include:

Asset Prioritization Worksheet

* What is its remaining useful life?

**Prioritization Methods**

One approach is to prioritize in order from most critical to least critical:

1. Existing threats to public health, safety or environment

2. Potential public health, safety or environmental concern

3. Internal safety concern or public nuisance

4. Improved system operations and maintenance (O&M)

5. Nice to have …

* How important the asset is to the provision of safe drinking water?
* How important the asset is to the operation of the system?
* Can other assets do the same job?

A water system is sometimes one of several responsibilities of a community. Other factors can influence which water system projects are funded and when they are completed. For example, in some small communities, distribution system rehabilitation and replacement is tied to the road repair schedule and annual budgeting. Developing an asset management plan and prioritizing your assets will help you work out when you should replace your assets so as to not jeopardize water delivery. You may have to work with your community to develop a replacement schedule that works for all parties.

An asset management plan, when linked with your long-term planning, will help you forecast your financial needs well into the future and develop a rehabilitation and replacement schedule appropriate for the priorities of your system.

**Step 3: How do we plan for asset renewal?**

Previous building blocks help you work out the remaining useful life of an asset, and the priority in which it should be renewed of replaced. You can summarize this information for all assets on the Asset Replacement Schedule.

Asset Replacement Schedule

Once you have prioritized your assets, you should work out how much it will cost to rehabilitate and replace them as they deteriorate. Gather information on all of the costs associated with the rehabilitation or replacement of an asset, such as equipment purchase, installation, pilot tests, labor charges, cleanup, and disposal of the replaced asset. To determine what rehabilitation or replacement might cost, ask suppliers and consultants, and talk to other systems about the cost of their rehabilitations or replacements.

**Preventive Maintenance**

A Preventive Maintenance Program will help to maximize the useful lives of your assets, avoid problems and reduce or delay replacement costs.

To protect public health and deliver safe water, you need to rehabilitate and replace your assets in addition to operating your water system. Many systems will need considerable lead-time to budget and gather the necessary funds. By developing an asset management plan, you will be able to allocate your resources in the most efficient way.

**Step 4: How do we pay for asset renewal?**

A key element of the asset management is to set up a Renewal Reserve Fund, where you keep the money you will spend on renewing assets. This reserve fund should be protected from other use. The Reserve Fund for Asset Renewal Worksheet will lead you through the steps necessary to determine how much money you need to put in reserve each year to fund your highest priority activities. The worksheet will show you how much money you should set aside for your renewal reserve fund this year. It’s important to make sure your customers understand that although the total reserves needed each year may seem like a lot of money, it is easier to put aside $200 a year to replace, say, a chlorinator than to come up with $2,000 once it fails.

Renewal Reserve Fund

Changes in your system’s finances and costs of new assets can change from year to year. It is important that you update this worksheet annually. This will ensure that you have enough reserves to cover necessary rehabilitations and improvements. Note that this worksheet only includes for additional funds you will need to renew and replace your assets. Standard operating and maintenance (O&M) costs, for example utility charges and chemicals for disinfection, are not included in the calculations on this worksheet.

**Step 5: Do we need more money?**

You can quickly work out if you need additional money for renewing your assets by using the Asset Management Budgeting Worksheet. On the worksheet, fill in the details of your revenues and expenses. You net income is the difference between your revenues and expenses.

Asset Management Budgeting Worksheet

If you have a surplus of revenues over expenses this may provide the money you need for your renewal reserve fund. If not, then you need to look at other ways of carrying out the asset management plan, such as increasing your water rates. This method is a simple way of working out the money you need to set aside in your renewal reserve fund. However it does not take into account considerations such as the interest you can earn on your reserve fund balance, or the effects of inflation on the costs of asset renewal. These considerations are discussed in the BMP: *Prepare a Long-Term Financial Plan.*

Key decision makers (for example the trustees or key property owners) need to understand the financial requirements related to the renewal of your assets. The draft version of this BMP should be presented to key decision makers at an early stage, and your customers informed also. This information should be reviewed annually and modified as necessary.

## 3. How long will this take?

The table below shows a typical timeframe to prepare this BMP for implementation. This includes communication time to discuss details with key people, bring together individuals who can contribute to the process, and administrative time to assemble the information needed for the individual building blocks. Preparation of each building block, perhaps in the form of a worksheet or checklist, may only require one or two hours, once you are familiar with the process.

Expect to revisit your asset management plan at least annually to update information. This review and update will take less time than the initial planning process, and is important for good financial decision-making.

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|  | Building Block | Weeks > | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|  |  |  |  |  |  |  |  |  |  |  |
| 1 | Asset Inventory Worksheet |  |  |  |  |  |  |  |  |  |
| 2 | Asset Prioritization |  |  |  |  |  |  |  |  |  |
| 3 | Asset Replacement |  |  |  |  |  |  |  |  |  |
| 4 | Renewal Reserve Fund |  |  |  |  |  |  |  |  |  |
| 5 | Asset Management Budgeting |  |  |  |  |  |  |  |  |  |

## 4. More Information

More information on the topic of this BMP is available from the following:

Drinking Water Health Authority Contacts:

<http://www.health.gov.bc.ca/protect/dw_ha_contacts.html>

Drinking Water Resources and Associations:

<http://www.health.gov.bc.ca/protect/dwresources.html>

etc. (*to follow*)