

# **GROUP B PUBLIC WATER SYSTEM MANAGEMENT GUIDE**



Thurston County Public Health and Social Services Department  
Environmental Health Division  
2000 Lakeridge DR SW, Bldg 1; Olympia, Washington 98502-6045  
(360) 867-2673 FAX (360) 867-2660 TDD (800) 658-6384  
[www.co.thurston.wa.us/health/ehadm](http://www.co.thurston.wa.us/health/ehadm)

## **INTRODUCTION**

Owning and operating a Group B public water system is an important responsibility. The way the water system is managed and maintained is the front-line defense to ensuring that a safe and reliable source of drinking water is provided to your customers. The information in this Group B Public Water System Management Guide is intended to help you understand the roles and responsibilities of managing a water system and to help ensure that the water you provide is safe and reliable water.

Water quality testing is essential in maintaining a safe water system. Group B public water systems are required to test for coliform bacteria once a year and nitrate every three years. Thurston County Environmental Health Division (TCEH) also requires Group B public water systems to maintain an annual permit. The annual permit is issued by TCEH Drinking Water Program. Contact TCEH for the current fee schedule.

TCEH regulates approximately 600 Group B public water systems in Thurston County. The Drinking Water Program ensures that minimum standards are achieved, and provides technical support and regulatory oversight in the operation of water systems. Individual files on each water system are maintained in a comprehensive database, which includes tracking contact information, properties served by the water system, and compliance status.

### **For More Information**

Please contact the Drinking Water Program at the numbers listed below if you have any questions or need additional information. Program staff is also available to conduct a one-on-one site visit of the water system upon request.

General Drinking Water or Permit Questions	360-867-2673
Drinking Water Program Staff	360-867-2629
Thurston County Water Quality Lab	360-867-2631
Drinking Water Program Web Site:	<a href="http://www.co.thurston.wa.us/health/ehadm">www.co.thurston.wa.us/health/ehadm</a>

## **“To Do” List**

---

While completing your *Group B Public Water System Management Guide*, you will probably identify some items that need completing. This “To Do” list is a good place to write down these items. This form has a space for you to identify the appropriate person to complete the task and a target completion date.

#	To Do Item	Person	Target Completion Date
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

## **TABLE OF CONTENTS**

---

SECTION 1	WATER FACILITIES INVENTORY FORM
SECTION 2	EMERGENCY RESPONSE PLAN
SECTION 3	SERVICE AREA AND FACILITY MAP
SECTION 4	WATER QUALITY MONITORING PLAN
SECTION 5	OPERATIONS AND MAINTENANCE PROGRAM
SECTION 6	COMPONENT INVENTORY AND ASSESSMENT
SECTION 7	OPERATING BUDGET
SECTION 8	RECORD KEEPING
SECTION 9	USEFUL REFERENCES & PUBLICATIONS

## **SECTION 1**

# **WATER FACILITIES INVENTORY FORM**

## **SECTION 1: WATER FACILITIES INVENTORY FORM**

---

Purpose: To document current water system information on the Group B Water System Annual Renewal Permit issued by TCEH and Water Facilities Inventory (WFI) Form issued by the State Department of Health, Office of Drinking Water.

### Instructions For Updating WFI Form (form is on next page):

Step 1. Confirm that information on your Group B Water System Annual Permit is current. If the information needs to be updated, make the changes on the form and send the revised permit to TCEH Drinking Water Program. This includes any changes in the owner and/or manager of the water system.

If you don't have a current copy of your annual permit, contact the TCEH Drinking Water Program to obtain a copy.

Step 2. Keep a copy of past and current Group B Water System Annual Permits and WFIs in your water system files to create a record of changes.

## **SECTION 2**

# **EMERGENCY RESPONSE PLAN**

## **SECTION 2: EMERGENCY RESPONSE PLAN**

Purpose: To identify a process for water system personnel to 1) notify system users about an emergency and 2) have accurate information regarding the water system.

Do water system users have current contact information for the water system manager?

Yes\_\_\_ No\_\_\_

How would you contact the users in the event of an emergency or other event?

Phone Call \_\_\_\_\_ Door to Door \_\_\_\_\_  
Letter \_\_\_\_\_ Other \_\_\_\_\_

<b>Emergency Contacts List</b>	<b>Contact Name</b>	<b>Phone #</b>
Water System Owner(s)		
Water System Manager(s)		
Satellite Management Agency		
County Emergency Services		
Pump Service and Repair		
Well Driller		
System Engineer		
Electrician		
Utility Company		
General System Repair		
Water Quality Laboratory	Thurston County Water Quality Lab	360-867-2631
TCEH Drinking Water Program	General Drinking Water Questions	360-867-2673
	Drinking Water Program Staff	360-867-2629
Other:		

Date Completed: \_\_\_\_\_ Completed By: \_\_\_\_\_



Describe your water system's procedures for handling the following emergencies:

1. Power Outage:
2. Well Pump Failure:
3. Break in a water line:
4. Electrical problem:
5. Low pressure events:
6. Unsatisfactory coliform bacteria samples:
7. Treatment system problems:
8. Complaints:

Date Completed: \_\_\_\_\_ Completed By: \_\_\_\_\_

## **SECTION 3**

### **SERVICE AREA AND FACILITY MAP**

## SECTION 3: SERVICE AREA AND FACILITY MAP

---

Purpose: To identify the existing service area and location of critical water system facilities.

Attach a copy of the Service Area and Facility Map if an existing map is available, otherwise use the process described below to create the map.

### Instructions For Creating a Service Area and Facility Map:

Step 1. Obtain a copy of your system map.

- You can use final engineering documents or “as-built drawings” to create a service area and facility map.
- If you do not have a system map prepared by an engineer, you can use a street map. Your local county planning department or assessor’s office may be a source for a detailed area map.

Step 2. Draw in the existing service area. The system’s existing service area is the area where the system already provides service, and additional area where you are approved to provide service with the existing distribution system.

**NOTE:** If a system proposes to extend distribution lines to serve additional connections, that system is considered an “expanding system”. Expanding systems must obtain approval from TCEH Drinking Water Program prior to extending distribution lines.

Step 3. Draw in the location of the facilities listed below. If your system does not have a particular type of facility, such as booster pumps, write in NA (not applicable):

___ Sources (well name, WFI source #)	___ Storage facilities (name and capacities)
___ Treatment facilities with capacities	___ Pressure Zones
___ Hydrant	___ Booster pumps (name and capacities)
___ Service Connections	___ Sampling points
___ Distribution lines (include type of material and diameter of pipe)	
___ Valves (pressure reducing, isolation, air relief, blow off, etc.)	

Step 4. Develop list of service connections (form is on next page).

It is important to know who is connected to your water system. In an emergency you may need to contact the users to inform them of the problem. Include the name, phone number, and site address on the list.

## LIST OF WATER SYSTEM CUSTOMERS

	Site Address	Name	Phone Number
1			Home: Mobile: Work:
2			Home: Mobile: Work:
3			Home: Mobile: Work:
4			Home: Mobile: Work:
5			Home: Mobile: Work:
6			Home: Mobile: Work:
7			Home: Mobile: Work:
8			Home: Mobile: Work:
9			Home: Mobile: Work:
10			Home: Mobile: Work:
11			Home: Mobile: Work:
12			Home: Mobile: Work:
13			Home: Mobile: Work:
14			Home: Mobile: Work:

Date Completed: \_\_\_\_\_ Completed By: \_\_\_\_\_

## **SECTION 4**

# **WATER QUALITY MONITORING PLAN**

## **SECTION 4: WATER QUALITY MONITORING PLAN**

Purpose: Regular water quality monitoring (testing) is an important part of ensuring that a safe water supply is provided to your customers, and is vital to the operation and maintenance of your water system.

### Testing Requirements For Your System:

Coliform Bacteria:	Collect samples annually from the distribution system. Samples should be collected from the distribution system and rotated to ensure that testing is representative of the entire distribution system.
Nitrate:	Collect samples once every three (3) years from the source (well) or as directed by TCEH Drinking Water Program
Chloride:	If directed by the TCEH Drinking Water Program
Conductivity:	If directed by the TCEH Drinking Water Program

### Coliform Bacteria Monitoring Plan:

Primary Sampling Site: \_\_\_\_\_  
Alternate Sampling Site: \_\_\_\_\_  
Alternate Sampling Site: \_\_\_\_\_

### Nitrate Monitoring Plan:

Primary Sampling Site: \_\_\_\_\_  
Alternate Sampling Site: \_\_\_\_\_  
Alternate Sampling Site: \_\_\_\_\_

### General Testing Information:

Who takes water samples: \_\_\_\_\_  
Water Quality Testing Lab: \_\_\_\_\_  
    Phone number: \_\_\_\_\_  
Alternate Testing Lab: \_\_\_\_\_  
    Phone number: \_\_\_\_\_

## WHAT TO DO IF YOU HAVE AN UNSATISFACTORY COLIFORM SAMPLE

1. Collect a repeat sample within 48 hours to confirm sample results.
2. If you have a confirmed unsatisfactory coliform sample, contact TCEH Drinking Water Program within 24 hours with a plan of action or for more instructions.

TCEH Drinking Water Program Contact: \_\_\_\_\_

Phone Number: \_\_\_\_\_

3. Complete a site assessment of the well and pump house.
  - Any obvious problems?
  - Water line breaks or recent construction?
  - Unprotected openings in the wellhead?
  - Vent screen on well or storage reservoir missing or inadequate?
  - Seal on storage reservoir access hatch missing or inadequate?
  - Sampling error or poor sampling site?
4. Fix any problems found.
5. Disinfect and flush system if directed by the TCEH Drinking Water Program.
  - Refer to *Disinfecting Your Well in Five Easy Steps* found on the TCEH drinking water resources web site (see Section 9) OR contact the TCEH Drinking Water Program or a water system specialist for assistance.
  - Take a repeat sample after the chlorine has been completely flushed from the system (typically one week after disinfection).

**NOTE:** Always notify users prior to disinfection.

6. Notify users served by the water system when you have a confirmed unsatisfactory coliform bacteria sample.

Acute MCL violation: - public notification is required within 24 hours if E. coli or Fecal Coliform bacteria is confirmed in the sample, defined as an Acute Maximum Contaminate Level (MCL) violation. Due to the public health risk, a boil water advisory will typically be issued in response to an Acute MCL violation.

Non-acute MCL violation - public notification is required no later than 30 days after an unsatisfactory sample if only Total Coliform bacteria is confirmed in the sample, defined as a Non-Acute Maximum Contaminate Level (MCL) violation.

Example public notification forms can be found at the end of this section.

# Drinking Water Warning

## Coliform Maximum Contaminant Level (MCL) Exceeded: Acute MCL

The \_\_\_\_\_ Group B public water system, PWSID \_\_\_\_\_, in Thurston County is contaminated with Fecal Coliform / *E. Coli* bacteria. Fecal Coliform / *E. Coli* bacteria were confirmed in the water supply on \_\_\_\_\_. These bacteria can make you sick and are a particular concern for people with weakened immune systems.

**DO NOT DRINK THE WATER WITHOUT BOILING IT FIRST.** Bring all water to a rolling boil for one minute. Let it cool before using. Boiling kills bacteria and other organisms in the water. Boiled or purchased bottled water should be used for drinking, making ice, brushing teeth, washing dishes, and food preparation ***until further notice***.

*Fecal Coliform and E. Coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems. The symptoms are not caused only by organisms in drinking water. If you experience any of these symptoms and they persist, you may want to seek medical advice. People at increased risk should seek advice about drinking water from their health care provider.*

**What happened? What is the suspected or known source of contamination?**

**The following is being done to correct the problem:**

We have consulted with the Thurston County Public Health Environmental Health Division about this incident. We will notify you when you no longer need to boil the water. We anticipate resolving the problem by \_\_\_\_\_.

For more information, contact \_\_\_\_\_ at \_\_\_\_\_  
(Owner or operator) (Phone number)

Or at \_\_\_\_\_  
(Address)

Please share this notice with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice was sent to you by \_\_\_\_\_ on \_\_\_\_\_  
(Date)

**Questions?** General information about this incident is also available from the Thurston County Public Health Environmental Health Division at (360) 867-2629.



## PUBLIC NOTICE CERTIFICATION

### COLIFORM MAXIMUM CONTAMINANT LEVEL (MCL) EXCEEDED: ACUTE MCL

***Within 10 days of notifying your customers***, you must send a copy of each type of notice you distribute (such as hand-delivered notices, press releases, or newspaper articles) to Thurston County Public Health Environmental Health Division (TCEH) at the address listed below, which certifies that you have met all the public notification requirements. You must also complete and send or FAX a copy of this form. If the boil water advisory remains in effect more than three months, you must notify your customers again and provide another ***Public Notice Certification Coliform Maximum Contaminant Level (MCL) Exceeded: Acute MCL*** to TCEH. *With this certification, you are also stating that you will notify any future customers of the violation or situation.*

Water System: \_\_\_\_\_ PWSID # \_\_\_\_\_ County: \_\_\_\_\_

Violation Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Violation Type: \_\_\_\_\_

**This public water system certifies that public notice has been given to your customers, following state requirements for delivery, content, and deadlines.**

Complete the following items:

**Yes      No**

- ☐      ☐ Distribution was completed on \_\_\_\_ / \_\_\_\_ / \_\_\_\_\_. Check all that apply:
- ☐ Hand delivery
  - ☐ Press release (TV, radio, newspaper, etc.)
  - ☐ Posting at \_\_\_\_\_ (by TCEH approval only)
  - ☐ Other \_\_\_\_\_ (by TCEH approval only)

- ☐      ☐ Were the customers notified within 24 hours of a confirmed Acute MCL?

\_\_\_\_\_  
Signature of owner or operator

\_\_\_\_\_  
Position

\_\_\_\_\_  
Date



**Thurston County Public Health and Social Services Department**  
**Environmental Health Division**  
 2000 Lakeridge DR SW, Bldg 1; Olympia, Washington 98502-6045  
 (360) 867-2673 FAX (360) 867-2660 TDD (800) 658-6384  
[www.co.thurston.wa.us/health/ehadm](http://www.co.thurston.wa.us/health/ehadm)

# Important Notice About Your Water System

## Coliform Maximum Contaminant Level (MCL) Exceeded: Non-Acute MCL

The \_\_\_\_\_ Group B public water system, PWSID \_\_\_\_\_, in Thurston County routinely monitors for the presence of Total Coliform bacteria and on \_\_\_\_\_ this type of bacteria was detected. Although this incident was not an emergency, as our customer, you have a right to know what happened and what we did or are doing to correct the situation.

*Coliform are bacteria which are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliform bacteria were found in the samples and this is considered a warning of potential problems.* The samples that showed the presence of Coliform bacteria was further tested to see if other bacteria of greater concern, such as Fecal Coliform or *E. Coli* were present. **None of these bacteria were found.**

You do not need to boil your water. People with severely compromised immune systems, infants, and some elderly may at be an increased risk and may want to contact their health care provider for additional guidance.

**What happened? What is the suspected or known source of contamination?**

**At this time:**

☐ The problem is resolved. Additional samples were found free of Coliform and Fecal/E. Coli bacteria.

☐ We anticipate resolving the problem by \_\_\_\_/\_\_\_\_/\_\_\_\_.

☐ Other: \_\_\_\_\_  
\_\_\_\_\_

For more information, contact \_\_\_\_\_ at \_\_\_\_\_  
(Owner or operator) (Phone number)

Or at \_\_\_\_\_  
(Address)

Please share this notice with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice was sent to you by \_\_\_\_\_ on \_\_\_\_\_  
(Date)

**Questions?** General information about this incident is also available from the Thurston County Public Health Environmental Health Division at (360) 867-2629.

## Public Notice Certification

### Coliform Maximum Contaminant Level (MCL) Exceeded: Non-Acute MCL

**Within 10 days of notifying your customers**, complete and send or FAX a copy of this form along with a copy of each type of notice you distribute (such as hand-delivered notices, press releases, or newspaper articles) to Thurston County Public Health Environmental Health Division (TCEH) at the address listed below, which certifies that you have met all the public notification requirements for a confirmed Non-Acute MCL water quality sample. If the advisory remains in effect more than three months, you must notify your customers again and provide another **Public Notice Certification Coliform Maximum Contaminant Level (MCL) Exceeded: Non-Acute MCL** to TCEH. *With this certification, you are also stating that you will notify any future customers of the violation or situation.*

Water System: \_\_\_\_\_ PWSID # \_\_\_\_\_ County: \_\_\_\_\_

Violation Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Violation Type: \_\_\_\_\_

**This public water system certifies that public notice has been given to your customers, following state requirements for delivery, content, and deadlines.**

Complete the following items:

**Yes      No**

- ☐      ☐ Distribution was completed on \_\_\_\_ / \_\_\_\_ / \_\_\_\_\_. Check all that apply:
- ☐ Hand delivery
  - ☐ Press release (TV, radio, newspaper, etc.)
  - ☐ Posting at \_\_\_\_\_ (by TCEH approval only)
  - ☐ Other \_\_\_\_\_ (by TCEH approval only)
- ☐      ☐ Were the customers notified within thirty (30) days of a confirmed Non-Acute MCL?

\_\_\_\_\_  
Owner or operator

\_\_\_\_\_  
Position

\_\_\_\_\_  
Date



**Thurston County Public Health and Social Services Department**  
**Environmental Health Division**  
 2000 Lakeridge DR SW, Bldg 1; Olympia, Washington 98502-6045  
 (360) 867-2673 FAX (360) 867-2660 TDD (800) 658-6384  
[www.co.thurston.wa.us/health/ehadm](http://www.co.thurston.wa.us/health/ehadm)

## **SECTION 5**

# **OPERATIONS AND MAINTENANCE PROGRAM**

## SECTION 5: OPERATIONS AND MAINTENANCE PROGRAM

Purpose: To identify maintenance duties to operate and maintain the system in a safe and reliable manner.

Briefly describe how your system operates, including direction of flow (from source to distribution), how the controls function, storage, and treatment if any:

---

---

---

It is important to perform routine and preventative maintenance on your water system. Below is a list of some common maintenance items that should be done to keep your water system in good working order.

<b>Well house</b>	
<i>Daily</i>  <i>If Treatment:</i>	Check Overall Function
	Check Sound of Motors
	Inspect Treatment Equipment
	Monitor Treatment Chemical(s)
<i>Monthly</i>	Read Source Meter
	Check Pressure Gauge
<i>Quarterly</i>	Check Well Pump Cycling Frequency
	Check Pressure Tank(s) (charge with air if needed)
	Check Booster Pump(s), if any
<i>Yearly</i>	Measure Water Level in the Well
	Check Source Meter (perform maintenance if needed)
<b>Storage tank</b>	
<i>Monthly</i>	Check Tank Level
	Conduct Site Inspection and Security Check
<i>Quarterly</i>	Inspect Reservoir Vents, Hatches and Overflows
<i>Yearly</i>	Test Low Water Level Alarms
<i>Every 3-5 Years</i>	Clean Reservoir
<b>Distribution system</b>	
<i>As needed</i>	Flush Lines
	Repair Leaks
<i>Yearly</i>	Flush Dead End Mains
	Test Run Emergency Generator
	Exercise Valves and Fire Hydrants
	Check Service Meters (perform maintenance if needed)
<b>Additional Maintenance</b>	

Attach a list of supplies you periodically order and service repair companies you contract with. Include the name and phone number of the person to contact for the supplies or work.

## **SECTION 6**

# **COMPONENT INVENTORY AND ASSESSMENT**

## **SECTION 6: COMPONENT INVENTORY AND ASSESSMENT**

Purpose: To track the status of system components and timing for future improvements.

The following is an example of a Component Inventory and Assessment form you can use to help you determine the component life expectancy, estimated replacement cost, and timing for future replacements for your water system. This information can then be used to help develop an operating budget.

Instructions For Component Inventory and Assessment Form (form is on next page):

**Column 1 System Component** – Take an inventory of the system’s components.

**Column 2 Size or Capacity** – Select the components physical size or capacity.

**Column 3 Estimated Cost** – Note estimated replacement cost for each component.

**Column 4 Life Expectancy** – Note expected life expectancy in years.

**Column 5 Age (years)** - Enter the age for your system’s component (system records).

**Column 6 Replace in Next 6 Years?** - Determine if any system component will have to be replaced in the next 6 (six) years. If yes, write down, in the space provided, the year you think you will make the improvement.

**NOTE:** The estimated cost figures provided are only meant to give you a general idea of the component’s cost and should be used for planning purposes only. You should adjust for future costs when developing your water system budget. This is especially important for components that will have to be replaced in the next few years. The actual cost to do the work may vary greatly from the estimated costs provided.

### **Additional Resources**

Below is a list of additional resources available to help you develop a component inventory and assessment of your water system:

- Water system specialists, such as consulting engineers
- Water system suppliers
- Licensed well drillers
- Web resources (see Section 9 of this guide for a list of web resources)

## Component Inventory and Assessment Form

Column 1 System Component	Column 2 Size or Capacity	Column 3 Estimated Cost	Column 4 Life Expectancy	Column 5 Age (Years)	Replace In Next 6 Years?
Well (drilling, casing, sealing, screen)	6 inch	\$50/foot	30 years		
	8 inch	\$80/foot			
Well Pump (hp = horse power)	1.0 hp	\$1,200	15 years		
	2.0 hp	\$1,500			
	3.0 hp	\$1,950			
	5.0 hp	\$2,600			
Source Meter	1 inch	\$400	25 years		
	2 inch	\$450			
	3 inch	\$850			
Storage	Polyethylene	\$3.00/gallon	50 years		
	Concrete	\$3.50/gallon			
	Steel	\$4.00/gallon			
Pressure Tanks	Small (<150 gal)	\$4.00/gallon	15 years		
	Large (>150 gal)	\$6.00/gallon			
Booster Pumps	0.5 hp	\$ 400	10 years		
	1.0 hp	\$ 500			
	3.0 hp	\$ 650			
	5.0 hp	\$1,250			
Distribution Pipe Repairs (does not include asphalt repair or fire hydrants)  (If = lineal foot)	2 inch	\$10/lf	20 years		
	4 inch	\$24/lf			
	6 inch	\$33/lf			
Per 2009 costs, asphalt repairs run \$250 to \$450 a ton (includes installation). It takes approximately 3,800 pounds of asphalt to equal one cubic yard.					
Backflow Preventer (installed)	¾ inch	\$200	20 years		
	1 inch	\$250			
Control Components (includes electrical service, breaker panels, etc.)	\$2,500 then	\$ 5,000 now	7 years		
	\$5,000 then	\$10,000 now			
Disinfection Treatment (tank and pump w/o building)  (gpd = gallons per day)	15 gpd	\$ 950	20 years		
	20 gpd	\$1,000			



## **SECTION 7**

### **OPERATING BUDGET**

## SECTION 7: OPERATING BUDGET

---

**Purpose:** To develop a six (6) year operating budget, to be recalibrated annually, that includes financial information about your system's projected revenues, expenses, and capital financing.

**Financial Viability:** All systems must demonstrate that they are and will continue to be financially viable. Financial viability is defined as the ability to obtain sufficient funds to develop, construct, operate, maintain and manage a public water system. A water system should make sure that the revenue it generates meets or exceeds the expense it incurs.

To monitor revenues and expenses, a system should develop and use an operating budget. If the water system budget is combined within a larger budget such as a homeowner's association, the budget should be completed by splitting or proportioning out operating revenues and expenses that apply to the water system alone.

### Instructions For Completing The Operating Budget Form (form on next page):

Step 1. Develop a system budget by filling in the information for each line on the form.

Step 2. Update your budget annually with new information.

Step 3. Set a water rate that meets or exceeds expenses and builds adequate reserves for future capital improvements. In other words, if **Line G** (Budget Surplus) is not a negative number then water rates established in **Line A** (Operating Revenues) are adequate to meet expenses and build reserves for future capital improvements. If **Line G** is negative, you will need to adjust your water rate and recalibrate the budget.

**NOTE:** When setting your water rates, it is recommended you contact the Washington State Utilities and Transportation Commission (UTC) to be sure the rates do not exceed regulated limits.

### **Additional Resources**

Below is a list of additional resources available to help you develop an operating budget for your water system:

Financial Viability for Small Water Systems:  
<http://www.doh.wa.gov/ehp/dw/Publications/331-405.pdf>

Final Rate Setting Guide  
[http://www.epa.gov/ow/infastructure/pdf/final\\_ratesetting\\_guide.pdf](http://www.epa.gov/ow/infastructure/pdf/final_ratesetting_guide.pdf)

Taking Stock of Your Water System  
[http://www.epa.gov/ogwdw/smallsystems/pdfs/final\\_asset\\_inventory\\_for\\_small\\_systems.pdf](http://www.epa.gov/ogwdw/smallsystems/pdfs/final_asset_inventory_for_small_systems.pdf)

## WATER SYSTEM SIX (6) YEAR OPERATING BUDGET

Year	1	2	3	4	5	6
<b>A. Operating Revenues</b>						
Water rates						
Fees and services						
Other revenue						
Total Line A						
<b>B. Operating Expenses</b>						
General Maintenance						
Equipment (repair, maintenance, etc.)						
Monitoring (chemicals, sampling, pumps)						
Electricity						
Professional Services						
Annual Permit Fee						
Other operating expenses						
Total Line B						
<b>C. Taxes</b> (property, B & O, other)						
<b>D. Debt Payments</b>						
<b>E. Miscellaneous</b>						
Training						
Other						
Total Line E						
<b>F. Reserve Account</b>						
Operating reserve						
Emergency replacement reserve						
Other						
Total Line F						
<b>G. Budget Surplus</b> (A - (B+C+D+E+F))						
<b>H. Capital Improvement Costs</b>						
<b>I. Financing Source</b>						
Reserves						
User Surcharge						
Loans						
Grants						
Total Line I						

Revise budget if **Line G** is negative or if **Line H** is greater than **Line I**.

Date Completed: \_\_\_\_\_ Completed By: \_\_\_\_\_

## LIST OF SYSTEM IMPROVEMENTS

Fill in the chart below for the projects you identified in your component inventory and assessment form (see Section 6 of this guide). These costs can then be used to help determine your capital improvement costs (Line H of the operating budget form) will be over the next six year operating period.

Item	Year	Cost	Financing Method (loans, grants, existing reserves, pay as you go)

Date Completed: \_\_\_\_\_ Completed By: \_\_\_\_\_

## **SECTION 8**

### **RECORD KEEPING**

## SECTION 8: RECORD KEEPING

---

Purpose: To document important water system records.

It is important to keep records on your water system. The following is a list of important documents that should be filed in your permanent water system records. Check those documents listed below that you have in your water system records.

Type of Record	In Records	Length of Time
<b>Water Quality Records:</b> Results of water quality tests, which include coliform bacteria, nitrate, and other analysis.	Yes No NA	Bacteria – 5 Years Other – Life of System
<b>Design and Engineering Information:</b> Includes construction plans and schematics, size, type, and location of the water lines and service connections, location of well and pump house, and approval letters.	Yes No NA	Life of System
<b>Operations and Maintenance Records:</b> Includes any repairs, treatment performance (chlorine and iron/manganese levels), types and quantity of chemicals used, and backflow prevention assembly testing.	Yes No NA	5 Years
<b>Water Well Report:</b> A well log that is created by well drilling company.	Yes No NA	Life of System
<b>Well Covenants:</b> Declaration and Restrictive Covenants for the protective radius around the well.	Yes No NA	Life of System
<b>Water Line Easements:</b> An easement that allows the water system to access, service, and repair water lines that run through other properties.	Yes No NA	Life of System
<b>Water User Agreement:</b> Agreement for community owned systems that explains the responsibilities of users on the system, including costs to operate and maintain the system.	Yes No NA	Life of System
<b>Water Rights:</b> Documentation obtained from Department of Ecology that defines water withdrawal limits for the supply, usually in acre/ft per year.	Yes No NA	Life of System
<b>Communication Records:</b> Copies of any reports or communications relating to local health jurisdiction or state agency inspections or customer complaints.	Yes No NA	10 Years

## **SECTION 9**

### **USEFUL REFERENCES & PUBLICATIONS**



**Thurston County Public Health and Social Services Department  
Environmental Health Division**

General Drinking Water or Permit Questions

(360) 867-2673

Water Quality Lab

(360) 867-2631

TDD: (800) 658-6384

[www.co.thurston.wa.us/health/ehadm](http://www.co.thurston.wa.us/health/ehadm)

## **DRINKING WATER WEB RESOURCES**

Thurston County Public Health & Social  
Services, Environmental Health Drinking  
Water Program

[www.co.thurston.wa.us/health/ehadm](http://www.co.thurston.wa.us/health/ehadm)

Washington State Department of Health  
Office of Drinking Water (DOH ODW)

[www.doh.wa.gov/CommunityandEnvironment/DrinkingWater](http://www.doh.wa.gov/CommunityandEnvironment/DrinkingWater)

US Environmental Protection Agency  
(EPA), Small Water Systems & Capacity  
Development

[www.epa.gov/safewater/smallsystems](http://www.epa.gov/safewater/smallsystems)

Evergreen Rural Water of Washington  
(ERWoW)

[www.erwow.org](http://www.erwow.org)

Rural Community Assistance Corporation  
(RCAC)

[www.rcac.org/pages/106](http://www.rcac.org/pages/106)

WellOwner.Org

[www.watersystemscouncil.org/well-owners](http://www.watersystemscouncil.org/well-owners)

SmallWaterSupply.Org

[www.smallwatersupply.org](http://www.smallwatersupply.org)



## USEFUL PUBLICATIONS

The publications listed below are available for download from the Department of Health, Office of Drinking Water's web site. Select Publications and search by the publication number listed below to find the one you wish to download at:

[www.doh.wa.gov/CommunityandEnvironment/DrinkingWater/PublicationsandForms](http://www.doh.wa.gov/CommunityandEnvironment/DrinkingWater/PublicationsandForms)

PUBLICATION TYPE	NAME	NUMBER
<b>TECHNICAL</b>	Top Ten Reasons for Health Advisories	331-348
	Sanitary Control Area Protection	331-453
	Pump House Piping	331-406
	Pump Controls	331-401
	Chlorination Controls	331-398
	Measuring Free Chlorine Residual	331-442
	Source Water Taps	331-436
	Responding to Pressure Loss Events	331-338
	Troubleshooting Bladder Pressure Tanks	331-342
	Pressure Relief Valves on Pressure Tanks	331-429
	Hydro pneumatic Tanks	331-380
	Simple Fixes for Wellhead Openings	331-232
	Sanitary Protection of Reservoirs: Hatches	331-249
	Sanitary Protection of Reservoirs: Vents	331-250
	Preventative Maintenance Program Guide for Small Public Water Systems	331-351
	Stop Water Waste	331-450
	Flood Advice for Drinking Water Systems	331-300
<b>WATER QUALITY</b>	Coliform Bacteria and Drinking Water	331-181
	Coliform Sampling Procedures	331-225
	Correct Completion of a Coliform Sampling Slip	331-247
	Troubleshooting Checklist for Coliform Contamination	331-180
	Disinfecting Your Well in 5 Easy Steps (see TCEH drinking water web resources)	
	Emergency Disinfection of Small Water Systems	331-241
	Emergency Drinking Water Sources	331-317
	Emergency Water Supply Guidelines for Food Service Establishments	331-182
	Nitrate in Drinking Water	331-214
	Nitrate Sampling Procedure	331-222
<b>FINANCIAL</b>	Water Rates: Paying for Drinking Water	331-327
	Financial Viability for Small Water Systems	331-405
	Taking Stock of Your Water System: A simple asset inventory (Link to this EPA Guide can be found on DOH's Publication Page)	
<b>MANAGERIAL</b>	Owning and Managing A Drinking Water System	331-084
	Water System Capacity	331-283