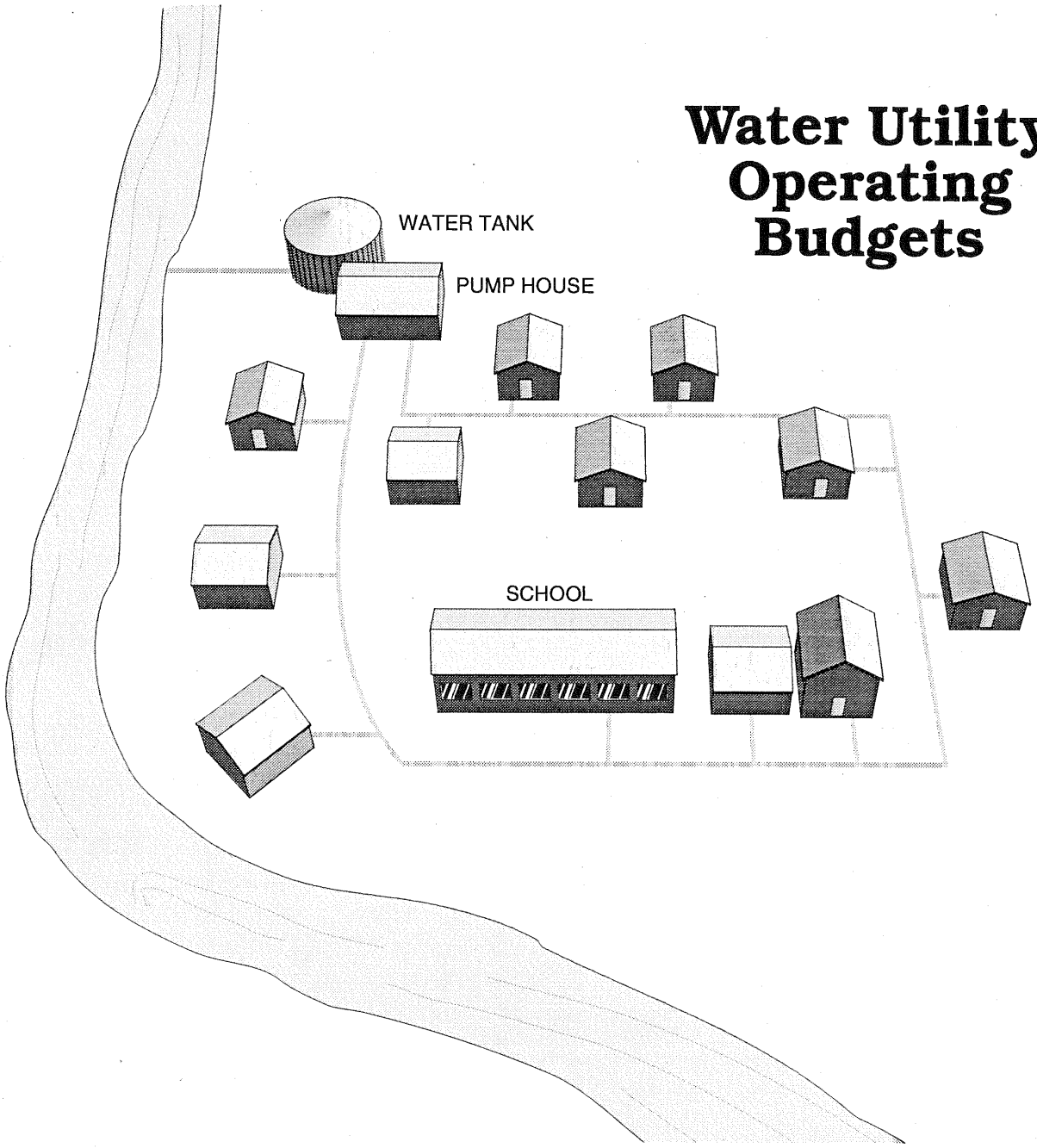
O & M of Small Water Systems



Water Utility Operating Budgets

Alaska Department of Environmental Conservation
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O & M of Small Water Systems

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WATER UTILITY OPERATING BUDGET

WHAT IS IN THIS MODULE?

1. Typical functions of small remote cities.
2. Types of funds used to budget and account for local government functions.
3. Purposes of different types of budgets.
4. Forecasting water use.
5. Estimating water utility revenues.
6. How to estimate water utility production costs.
7. How to estimate water utility distribution costs.
8. How to estimate water utility customer costs.
9. What the administrative function spends.
10. What depreciation means.
11. The uses of net income.
12. Why we must set aside funds for future replacement or overhaul.

KEY WORDS

- Budget
- Capital Project
- Contract Services
- Debt Service
- Employee Benefits
- Fiscal Year
- Fund
- Proprietary
- Payroll Taxes

MATH CONCEPTS DISCUSSED

- Does not apply

SCIENCE CONCEPTS DISCUSSED

- Does not apply

SAFETY CONSIDERATIONS

- Does not apply

MECHANICAL EQUIPMENT DISCUSSED

- Does not apply

PREPARING THE OPERATING BUDGET

INTRODUCTION

PREFACE

This module outlines the utility budgeting process and shows how to prepare budget worksheets specific to the operation and maintenance of a municipal water utility. Once completed, these worksheets are used to guide the daily operation of the utility. They can also be used by the city administration to prepare the city budget for council review and adoption. The budget worksheets and adopted city budget have several uses.

Authority to Spend Funds

When the Council adopts the budget by ordinance, it authorizes the city administration to make expenditures up to the maximum amounts set (appropriated) within each budget category during the next **Fiscal Year**[1].

Planning Tools

The utility manager uses the budget worksheets to plan routine work and special projects to be performed and then to determine their associated costs. The overall city budget becomes the council's primary financial planning tool by matching the amount and sources of revenue to the expenditures for city services.

Control Tool

A budget is a tool for the city administration and the utility manager to monitor the ongoing expenditures against the amounts budgeted, and to take corrective action when necessary to keep within the budget.

Rate Review Tool

A budget that groups the costs of providing water service along with the income from sales of water allows the city council and administration to determine how much of the total cost of providing water service must be covered by an explicit subsidy from the city General Fund.

FOCUS OF THIS MODULE

This module introduces you to the traditional categories within which we can group the various functions that small cities provide. These categories are then related to the way cities typically budget and track the revenues and expenditures for each of these functions.

This module next introduces the budgeting process.

Next, we look at various budget worksheets which together form a working budget. The working budget includes details that are not necessary or typically

[1] **Fiscal Year** - A specific twelve month period for which the city prepares a budget and after which prepares a report. Not to be confused with the January through December calendar year.

included in the formal city budget. These details are useful in long term planning as well as in managing the day to day operations of the water utility.

WHAT FUNCTIONS DO LOCAL GOVERNMENTS PROVIDE?

GENERAL GOVERNMENT FUNCTIONS

CHARACTERISTICS OF GENERAL GOVERNMENT FUNCTIONS

- Many general government functions arise out of the police power granted to local jurisdiction, including the power to regulate. Planning, zoning, and nuisance ordinances are examples of the exercise of regulatory powers.
- General government functions are mostly financed by taxes and state shared revenues. User fees provide only incidental revenue.
- Planning and recording functions aside, it would be cumbersome, imprecise and expensive to measure and collect for the use of these general government services on a fee for use basis.
- The community as a whole may benefit from increased use of the facilities and services provided by general government functions, such as, parks, libraries, fire inspections or preventive health care.
- These services are typically labor intensive; the cost of acquiring and maintaining the equipment necessary to perform these services is substantially less than the cost of labor to provide these services.
- Because of these characteristics, general government functions are typically not provided by the private sector.

TYPICAL GENERAL GOVERNMENT FUNCTIONS

- **City Council.**
- **Administration and Finance.**
- **Public Safety** including police, fire and emergency medical services.
- **Community Development** including planning, zoning and economic development.
- **Public Works** including streets, snow removal and storm drainage.
- **Community Services** including health clinics, and parks and recreation.
- **Small scale fee-for-use services**, e.g. washeterias or fuel sales, that either do not generate large cash flows or do not involve extensive physical assets.

PROPRIETARY FUNCTIONS

CHARACTERISTICS OF PROPRIETARY FUNCTIONS

There are several features which distinguish proprietary functions from the general activities of government.

Substantial Investment in Physical Plant

These functions typically require a substantial investment in physical assets including land, buildings, other structures (reservoirs, pipelines, docks) and equipment. The proportionate cost of operation, maintenance and depreciation of fixed assets is typically much higher for proprietary functions than for general government functions like planning or police.

Funded Through User Charges

The operating costs, if not the full cost, of providing proprietary functions are recovered through user charges, partly because it is relatively easy to measure the use and partly because the services or goods are so expensive to produce or obtain that we want to limit use as well as minimize waste. Ideally the full cost of the proprietary service is recovered through user charges.

Provided in the Absence of Private Suppliers

Proprietary goods and services are typically provided by local government in the absence of private suppliers. Historically small, rural communities provided proprietary services because the communities were too remote and too small to make the construction and/or operation of facilities profitable for a private sector operator.

EXAMPLES OF PROPRIETARY FUNCTIONS

- **City shop and fleet** used by all city departments.
- **Meeting and office space** and equipment used by all departments and the general public on a fee for use basis.
- **Power and Communication Utilities**, including electric power generation and distribution, steam, cable television and telephone.
- **Municipal Environmental Services**, including water, sewer, and solid waste collection and disposal.
- **Transportation and Economic Development Enterprises**, including airports, ports, marinas, and industrial development sites.

CURRENT TRENDS

Many small cities are giving up their proprietary functions when they can find private providers to replace these functions Several approaches are typical in the West.

Merger

As small communities grow together in suburban areas, their utilities are either absorbed by metropolitan (borough) authorities or by private providers. In a merger, the city gives up responsibility for and regulatory authority over the proprietary activity.

Franchise

Proprietary functions such as solid waste collection, solid waste disposal and medical emergency services are turned over to private providers, subject to the regulatory oversight of the city. The private provider contracts directly with the consumer and is responsible for financing and acquiring the plant and equipment necessary to provide the service as well as for directly providing the service.

Contract Management
Contract Operations

Cities sometimes contract with private firms or other public agencies to either manage or fully operate a particular utility or part of a utility. Complex operations such as water and sewer treatment plant operations are good candidates for either contract management or contract operations. Under management contracts, the plant operators remain employees of the city. Under a contract for full operations, the contractor hires its own employees.

In both types, the ownership and construction of municipal facilities is usually retained by cities, because the public sector can finance construction through grants and low interest loans or municipal bonds, and because long term control of the facility remains with the city.

Contract Out for the Service

In addition to privatizing the delivery of services to its citizens, a city may contract for internal services that cities have traditionally provided for themselves. Candidates include the maintenance of municipal vehicles. Smaller cities may find that contracting with a local dealership or a larger unit of local government, is less costly than upgrading its shop and yard to meet environmental standards.

HOW ARE LOCAL GOVERNMENT FUNCTIONS BUDGETED AND TRACKED?

Governments organize their budgeting and accounting activities around funds. A **fund**[2] is a budgeting and accounting entity used to associate revenues with the expenditures, obligations and assets related to carrying out each specific function of government. There are two families of fund types that impact utility managers: governmental type funds and proprietary type funds.

[2] **Fund** - An accounting entity used to budget, account and report the revenues and expenditures of distinct government activities to control the expenditure of resources and comply with legal and budgetary requirements.

GOVERNMENTAL FUND TYPES

Governmental type funds are used to budget and account for those revenues and expenditures associated with providing the general functions of government. The focus of budgeting and accounting these types of funds is on providing current services out of current revenues. If these revenues are unrestricted in their use, we account for them in the General Fund. If the revenues are restricted in their use, we typically account for them in a Special Revenue type fund. Under specific conditions we may account for restricted revenues received and expenditures made within a **Capital Projects**[3] type fund or a **Debt Service**[4] type fund.

GENERAL FUND

This is the all purpose fund used to account for all financial transactions not properly accounted for in another fund. Revenues sources in this fund include taxes, fees, state shared revenues and municipal assistance. The General Fund accounts for the total costs of performing state and city charter mandated legislative activities, including holding Council meetings and recording the proceedings, developing legislation, conducting elections and preserving records. The General Fund also accounts for general finance and administrative activities, including community and intergovernmental relations, risk and personnel management and office management. Typically, the expenditures for the following functions are budgeted and tracked through this fund:

- Public Safety, including police, fire and emergency medical services.
- Community Development, including planning, zoning and economic development.
- Public Works, including streets and storm drainage.
- Community Services, including health clinics and parks and recreation.

SPECIAL REVENUE FUND TYPE

This fund type is used to budget and account for the proceeds of specific revenue sources (other than special assessments) or to finance specified activities as required by law or administrative regulation. Any state shared revenues that might come from a dedicated state fund, as well as resources from grant agreements, must be segregated into separate funds and spent only as authorized by local ordinance, grant agreement and, when applicable, state and federal rules. Here are some examples of Special Revenue

[3] **Capital Project** - Construction, purchase or major rehabilitation/renewal of a physical facility or structure.
[4] **Debt Service** - The total of interest and principal required to retire a debt such as a bond. Also, the current year portion of the total interest and of the total principal.

Type Funds that you might find in a small full service city.

Grant Funds

Purpose: To account for the receipt and disbursement of revenues provided by federal, state or non-profit agencies to provide specific services, such as constructing or rehabilitating community improvements like a water system.

Renewal and Replacement Reserve Funds

Purpose: To account for the accumulation of funds from one fiscal year to the following year for the non-operating purpose for which the fund was established. The fund must be established by council ordinance or resolution; the fund cannot be used to accumulate money to reduce future operating expenditures. The annual set aside to these funds can bring the community some measure of financial independence.

Sources: Typically transfers.

Expenditures: Limited to those items which fall under the purpose for which the fund was created. Expenditures must be made directly from Reserve Fund and can only be made if appropriated.

Life: Money may be added annually over a ten-year maximum. The City must spend or obligate the funds within twelve years of establishing the fund.

Dissolution: After twelve years, the balance must be transferred to the General Fund.

Special Assessment Fund

Purpose: To account for the collection of special assessments levied to finance public services or improvements to benefit properties against which the assessments are levied.

DEBT SERVICE FUND TYPE

Purpose: To account for the revenue received for and the payment of principal and interest on long term debt other than special assessment, enterprise revenue bonds or GO Bonds repaid from an enterprise fund.

CAPITAL PROJECTS FUND TYPE

Purpose: To account for the receipt and disbursement of moneys used for the acquisition of capital facilities financed by GO Bond proceeds, but not by special assessments, enterprise revenues or revenue bond proceeds.

Sources: GO Bonds, Grants, Transfers.

Expenditures: For capital facilities which are non recurring (non-operating), major (capital) items.

Life: Closed when project finished.

Dissolution: If any bonds issued to finance project, any remaining funds are transferred to debt service fund for retiring principle and paying interest.

PROPRIETARY[5] FUND TYPES

The focus of proprietary funds is to accumulate the total cost of providing a product or service to the public, including the depreciation of physical assets used up over time (equipment and buildings) and the interest expense necessary to fund the acquisition or rehabilitation of these assets.

INTERNAL SERVICE FUND TYPE

Purpose: To account for the financing of special activities and services performed by a designated organization unit within a governmental jurisdiction for other organization units within the same governmental jurisdiction or to external units of government on a reimbursement basis.

Characteristics: Accrual basis; focus is on maintaining capital, hence maintains zero profit.

Examples:

- City shop and vehicles used by all city departments.
- Assembly rooms and office space and equipment used by all departments and the general public on a fee for use basis.

ENTERPRISE FUND TYPE

Purpose: To account for the financing of services to the general public where all or most of the costs of providing services is recovered primarily through user charges OR when the measurement of net income is an appropriate focus.

Characteristics: Accrual basis; includes allowances for uncollectable receivables. Focus is on accumulating the total costs of providing a specific service, including: depreciation, payments to host government in lieu of franchise fees, rent, management fees and payments to other governments in lieu of taxes. Other funds are properly charged for services rendered. All interfund transfers accounted and priced as if transacted with vendors outside the city.

Typical Examples:

- Electric Utility.
- Other Power and Communication Utilities including

[5] **Proprietary** - Government services that could be delivered by private enterprise; accounting for these services resembles business accounting.

steam generation and distribution, cable television and telephone.

- Municipal Environmental Utilities including water, sewer, storm drainage and solid waste collection.
- Transportation and Economic Development Enterprises including airports, ports, marinas and industrial development sites.

TYPES OF BUDGETS

There are several kinds of budgets typically used by utility managers: capital budgets, operating budgets and combination operating and capital budgets.

CAPITAL BUDGETS

Capital budgets (sometimes called capital expenditure budgets) list the requirements for new construction, extensions to the distribution system, major rehabilitation of system components and equipment replacement. These requirements are funded through a combination of grants, loans, proceeds from the sale of bonds, connection charges for new service connections and cash surpluses from prior year operations that was set aside in a separate reserve fund or reserve account.

OPERATING BUDGETS

The operating budget consists of both a forecast of income from sales of water and fees for service and an estimate of expenses to operate, maintain and manage the water utility during the budget period, which is usually a fiscal year. The total of all expenses must be balanced against the total of all income.

COMBINATION BUDGETS

All-in-One Variation

Small and relatively simple utilities sometimes use a budget format that combines non-operating income and capital outlays (expenditures) with operating income and operating expenses. This type of budget can be confusing if all budget resources (cash on hand, operating income, non-operating income) and all budget requirements (operating costs and expenses and capital expenditures) are lumped together. This format also obscures the relationship between current operating income and current operating expenses.

Two-Phase Variation

There is a more accurate two-phase variation of this type of budget.

In Phase 1, budget estimates include:

- Recurring operating income and non-operating income, such as interest and rental income.
- The total of operations and maintenance costs, administrative expenses, depreciation expense and

interest expense.

- Cash from net income (sometimes called "net operating surplus") that is needed to pay the principal on debt, fund the replacement reserve and perhaps increase the size of inventory.

Phase 2 adds the cash available from Phase 1 to any loans, proceeds from the sale of bonds, connection charges for new service connections and retained cash available in reserve fund that are available to finance any extensions to the distribution system, major rehabilitation of system components and equipment replacement.

This rest of this module will focus on how to develop Phase 1 of a combination budget.

OPERATING BUDGET FORMATS

CASH NEEDS BUDGET FORMAT

The Cash Needs format shows the amount of cash the utility plans to pay out and the amount of cash it expects to have on hand at the beginning of the budget period plus the cash it excepts to receive during the same period. **Budgets**[6] for small cities are typically prepared in this format. The strength of this format is its requirement that total cash on hand plus cash receipts must be sufficient to pay for all estimated expenditures. The weakness of this format is that it does not identify the full cost of providing water service and therefore cannot provide a comparison between income and all costs and expenses necessary to produce that income.

BUDGET RESOURCES

Cash on hand at beginning of budget period

Operating Income

Cash receipts from customer accounts

Non-operating Income

Interest, deposits, rents and other income received

Transfers for Fire Protection Water

Total Budget Resources

BUDGET REQUIREMENTS

Water Production expenditures including increases in inventory

Water Distribution expenditures including increases in inventory

Expenditures for Customer Service

General and Administrative expenditures

Interest on Debt Service

Principal portion of Debt Service

Total Budget Requirements

[6] **Budget** - A financial plan outlining how a city expects to receive and where it will spend its funds for a given period of time, usually one year. To receive and spend funds, the city council must formally adopt a budget by ordinance. This ordinance is called an appropriations ordinance.

INCOME AND EXPENSE BUDGET FORMAT

The Income and Expense format estimates the total customer billings plus the receipt of cash from non-operating sources, and relates this total income to the total expenses incurred plus a bookkeeping charge for depreciation. The strength of this format is that it identifies the full cost of providing water service and provides a comparison between income and all costs and expenses necessary to produce that income. The weakness of this format is that it does not show whether there will be sufficient cash to meet all obligations, including debt service.

INCOME

Operating Income

Charges and fees billed to the customer

Non-operating Income

Interest, deposits, rents and other income received

Total Income

EXPENSES

Cost of Service

Cost of Water Production incurred

Cost of Water Distribution incurred

Customer Costs incurred

Total Cost of Service

General and Administrative Expenses

Depreciation Charge

Non-operating Expenses

Interest

THE COMBINATION FORMAT

The combination format consists of the income and expense plus a cash flow section which overcomes the weakness of that format by laying out the requirements for cash against the estimated available cash.

AVAILABLE UNRESTRICTED CASH

- Net Income
- Depreciation Add-Back
- Beginning Unrestricted Cash on Hand

REQUIRED USES OF AVAILABLE UNRESTRICTED CASH

- Current Portion of Principal Payment due on Debt Service
- Increases in Working Capital Requirements
  - Accounts Receivable
  - Inventory
  - Cash on Hand
- Increase in Restricted Cash Held for Contingencies
  - General Operating Contingency
  - Bonded Debt Contingency
- Increase in Restricted Cash held for Reserves
  - Equipment Replacement
  - Major Overhaul or Rehabilitation

SURPLUS (DEFICIT) OF CASH ON HAND

BUDGET BACKGROUND WORK

ESTIMATE THE COST OF PROVIDING SUPPLEMENTAL PRODUCTS AND SERVICES

List Products and Services

Explicitly list all of the products and services, apart from water, that the utility will provide its users. Products may include items such as plumbing materials and hot water heaters. Services may include connection of services, meter change out, service turn on/off and the personal collection of late payments.

Calculate Cost of Each Extra Service

For each product or service:

- List the materials involved, if any, and their cost.
- Estimate vehicle mileage and cost it at the average the city has obtained for all of its vehicles.
- Estimate the average time it takes to perform the service, including any time at the shop as well as travel time and the time on-site.

1. Multiply this time by the hourly rate of the employee who will likely provide the service.

2. Multiply that answer by a factor that takes into account the **payroll taxes**[7] and pension and insurance benefits the city pays on those wages. The city bookkeeper or office manager will have this factor. The factor will probably be in the range of 1.3 to 1.45. In other words, for every one dollar the city spends on wages, it must pay an additional 30 to 45 cents in payroll taxes and insurance and pension benefits.

Costs are Basis of Service Charges

Since these services and goods for resale are not essential to producing and distributing water and since everyone does not use them equally, the water utility should recover the cost of providing these goods and services. You now have enough information to assist your council to set charges for these services, if it so chooses. Besides recovering the costs, fees also discourage frivolous and wasteful use of the utility's supplemental services.

IDENTIFY INCREASES IN INVENTORY

We purchase in quantity to obtain discounts, to reduce the number and cost of purchasing transactions and to reduce the frequency and therefore cost of deliveries. Because of these economies, the fiscal year in which we use up supplies or parts may be different than when we purchased them. To prevent the distortion of our planning and budgeting, we need to separate what we used up this year and last year from what we purchased. For example, if in the current fis-

[7] **Payroll Taxes** - The employers share of Medicare, FICA, workers' compensation insurance, and unemployment insurance payments.

cal year we purchased spare parts for all of our pumps, motors and all the meters for our five-year replacement program, but only used one fifth of the meters, it would be wrong to estimate that need to purchase the same amount of inventory next year. It would also be wrong to say that the amount purchased is the same as the amount used. The amount of inventory used up was part of the cost of providing water service. The inventory remaining is an asset, like cash, available for the next year.

In summary, do not confuse the amount purchased with the amount used. It is only coincidental that materials purchased and directly installed count as used. The materials could have been used the following fiscal year. For a full discussion on managing and valuing inventory see the module on Inventory Management.

Repair Parts Inventory

- Update the emergency repair parts list to make sure that it includes crucial parts and quantities needed for any additional equipment you installed this year.
- Order the additional repair parts as soon as you identify them. and then estimate the quantities you will have on hand at the end of the current year.
- Add the minimum quantities you must never fall below to the quantities you expect to use next year and subtract the quantities you expect to have on hand at the end of the current year to obtain the quantities you will purchase next year.

Meter Replacement Inventory

Other than keeping several meters in reserve for emergency replacement, it is best to purchase only as many meters as you plan to replace in a budget year.

IDENTIFY ADDITIONAL AND INCREASED EXPENSES

List the materials and services that will be required to meet new regulatory requirements, for example additional monitoring.

Obtain an estimated inflation factor from your suppliers.

Identify any non-routine monitoring tests and their costs that will be performed.

USING THE BUDGET WORKSHEETS

ESTIMATE INCOME

FORECAST DEMAND

Review Production History

Review the production history from your treatment plant or source. Note any trends from year to such as increase total production and seasonality. Compare the total gallons sold to the total gallons produced over the last three years.

Determine Trend in Unaccounted for Water

See if the amount of unsold water is increasing. Estimate the amount of water used annually to flush the system extremities and flow hydrants. Enter the total on the "System Use" line. Subtract the system use from the total unsold water. Multiply this amount by the average annual increase in unsold water over the last three years. Enter the result on the "Estimate of Water Loss" line.

Residential Consumption

Estimate the number of residential (single and multi-family) units that will be added or removed from the system during the budget year. We assume an average distribution of connections, so divide by 2 and add the amount to their respective totals: single family and multi-family.

Commercial Consumption

Identify major businesses such as tourist lodges or canneries that may be added or removed from the system. Use historical figures for similar types of customers. For lodging facilities figure 4 - 6 rooms as equivalent to 1 residential unit.

Industrial Consumption

Consumption varies widely depending upon whether the industry uses potable water in its industrial process as canneries do. Confirm the status of such users each year; do not budget sales to them if there is any chance that they will terminate their operations.

Public Consumption

Identify institutional users such as a school or government agency that may be added or removed from the system. Use historical figures for similar types of customers. If you do not have a comparable user, figure that every 8 to 10 persons in a school or office is equivalent to 1 residential unit.

CALCULATE PER CAPITA RESIDENTIAL DEMAND

One way to speed up forecasting is to convert non industrial consumption to gallons consumed per person per day.

Determine Total Residential Population Served by

Get the average household size from the last census and multiply by the number of single and multifamily units connected to the system, OR

Get the states latest population estimate for your city, divide by the total dwelling units and multiply by the number of units connected to the system, OR

In small communities, add up the number of people in each household connected to the system.

Calculate Daily Demand

To obtain the annual water consumption per person, divide the total annual gallons metered to single and multifamily units by the total permanent residential population. Divide this number by 365 to obtain the residential consumption per capita per day in gallons.

FORECAST SALES OF SERVICES

METERED SALES OF WATER

For each customer class, enter the total gallons you estimate will be consumed. Multiply each class by the gallonage rate for that class. Although most small utilities keep things simple and charge all classes the same gallonage rate. the worksheet will let you work with different gallonage rates.

Total the annual sales for each customer class, and enter the Total Annual Metered Sales of Water.

FIXED CAPACITY CHARGES

Flat Rate

If your utility charges a flat monthly rate instead of metering, or

Fixed Charge

If your utility charges a fixed charge per billing period, plus a charge for gallonage, multiply each service connection in each customer class by the fixed amount charged for that class. Enter the results in the worksheet. Then multiply by the number of billing periods in the year.

If your utility wishes to recognize the greater potential demand that the institutional and industrial users place on the system, the fixed capacity charge is the appropriate place rather than in the gallonage rates. For a fuller discussion on utility rates, see the module on Setting Rates in Small Water Utilities.

NOTE: If your utility includes a minimum gallonage charge as a part of the fixed rate, deduct that amount from the fixed rate for each customer class.

Standby (Availability) Charge

If your utility charges for the availability of a service connection at a property, whether the service is in use or even hooked to a structure, enter the total of all annual charges.

FEES AND CHARGES FOR MISCELLANEOUS SERVICES

Service Charges

Take the average of the last three year's receipts of services charges, such as turn-on, turn-off, and thawing and enter in the "Miscellaneous Service Charges" line.

Administrative Charges

Take the average of the last three year's receipts of administrative charges, such as account set up, charge for sending late notices and interest on overdue accounts and enter the amount in the "Administrative Charges" line.

Penalties and Forfeitures

Take the average of the last three year's receipts of penalties, such as late charges and forfeitures, and enter in the "Penalties and Forfeitures" line.

CITY OF

WATER UTILITY OPERATING BUDGET for Fiscal Year ____ - ____

REVENUE WORKSHEET

Actual Prior Year	Budget This Year		Estimated Next Year
		Demand Forecast (in 1,000's of Gallons)	
		Pop X	No of Services	Pop Served	Per Cap GPD	Annual Demand
		Residential				
		Commercial				
		Industrial				
		Public				
		For Resale				
		System Use for hydrant and line flushing				
		Estimate of Water Loss				
		Total Forecast Demand				
		Operating Revenues				
		Metered Sales of Water				
				Gallonage		Annual
				Rate		Sales
		Residential				
		Commercial				
		Industrial				
		Public				
		Sales for Resale				
		Total Metered Sales of Water				
		Fixed Capacity Charges				
				Period Charge	Periods in Yr	Annual Charges
		Residential				
		Commercial				
		Public				
		Industrial				
		Total Base Capacity Charges				
		Other Operating Revenue				
		Stand-by Charges				
		Miscellaneous Service Charges				
		Miscellaneous Admin Charges				
		Penalties and Forteitures				
		Total Other Operating Revenue				
		Total Operating Revenues				

ESTIMATE DIRECT COSTS OF PROVIDING WATER SERVICE

COST OF PRODUCTION (SOURCE AND TREATMENT)

PERSONNEL COSTS

Supervision

Enter that portion of any supervisor's or manager's annual salary that is related to overseeing the production and quality of water.

Operation

From the master personnel schedule, estimate the percentage of total time that field personnel spent operating the source and treatment plant. Multiply this percentage times the total annual salaries of field personnel. This gives only a general estimate because employees may be paid at different rates.

Maintenance

From the master personnel schedule, estimate the percentage of total time that field personnel will spend maintaining or repairing the source and treatment plant. Multiply this percentage times the total annual salaries of field personnel. This gives only a general estimate because employees may be paid at different rates. NOTE: If your utility has only one or two employees, just estimate the proportion of total salaries that will be needed to cover all time spent in production, without regard to whether it is supervisory, operational or maintenance time.

Payroll Taxes

Multiply the total of the above lines by the factor your city uses to estimate its additional Medicare, FICA, unemployment and workers compensation insurance obligations for every dollar of payroll.

Employee Benefits[8]

Multiply the total of the above lines by the factor your city uses to estimate its additional pension and medical insurance obligations for every dollar of payroll.

OPERATING EXPENSE

Purchased Water

Use only if the utility purchases raw or treated water at any time during the year.

Power for Pumping

Electricity or fuel, lubricants and supplies used to generate electricity for source and treatment pumps.

Telemetry

Include dedicated phone lines, dedicated electric power charges, equipment and software maintenance and maintenance of communication gear.

Routine Monitoring

Include shipping, materials and lab costs for bacteriological tests and any other routine sampling and testing that the utility contracts.

Non-Routine Monitoring

All charges related to collecting, shipping and analyzing samples to comply with the regulations for non-routine monitoring.

[8] **Employee Benefits** - Narrowly used here to refer to insurance coverage and pension obligations paid by the employer.

Vehicle Use

Estimate the weekly miles traveled to inspect, operate and maintain the utility's water sources and treatment plant if they are remote (more than 2 miles from the shop). Multiply by the mileage rate obtained from your city bookkeeper; then multiply by 52. Subtract this amount from the vehicle use line in the distribution cost category.

OPERATING SUPPLIES

Treatment Chemicals

Enter the total cost of treatment chemicals, including all forms of chlorine, that the utility will consume next year. Shipping is included in the cost of chemicals. The differences between purchases and usage should not be great in this category, because we should not tie up cash in products that have a limited shelf life; purchase estimates are fine.

Lubricants and Other Supplies

Enter the cost of all other treatment plant supplies estimated to be used in the next year. The differences between purchases and usage are usually not great in this category; purchase estimates are fine.

EQUIPMENT EXPENSE

Maintenance of Pumps

Enter the estimated cost of scheduled maintenance, including parts purchased directly or used from inventory, supplies, contract services and shipping. Do not include labor provided by city employees.

Maintenance of Motors

Enter the estimated cost of scheduled maintenance, including parts purchased directly or used from inventory, supplies, contract services and shipping. Do not include labor provided by city employees.

Estimate of Emergency Repairs

Based on the utility's recent experience, estimate the cost of unforeseen repairs including parts purchased directly or used from inventory, supplies, contract services and shipping. This amount will vary from utility to utility, based upon the quality of engineering and construction, the quality of maintenance and the severity of the natural environment. For example, a package treatment plant may have been poorly designed so that it needs frequent repairs, over and above its scheduled maintenance. Do not include labor provided by city employees. Do not include estimates of replacement motors or pumps.

Amortization of Major Overhaul

Enter the amount of either the annual debt service for prior overhauls or the amount you budget to transfer to a reserve account or reserve fund. For a full discussion of replacement and rehabilitation reserve, see the module on Developing Long Term Preventive Maintenance and Replacement Schedules and Reserves.

The cost of the replacing, overhauling or rehabilitating equipment, vehicles or structures, such as pump houses, reservoirs or treatment plants should be

spread over the lifetime of the replacement or improvement rather than charging it all to the fiscal year in which the work was done.

One way is to spread the cost of the overhaul over the life of the improvement is to expense a portion of the estimated cost each year. For example, a utility might plan to paint the interior and exterior of its steel reservoir every twelve years; it would then spread the cost over the twelve years before the project, recognizing one-twelfth as an operating expense each year. As we shall shortly see, this method would enable the utility to accumulate funds for the project before the project begins.

Another way to spread the cost of the overhaul over the life of the improvement is to borrow to pay for the project and then recognize the annual debt payment (including interest and principal) as an operating expense. For example, the utility might paint the interior and exterior of its steel reservoir every twelve years and then spread the debt service over the next twelve years, recognizing one-twelfth as an operating expense each year.

FACILITY EXPENSE

Fuel for Heating

Enter an estimate if the electrical power for heating and ventilating system is metered separately from power for pumps and controls or if a separate fuel source such as natural gas, propane, or fuel oil is used.

Maintenance of Source Structures

Enter the estimated cost of scheduled maintenance, including parts purchased directly or used from inventory, supplies, contract services and shipping. Do not include labor provided by city employees.

Maintenance of Treatment Plant

Enter the estimated cost of scheduled maintenance, including parts purchased directly or used from inventory, supplies, contract services and shipping. Do not include labor provided by city employees.

Estimate of Emergency Repairs

Enter the estimated cost of unforeseen repairs including parts purchased directly or used from inventory, supplies, contract services and shipping. Do not include labor provided by city employees. Do not include estimates of replacing structures or plumbing, ventilating or electrical systems.

Amortization of Major Overhaul

Enter the amount of either the annual debt service for prior overhauls or the amount you budget to transfer to a reserve account or reserve fund. For a full discussion of replacement and rehabilitation reserve, see the module on Developing Long Term Preventive Maintenance and Replacement Schedules and Reserves.

CITY OF

WATER UTILITY OPERATING BUDGET for Fiscal Year ____-____

COST OF SERVICE WORKSHEET

Actual Prior Year	Budget This Year	Function Subcodes / Budget Objects / Line Items	Estimated Next Year
		COST OF WATER SERVICE	
		Production Costs	
		Personnel Costs	
		Supervision	
		Operation	
		Maintenance	
		Payroll Taxes	
		Cost of Employee Benefits	
		Total Production Labor Cost	
		Operating Expense	
		Purchased Water	
		Power for Pumping	
		Telemetry	
		Routine Monitoring	
		Non-Routine Monitoring	
		Utility Vehicle Mileage	
		Total Production Expense	
		Operating Supplies	
		Treatment Chemicals	
		Lubricants and Other Supplies	
		Total Operating Supplies	
		Equipment Expense	
		Maintenance of Pumps	
		Maintenance of Motors	
		Estimate of Emergency Repairs	
		Total Equipment Expense	
		Facility Expense	
		Fuel for Heating	
		Maintenance of Source Structures	
		Maintenance of Treatment Plant	
		Estimate of Emergency Repairs	
		Amortization of Major Overhaul	
		Total Facility Expense	
		Total Cost of Water Production	

COST OF DISTRIBUTION (STORAGE AND DISTRIBUTION)

PERSONNEL COSTS

Supervision

Enter that portion of any supervisor's or manager's annual salary that is related to overseeing the distribution of water.

Operation

From the master personnel schedule, estimate the percentage of total time that field personnel spent operating the distribution system. Multiply this percentage times the total annual salaries of field personnel. This gives only a general estimate because employees may be paid at different rates.

Maintenance

From the master personnel schedule, estimate the percentage of total time that field personnel that will be spent maintaining or repairing the distribution system. Multiply this percentage times the total annual salaries of field personnel. This gives only a general estimate because employees may be paid at different rates. NOTE: If your utility has only one or two employees, just estimate the proportion of total salaries that will be needed to cover all time spent in distribution, without regard to whether it is supervisory, operational or maintenance time.

Payroll Taxes

Multiply the total of the above lines by the factor your city uses to estimate its additional Medicare, FICA, unemployment and workers compensation insurance obligations for every dollar of payroll.

Employee Benefits

Multiply the total of the above lines by the factor your city uses to estimate its additional pension and medical insurance obligations for every dollar of payroll.

OPERATING EXPENSE

Contract Services[9]

Enter an estimate of any excavation or other services you expect to use in maintaining the distribution system.

Equipment Rental

Include here an estimate of total rental fees necessary to rent equipment, such as vehicles, heavy equipment or power equipment.

Vehicle Use

Include vehicle insurance, gasoline, lubricants, tires and vehicle depreciation.

OPERATING SUPPLIES

Repair Parts

Enter the total estimated cost of all repair materials you will purchase and directly install, and those you will take from existing inventory.

Small Tools

Include the intended purchase of test gear, hand tools and power equipment that has a life of no more than one year or costs less than $150. If the utility keeps another set of repair tools and test gear at the treat-

[9] **Contract Services** - Professional services, such as legal and audit; operating services, such as lab analysis; and construction services, such as backhoe work which are purchased on an hourly or project basis from outside contractors.

ment plant, you may include a small tools category under the cost of production.

EQUIPMENT EXPENSE

Maintenance of Booster Pumps

Enter the estimated cost of scheduled maintenance, including parts purchased directly or used from inventory, supplies, contract services and shipping. Do not include labor provided by city employees.

Maintenance of Booster Motors

Enter the estimated cost of scheduled maintenance, including parts purchased directly or used from inventory, supplies, contract services and shipping. Do not include labor provided by city employees.

Vehicle Maintenance

Enter the estimated cost of scheduled maintenance, including parts purchased directly or used from inventory, supplies, contract services and shipping. Do not include labor provided by city employees.

Maintenance of Power Equipment

Enter the estimated cost of scheduled maintenance, including parts purchased directly or used from inventory, supplies, contract services and shipping. Do not include labor provided by city employees.

Amortization of Major Overhaul

Enter the amount of either the annual debt service for prior overhauls or the amount you budget to transfer to a reserve account or reserve fund. For a full discussion of replacement and rehabilitation reserve, see the module on Developing Long Term Preventive Maintenance and Replacement Schedules and Reserves.

Estimate of Emergency Repairs

Enter the estimated cost of unforeseen repairs including parts purchased directly or used from inventory, supplies, contract services and shipping. Do not include labor provided by city employees. Do not include estimates of replacing pumps or motors.

FACILITY EXPENSE

Maintenance of Water Storage

Enter the estimated cost of scheduled maintenance, including parts purchased directly or used from inventory, supplies, contract services and shipping. Do not include labor provided by city employees.

Maintenance of Distribution Lines

Enter the estimated cost of scheduled maintenance, including parts purchased directly or used from inventory, supplies, contract services and shipping. Do not include labor provided by city employees.

Maintenance of Fire Hydrants

Enter the estimated cost of scheduled maintenance, including parts purchased directly or used from inventory, supplies, contract services and shipping. Do not include labor provided by city employees.

Maintenance of Appurtenances

Enter the estimated cost of scheduled maintenance, including parts purchased directly or used from inventory, supplies, contract services and shipping. Do not include labor provided by city employees.

Amortization of Major Overhaul

Enter the amount of either the annual debt service for prior overhauls or the amount you budget to transfer to a reserve account or reserve fund. For a full discussion of replacement and rehabilitation reserve, see the module on Developing Long Term Preventive Maintenance and Replacement Schedules and Reserves.

Estimate of Emergency Repairs

Enter the estimated cost of unforeseen repairs including parts purchased directly or used from inventory, supplies, contract services and shipping. Do not include labor provided by city employees. Do not include estimates of replacing structures or plumbing, ventilating or electrical systems.

CITY OF

WATER UTILITY OPERATING BUDGET for Fiscal Year ____-____

COST OF SERVICE WORKSHEET Continued

Actual Prior Year	Budget This Year	Function Subcodes / Budget Objects / Line Items	Estimated Next Year
		Distribution Costs	
		Personnel Costs	
		Supervision	
		Operation	
		Maintenance	
		Payroll Taxes	
		Cost of Employee Benefits	
		Total Distribution Labor Cost	
		Operating Expense	
		Contract Services	
		Equipment Rental	
		Utility Vehicle Mileage	
		Total Operating Expense	
		Operating Supplies	
		Repair Parts	
		Small Tools	
		Total Operating Expense	
		Equipment Expense	
		Maintenance of Booster Pumps	
		Maintenance of Booster Motors	
		Maintenance of Vehicles	
		Maintenance of Maintenance Equip	
		Estimate of Emergency Repairs	
		Total Equipment Expense	
		Facility Expense	
		Maintenance of Water Storage	
		Maintenance of Distribution Lines	
		Maintenance of Fire Hydrants	
		Maintenance of Appurtanences	
		Amortization of Major Overhaul	
		Estimate of Emergency Repairs	
		Total Facility Expense	
		Total Cost of Water Distribution	

CUSTOMER COSTS

PERSONNEL COSTS

Supervision

Enter the amount of the supervisor's annual salary proportionate to the amount of time, if any, spent overseeing customer service, meter maintenance and customer accounting.

Customer Accounting

Enter the portion of the city bookkeeper's salary that reflects the services provided directly to the water utility.

Payroll Taxes

Multiply the total the above lines by the factor your city uses to estimate its additional Medicare, FICA, unemployment and workers compensation insurance obligations for every dollar of payroll.

Employee Benefits

Multiply the total the above lines by the factor your city uses to estimate its additional pension and medical insurance obligations for every dollar of payroll.

OPERATING EXPENSE

Bad Debt

Enter the amount of past due customer receivables, if any, that the city administration determines can never be collected.

OPERATING SUPPLIES

Postage

If your utility does not hand deliver the water bills, enter an estimate of annual postage.

Customer Accounting Supplies

If your utility uses computerized billing or has more than 100 meters, enter the cost of envelopes, mailing labels and computer forms it will purchase next year. If your utility is small, lump these supplies with all administrative supplies.

FACILITY EXPENSE

Scheduled Meter Replacement

Enter the estimated cost of scheduled replacement, including parts and supplies purchased directly plus those that will be taken from inventory, contract services and shipping. Do not include labor provided by city employees.

CITY OF

WATER UTILITY OPERATING BUDGET for Fiscal Year ____-____

COST OF SERVICE WORKSHEET Continued

Actual Prior Year	Budget This Year	Function Subcodes / Budget Objects / Line Items	Estimated Next Year
		Customer Costs	
		Personnel Costs	
		Supervision	
		Customer Accounting	
		Meter Reading	
		Customer Service	
		Payroll Taxes	
		Cost of Employee Benefits	
		Total Customer Labor Cost	
		Operating Expense	
		Bad Debt	
		Contract Meter Reading	
		Total Operating Expense	
		Operating Supplies	
		Postage	
		Customer Accounting Supplies	
		Total Operating Supplies	
		Facility Expense	
		Scheduled Meter Replacement	
		Total Facility Expense	
		Total Customer Costs	
		Total Cost of Water Service	

ESTIMATE GENERAL AND ADMINISTRATIVE EXPENSES, DEPRECIATION AND NON-OPERATING INCOME AND EXPENSES

GENERAL AND ADMINISTRATIVE EXPENSE

PERSONNEL COSTS

Administrator Salary - pro-rated

Enter the portion of administrative salary that reflects the services provided directly to the water utility.

Office Manager - pro-rated

Enter the portion of the office manager's salary, if any, that reflects the services provided directly to the water utility.

Supervision

Enter the remainder of supervisor's salary that has not been charged to production, distribution, or customer service.

Payroll Taxes

Multiply the total the above lines by the factor your city uses to estimate its additional Medicare, FICA, unemployment and workers compensation insurance obligations for every dollar of payroll.

Employee Benefits

Multiply the total the above lines by the factor your city uses to estimate its additional pension and medical insurance obligations for every dollar of payroll.

OPERATING EXPENSE

Legal Services

Enter those legal expenses that are directly related to the water utility.

Accounting and Auditing Services

Enter those auditing expenses that are directly related to the water utility.

Long Distance Charges

Enter those long distance charges that are directly related to the water utility.

Dues and Subscriptions

Enter the cost of dues or subscriptions that are directly related to the water utility.

ADMINISTRATIVE SUPPLIES

Enter those supply expenses that are directly related to the water utility. If your utility has more than 100 services or is computerized, it may be informative to budget and track the supplies in the following categories:

- General Office Supplies
- Copier Machine Supplies
- Computer Supplies and Software

EQUIPMENT EXPENSE

Office Equipment Maintenance

Enter that share of office equipment maintenance which is proportional to the use of the equipment by the water utility. Include computers, printers and photocopiers. If your utility tracks and allocates the depreciation of office equipment include that here.

FACILITY EXPENSE

There are many ways small cities treat the facility expense for the administrative office. Most pay all of these expenses out of the General Fund. However, for those who wish to spread the cost across all functions that use the space, there are two simple methods:

- Estimate the proportionate use of each function and then spread the expenses across all of the relevant funds.
- The other method is to account for the city hall expenses in an internal service fund, and then charge each relevant fund one annual rental charge. This approach usually requires fewer entries and has the advantage of revealing the total cost of office space.

The difficult question is: On what basis do we determine proportionate use? Some cities allocate on the basis of square feet or dollars flowing through the operating budget. Others estimate the relative use by employees and customers.

Rent - pro-rated

Basic Phone - pro-rated

Electricity - pro-rated

Custodial and Maintenance - pro-rated

				CITY OF						
	WATER UTILITY OPERATING BUDGET for Fiscal Year ____-____									
	GENERAL AND ADMINISTRATIVE EXPENSE WORKSHEET									
Actual	Budget		Function Subcodes							Estimated
Prior	This			Object Code						Next
Year	Year				Line Item					Year
		GENERAL AND ADMINISTRATIVE EXPENSES								
				Personnel						
					Pro-rated Administrative Salary					
					Pro-rated Office Salary					
					Supervision					
					Payroll Taxes					
					Cost of Employee Benefits					
						Total Admin Labor Expense				
				Travel and Training						
					Travel					
					Per Diem					
					Training & Conference					
						Total Travel and Training Expense				
				Administrative Operating Expense						
					Legal Services					
					Accounting and Auditing Services					
					Long Distance Charges					
					Dues and Subscription					
					Bank Charges					
						Total Operating Expense				
				Administrative Supplies						
					General Office Supplies					
					Copier Machine Supplies					
					Computer Supplies and Software					
						Total Admin Supplies				
				Equipment Expense						
					Pro-rated Office Equipment Maintenance					
				Facility Expense						
					Pro-rated Rent					
					Pro-rated Basic Phone					
					Pro-rated Electricity					
					Pro-rated Office Repairs and Maintenance					
						Total Admin Facility Expense				
				General Expenses						
					Insurance and Bonding - Pro-rated					
						Total General Expenses				
						Total General & Administrative Expenses				

DEPRECIATION

Depreciation is a charge that allows a utility to recognize that the physical assets of the water system wear out. There is a financial rule of thumb that the life of water systems as a whole is 40 years. Simply put on a straight line basis, the water system loses 2 1/2% of its original value every year. This rule of thumb assumes that the system was soundly designed, well constructed and thoroughly maintained. Experience with small rural systems suggests that systems which are not well maintained have a life of 20 - 25 years.

The depreciation charge is one way of reminding the council and city administration that they must do everything possible to extend the life of the system components and that they must plan the long term financing to replace the components as they reach the end of their useful life or fail.

Here is a simple guide for those small utilities that do not keep asset accounting records. Enter 3% of the total cost of new construction (not overhauls or equipment replacement) accomplished over the last 20 years.

If your utility accounts for its physical assets, your city bookkeeper will recognize that different components have different life expectancies. Get the weighted average annual depreciation from your city account or finance officer.

NON-OPERATING INCOME AND EXPENSE

NON-OPERATING INCOME

Interest Received

Interest estimated to be received from checking accounts, savings account or investment pools is entered here.

Deposits Received

Enter the three year average of customer deposits received.

Rental of Water Utility Property

Enter any rents received from offices, land, or caretaker residences that were originally acquired or leased for water utility purposes. Also include an estimate of rental fees to be received if the utility typically rents any of its heavy equipment when idle.

Charge to General Fund for Fire Defense Water

Enter any charge to the City General Fund for the cost of providing fire protection water. The cost includes that portion of debt service, if any, which is due to increased storage, pipeline dimension, valve sizes and fire hydrants. The costs also include a share of reservoir, pump and hydrant maintenance.

General Fund Subsidy

Enter the amount, if any, which the city intends to

transfer to the water utility.

NON-OPERATING EXPENSES

Deposits Refunded

Enter the three year average of customer deposits returned.

Interest on Debt

Enter the total of all annual interest paid on debt incurred to initially construct or expand the water system. If your utility does not amortize its debt incurred to fund overhauls and replacement, include the interest on that debt here.

				CITY OF						
	WATER UTILITY OPERATING BUDGET for Fiscal Year ____ - ____									
	DEPRECIATION and NON-OPERATION INCOME/EXPENSE WORKSHEET									
Actual	Budget		Function Subcodes							Estimated
Prior	This			Object Code						Next
Year	Year				Line Item					Year
		DEPRECIATION (A non-cash charge)								
		NON-OPERATING INCOME								
					Interest Received					
					Deposits Received					
					Rental of Water Utility Property					
					Charges for Fire Protection Water					
					Municipal General Fund Subsidy					
						Total Non-operating Income				
		NON-OPERATING EXPENSES								
					Deposits Refunded					
					Interest on Debt					
						Total Non-operating Expense				
						Net Non-operating Income (Loss)				
		NET INCOME								

SUMMARIZE THE OPERATING INCOME AND EXPENSE WORKSHEETS

Transfer the calculated totals from each worksheet. To obtain the Net Operating Income (loss) deduct the Cost of Water Service, G & A Expense and Depreciation. Then subtract the Net Non-operating Income (Loss) from the Net Operating Income (Loss) to obtain the Net Income (Loss) of the water utility.

Operating Revenues

Cost of Water Service

General and Administrative Expense

Depreciation

Net Operating Income (Loss)

Net non-operating Income (Loss)

Net Income (Loss)

DETERMINE THE AMOUNT OF CASH AVAILABLE FOR CAPITAL OUTLAY

CALCULATE THE UNRESTRICTED CASH AVAILABLE

Net Income

Enter the net income from the previous form.

Depreciation Add Back

Remember that depreciation is a paper charge that allows us to determine if the utility is charging enough to recover the original investment in the physical plant over the life of the investment. Since depreciation does not represent an actual outlay of cash, we now adjust the net income amount by adding back the depreciation.

Amortization Add Back

Amortization is a charge that allows us to spread the cost of life extending overhauls to vehicles, equipment and structures over the life of that improvement.

- Remember that some utilities pay back loans taken out for overhauls. In this case, that amortization expense represents an expenditure of cash and cannot be added back in.

- However, we add back the amortization expense only if the expense is a paper charge to show the declining life of the improvement that was made and already paid for out of utility revenue. We also add the amortization expense back in if we entered it in the income and expense budget to show the amount we wished to set aside in reserves.

Beginning Operating Cash on Hand Enter the total cash on hand estimated to be available at the beginning of the budgeted fiscal year for operations. This is cash that is not otherwise set aside (restricted) for contingency or reserve purposes.

Total Available Unrestricted Cash The total of entries in this section is the amount of available cash, not otherwise already restricted for contingency or reserve purposes.

LIST THE REQUIRED USES OF AVAILABLE UNRESTRICTED CASH

CURRENT PORTION OF PRINCIPAL PAYMENT DUE ON DEBT SERVICE

Enter the total of next year's payments on principal for all outstanding water utility debt. The city bookkeeper will obtain these amounts from the amortization table for each debt.

INCREASE IN WORKING CAPITAL REQUIREMENTS

Accounts Receivable When customers are late paying, the utility must divert cash from other purposes to finance the increase in accounts receivable. If the council chooses to neither collect nor terminated water service to customers who are chronically late or are even non-payers, increase the this line by the amount you project that uncollectable accounts will increase.

Inventory Enter any proposed increase in the value of inventory to accommodate the purchase of additional spare or repair parts.

Cash on Hand If the city is late paying its bills because of a shortage of unrestricted cash, enter an appropriate increase.

INCREASE IN RESTRICTED CASH HELD FOR CONTINGENCIES

General Operating Contingency Enter the amount of increase to be recommended to the council. Operating contingency is typically appropriated to be used only in the event of emergency such as damage from flood, wind, severe winter, engineering defects or poor construction, in other words calamities over which the city had no prior control. It is not sound practice to use the line as a fudge factor to cover poor budgeting or the failure to perform preventive maintenance.

Bonded Debt Contingency Enter any mount that the utility's lender or bondholder requires to be held in reserve to insure payment in a year where the utility has an operating cash deficit.

INCREASE IN RESTRICTED CASH HELD FOR RESERVES

Equipment Replacement Add any amounts needed for planned equipment replacement to the standard annual transfer amount. Enter the new higher standard annual transfer to utility reserves.

Facilities Renewal

Describe and estimate the cost of any additional system overhaul or rehabilitation, such as cleaning and painting a reservoir, redrilling a well or refurbishing the treatment plant. Add the new amounts to the standard annual transfer amount. Enter the amount of the new standard annual transfer to utility reserves. See the module on Developing Long Term Preventive Maintenance and Replacement Schedules and Reserves.

Total Unrestricted Cash Required

Add these items to obtain the total required uses of unrestricted cash.

CALCULATE THE AMOUNT OF CASH AVAILABLE FOR SYSTEM IMPROVEMENTS

Subtract the total required uses from the total available cash to obtain the amount of operating cash that may be available to fund any capital purchases or construction.

	CITY OF	
	WATER UTILITY OPERATING BUDGET for Fiscal Year ____-____	
	INCOME AND EXPENSE SUMMARY AND USES OF NET INCOME	
Actual Prior Year	Budget This Year	Estimated Next Year
	INCOME AND EXPENSE SUMMARY	
	Total Operating Revenues	
	Cost of Service	
	General and Administrative Expense	
	Depreciation Expense	
	Net Opertating Income (Loss)	
	Net Non-operating Income (Loss)	
	Net Income (Loss)	
	ESTIMATED USES OF CASH	
	Net Income	
	Plus Depreciation Add Back	
	Plus Beginning Unrestricted Cash	
	Total Available Unrestricted Cash	
	Less Current Portion Payment of Principal on Debt	
	Less any Increases in Working Capital	
	Accounts Recievable	
	Inventory	
	Cash on Hand	
	Less any Increase in Cash Held for Contingencies	
	General Contingency	
	Bonded Debt Contingency	
	Less any Increase in Cash Held for Reserves	
	Equipment Replacement	
	Facility Renewal	
	Total Unrestricted Cash Required	
	Surplus (Deficit) of Cash Available for Capital Outlay	

BALANCING THE OPERATING BUDGET

To balance the operating budget, we have to address two separate requirements:

- Have we controlled our expenses sufficiently and charged enough for our utility service to recover the full cost (including depreciation) of providing the service?
- Will we generate enough cash to meet our working capital needs, service our debts, provide for contingencies and adequately fund our replacement and rehabilitation reserves?

INCREASING INCOME

Raise utility rates.

Charge fees for previously free services, e.g. meter turn on/off.

Charge late fees and interest to customers who pay late.

Charge all users for water, including each service to city and tribal buildings.

Charge the City General Fund for the cost of providing fire protection water. The cost includes that portion of debt service which is due to increased storage, pipeline dimension, fire hydrants and valve sizes. The costs also include a share of reservoir, hydrant and pump maintenance.

Rent utility equipment or property when it is idle.

CUTTING OPERATING COSTS AND EXPENSES

Extend the useful life of equipment by servicing it according to the preventive maintenance schedule before the equipment breaks down.

Tune pumping stations and treatment plant operations so that pumps do not needlessly cycle.

Tune the operation of boilers.

Maintain an aggressive safety program to reduce claims and employee lost time.

Reduce payroll expenses by cutting back employee hours, decreasing the hourly rate paid utility employees and cross train employees to perform multiple tasks.

Eliminate sick leave and vacation as separate benefits. Simply grant 15 days of leave per year, to be taken however the employee wishes.

Require employees to pay part of the cost of their

health insurance.

Replace full time positions with lower rate part time people, especially when there is not enough work to justify full time positions.

Use volunteers whenever possible.

Eliminate any wasteful use of chemicals and repair materials.

Improve purchasing to decrease fuel and materials costs, as well as, freight costs.

Control small tools and power equipment in locked inventory. These items have a way of disappearing. Do not let utility employees borrow tools and equipment for personal use.

IMPROVING CASH FLOW

Reduce the amount of customer receivables by enforcing prompt payment of bills.

Carefully balance purchasing and shipping economies against the hidden cost of tying up cash in inventory.

Aggressively sell surplus assets such as used vehicles and equipment.

WATER UTILITY BUDGETING

WORKSHEET

1. Identify three types of revenue increases to balance a budget.

_____

_____

_____

2. List five ways to balance the budget by reducing operating costs.

_____

_____

_____

_____

_____

3. Give one approach to improve cash flow.

4. Describe the method of determining how much cash will be available for capital outlay next year.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

5. What are the three types of operating revenue?

_____

_____

_____

6. What are the four major cost categories in a water utility operation?

_____

_____

_____

_____

7. What are the two operating expense categories?

_____

_____

8. List two types of non-operating income.

_____

_____

9. List two types of non-operating expenses.

_____

_____

10. What are the six types of budget expense objects?

_____ _____

_____ _____

_____ _____

11. What are the three formats used to budget utility operations?

_____

_____

_____

12. The two of the major fund types use in government are:

_____

_____

13. What are the four types of governmental funds?

_____

_____

_____

_____

14. List two examples of special revenue funds.

_____

_____

15. What are the two types of proprietary funds?

_____

_____