
ECONOMIC RESOURCE

ASSOCIATES, INC.

Cost-of-Service

Water Rates & Charges

Prepared for:

West Linn, Oregon

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CHAPTER I

EXECUTIVE SUMMARY

The purpose of this report is to review the City's cost of providing water services and to revise the City's water rates to be consistent with standards developed by the water works industry. The City wishes to establish a verifiable, self-sustaining rate making method which attains equity among its customers and classes of users. The City has not increased water rates for over five years. The most recent water rate increase occurred on May 1, 1988 (Ordinance #1234).

The basic considerations governing the rate making approach selected for the City of West Linn's recommended water rates are as follows:

- **Equity among customers.** Costs are apportioned and recovered from customers in proportion to the type and amount of service used.
- **Understandable to customers.** Costs are derived and apportioned on a clear and logically defensible basis.
- **Easily explainable by West Linn's staff administering the collection of fees.** The rate making process is described in sufficient detail in order for staff to educate themselves in providing consistent and correct responses to customer inquiries.
- **Provide adequate cost recovery from a variety of sources.** Funding needs are assured for operation, as well as facility expansion, alteration and replacement.
- **Promote a self-sufficient utility operation funded by users.** Water service neither subsidizes nor is subsidized by other activities of the City.
- **Foster stable, long-term financing sources and charges to customers.** Customers know how much they will need to pay to the utility for services provided.
- **Easy to administer.** Rates are set as the financial requirements of the water fund are established in the budget process. City staff must have the capability to easily

adjust the cost of service rates.

Currently, the City is not collecting enough revenues from its customers to pay for its ongoing operations, debt service and planned capital improvements. According to the City's 1993-94 Water Fund receipts, the City collects \$1.314 million from water sales a year. The current (1994-95) operating and capital requirements (net of non-operating revenues and reserves) is \$2.130 million. Thus, a rate increase of 62.1% is required to catch up from prior years' cost increases for the water agency to remain self sufficient and to continue to provide current levels of service. Almost half of the required increase is due to additional rate requirements imposed on West Linn by the South Fork Water Board.

In addition, it is recommended that water rates be sufficient to allow continued self sustaining water operations through the next four years. Due to inflation, growth and the added cost of purchasing water from the South Fork Water Board, the City's water rates must be set to recover \$2.682 million from water sales on average during the next four years. An additional increase of 25.9% is required to pay for these future cost increases. In total, a 98% rate increase will be needed to fully recover both current and future operating, capital, debt service and reserve adjustment costs (net of non-operating income).

The City's current basic water rate of \$9.50 per month includes an allowance for 700 cubic feet of water use. The charge is the same whether the water is used or not. This penalizes the customer who does not use very much water. To make water bills fairer to all customers, in this report water costs have been assigned to three different functions: monthly service (the account), water capacity (the size of the meter) and consumption (water used). Rates are then developed for each of these functions (services). Customers are then charged only for the amount of the service which they use. Under the recommended 5-year, average

recommended water rate schedule a home or business with a 3/4-inch service which uses 700 cubic feet of water will be charged \$18.76 (\$1.00 for the monthly charge, \$2.36 for the capacity charge and 7*\$2.20 for the amount of water used). On the other hand the same home or business using less water, let us say 300 cubic feet of water, will pay just \$9.96 per month. The reason for the lower bill is that the City buys and delivers less water to this customer. Thus, it costs less to serve the customer using less water.

In general, customers with a 3/4-inch service who use less than 200 cubic feet of water per month will pay less than they currently do, while other customers using greater amounts of water may see an increase by as much as 99%. Capacity charges are adjusted to properly account for the costs associated with serving larger meters. Therefore, the monthly bill for these meters will be generally larger than that of a 3/4-inch services, depending on the amount of water used.

CHAPTER II

RATE MAKING METHODS

To provide adequate water service to customers, every water utility must receive sufficient revenues for operations and maintenance (O&M), developing and perpetuating the water system, and maintaining the utility's financial integrity and stability. There are two widely accepted methods for determining the annual amount of money which must be collected by a utility from water rates. The money needed is commonly called revenue requirements. In other words, revenue requirements are the costs of service to be derived from rates. The two generally accepted methods are the "cash-needs" and "utility" approach. We will briefly discuss both approaches in this chapter and make a recommendation for the method to be employed by West Linn.

Cash-Needs Approach

The essence of the cash-needs approach is that the revenues of the utility must be sufficient to cover all of its annual cash needs. This approach for determining revenue requirements is generally used by government-owned utilities, and is basically an extension of the cash-oriented budgeting systems traditionally used by governmental entities. The basic revenue requirement components considered under this approach include operating and maintenance (O&M) expenditures, debt service payments (principal and interest) and capital expenditures that are not debt-financed. Determining the revenue requirements, using the cash-needs approach is generally more easily understood by the governing body than studies using the utility approach.

Utility Approach

The utility approach to determining revenue requirements is mandated for all

investor-owned water utilities and for most government-owned systems under the jurisdiction of state commissions or regulatory bodies. The utility approach focuses attention on the use of resources in the provision of service rather than on its cash needs.

Total annual revenue requirements of an investor-owned utility include O&M expenses (use of labor and materials), depreciation expense (use of physical plant and equipment), income taxes, other taxes and a return on rate base (use of financial resources). The O&M expense component is usually identical under either approach (cash-needs or utility). But the revenue requirements for capital-related costs consists of two components, which are not a part of the cash-needs approach: depreciation expense and return on rate base.

Depreciation is a real part of the cost of operating a utility, whether government or investor-owned. Depreciation is the loss in value of facilities, not restored by current maintenance, that occurs due to wear and tear, decay, inadequacy and obsolescence. The annual depreciation expense component of revenue requirements provides for the recovery of the utility's capital investment over the anticipated useful life of the depreciable assets. It is, therefore, proper that this expense be borne by the customers benefiting from the use of these assets. Funds resulting from the inclusion of depreciation expense in the annual revenue requirements are the property of the utility and are available for use as a source of capital for replacement, improvement or expansion of its system, or for the repayment of debt.

The return on the rate base component is intended to pay annual interest cost of debt on capital and to provide a fair rate of return for the total equity capital employed to finance physical facilities used to provide water service. This requires the establishment of a rate base (defined to be the value of the assets on which the utility is entitled to earn a return) and the fixing of a fair rate of return on the rate base.

Recommended Approach

Both approaches have a proper place in utility practices and when properly used can provide for sound utility financing. The primary difference in determining the revenue requirements arises in the recovery of capital related expenditures. These differences are shown in Table I. The water industry supports both approaches and advantages exist for each, depending on the particular circumstances of the utility.

After closely considering the City's circumstances, we recommend adoption of the

Table I - Revenue Requirement Components

Type of expense	Method	
	Utility	Cash
Operations	X	X
Maintenance	X	X
Debt Principal		X
Debt Interest	X	X
Capital Outlays (CIP)		X
Depreciation Expense	X	

cash-needs approach to determining total annual revenue requirements for the setting of water rates. The reasons for this decision is that both methods lead to very similar results. However, the cash-needs approach is more easily understood, simpler to calculate and consistent with

the City's budgeting practices.

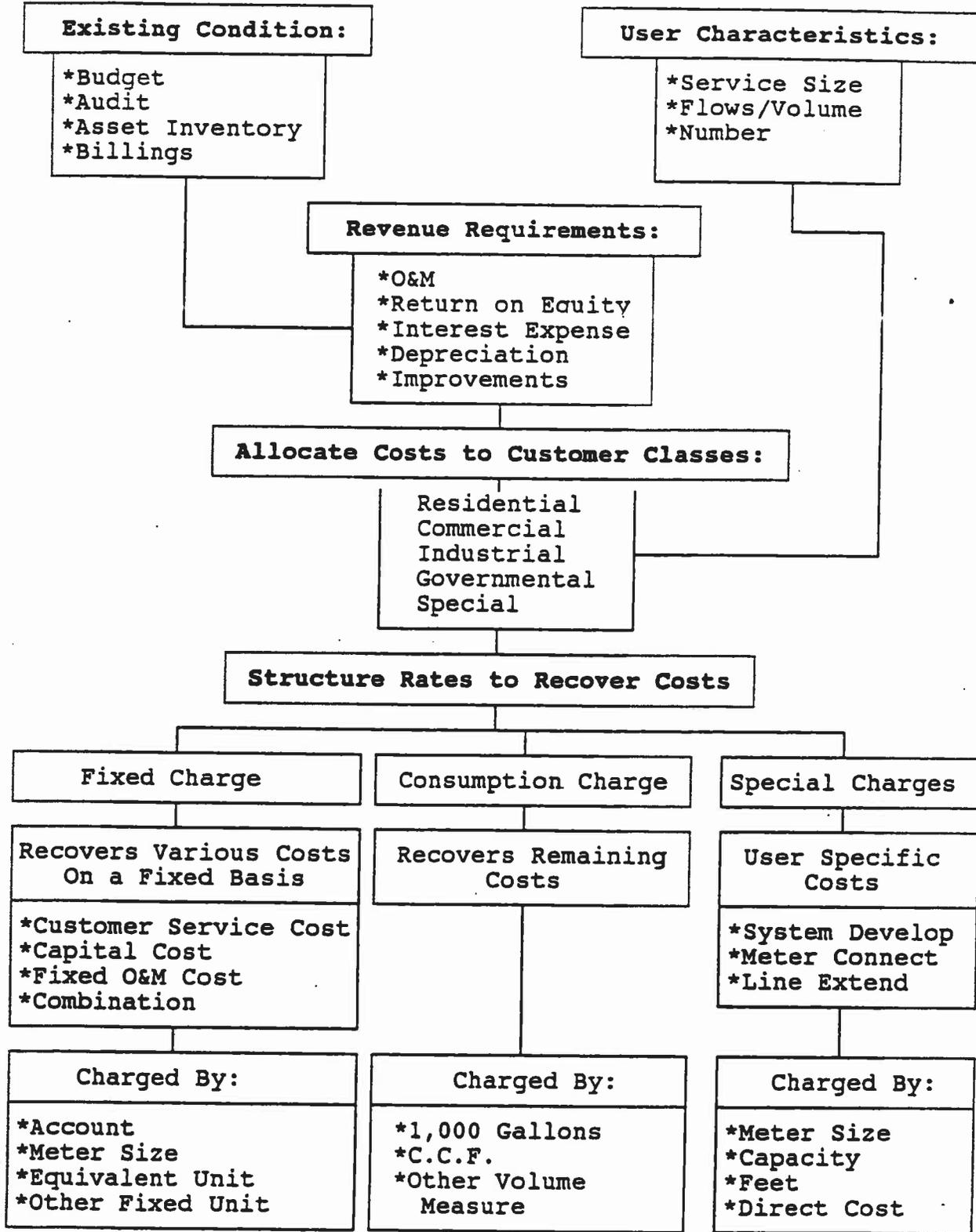
Should the City of West Linn significantly reduce its capital improvement program (CIP) expenditures, we recommend adopting water rates under the utility approach for out of City users. For right now, the results from using either method are very similar for these customers. Thus, it doesn't matter whether outside customers are paying for water using the cash or utility approach. However, when the City's reinvestment program decreases, water rates under the cash-needs approach will be less than under the utility approach. If the cash approach is then continued for customers outside the City's limits, they will be paying less than the cost of providing service to them.

To simplify this report we include only those factors necessary to develop the City's water rates under the cash-needs approach. This involves the following procedures:

1. Determination of customer base and water use characteristics for the period for which water rates are to be effective.
2. Determination of the total annual revenue requirements for the period for which the water rate(s) are to be effective.
3. Allocation of the total annual revenue requirements to functional cost centers.
4. Distribution of functional cost centers to cost of service components.
5. Design of water rates that will recover from each class of customer the cost to serve that class of customer.

A flow chart describing this rate setting process is shown on page 8.

Developing Equitable Rates



CHAPTER III

CUSTOMER BASE AND WATER USAGE CHARACTERISTICS

In Chapter III, we analyze the composition of the City of West Linn's customer base, water usage and service demands placed on the water system by its customers. When establishing equitable water rates, the cost of providing water service should be fairly allocated among different classes of customers. Water usage and demand characteristics play an important role in recovering costs and the design of water rates.

Most water utilities deal with thousands of customers, having different water usage and service demand characteristics. According to the American Water Works Association's (AWWA) manual on water supply practices¹:

"The theoretically ideal solution to developing rates for water utility customers would be to assign cost responsibility to each individual customer served and develop rates to derive that cost. It is not economically practical nor often possible to determine the cost responsibility and applicable rates for each individual customer served. However, the cost of providing service can reasonably be determined for groups of classes of customers that have similar water-use characteristics and for special customers having unusual water-use or service requirements. It is an objective of rate making to assign costs to classes of customers in such a manner that rates can be designed that are nondiscriminatory and meet as nearly as possible the cost of providing service to such customer classes."

The five principal customer classes typical of most water utilities are:

- Residential – Single family, multi-family housing, condominiums, apartment

¹ Fourth Edition (1991) of AWWA Manual M1, Water Rates.

complexes, etc.

- Commercial – Nonresidential and nonindustrial business enterprises.
- Industrial – Manufacturing and processing establishments.
- Service Outside of City Limits – Water sold directly to customers not residing within the City limits.
- Wholesale – Water sold to wholesalers for resale elsewhere.²

Currently, the City uses these classifications along with meter size, and in some cases the number of multi-family living units, as the differentiating factors in its water billing practices. Characterizing customer classes by only the size of a customer's water meter has several advantages over other approaches, as well as the one the City is currently using. This type of system is simple, easier to verify and less confusing or controversial. There are less questions about which class a customer is assigned.

The City's customer base is extremely homogeneous. Its customers are ninety-seven percent (97%) residential, and of these, ninety-eight percent (98%) are single-family accounts with a 3/4-inch water meter. In addition, ninety-seven percent (97%) of the entire customer base have 3/4-inch meters. Classifying customers by meter size simplifies our cost of service analysis and is an accurate way of classifying users for billing purposes. This approach is used in designing the City's water rates in Chapter VI (Water Rate Structure and Recommendations). However, for planning purposes, we recommend that the City continue to keep water use and service information by residential, industrial and, commercial classifications.

When analyzing the demands placed on the City's water system, we begin by evaluating the future land development of the City as reflected in its planning documents. Over the next

² *Currently, the City does not sell water to wholesalers.*

26 years (1990 through 2016), the City is expecting to annex a significant amount of territory

Table II - Land Development Projections

Acres of Land	Developed 1990	Ultimate 2016
Residential		
Low Density	1,824	2,416
Medium Density	155	242
Commercial	78	126
Industrial	167	168
Future Urban	27	617

within its current urban growth boundary (UGB). Table II shows the total amount of developed land within the City as of 1990 and the amount expected to be ultimately developed by the year 2016. The difference between the two columns represents the land to be developed in the intervening years. These figures are consistent with the information contained in the City's *Comprehensive Plan, The Tanner Basin Development Plan, Tanner Basin Land Use Summary, (Exhibit 1-f)* and *City of West Linn's Land Use Inventory, January 1990*.

The land use information was converted to single and multiple family dwelling units by City staff in its *City of West Linn Land Use Inventory 1990* and *Tanner Basin Land Use Summary, (Exhibit 1-f)* reports. Using information contained in the 1990 U.S. Census (*Selected Population and Housing Characteristics: 1990, West Linn, Oregon*), we converted this dwellings data to housing units to be built in the City and add this to the City's current housing inventory to arrive at the total number of residential units which will be in the City when it is fully developed. The results are shown in Table III. This table reveals that when the Total City (which includes territory within the UGB) is fully developed there will be 11,921 housing

units within the City's boundaries. Over 8,800 will be single-family and the remainder multi-

Table III - Housing Units

Housing Units	Current City		Total City	
	1990	Ultimate 2016	1990	Ultimate 2016
Current City				
Single Units	5,080	7,291	5,080	8,815
Multiple Units				
2-4 Units	360	862	360	1,284
5-9 Units	186	445	186	663
>=10 Units	325	778	325	1,159
Total	5,951	9,377	5,951	11,921

family.³

Later in this chapter, we will relate the housing unit information to the number of residential meters currently connected to the City's water system. Then, the growth in housing units will be used to project the number of meters which will be added to the water system in each of the next five years.

A summary of West Linn's current (1993-94) customer base is shown in Table IV. This

³ Initial values from Selected Population and Housing Characteristics: 1990, West Linn, Oregon. Allocation of future units by housing size are made using 1990 proportions.

information comes from the City's utility billing system.⁴ There are 6,329 customers connected

Table IV - Current Customer Base, By Class

Customer Class	1992-93 Meters
Residential:	
Single-Family	6,018
Multi-Family	55
Apartments	65
Commercial	98
Fire	1
Irrigation	41
Public Facilities	51
Total	6,329

to the water system and ninety-five percent (95%) of them are single-family accounts.

This information is also available by meter sizes and is shown in Table V. Of the total number of meters, 6,115 (approximately 97%) are 3/4-inch meters and the rest (except one) are in the next four sizes (1 to 3-inches). Table V also shows the different sized meters being converted to a common relationship -- the equivalent capacity of 3/4-inch water services, by applying standard engineering ratios to calculate the equivalent capacity of different size meters.⁵ For example, a 2-inch meter has the same capacity equivalent to eight 3/4-inch

⁴ *Meter Size/Unit/Type Analysis, West Linn, Oregon, June 30, 1994.*

⁵ *American Water Works Association, Water Meters, Selection, Installation, Testing and Maintenance (AWWA Manual M6), 1973, Table 2.2.*

meters. When the engineering ratios are applied to the number of meters of each size, we

Table V - Water Meters By Size

Size	Number of Meters 1993-94	Equivalent/4-Inch Capacity	
		Capacity Ratio	1993-94 3/4-Inch Meters
3/4	6115	1	6,115
1	105	2.5	263
1.5	37	5	185
2	57	8	456
3	14	16	224
4	0	25	0
6	1	50	50
8	0	80	0
10	0	115	0
Total	6,329		7,293

arrive at 7,293 equivalent 3/4-inch water services.

So why are the number of meters and meter equivalents important? West Linn incurs costs associated with meters and services. These costs can be properly distributed among customer classes by recognizing the factors that are generally responsible for causing the costs to be incurred. Costs which vary by the size of meter are distributed based on meter equivalents. Costs which must be incurred to service each account, no matter the size of the meter, are distributed based on the number of meters or accounts.

Table VI shows our projection of the total number of equivalent 3/4-inch services that

Table VI - Projections of 3/4" Meter Equivalents by Class

Customer Class	1994-95	1995-96	1996-97	1997-98	1998-99
Residential:					
Single Family	6,300	6,468	6,641	6,819	7,001
Multi-Family	65	72	80	89	100
Apartments	338	359	383	407	434
Commercial	313	318	324	330	336
Fire	1	1	1	1	1
Irrigation	120	122	124	126	128
Public Facilities	355	353	352	351	349
Total	7,490	7,694	7,905	8,123	8,349

10 meters 6500 6500 6500 7000 7000

there will be in 1993-94 and for each of the next five years. This projection was made by associating customer classes with changes in future land-use or employment data - See Table VII - Growth Factors Used to Make 3/4-inch Meter Projections.

The forecast is made in the following ways:

- The number of single-family 3/4-inch equivalent sized meters are projected by applying the growth rate of single-family units to single-family meters;
- For multi-family and apartment units, the growth rate of multi-family units is applied to their number of 3/4-inch equivalent meters:
- Commercial meters are projected by using the employment growth rate -- assuming there is a constant relationship between the number of workers and businesses; and
- Fire, irrigation and public facilities meters are held constant as there is no way of estimating the increase in these services over the next five years.

Table VII - Growth Factors Used to Make 3/4-inch Meter Projections

Demographic Factor	1990-91	2009-10	Annual Growth Rate
Housing Units:			
Single Family	5,080	8,389	2.68%
Multi-Family	871	2,871	6.48%
Employment	2,592	3,633	1.79%

The City's records on customer water usage⁶ provides additional information which is

⁶ *City of West Linn, Oregon, UB Water Usage Five Year Fiscal Year Report, May 20, 1991 and Same report for subsequent years dated June 16, 1993 and July 19, 1994.*

used in designing the City's water rates -- See Table VIII. Water use has grown in four of the last five years. The most significant growth occurred in 1991-92. This was a drought year. Following this unusual year, water consumption returned to its normal levels and growth

Table VIII - Historical Water Usage by Class, In Units of 100 Cubic Feet

Customer Class	1989-90	1990-91	1991-92	1992-93	1993-94
Residential:					
Single Family	727,669	765,865	820,139	779,608	787,723
Multi-Family	20,566	22,240	10,187	9,795	10,884
Apartments	79,488	68,275	76,960	75,016	79,359
Commercial	57,569	63,076	62,700	63,064	65,921
Fire	0	0	0	0	0
Irrigation	10,458	10,946	14,000	11,095	14,352
Public Facilities	55,635	36,338	44,344	37,175	36,395
Total	951,385	966,740	1,028,330	975,753	994,634
Percent Change	5.08%	1.61%	6.37%	-5.11%	1.94%

pattern.

Using 1993-94 water use data, we calculated the most current water use ratios per equivalent 3/4-inch service for each customer class—see Table IX. We will use these ratios as a basis for forecasting the amount of water which will be used by the City's present and future water customers over the next five years. We did not use 1991-92's higher water use data because it was significantly influenced by a very hot summer and we believe that 1992-93 and 1993-94's data closer reflects the City's long-term water use patterns.

Table IX - Water Use Per Equivalent 3/4-Inch Service

Customer Class	Water Consumption 1993-94	Equivalent Services 1993-94	Use Per 3/4" Equivalent (ccf/year)
Residential			
Single Family	787,723	6,136	128.39
Multi-Family	10,884	58	187.66
Apartments	79,359	317	250.34
Commercial	65,921	307	214.73
Fire	0	1	0.00
Irrigation	14,352	118	121.63
Public Facilities	36,395	356	102.23
Total	994,634	7,293	136.39

The ratio of annual water use by customer classes (shown in Table IX) are applied to the projected number of 3/4-inch equivalent services (shown in Table VI), to arrive at the annual amount of water consumption for the next six years. The results of the calculations are shown in Table X.

The City purchases water from the South Fork Water Board for resale to its customers.

Table X - Projected Water Use (ccf), by Customer Class

Customer Class	1994-95	1995-96	1996-97	1997-98	1998-99
Residential:					
Single Family	808,799	830,438	852,657	875,469	898,893
Multi-Family	12,129	13,516	15,061	16,783	18,702
Apartments	84,500	89,974	95,803	102,009	108,618
Commercial	67,103	68,306	69,531	70,777	72,046
Fire	0	0	0	0	0
Irrigation	14,584	14,820	15,060	15,304	15,552
Public Facilities	36,257	36,119	35,982	35,846	35,710
Total	1,023,371	1,053,174	1,084,094	1,116,189	1,149,521

Table X shows water usage and purchases are expected to increase 12.3% over the next five years.

In this Chapter, information was gathered to assist in forecasting the number of customer accounts, number of equivalent 3/4-inch water services and annual water use for the next five years. This data will be used in Chapter VI (Water Rate Structure and Recommendations) in designing water rates.

CHAPTER IV

REVENUE REQUIREMENTS

Revenue requirements are the costs of service to be derived from water rates. One of the most effective methods used to cope with inflation and increasing costs is the use of a "forward-looking" rate period. Rates are established to meet the projected revenue needs of a water agency for a specified future period. In using this prospective method, we begin by developing the capital and operating cost requirements anticipated for the period for which rates will be in effect. However, first it is essential to develop adequate historical data to serve as a bridge between actual costs of the past and projected future costs.

Table XI - History of Expenditures

Expense Category	Actual 1989-90	Actual 1990-91	Actual 1991-92	Actual 1992-93	Budget 1993-94
Positions (FTE)	5	5	5	6	6
Personal Services	205,990	220,247	234,700	269,486	291,938
Materials	82,380	104,545	106,400	179,495	100,632
Maintenance	50,686	149,164	77,554	51,635	65,600
Water Purchases	207,264	316,797	275,301	272,653	300,000
Interfund	245,756	284,191	401,195	367,854	373,469
Capital Outlays	2,027	21,145	16,653	14,507	13,850
Transfers	150,000	175,000	92,000	81,895	0
Improvements	212,854	36,136	95,298	137,343	407,817
Debt Service	124,592	125,242	124,402	124,230	124,460
Total	1,281,549	1,432,467	1,420,503	1,499,098	1,677,466

A history of West Linn's Water Fund's expenditures, by major categories, is shown in Table XI, Table XI (History of Expenditures). The 1993-94 fiscal year line-item expenditure

accounts that are associated with these categories are shown in Appendix A at the back of this report.

Total expenditures have fluctuated over the last five years. The primary reason for this is that capital improvement expenditures have ranged from \$36,136 to \$407,817. Also, interfund transfers have varied because of the need for additional engineering services to fit the City's capital improvement program. Lastly, in the City's 1992-93 budget there is a one-time expenditure of \$65,000 to demolish and remove several water towers, which is shown in the Materials category. As can be seen from the expense categories in Table XI, Table XI, with the exceptions noted above, expenses have been increasing gradually over the last five years to offset price changes and the added work load from new customers.

In this report, the City's projected revenue requirements are based on its 1994-95 operating budget, debt service schedule, list of future capital improvement projects and its desired level of cash reserves. In projecting the Water Fund's operating expenditures, we used historical information and a variety of socio-economic factors, such as the number of equivalent services, growth of services, projected water consumption, water supply rates, percent of unaccounted water loss and an inflation rate. These factors are shown in Table XII-

Projection Factors.^{7,8}

The factors shown for equivalent water services and projected water consumption are

Table XII - Projection Factors

Year	Equiv. Services	Growth	Water Consumption	Water Purchases	SFWB Rates	Unaccounted for Water
1994-95	7,490		1,023,371	1,258,115	\$0.557	22.94%
1995-96	7,694	2.72%	1,053,174	1,283,277	\$0.557	21.85%
1996-97	7,905	2.74%	1,084,094	1,308,943	\$0.557	20.74%
1997-98	8,123	2.76%	1,116,189	1,335,122	\$0.557	19.61%
1998-99	8,349	2.78%	1,149,521	1,361,824	\$0.557	18.47%

obtained from Chapter III (Customer Base and Water Usage Characteristics); the growth percentages stem from the annual increase in equivalent water services; and the SFWB (South Fork Water Board) rates are the estimated amount the City will pay for each 100 cubic feet of water purchased. Because some of the water leaks from the system or is not recorded by meters, the City must buy more water than consumed by City residents and businesses. The Percentages of unaccounted for water is shown above.

⁷ South Fork Water Board's rates are taken from South Fork Water Board Water Rates, July 1994, Economic and Engineering Services (EES), July 15, 1994. The water rates assume Clairmont Water District will continue to be served by the South Fork Water Board. The rates are shown in EES's Table 1. EES assumes a bond sale of \$3 million in 1993-94 and another \$4.3 million in 1994-95 and calculates rate increases accordingly.

⁸ Unaccounted water is calculated by dividing the West Linn's water purchases shown in EES's South Fork Water Rates report by the projected water use developed in this report. The difference in projected water use and purchases is the unaccounted water projection factor.

One or more of the projections factors are associated with most—but not all—of the Water Fund's line-item expenditures. When applied, we come up with the results shown in Table XIII (Projected Expenditures).

Table XIII - Projected Expenditures

Expense Category	Budget 1994-95	Projection 1995-96	Projection 1996-97	Projection 1997-98	Projection 1998-99
Positions (FTE)	6.5	6.7	6.9	7.0	7.2
Personal Services	299,465	\$322,292	\$346,250	\$367,680	\$394,711
Materials	113,175	121,370	127,588	134,046	140,914
Maintenance	65,335	70,470	73,994	77,693	81,578
Water Purchases	700,770	714,785	729,081	743,663	758,536
Interfund	548,099	654,532	685,218	708,283	740,945
Capital Outlays	12,205	12,815	13,456	14,129	14,835
Improvements	263,500	591,767	629,674	635,500	673,936
Debt Service	127,554	123,185	124,635	120,537	120,290
Total	\$2,130,103	\$2,611,217	\$2,729,896	\$2,801,532	\$2,925,745

For example, the number of employee positions are related to equivalent number of services. The reason for this is that as the water system grows, more staff will be required to provide the same level of service. Personal service costs are then increased by the number of new positions and the inflation cost factor is applied. Another example is the cost of purchasing water. This expense category is calculated by multiplying the amount of water consumed by the SFWB water purchase rate and then increasing this amount by the unaccounted for water factor.

As indicated previously, factors are not applied to all expenditure categories. Debt

service is based on the City's actual debt payment schedule⁹. Capital improvements are based on a list of projects to be financed by water rates, which averages \$559,000 annually. These are discussed separately in Chapter V (Capital Improvements).

Line-item expenditure accounts within the categories shown in Table XIII can be found in Appendix B. Initially, each line-item is assigned to the nine expenditure categories shown in Table XIII (Projected Expenditures). They are then reassigned to the functional cost centers shown in Table XIV (Expenditures by Function). The method used for making the expenditure projections and assigning them to these functions are clearly indicated in

⁹ *City of West Linn, Comprehensive Annual Financial Report for fiscal year ended June 30, 1992.*

Appendix B.

Table XIV - Expenditures by Function

Functional Cost Center	Budget 1994-95	Projection 1995-96	Projection 1996-97	Projection 1997-98	Projection 1998-99
Overhead	465,264	561,081	587,195	605,911	633,590
Overhead Redistributed to Functional Cost Center – Not Additive					
Customer	66,355	80,353	84,388	87,695	92,022
Supply	964,171	1,023,482	1,046,396	1,066,172	1,089,603
Quality	92,962	104,062	112,048	118,832	127,797
System	493,284	551,169	588,421	621,461	662,964
Meters	36,862	41,360	43,511	45,621	47,972
New Meters	85,416	95,839	100,823	105,712	111,160
Capital	391,054	714,952	754,309	756,037	794,226
Transfers	0	0	0	0	0
Total	2,130,103	2,611,217	2,729,896	2,801,532	2,925,745

Expenditures were initially assigned to eleven functional centers, (see Appendix C – Function Assignments) before being narrowed down to the nine functional cost centers shown in Table XIV. For example, (a) expenditures assigned to "Apportion Center" are re-assigned to Supply, Quality and system based on the number of personnel working in each of these functions and (b) expenditures assigned to "Divide to Overhead/Customer" are re-assigned to the Overhead and Customer functional cost centers based on their ratio to the City's accounting and administrative charges¹⁰. Lastly, Overhead costs are proportionally allocated to the Supply, Quality, System, Meters, New Meters and Customer functional cost centers.

¹⁰ City of West Linn, Oregon, Overhead Allocation Schedule for Accounting and Administrative Charges, 1991-92 Budget Year.

The final results are shown in Table XIV. Note, Capital Improvements includes engineering, debt service and direct improvement costs.

Up to now, we have determined the total amount of money needed by the City's water system (for the next five fiscal years on a cash-needs basis) and assigned the expenditures to cost of service categories. We now compile this data and make adjustments for operating contingencies and reserve allowances and revenues earned or received from non-water related sources.

Table XIV on page 27 shows the total revenue requirements for 1994-95 and each of the four projection years. Subtracted from total revenue requirements are non-water related revenues which can be reasonably anticipated. The remainder is net revenue requirements to be recovered from water rates. The estimates for connection charges and the Water Fund's share of SDC's are shown in Chapter V (Capital Improvements). Based on current experience we estimate interest earnings to be four percent (4%) of operating reserves. Miscellaneous revenues are maintained at current levels.

The City's net revenue requirements from water rates range from \$2.2 million for the 1994-95 fiscal year to \$2.9 million in the last projection year. The following set of assumptions were used in calculating these revenue requirements:

- A 5% operating contingency of the prior year's revenue requirements (water sales) is maintained to provide for unanticipated expenditures of a nonrecurring nature or to meet unexpected increases in service delivery costs—40% of the contingency is anticipated to be spent in each projection year.
- An unappropriated working capital reserve is maintained at a level of 5% of operating expenditures, in order to avoid cash flow interruptions. None of the

CHAPTER V

CAPITAL IMPROVEMENTS

The City is responsible for operating and maintaining its current water system and meeting the needs and demands of a rapidly growing customer base. Growth is occurring within its current City limits and its future urban growth boundary.

The City identified several capital maintenance improvement projects needed to maintain its current water system—see Table XIV. This list of projects will keep the current system in good working order and includes projects which are recommended or mandated by water regulatory agencies (State and Federal). The average annual expenditure on capital maintenance improvement projects is \$559,000. This amount is approximately 21.2% of the net revenue requirements which the City needs to get from water rates. Most of these projects do not increase the system's current water capacity. Therefore, these projects are not eligible for financing from Systems Development Charge.

The City conducted an extensive study of its water system's capital expansion needs and methods for funding them. A report prepared by Economic Resource Associates, dated July 1, 1992, *Systems Development Charges, City of West Linn, Oregon*, identified \$3.9 million in capital expansion needs inside the City limits and \$2.1 million within its urban growth boundary. These capital expansion costs are recoverable from water system development charges imposed on new development (developers/builders) and will not have an impact on City water rates.

However, not all capital expansion costs are paid for by system development charges. For example, the first 8-inches of a water main is considered by Staff as an obligation of the Water Fund. This part of the capital expansion costs has been spread-out over twenty-six development years. We include these costs in the Capital Maintenance Improvement Projects list. Approximately \$45,000 a year is needed to finance these costs, which will come from

reserve is planned to be spent during the projection period.

- A unappropriated debt service reserve is maintained and used for emergencies to cover unanticipated revenue shortages. The reserve is at least 30% of the following year's debt service requirements.
- Current, on-hand working capital will not be spent but used to attain the required operating contingency and unappropriated reserve levels.
- Amounts on-hand and not appropriated for expenditure are invested at a 4% interest rate.

The data compiled to this point will be used in Chapter VI (Water Rate Structure and Recommendations) in designing of the City's water rate structure and rate schedules.

Table XIV - Revenue Requirements to be Derive From Rates					
Expense Type	1994-95	1995-96	1996-97	1997-98	1998-99
Operation and Maintenance					
Customer	66,355	80,353	84,388	87,695	92,022
Supply	964,171	1,023,482	1,046,396	1,066,172	1,089,603
Quality	92,962	104,062	112,048	118,832	127,797
System	493,284	551,169	588,421	621,461	662,964
Meters	36,862	41,360	43,511	45,621	47,972
New Meters	85,416	95,839	100,823	105,712	111,160
Reserves					
Contingency 5%	129,300	32,904	63,631	58,044	57,309
Reserve 5%	0	23,212	3,966	3,495	4,301
Debt Service					
Principal	85,000	90,000	100,000	105,000	115,000
Interest	42,554	33,185	24,635	15,537	5,290
Reserve (30%)	0	(972)	(1,365)	(82)	(40,057)
Capital Requirements					
Supply	17,708	39,769	42,316	42,708	45,291
System	187,731	421,605	448,612	452,763	480,147
Capacity	58,061	130,393	138,746	140,030	148,499
Sub Total	263,500	591,767	629,674	635,500	673,936
Total Requirements	\$2,259,403	\$2,666,362	\$2,796,128	\$2,862,988	\$2,947,298
Revenues					
SDC-Fund Share	0	(18,512)	(20,096)	(21,823)	(23,707)
Connection Fees	(28,025)	(31,630)	(34,117)	(36,773)	(39,610)
Miscellaneous	(6,000)	(6,000)	(6,000)	(6,000)	(6,000)
Earnings 4%	(15,700)	(11,791)	(15,983)	(20,252)	(24,247)
Net Rev. Req.	\$2,209,678	\$2,598,429	\$2,719,933	\$2,778,141	\$2,853,733

water rates.

Table XIV - Capital Maintenance Improvement Projects					
Capital Projects	1994-95	1995-96	1996-97	1997-98	1998-99
Main Replacement #507	\$50,000		\$200,000		\$200,000
Boiton Res. Upgrade #5026	\$110,000				
Horton #2 Land Acquisition #5013	\$43,500				
Salamo Res Re-Coat #5032		\$50,000			
Facility Improvements #5033			\$10,000		\$10,000
Cathodic Protection			\$20,000		
I-205 Tran. Main Analysis #5029	\$13,000				
I-205 Main Improvements		\$10,000	\$85,433	\$33,269	\$78,424
Seismic Improvements #5034		\$10,000	\$10,000	\$10,000	\$10,000
SFWB Ownership #5035		\$35,000	\$35,000	\$35,000	\$35,000
Regional Supply Study #0764	\$12,000				
Share SDC Projects #5014		\$43,188	\$45,000	\$45,000	\$45,000
Telemetry, Phs. 2&3 #5036	\$15,000			\$30,000	
Willamette Falls Phs I		\$249,700			
Willamette Falls Phs II #5020	\$20,000	\$165,700	\$165,700		
Willamette Falls Phs III				\$325,700	
Horton Res. Re-Coat				\$70,000	
Other Improvements					\$176,025
Total	\$263,500	\$563,588	\$571,133	\$548,969	\$554,449
Inflated and Extended	\$263,500	\$591,767	\$629,674	\$635,500	\$673,936

Also, the water system development charge (SDC) contains two elements: improvement (expansion) and reimbursement. The reimbursement element recovers the value of infrastructure capacity already constructed which meets future customers' needs and the costs of various studies previously paid for by the City's Water Fund. These costs are shown in Table XIV¹¹ and a percent of the total revenue to be recovered from SDCs is calculated.

¹¹ Detailed supporting documentation to Economic Resource Associates, Inc. systems development charges study for the City of West Linn.

Table XIV - Water Funds Share of SDCs	
SDC Costs	Amount
Existing Capacity	\$314,781
Prior Studies, Master Plans	\$47,467
Total Cost Recovery	\$6,406,942
Water Fund's Share of SDC Collections	5.65%

The Water Fund is entitled to reimbursement of this element of the SDC charge. In this report, we recognize this element as a non-water rate related source of revenues to reduced the revenue requirements to be recovered from water rates. We estimate the reimbursement portion of SDCs to be as shown in Table XIV.

Table XIV - SDC Receipts					
Systems Development Charges	1994-95	1995-96	1996-97	1997-98	1998-99
Equivalent Services	7,490	7,694	7,905	8,123	8,349
Systems Dev. Chg.-Avg	\$1,529	\$1,605	\$1,685	\$1,769	\$1,858
Total Receipts	\$301,711	\$327,415	\$355,427	\$385,973	\$419,301
Water Fund Share-Receipts	\$17,059	\$18,512	\$20,096	\$21,823	\$23,707

Besides its other fees and charges, the City also assesses a fee for each new connection according to Municipal Code 13.12.010. There are two distinct methods used by the City in providing for meter connections. Sometimes, the City does all the work of digging in the street, tapping the main, setting the meter box and installing the meter. This is called a "dig" connection. Alternatively, developers often do all of the work except actually installing the meter. Here the only work performed by the City is "dropping" the meter into the box.

The City estimated the cost of doing each type of work by meter size and has established connection fees accordingly. We have used this information and adjusted it for inflation. No portion of the connection fees includes equity contributions. They are developed strictly on a cost basis. Consequently, they are not subject to the Oregon Systems Development Charges Act. In Table XIV, we estimate the amount of money to be received by the Water Fund from connecting new meters to the system.

Table XIV - Water Fund Connection Fee Receipts					
Meter Size	1994-95	1995-96	1996-97	1997-98	1998-99
3/4	\$22,720	\$24,575	\$26,709	\$28,995	\$31,443
1	\$2,194	\$2,304	\$2,419	\$2,540	\$2,667
1.5	\$1,363	\$1,431	\$1,502	\$1,578	\$1,656
2	\$3,162	\$3,320	\$3,486	\$3,661	\$3,844
Total Connection Charges	\$29,440	\$31,630	\$34,117	\$36,773	\$39,610

CHAPTER VI

WATER RATE STRUCTURE AND RECOMMENDATION

Once the City's customer base and revenue requirements have been determined, a rate structure and a method for applying the rates are developed. The following guidelines are used in designing the City's proposed water rate structure:

- The rate structure should be easily understood and simple to apply.
- Rates should not fluctuate from year to year.
- Costs should be allocated fairly among different classes of customers.
- Rates should yield sufficient revenues to maintain and improve the City's water system.
- Low-income household are to receive reduced water rates.

We are recommending adoption of a 3-tier water rate structure. The components of this rate structure are as follows:

- 1) **Monthly Customer Service Charge.** A uniform charge levied on each water meter regardless of size, number of residential units served by a single meter or the amount of water (if any) used. This charge recovers costs associated with serving customers, such as billing, accounting, collection expense and other associated services.
- 2) **Monthly Capacity Charge.** A graduated charge based on the size of the water meter. This charge recovers costs related to water meters and direct water capacity improvements.
- 3) **Water Consumption Charge.** A per unit charge based on the amount of water used (per 100 cubic feet). This charge recovers costs associated with purchasing,

pumping, storing, transmitting and distributing water.

Before setting rates for each component, we previously determined the number of customer accounts, number of equivalent 3/4-inch water services, amount of water consumption and the City's revenue requirements for the next five years. This data (shown in Table XIV) will be used in developing the City's water rate schedule.

Table XIV - Service Provisions and Revenue Requirements					
Rate Factor	Budget 1994-95	Projection 1995-96	Projection 1996-97	Projection 1997-98	Projection 1998-99
Customer Accounts (Meters)	6,501	6,678	6,861	7,050	7,245
Equivalent 3/4" Ser- vices	7,490	7,694	7,905	8,123	8,349
Water Consumption (ccf)	1,023,371	1,053,174	1,084,094	1,116,189	1,149,521
Net Rev. Req.	\$2,209,678	\$2,598,429	\$2,719,933	\$2,778,141	\$2,853,733

The first thing we need to do is to assign the revenue requirements to the appropriate service component categories (customer, capacity and commodity), and subtract from the categories other revenues which can be reasonably anticipated (such as SDC reimbursements, connection fees, interest earnings, etc.). This process is shown in Table XV.

Table XV - Requirements Assigned to Service Components

Revenue Requirements	Service Component Categories		
	Customer	Capacity	Commodity
Operation and Maintenance			
Customer	X		
Supply			X
Quality			X
System			X
Meters		X	
New Meters		X	
Operating Reserves			
Operating Contingency			X
Unappropriated Reserve			X
Debt Service			
Principal			X
Interest			X
Reserve			X
Capital Requirements			
Supply			X
System			X
Capacity		X	
Revenues			
System Development Charges	X	X	X
Connection Charges		X	
Miscellaneous			X
Interest Earnings			X
Total Net Revenue Requirements	S	S	S

After the revenue requirements have been assigned, a method is developed for determining the rate for each tier. The formula used for calculating the rate for each tier is shown below:

Monthly Customer Service Charge

(Net Revenue Requirements / Total Customer Accounts) / 12 Months = Monthly Rate

Monthly Capacity Charge

(Net Revenue Requirements / Total Equivalent Services) * Meter Size's Equivalent Service Factor / 12 Months = Monthly Rate

Water Consumption Charge

Net Revenue Requirements / Total Water Consumption = Unit Rate, Per 100 Cubic Feet

The computations resulted in annual water rate schedules. The West Linn City Council has established a policy to set rates on a 5-year basis. Thus, the 5-year average are shown in Table XV. For the period 1994-95 through 1998-99, the 5-year average rates are recommended for adoption.

Table XV - Recommended Water Rate Schedule						
Type of Charges	Current Rates	Recommended Water Rates				
		1994-95	1995-96	1996-97	1997-98	1998-99
Customer Service (Per Month)	None	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00
Consumption (Per ccf)	\$1.10	\$2.20	\$2.20	\$2.20	\$2.20	\$2.20
Capacity Charge, Based on Meter Size (Per Month):						
3/4"	\$9.50	\$2.36	\$2.36	\$2.36	\$2.36	\$2.36
1"	\$11.25	\$5.90	\$5.90	\$5.90	\$5.90	\$5.90
1 1/2"	\$13.50	\$11.80	\$11.80	\$11.80	\$11.80	\$11.80
2"	\$16.50	\$18.88	\$18.88	\$18.88	\$18.88	\$18.88
3"	\$21.75	\$37.76	\$37.76	\$37.76	\$37.76	\$37.76
4"	\$29.25	\$59.00	\$59.00	\$59.00	\$59.00	\$59.00
6"	\$43.50	\$118.00	\$118.00	\$118.00	\$118.00	\$118.00
8"	N/A	\$188.80	\$188.80	\$188.80	\$188.80	\$188.80
10"	N/A	\$271.40	\$271.40	\$271.40	\$271.40	\$271.40

Comparing Current and Recommended Water Rate Schedules

The City's current water rate schedule and the method of applying them differ from the water rate schedule being recommended. Currently, the City charges a monthly minimum charge based on meter size, which includes a 700 cubic feet water usage allowance. For example, a 3/4-inch single family water service is charged \$9.50 per month and when a customer exceeds the water usage allowance, the excess usage is billed at \$1.10 per 100 cubic

feet. There is an exception to this in the case of residential multifamily housing units (duplexes, 4-plexes, apartment complexes, etc.), which are served by one or several water meters. Their charges are not based on the size of the water meter; they are charged based on the number of living units, as through each had separate 3/4-inch water meters. For example, a 8-unit apartment complex with a 2-inch water meter is charged a minimum billed of \$76 (8 x \$9.50) and given a 5,600 cubic feet water allowance (8 x 700). Then compare this with a retail/commercial business having the same size meter and using 5,600 cubic feet of water is charged \$70 ($\$16.50 + [56-7 * \$1.10]$), and if the amount of water usage is less the bill is also less.

Under the recommended water rate schedule, charges are based solely on meter size and actual water usage. In principle, the method recognizes that meter-and-service costs vary for various sized meters. One of the objectives in developing these rates is to attain equity among customers and classes of customers. This is in the best interest of both the community and the City's water utility. With the recommended water rate schedule, water conservation is encouraged, customers benefit financially from decreasing water use. Furthermore, charges paid by one customer, or class of customer, is not supporting the rates of another.

Lastly, fire connection meters are charged only the monthly customer service and capacity charges, because everyone should be provided the same level of fire protection services by the City's water system. Most people receive this service from fire hydrants, while others have private fire protection sprinkler systems. The only difference between the two is the workload required to read and maintain the connections to the water system. When water is used from a public fire hydrant to extinguish a fire, no individual is charged for the water used. If that is the case, then an individual owning a fire protection sprinkler system should also not be charged. Therefore, the monthly water charges recover an appropriate amount for the services being provided.

Table XV - Comparing Monthly Water Bills

Monthly Water Bill						
Water Use (Cubic Feet)	3/4" Water Meter			1" Water Meter		
	Proposed	Current	Savings/ (Costs)	Proposed	Current	Savings/ (Costs)
0	\$3.36	\$9.50	\$6.14	\$6.90	11.25	\$4.35
100	\$5.56	\$9.50	\$3.94	\$9.10	11.25	\$2.15
200	\$7.76	\$9.50	\$1.74	\$11.30	11.25	(\$0.05)
300	\$9.96	\$9.50	(\$0.46)	\$13.50	11.25	(\$2.25)
400	\$12.16	\$9.50	(\$2.66)	\$15.70	11.25	(\$4.45)
500	\$14.36	\$9.50	(\$4.86)	\$17.90	11.25	(\$6.65)
600	\$16.56	\$9.50	(\$7.06)	\$20.10	11.25	(\$8.85)
700	\$18.76	\$9.50	(\$9.26)	\$22.30	11.25	(\$11.05)
1100	\$27.56	\$13.90	(\$13.66)	\$31.10	15.65	(\$15.45)
1500	\$36.36	\$18.30	(\$18.06)	\$39.90	20.05	(\$19.85)

The average bill for a single family 3/4-inch service will need to be increased by approximately 98% (based on 1,100 cubic feet of monthly water use) in order for the City's water agency to recover its average revenue requirements over the next five years. The monthly bill for a single family home using from 300 to 1,500 cubic feet of water will be 5% to 99% higher, depending on the amount of water used. However, customers using less than 200 cubic feet will benefit from the new rate schedule. Customers falling in this range will receive water bills up to 65% lower.

Low-income Household Discounts

The City currently provides water bill discounts to low-income households. The discount is one-half of the monthly minimum charge, which includes 700 cubic feet water use allowance and any excess use is billed at the regular rate of \$1.10 per 100 cubic feet. The

normal monthly minimum charge for a 3/4-inch water service is \$9.50, with a discount the charge is \$4.75.

Currently there are seventy eight (78) household accounts that receive a discount and they use 577,000 cubic feet of water during the entire year. These accounts are a very small segment of the City's entire customer base. They makeup just over one percent (1%) of the City's total accounts and use only one-half of one percent (1/2%) of the total water used by all customers.

We recommend that the City continue to provide monthly discounts to low-income households in the following way:

- That the customer service and capacity charges be billed at one-half (1/2) of the regular monthly rate;
- That the first 700 cubic feet of water usage be charged at one-half (1/2) of the regular water consumption rate; and
- That excess water usage over 700 cubic fee per month be charged at the regular rate.

APPENDIX

**Appendix A
Actual/Budgeted Expenses
West Linn Water**

Page i

Line Item	Budget 1994-95
Positions (FTE)	6.5
Crew Chief (1 Person)	\$40,524
Utility Workers	170,893
Office Help	5,436
Extra Help	4,000
Overtime	500
Fringe Benefits	78,112
Office Supplies	1,840
Postage Expense	5,000
Books and Periodicals	525
Printing and Reproduction	215
Membership Dues and Fees	1,365
Professional Certification	975
Training and Travel	2,600
Meals & Business Expenses	105
Facilities' Maintenance	0
Insurance Expense	8,925
Telephone Expense	1,295
Utility Expense	50,185
Small Tool Purchases	840
Professional Services	27,000
Contract Agreement and Services	2,755
Legal Services	5,250
Rent and Lease Payments	525
Special Department Expenses	3,150
Demolition	625
Water Service Installation	43,125

ECONOMIC RESOURCE

ASSOCIATES, INC.

Appendix A
Actual/Budgeted Expenses
West Linn Water
 Page ii

Line Item	Budget 1994-95
Water Main Maintenance	10,780
Water Facilities Maintenance	11,430
Reservoir Maintenance	0
Payments To South Fork	700,110
Equipment	3,490
Vehicles	8,400
Communication Equipment	315
Land Acquisitions	0
G.F. Payment in Lieu of Taxes	24,000
G.F. Accounting Services	81,832
G.F. Development Services	19,439
G.F. Public Works Support	69,889
G.F. Admin Services	105,560
G.F. Engineering Services	140,452
Vehicle/Eqt. Maintenance Fund	25,000
Utility Franchise Fee	81,927
Water Construction Fund	0
Capital Improvements	263,500
Debt Service	127,554
Total Expenses	\$2,130,103

**Appendix B
Expenses Projected
West Linn Water**

Page III

Line Item	F ¹	T ¹	1995-96	1996-97	1997-98	1998-99
Positions (FTE)			6.7	6.9	7	7.2
Crew Chief (1 Person)	1	1	\$42,550	\$44,678	\$46,912	\$49,257
Utility Workers	1	S	184,959	200,004	213,048	230,092
Office Help	3	3	5,863	6,156	6,464	6,787
Extra Help	1	3	4,314	4,530	4,757	4,994
Overtime	1	3	539	566	595	624
Fringe Benefits	1	S	84,066	90,315	95,905	102,956
Office Supplies	3	1	1,932	2,029	2,130	2,237
Postage Expense	3	3	5,393	5,663	5,946	6,243
Books and Periodicals	1	1	551	579	608	638
Printing and Reproduction	3	3	232	243	256	268
Membership Dues and Fees	1	1	1,433	1,505	1,580	1,659
Professional Certification	1	S	1,055	1,141	1,216	1,313
Training and Travel	1	S	2,814	3,043	3,241	3,501
Meals & Business Expenses	1	1	110	116	122	128
Facilities' Maintenance	6	1	0	0	0	0
Insurance Expense	2	1	9,371	9,840	10,332	10,848
Telephone Expense	3	3	1,397	1,467	1,540	1,617

**Appendix B
Expenses Projected
West Linn Water**

Page IV

Line Item	F	T	1995-96	1996-97	1997-98	1998-99
Utility Expense	6	3	54,129	56,836	59,678	62,662
Small Tool Purchases	6	S	909	983	1,047	1,131
Professional Services	7	3	29,122	30,578	32,107	33,713
Contract Agreement and Services	2	1	2,893	3,037	3,189	3,349
Legal Services	2	1	5,513	5,788	6,078	6,381
Rent and Lease Payments	6	1	551	579	608	638
Special Department Expenses	6	1	3,308	3,473	3,647	3,829
Demolition	9	1	656	689	724	760
Water Service Installation	8	3	46,515	48,840	51,282	53,846
Water Main Maintenance	6	3	11,627	12,209	12,819	13,460
Water Facilities Maintenance	6	3	12,328	12,945	13,592	14,272
Reservoir Maintenance	6		0	0	0	0
Payments To South Fork	4	S	714,785	729,081	743,663	758,536
Equipment	3	1	3,665	3,848	4,040	4,242
Vehicles	6	1	8,820	9,261	9,724	10,210
Communication Equipment	6	1	331	347	365	383
Land Acquisitions	6					
G.F. Payment in Lieu of Taxes	6	1	25,200	26,460	27,783	29,172

**Appendix B
Expenses Projected
West Linn Water**

Page v

Line Item	F'	T'	1995-96	1996-97	1997-98	1998-99
G.F. Accounting Services	10	1	99,516	104,228	107,997	113,043
G.F. Development Services	8	3	20,967	22,015	23,116	24,272
G.F. Public Works Support	2	3	84,195	88,177	91,327	95,582
G.F. Admin Services	2	1	126,461	132,251	135,948	142,030
G.F. Engineering Services	2	3	171,429	179,479	185,576	194,144
Vehicle/Eqt. Maintenance Fund	6	3	26,965	28,313	29,729	31,215
Utility Franchise Fee	2	3	99,800	104,294	106,806	111,486
Water Construction Fund	11	1				
Capital Improvements	9		591,767	629,674	635,500	673,936
Debt Service	9		123,185	124,635	120,537	120,290
Total Expenses			\$2,611,217	\$2,729,896	\$2,801,532	\$2,925,745

Appendix C
Projection Type
West Linn Water
 Page vi

TYPE KEY:	LINE ITEM PROJECTED BY:
1	Inflation Only
2	Consumption Growth Plus Inflation
3	Service Growth Plus Inflation
4	Growth of South Fork Rates
0	No Change
S	Special Formula

Appendix D
Function Assignments
West Linn Water
 Page vi

FUNCTION KEY:	LINE ITEM ASSIGNED TO FOLLOWING FUNCTION:
1	Apportion Function
2	General Overhead
3	Customer Account
4	Supply
5	Water Quality
6	General System
7	Meters
8	New Meters
9	Capital Improvements
10	Divide-Customer/General
11	Transfers

APPENDIX ENDNOTES

1. *Represents the functions to which the expense line item is assigned. See following exhibit in the Appendix.*
2. *Represents the expense type by line item. The expense type determines the factor used for projecting each line item. for the factors used by line item see subsequent exhibit in the Appendix.*