

**CHAPTER 8**  
**FINANCIAL PLAN AND WATER RATE STUDY**

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This chapter summarizes the methodology, key assumptions, and results obtained in the development of a 20-year financial plan and water rates for the Department of Water (DOW). Tables referenced in this chapter can be found at the end of this chapter.

## **20-YEAR FINANCIAL PLAN**

To help ensure the long-term viability of Water Plan 2020 and to provide a sound basis for the water rate study, a 20-year financial analysis was prepared that represented the DOW's projected operating results consistent with the implementation of Water Plan 2020. Prior to the completion of the financial analysis, a workshop with the DOW Board was conducted to establish certain financial policy objectives to be used in the study. The first five years of the financial plan were used in the revenue requirement analysis of the water rate study, which is discussed in detail later in this chapter.

### **FINANCIAL POLICY WORKSHOP**

On January 10, 2000, an all-day financial policy workshop was conducted with the DOW Board. The purpose of this workshop was to educate the Board on the financial plan and rate study process and to obtain Board input on various policy decisions needed as part of the preparation of the financial plan and water rate study. Among the financial and rate policy issues discussed at the workshop were the following:

- What level of debt funding of the CIP and CRP is appropriate?
- How much financial assurance (as indicated by debt service coverage, operating cash reserve levels, etc) should the DOW maintain?
- How much capital funding should be financed by facilities reserve charge revenues?
- Should remote area or high elevation pumping surcharges be considered?
- How much should the DOW general use customers subsidize agricultural use rates?
- Should the DOW provide rate discounts or other assistance for low-income customers?
- What level of overall rate increases would the Board be comfortable adopting?

A thorough discussion of these issues was conducted with the Board and the DOW staff and was utilized in the development of the financial plan.

### **20-YEAR FINANCIAL PLAN RESULTS**

A 20-year financial plan was prepared for the DOW consistent with the operating and capital projections developed in Water Plan 2020. The current dollar cost estimates developed in Water Plan 2020 were escalated for future years using a 3.0 percent annual inflation rate. The results of the first five-year period (FYs 2002-2006,) discussed in detail under the Revenue Requirements Analysis section below, indicated a need for two 32.0 percent increases, effective July 1, 2001 and July 1, 2003. The following 15-year period was reviewed in two periods: the five-year period from FY 2007 to 2011 and the ten-year period from FY 2012 to 2021. Among the key assumptions made in the development of the financial plan were the following:

- Average customer growth rate of 1.0 percent per year

- Average water sales growth rate of 1.25 percent per year
- Approximately 60 percent of the Water Plan 2020 funding needs would be debt financed, 4.0 percent would be facilities reserve charge (FRC) funded, and the remaining 36 percent would be funded with rate revenues
- Projected 4.0 percent annual increases in O&M expenditures (representing 3.0 percent inflation plus 1.0 percent customer growth)
- A minimum debt service coverage level of 1.25 was maintained
- A minimum operating reserve level of approximately 5.0 percent of previous year's water sales revenue was maintained.

The results of the long-term financial plan for the FY 2007 to 2021 period are summarized in the following paragraphs.

For the FY 2007 to 2011 period, escalated Water Plan 2020 spending of \$47.8 million was projected, based on the 3.0 percent inflation rate. Assuming that approximately 60 percent of this funding need was debt financed resulted in \$29.0 million in additional debt borrowing during this five-year period. These Water Plan 2020 capital funding needs, along with the projected 4.0 percent annual increases in O&M expenditures, resulted in an average annual rate increase of approximately 3.5 percent per year during the FY 2007 to 2011 time period. This is similar to the assumed annual inflation rate of 3.0 percent per year during this time period.

For the FY 2012 to 2021 period, escalated Water Plan 2020 spending of \$92.7 million was projected, based on the 3.0 percent inflation rate. Assuming that approximately 60 percent of this funding need was debt financed resulted in \$56.2 million in additional debt borrowing during this ten-year period. These Water Plan 2020 funding needs, along with the projected 4.0 percent annual increases in O&M expenditures, resulted in an average annual rate increase of approximately 3.0 percent per year during the FY 2012 to 2021 time period. Again this is similar to the assumed annual inflation rate of 3.0 percent per year during this time period.

Over the entire 15-year period, the average annual rate increase is approximately 3.2 percent per year, which is very close to the assumed level of inflation of 3.0 percent per year.

## **REVENUE REQUIREMENTS ANALYSIS**

To provide for the continued operation of a utility on a sound financial basis, revenue must be sufficient to meet the cash requirements of operation and maintenance expenses, administrative expenses, debt service expense, and routine replacements to the system as well as any necessary non-operating expenses or capital costs. In addition, cash reserves should be sufficient to provide needed funds in the event of emergencies and fluctuations in revenue. The sum of these cost components is referred to as a utility's "revenue requirement." Projections of the DOW's revenues and revenue requirements for the study period, fiscal years (FYs) 2001-2006, are described in the following paragraphs.

## **METHODOLOGY**

There are two generally accepted methodologies used in determining the revenue requirements of a water utility. The first method, the "cash-needs approach," is based on the projected cash needs of a utility. The components analyzed include operations and

maintenance expense, debt service expense, debt service reserves (where applicable) and cash-financed capital improvements. In this method, depreciation (as a non-cash item) is not included in the analysis. The second method, the “utility approach,” involves the calculation of a rate of return on the utility’s rate base and includes depreciation as part of the analysis. For the most part, operations and maintenance expense under both methodologies are the same.

Most government-owned utilities use the cash-needs approach in determining revenue requirements unless they are under the jurisdiction of a state utility commission or regulatory body that requires the use of the utility approach. Investor-owned utilities are typically required to use the utility approach in determining revenue requirements. The cash-needs approach is used for this study. The test year for this study is FY 2002.

**KEY ASSUMPTIONS**

The following is a summary of the key assumptions that were used to develop the revenue and revenue requirements projections for the study period:

- Average Customer Growth Rate 1.0 percent per year
- Average Water Sales Growth Rate 1.25 percent per year
- General Operating Expenses Escalator 3.0 percent per year
- Purchased Power Cost Escalator 4.0 percent per year
- New the DOW Staff Added Over Study Period 12
- Benefits Factor 43.0 percent of Raw Labor Costs
- Minimum Debt Service Coverage 1.25
- Minimum Operating Reserve Level 5.0 percent of previous year’s water sales revenue
- Total Six-year Capital Program (with Carry Forward) \$66.1 million
- General Obligation Bonds Issued Over Six-year Period \$20,930,000

The six-year capital program includes both the DOW’s Plan 2020 capital improvement program (CIP) projects and capital replacement program (CRP) projects for the period FY 2001 to FY 2006, as discussed in Chapter 6, and other non-Plan 2020 capital expenditures. Plan 2020 CIP and CRP expenditures of \$55.7 million are included in the revenue requirements analysis along with \$12.1 million of non-Plan 2020 CIP and CRP expenditures and other capital expenditures. An assumed capital funding carry forward of \$1.7 million brings the total six-year capital program funding requirement to \$66.1 million. Approximately \$9.7 million of this amount is budgeted to be expended by DOW in FY 2001. Additional discussion on the financing of the capital program can be found later in this chapter.

**PROJECTION OF REVENUES**

**Operating and Other Revenues**

The DOW’s main source of revenue is derived from the sale of water. Revenues from the sale of water (primarily from service charges and usage charges) at existing water rates were

projected based on analyses of historical water sales and number of customers as described previously in Chapter 4. (See Table 8.1.) Using the assumptions for customer and water sales growth rates described above, a model was developed to estimate the DOW's revenues that would be expected to occur during the study period if the current rates remained in effect for the entire study period. The projected average growth rates for all customers and water sales were 1.0 percent and 1.25 percent, respectively.

The DOW collects other revenues from miscellaneous water-related services and interest income. The total revenue from these non-water sales sources was projected at \$1,300,000 per year. (See Table 8.1.)

### **Facilities Reserve Charge Revenues**

Facilities reserve charges, also known as system development charges and impact fees, refer to those charges designed to recover the costs of adding additional new water system capital facilities to service new customers. Based on discussions with the DOW's Board, it was determined that there would be no adjustment to the DOW's facilities reserve charges during this rate review process. Revenue from facilities reserve charges is projected at approximately \$400,000 per year, consistent with historical levels, and will be assumed to be used to finance growth-related capital improvements. Additional discussion regarding the financing of the DOW's capital program can be found in the following paragraphs.

## **PROJECTION OF REVENUE REQUIREMENTS**

### **OPERATING EXPENSES**

Projected operating expenses were based on an analysis of the DOW's historical operating results, adopted FY 2001 Operating Budget, and discussions with the DOW staff regarding expectations of future expenditure levels. An annual escalation factor of 4.0 percent, which reflects inflation of approximately 3.0 percent per year and customer growth of approximately 1.0 percent per year, was used for most cost components. Power costs were escalated at approximately 4.0 percent for the study period, which reflects increased loads due to projected new wells and increases in power costs at approximately the rate of inflation. Historical and projected operating expenses are summarized in Table 8.2. The addition of twelve new staff and additional Water Plan 2020 operating and maintenance expenses over the study period contribute approximately \$5.2 million to the DOW's operating expenses. (See Table 8.2.) These factors result in approximately a 5.2 percent annual increase in the DOW's projected total operating expenses for the study period, as shown in Table 8.3.

### **Capital Financing**

To meet the funding needs of Plan 2020, the DOW plans to implement a six-year \$66.1 million capital program during the study period, which includes a 3 percent annual escalation factor for inflation. To recognize potential delays in the DOW's implementation of this capital program, a 20 percent per year carry forward was included in the analysis of the proposed capital program. The carry forward assumes that 80 percent of each fiscal year's projected capital program will be completed in that fiscal year and the remaining 20 percent of projects for that fiscal year will be delayed and funded in the following fiscal year. Funding for the capital program will come from a variety of sources including existing cash and other reserves, the sale of new general obligation (GO) bonds, and revenues from rates. All GO bonds are assumed to be issued at a 5.5 percent interest rate and a term of 20 years. No new loans from the State Revolving Fund program are assumed as a source of funding. Based on these assumptions, the DOW's current debt service payment of approximately \$726,700 per year is projected to increase to approximately \$2.5 million in FY 2006. See

Table 8.4 for a summary of the DOW's proposed CIP and CRP expenditures and a projected financing plan for these expenditures.

### **Results of Revenue Requirements Analysis**

The results of the revenue requirements analysis reflect not only the level of projected operating expenses and capital spending but two additional key elements: the sufficiency of the DOW's end of year operating reserve levels and the adequacy of debt service coverage. The projected end of year operating reserve levels were set at 5.0 percent of previous year's water sales revenue, a benchmark used by other water utilities. This level of operating reserves provides the DOW with contingency funds to pay for certain emergency expenditures and to provide adequate cash flow to cover its revenue collections.

Debt service coverage was projected to be at or above a minimum of 1.25 times the DOW's annual debt expense consisting of principal and interest on outstanding bonds. While significant levels of additional debt are projected in the study period, the DOW's current relatively low debt level combined with additional future debt issuances results in strong debt service coverage in excess of 3.0 throughout the 2002-2006 time period.

The results of the revenue requirements analysis are summarized in Table 8.5 and indicate a need for two system rate increases as follows:

July 1, 2001	32.0 percent
July 1, 2003	32.0 percent

These general system rate increases should be sufficient to meet the DOW's projected revenue requirements described earlier in this chapter.

A preliminary version of the revenue requirement analysis was provided to the DOW's Board on October 31, 2000, which included the projection of these two rate increases. The Board requested that a rate proposal be developed that would reflect this level of revenue requirements for the DOW and the corresponding system rate increases.

## **COST-OF-SERVICE ANALYSIS**

The design of an equitable rate structure is dependent on the determination of revenue requirements for each customer class commensurate with their respective service requirements. The classification of revenue requirements to the major cost components of base, extra-capacity, customer service and direct fire protection is used to help estimate cost-of-service levels. This information establishes how much of the cost of water service is fixed (service charge) and how much is variable and dependent on usage levels (consumption charge).

### **METHODOLOGY**

The first step in the cost-of-service analysis is to select an appropriate test year. For the DOW, the test year, FY 2002, was selected since this is the first year in which the new rates will be implemented. System water usage and peak demand data is then collected to determine the appropriate peaking factor to use for allocating base and extra-capacity related costs. It was determined that the appropriate peaking factor for the DOW was 1.5 which represented the ratio of peak day demand to average day demand.

The next step in the cost-of-service analysis involves functionalizing or separating the revenue requirements according to water system function. The main functional categories include source of supply, treatment or purification, storage, transmission and distribution. These functionalized costs are then classified based on their contribution to providing average (base) demand, above average (extra-capacity) demand, customer service and direct fire protection. Classified costs are then allocated to each customer class or group based on their

relative share of system classified costs. This cost data is then summarized by customer class and by units of service and this information is used in adjusting rate levels.

## **RESULTS**

Table 8.6 provides a summary of the classified costs and the reconciliation of the cost-of-service analysis to the revenue requirements analysis. As indicated, the majority of the DOW's costs are base (or volume related) costs; the balance consists of extra-capacity (peaking) and customer-related costs. Average unit costs are calculated in order to form the basis for the next step, rate design. (See Table 8.7.) The unit cost results show the average unit cost for the system to be \$2.76 per thousand gallons. This unit cost reflects all costs necessary to provide water service to the DOW customers including volume, peaking, customer and fire protection related costs. Base or volume related costs represent \$1.73 per thousand gallons, or 62 percent of the DOW's total cost of service. Extra-capacity or peaking costs represent approximately 27 percent of the total cost of service. Customer costs (which include both metering and billing costs) are approximately \$1.0 million per year, or 9.0 percent of the DOW's total cost of service. Finally, public fire protection costs of approximately \$301,000 per year represents approximately 2.0 percent of the DOW's cost of service.

Overall on a per-gallon basis, the cost of General Use water is \$2.70 per thousand gallons. The cost of Agricultural Use water is \$2.56 per thousand gallons (approximately 95 percent of the cost of General Use water).

## **RATE DESIGN**

Once the cost of service has been established, an equitable rate structure can be developed that will adequately recover all costs. Although rates should be designed to equitably recover the cost of service for each customer class, consideration also should be given to other policy objectives, including consideration of the impact that potentially significant rate increases may have on individual customers.

The DOW's current rates consist of a monthly service charge based on meter size, and a uniform consumption charge of \$1.78 per thousand gallons for all water consumed by General Use customers. Agricultural customers have a declining block rate structure, paying the same uniform consumption charge as General Use customers for the first 25,000 gallons consumed bi-monthly, and then \$0.60 per thousand gallons (approximately 33 percent of the first block rate) for additional usage.

## **METHODOLOGY**

Discussions with the DOW's Board provided considerable direction for rate design, including a decision to move toward a more conservation-oriented rate structure. The new rates reflect an inverted (increasing) three-block rate structure for General Use customers. Under this rate structure, water rates increase as consumption increases. The first block, set at a rate to encourage conservation, is set at approximately 95 percent of the estimated consumption unit cost of service of \$2.22 per thousand gallons. This unit cost includes all base costs and approximately two-thirds of extra-capacity costs. The second block is set at approximately 108 percent of the cost-of-service level and the third block is set at approximately 150 percent of the cost-of-service level. The monthly service charge for a 5/8-inch meter was set at \$9.00 per month that recovers both customer costs and a portion of extra-capacity costs. Service charges for larger sized meters were set based on equivalent meter usage ratios. For Agricultural Use customers, the Board indicated a preference to maintain the existing declining two-block rate structure and monthly thresholds. However, the Board

recommended that the second block be increased from approximately 33 percent of the first block rate to approximately 50 percent of the first block rate. The recommended rates for both General Use and Agricultural Use customers are presented in Table 8.8.

Monthly usage thresholds for General Use customers were determined using maximum demand requirements for each meter size as provided by the DOW staff. These thresholds are shown in Table 8.9. Typical bill comparisons were calculated to show estimated impacts of the new rates. In addition, typical bill comparisons with other water systems in the State of Hawaii were also developed to show the relative level of typical monthly water bills for various water usage levels. These typical bill comparisons are shown in Table 8.10.

#### **ADDITIONAL CHARGES**

Tables 8.11 and 8.12 show the proposed rates for Private and Public Fire Protection and Shipping Rate Charges. These rates were developed based on the overall system rate increase, comparisons with comparable utilities and discussions with the DOW staff.

Finally, a Power Adjustment Clause was proposed to be included in the DOW's rules and regulations. This clause protects the DOW against unanticipated large increases in power costs. The clause allows the automatic pass through of unanticipated power cost increases to customers through the water consumption charge. The implementation of this clause will be based on an annual review of actual and projected unit power costs and will apply to all water consumption by the DOW's customers.

#### **ADOPTED RATE CHANGES**

On January 24, 2001 the DOW held a public hearing to receive public input on the proposed rate changes. Immediately following this public hearing, the Board met and discussed the proposed rate changes. Based on the public input received, the Board approved the proposed rate changes with one modification. The proposed second block consumption charge for Agricultural Use effective July 1, 2001 was reduced from \$1.05 per thousand gallons (i.e., 50 percent of the \$2.10 per thousand gallons first block consumption charge) to \$0.70 per thousand gallons (i.e., 33 percent of the \$2.10 per thousand gallons first block consumption charge). With this one modification, the proposed rates were approved and adopted by the DOW Board on January 24, 2001, to be effective July 1, 2001 and July 1, 2003.



TABLE 8.1

COUNTY OF KAUAI -- DEPARTMENT OF WATER  
 Historical and Projected Customer Accounts, Water Consumption and Revenues

Fiscal Years Ending June 30

Customer Accounts	Historical (1)					1996-00	Projected					2001-06	
	1996	1997	1998	1999	2000	Annual Growth	2001	2002	2003	2004	2005	2006	Annual Growth
1 General Use	16,561	16,723	16,827	17,044	17,324	1.1%	17,490	17,670	17,850	18,030	18,210	18,400	1.0%
2 Agriculture	308	334	331	286	353	3.5%	360	360	360	360	360	360	0.0%
3 Total	16,869	17,057	17,158	17,330	17,677	1.2%	17,850	18,030	18,210	18,390	18,570	18,760	1.0%

  

Water Consumption	Historical (2)					1996-00	Projected					2001-06	
	1996	1997	1998	1999	2000	Annual Growth	2001	2002	2003	2004	2005	2006	Annual Growth
4 General Use	4,023,808	3,781,517	3,972,166	4,189,190	4,114,341	0.6%	4,165,770	4,217,840	4,270,560	4,323,940	4,377,990	4,432,710	1.25%
5 Agriculture	181,789	163,584	176,243	183,769	194,342	1.7%	196,770	199,230	201,720	204,240	206,790	209,370	1.25%
6 Total	4,205,597	3,945,101	4,148,409	4,372,959	4,308,683	0.6%	4,362,540	4,417,070	4,472,280	4,528,180	4,584,780	4,642,080	1.25%

  

Revenue	Historical (1)					1996-00	Projected					2001-06	
	1996	1997	1998	1999	2000	Annual Growth	2001	2002	2003	2004	2005	2006	Annual Growth
7 Service Charge Revenue	\$1,212,624	\$1,363,596	\$1,372,694	\$1,428,878	\$1,497,307	5.4%	\$1,480,000	\$1,494,800	\$1,509,748	\$1,524,845	\$1,540,094	\$1,555,495	1.00%
8 Usage Charge Revenue	6,816,945	6,682,559	7,091,701	7,380,000	7,641,033	2.9%	7,648,000	7,743,600	7,840,395	7,938,400	8,037,630	8,138,100	1.25%
9 Other Revenue (3)	1,350,334	1,298,151	1,240,697	2,118,062	1,342,047	-0.2%	1,280,000	1,300,000	1,300,000	1,300,000	1,300,000	1,300,000	0.31%
10 Total Revenue	\$9,379,903	\$9,344,305	\$9,705,091	\$10,926,940	\$10,480,387	2.8%	\$10,408,000	\$10,538,400	\$10,650,143	\$10,763,245	\$10,877,724	\$10,993,595	1.10%

Notes:

- (1) Source: Analysis of Metered Water Sales by Sewer Class reports through 1999. FY 2000 based on Historical Budgetary Operating Results dated October 27, 2000.
- (2) Source: Department of Water Historical Budgetary Operating Results. FY 2000 based on Historical Budgetary Operating Results dated October 27, 2000.
- (3) Includes Miscellaneous receipts, Fire hydrant revenues from the County and interest income.

TABLE 8.2

COUNTY OF KAUAI -- DEPARTMENT OF WATER

		Historical and Projected Operating Expenses										Annual Growth 01 - 06	
		Fiscal Years Ending June 30				Est. 2000	Budget 2001	Projected					
		Historical	Historical	Historical	Historical			2002	2003	2004	2005		2006
1996	1997	1998	1999										
Source of Supply													
1	Salaries - Wtr Resource & Planning	\$178,113	\$181,920	\$195,977	\$194,625	\$225,100	\$230,900						
2	Benefits	68,395	69,407	76,679	61,131	50,588	86,524						
3	Water Purchase	39,733	45,850	36,728	49,337	40,653	63,400						
4	Subtotal - Source of Supply	\$286,241	\$297,177	\$309,384	\$305,093	\$316,341	\$380,824	\$396,100	\$411,900	\$428,400	\$445,500	\$463,300	4.00%
Pumping													
5	Pump Diesel	\$127	\$0	\$0	\$11,174	\$16,118	\$0						
6	Pumping Power - Electrical	1,355,405	1,432,844	1,462,873	1,530,039	1,750,040	2,000,000						
7	Subtotal Pumping	\$1,355,532	\$1,432,844	\$1,462,873	\$1,541,213	\$1,766,158	\$2,000,000	\$1,780,000	\$1,851,200	\$1,925,200	\$2,002,200	\$2,082,300	4.00%
8													
Water Treatment Plant													
9	Salaries - Operations Plant	\$495,440	\$466,044	\$466,157	\$445,923	\$587,799	\$598,697						
10	Salaries - Special Projects	-	80,857	95,214	102,728	113,550	132,050						
11	Salaries - Engr Design & Construction	109,827	139,716	146,808	147,280	172,950	161,900						
12	Subtotal Salaries	605,267	686,616	708,178	695,930	874,299	892,647						
13	Benefits	232,421	261,960	277,085	218,588	196,486	334,497						
14	Chemicals	16,593	16,139	18,524	24,112	23,671	25,500						
15	Microlab Material & Supply	-	-	21,358	9,387	8,361	12,000						
16	Safe Drinking Water Act	194,425	1,958	1,000	72,130	42,706	100,000						
17	Subtotal - Total Water Treatment Plant	\$1,048,705	\$966,673	\$1,026,146	\$1,020,147	\$1,145,523	\$1,364,644	\$1,419,200	\$1,476,000	\$1,535,000	\$1,596,400	\$1,660,300	4.00%
Transmission and Distribution													
18	Salaries - Operations Field	\$567,503	\$533,831	\$533,961	\$510,784	\$673,296	\$685,780						
19	Salaries - Special Projects	-	80,857	95,214	102,728	113,550	132,050						
20	Salaries - Engr Design & Construction	109,827	139,716	146,808	147,280	172,950	161,900						
21	Subtotal - Salaries	677,330	754,404	775,983	760,791	959,796	979,730						
22	Benefits	260,093	287,822	303,615	238,961	215,700	367,128						
23	Subtotal - Transmission and Distribution	\$937,423	\$1,042,226	\$1,079,597	\$999,752	\$1,175,496	\$1,346,858	\$1,400,700	\$1,456,700	\$1,515,000	\$1,575,600	\$1,638,600	4.00%
Customer Services													
24	Salaries - Fiscal Cons Svc	\$227,244	\$237,520	\$243,698	\$246,675	\$269,715	\$276,116						
25	Benefits	87,261	90,619	95,350	77,479	60,615	103,467						
26	Meter Parts	3,232	3,207	1,098	1,759	952	10,000						
27	Subtotal - Customer Services	\$317,737	\$331,346	\$340,147	\$325,913	\$331,282	\$389,584	\$405,200	\$421,400	\$438,300	\$455,800	\$474,000	4.00%
Administrative & Engineering													
28	Salaries - Fiscal Admin	\$57,491	\$60,091	\$61,654	\$62,407	\$68,236	\$69,855						
29	Salaries - Fiscal Accounting	183,882	192,197	197,196	199,605	218,249	223,428						
30	Salaries - Operations Admin	105,364	99,112	99,136	94,833	125,005	127,323						
31	Subtotal - Salaries	346,736	351,399	357,986	356,845	411,490	420,607						

TABLE 8.2

COUNTY OF KAUAI -- DEPARTMENT OF WATER

		Historical and Projected Operating Expenses										Annual Growth 01 - 06	
		Fiscal Years Ending June 30					Projected						
		Historical	Est.	Budget	Projected								
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006		
Administrative & Engineering (continued)													
32	Benefits	133,146	134,067	140,067	112,083	92,476	157,612						
33	Utilities	53,874	65,768	63,469	79,185	93,930	112,600						
34	Postage and Printing	44,719	40,270	42,792	41,808	62,376	67,600						
35	Office Equip & Maint	6,665	5,308	7,826	7,159	9,789	37,500						
36	Contractual Service (1)	40,924	37,314	48,661	48,579	116,516	306,279	(150,000)					
37	Travel & Incidentals - Board	10,920	3,945	16,990	14,921	16,611	38,000						
38	Travel & Incidentals - Staff	16,058	23,492	28,458	33,621	35,488	32,700						
39	Collector's Commission	2,750	2,634	2,242	1,839	2,011	3,600						
40	Miscellaneous	9,689	6,789	14,052	12,634	15,409	13,700						
41	Auditing Fee	26,611	28,332	26,041	31,248	31,250	36,500						
42	In-Service Training	23,244	13,489	33,217	28,311	32,207	32,200						
43	Supplies - Office & Eng	31,109	24,784	27,578	31,059	35,898	39,200						
44	Operating Rsv Fund	-	11,456	5,000	-	3	10,000						
45	Public Relations	-	2,297	16,037	68,832	28,366	59,325						
46	Computer Supplies	-	1,106	12,654	11,253	30,030	45,000						
47	Subtotal - Total Administrative & Engineerin	\$746,445	\$752,450	\$843,070	\$879,377	\$1,013,850	\$1,412,422	\$1,318,900	\$1,371,700	\$1,426,600	\$1,483,700	\$1,543,000	4.00%
Manager's Office													
48	Salaries - Mgr & Chief Engr	\$372,131	\$218,994	\$303,537	\$371,142	\$402,300	\$418,100						
49	Benefits	142,897	83,551	118,763	116,574	90,411	156,672						
50	Subtotal - Manager's Office	\$515,028	\$302,545	\$422,300	\$487,716	\$492,711	\$574,772	\$597,800	\$621,700	\$646,600	\$672,500	\$699,400	4.00%
51	County Service Charge (2)	\$142,965	\$143,655	\$142,023	\$142,086	\$145,419	\$145,000	\$150,800	\$156,800	\$163,100	\$169,600	\$176,400	4.00%
Vehicles													
52	Vehicle- Material & Service	\$54,158	\$50,029	\$56,787	\$68,044	\$75,652	\$70,000						
53	Vehicle- Fuel	49,018	46,403	45,246	37,314	43,157	76,200						
54	Subtotal - Vehicles	\$103,176	\$96,432	\$102,033	\$105,358	\$118,809	\$146,200	\$152,000	\$158,100	\$164,400	\$171,000	\$177,800	4.00%
Other O&M													
55	Utilities	\$38,830	\$46,237	\$41,246	\$43,445	\$44,628	\$47,500						
56	Electrical Parts	10,297	5,970	12,143	9,168	19,559	15,000						
57	Miscellaneous	-	4,235	3,383	-	1,956	4,000						
58	Miscellaneous - Tapping Team	986	706	-	-	-	4,000						
59	Contractual Services	22,189	16,333	16,288	20,356	9,270	70,000						
60	Steel Tank Maintenance Fund	-	-	-	-	-	12,000						
61	Materials & Supplies	51,276	36,687	60,749	176,779	341,006	315,000						
62	Collective Bargaining Items	12,054	14,367	14,293	15,288	17,108	16,000						
63	Subtotal - Other O&M	\$135,632	\$124,535	\$148,102	\$265,036	\$433,527	\$483,500	\$483,500	\$483,500	\$483,500	\$483,500	\$483,500	0.00%
Plan2020 O&M Increases													
64	Staffing Increases							\$232,200	\$573,500	\$590,600	\$608,500	\$626,800	
65	Other O&M							353,000	460,800	568,600	585,700	603,300	
66	Subtotal - Plan 2020 O&M							\$585,200	\$1,034,300	\$1,159,200	\$1,194,200	\$1,230,100	20.41%
67	Total Operating Expenses	\$5,588,884	\$5,489,883	\$5,875,675	\$6,116,691	\$6,939,116	\$8,243,804	\$8,689,400	\$9,443,300	\$9,885,300	\$10,250,000	\$10,628,700	5.2%

(1) Reduced by \$150,000 to reflect lower expenditures anticipated in future years.

(2) This expenditure is offset by fire hydrant revenues paid by the County under an existing agreement between DOW and the County.

**TABLE 8.3**

**COUNTY OF KAUAI -- DEPARTMENT OF WATER  
Plan 2020 Operating Expenses and Capital Funding Projections**

**O&M Projections**

Key Assumptions:

General Escalation 3%

Benefits Factor 43%

	Account	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	5-yr. Total
	Office Equipment & Maintenance							
1	Computer Maintenance		\$ 15,000	\$ 15,500	\$ 16,000	\$ 16,500	\$ 17,000	\$ 80,000
	In-Service Training							
2	Training		43,000	44,300	45,600	47,000	48,400	228,300
	Public Relations							
3	Water Conservation		20,000	20,600	21,200	21,800	22,500	106,100
	Contractual Services							
4	Leak Detection Program		25,000	25,800	26,600	27,400	28,200	133,000
	Materials & Supplies							
5	Pump Replacements		100,000	200,000	300,000	309,000	318,300	1,227,300
6	Hydrant Replacements		75,000	77,300	79,600	82,000	84,500	398,400
7	Roadway Restoration		50,000	51,500	53,000	54,600	56,200	265,300
	Safe Drinking Water Act							
8	Water Compliance Require.		25,000	25,800	26,600	27,400	28,200	133,000
9	Subtotal O&M Additions (Transfer to Table 8.2)	\$ -	\$ 353,000	\$ 460,800	\$ 568,600	\$ 585,700	\$ 603,300	\$ 2,571,400

TABLE 8.3

COUNTY OF KAUAI -- DEPARTMENT OF WATER  
 Plan 2020 Operating Expenses and Capital Funding Projections

Account	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	5-yr. Total
<b>Staffing Additions - Includes Benefit Factor</b>							
10 Engineer III	\$ -	\$ 49,100	\$ 50,600	\$ 52,100	\$ 53,700	\$ 55,300	\$ 260,800
11 Engineer III	-	-	50,600	52,100	53,700	55,300	211,700
12 Infor. Systems Analyst I	\$ -	\$ 45,400	46,800	48,200	49,600	51,100	241,100
13 Accountant III	-	-	\$ 49,100	50,600	52,100	53,700	205,500
14 Waterworks Inspector	\$ -	\$ 42,500	43,800	45,100	46,500	47,900	225,800
15 Waterworks Inspector	-	-	43,800	45,100	46,500	47,900	183,300
16 Accountant II	-	-	46,800	48,200	49,600	51,100	195,700
17 Telecom Technician	-	\$ 49,400	50,900	52,400	54,000	55,600	262,300
18 Telecom Technician	-	-	\$ 50,900	52,400	54,000	55,600	212,900
19 Plant Electrician	-	-	\$ 45,800	47,200	48,600	50,100	191,700
20 Water Treat. Plant Operator	-	\$ 45,800	47,200	48,600	50,100	51,600	243,300
21 Water Treat. Plant Operator	-	-	47,200	48,600	50,100	51,600	197,500
22 Subtotal Staffing Additions (Transfer to Table 8.2)	\$ -	\$ 232,200	\$ 573,500	\$ 590,600	\$ 608,500	\$ 626,800	\$ 2,631,600
23 Plan 2020 Additions to O&M (Total as shown on Table 8.2)	\$ -	\$ 585,200	\$ 1,034,300	\$ 1,159,200	\$ 1,194,200	\$ 1,230,100	\$ 5,203,000
24 New Staff		5	7	-	-	-	12

**Capital Funding Projections (\$000s)**

Non Plan2020 Capital Additions:

Water Resources

25 USGS Drilling Program		\$ 225	\$ -		\$ -	\$ -	\$ 225
26 USGS Groundwater Studies		40	-	-	-	-	40
27 General Hydrological Stud.		20	21	21	22	23	107
28 SCADA		1,000	1,030	1,061	1,093		4,184
29 Total Non Plan2020 Additions	\$ -	\$ 1,285	\$ 1,051	\$ 1,082	\$ 1,115	\$ 23	\$ 4,556

General Escalation

3%

Account Description	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	6-yr. Total
30 Plan2020 CIP	\$ 4,050	\$ 8,041	\$ 4,965	\$ 3,639	\$ 3,095	\$ 2,249	\$ 26,039
31 Plan2020 CRP	420	2,354	2,536	1,213	1,441	1,849	9,813
32 Plan2020 CRPL	135	3,021	3,840	3,502	4,772	4,550	19,820
33 Non Plan2020	-	1,285	1,051	1,082	1,115	23	4,556
34 Other Budgeted Capital	7,573	-	-	-	-	-	7,573
35 Total Capital Projects w/o Carry For.	\$ 12,178	\$ 14,701	\$ 12,392	\$ 9,436	\$ 10,423	\$ 8,671	\$ 67,801

TABLE 8.4

COUNTY OF KAUAI -- DEPARTMENT OF WATER

Projected Capital Funding Expenditures and Sources of Funds (\$000s)  
Fiscal Years Ending June 30

		2001	2002	2003	2004	2005	2006	Total
<b>Capital Expenditures</b>								
1	Carry Forward	\$0	\$2,440	\$2,940	\$2,480	\$1,890	\$2,080	
2	CRPL - Water Plan 2020	\$4,050	\$8,041	\$4,965	\$3,639	\$3,095	\$2,249	\$26,039
3	CRP - Water Plan 2020	420	2,354	2,536	1,213	1,441	1,849	9,813
4	CIP - Water Plan 2020	135	3,021	3,840	3,502	4,772	4,550	19,820
5	Total Water Plan 2020	\$4,605	\$13,416	\$11,341	\$8,354	\$9,308	\$8,648	\$55,672
6	Non Water Plan 2020 (1)	0	1,285	1,051	1,082	1,115	23	4,556
7	Other Capital Expenditures (2)	7,573	0	0	0	0	0	7,573
8	Subtotal Projects	\$12,178	\$17,141	\$15,332	\$11,916	\$12,313	\$10,751	\$67,801
9	Projected Carry Forward (3)	\$2,440	\$2,940	\$2,480	\$1,890	\$2,080	\$1,730	
10	<b>Total Annual Expenditures</b>	\$9,738	\$14,201	\$12,852	\$10,026	\$10,233	\$9,021	\$66,071
<b>Bond Fund</b>								
9	BOY Balance	\$2,541	\$1,763	\$192	\$0	\$0	\$0	\$4,496
10	New State Revolving Loans	0	0	0	0	0	0	0
11	New G.O. Bonds	0	0	6,350	4,450	5,350	4,780	20,930
12	Less: Issuance Expense (1%)	0	0	60	40	50	50	200
13	General Obligation Bonds Proceeds	\$0	\$0	\$6,290	\$4,410	\$5,300	\$4,730	\$20,730
14	Use of Bond Funds	778	1,571	6,482	4,410	5,300	4,730	
15	EOY Balance	1,763	192	0	0	0	0	
<b>Facilities Reserve Fund</b>								
16	BOY Balance	\$6,096	\$5,242	\$0	\$0	\$0	\$0	\$0
17	New FCR Revenues and Interest	500	400	400	400	400	400	2,500
18	Use of FCR	1,355	5,642	400	400	400	400	8,596
19	EOY Balance	5,242	0	0	0	0	0	0

**TABLE 8.4**

**COUNTY OF KAUAI -- DEPARTMENT OF WATER**

**Projected Capital Funding Expenditures and Sources of Funds (\$000s)  
Fiscal Years Ending June 30**

		<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>Total</b>
<b>Sources of Funds</b>								
20	From Bond Fund	\$778	\$1,571	\$6,482	\$4,410	\$5,300	\$4,730	\$23,271
21	From FCR	1,355	5,642	400	400	400	400	8,596
22	Grants/Contributions	760	0	0	0	0	0	760
23	Current Revenues (Rates)	6,846	6,988	5,970	5,216	4,533	3,891	33,444
24	Total Sources of Funds	\$9,738	\$14,201	\$12,852	\$10,026	\$10,233	\$9,021	\$66,071
<b>Allocation of Sources</b>								
25	New State Revolving Loans (SRF)	0.0%	0%	0%	0%	0%	0%	
26	General Obligation Bonds (GO)	0%	0%	41%	37%	43%	44%	
27	Facilities Reserve Fund	11%	33%	3%	3%	3%	4%	
28	Grants/Contributions (G)	0%	0%	0%	0%	0%	0%	
29	Current Revenues (Rates) (R)	89%	67%	56%	60%	54%	52%	
30	Total	100%	100%	100%	100%	100%	100%	
31	Minimum percent to be funded from rates	0.0%	0.0%	0.0%	0.0%	0.0%	0%	0%

**Notes:**

- (1) Includes Water Resources and SCADA projects.
- (2) Other capital expenditures equals budgeted projects from Utility Fund (\$6,525,433), FRC Fund (\$1,354,879) and Bond Fund (\$777,718) for FY 2001.
- (3) Equals 20% of total capital expenditures for each year, not including carry forward from previous year.

TABLE 8.5

COUNTY OF KAUAI -- DEPARTMENT OF WATER

Historical and Projected Operating Revenues and Revenue Requirements (Cash Basis)  
Fiscal Years Ending June 30

	Historical	Estimate	Budget	Projected				
	1999	2000	2001	2002	2003	2004	2005	2006
<b>REVENUES</b>								
1 Beginning Balance	\$17,155,125	\$18,251,722	\$16,009,891	\$8,564,918	\$4,705,459	\$689,583	\$722,779	\$782,634
Revenue Under Existing Rates:								
2 Operating Revenues (1)								
3 Water Sales	\$7,380,000	\$7,641,033	\$7,648,000	\$7,743,600	\$7,840,395	\$7,938,400	\$8,037,630	\$8,138,100
4 Service Charge	1,428,878	1,497,307	1,480,000	1,494,800	1,509,748	1,524,845	1,540,094	1,555,495
5 Total Operating Revenues	\$8,808,878	\$9,138,340	\$9,128,000	\$9,238,400	\$9,350,143	\$9,463,245	\$9,577,724	\$9,693,595
Other Income (2)								
6 Miscellaneous Receipts	\$80,182	\$69,431	\$90,000	\$0	\$0	\$0	\$0	\$0
7 Interest Earned	1,102,637	1,127,197	1,045,000	0	0	0	0	0
8 Fire Hydrant Svc. Charge	142,086	145,419	145,000	0	0	0	0	0
9 Other	793,157	0	0	0	0	0	0	0
10 Total Other Income	\$2,118,062	\$1,342,047	\$1,280,000	\$1,300,000	\$1,300,000	\$1,300,000	\$1,300,000	\$1,300,000
11 Total Revenue	\$10,926,940	\$10,480,387	\$10,408,000	\$10,538,400	\$10,650,143	\$10,763,245	\$10,877,724	\$10,993,595
Additional Revenue Required								
	% of Water							
	Year	Sales Revenue						
12 July 2001	32.0%			\$2,956,290	\$2,992,050	\$3,028,240	\$3,064,870	\$3,101,950
13 July 2002	0.0%				0	0	0	0
14 July 2003	32.0%					3,997,280	4,045,630	4,094,570
15 July 2004	0.0%						0	0
16 July 2005	0.0%							0
17 Total Additional Revenue Required	\$0	\$0	\$0	\$2,956,290	\$2,992,050	\$7,025,520	\$7,110,500	\$7,196,520
18 Total Revenue	\$10,926,940	\$10,480,387	\$10,408,000	\$13,494,690	\$13,642,193	\$17,788,765	\$17,988,224	\$18,190,115

Notes:

(1) Projections assumes 1.00% customer growth; 1.25% water sales growth.

(2) Projections assume \$1,300,000 each year through 2006.



TABLE 8.5

## COUNTY OF KAUAI -- DEPARTMENT OF WATER

Historical and Projected Operating Revenues and Revenue Requirements (Cash Basis)  
Fiscal Years Ending June 30

	Historical	Estimate	Budget	Projected				
	1999	2000	2001	2002	2003	2004	2005	2006
<b>REVENUE REQUIREMENTS</b>								
Operating Expenditures (3)								
1 Source of Supply	\$305,093	\$316,341	\$380,824	\$396,100	\$411,900	\$428,400	\$445,500	\$463,300
2 Pumping	1,541,213	1,766,158	2,000,000	1,780,000	1,851,200	1,925,200	2,002,200	2,082,300
3 Water Treatment Plant	1,020,147	1,145,523	1,364,644	1,419,200	1,476,000	1,535,000	1,596,400	1,660,300
4 Transmission & Distribution	999,752	1,175,496	1,346,858	1,400,700	1,456,700	1,515,000	1,575,600	1,638,600
5 Customer Services	325,913	331,282	389,584	405,200	421,400	438,300	455,800	474,000
6 Administrative & Engineering	879,377	1,013,850	1,412,422	1,318,900	1,371,700	1,426,600	1,483,700	1,543,000
7 Manager's Office	487,716	492,711	574,772	597,800	621,700	646,600	672,500	699,400
8 County Service Charge	142,086	145,419	145,000	150,800	156,800	163,100	169,600	176,400
9 Vehicles	105,358	118,809	146,200	152,000	158,100	164,400	171,000	177,800
1 Other O&M	265,036	433,527	483,500	483,500	483,500	483,500	483,500	483,500
11 Plan 2020 O&M	0	0	0	585,200	1,034,300	1,159,200	1,194,200	1,230,100
12 Total Operating Expenditures	\$6,071,691	\$6,939,116	\$8,243,804	\$8,689,400	\$9,443,300	\$9,885,300	\$10,250,000	\$10,628,700
13 Operating Income	\$4,855,249	\$3,541,271	\$2,164,196	\$4,805,290	\$4,198,893	\$7,903,465	\$7,738,224	\$7,561,415
Debt Service Requirement								
14 Existing Bonds	\$583,617	\$571,877	\$726,769	\$726,769	\$726,769	\$726,769	\$726,769	\$726,769
15 Proposed Debt	0	0	0	0	530,000	900,000	1,350,000	1,750,000
16 Total Debt Service Requirement	\$583,617	\$571,877	\$726,769	\$726,769	\$1,256,769	\$1,626,769	\$2,076,769	\$2,476,769
Capital Costs Charged to Operations								
17 Equipment	\$477,713	\$380,775	\$1,011,300	\$500,000	\$520,000	\$540,800	\$562,400	\$584,900
18 Property & Supply	292,949	1,483,765	1,025,381	450,000	468,000	486,700	506,200	526,400
19 Cash Financed Capital (4)	2,404,374	4,996,104	6,845,720	6,987,980	5,970,000	5,216,000	4,533,000	3,891,000
20 Total Capital Costs Charged to Ops	\$3,175,036	\$6,860,644	\$8,882,401	\$7,937,980	\$6,958,000	\$6,243,500	\$5,601,600	\$5,002,300
21 Total Revenue Requirements	\$9,830,344	\$14,371,637	\$17,852,974	\$17,354,149	\$17,658,069	\$17,755,569	\$17,928,369	\$18,107,769
22 Revenue Surplus/Deficiency	\$1,096,596	(\$3,891,250)	(\$7,444,974)	(\$3,859,459)	(\$4,015,876)	\$33,196	\$59,855	\$82,346
23 Ending Balance	\$18,251,721	\$14,360,472	\$8,564,918	\$4,705,459	\$689,583	\$722,779	\$782,634	\$864,980
24 Reserve Target (5)	N/A	N/A	\$456,920	\$456,400	\$609,730	\$617,110	\$824,440	\$834,410
25 Debt Service Coverage (6)	8.32	6.19	2.98	6.61	3.34	4.86	3.73	3.05
26 Debt Service Target (7)	N/A	N/A	1.25	1.25	1.25	1.25	1.25	1.25
27 Average Residential Bill (\$/month) (8)		\$23.80	\$23.80	\$31.42	\$31.42	\$41.47	\$41.47	\$41.47
Increase				\$7.62		\$10.05		

## Notes

- (3) Projections assume 3% general inflation plus an additional 1% for customer growth.  
(4) See Table 8.4 for detail.  
(5) Equals 5% of previous year's water sales.  
(6) Equals Operating Income divided by Total Debt Service.  
(7) Target for planning purposes.  
(8) Based on a 5/8" meter using 10,000 gallons per month.

**TABLE 8.6**  
**COUNTY OF KAUAI -- DEPARTMENT OF WATER**  
**Cost of Service Summary**  
**Fiscal Year 2002**

		FY 2002 Total Revenue Requirement	Base	Extra Capacity	Meters	Customers	Fire Protection
1	Operating Expenses	\$8,689,400	\$5,454,595	\$2,333,691	\$8,104	\$742,210	\$150,800
2	Other Revenues						
	Miscellaneous Receipts	(\$97,500)	(\$60,450)	(\$26,325)	\$0	(\$8,775)	(\$1,950)
	Fire Hydrant Service Charge	(150,800)	0	0	0	0	(150,800)
	Interest Earned	(1,051,700)	(641,537)	(273,442)	(84,136)	0	(52,585)
	Net Operating Expenses	<u>\$7,389,400</u>	<u>\$4,752,608</u>	<u>\$2,033,924</u>	<u>(\$76,032)</u>	<u>\$733,435</u>	<u>(\$54,535)</u>
3	Capital Expenditures	\$7,937,980	\$4,842,168	\$2,063,875	\$635,038	\$0	\$396,899
4	Debt Service	\$726,769	\$443,329	\$188,960	\$58,142	\$0	\$36,338
5	Use of Utility Fund Reserves (1)	<u>(\$3,859,459)</u>	<u>(\$2,392,865)</u>	<u>(\$1,042,054)</u>	<u>(\$154,378)</u>	<u>(\$192,973)</u>	<u>(\$77,189)</u>
6	Total Revenue Requirement	\$12,194,690	\$7,645,240	\$3,244,705	\$462,770	\$540,462	\$301,513
			62%	27%	4%	5%	2%
7	Revenue at Current Rates	<u>\$9,238,400</u>					
8	Over (Under) COS	\$9,238,400					
9	As a Percent of Current Revenue	100.00%					
10	Rev. at % Rate Increase	32.00%	\$12,194,688				
11	Change in Revenue	\$2,956,288					

Notes:

(1) Equals change in beginning balance.

TABLE 8.7

COUNTY OF KAUAI -- DEPARTMENT OF WATER

Unit Cost of Service Analysis  
Fiscal Year 2002

Item	Total	Base	Extra Capacity	Direct Fire Protection (1)	Customer Costs		
					Meters	(2) Customers	
<b>Total System:</b>							
1	Unit Cost of Service	\$2.7608	\$1.7309 per Kgal	\$536.2262 per Kgpd	\$26.7935 per year	\$20.3425 per year	\$4.9960 per bill
<b>General Use:</b>							
2	Units of service	\$2.70	4,217,840	5,778	0	22,317	106,020
3	Allocated Cost of Service	\$11,382,634	\$7,300,659	\$3,098,315	\$0	\$453,984	\$529,676
<b>Agriculture:</b>							
4	Units of service	\$2.56	199,230	273	0	432	2,160
5	Allocated Cost of Service	\$510,806	\$344,847	\$146,390	\$0	\$8,778	\$10,791
<b>Public Fire:</b>							
6	Units of service		0	0	11,253	0	0
7	Allocated Cost of Service	\$301,513	\$0	\$0	\$301,513	\$0	\$0
<b>Total:</b>							
8	Units of service	\$2.76	4,417,070	6,051	11,253	22,749	108,180
9	Allocated Cost of Service	\$12,194,953	\$7,645,506	\$3,244,705	\$301,513	\$462,762	\$540,467

Notes:

(1) Based on 2,329 hydrants converted to equivalent fire protection meters.

(2) Based on 6 bills per customer per year.

**Table 8.8**  
**COUNTY of KAUAI – DEPARTMENT OF WATER**  
**Adopted Service and Consumption Charges**

**Monthly Service Charge:**

Meter Size	Current	Effective	Effective
		July 1, 2001	July 1, 2003
5/8"	\$6.00	\$9	\$12
3/4"	7.50	12	16
1"	9.00	18	25
1-1/2"	18.00	35	45
2"	30.00	55	75
3"	60.00	100	130
4"	90.00	165	220
6"	187.50	325	430
8"	300.00	520	680

**Consumption Charge per 1,000 gallons:**

General Use Rate	Current	Effective	Effective
		July 1, 2001	July 1, 2003
1 <sup>st</sup> Block	\$1.78	2.10	2.76
2 <sup>nd</sup> Block	1.78	2.40	3.20
3 <sup>rd</sup> Block	1.78	3.40	4.50
<b>Agricultural Use Rate*</b>			
*Gallons used bi-monthly per 1,000 gallons			
0 – 25,000 gallons	\$1.78	\$2.10	\$2.76
Over 25,500 gallons	0.60	0.70	1.38

**Table 8.9**  
**COUNTY of KAUAI – DEPARTMENT OF WATER**  
**Adopted Block Thresholds (gallons used per bi-monthly)**

<b>Meter Size (inches)</b>	<b>1<sup>st</sup> Rate Block</b>	<b>2<sup>nd</sup> Rate Block</b>	<b>3<sup>rd</sup> Rate Block</b>
5/8"	First 20,000	20,001-40,000	over 40,000
3/4"	First 70,000	70,001-140,000	over 140,000
1"	First 200,000	200,001-400,000	over 400,000
1-1/2"	First 600,000	600,001-1,200,000	over 1,200,000
2"	First 1,200,000	1,200,001-2,400,000	over 2,400,000
3"	First 3,000,000	3,000,001-6,000,000	over 6,000,000
4"	First 6,000,000	6,000,001-12,000,000	over 12,000,000
6"	First 15,000,000	15,000,001-30,000,000	over 30,000,000
8"	First 30,000,000	30,000,001-60,000,000	over 60,000,000

**Table 8.10**

**COUNTY OF KAUAI -- DEPARTMENT OF WATER**

**State Water Systems - Typical Bill Comparison**

Meter Size (inches)	Monthly Consumption (gallons)	Kauai (1) Effective 7/1/01	Hawaii (2) Effective 4/1/01	Honolulu (3) Effective 7/1/01	Maui (4) Effective 7/1/01
5/8"	5,000	\$19.50	\$18.90	\$13.70	\$12.35
<b>5/8"</b>	<b>10,000</b>	<b>30.00</b>	<b>31.05</b>	<b>23.70</b>	<b>19.10</b>
3/4"	40,000	97.50	130.20	106.50	79.90
3/4"	300,000	899.00	1,245.60	1,042.50	636.30
1"	50,000	123.00	138.25	115.70	105.80
1"	400,000	1,148.00	1,384.75	899.70	854.80
1-1/2"	150,000	350.00	396.25	339.70	330.30
1-1/2"	1,000,000	2,745.00	3,091.75	2,243.70	2,149.30
2"	500,000	1,105.00	1,266.75	1,123.70	1,087.30
2"	1,500,000	3,775.00	4,326.75	3,363.70	3,227.30
3"	1,000,000	2,200.00	2,526.75	2,243.70	2,187.30
3"	3,000,000	6,850.00	8,436.75	6,723.70	6,467.30
4"	1,000,000	2,265.00	2,586.75	2,243.70	2,237.30
4"	2,500,000	5,415.00	6,231.75	5,603.70	5,447.30
6"	3,000,000	6,625.00	7,606.75	6,723.70	6,602.30
6"	7,500,000	16,075.00	18,541.75	16,803.70	16,232.30
8"	2,000,000	4,720.00	5,496.75	4,483.70	4,567.30
8"	4,500,000	9,970.00	11,571.75	10,083.70	9,917.30

(1) Adopted January 24, 2001.

(2) Adopted February 27, 2001.

(3) Single Family Residential rates used for 5/8" meters.

Non-residential rate used for all others. Per published rate schedule.

(4) Proposed General Rates used for all. Per published rate schedule.

**Table 8.11**

**COUNTY OF KAUAI -- DEPARTMENT OF WATER**

**Private Fire Protection  
Adopted Monthly Meter Charges**

Size of Service (inches)	Current Rates	Effective July 1, 2001	Effective July 1, 2003
2"	\$3.25	\$9.00	\$12.00
3"	6.50	20.00	25.00
4"	10.00	40.00	50.00
6"	20.00	105.00	140.00
8"	32.00	200.00	260.00

**Public Fire Protection  
Adopted Monthly Meter Charges**

Size of Service (inches)	Current Rates	Effective July 1, 2001	Effective July 1, 2003
6" Hydrant	\$6.00	\$18.00	\$23.00
4" Hydrant	3.75	6.75	9.00
Standpipes less than 4", but greater than 2"	1.75	3.25	4.50

**Table 8.12**  
**COUNTY OF KAUAI -- DEPARTMENT OF WATER**

**Adopted Shipping Rates**

	Current Rates	Effective July 1, 2001	Effective July 1, 2003
Per 1,000 Gallons			
Consumption Charge	\$0.75	\$2.40	\$3.20
DOT's Wharfage Fee	0.32	0.32	0.32
Opening/Closing Charges			
Regular Hours	\$12.00	\$42.00	\$56.00
Outside Reg. Hrs.	20.00	98.00	130.00