

**LAKEWAY  
MUNICIPAL UTILITY DISTRICT  
RATE MANUAL**  
Fourth Edition

APPROVED: BY ORDER OF THE LAKEWAY  
MUNICIPAL UTILITY DISTRICT

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# LAKEWAY MUNICIPAL UTILITY DISTRICT RATE MANUAL

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## PREFACE TO THE FOURTH EDITION

The rate design principles and procedures used by the Lakeway Municipal Utility District (District) employs the Texas Commission of Environmental Quality's (formerly Texas Natural Resources Conservation Commission and the Texas Water Commission) approved methodology. This methodology incorporates principles advocated by the National Association of Regulatory Utility Commissioners and documented in the American Water Works Association's Manual 'M1'.

Significant history of the evolution of the District's 'Equivalent Rates' is found in the preface to editions 1, 2, and 3 of the District's Rate Manual. Those prefaces are reprinted as an Appendix to this manual. Complete copies of prior editions are filed in the District Office.

The District annually develops its cost of service and associated rate designs in accordance with the principles and procedures included in this manual.

After the third edition, several pages were revised for wording clarifications. Later, the section on debt service was revised to recognize the "unsteady state". This fourth edition is a general rewrite to simplify language, incorporate the foregoing revisions and to include provisions for contingencies reserve, budget "savings accounts", and updating administrative expense allocations. No changes were made in the basic premises and concepts which the District has followed since the first edition was developed.

(9/9/98) The Fourth Edition was amended to eliminate references to Solid Waste service, which was discontinued on July 1, 1998. All references to "sewer" were changed to "wastewater". The Appendix was also revised accordingly.

(11/4/98) The Fourth Edition was amended to eliminate references to "standby" fees.

(6/9/99) The Fourth Edition was amended to revise the winter averaging process for wastewater and to amend the Bond Covenant Requirements.

(9/8/99) The Fourth Edition was amended to revise commercial wastewater for multiplier.

(9/13/2000) The Fourth Edition was amended to revise the calculation of tap fees in other revenue and to designate the Debt Service Component (DSC) in wastewater rates.

(10/11/2000) The Fourth Edition was amended to transfer the DSC to debt service.

(9/12/01) The Fourth Edition was amended to revise wastewater volume charge determination and update calculations.

(9/11/02) The Fourth Edition was amended to: combine the calculation of Debt Service Component (DSC) and Tax Levy; update FY 2003 data; delete all references to ¾" meters; and change all references of TNRCC to TCEQ. [noted as <sup>(1)</sup>]

(12/13/06) The Fourth Edition was amended to include wholesale contract rates with District #11 and District #17, the handling of revenues there-from, references to the construction fund, first billing cycle revenue check, LCRA raw water system operations contract revenue, minor wording clarifications and general updates using FY 07 rate design data. [noted as <sup>(2)</sup>]

(9/24/08) The Fourth Edition was amended to include multi-tier water volume rates and general updates using FY 09 rate design data. [noted as <sup>(3)</sup>]

Lakeway Municipal Utility District  
Rate Manual - 4th Edition  
June 11, 1997 & amendments through October 21, 2009

(10/21/09) The Fourth Edition was amended for calculating wastewater rates for out of district customers, using a five-year average for water volumes (instead of test year), and general updates using FY 10 rate design data. [noted as <sup>(4)</sup>]

## **TYPES OF FUNDS**

### ***CUSTOMER UTILITY RATES***

Customer utility rates, miscellaneous fees and ad valorem taxes pay for all water and wastewater activities within the Lakeway Municipal Utility District. Revenues from these sources are deposited into three separate, specific use funds. The funds are:

Bond Construction Fund  
Debt Service Fund  
General Fund

### ***BOND CONSTRUCTION FUND***

a. This fund is the depository for all proceeds generated from a bond issue. The amount of the bond issue is the combination of the capital project engineering estimate, known legal and fiscal agent fees, and bond issuance cost. The engineering estimate normally includes a generous allowance for contingencies and residual funds may remain after completion of the project.

b. Residual funds may be used for capital expenditures/special projects not large enough to warrant a bond issue, normally under \$500,000. Smaller capital expenditures/special projects may also be handled as a line item in the Operations and Maintenance (O&M) Budget.

c. The expenditure of any residual funds requires the approval of the Texas Commission on Environmental Quality.

### ***DEBT SERVICE FUND***

The Debt Service Fund is the depository for all tax revenues and net revenues generated in the rate design for the specific purpose of being transferred to this Fund. Withdrawals from this account are solely for the purpose of making principal and interest payments on the District's bonds as they become due and payable and other related expenses.

## **GENERAL FUND**

This fund handles the daily fiscal activities of the District. Revenues received from bi-monthly utility billings and miscellaneous fees are deposited into this account. All operation and maintenance costs are paid from this account.

The District is on a bi-monthly billing cycle so an adequate balance must be maintained in the account to cover expenses in the month of essentially zero revenues. The Board of Directors reviews this account balance periodically and sets an appropriate fund balance level. At the end of each two-month cycle, net revenues in excess of the required General Fund balance are transferred to the Debt Service Fund until the amount to be transferred, as established by the rate design, has been satisfied. At year-end, the remainder of net revenues, if any, will be recorded in the reserve for contingencies or in the construction fund. The reserve, construction, as well as any funds accrued for future capital expenditures/special projects, (see Operations and Maintenance Budgets) remains in the General Fund. <sup>(2)</sup>

A flow chart depicting the Funds, their sources and their utilization is located in the Appendix.

## RATE DESIGN

The object of the rate design is to determine utility and ad valorem tax rates required to cover the cost of service on a cash basis. The cost of service is the sum of operations and maintenance (O&M) expense, including minor capital expenditures/special projects, and debt service obligations. To provide equal water rates for in-District and out-of-District water customers, debt service is included in the water rate design; the wastewater portion of debt service is covered by District taxes and the Debt Service Component.

The O&M budget accounts for about half of the cost of service. The Texas Commission on Environmental Quality (TCEQ) advocates that the O&M budget be based on the most recent twelve-month period for which complete cost data is available. The utility industry refers to this period as the Test Year. The District's test year runs from June 1 through May 31 of the year immediately preceding the budget. TCEQ recommends that the budget for each line item be the same as the test year unless there is 'known and measurable' change.

a. The proposed O&M budget is developed by the District staff during June and July of each year.

b. The Board of Directors reviews, revises as necessary, and approves the O&M budget at the August Board meeting.

The Debt Service requirement accounts for the balance of the cost of service. It is the actual amortization cost of outstanding bonds determined at the time of the bond issue.

The Board of Directors sets the utility and tax rates at its September meeting. Following formal approval of new rates, District residents are provided written notice prior to their becoming effective. Rates cannot be applied retroactively.

Utility rates are effective at the beginning of the District's fiscal year, the first day of October, which includes consumption since the most recent meter reading typically between September 1<sup>st</sup> and the 20<sup>th</sup> <sup>(3)</sup>. The revenue produced at the first billing cycle is reviewed to assure that the new/current rate design is producing the required/expected revenue. Should this review indicate action is required the rate design can be adjusted accordingly. <sup>(2)</sup> Utility rates, revenue, and expenses are reviewed at mid-year to ensure that the cost of service is being recovered. Rate adjustments may then be made if necessary.

## BUDGET PREPARATION - OPERATIONS AND MAINTENANCE (O&M)

The final year-to-date operating statements for the test year are normally available by mid June of each year. The actual operating expense for the test year becomes the budget for the next year, after adjustments for known and measurable changes.

a. The largest portion of the O&M budget is "Salaries and Fringes". Salary adjustments including cost of living and merit amounts are determined by the Board in May of each year and are incorporated into the budget as known and measurable adjustments to test year data amounts.

b. Other known and measurable changes can include the cost of operating additional facilities, wholesale water cost increases from the Lower Colorado River Authority, chemicals and electrical power cost increases.

c. The O&M budget may also include accruals for the purchase of costly equipment not financed through bond issues. This is essentially a "savings account" for future purchase of items such as trucks, backhoes, etc. Depending on the size of the reserve required, the installments may be made on a three to five year period. The American Water Works Manual 'M1' provides that capital improvements and equipment not debt financed shall be projected for five years in advance and that if such expenditures would cause rates to fluctuate significantly in a single year, peaks should be smoothed. Interest income generated on these reserves reduces operating costs.

d. The Texas Water Code also allows a district to borrow funds to purchase non-debt financed capital expenditures. Loans for three years or less do not require state approval, loans longer than three years do. Should this method of finance be used payments will be shown as O&M expense.

e. A utility district may also utilize lease/purchase arrangements for non-debt financed capital expenditures.

The District's accounting system recognizes three cost centers each with its own separate O&M budget. These cost centers are:

Administration  
Water  
Wastewater

Since the Administration Department is a cost center that does not generate revenues, administration expense must be allocated to the other two revenue-generating departments.

a. The American Water Works Association and Texas Commission on Environmental Quality recommends allocation of administration expense in direct proportion to the O&M expense of the Water and Wastewater Departments. The District uses this method by taking the average of the prior five years. This keeps allocation factors steadier by smoothing out unusual occurrences.

b. The following table depicts administration expense allocation factors based on the five-year average method.

	TOTAL EXPENSES					5 YEAR	%
	<u>FY 2008</u>	<u>FY 2007</u>	<u>FY 2006</u>	<u>FY 2005</u>	<u>FY 2004</u>	<u>AVG</u>	
Water	\$1,424,154	\$1,342,257	\$1,400,894	\$1,270,882	\$1,216,143	\$1,330,866	56.5%
Wastewater	\$1,100,533	\$1,126,048	\$1,012,488	\$ 956,348	\$ 923,453	\$1,023,774	43.5%
						\$2,354,640	100.0%

See Appendix for the FY 2010 O&M budget utilized in the FY 2010 Rate Design.

## **DEBT SERVICE**

### ***AUTHORITY TO ISSUE BONDS***

When the District was organized in 1972, voters authorized \$28.6 million in "Combination Unlimited Tax and Revenue Bonds".

In 1999, the voters authorized an additional \$11,215,000 in "Unlimited Tax Bonds" for Water and Wastewater Facilities.

In 2008, the voters authorized an additional \$13,300,000 in "Unlimited Tax and Revenue Bonds" for Water and Wastewater Facilities. Thus, the current total authorized bond amount is \$53,115,000<sup>(3)</sup>

As of September 30, 2009, the District had sold 20 Bond issues for water and wastewater facilities totaling \$45,685,000.

### ***DEBT SERVICE REQUIREMENT***

Bonds are retired and interest payments are made out of Debt Service Funds generated by ad valorem taxes, net system revenues and the Debt Service Component. This process (the EQUIVALENCY METHODOLOGY) is followed to maintain equal water rates for in-District and out-of-District customers. The debt service related to the water system is included in the rate design. The Net Revenues generated by the water rates are transferred to the Debt Service Fund. In-District property owners pay no taxes for Debt Service related to the water system. The wastewater portion of Debt Service is covered by ad valorem taxes paid by in-District property owners and the Debt Service Component (DSC) paid by out-of-District customers to comply with the Texas Water Code that such customers pay their share of debt service.

### ***DEBT SERVICE ALLOCATION***

Total debt service requirements by fiscal year are listed in the District's annual Audit Report. There is no definitive breakout between water and wastewater related debt because the District's bonded indebtedness stems from Water and Wastewater System Unlimited Tax Bonds. This allocation procedure is for rate design purposes.

a. The "Steady State" - Projects covered by bond issues have been completed and closed to Fixed Assets. In the "Steady State", the Debt Service is allocated on the basis of the ratio of the capitalization of water and wastewater facilities as stated in the Fixed Assets account of the District's Annual Audit Balance Sheet.

b. The "Unsteady State" - New bonds have been issued with the projects involved not being completed or closed to Fixed Assets. The "Unsteady State" allocation process:

1. enter the most recent Steady State Debt Service Allocation by Cost Center,
2. list subsequent bond issues for projects not closed to Fixed Assets by Cost Center prorated on the basis of the intended purpose for bond issue proceeds,
3. the sum of (1) and (2) is the Debt Service Allocation to be utilized in rate designs.

When all projects funded by new bond issues are closed to Fixed Assets, the "Unsteady State" allocation is not needed.

In 2006, the District received a substantial lump sum payment from District #17 to pay for wholesale wastewater service living unit equivalents (LUE). Capital inflows such as LUE sales or the Debt Service Component payments from District #11 can be used to reduce the tax levy and OD DSC directly, placed in the P&I fund, used to retire bonds directly, or be placed in the capital construction fund. This payment from District #17 was placed in a construction account and used to construct the Northeast Pressure Improvement Project (NEPIP) water improvements. Because these LUEs were wastewater capital assets, and the sale proceeds were used for the NEPIP water system improvements, a ten-year repayment schedule is set up to collect approximately one-tenth of the total amount in the water rate design and transfer that amount to the wastewater rate design, per year. These transfers will continue in the annual rate designs until the total amount is transferred. The annual amount may vary and the payments will be tracked until complete. <sup>(2)</sup>

The Debt Service Allocation utilized in the FY 2010 Rate Design shown below was developed in accordance with the "Unsteady State" procedure.

	Total	Water	Wastewater
Fixed Assets as of 9/30/93 (Steady State Capital)	17,296,957	8,308,353 48%	8,993,602 <sup>1</sup> 52%
Debt Service as of 9/30/93	1,512,280	725,894	786,386
<sup>2</sup> Series 1994 (all wastewater)	292,798		292,798
<sup>2</sup> Series 1995 (all water)	191,890	191,890	
<sup>2</sup> Series 1996 (19% water 81% wastewater)	<u>74,410</u>	<u>14,138</u>	<u>60,272</u>
Total before Refunding	2,071,378	931,922 44.99%	1,139,456 55.01%
<sup>4</sup> Series 1997 (all wastewater)	229,300	-	229,300
<sup>3</sup> After Refunding Issue Series 1998A	1,445,550	650,353	795,197
<sup>3</sup> After Refunding Issue Series 1998B	404,075	181,793	222,282
Series 1999 - not refunded (all water)	93,095	93,095	-
Series 2000 - not refunded (all WW)	147,350	-	147,350
Series 2000A - not refunded (all WW)	289,095	-	289,095
<sup>3</sup> After Refunding Issue Series 2005	341,870	49,469	292,401
Series 2009 (80% W / 20% WW)	<u>355,604</u>	<u>284,484</u>	<u>71,121</u>
Total after Refunding	3,305,939	1,259,193	2,046,746
NEPIP Loan Pmt from W to WW		85,000	(85,000)
Total Debt Service	3,305,939	1,344,193	1,961,746

<sup>1</sup> Solid waste added to wastewater. Only wastewater customers received solid waste service.

<sup>2</sup> Bond proceeds as ordered by TCEQ.

<sup>3</sup> Refunding debt service allocated on same ratio as pre-refunding debt service.

<sup>4</sup> Series 1997 was not refunded.

## **BILLING DETERMINANTS**

### ***WATER AND WASTEWATER RATES***

A flat rate methodology could be used in developing water and wastewater rates. The flat rate would be developed by dividing the Net Cost of Service by the appropriate number of connections. Such procedure would heavily favor high volume users and be disadvantageous to low volume users. In the interest of fairness, the District's methodology uses two Billing Determinants in designing water and wastewater rates: Base Charge and Volume Charge.

#### **Base Charge:**

The District's Water Connections Report and Wastewater Connections Report (see Appendix) provides the data used in developing the number of system equivalents for determining the Base Charges for water and wastewater rates. System equivalents must be developed to avoid the discrimination that would occur if all connects were treated as equals. A 4" water meter places a greater demand on both water and wastewater treatment facilities than a 5/8" standard residential meter. Thus, the following factors are used to convert system connections to system equivalents:

5/8	Meters	1.0
1"	Meters	1.7
1 1/2"	Meters	3.3
2"	Meters	5.3
4"	Meters	16.7
6"	Meters	33.3

These factors are taken from the American Water Works Association publication C 700-77 and are approved by the TCEQ.

In the FY 2010 Rate Design (see Appendix) the average of the Test Year equivalent for water was 4130 and for wastewater the average was 3017.

### ***VOLUME CHARGE WATER***

The volume determinant for the Water Rate design has been set by the TCEQ as the Volume of Treated Water sold in the Test Year, including wholesale volumes.<sup>(2)</sup> This volume is taken from a special analysis created in Crystal Reports using customer volumes<sup>(3)</sup>. The volume of treated water sales, reduced by the sale of Interconnect Water for the FY 2010 Test Year was 613,922,000 gallons. As part of a transition towards rate stabilization, the District implemented a five-year average demand condition to determine volume for FY 2010. The five-year average demand condition is developed from customer usage data for each billing cycle for the prior five test years for each volume tier. The volume and revenue for each tier and the total are then used in the rate design.<sup>(4)</sup>

The District uses an inclining tier block rate structure. The concept of conservation rate structures is to compel the water customer to implement cost effective water conservation measures and practices. An important aspect of conservation rates is to design the rate structure so a large portion of the charges are based on the quantity of water the customer consumes. This strategy must be balanced with needs to recover fixed costs regardless of actual water usage, e.g. wet years and dry years. Therefore, a large measure of revenue should come from a large segment of customers. The financial justification for conservation rate structures is based on the premise that a large portion of our infrastructure and distribution costs are incurred to meet daily and seasonal peak demands. Water efficiency reduces operating costs, and could avoid the need to invest in expansion projects.<sup>(3)</sup>

The water conservation volume rate structure has the following goals:

- Reduce daily peak usage
- Reduce seasonal peak usage
- Reduce total system demand
- Meet break-even revenue requirements.<sup>(3)</sup>

The lowest cost tier provides minimal water usage for a typical household at a minimum reasonable price, and the subsequent tiers are priced higher than the prior tier.<sup>(3)</sup>

### ***VOLUME CHARGE WASTEWATER - Residential Accounts***

The volume determinant for the Wastewater Rate design employs a methodology generally referred to as WINTER AVERAGING, i.e., a billing period is selected when water usage is at a minimum; a monthly average is calculated and that volume, annualized, becomes the volume billing determinant. The average monthly volume used by each customer during that period determines the customer's monthly volume charge for the entire year.

During that period of minimum water usage, outdoor usage is at a minimum and all, or nearly all of the water used is being discharged to the wastewater system. The customer's volume charge, then, is a reflection of their usage of the system.

Historically, the Dec/Jan or Feb/Mar billing period is the District's period of minimum water usage. The lower of these two bi-monthly billings is used in developing the volume determinant of the wastewater rate design for each individual customer. A special computer run is employed in arriving at the determinant (Not included in the Appendix but on file in the District Office.)

Winter averaging procedures employ minimum and maximum volumes for residential accounts. These limits are invoked because, during the measuring period, water usage may be unusually low for a variety of reasons, and on the up side, usage may be high because of outdoor needs, i.e., water that does not end up in the wastewater system.

Industry standards use 100 gallons as the average per person for indoor usage. However, it is

conceivable that a relatively inactive person could discharge as little as 50 gallons of water per day to the wastewater system or 3,000 gallons in a 60-day billing period. Thus, the District's rate design utilizes a minimum volume usage of 1,500 gallons per month.

A residence occupied by five active persons using an average of 100 gallons per day each would discharge 30,000 gallons of water to the wastewater system in a 60-day billing period. Accordingly, the District's rate design utilizes a maximum volume usage of 15,000 gallons per month.

The FY 2010 Rate Design utilized a residential volume determinant for wastewater rates of 41,268,000 gallons/month. <sup>(2)</sup>

New residential customers are assigned a volume of 6,000 gallons a month, until they have developed a history.

### ***VOLUME CHARGE WASTEWATER - Commercial Accounts***

Wastewater commercial accounts take into consideration the differences between residential and commercial cost of service. While an office may produce wastewater quite similar to that of a residence, the wastewater produced by a restaurant can be much more concentrated than that of a residence. For commercial wastewater accounts a multiplier is applied to the wastewater volume rate. The multiplier is calculated as the product of the ratios of the measured Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) of commercial wastewater to the residential design value of 200 mg/l. The ratio used is not less than 1. For example, the measured BOD and TSS of a restaurant may be 275 and 330, respectively. The calculation of the multiplier is:

$$275/200 \times 330/200 = 2.27 \text{ (use 2)}$$

If the customer wishes to pay the cost of sampling and analysis, the District will use the actual concentration values. Such testing would need to be performed annually. In lieu of actually determining the concentration of the wastewater, the District charges a multiplier of 1 for all accounts except for those buildings that have a food service. These restaurant building accounts have a multiplier of 2. <sup>(2)</sup>

The wastewater volume for commercial accounts is the bi-monthly volume flows as measured by the water meter. A commercial account may measure non-wastewater flows, i.e. irrigation, separately or wastewater volume may be measured by an approved "outflow" meter.

The total commercial account wastewater volume charge is composed of the volume charge times the multiplier times the measured volume for the bi-monthly period.

The FY 2010 Rate Design utilized a volume determinant for commercial (multiplier 1) wastewater volume of 5,041,000 gallons/year, and a commercial (multiplier 2) wastewater volume of 20,866,000 gallons per year. The District #17 and District #11 wholesale contracts generate wastewater volume included in the total. <sup>(2)</sup>

## OTHER REVENUES

Miscellaneous fees apply to specific users or specific events and should not be collected from all utility customers via rates and taxes. These fees and the procedures for handling the revenue generated in the rate design follow:

a. Water and Wastewater Tap Fees. These fees are charged to cover the cost of materials and labor required to connect new customers to the water and wastewater systems.

<u>Water Meters</u>		
5/8" x 3/4 "	\$1,200	
1" x 1 "	\$1,600	
1 1/2" x 1 1/2 "	\$3,500	
2" x 2"	\$6,000	
Larger Meters	\$8,000	Plus actual costs
 <u>Wastewater Tap Fees</u>		
4" existing connection	\$1,200	
6" existing connection	\$2,400	

Because of the unpredictability of new housing starts, the annual revenues from tap fees included in Other Revenue Credits in the rate design is the lower of the previous five year average of new taps at the tap fee in effect or the Test Year.

b. Water and Wastewater Inspections. Water and Wastewater inspections occur on an average of ten times during the construction of a residence. These inspections are accomplished by an outside inspection company and the fees charged offset the amount billed to the District. The cost for the ten inspections is \$550; if more inspections are required an additional \$55 is charged for each inspection.

c. Water Reconnects and Transfers. When service is discontinued for non-payment, a charge of \$50 is assessed to cover the cost of reestablishing service. If a customer changes residence within the District a charge of \$50 is also assessed.

d. Penalty Revenues. If utility bills are not paid within the grace period, currently 20 days, a late charge of 10% is assessed.

e. The LCRA owns a raw water pumping and delivery system for the District, Hurst Creek MUD and future users. The District operates the system under contract with the LCRA. This contract currently produces \$15,000 per year, but this could change. <sup>(2)</sup>

f. The District #17 wholesale wastewater service contract generates reservation fees for the wastewater service LUEs at \$15.00 per LUE per month. Currently there are 500 LUEs reserved, generating \$90,000 per year. <sup>(2)</sup>

g. Other Miscellaneous Fees. This category includes interest income related to the General Fund balance, sale of maps, copy fees, etc.

The annual revenues from inspections, reconnects and transfers, penalties and other miscellaneous fees included in Other Revenue Credits in the rate design utilizes Test Year data. Since Penalties and Other Miscellaneous fees are general in nature, these revenues are allocated to the Water and Wastewater cost centers proportionate to the ratios of their specific revenues.

The fees may change from time to time as approved by the Board of Directors.

## WHOLESALE RATES <sup>(2)</sup>

In December of 2005 and April 2006, the District entered into wholesale contracts for service with Water Improvement and Control District #17 (District #17) and Travis County Municipal Utility District #11 (District #11), respectively. The District #17 contract is for wastewater only and the District #11 contract is for both water and wastewater. The District #17 contract includes lump-sum payments for debt service, monthly reservation fees, and a wastewater volume charge. The District #11 contract requires a water payment of \$7,500 or the volume charge, whichever is greater, plus a Debt Service Component charge and a wastewater volume charge. Charges and fees other than the wholesale volume charges are discussed elsewhere in this Manual. The beginning wholesale volume charges were determined during contract negotiations, and established in 2005 for both contracts. The wholesale volume charges will be adjusted by the methods described below.

The following is an excerpt from page 14 of the District #11 contract. While the rate change methodology is not stipulated in the District #17 contract, it is appropriate to use similar methods.

“Each year, Lakeway will determine its budget for Water and its budget for Wastewater, using the methods set forth in Lakeway’s Rate Manual. The sum of the budgets will be Lakeway’s budgeted costs, other than taxes and Debt Service Component Charges. Lakeway will deduct from its budget for Water its customer billing and collections costs, and the revenue budgeted to be received from the volume charges to District No. 11. Lakeway will divide the resulting costs for Water by the total volume of Water sold by Lakeway in the preceding test year. The rate for Water effective on October 1 of each year will be increased or decreased from the rate for the previous year by the percentage change in the number derived under the preceding sentence compared to the corresponding number in the prior year. The rate for Wastewater will be changed in like manner. ... On October 1, 2006 and on each October 1 thereafter, the rates charged by Lakeway for Water and Wastewater under this subparagraph may be increased or decreased in accordance with the methodology described above.”

The methodology above was adjusted for the five-year average demand condition and is used to determine Wholesale Volume Charge changes and is shown in the following table. The process for deducting customer billing and collection costs (customer cost) is detailed in a spreadsheet called “Customer Costs for (fiscal year)”.<sup>(4)</sup>

## Wholesale Volume Charge Change Calculation Table

	2009	2010
<b><u>Water</u></b> (District #11 only)		
Calculation for rate adjustments using the beginning wholesale water rate for 2005 of \$4.86		
Water Budget	\$ 2,831,195	\$ 3,294,328
Less Customer costs	\$ (113,651)	\$ (125,085)
Less District #11 Revenue*	\$ (90,000)	\$ (90,000)
*Revenue does not rise above minimum until approximately 155 units		
Water Net	\$ 2,627,544	\$ 3,079,243
Test Year Water Volume, Kgal	\$ 533,905	\$ 613,922
(Water Net / Water Volume)	\$ 4.92	\$ 5.02
(Current year / Previous Year, %)	124.28%	101.94%
Gross Rate	\$ 5.89	\$ 6.00
Less Current LCRA Raw Water Charge	\$ 0.424	\$ 0.424
** LCRA Rate Change Effective 1/09		
Wholesale Water Rate, Per Kgal	\$ 5.47	\$ 5.58
<b><u>Wastewater</u></b>		
Wastewater Budget	\$ 1,578,386	\$ 3,837,411
Less I&I Program		\$ (200,000)
Less Debt Service		\$ (2,046,746)
Less Customer costs	\$ (104,908)	\$ (106,554)
Less Wholesale Volume Revenue	\$ (176)	\$ (1,787)
Wastewater Net	\$ 1,473,302	\$ 1,482,324
Test Year Wastewater Volume, Kgal	\$ 252,314	\$ 287,339
(WW Net/ WW Volume)	\$ 5.84	\$ 5.16
(Current year / Previous Year, %)	100.33%	88.34%
#11 Wholesale Wastewater Rate, Per Kgal	\$ 6.28	\$ 5.55
#17 Wholesale Wastewater Rate, Per Kgal	\$ 4.98	\$ 4.40

## WATER RATE DESIGN

The basic premise of the Lakeway Municipal Utility District's water rate design is to arrive, in a fair and equitable manner, at rates that are equal for in-District and out-of-District customers --- the IN-DISTRICT AND OUT-OF-DISTRICT EQUIVALENCY METHODOLOGY. This is accomplished by using revenue to cover all costs, i.e., rates will generate the cash required to cover Debt Service as well as O&M expense. By this procedure ad valorem taxes paid by in-District property owners but not by out-of-District customers do not come into play in water rates. The design process:

	<u>FY 2010</u>
1. Enter the Total Department Costs included in the O&M Budget.	\$1,487,400
2. Add the Administration Allocation, which is calculated by multiplying the Administrative Dept. Budget by the Water allocation factor.	462,735
3. Enter the amount to be collected in water revenue to reimburse the wastewater cost center for the NEPIP project capital. <sup>(2)</sup>	85,000
4. Add the allocated Debt Service determined by multiplying the Debt Service listed in the last Audit Report by the water allocation factor if in "steady state". If in "unsteady state", add the Debt Service for water as developed through the application of the "unsteady state" method.	1,259,193
5. Subtract the amount established by the Board of Directors to reduce the debt service fund, if appropriate. <sup>(2)</sup> This is temporary and in accordance with Board Policy established September 8, 1999.	<u>-0</u>
6. The sum of steps 1, 2, 3, 4 & 5 is the Cost of Service Before Credits.	\$3,294,328
7. Subtract Other Water Revenue Credits.	<u>-180,364</u>
8. The sum of steps 6 and 7 is the Net Cost of Service.	\$3,113,964
9. Subtract the volume charge, which is calculated by multiplying the Five-Year average demand condition for each billing cycle and rate tier times the volume charge applicable to each rate tier. <sup>(4)</sup>	-1,878,112
10. Subtract the District #11 Volume Charge which will be no less than \$90,000 but will be the product of its volume in thousands times the current wholesale water rate, performed monthly. <sup>(2)</sup>	<u>-90,000</u>
11. The difference of steps 8, 9 and 10 is the total Base Charge	\$1,145,852
12. Divide by 12 months and the total customer equivalents, which then provides the Monthly Base Charge. The Base Charge for larger meters is obtained by applying the appropriate "equivalent" factors for the specific meter size.	\$23.12

The District encourages water conservation with an inclining-tier block rate structure. An important aspect of conservation rates is to design the rate structure so approximately two-thirds of the customer charges are based on the quantity of water the customer consumes. The revenue generated from the multi-tiered volume rate is calculated from a special analysis of the Five-Year Average customer volumes using Crystal Reports. The volume tiers and rates for FY 2010 are:

Monthly Base	\$23.12 (Bi-monthly \$46.24)	
	Volume Tiers (gallons)	
	0 – 15,000	\$2.50
	15,001 – 30,000	\$3.25
	30,001 – 50,000	\$3.50
	50,001 – 80,000	\$4.00
	80,001 – 100,000	\$4.50
	Over 100,000	\$5.00 <sup>(3)(4)</sup>

Note: the total FY 2010 Cost of Service is \$3,294,328. If we were to charge a flat amount to all customers, the charge would be \$66.47 per month per customer. If we were to charge only for volume, each thousand gallons would cost \$5.37. (This value is heavily influenced by the total test year volume, and tends to fluctuate with wet and dry years.) By dividing the revenue between a base charge and a volume charge we can achieve a balance and encourage conservation. By electing a lower base charge, we must collect more from the volume charge. A risk in having too low a base charge is that the volume revenue will not materialize in a wet year, leaving us unable to meet expenses. <sup>(3)</sup>

The Water Rate Design is included in the Appendix.

## WASTEWATER RATE DESIGN <sup>(4)</sup>

Process:

	<u>FY 2010</u>
1. Enter the Total Department Costs included in the O&M Budget.	\$1,234,400
2. Add the Administration Allocation, which is calculated by multiplying the Administrative Dept. Budget by the Wastewater allocation factor.	\$356,265
3. Add the amount budgeted for the I&I Program.	\$200,000
4. Add the allocated Debt Service determined by multiplying the Debt Service listed in the last Audit Report by the WW allocation factor if in "steady state". If in "unsteady state", add the Debt Service for WW as developed through the application of the "unsteady state" method.	<u>\$2,046,746</u>
5. The sum of the steps 1, 2, 3 and 4 is the Cost of Service Before Credits.	\$3,837,411
6. Subtract Other Wastewater Revenue Credits.	-240,800
7. Subtract the NEPIP project payment (or transfer) reimbursement from water.	-85,000
8. Subtract the District #11 DSC & M&O component.	<u>-180,000</u>
9. The difference of steps 5, 6, 7 and 8 is the Net Cost of Service.	\$3,331,611
10. Subtract the Residential volume charge, which is calculated by multiplying the Test Year volume by the volume rate of \$2.50 per thousand gallons.	-651,600
11. Subtract the Commercial volume charges (calculated the same as step 10).	-13,778
12. Subtract the Commercial volume charges (calculated the same as step 10, with appropriate multipliers). <sup>(2)</sup>	-104,330
13. Subtract the volume charges from the two wholesale contracts, District #11 and #17. <sup>(2)</sup>	<u>-1,787</u>
14. The difference of steps 9, 10, 11, 12, 13 and 14 is the total Base Charge. Divide by 12 months and the total customer equivalents (ID + OD), which then provides the Monthly Base Charge. This is the base charge for Out-of-District standard meters. The Base Charge for larger meters is obtained by applying the appropriate "equivalent" factors for the specific meter size. <sup>(4)</sup>	\$2,560,116  \$70.71
15. Subtract the In-District Tax Credit. ID customers receive credit for the ad valorem taxes paid. This is calculated by dividing the Debt Service and M&O requirement for WW by 12 months and the number of ID customer equivalents.	\$57.22
16. The difference of steps 12 and 13 is the Monthly Base Charge for ID customers. The base charge for larger meters is obtained by applying the appropriate "equivalent" factor for the specific meter size.	\$13.49

The Wastewater Rate Design is included in the Appendix.

**TAX LEVY and DISTRICT #11 DEBT SERVICE COMPONENT (DSC) <sup>(1) (4)</sup>**

Process:

	<u>FY 2010</u>
1. Enter the ID District's certified assessed valuation.	\$1,007,394,651
2. Enter the actual District #11 assessed value (memo only) <sup>(2)</sup>	<u>Look up</u>
3. Enter District #11's equivalent assessed value that will generate the contract minimum DSC of \$180,000 per year. (When the actual #11 AV x tax rate product exceeds \$180,000, use the actual AV here). * <sup>(2)</sup>	<u>101,771,565</u>
4. The sum of steps 1 and 3 is the Total ID and D #11 Assessed Valuation.	\$1,109,166,216
5. Enter the Debt Service Requirement.	\$3,305,939
6. Subtract the water portion of the debt service.	-1,259,193
7. Subtract the NEPIP reimbursement to wastewater to be collected in the water rate. <sup>(2)</sup>	-85,000
8. Subtract the number of LUEs sold to District #17 times \$7,300* <sup>(2)</sup>	<u>-0</u>
9. The sum of 6, 7, & 8 is the Debt Service for Wastewater.	\$1,961,746
10. The District #11 DSC is calculated by multiplying the Debt Service for Wastewater by the District #11 equivalent assessed valuation divided by the Total AV. (Use the actual AV, when the product exceeds \$180k minimum). <sup>(2)</sup>	<u>180,000</u>
11. Subtract OD DSC from Step 10 to obtain the Net from Taxes.	\$1,781,746
12. Enter M & O Revenue Requirement established by the Board of Directors.	<u>\$200,000</u>
13. Add Net from Taxes and M&O Requirement to get Total Tax Requirement.	\$1,981,746
14. Divide the District #11 DSC plus M&O by twelve months. <sup>(2)</sup>	15,000.00
15. Divide the Net from Taxes by the ID District's Certified Assessed Valuation and then multiply by 100 to get the Tax Rate @ 100% collection.	\$0.1769/\$100
16. Divide the Net M&O Taxes by the ID District's Certified Assessed Valuation and then multiply by 100 to get the Tax Rate @ 100% collection.	<u>\$0.0199/\$100</u>
17. The sum of steps 16 & 17 is the Total Tax Rate.	\$0.1967/\$100
18. Enter the water revenue dedicated for debt service <sup>(2)</sup>	\$1,259,193
19. Enter the District #11 DSC to be collected <sup>(2)</sup>	180,000
20. Add NEPIP Debt repayment. <sup>(3)</sup>	85,000
21. The sum of the water debt service transfer and the DSC is the total transfer to the P&I fund. <sup>(2)</sup>	\$1,524,193

\*Capital inflows such as LUE sales or the DSC payments from District #11 can be used to reduce the tax levy and DSC directly as illustrated above, to retire bonds or be placed in the capital construction fund (such as was done for NEPIP). <sup>(2)</sup>

## AD VALOREM TAX RATES

The ad valorem tax rate must be set to generate revenue sufficient to satisfy the debt service requirement for water and wastewater facilities, reduced by net system revenues generated through bi-monthly billings. The debt service requirement for water is satisfied by the water rate design.

In July, the District submits to the Travis County Tax Assessor/Collector, the following information:

- a. Debt Service requirement for the coming fiscal year.
- b. The amount to be funded by Net Revenues.
- c. The amount to be funded by Ad Valorem taxes.

The District's Tax Rate is obtained by 1) adding the Net Debt Service requirement from Taxes and the Net M&O tax requirement to obtain the total to be funded through taxes, 2) dividing by the Certified Assessed Valuation and 3) multiplying by 100%, the Anticipated Collection Rate.  
(1)

### Bond Covenant Requirements:

a. While any of the Bonds and interest due thereon is unpaid, the Board of Directors of the District shall ascertain the rate and amount of Ad Valorem tax, based on the latest approved tax rolls of the District, which together with the amount the Board of Directors determines is available from the funds then on deposit in the District's Interest and Sinking Fund, will be sufficient to pay interest on and principal of the bonds as the same becomes due and payable and the fees of the Paying Agent/Registrar, with full allowance being made for tax delinquencies and costs of collections.

b. Such ad valorem tax must be levied against all taxable property in the District each year while any of the Bonds or the interest due thereon is unpaid.

The tax rate is set by the Board at its September meeting and is levied against Assessed Valuation as of January 1 of the then current calendar year.

Note: The 2001 Texas State Legislature repealed various requirements related to effective and rollback tax rates and public hearings for tax rate increases for MUDs and Special Districts.

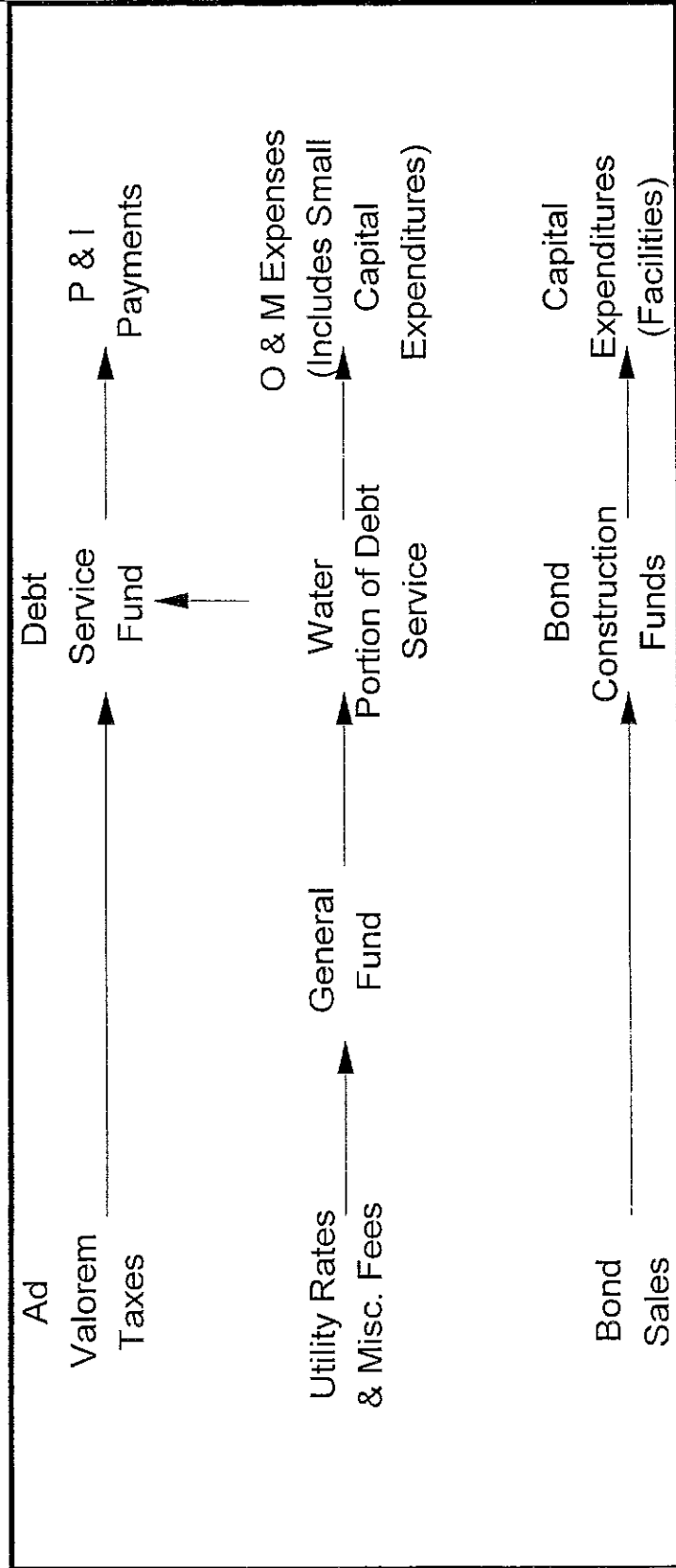
## **RATE DESIGN VERIFICATION & MID-YEAR AUDIT**

In order to check the accuracy of the rate design, a CASH SOURCE AND DISPOSITION STATEMENT is prepared for the year of the rate design. See the Verification in the rate design included in the Appendix for an example. An accurate rate design should result in a bottom line difference of no more than +/- 0.1%. A greater difference would dictate a thorough re-check of the design and revision(s)/correction(s) as necessary.

After completion of the first six months of the rate design year, an AUDIT should be prepared that compares ACTUAL REVENUES AND EXPENSES VS BUDGET (see Appendix). This comparison will generate VARIANCES. At this time, a judgment should be made to continue with the rates that were adopted at the beginning of the Fiscal Year, or consider a rate adjustment. New rates can be adopted at any time during the year. They cannot be made effective retroactively.

FUNDS FLOW CHART

DISTRICT FUNDS



***FY 2010 O&M BUDGET***

Following pages -

Lakeway Municipal Utility District  
Rate Manual - 4th Edition  
June 11, 1997 & amendments through October 21, 2009

**WATER & WASTEWATER CONNECTIONS REPORT & FY 2009 AVERAGE TEST  
YEAR EQUIVALENTS**

Following pages -



Lakeway Municipal Utility District  
Rate Manual - 4th Edition  
June 11, 1997 & amendments through October 21, 2009

***FY 2010 RATE DESIGN, DEBT SERVICE COMPONENT AND TAX LEVY***

Following pages -

Lakeway Municipal Utility District  
Rate Manual - 4th Edition  
June 11, 1997 & amendments through October 21, 2009

***FY 2010 RATE DESIGN VERIFICATION***

Following page -

**FY 2009 MID-YEAR AUDIT**

FY 2009 Mid-Year Audit  
 10/01/2008 thru 03/31/2009

	<u>ACTUAL</u> <u>3/31/2009</u>	<u>BUDGET</u> <u>1/2 YEAR</u>		<u>DIFF</u>
<b>REVENUE</b>				
WATER	1,459,979	1,197,106	*	262,873
WASTEWATER	845,897	872,400		(26,503)
PENALTY	22,456	17,300		5,156
MISCELLANEOUS	200,856	233,000	**	(32,144)
<b>TOTAL REVENUE</b>	<b>2,529,189</b>	<b>2,319,806</b>		<b>209,383</b>
<b>EXPENSES</b>				
ADMINISTRATION	503,290	337,600		165,690
WATER	712,021	680,870	*	31,151
WASTEWATER	608,259	643,350		(35,091)
<b>TOTAL EXPENSES</b>	<b>1,823,570</b>	<b>1,661,820</b>		<b>161,750</b>
<b>GROSS EARN/LOSS</b>	<b>705,619</b>	<b>657,986</b>		<b>47,633</b>

\* Normalized for seasonal fluctuation in water demand and system equivalent changes (growth)

\*\* Miscellaneous Revenue of bond repayment (\$202,226) & #17 LUEs (\$335,800) is not included in this total and was deposited into the construction account

## **PREFACES OF PRIOR ADDITIONS**

### PREFACE TO THE FIRST EDITION

Before moving forward, let's take a quick look to the past. During my first four years in Lakeway, beginning in 1982, it became apparent that a serious dichotomy existed and the two parts were Village residents and the Lakeway MUD Board of Directors. The reason for the division was clear --- water rates charged out-of-District customers by the MUD Board. On the golf course, at cocktail parties, and wherever people vocalized on the subject --- but no two stories or explanations were the same. There was a sameness, however the sameness being that MUD Directors were illegally charging out-of-District customers rates that exceeded the cost of service. One did not have to have answers or be familiar with details to conclude that if nothing else, a communications as well as a comprehension problem existed. Having nearly four decades of experience dealing with chemical processes that involved fixed and variable costs, and having dealt with same both as a doer and general manager, I concluded that I should become a MUD Director, become thoroughly familiar with the details of rates, recommend changes if necessary, and then attempt to resolve the communications and comprehension problems.

So I did --- become a Director that is --- and I found that the differential being charged out-of-District water customers was more than the amount that could be attributed to taxes paid by in-District customers. It should be emphasized that MUD Directors believed (and still do) that such a mark-up of OD rates is authorized by the Texas Water Code.

During the first quarter of 1986, a significant UNIFICATION via ANNEXATIONS movement started to pick up steam. It was concluded that the one proposed annexation (annexation of non-sewered areas by the MUD) was not in the best interest of District residents, and further, said annexation was being fueled, but not openly so, by the water rate issue. The MUD Board reacted by endorsing the policy of "EQUIVALENCY" and developed a methodology for equivalent rates. Such rates were designed and eventually adopted as of October 1, 1986.

It is felt that this action of the Board became the foundation or beginning for the "Compromise and Settlement" agreement executed by the Village Council and the MUD Board on February 12, 1987. This agreement settles the disputes between the two bodies and terminates the substantial legal costs resulting from said disputes.

And now, let us take a forward look. Equivalent rates are considered paramount for future cooperation between Village and MUD. Therefore, the principles and procedures for designing such rates should be set out in great detail --- and this becomes the object of the treatise that follows.

But all problems will not be resolved by this endeavor. There still remains a significant rate comprehension problem as indicated by the words and legal action taken by individuals following adoption of the "Equivalency" policy. We have offered detailed instruction and discussions but have had no takers. But let us look at this aspect as a problem for tomorrow.

## PREFACE TO THE SECOND EDITION

On August 7, 1986, the out-of-District (OD) rate-payers of the District appealed to the Texas Water Commission (TWC), the rates established by the District's Board of Directors dated July 9, 1986 for the two-month billing period of August/September, 1986.

On September 26, 1986, the OD rate-payers appealed the rates set on August 28, 1986 for the fiscal year beginning October 1, 1986 and ending September 30, 1987 (FY 1987).

The TWC conducted a public hearing concerning the appeals with the first session being held on June 29, 1987. The TWC issued an Order dated January 13, 1988 establishing rates for the periods under appeal. The protestants filed for a rehearing but the motion was denied and the TWC Order became final in March of 1988.

The TWC Order made two methodology changes to the Equivalency Procedure that had been developed and which was used in arriving at the FY 1987 and 1988 water rates. The changes have to do with the determination of billing determinants and the distribution of other revenue credits. These changes have an indirect impact on other aspects of the rate design procedure and before developing rates for FY 1989, revisions to the rate manual are required; thus, this SECOND EDITION of "Principles and Procedures for Designing Equivalent Utility Rates for Lakeway Municipal Utility District Customers".

E. Michael Kuhn

June 1988

## PREFACE TO THE THIRD EDITION

The first edition of the District's Rate Manual was published in June, 1987. This document recorded the methodology used the previous year in designing equivalent water and sewer rates for in-District and out-of-District water and sewer customers. The methodology established that rates would be designed to cover the projected COST OF SERVICE. In the case of in-District customers, the COST OF SERVICE rates would be reduced in recognition of taxes paid by the owners of improved, unimproved, and personal property.

The second edition of the rate manual was published in June of 1988 and incorporated changes contained in the TWC (Texas Water Commission) Order that resulted from the public hearing, which commenced in June of 1987 and concluded with the Order dated January 13, 1988. The changes incorporated dealt with the determination of billing determinants and the distribution of other revenue credits.

The manual has been employed now for six years and the procedures used have proven to be invaluable in establishing and maintaining a predictable and sound financial base for the District. Of equal importance, the fair and equitable treatment of in-District and out-of-District customers

has been successful in avoiding rate controversies, which prevailed from the time the District was established in 1972 through 1987.

#### WHY A THIRD EDITION?

##### SIMPLIFICATION:

After using the procedures contained in the manual to prepare RATE DESIGNS for FY's 87, 88, 89, 90, 91 and 92, it has become apparent that some of the details originally incorporated, while interesting, are not required in preparing a rate design and can be eliminated without violating the basic COST OF SERVICE (CASH BASIS) premise or any of the concepts contained in the TWC Rate Order.

##### HOUSEKEEPING:

Since the Second Edition was published in 1988, a number of revisions have been adopted by the Board of Directors and included only as attachment pages to the manual. The THIRD EDITION incorporates these revisions as part of the text.

E Michael Kuhn

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THIS DOCUMENT, A TUTORIAL FOR DESIGNING RATES FOR THE LAKEWAY MUNICIPAL UTILITY DISTRICT, WAS PREPARED AT NO COST TO THE DISTRICT AND IS INTENDED FOR THE EXCLUSIVE USE OF THE MUD BOARD. IT IS NOT TO BE DUPLICATED OR REPRODUCED IN WHOLE OR IN PART NOR IS IT TO BE USED BY ANY CONSULTANT EMPLOYED BY THE DISTRICT OR ANY OTHER SUCH PERSON WITHOUT THE EXPLICIT PERMISSION OF THIS AUTHOR.

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**THE END**