

# **CRANE LAKE WATER AND SANITARY DISTRICT**

## **Financial Plan: UNAPPROVED**

The Crane Lake Water and Sanitary District (District) has initiated construction of a wastewater collection and treatment system to serve its Western Service Area (WSA Project). The purpose of this Financial Plan is to set forth required rates, fees, and charges within the context of the project costs and schedule.

This financial plan provides for the following.

- A program of User Charges to support operations, maintenance, renewals & replacements, and debt service.

- Base Charge assignments for each customer.

- Volume Charges applicable to each customer.

- Hookup fees to be levied against future connections in lieu of a special assessment.

- Other WSA financial account recommendations.

### **BACKGROUND**

The District board authorized Environmental Financial Group, Inc. (EFG) to prepare a financial plan for the District's WSA wastewater collection and treatment system. Integral to these plans is an analysis of the adequacy of projected cash flows to meet operations, maintenance, and debt expenses.

The District is a public corporation and governmental subdivision of the State of Minnesota created pursuant to Minnesota Statutes, Sections 115.20 to 115.37. It is located entirely in St. Louis County. The District was created for the purpose of promoting the health and welfare of its residents by providing an adequate and efficient means of collecting, conveying, pumping, treating, and disposing of domestic sewage and industrial waste.

The District has adopted a Sewer Ordinance that, among other things, requires existing habitable structures and commercial establishments located in the WSA to connect to the public sewer system if a property is located within 300 feet of the main sewer line (or backbone). Under the terms of the ordinance, the District requires such customers to connect to the new system shortly after the system is available for such connection. The District will also soon be considering another ordinance that establishes a System of Sewer Service Charges. This plan provides the detail required to develop that ordinance.

### **SCOPE AND LIMITATIONS**

EFG was asked to prepare financial plans related to the new WSA collection and treatment system. Such plans necessarily rely on construction costs (as bid) and other engineering planning information related to the flows and loadings expected to be generated by

District customers. In particular, EFG is relying on equivalent domestic unit (EDU) assignments for each customer based on anticipated flows and loads. This information was developed by others and EFG takes no responsibility for it. Increases in project costs or delays in bringing the WSA project on-line for whatever reason will affect planned rates, fees and charges set forth in this plan document. Such changes may be material. It is recommended that the District revisit this financial plan toward the end of the construction period, when customer hookup schedules are confirmed and final operational decisions are made (e.g. costs related to contract operations and biosolids disposal).

This financial plan is based on the assumption that the flows of all customers are metered. It assumes that the District will be installing metering devices, either flow meters or grinder pump station time-of-use meters serving as a proxy for flow metering. This assumption is a critical element to the rate schedule included in this financial plan.

The District is divided into two service areas: the Western Service Area (WSA) and the Eastern Service Area (ESA). This financial plan addresses only rates, fees, and charges applicable to residents served by the WSA. Financing of future projects in the ESA is beyond the scope of this plan.

#### **REVENUE REQUIREMENTS FROM RATES**

Table 1 presents revenue required to be collected through User Charges for 2005 through 2007. The WSA system is assumed to start-up in January 2005. The projections ignore working capital requirements that might arise depending on the timing of start-up and receipt of User Charges. As start-up schedules become more definite, the District should revisit this forecast, perhaps including quarterly detail, to get a better sense of the timing of revenues and expenses.

The revenue required to be collected through user charges is the sum of operating expenses, transfer to equipment replacement and emergency repairs reserve accounts, and principal and interest payments on debt. During the first year of operation, estimated operating expenses of \$78,500, a debt service payment (interest only) of \$62,550, and transfers to reserve accounts of \$10,000 result in gross revenues from user charges of \$151,050. Revenues collected from special assessments are estimated to be \$36,000 per year so the net required to be recovered from user charges is \$115,050.

Revenue requirements for 2006 and 2007 are projected to be similar, since some the initial reserve requirements are reduced, but the reduction is offset by the first principal payment (\$12,987) on the USDA-RD loan that is due 1/1/06.

**TABLE 1**  
**WSA Projected Revenue Required from User Charges**

	2005	2006	2007
OPERATING EXPENSES [1]			
Routine Service and Maintenance	\$ 33,600	\$ 34,440	\$ 35,300
Billing	2,000	2,050	2,100
Utilities (Electricity, Gas)	12,700	13,020	13,350
Chemicals	2,500	2,560	2,620
Non-Routine / Emergency Services	5,600	5,740	5,880
Biosolids Handling and Disposal	4,300	4,410	4,520
Insurance/Permits, Licenses	4,000	4,100	4,200
Bookkeeping/Clerical	5,000	5,130	5,260
NPDES Analytical	3,800	3,900	4,000
Contingency	5,000	5,000	5,000
TOTAL OPERATING EXPENSES	78,500	80,350	82,230
DEBT SERVICE [2]			
Principal	-	12,987	13,571
Interest	62,550	61,966	61,355
TOTAL DEBT SERVICE	62,550	74,953	74,926
TRANSFERS TO RESERVES [3]			
Emergency Repairs	5,000	2,500	2,500
Renewals and Replacements	5,000	2,500	2,500
TOTAL TRANSFERS	10,000	5,000	5,000
GROSS REVENUES REQUIRED FROM USER CHARGES	151,050	160,303	162,156
LESS SPECIAL ASSESSMENT PAYMENTS	36,000	36,000	36,000
NET REVENUES REQUIRED FROM USER CHARGES	115,050	124,303	126,156
USER CHARGE REVENUES [4]			
Base Charges	75,000	75,000	75,000
Volume Charges	50,000	50,000	50,000
Seasonal Customer Charges	-	-	-
TOTAL USER CHARGES	125,000	125,000	125,000

- [1] Annual Increases in O&M Due to Inflation 2.5% 2.5% 2.5%  
 Operating expenses based on proposed NTS costs.
- [2] Debt service expenses based on USDA-RD amortization schedule. Assumes interest only payment due 1/1/05 and first principal and interest payment due 1/1/06.
- [3] Provisions for emergency repairs, renewals and replacements assume somewhat higher amounts in the first year of operation.
- [4] Base charges are based on annual principal and interest payments

## RATE SCHEDULE

Once the revenue requirements are determined, the next step is to allocate those requirements to customers. Table 2 presents a recommended rate schedule based on EDU assignments for each customer.

**TABLE 2**  
**WSA Projected Revenue Required from User Charges**

	2005	2006	2007
Class I Base Charge, \$/EDU/mo	\$ 50.00	\$ 50.00	\$ 50.00
Volume Charge, \$/kGal	\$ 5.00	\$ 5.00	\$ 5.00

The rate schedule presented in Table 2 includes a volume charge applied to each 1,000 gallons of metered flow or a grinder station time-of-use equivalent. This time-of-use equivalent will have to be determined once the grinder pump stations are installed.

The volume charge provides a significant opportunity for the District to make the rate schedule as equitable as possible. Since actual flows and loads from customers are currently unknown, the rate schedule has to reflect a conservative estimate of the amount of flow that will be pumped and treated each year. It is expected that this rate schedule will be adjusted in the future once some historical record has been developed. However, the use of volume charges provides for protections that large users will be paying their fair share of the costs of the system. To that end, the cost split between commercial and residential customers at this stage of the WSA project is unknown. Certain engineering assumptions have been made by the District to ensure that the system is large enough to serve expected flows and loads, but from a ratemaking perspective, until a historical record is developed, the actual flows and loads and cost allocations between customer groups will be unknown.

## FORECASTED CASH FLOWS

To demonstrate that these monthly user charges will generate sufficient revenue, Table 3 presents a three-year cash flow projection. Pre-paid assessments should be used to pay the initial interest-only payment that is due on 1/1/05, probably prior to the collection of sufficient user charge revenue to pay a significant portion of that payment. As Table 3 demonstrates, the WSA project accounts will begin to accrue a reserve. This will be important as the District has to pay for minor repairs and replacements on the grinder pump stations and accommodate other operating contingencies.

**TABLE 3**  
**Forecasted Cash Flows -- Combined Accounts**

	2005	2006	2007
<b>Beginning Cash</b>	\$ -	\$ 83,333	\$ 166,482
User Charges	125,000	125,000	125,000
Special Assessment Revenues	36,000	36,000	36,000
Transfer from Pre-Paid Assessment Account	62,550	74,953	-
Interest Income	833	2,498	3,402
Operating Expenses	(78,500)	(80,350)	(82,230)
Debt Service	<u>(62,550)</u>	<u>(74,953)</u>	<u>(74,926)</u>
<b>Ending Cash Balance</b>	<b>\$ 83,333</b>	<b>\$ 166,482</b>	<b>\$ 173,728</b>

**ASSESSMENT AMOUNTS**

Table 4 below presents an analysis of the amount of the project cost that was set up to be collected through special assessments. Note that, net of the prepaid assessments that have been received, the expected annual special assessment revenue is estimated to be \$36,001. These amounts are normally used to pay a portion of the debt service on the USDA-RD loan.

**TABLE 4**  
**Assessed Amount**

<b>Capital Cost</b>		
Grinder Pump Stations		\$ 360,000
Service Lines		191,000
Excavation, Backfill and Restoration		<u>155,000</u>
		\$ 706,000
Backbone Force Main, Pump Stations	1,094,000	
Share Required for Existing Customers	<u>71%</u>	
		777,000
<b>GROSS ASSESSMENT AMOUNT</b>		\$ 1,483,000
Pro Rata Adjustment for Grant Funding [1]		43%
<b>TOTAL AMOUNT OF ASSESSMENTS</b>		\$ 638,000
Less Prepaid Assessments		<u>100,000</u>
<b>NET OUTSTANDING ASSESSMENTS</b>		\$ 538,000
<b>EXPECTED ANNUAL SPECIAL ASSESSMENT REVENUE</b>		\$ 36,001

[1] Total loan of \$1,390,000 divided by total project cost of \$3,221,000.00

## **CUSTOMER CLASS ASSIGNMENTS**

Table 5 on the following page presents the EDU assignments and monthly base charges for each customer. These assignments are based on the expected flows and loadings from each according to information developed by the District's engineer. It is assumed that the District does not have jurisdiction over the wastewater generated by houseboats operating in Crane Lake and adjoining waters. EDU assignments may be changed by the District in the future based on actual flows and loads from various customers. The procedure for changing these classes will be stipulated in the rate ordinance.

**TABLE 5**  
**Customer Class Assignments**

OWNER_NAME	PARCEL_NO	EDUs	Base Charge	
			\$	\$/Mo
ANDERSON CARL B & MARIE A	308-0030-03551	1.0	\$	50.00
ANDERSON ROBERT K	308-0150-00120	1.0		50.00
ANDERSON ROBERT K	308-0150-00220	1.0		50.00
BEATTY SCOTT R	308-0080-00404	1.0		50.00
BECKMANN DAVID R	308-0150-00270	1.0		50.00
BEDDOW JOEL A ETUX	308-0150-00320	8.0		400.00
BERGEMANN LORIN ETUX	308-0030-03558	1.0		50.00
BEST BETTY B	308-0080-00100	1.0		50.00
BLAZEVIC BRADLEY T	308-0080-00180	1.0		50.00
BODEEN JUDY	308-0030-03226	1.0		50.00
BODKIN MARIAN SANDRA	308-0030-03228	1.0		50.00
BRINKMAN PAUL D & KATHLEEN J	308-0070-00155	1.0		50.00
BRINKMAN PAUL D & KATHLEEN J	308-0150-00250	1.0		50.00
CAMPBELLS CABINS	308-0150-00165	1.0		50.00
CLEMMER RALPH L	308-0030-03557	1.0		50.00
CLIFFORD VIRGINIA	308-0080-00060	1.0		50.00
CONGDON WILLIAM B & DEENA R	308-0080-00400	3.0		150.00
CRAIN JERRY L	308-0030-03555	1.0		50.00
CRAIN RODERICK M	308-0030-03553	1.0		50.00
DAWSON EJAY J	308-0080-00407	1.0		50.00
DEFRIES ROBERT W	308-0030-03227	1.0		50.00
DINTER DR RICHARD W	308-0080-00040	1.0		50.00
DRY JAMES R JR	308-0150-00310	1.0		50.00
DSR SALES INC	308-0150-00240	3.0		150.00
EGGEN ARTHUR W	308-0030-03574	1.0		50.00
EGGEN OLIVER	308-0030-03570	1.0		50.00
ERDING DAVID C & SHARON L	308-0030-03527	1.0		50.00
ESTATE OF JANE I BOGGS	308-0150-00080	1.0		50.00
G W RESORTS INC	308-0030-03530	15.0		750.00
HAMBLIN PAUL W II	308-0080-00120	1.0		50.00
HARSHBARGER MICHAEL L & ELLEN F	308-0070-00250	1.0		50.00
HEIL BARBARA	308-0150-00210	1.0		50.00
HOFF TERESA J	308-0080-00010	1.0		50.00
HUTT JOHN F II	308-0080-00402	1.0		50.00
J & G ENTERPRISES OF KAB LLP	308-0080-00401	21.0		1,050.00
JANSSEN JAMES V & GRETCHEN M	308-0080-00415	1.0		50.00
KAUFMAN DANIEL J & MARILYN	308-0030-03224	1.0		50.00
KLINEFELTER CHARLES L & BONNIE K	308-0030-03525	1.0		50.00
KLINEFELTER CHARLES L & BONNIE K	308-0030-03525	1.0		50.00
KOWALCIK JOSEPH A	308-0150-00290	1.0		50.00
LUTZ REV BERNHARD W & ROBERTA F	308-0030-03531	1.0		50.00
MCDONALD JOHN L & ROSALIE C	308-0070-00210	1.0		50.00
MCKIE ALLAN		1.0		50.00
MCKIE STUART & MARY	308-0070-00180	1.0		50.00
MOHR JAMES F & JANE M	308-0150-00060	1.0		50.00
MOHR ROBERT R	308-0150-00170	1.0		50.00
NIELAND PEGGY E	308-0030-03533	1.0		50.00
OCONNELL JOSEPH	308-0030-03232	1.0		50.00
OLSON LARRY C	308-0080-00410	3.0		150.00
PFEIFER SUSAN JUNE	308-0150-00040	1.0		50.00
POHLMAN JOANN	308-0030-03524	1.0		50.00
SCHLOTEC THOMAS A SR	308-0150-00105	1.0		50.00



**TABLE 5 (continued)**  
**Customer Class Assignments**

<b>OWNER_NAME</b>	<b>PARCEL_NO</b>	<b>EDUs</b>	<b>Base Charge</b>	
				<b>\$/Mo</b>
SCHWANKE LEON & LISA	308-0030-03528	1.0		50.00
SCOTT DARRELL	308-0030-03542	1.0		50.00
SCOTT DARRELL W	308-0150-00160	4.0		200.00
SCOTT DEBORA M	308-0070-00260	1.0		50.00
SCOTT DEBORA M	308-0070-00240	1.0		50.00
SCOTT ROBERT J & MARILYN A	308-0070-00010	3.5		175.00
SEIGLEY MICHAEL R	308-0150-00200	1.0		50.00
STERN RANDALL	308-0080-00405	1.5		75.00
TUFTE PAUL A & SARAH L	308-0030-03535	6.0		300.00
ULEN LANCE & AMY	308-0070-00130	1.0		50.00
VORHIES DAVID	308-0030-03534	1.0		50.00
WHEELER KRISTI	308-0080-00200	1.0		50.00
ZULLICK GAYLE E	308-0150-00130	1.0		50.00
CRANE LAKE VFD	308-0030-03540	1.0		50.00
CRANE LAKE CHAPEL	308-0030-03552	1.0		50.00
TOTAL		125.0	\$	6,250.00

## HOOKUP FEES

Table 6 below presents hookup fees for new connections that are not paying special assessments. Provisions should be made in the rate ordinance to accommodate new connections with abnormally long service lines or special service needs. Such customers should be charge additional amounts as part of hookup fees.

**TABLE 6**  
**WSA Hookup Fees**

	<b>Hookup Fee</b>
1 EDU	\$ 14,300
2 EDUs	28,600
3 EDUs	42,900
4 EDUs	57,200
5 EDUs	71,500
6 EDUs	85,800

## ACCOUNT STRUCTURE

In its Sewer Ordinance, the District establishes a Sewer Service Fund to receive all revenues generated by the Sewer Service Charge System and all other income dedicated to the WSA project. To clarify the types of costs incurred in the construction, operation, maintenance, and replacement of facilities, and in accordance with Sewer Ordinance, the District's Sewer Service Fund is comprised of three separate accounts. These are as follows.

Operations and Maintenance Account. The Operations and Maintenance (O&M) account includes the revenues and expenses related to the administration, operation, and maintenance of the treatment and collection system. Revenues in this account include user charges and other miscellaneous rates, fees and charges.

Debt Retirement Account. The debt retirement account includes the revenues and expenses related to retirement of debt. Revenues are expected to include special assessments. Expenses are expected to include debt service on USDA-RD loans.

Equipment Replacement Account. This account is defined to include revenues earmarked for the replacement of equipment and facilities. In accordance with good utility management practices, the District should set aside \$10,000 in the first year of operation and \$5,000 in each subsequent year. These amounts will be required in future years to replace grinder pumps, lift station pumps, treatment plant components, and pipelines.