GARLAND

INTERNAL AUDIT

Wastewater Audit

Craig Hametner, CPA, CIA, CISA, CMA, CFE
City Auditor

Prepared By

Jed Johnson

Sr. Audit Analyst

Marla Hamilton

Audit Analyst

Justin Brown

UTD Intern

INTERNAL AUDIT DEPARTMENT

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Authorization

We have conducted an audit of the Wastewater Treatment Billing and Collection process. This audit was conducted under the authority of Article VII, Section 5 of the Garland City Charter and in accordance with the Annual Audit Plan approved by the Garland City Council.

Objective

1) Determine if monthly billing is performed with the most current and accurate data and properly calculated.

2) Determine if monthly payments are received in a timely manner.

Scope and Methodology

We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. This included compliance with customer city contracts and City Ordinance 50.35. Our audit period was from October 2010 through August 2011. Our scope included all wastewater customer cities and six hand-billed (manual billed) industrial/commercial customers. The hand-billed industrial/commercial customers were the only customers who chose to install a wastewater meter to report the measured wastewater flow to the City for billing purposes. We also considered the following factors that affect the accuracy and timeliness of billing:

- Rate
- Average winter month consumption
- Volume
- Effluent test results
- Types of calculation methods
- Calibration requirements
- Customer classification criteria
- Source documents

While we report to the Mayor and City Council and present the results of our work to the Audit Committee, we are located organizationally outside the staff and line management functions we are auditing. Therefore, this Audit organization may be considered free of organizational impairments to independence to audit internally and report objectively to those charged with governance.

To adequately address the audit objective, we:

- Reviewed contracts and City Ordinances for billing and payment requirements (Obj. 1 & 2).
- Conducted a walk-through of the Rowlett Creek Plant to be familiar with the operations of wastewater treatment plant (Obj. 1 & 2).
- Gained understandings through discussions with the Wastewater Department (Obj. 1 & 2).
- Obtained TCEQ permit and preparation instructions (Obj. 1).
- Examined invoices, calibration records and a data flow study to verify the accuracy of reported flow (Obj. 1).
- Developed spreadsheets to analyze and calculate flow (Obj. 1).
- Prepared trend lines to find any inconsistent data (Obj. 1).
- Obtained and reviewed point of entry maps (Obj. 1).
- Analyzed Loading Characteristic testing data (Obj. 1).
- Reviewed utility records to compare invoice calculation methods (Obj. 1).
- Observed data entry in the Finance Department (Obj. 1).
- Obtained authoritative pronouncements from TCEQ (Obj. 1).
- Verified and reviewed the reliability and integrity of computer generated data and third party documents (Obj. 1).
- Obtained customer rate notification letters to ensure accuracy of the rate and timeliness of delivery (Obj. 1).
- Analyzed payments and compared them to invoices to verify the accuracy and timeliness of payments (Obj. 2).

Overall Conclusion

The Wastewater Department provides a valuable service to the City of Garland and surrounding areas. The audit revealed that improvements are needed in the following area to enhance the wastewater invoice and payment process:

- Contract management of customer cities needs improvement.
- City A billing process needs improvement.
- Late fees are not enforced when customer payments are delayed and late penalty provisions are not included in City A and City B contracts.
- Calculation methods outlined in the City Ordinance are not followed when meters are inoperable.
- Back-up data and calibration records are not collected to verify the accuracy of reported flow.

Background

Operations

The City of Garland owns and operates a wastewater treatment system which consists of approximately 1,000 miles of sewer mains, two state-of-the-art advanced biological wastewater treatment facilities with a combined capacity of 64 million gallons per day (Mgd), and a central laboratory. State certified operators continuously operate both facilities for 24 hours a day, 7 days a week, 365 days a year. The approved budget for 2011/12 was $41 million compared to the approved budget for 2010/11 of $40 million. [(1)]

The Duck Creek Center is a Trickling Filter/Solids Contact (TF/SC) plant permitted to treat 40 million gallons per day. This facility receives wastewater from the west side of Garland, and from a portion of the cities of City A, City B and City C. The Rowlett Creek Center is a Trickling Filter/Activated Sludge (TF/AS) plant permitted to treat 24 million gallons per day. This facility receives wastewater from the east side of Garland including cities of City E and City D. Both facilities have unique processes that contribute to a combined treatment process. Treated effluent is discharged into Duck Creek, then to the East Fork of the Trinity River. [(1)]

In addition to wastewater treatment, the utility also provides technical services, which include recognized laboratory and industrial pre-treatment operations governed by the TCEQ. For 25 years, the Duck Creek Laboratory has been conducting analytical services for both wastewater treatment plants, and various internal departments including Health and Electric. The staff, consisting of chemists and biologists, is fully conversant with prescribed regulatory agency procedures. Most personnel are involved in the Texas Water Utilities Association Lab Analyst Section, which provides monthly updates on procedures and new technologies within the laboratory agenda. More than 45,000 samples are analyzed annually in our state-of-the-art-equipped laboratory. Analytical capabilities include: [(1)]

- Organic analyses for Pesticides, PCB's, Volatiles, and Semivolatiles by Gas Chromatography (GC) and Gas Chromatography Mass Spectroscopy (GC/MS)
- Automated wet chemistry by Technicon Autoanalyzer for Ammonia, Nitrate, Nitrite, TKN, Phosphorus, and Cyanide
- Metals analyses by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS)
- Classical wet chemistry - BOD, COD, TSS, TDS, VSS, and Microtox

Authoritative Pronouncements

Wastewater treatment for customer cities is managed by properly executed wastewater customer city contracts, which govern the interactions between the parties in exercising the activities associated with this process. Wastewater treatment for commercial and industrial customers is governed by City Ordinance, Chapter 50, Article II - Rates and Fees. Treatment of wastewater and the resultant discharge of its by-products must comply with regulations of the TCEQ.

Wastewater Billing

The Wastewater billing consists of two factors:

Wastewater flow X Rate = Monthly fee

The following table illustrates methods of how flow is calculated for each customer:

Customers	Flow Calculation Method
Cities:	
City A – Residential	No. of Connections X Average Winter Month Consumption X 98% Return factor
City A – Commercial	Water consumption X 80% Return factor
City B	Fixed at 3.189 mgd[(2)] X No. of days in a service period
City C	Water consumption X 80% Return factor
City D	Metered flow
City E	Metered flow
Industrial:	
Industrial A	No. of times treatment tanks are discharged daily
Industrial B	Metered flow
Industrial C	Metered flow
Commercial:	
Commercial A	Metered flow
Commercial B	Metered flow
Commercial C	Metered flow

Source: Contracts, Customer Invoices and Pretreatment Supervisor

The City uses Economists.com to calculate the published rates annually as approved by the City Council. The rates for the industrial wastewater customers are developed in accordance with the City's rate ordinance and industry standards of ratemaking under the Cash Basis. Rates for customer cities are developed in accordance with the City's rate ordinances and industry standards of ratemaking under either the Cash Basis or the Utility Basis as specified by each customer city's contract with the City of Garland. Both the ordinances and contracts require calculations of the cost of service volume

rate to be based on several factors, including volume of flows and strength of flows as measured by biochemical oxygen demand (BOD) and total suspended solids (TSS).[3]

(1) Wastewater Treatment Utility webpage on City of Garland website - http://www.ci.garland.tx.us/Home/Departments/Utility+Services/Wastewater+Treatment+Utility/.

(2) Based on 1995 Data Flow Study of 3.189 million gallons per day.

(3) Economists.com – Rate Methodology (document).

Management Accomplishments

The administration of Garland Water and Wastewater Utilities (GWU) recognizes the need for continual review of its business and clerical processes, and has been working toward enhancing and formalizing procedures. In 2008, the department assumed responsibility for rate development and implementation, customer city contract management, billing system analysis, and selected industrial/commercial customer hand-billing – all within existing staff. GWU also coordinated with an outside consultant to establish a long-range rate model to minimize rate spikes and equitably allocate the cost of providing wastewater services.

Within the past two years, GWU has reorganized its administrative support team to maximize resources and standardize processes between the different locations, realigning duties and incorporating additional layers of oversight and review.

These measures are intended to provide uniformity and consistency in our processes and, ultimately, our business decisions. Efforts will be made to incorporate the outcomes of this Wastewater Audit into our ongoing administrative process improvements. However, it should be noted that a higher level of account management, contract oversight, and additional effluent testing and measurement will require additional specialized staff.

Opportunities for Improvement

During our audit we identified certain areas for improvement. Our audit was not designed or intended to be a detailed study of every relevant system, procedure, and transaction. Accordingly, the Opportunities for Improvement section presented in this report may not be all-inclusive of areas where improvement might be needed.

Finding #	Condition (The way it is)	Criteria (The way it should be)	Cause (Difference between condition & criteria)	Effect (So what?)
1 (Obj. 1)	City C is operating under an expired contract.	A contract is in place to protect the interest of both parties. According to the expired contract, "The Contract may be renewed for additional five (5) year periods provided that the City notifies Garland of its desire to renew the Contract one (1) year before the expiration date."	The City of Garland did not follow-up with City C to renew the contract. The last notification letter was received November 2, 2005.	Problems could present themselves regarding details of the written agreement that do not come into play on a periodic basis.

Recommendation	Management Response	Action Plan	Implementation Date	Auditor's Comment
Management should: • Ensure that the contract is renewed. • Develop a mechanism to notify the department of pending contract expiration/ renewals.	GWU partially concurs with this finding and recommendation. Prior to 2008-09, wastewater billing and contract management was the responsibility of the Rate Manager in the Finance Department. In late 2008, when GWU assumed direct oversight for both of these functions and began working with an outside consultant to develop rates, staff reviewed all of the customer city contracts in detail, along with the various terms, conditions, and expiration dates. As part of the modeling process, the consultants recommended that GWU work toward a uniform wastewater services agreement in the future that would not only specify the same basis for rate calculations, but also include provisions to address alternative metering where applicable as well as changing regulatory limits. Preliminary research on a standardized contract was begun, but it was not until City C failed to provide advance notice of their intent to renew the existing contract that the opportunity to renegotiate this 25-year contract materialized.	GWU has spoken with the Finance Manager and the City Engineer of City C, and has agreed to continue to provide service under the existing contract terms (at the rate adopted each year by Council ordinance) until a new contract can be executed.	Because of the complexities involved in creating a contract that will be used as a model for all future wastewater contracts, it is expected that a new contract will take a minimum of one year to develop and implement. (Mar 2013)	Our suggestion is to consider renewing the contract for an additional one (1) year until a new standardized contract is created.

Finding #	Condition (The way it is)	Criteria (The way it should be)	Cause (Difference between condition & criteria)	Effect (So what?)
2 (Obj. 2)	The billing cycle for City A appears to be excessive. During our audit period, we found that the total billing cycle averaged 58 days, greater than other city customers (Exhibit A shows average cycle for other billed customers.)	Prudent business practices dictate that the billing cycle be at a reasonable level.	• City A does not provide flow information in a timely manner. • In some instances, invoices are not prepared within a reasonable amount of time. • Payments are not received by the due date.	Delay of payment impacts the City of Garland's cash flow.

Recommendation	Management Response	Action Plan	Implementation Date	Auditor's Comment
Management should reevaluate the billing cycle process to reduce the processing time.	GWU partially concurs with this finding and recommendation. City A is a large city with a complex billing system. Prior to recent construction of a new Garland sewer line in the contiguous area, Garland flows and that of City A commingled before reaching a point where a meter could be installed, and it was not feasible to meter the flow for City A. Billing has instead been based on reported metered water usage for City A commercial customers located in the service area and an average winter month's household water use for the residential customers being served by Garland. This reporting methodology requires that the relevant billing cycle be complete and any billing issues on City A's side be resolved before final data can be transmitted. Information is normally received between 10 to 20 days following the end of the billing month. If information is not received within this timeframe, a "reminder" e-mail is sent, requesting the information.	With the new Garland line in place, City A is in the process of installing a meter to measure their flow data. Metered flow, which should be available immediately following the end of the month, will then be used to calculate the monthly bill.	Meter installation is expected to be complete and operational in three to six months (June – Sept 2012).	In this finding, we believe that Management satisfactorily addressed one cause regarding the timeliness of City A to provide flow information. However, Management did not address the other two causes: invoice preparation time and payments not received by the due date.

Finding #	Condition (The way it is)	Criteria (The way it should be)	Cause (Difference between condition & criteria)	Effect (So what?)
3 (Obj. 2)	A. Late fees were not assessed when wastewater customer payments were past due. B. City A and City B have no criteria for late payments outlined in the contract.	The contracts and City Ordinance for each customer state the following: • **City D and City E:** Payments shall be made to Garland by wire or other electronic funds transfer or check within twenty (20) days of receipt of an invoice. Any payment or any portion thereof received after its due date shall be subject to interest at the rate equal to the three (3) month T-Bill rate and a 5% penalty. • **City C:** City shall pay a penalty of 5% plus legal costs if it fails to pay monthly bills in full within thirty (30) days from the date of invoice. • **Commercial and Industrial Customers:** Bills are due and payable and become past due if not paid within twenty (20) days after mailing. If payment has not been received by the Customer Service Department within twenty-four (24) days after mailing, a late payment penalty of five percent (5%) shall be due on the unpaid balance.	A. Late payments are not monitored or assessed. B. The contracts were not properly reviewed prior to execution by the parties involved.	Combined loss of revenue for the audit period in the approximate amount of $67,771 (Exhibits B & C show specific amounts). **NOTE:** Currently, all customers are being billed on a 30-day credit period. All calculations were done based on that 30-day period.

Recommendation	Management Response	Action Plan	Implementation Date	Auditor's Comment
Management Should: A. Assign responsibility and accountability for monitoring late payments to ensure that late fees are assessed when appropriate. B. Amend the City A and City B contracts to include late payment criteria and thoroughly review future contracts to ensure appropriate criteria is included prior to execution of the contract.	GWU partially concurs with this finding and recommendation. A. It is the responsibility of GWU to remit billing information, along with a formal request to invoice, to the City of Garland's Finance Department. From that point, Finance invoices the customer and receives payment. It would be outside the purview of GWU to assess late fees related to payment receipt. B. City A and City B contracts were executed in 1977 and do not expire until 2027. While current GWU staff cannot speak to the level of oversight and review that occurred at the time the contracts were developed, there would appear be little incentive for these cities to amend contract terms solely on the basis of adding late-payment penalty fees that are not currently part of the agreement.	GWU will coordinate with Finance to make sure they are aware of any/all contract stipulations related to late payment penalties. As other opportunities to renegotiate contracts arise and a "model" contract is developed, language related to timely payment of invoices can be included.	GWU will immediately send information related to late payment penalty clauses to the Finance Department. In addition, GWU will approach City A in the next twelve to eighteen months regarding renegotiation of a uniform contract.	We contacted two other North Texas water treatment organizations (including one local municipality) to compare their contract terms and conditions with ours and to verify their assessment of late payment penalties. Our verification revealed the following: 1. The first water treatment organization outlines late payment provisions (10% penalty) in its municipal contracts. Late fees are assessed when payments from municipal customers are past due. 2. The municipality has plans to add late payment provisions to their municipal customers' contracts at renewal. Late payment provisions will coincide with the City's Ordinance. In addition, conversations with Finance and the Utility Department revealed plans to incorporate these hand-billed customers into the pending Banner System Upgrade. If the Utility Department is able to incorporate these changes, late payments will be assessed automatically by the Banner System. To accommodate these changes in Banner, the contracts should be amended to reduce conflicts that may arise due to Banner's assessment of late fees.

Finding #	Condition (The way it is)	Criteria (The way it should be)	Cause (Difference between condition & criteria)	Effect (So what?)
4 (Obj. 1)	A. The monthly invoice for Industrial Customer A is calculated based on the number of times the treatment tanks are discharged in a day. Industrial Customer A does not have an operational meter. The method used to calculate their wastewater bill is not in compliance with City Ordinance 50.35. B. The accuracy of Industrial Customer A invoices could not be determined due to an inability to verify reported flow.	A. According to City Ordinance 50.35 when a meter is inoperable, the invoice should be calculated based on 80% of water usage. B. Before invoices are processed, the Wastewater department should obtain documentation that provides a reasonable assurance of flow accuracy.	A. The Wastewater Department did not follow the City Ordinance. B. The Wastewater Department does not have a mechanism in place to verify the accuracy of the reported flow.	The current method is not an accurate measure of wastewater usage. In this case, the method used resulted in a loss of revenue during the audit period totaling $4,787.12, which is a 33% difference in billing methods (See Exhibit D).

Recommendation	Management Response	Action Plan	Implementation Date	Auditor's Comment
A. Management should: 1. Ensure that the meter for Industrial Customer A is repaired so that wastewater flow calculations can be accurately reported. 2. Use the City Ordinance 50.35 method to calculate Industrial Customer A's invoice until meter is repaired. B. Management should obtain back-up documents to verify the reported wastewater flow on a monthly basis.	GWU partially concurs with this finding and recommendation. A. The Ordinance governing the Industrial Customer rate class states that sewer effluent will be measured at 80% of water flow unless the customer has installed a City-approved flow monitoring device. Nothing in this particular ordinance addresses alternate billing for an inoperable device. Customer A has been submitting flows based on tank discharge for seven or more years, and presumably received approval from the former Rate Manager or appropriate authority for this alternate procedure due to the inability to accurately measure the flow with a meter.	GWU will seek to amend Ordinance 50.35 to include other accepted flow measurement techniques for industrial customers where metering is not a workable solution. GWU will request that Industrial Customer A include a more detailed log sheet regarding the number of tank discharges with the data transmitted to Finance for billing.	October – December 2012 when new rate ordinance changes are scheduled to be presented to Council.	To clarify this finding, it is true that the Ordinance does not specifically address inoperable meters. However, the Ordinance dictates two methods of calculation: (1) 80% of water usage, or (2) Metered usage, if a meter is installed. The method used by Industrial Customer A is not listed in the Ordinance. In addition, conversations with the Utility Department regarding the incorporation of the hand-billed customers in the Banner System revealed that the Banner System is unable to adhere to the current method (tank discharges) used for this customer.

Finding #	Condition (The way it is)	Criteria (The way it should be)	Cause (Difference between condition & criteria)	Effect (So what?)
5 (Obj. 1)	The accuracy of the wastewater flow as reported on the invoices from most of the industrial or commercial hand-billed customers could not be determined due to lack of calibration records.	Calibration ensures the accuracy of meter readings. TCEQ recommends and COG's state permit states, Calibration records should be obtained on an annual basis. Calibration reports should be submitted by the industrial/commercial entities so that the City of Garland can verify the accuracy of wastewater usage.	Wastewater Department does not require calibration reports.	By not obtaining calibration reports from its industrial/commercial customers, the Wastewater Department risks inaccurate measurements of wastewater usage that can equate to loss of revenue.
Recommendation	**Management Response**	**Action Plan**	**Implementation Date**	**Auditor's Comment**
Management should require calibration reports from all industrial/commercial hand-billed customers to verify the accuracy.	GWU partially concurs with this finding and recommendation. The ordinance that governs rates and billing procedures does not address the collection of meter calibration data; therefore, no calibration data has been required in the past.	GWU will seek to add a clause to Ordinance 50.35 to codify additional customer responsibilities when installing a sewer flow meter (or alternate accepted methodology) to be used for billing purposes.	October – December 2012 when new rate ordinance changes are scheduled to be presented to Council.	Calibration is an important aspect of billing because it provides a reasonable assurance of the accuracy of flow which is one-half of the billing equation.

Additional Consideration

The criteria used by the City to classify its commercial/industrial hand-billed customers does not appear to coincide with TCEQ definitions. According to TCEQ definitions:

- **Commercial User -** Industrial Users who are not considered to be a significant single source of toxics because of their small size, generally low flow and insignificant pollutant levels or loadings, including but not limited to, radiator shops, car washes, small laundries, gasoline stations, dry cleaners and restaurants.

- **Industrial User -** Any industrial or commercial facility that discharges wastewater to the treatment works that is not domestic wastewater. Domestic wastewater includes wastewater from connections to houses, hotels, non-industrial office buildings, institutions, or sanitary waste from industrial facilities.

Our review of the following hand-billed customers revealed that some commercial customers had a higher volume of flow, yet were charged a lower rate in comparison to the industrial customers (see below and Exhibit E).

	Comm. A	**Ind. A**	**Comm. B**	**Ind. B**
Average Monthly Flow (in Gallons)	679,000	137,000	1,888,000	1,751,000
Rate	$4.48	$9.54	$4.48	$9.26

Source: Wastewater invoices, City Ordinance 50.35

According to City Ordinance 50.35 (the Ordinance), a rate of $4.48 per 1,000 gallons is assessed to all commercial customers. However, industrial customers' rates are determined based on the strength of bio-oxygen demand and total suspended solids (BOD/TSS) in their wastewater. The Ordinance outlines a rate between $7.77 and $9.54 for the three specific industrial customers that we evaluated.

Internal Audit believes management should ensure that its commercial and industrial customers are classified based on TCEQ's definitions. The potential effects deal with equity and potential revenue.

Exhibit A

Customer Billing Cycle

Customer	Average Billing Cycle
City A	**58**
City B	22
City C	13
City D	39
City E	30
Industrial A	26
Industrial B	30
Industrial C	34
Commercial A	28
Commercial B	32
Commercial C	35

Source: Customer Invoices, Accounts Payable Checks

Exhibit B

Customer City Late Fees
(Based on Contract Standards)

City Name	Month	Invoice Amount	T-Bill Rate [3]	Days Late	T-Bill Rate Fee	Penalty	Penalty Fee	Total Late Fees
City A [1]	May-11	$ 50,109.84	1%	2	$ 2.78	5%	$ 2,505.49	$ 2,508.28
	Apr-11	49,443.84	1%	32	43.95	5%	2,472.19	2,516.14
	Feb-11	55,031.58	1%	20	30.57	5%	2,751.58	2,782.15
	Nov-10	$ 51,386.34	1%	2	$ 2.85	5%	$ 2,569.32	2,572.17
								$ 10,378.74
City B [1]	-	-	1%	0		5%		-
City C	-	-	N/A	0		5%		-
City D [2]	Aug-11	$ 6,789.12	1%	17	$ 3.21	5%	$ 339.46	$ 342.66
	Aug-11	242,492.25	1%	17	114.51	5%	12,124.61	12,239.12
	Jul-11	248,629.42	1%	14	96.69	5%	12,431.47	12,528.16
	May-11	$ 248,779.70	1%	20	$ 138.21	5%	$ 12,438.99	12,577.20
								$ 25,105.36
City E [2]	Jun-11	$ 145,026.83	1%	2	$ 8.06	5%	$ 7,251.34	$ 7,259.40
	Jan-11	190,477.69	1%	3	15.87	5%	9,523.88	9,539.76
	Dec-10	$ 150,326.41	1%	9	$ 37.58	5%	$ 7,516.32	7,553.90
								$ 24,353.06
							Total Fees Due From Customer Cities	**$ 59,837.16**

(1) Late fees are not outlined in the contract. However, fees are based on other customer city contracts such as City D and City E.

(2) Late fees are assessed a 3-month T-bill rate on unpaid balances plus 5% penalty.

(3) Current T-Bill rate was 1% during the test.

Source: City Contracts, Customer Invoices and T-Bill Rate from http://finance.yahoo.com/bonds

Exhibit C

Industrial/Commercial Customer Late Fees[1]

(Based on Standard 5%)

Customer Name	Month	Bill Amount	Penalty	Late Fee
Industrial A	Aug-11	$ 1,264.24	5%	$ 63.21
Industrial B	Oct-10	$ 17,859.80	5%	$ 892.99
	Nov-10	16,529.47	5%	826.47
	Dec-10	17,038.65	5%	851.93
	Apr-11	$ 14,696.66	5%	734.83
				$ 3,306.23
Industrial C	Nov-10	$ 31,046.32	5%	$ 1,552.32
	Jan-11	43,497.90	5%	2,174.89
	Jun-11	$ 49,637.37	5%	2,481.87
				$ 6,209.08
Commercial A	-	-	5%	-
Commercial B	Jul-11	$ 4,786.22	5%	$ 239.31
Commercial C	Jun-11	$ 2,314.10	5%	$ 115.71
			Total Late Fees	**$ 9,933.54**

[1] Garland's City Ordinance in Sec. 50.34-Water a service rates established late payment penalty of five percent (5%) on unpaid balances. (http://z2.franklinlegal.net/garland-flp/)

Source: City Ordinance 50.34, Customer Invoices

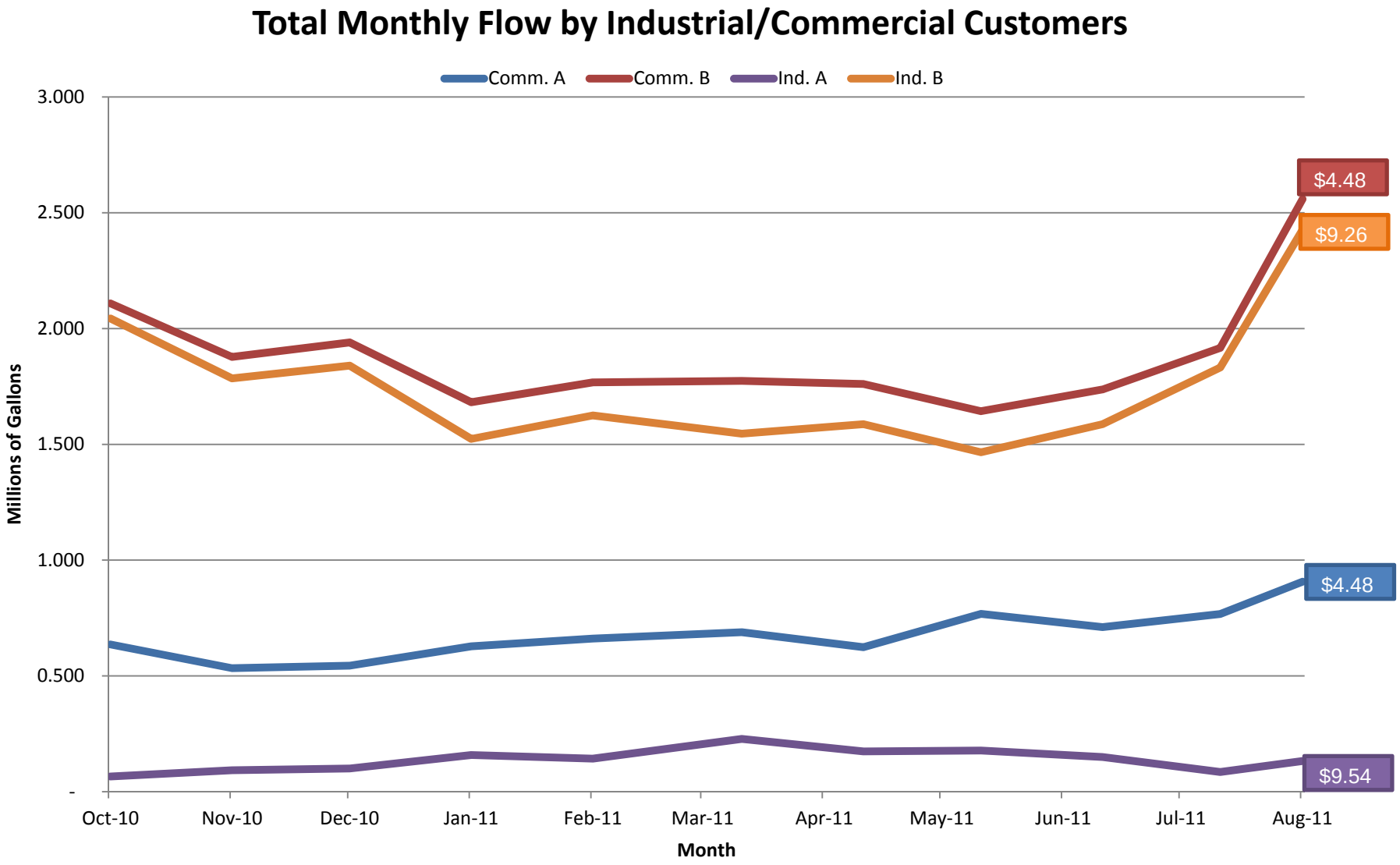
Exhibit D

Industrial Customer A - Lost Revenue

	Utility System Data						Invoice Data					
Month	Water Usage	(B) 80% of Water Usage Amount	X	(C) Rate	=	(B X C)= (D) Estimated Invoice Based on 80% of Water Usage	(E) Billed Water Usage	X	(F) Rate	=	(G) Billed Amount	(D – G) Revenue Difference
Oct-10	142,400	113,920		$ 9.54		$ 1,086.80	65,620		$ 9.54		$ 590.58	$ 496.22
Nov-10	151,200	120,960		9.54		1,153.96	92,640		9.54		883.79	270.17
Dec-10	184,900	147,920		9.54		1,411.16	100,360		9.54		957.43	453.72
Jan-11	208,100	166,480		9.54		1,588.22	158,260		9.54		1,509.80	78.42
Feb-11	162,600	130,080		9.54		1,240.96	142,820		9.54		1,362.50	(121.54)
Mar-11	278,600	222,880		9.54		2,126.28	227,740		9.54		2,172.64	(46.36)
Apr-11	193,500	154,800		9.54		1,476.79	173,700		9.54		1,657.10	(180.31)
May-11	151,400	121,120		9.54		1,155.48	177,560		9.54		1,693.92	(538.44)
Jun-11	354,600	283,680		9.54		2,706.31	149,540		9.54		1,426.61	1,279.70
Jul-11	313,800	251,040		9.54		2,394.92	84,920		9.54		810.14	1,584.78
Aug-11	363,600	290,880		$ 9.54		$ 2,775.00	132,520		$ 9.54		$ 1,264.24	1,510.75
											Net Revenue Lost (Gained)	**$ 4,787.12**

Source: Customer Invoices, Utility Billing System and City Ordinance 50.34

Exhibit E



Source: Customer Invoices and City Ordinance 50.35