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**Audit Report**

**Performance Audit of Non-residential  
Drainage Utility and Transportation User Fees**

**September 28, 2010**

Office of the City Auditor  
Austin, Texas

## **Audit Team**

Henry Katumwa, Auditor-In-Charge, CICA

Matt Hartman

Marina Isupov

## **Assistant City Auditor**

Niki Raggi, CGAP, CICA

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# City of Austin

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## Office of the City Auditor

301 W. 2<sup>nd</sup> Street, Suite 2130  
Austin, Texas 78767-8808  
(512) 974-2805, Fax: (512) 974-2078  
email: [oca\\_auditor@ci.austin.tx.us](mailto:oca_auditor@ci.austin.tx.us)  
website: <http://www.ci.austin.tx.us/auditor>

Date: September 28, 2010

To: Mayor and Council

From: Kenneth J. Mory, City Auditor

Subject: Performance Audit of Non-residential Drainage Utility and Transportation User Fees

I am pleased to present this audit report on the Non-residential Drainage Utility and Transportation User Fees Audit. These fees are non-metered fees, established by City Code, imposed on active non-residential accounts for premises located within the City limits and are administered by the Watershed Protection Department (WPD).

We found that the process for administering these fees on non-residential accounts does not provide reasonable assurance of timely and accurate billing for all eligible accounts, resulting in a possible impact on customer satisfaction and revenue loss to the City.

Based on our work, we recommend that WPD implement adequate policies and procedures to correct accounts in error, identify possible under-billed revenues, and determine whether prior unbilled amounts should be back-billed. Further, we recommended that WPD perform a comprehensive review of the administration of non-residential drainage and transportation fees to address the issues raised in this audit.

We appreciate the cooperation and assistance we received from staff in the Watershed Protection Department during this audit.

cc: City Manager  
Assistant City Managers  
Watershed Protection Department Director  
Public Information Officer



## COUNCIL SUMMARY

This report presents the results of the non-residential Drainage Utility Fee (DUF) and Transportation User Fee (TUF) audit. These fees, which are administered by the Watershed Protection Department (WPD), are non-metered fees, established by City Code, imposed on active accounts for premises located within the City limits.

Overall, we found that the process for applying TUF and DUF on non-residential accounts does not provide reasonable assurance that these fees are applied in an accurate and timely manner, resulting in a possible impact on customer satisfaction and revenue loss to the City.

Based on a random attribute sample of non-residential accounts eligible for TUF and DUF fees we determined that:

- Approximately nine percent of the sampled accounts were assessed the TUF and DUF charges late, resulting in \$14,500 actual under-billed revenues for the sampled items. Because non-residential charges for TUF and DUF vary greatly among accounts, we cannot make a statistically valid assertion regarding the revenue loss resulting from late charges. However, we used the results of our sample to make an estimate of potential revenue loss resulting from late billing, which amounts to approximately \$870,000<sup>1</sup> over the period analyzed.
- Approximately five percent of the sampled accounts were billed TUF and DUF inaccurately, such as on ineligible accounts or based on incorrect measurements. These did not result in a material over- or under-billing, but could be of concern to individual customers and their satisfaction.

Further, we observed that controls over the administration of the non-residential drainage and transportation user fees could be strengthened with respect to addressing known risks, providing adequate oversight and monitoring, and managing information.

Based on our audit results, we recommend that WPD work to ensure that accounts in error are corrected, identify possible under-billed revenues, and determine whether to back-bill applicable accounts. We also recommend that the WPD perform a comprehensive review of the administration of non-residential drainage and transportation fees to address the issues raised in this audit.

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<sup>1</sup> This estimate is based on a judgmental statistical methodology which takes into considerations two parameters (refer to Appendix C for more details). Management has proposed a one-parameter methodology to estimate the revenue loss which would provide for a lower but less precise estimate.





## ACTION SUMMARY NON-RESIDENTIAL DRAINAGE UTILITY AND TRANSPORTATION USER FEES



<b>Recommendation Text</b>	<b>Management Concurrence</b>	<b>Proposed Implementation Date</b>
1. The Director of the Watershed Protection Department should ensure that adequate policies and procedures are implemented so that accounts in error are corrected and possible under-billed revenues are identified, and determine whether prior unbilled amounts should be back-billed, taking into consideration financial and customer satisfaction issues.	Partially Concur	January 21, 2011
2. The Director of the Watershed Protection Department should evaluate the Fee Office organizational structure and adequacy of needed skills to perform non-residential TUF and DUF fees administration.	Concur	April 30, 2011
3. The Director of the Watershed Protection Department should perform a review of the administration of non-residential drainage and transportation fees to address the issues raised in this audit, including but not limited to the ones listed below, and implement appropriate changes to ensure: a. sufficient training and staffing for the Fee Office, including succession planning; b. adequate management oversight and monitoring of the Fee Office activities, including evaluation of staff performance; and c. adequate data and information management.	Concur	April 30, 2011



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## BACKGROUND

The Transportation User Fee (TUF) and the Drainage User Fee (DUF) are non-metered fees, established by City Code, imposed on active residential and non-residential accounts for premises located within the City limits. This audit focused on the administration of these fees for non-residential premises. These fees are charged monthly and are separately listed on the customer’s monthly utility bills. Revenue resulting from TUF and DUF is primarily used for the operations and maintenance of the transportation and drainage systems respectively.

The TUF and DUF are assessed based on formulas established by City ordinances, which take into account specific parameters of the benefited properties, which are shown in Exhibit 1.

**EXHIBIT 1  
Parameters Used in Determining TUF/DUF Charges**

Drainage User Fee	Transportation User Fee
Impervious cover acreage	Size of development
Developed use	Developed use
Amount that development increases runoff and associated pollutants	Estimated motor vehicle trips generated

SOURCE: Austin City Code Chapters 15-2 and 14-10, August 2010.

The Fee Office of the Watershed Protection Department (WPD) is responsible for the administration of non-residential TUF and DUF including adding the respective fees to accounts in the Customer Information System (CIS), which is the City’s utility billing system.

TUF and DUF for non-residential accounts generated an average of approximately \$36 million for the past three fiscal years. As of September 3, 2010, there were approximately 19,000 active billable non-residential accounts in the City’s utility billing system.

**EXHIBIT 2  
Non-Residential TUF and DUF Revenues: FY 07 – FY 09**

	FY 07	FY 08	FY 09
<b>TUF</b>	\$ 9,732,330	\$ 11,035,922	\$ 13,398,648
<b>DUF</b>	\$ 23,908,978	\$ 24,038,513	\$ 24,523,864
<b>Total</b>	\$ 33,641,308	\$ 35,074,435	\$ 37,922,512

SOURCE: Unaudited data from WPD, July 19, 2010.

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## **OBJECTIVES, SCOPE, AND METHODOLOGY**

This non-residential Transportation User Fee (TUF) and the Drainage User Fee (DUF) audit was conducted as part of the Office of City Auditor's FY 2010 Service Plan, as accepted by the Council's Audit and Finance Committee. This audit was included in the Service Plan based on risks identified during our 2009 Customer Information System (CIS) Billing Audit.

### **Objectives**

Our audit objective was to determine if the process for applying TUF and DUF on non-residential accounts provides assurance that the fees are applied in an accurate and timely manner.

### **Scope**

The audit focused on TUF and DUF fees for active non-residential accounts as of June 30, 2010, with account connections dates between October 1, 2006 and June 30, 2010.

### **Methodology**

To accomplish our audit objectives, we performed the following steps:

- Reviewed applicable laws, policies, and procedures related to billing of TUF and DUF for non-residential accounts
- Interviewed key billing personnel at the Watershed Protection Department and Austin Energy
- Observed calculation of the fees in the field and in the office
- Tested a random attribute sample of 337 non-residential utility accounts to verify the timeliness and accuracy of TUF and DUF charges. Refer to Appendix C for details on the sampling 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 objectives.

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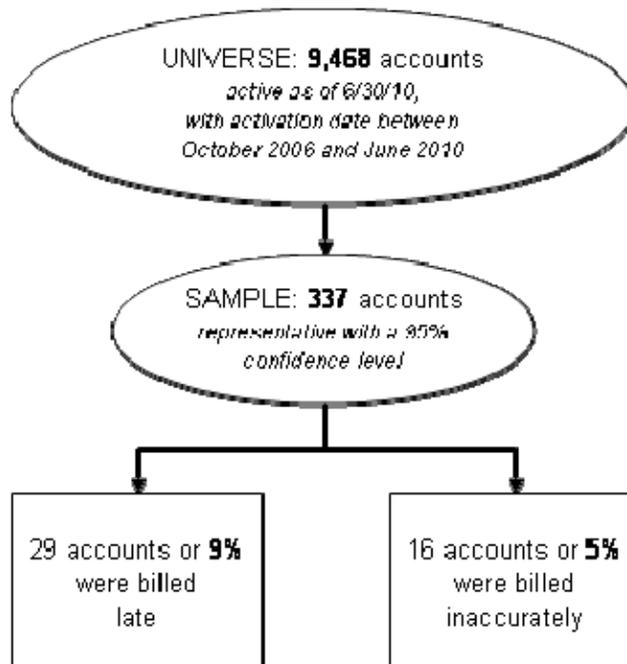
## AUDIT RESULTS

**The process for administering the Transportation User Fee (TUF) and Drainage User Fee (DUF) for non-residential accounts does not ensure that all eligible accounts are billed timely and accurately, resulting in revenue loss to the City.**

The City Code establishes that users of benefited properties are required to pay the costs of both the City's drainage utility service and transportation system based on a pre-determined usage formula. These fees should be assessed on activated accounts for metered utility services (electricity or water) for those premises which are located within the City limits. Further, state law requires that a certificate of occupancy be issued before a property can be affected by the drainage fee, and per City policy, these fees are charged once an account has been active for at least one billing cycle (this is to prevent the City from billing someone who has not benefited from City services). Finally, vacant premises are only subject to the drainage fee.

We analyzed a random attribute sample of 337 active non-residential accounts and found that approximately 14 percent of these accounts were not assessed TUF and DUF either timely or accurately. Refer to Appendix C for an explanation of the sampling methodology.

### EXHIBIT 3 Test Results: Late and Inaccurate Accounts

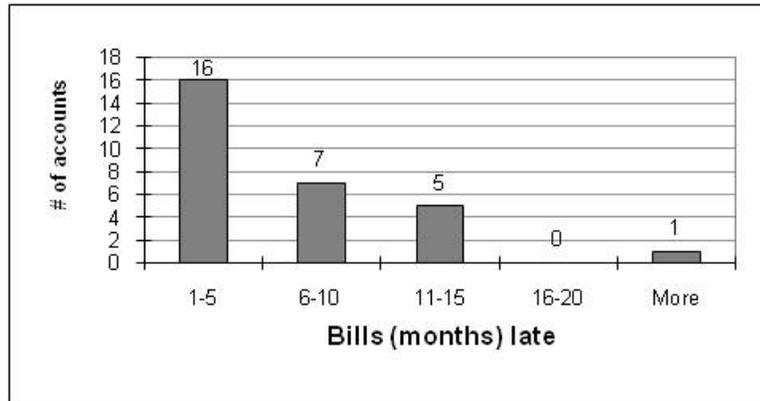


SOURCE: OCA test of utility accounts, conducted in July and August 2010.

**In our test we found that approximately nine percent of the sampled accounts were assessed the TUF and DUF charges late, resulting in unbilled revenues.** Because the fees are charged once an account has been active for at least one billing cycle, we considered an account to be late when the charges were not reflected on the second bill after the respective account had been activated, provided the property had received a Certificate of Occupancy.

Our test indicated that 29 of the 337 accounts tested (or 8.6 percent of our sample) were billed for TUF and/or DUF at least one bill (or month) late. The average TUF and DUF monthly charge for these accounts was \$153 and the average delay was approximately 7 bills (or months) late. Exhibit 4 shows the distribution of late bills among the 29 accounts, which ranged between 1 and 33 bills (or months) late. The actual revenue loss resulting from late billing of these 29 accounts was approximately \$14,500.

**EXHIBIT 4  
Distribution of Number of Bills Late**



SOURCE: OCA analysis of test results, conducted in September 2010.

Based on our analysis of the random sample of accounts, we conclude with statistical validity that the actual number of accounts that were billed late between October 1, 2006, and June 30, 2010, ranges between 772 and 858 (this range is based on a 5.25% margin of error). Further, while we cannot make a statistically valid assertion regarding the revenue loss for the entire population of accounts resulting from late charges, we estimated that as a result of untimely billing, the City may have forgone as much as \$870,000<sup>2</sup>. This estimate is based on the average monthly TUF and DUF charges using the exceptions in our sample and the average delay with which the charges were added to the bills observed in our test. Refer to Appendix C for more details on the sampling methodology and the revenue loss estimate.

**Further, in our test we found that approximately five percent of the sampled accounts were billed TUF and DUF inaccurately, which did not result in a material**

<sup>2</sup> This estimate is based on a judgmental statistical methodology which takes into considerations two parameters (refer to Appendix C for more details). Management has proposed a one-parameter methodology to estimate the revenue loss which would provide for a lower but less precise estimate.

**over or under billing for the City, but could be of concern to individual customers and their satisfaction.** As discussed above, TUF and DUF are applied to utility accounts for benefited properties. Per City policy, if a property has multiple utility accounts, the fees should be billed on only one of the accounts, which typically is the account connected to the electric meter. Additionally, TUF and DUF charges for properties with multiple tenants should be allocated proportionally among tenants.

In our test we found that 16 accounts (or 5 percent of our sample) were billed TUF and DUF inaccurately, based on the criteria described above. Inaccuracies observed during our test are shown in Exhibit 5.

**EXHIBIT 5  
Test Results: Inaccurate Accounts**

Type of Inaccuracy	Number of Occurrences
Charges on ineligible accounts	11
Charges not apportioned appropriately among multiple tenants	2
Charges prior to issuance of certificate of occupancy	2
Charges based on inaccurate billing factors	1

SOURCE: OCA test of utility accounts, conducted in July and August 2010.

The inaccuracies discussed above resulted either in overcharges or undercharges to utility customers, which were immaterial for the City but could be of concern to those individual customers and their satisfaction. For example, the 11 ineligible accounts noted above were charged the minimum amount of \$7.15 or \$7.75 in error, over a period of 2 to 29 months, due primarily to coordination issues between Watershed Protection Department (WPD) and Austin Energy. WPD management asserted that efforts to address this issue are underway.

**Further, we observed that controls over the administration of non-residential TUF and DUF are not adequate with respect to managing known risks, providing adequate oversight and monitoring, and managing information.** We evaluated the process used by WPD’s Fee Office to administer the non-residential TUF and DUF charges using the criteria developed by the United States Government Accountability Office based on the COSO framework of internal control<sup>3</sup>. Based on these criteria we identified the following weaknesses:

- While WPD is aware of some of the challenges faced by the Fee Office, it has not formalized a plan or strategy to address them. Currently, there is only one employee in the Fee Office who possesses the core knowledge to measure the various factors needed to calculate the TUF and DUF charges. This poses a risk of business disruption and loss of revenue to the City in the event of prolonged absence of this employee. Further, having only one employee with the knowledge to measure these factors may be preventing the complete, accurate, and timely billing of TUF and

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<sup>3</sup>*Standards for Internal Control in the Federal Government*, U.S. Government Accountability Office, 1999.

DUF. Finally, given the various manual steps involved and the complexity of the calculations involved, without appropriate documented procedures, this process has a significant potential for imprecision and human error. Management has indicated that there is another employee with experience and knowledge about TUF and DUF processes who is currently assigned to the utility billing system replacement. This employee began transitioning away from TUF- and DUF-related responsibilities in 2008. However, management indicated that they expect this employee to rejoin the Fee Office once the billing system has been replaced.

- Current management supervision and monitoring of the non-residential TUF and DUF activities could be strengthened. An effective internal control system requires on-going monitoring of activities. Based on interviews with both management and staff, we determined that management does not review the work done by the Fee Office to determine compliance with regulations, accuracy of billing, or timeliness of services provided. Management's oversight is currently limited to periodic high-level reviews of the financial information and approval of credits that are over \$5,000. Further, both staff and management indicated that the Fee Office staff lacks adequate training on the City's utility billing system to develop the ability to generate reports, such as those used to efficiently identify utility accounts that are eligible for TUF and DUF charges. Also, WPD management does not collect all necessary information to evaluate the performance of the Fee Office staff.
- Further, WPD has some formal policies and procedures for administering non-residential TUF and DUF, and has recently developed administrative billing rules. However, we noted that such policies and procedures need improvement. WPD has developed a policy and procedure manual which details many processes and procedures relating to the TUF and DUF billing activity; however, at the time of our audit this manual was not consistently updated to reflect all current practices and information needed, such as how to identify non-residential eligible accounts. Finally, the Fee Office does not have an effective system for records management and for ensuring data integrity. For example, as discussed above when there are multiple tenants on a property, the Fee Office uses rent rolls to apportion the fees among the tenants. In our review, we found that the Fee Office does not consistently obtain current rent rolls from property owners. In addition, Fee Office staff does not consistently document and retain information relating to the actual factors which are used to calculate TUF and DUF charges for all non-residential properties. Fee Office staff was unable to provide documentation relating to the calculation of TUF and DUF for 13 properties out of the 30 that we requested.

**Recommendations:**

1. The Director of the Watershed Protection Department should ensure that adequate policies and procedures are implemented so that accounts in error are corrected and possible under-billed revenues are identified and should determine whether prior unbilled amounts should be back-billed, taking into consideration financial and customer satisfaction issues.

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**MANAGEMENT RESPONSE: Partially Concur**

WPD disagrees with the estimate of revenue loss, but agrees that further analysis should be performed to determine underbilled revenues.

The Director of WPD will ensure that adequate policies and procedures are implemented. WPD will perform additional analysis to identify underbilled revenues. A summary will be reviewed with City Manager's Office to discuss the appropriate strategy for accounts with underbilled revenue

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2. The Director of the Watershed Protection Department should evaluate the Fee Office organizational structure and the adequacy of needed skills to perform non-residential TUF and DUF fees administration.

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**MANAGEMENT RESPONSE: Concur**

The Director will evaluate the fee office organizational structure and adequacy of skills. The new billing system is scheduled to go live in April 2011. Assessment of the skills needed to perform non-residential TUF/DUF fee administration will be evaluated at this time

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3. The Director of the Watershed Protection Department should perform a review of the administration of non-residential drainage and transportation fees to address the issues raised in this audit, including but not limited to the ones listed below, and implement appropriate changes to ensure:
  - a. sufficient training and staffing for the Fee Office, including succession planning;
  - b. adequate management oversight and monitoring of the Fee Office activities, including evaluation of staff performance; and
  - c. adequate data and information management.

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**MANAGEMENT RESPONSE: Concur**

The Director will perform a review of the fee administration

3a. Some staff has already begun training on the new billing system, with more training scheduled. The Director will also evaluate the need for backup support relative to the provision of field measurement services.

3b. SSPR plans are being revised to include more quantifiable and objective measures. Additionally, a position will be charged with daily oversight of the Fee Office with an anticipated start date of April 2011

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**APPENDIX A**  
**MANAGEMENT RESPONSE**



## MEMORANDUM

**TO:** Kenneth J. Mory, City Auditor

**FROM:** Victoria J. Li, P.E., Director  
Watershed Protection Department

**DATE:** September 23, 2010

**SUBJECT:** Response to Performance Audit of Non-Residential Drainage Utility and Transportation User Fees

Attached please find the Watershed Protection Department's (WPD) response to the Non-residential Drainage Utility and Transportation User Fees audit. This audit included a review of the processes used for application of the Transportation User Fee (TUF) and Drainage Utility Fee (DUF). Non-residential TUF and DUF fee administration was identified as an issue for further study in the 2009 CIS Billing Audit.

The Office of the City Auditor's (OCA) three recommendations focus on the following areas: 1) assurance of adequate policies and procedures; 2) evaluation of the Fee Office organizational structure; and 3) a review of fee administration to include evaluation of a) training and staffing for the Fee Office; b) management oversight and monitoring of Fee Office activities; as well as c) data and information management.

Although the OCA has provided an estimate of revenue loss based on its sampling and analysis of non-residential accounts, WPD has conducted analyses of several of the same accounts and found discrepancies with the OCA analysis. For example, we have discovered differences in some of the criteria (e.g., certificate of occupancy issuance date) used to determine the number of months late. Consequently, WPD is concerned that the OCA's estimate of revenue loss is overstated. The Department will continue its assessment of the estimated revenue loss and recommend an appropriate follow-up strategy with regard to the possibility of backbilling accounts.

We are confident that some of the issues identified in this audit will be addressed immediately as the Department begins its transition to the new billing system, CC&B. For example, Fee Office staff has already begun receiving training on the new system, which has a go-live date of April 2011. All City employees who use the new system will receive multiple types and levels of training. In addition, it is expected that the new system will offer improved data and information management capabilities.

While we anticipate many positive results from the new billing system project, the Department has operated without a key resource due to temporary assignment on the CC&B development team. As detailed in the management response, this position will be charged with daily oversight and QA/QC for the Fee Office when it returns to WPD with the implementation of CC&B. The Department is already exploring additional ways to streamline operations via collaborative efforts with other departments. For example, WPD will initiate discussions with the Transportation Department to explore the possibility of adding an Engineering Technician position to the Fee Office to provide backup for field measurement duties. Also, WPD will work with Planning and Development Review to discuss further use of AMANDA to create work efficiencies. Lastly, WPD has already begun meeting with Austin Energy representatives to improve lines of communication between the two departments.

In conclusion, WPD is committed to improving efficiencies while maintaining a high standard of customer service and appreciate the OCA's recognition of the importance of the Fee Office's work. As each department strives to make Austin the Best Managed City, WPD looks forward to strategic improvements and enhancements in the upcoming months.



Victoria J. Li, P.E., Director  
Watershed Protection Department

Approved by: Sue Edwards, Assistant City Manager

Signature: Sue Edwards

Date: Sept. 24, 2010

Attachment

**ACTION PLAN**  
**Non-Residential Drainage Utility and Transportation User Fees**

<b>Rec #</b>	<b>Recommendation Text</b>	<b>Concurrence</b>	<b>Proposed Strategies for Implementation</b>	<b>Status of Strategies</b>	<b>Responsible Person/ Phone Number</b>	<b>Proposed Implementation Date</b>
01	The Director of the Watershed Protection Department should ensure that adequate policies and procedures are implemented so that accounts in error are corrected, possible under billed revenues are identified and determine whether prior unbilled amounts should be back billed, taking in consideration financial and customer satisfaction issues.	Partially Concur  WPD disagrees with the estimate of revenue loss, but agrees that further analysis should be performed to determine underbilled revenues.	The Director of the WPD will ensure that adequate policies and procedures are implemented. WPD staff will perform additional analysis to identify underbilled revenues. A summary will be reviewed with City Manager's Office to discuss the appropriate strategy for accounts with underbilled revenue	Planned	Diane Gonzales/ 974-9789	January 31, 2011.
02	The Director of the Watershed Protection Department should evaluate the fee Office organizational structure and adequacy of needed skills to perform non-residential TUF and DUF fees administration.	Concur	The Director will evaluate the fee office organizational structure and adequacy of skills. The new billing system is scheduled to go live in April 2011. Assessment of the skills needed to perform non-residential TUF/DUF fee administration will be evaluated at this time.	Planned	Diane Gonzales/ 974-9789	April 30, 2011.

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03	<p>The Director of the Watershed Protection Department should perform a review of the administration of non-residential drainage and transportation fees to address the issues raised in this audit, including but not limited to the ones listed below, and implement appropriate changes to ensure:</p> <ul style="list-style-type: none"> <li>a. sufficient training and staffing for the Fee Office, including succession planning;</li> <li>b. adequate management oversight and monitoring of the Fee Office activities, including evaluation of staff performance ;and</li> </ul>	Concur	<p>The Director will perform a review of the fee administration.</p>	3a. Currently underway.	Diane Gonzales/ 974-9789	April 30, 2011.
			<p>3a. Some staff has already begun training on the new billing system, with more training scheduled. The Director will also evaluate the need for backup support relative to the provision of field measurement services.</p>			
			<p>3b. SSPR plans are being revised to include more quantifiable and objective measures. Additionally, a position will be charged with daily oversight of the Fee Office with an anticipated start date of April 2011.</p>	3b. Currently underway	Diane Gonzales/ 974-9789	<p>SSPR plans are being revised for FY11. Implementation of position charged with daily oversight of Fee Office is dependent upon the go-live date for CC&amp;B. Anticipate position implementation date of May 15, 2011</p>
<p>Office of the City Auditor 9/24/2010</p>						

03	c. adequate data and information management.		3c. The new billing system is being designed with data and information management in mind. It is expected the new system will streamline this function, and full capabilities will be used.	3c. Currently underway	Diane Gonzales/ 974-9789	April 30, 2011
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9/24/2010

**APPENDIX B**  
**OCA RESPONSE TO MANAGEMENT**

## **OCA Response to Management**

While WPD management indicates that there are discrepancies with OCA analysis, these differences, including the Certificate of Occupancy issuance date, have been taken into consideration and necessary adjustments have been made.

WPD management disagrees with the estimate of revenue loss resulting from late billing and believes it is overstated. Our revenue loss estimate (\$870,000) is based on a judgmental statistical methodology which takes two parameters into consideration. WPD management has proposed a one parameter methodology to estimate the revenue loss, which would provide for a lower but less precise estimate (\$407,000).

### **Salient points:**

1. We have taken the Certificate of Occupancy (CO) issuance date into consideration. We discussed this issue with WPD management and the City Attorney's Office. Consequently, we have made necessary adjustments on some accounts and have incorporated these adjustments in the audit report.
2. We also considered WPD management concerns regarding the methodology used to estimate the revenue loss resulting from late billing. Our revenue loss estimate is based on a judgmental statistical methodology which takes two parameters into consideration. WPD management has proposed a one parameter methodology to estimate revenue loss, which would provide for a lower but less precise estimate (\$407,000). Specifically:
  - a. Our methodology takes two parameters into consideration for which we had information from our random sample (average months late and average dollars lost monthly). This methodology takes into consideration the variability of both parameters and thus provides for a more realistic estimate.
  - b. We are aware of the fact that we could have used only one parameter (total amount loss per account in the sample), as advocated by WPD management, to calculate the revenue loss. Whereas this estimate is based on a valid methodology and results in a lower revenue loss estimate, it does not allow for the variability in the fees and the months late and thus would be a less precise estimate.

**APPENDIX C**

**SAMPLING METHODOLOGY AND THE REVENUE LOSS  
ESTIMATE**

## Sampling Methodology and Revenue Loss Estimate

*Sample objective:* To determine whether the Transportation User Fee (TUF) and Drainage User Fee (DUF) are timely and accurately applied to all eligible accounts.

*Population* - All accounts in the population had to meet all criteria below:

- Eligible accounts for TUF and DUF
- Active as of June 30, 2010
- Activated within the audit scope period (October 1, 2006 to June 30, 2010)

*Data Source:* City's utility billing system

*Sampling details:*

- Sampling methodology: Random attribute sampling
- Confidence level: 95%
- Population size: 9,468 accounts
- Sample size: 337 accounts
- Margin of error percentage: 5.25%

### Sample results extrapolation

As shown below, based on our analysis of the random sample of accounts, we conclude with statistical validity that the actual number of accounts that were billed late during the period between October 1, 2006, and June 30, 2010, ranges between 772 and 858.

	# of sampled accounts	% of sampled accounts billed late	# of accounts in population	projected # of accounts billed late	Low estimate (-5.25%)	High estimate (+5.25%)
Accounts billed TUF and DUF late	337	8.6%	9,468	815	772	858

Because non-residential charges for TUF and DUF vary greatly among accounts, we cannot make a statistically valid assertion regarding the revenue loss resulting from late charges. However, we used the results of our sample to make estimate of potential revenue loss resulting from late billing, which amounts to approximately \$870,000<sup>4</sup>.

This estimate is calculated applying the parameters below to the projected number of accounts late in the population:

- 7 - Average number of late bills (months) based on the sample results
- \$153 - the average monthly TUF and DUF charges based on sample

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<sup>4</sup> This estimate is based on a judgmental statistical methodology which takes into considerations two parameters. Management has proposed a one-parameter methodology to estimate the revenue loss which would provide for a lower but less precise estimate.