REOFFERING CIRCULAR

<u>**Remarketing – Book-Entry Only**</u> **Expected Ratings: See "RATINGS" herein.**

On November 25, 1997, Ballard Spahr Andrews & Ingersoll, LLP and Singley & Associates delivered an opinion as of the date thereof, based upon an analysis of existing law on such date and assuming, among other matters, continuing compliance with the requirements of the Internal Revenue Code of 1986, as amended, that (i) interest on the 1997B Bonds is excluded from gross income for purposes of federal income tax, (ii) interest on the 1997B Bonds will not be a preference item for purposes of either individual or corporate federal alternative minimum tax, however interest paid to corporate holders of 1997B Bonds may be subject to alternative minimum tax and foreign branch profits tax under circumstances described under the caption "TAX EXEMPTION" herein, and (iii) under the laws of the Commonwealth of Pennsylvania as enacted and construed as of such date, interest on the 1997B Bonds is exempt from Pennsylvania personal income tax and corporate net income tax and from personal property taxes in Pennsylvania as described under "TAX EXEMPTION" herein. Ballard Spahr LLP and The Smyler Firm, Co-Bond Counsel, in connection with and on the date of the delivery of the Letter of Credit, expect to deliver an opinion to the effect that the delivery of the Letter of Credit as described in this Reoffering Circular will not, in and of itself, adversely affect the exclusion of interest on the 1997B Bonds from gross income of the owners thereof for federal income tax purposes.

$70,100,000
City of Philadelphia, Pennsylvania
Water and Wastewater Revenue Bonds,
Variable Rate Series 1997B

Dated: Original Date of Delivery **Price: 100%** **Due: August 1, 2027**

The City of Philadelphia, a corporation and body politic existing under the laws of the Commonwealth of Pennsylvania (the "City"), issued its Water and Wastewater Revenue Bonds, Variable Rate Series 1997B (the "1997B Bonds") pursuant to the City's Restated General Water and Wastewater Revenue Bond Ordinance of 1989 (as amended or supplemented from time to time, the "General Ordinance") for the purpose of providing funds which were applied, together with other available funds of the City, to (i) finance certain capital projects of the City's Water Department, (ii) fund a deposit to the Debt Reserve Account established under the General Ordinance and (iii) pay costs of issuance of the 1997B Bonds.

The 1997B Bonds are issued only as fully registered bonds, registered in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York ("DTC"), which acts as securities depository for the 1997B Bonds. Purchasers will not receive certificates representing their ownership interest in the 1997B Bonds purchased. U.S. Bank National Association, Philadelphia, Pennsylvania, is the Fiscal Agent and the Tender Agent for the 1997B Bonds. The principal or redemption price of and interest on the 1997B Bonds are payable to DTC for redistribution to its participants and in turn to the beneficial owners of the 1997B Bonds. See "THE 1997B BONDS – Book-Entry Only System" herein.

The 1997B Bonds, currently outstanding in the aggregate principal amount of $70,100,000, are special obligations of the City, secured equally and ratably with the City's Water and Wastewater Revenue Bonds currently outstanding issued under the General Ordinance and with all Water and Wastewater Revenue Bonds hereafter issued, by a pledge of and security interest in all Project Revenues (as defined herein) derived from the City's Water and Wastewater Systems (as defined herein) and by moneys deposited in the funds and accounts (other than the Rebate Fund) established by the City under the General Ordinance (the "Water and Wastewater Funds").

The 1997B Bonds are payable solely from Project Revenues and moneys deposited in the Water and Wastewater Funds. The 1997B Bonds are special obligations of the City and do not pledge the full faith, credit or taxing power of the City, or create any debt or charge against the tax or general revenues of the City, or create any lien or charge against any property of the City, other than against the Project Revenues and amounts, if any, at any time on deposit in the Water and Wastewater Funds.

Under an irrevocable, direct-pay letter of credit (the "Letter of Credit") effective September 1, 2011 issued with respect to the 1997B Bonds by

TD Bank

TD Bank, N.A. (the "Bank"), the Fiscal Agent will be entitled to draw up to an amount equal to the principal of and 48 days' accrued interest at a maximum rate of 15% on the 1997B Bonds to be used to pay principal or redemption price of and interest on the 1997B Bonds when due, and the Tender Agent will be entitled to draw the purchase price of 1997B Bonds, all as described in this Reoffering Circular. The Letter of Credit will expire on September 1, 2015, unless earlier terminated or extended as described herein. Unless the Letter of Credit is extended or replaced as described herein, the 1997B Bonds will be subject to mandatory tender for purchase prior to the termination of the Letter of Credit. The Letter of Credit will constitute both a Credit Facility and Liquidity Facility, and the Bank a Credit Provider and Liquidity Provider, for the 1997B Bonds as described herein.

The 1997B Bonds are adjustable rate multi-modal bonds and are issued in denominations of $100,000 or any integral multiple of $5,000 in excess of $100,000. The 1997B Bonds are dated the original date of delivery. The 1997B Bonds will bear interest from their date of reoffering to and including September 6, 2011, at a rate set by the Remarketing Agent, and thereafter at the Weekly Interest Rate (as defined herein), unless otherwise converted, with interest payable on the first Wednesday of each calendar month or, if such Wednesday is not a Business Day, the next succeeding Business Day (or if sooner, the last day of any Weekly Interest Rate Period (as defined herein)). The 1997B Bonds are subject to mandatory tender for purchase upon, among other events, conversion from one interest rate mode to another. While bearing interest at the Weekly Interest Rate, the 1997B Bonds are subject to optional tender for purchase pursuant to the terms discussed herein upon the demand of any beneficial owner thereof at a price of 100% of the principal amount thereof plus accrued interest.

The 1997B Bonds are subject to optional and mandatory sinking fund redemption prior to their stated maturity as described herein.

This Reoffering Circular describes the 1997B Bonds while bearing interest at the Weekly Interest Rate. Prospective purchasers of the 1997B Bonds bearing interest at rates other than the Weekly Interest Rate should not rely on this Reoffering Circular.

The 1997B Bonds originally were issued on November 25, 1997. In connection with the reoffering of the 1997B Bonds, certain legal matters will be passed upon by Ballard Spahr LLP and The Smyler Firm, Co-Bond Counsel, both of Philadelphia, Pennsylvania. Certain legal matters will be passed upon for the Bank by its special counsel, Obermayer Rebmann Maxwell & Hippel LLP, Philadelphia, Pennsylvania. Certain legal matters will be passed upon for the City by the City Solicitor. It is expected that the 1997B Bonds in definitive form will be made available through DTC in New York, New York against payment therefore on or about September 1, 2011.

Citigroup

as the Remarketing Agent

Dated: August 23, 2011

CITY OF PHILADELPHIA, PENNSYLVANIA

MAYOR
HONORABLE MICHAEL A. NUTTER

MAYOR'S INTERIM CHIEF OF STAFF
SUZANNE R. BIEMILLER

MAYOR'S CABINET

Richard Negrin	Deputy Mayor for Administration and Coordination/Managing Director
Rob Dubow	Director of Finance
Shelley R. Smith	City Solicitor
Rina Cutler	Deputy Mayor of Transportation and Utilities
Everett A. Gillison	Deputy Mayor for Public Safety
Alan Greenberger	Deputy Mayor for Economic Development and Commerce Director
Donald F. Schwartz, M.D.	Deputy Mayor for Health and Opportunity and Health Commissioner
Michael DiBerardinis	Deputy Mayor for Environmental and Community Resources
Thomas Jones	Acting Chief Information Officer
Katherine Gajewski	Director of Sustainability
Teresa A. Gillen	Director, Federal Legislative Affairs
Melanie Johnson	City Representative
Amy L. Kurland	Inspector General
Joan L. Markman	Chief Integrity Officer
Lewis Rosman	Director, Legislative and Government Affairs
Lori A. Shorr, Ph.D.	Chief Education Officer
Gary P. Steuer	Chief Cultural Officer
David G. Wilson	First Deputy Managing Director

CITY TREASURER
Nancy Winkler

CITY CONTROLLER
Alan L. Butkovitz

PHILADELPHIA WATER DEPARTMENT
ARAMARK Tower at One Reading Center
Philadelphia, Pennsylvania 19107

Howard Neukrug, Water Commissioner
Joseph S. Clare, III, Deputy Water Commissioner
Debra A. McCarty, Deputy Water Commissioner
David A. Katz, Deputy Water Commissioner
Gerald D. Leatherman, General Counsel to the Water Department
Francis X. Meiers, General Manager, Human Resources
Joanne Dahme, General Manager, Public Affairs
Stephen J. Furtek, General Manager, Planning and Engineering
Christopher Crockett, General Manager, Environmental Services
Michelle L. Bethel, Deputy Revenue Commissioner

Financial Advisors

Phoenix Capital Partners, LLP and
Public Financial Management, Inc.

No dealer, broker, salesperson or other person has been authorized by the City, the Water Department or the Remarketing Agent (as defined herein) to give any information or to make any representations with respect to the 1997B Bonds other than those contained in this Reoffering Circular, and, if given or made, such other information or representations must not be relied upon as having been authorized by the City of Philadelphia (the "City"), TD Bank, N.A. (the "Bank") or Citigroup Global Markets Inc. ("the Remarketing Agent"). This Reoffering Circular does not constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of the 1997B Bonds by any person in any jurisdiction in which it is unlawful for such person to make such offer, solicitation or sale.

This Reoffering Circular is not to be construed as a contract with the purchasers of the 1997B Bonds. Statements contained in this Reoffering Circular which involve estimates, forecasts or other matters of opinion, whether or not expressly so described herein, are intended solely as such and are not to be construed as representations of fact. This information and expressions of opinions herein are subject to change without notice, and neither delivery of this Reoffering Circular nor any sale made hereunder shall, under any circumstances, create any implication that there has been no change in the affairs of the City or the Water Department since the date hereof.

The information set forth herein has been obtained from the City, the Water Department, the Bank, the Remarketing Agent and other sources believed to be reliable but is not guaranteed as to accuracy or completeness by the Remarketing Agent. The information and expressions of opinion herein are subject to change without notice, and neither the delivery of this Reoffering Circular nor any sale made hereunder shall, under any circumstances, create any implication that there has been no change in the affairs of the City or the Water Department since the date hereof.

Other than with respect to information concerning the Bank contained under the captions "THE REIMBURSEMENT AGREEMENT" and "THE BANK" herein, none of the information in this Reoffering Circular has been supplied or verified by the Bank and, in furtherance thereof, the Bank makes no representation or warranty, express or implied, as to (i) the accuracy or completeness of such information; (ii) the validity of the 1997B Bonds; or (iii) the tax exempt status of the interest on the 1997B Bonds.

This Reoffering Circular is submitted in connection with the sale of the securities referred to herein and may not be reproduced or used, in whole or in part, for any other purpose.

The order and placement of materials in this Reoffering Circular, including the Appendices hereto, are not to be deemed to be a determination of relevance, materiality or importance, and this Reoffering Circular, including the Appendices, must be considered in its entirety.

This Reoffering Circular speaks only as of the date printed on the cover page hereof. The information contained herein is subject to change. The Reoffering Circular will be made available through the Electronic Municipal Market Access System ("EMMA"), which, effective July 1, 2009, is the sole Nationally Recognized Securities Information Repository.

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REOFFERING CIRCULAR

relating to

$70,100,000
City of Philadelphia, Pennsylvania
Water and Wastewater Revenue Bonds,
Variable Rate Series 1997B

INTRODUCTORY STATEMENT

General

This Reoffering Circular, including the cover page and appendices attached hereto, sets forth certain information in connection with the reoffering by the City of Philadelphia, a corporation and body politic and city of the first class existing under the laws of the Commonwealth of Pennsylvania (the "City") of its Water and Wastewater Revenue Bonds, Variable Rate Series 1997B (the "1997B Bonds"). Unless otherwise indicated, capitalized terms used in this Reoffering Circular are defined in APPENDIX II – "SUMMARIES OF CERTAIN AUTHORIZATIONS FOR THE 1997B BONDS" (hereinafter referred to as "SUMMARIES"). The 1997B Bonds are being reoffered in connection with the delivery of a replacement irrevocable, direct-pay letter of credit that will serve as credit enhancement and liquidity support for the 1997B Bonds.

The 1997B Bonds were issued for the purpose of providing funds that were applied, together with other available funds of the City, to (i) finance certain capital costs of the City's Water Department, (ii) fund a deposit to the Debt Reserve Account and (iii) pay costs of issuance of the 1997B Bonds. See "PLAN OF FINANCE" herein.

The 1997B Bonds are payable solely from Project Revenues (as hereinafter defined) and moneys deposited in the Water and Wastewater Funds (other than the Rebate Fund) (the "Water and Wastewater Funds") as described herein. The 1997B Bonds are special obligations of the City and do not pledge the full faith, credit or taxing power of the City, nor create any debt or charge against the tax or general revenues of the City, nor create any lien or charge against any property of the City, other than against the Project Revenues and amounts, if any, at any time on deposit in the Water and Wastewater Funds.

The Water Department

Pursuant to the Philadelphia Home Rule Charter adopted pursuant to authorization of The First Class City Home Rule Act, approved April 21, 1949, P.L. 665 §1 et seq. (53 P.S. §13101 et seq.) (the "Charter"), the City's Water Department (the "Water Department") has the power and duty to operate, maintain, repair and improve the City's water system (the "Water System") and the City's wastewater system (the "Wastewater System" and together with the Water System, the "Water and Wastewater Systems"). Under the General Ordinance (defined herein), the Water and Wastewater Systems are combined as one continuing project for the purpose of revenue bond financing. This has the effect, among other things, of making all revenues of the two systems available for debt service for all Water and Wastewater Revenue Bonds (defined herein). See "THE WATER DEPARTMENT" herein.

The Water Department, which began water service in 1801, supplies water to the City and a portion of each of Montgomery, Delaware and Bucks Counties, Pennsylvania, and wastewater service to the City and to ten municipalities and authorities located in Montgomery, Delaware and Bucks Counties, Pennsylvania. The population served by the Water System was approximately 1,738,000 as of the 2010 census, of which 1,526,000 were in the City and 154,000 were in Bucks County. The Water Department's sales to Aqua Pennsylvania serve approximately 58,000 people in Montgomery and Delaware Counties. The population served by the Wastewater

System was approximately 2,283,000 as of the 2010 census, of which 1,526,000 were in the City and 757,000 were in the suburban counties described above.

Rates and Rate Covenant

Under the Charter, the Water Department is empowered and required to establish (i) rates for water and wastewater service, in accordance with standards ordained by City Council, but without further authorization required by City Council, at levels which provide sufficient revenue to meet operating expenses of the Water and Wastewater Systems, including interdepartmental charges for services provided to the Water Department, and (ii) debt service requirements on all obligations issued for the Water Department, as well as other specific covenants of the General Ordinance. See "HISTORICAL AND PROJECTED FINANCIAL INFORMATION – Compliance with Rate Covenants."

Authorization for the 1997B Bonds

The 1997B Bonds were issued under The First Class City Revenue Bond Act, P.L. 955, Act No. 234 of the General Assembly of the Commonwealth of Pennsylvania, approved October 18, 1972 (the "Act") and the City's Restated General Water and Wastewater Revenue Bond Ordinance of 1989, approved June 24, 1993 (the "Restated General Ordinance"), as supplemented by:

- the First Supplemental Ordinance approved June 24, 1993 (the "First Supplemental Ordinance"), authorizing the issuance of the Water and Wastewater Revenue Bonds, Series 1993 (the "Series 1993 Bonds"),

- the Second Supplemental Ordinance approved May 9, 1994 (the "Second Supplemental Ordinance"), authorizing the issuance of the Water and Wastewater Revenue Bonds, Series 1995 (the "Series 1995 Bonds"),

- the Third Supplemental Ordinance approved October 27, 1997 (the "Third Supplemental Ordinance"), authorizing the issuance of the Water and Wastewater Revenue Bonds, Series 1997A (the "Series 1997A Bonds") and the 1997B Bonds,

- the Fourth Supplemental Ordinance approved December 11, 1998 (the "Fourth Supplemental Ordinance"), authorizing the issuance of the Water and Wastewater Revenue Bonds, Series 1998 (the "Series 1998 Bonds"),

- the Fifth Supplemental Ordinance approved December 11, 1998 (the "Fifth Supplemental Ordinance"), authorizing the issuance of the Water and Wastewater Revenue Bonds, Series 1999 (the "Series 1999 Bonds"),

- the Sixth Supplemental Ordinance approved December 11, 1998 (the "Sixth Supplemental Ordinance"), authorizing the issuance of the Water and Wastewater Revenue Bond, Series 1999A (Pennvest Loan) (the "1999 Pennvest Bond"),

- the Seventh Supplemental Ordinance approved May 23, 2001 (the "Seventh Supplemental Ordinance"), authorizing the issuance of the Water and Wastewater Revenue Bonds, Series 2001A (the "Series 2001A Bonds") and the Water and Wastewater Revenue Refunding Bonds, Series 2001B (the "Series 2001B Bonds"),

- the Eighth Supplemental Ordinance approved November 22, 2002 (the "Eighth Supplemental Ordinance"), authorizing the issuance of the Water and Wastewater Revenue Bonds, Series 2005A (the "Series 2005A Bonds"),

- the Ninth Supplemental Ordinance approved November 22, 2002 (the “Ninth Supplemental Ordinance”), authorizing the issuance of the Water and Wastewater Revenue Refunding Bonds, Variable Rate Series 2003 (the “Series 2003 Bonds”) and Water and Wastewater Revenue Refunding Bonds, Variable Rate Series 2005B (the “Series 2005B Bonds”),

- the Tenth Supplemental Ordinance approved November 16, 2006 (the “Tenth Supplemental Ordinance”), authorizing the issuance of the Water and Wastewater Revenue Refunding Bonds, Series 2007A (the “Series 2007A Bonds”) and Water and Wastewater Revenue Refunding Bonds, Series 2007B (the “Series 2007B Bonds”),

- the Eleventh Supplemental Ordinance approved November 16, 2006 (the “Eleventh Supplemental Ordinance”), authorizing the issuance of the Water and Wastewater Revenue Bonds, Series 2009A (the “Series 2009A Bonds”) and Series 2010C (the “Series 2010C Bonds”),

- the Twelfth Supplemental Ordinance approved June 3, 2009 (the “Twelfth Supplemental Ordinance”), authorizing the issuance of the Water and Wastewater Revenue Bonds, Series 2009B (Pennvest Loan), Series 2009C (Pennvest Loan) and Series 2009D (Pennvest Loan) (the “2009 Pennvest Bonds”) and the Water and Wastewater Revenue Bond, Series 2010B (Pennvest Loan) (the “2010 Pennvest Bond”),

- the Thirteenth Supplemental Ordinance approved March 5, 2010 (the “Thirteenth Supplemental Ordinance”), authorizing the issuance of the Water and Wastewater Revenue Refunding Bonds, Series 2010A (the “Series 2010A Bonds”),

- the Fourteenth Supplemental Ordinance approved July 5, 2011 (the “Fourteenth Supplemental Ordinance”), authorizing the issuance of Water and Wastewater Revenue Bonds, and

- the Fifteenth Supplemental Ordinance approved July 5, 2011 (the “Fifteenth Supplemental Ordinance”), authorizing the issuance of Water and Wastewater Revenue Bonds for purposes of refunding.

The Restated General Ordinance, as so supplemented and amended and as further supplemented and amended by the Debt Reserve Account Amendment (defined herein), is referred to as the “General Ordinance.”

Pursuant to the Act, cities of the first class are authorized to issue revenue bonds to finance revenue producing projects and to refund certain outstanding bonds, including revenue bonds issued under the Act, but the 1997B Bonds must be payable solely from Project Revenues as defined in the Act (the “Project Revenues”).

Pursuant to the Act, prior to the delivery of the 1997B Bonds, the City filed with the Court of Common Pleas of the County of Philadelphia a transcript of the proceedings authorizing their issuance, including bond ordinances, a report of the chief fiscal officer describing the project and establishing that Project Revenues will be sufficient to support debt service on the 1997B Bonds, and an opinion of the City Solicitor to the effect that, under the General Ordinance, holders or registered owners of the 1997B Bonds will have no claim upon the taxing power or general revenues of the City nor any lien upon any property of the City other than Project Revenues. Beginning on the twenty-first day after such filing is made, the validity of the proceedings, the right of the City to issue the 1997B Bonds authorized thereby, the lawful nature of the purpose for which the 1997B Bonds were issued, and the validity and enforceability of the 1997B Bonds in accordance with their terms may not be challenged judicially, in equity, at law or by civil or criminal proceedings, or otherwise, either directly or collaterally, except where a constitutional question is involved; provided, that any person who knowingly participated in the sale or issuance of the 1997B Bonds in violation of the Act shall not be entitled to enforce the obligations of the 1997B Bonds nor be relieved of civil or criminal liability for such participation or for willfully false or fraudulent statements made in the documents constituting the transcript of proceedings or in the 1997B

Bonds. The City made its filing on November 4, 1997 and no challenges to the validity of the proceedings were filed by the deadline.

Outstanding and Additional Indebtedness

The City has previously issued and there are outstanding as of July 1, 2011, $1,813,366,833.64 aggregate principal amount of Water and Wastewater Revenue Bonds (consisting of the Series 1995 Bonds, the 1997B Bonds, the Series 1998 Bonds, the 1999 Pennvest Bond, the Series 2001A Bonds, the Series 2001B Bonds, the Series 2005A Bonds, the Series 2005B Bonds, the Series 2007A Bonds, the Series 2007B Bonds, the Series 2009A Bonds, the 2009 Pennvest Bonds, the 2010 Pennvest Bond, the Series 2010A Bonds and the Series 2010C Bonds, which collectively are herein referred to as the "Outstanding Bonds") pursuant to the General Ordinance. The Outstanding Bonds are equally and ratably secured under the General Ordinance.

The 1999 Pennvest Bond, 2009 Pennvest Bonds and 2010 Pennvest Bond secure loans from Pennsylvania Infrastructure Investment Authority ("Pennvest").

The Outstanding Bonds and bonds of all series hereafter issued under the General Ordinance, as amended or supplemented, are hereinafter referred to as the "Water and Wastewater Revenue Bonds." U.S. Bank National Association, Philadelphia, Pennsylvania, is acting as Fiscal Agent for the Water and Wastewater Revenue Bonds (the "Fiscal Agent").

As of July 1, 2011, the City had outstanding $1,017,805.17 aggregate principal amount of general obligation bonds issued to Pennvest (the "General Obligation Bonds") attributable to the Water and Wastewater Systems, which consisted of general obligation bonds issued in 1993 to secure a loan from Pennvest (the "1993 Pennvest Loan") to the City for Water Department purposes. The General Obligation Bonds are self-liquidating debt of the City payable out of the Water and Wastewater Funds after the payment of the Water and Wastewater Revenue Bonds. See "SECURITY FOR THE 1997B BONDS – Application of Project Revenues" herein.

Security for the 1997B Bonds

The 1997B Bonds are payable from and secured by a pledge of all Project Revenues and amounts on deposit in the Water and Wastewater Funds. See APPENDIX II – "SUMMARIES OF CERTAIN AUTHORIZATIONS FOR THE 1997B BONDS."

The City may issue additional bonds on a parity with or subordinate to the Outstanding Bonds and may elect to secure other obligations on a parity with or subordinate to the Outstanding Bonds pursuant to the terms of the General Ordinance.

Under the General Ordinance a Debt Reserve Account of the Sinking Fund has been established to secure the Water and Wastewater Revenue Bonds. On November 26, 2007, the City deposited a surety policy issued by Assured Guaranty Municipal Corp. (formerly known as Financial Security Assurance Inc.) ("AGM") in the principal amount of $67,000,000 to replace a portion of the cash and investments then existing in the Debt Reserve Account. The remaining balance of the Debt Reserve Account, as of June 30, 2011, in the amount of $130,176,098.83 was funded with Water and Wastewater Revenue Bond proceeds and earnings on the investment thereof, including an additional deposit to cover the required PENNVEST reserve amounts. In August 2011, the City withdrew the calculated excess in the Debt Reserve Account as of June 30, 2011, which is in an amount of $1,229,850.94 and transferred such amount to the City's General Fund as part of the City's normal year-end closing procedures. See "SECURITY FOR THE 1997B BONDS – Water and Wastewater Funds" and "Debt Reserve Account" herein.

For further details concerning security for the 1997B Bonds, see "SECURITY FOR THE 1997B BONDS."

The 1997B Bonds also will be entitled to the benefit of the credit enhancement and liquidity support to be provided by an irrevocable, direct-pay letter of credit (the "Letter of Credit") provided by TD Bank, N.A. (the "Bank"), to be issued pursuant to a Reimbursement Agreement between the City and the Bank (the "Reimbursement Agreement") and delivered to the Fiscal Agent and Tender Agent, as described herein. See "THE REIMBURSEMENT AGREEMENT" and "THE BANK" herein.

Miscellaneous

Brief descriptions of the Water Department, the 1997B Bonds and the security therefor, and certain information about the City are included herein. Such descriptions and information do not purport to be comprehensive or definitive. All references herein to the Act, the Charter, the General Ordinance and the Engineering Report are qualified in their entirety by reference to each such document. Copies of the foregoing documents and the financial statements of the City for the Fiscal Year ended June 30, 2009, are available from the Office of the Director of Finance, Suite 1330, Municipal Services Building, 1401 JFK Boulevard, Philadelphia, Pennsylvania 19102. A copy of the financial statements of the City for the Fiscal Year ended June 30, 2010, may be downloaded at http://www.phila.gov/investor.

Financial statements of the Water Fund for the Fiscal Years ended June 30, 2010 and 2009 are attached hereto as APPENDIX I. Financial Statements for the period ended June 30, 2011 are not yet available. Summaries of certain provisions of the Act, the General Ordinance (including definitions of certain terms) and the Third Supplemental Ordinance are attached hereto as APPENDIX II. Certain information concerning the City is attached hereto as APPENDIX III. APPENDIX IV attached hereto is a copy of the opinion of Co-Bond Counsel that was delivered on November 25, 1997 in connection with the issuance and delivery of the 1997B Bonds. APPENDIX V attached hereto contains certain information concerning the Bank; and APPENDIX VI attached hereto contains the form of the Letter of Credit. APPENDIX VII attached hereto contains the Continuing Disclosure Agreement. APPENDIX VIII attached hereto contains the Engineering Report of Black & Veatch Corporation, updated as of June 3, 2011.

The foregoing information is furnished solely to provide limited introductory information with respect to the 1997B Bonds and does not purport to be comprehensive. All such information is qualified in its entirety by reference to the more detailed descriptions appearing elsewhere in this Reoffering Circular, inclusive of the Appendices, which should be read in its entirety, and to the complete documents referenced herein. The remarketing of the 1997B Bonds is made only by means of this entire Reoffering Circular.

PLAN OF FINANCE

The proceeds of the 1997B Bonds, together with interest earnings thereon and certain other available funds of the City, were used (i) to finance certain capital costs of the City's Water Department, (ii) to fund a deposit to the Debt Reserve Account and (iii) to pay costs of issuance of the 1997B Bonds.

The capital improvements projects funded in part by the 1997B Bonds included, but were not limited to, the following: (i) improvements to the water conveyance systems, (ii) reconstruction and expansion of the wastewater collector system, (iii) improvements to water and wastewater treatment plants, (iv) storm flood relief projects (v) acquisition of vehicles and (vi) acquisition and installation of water meters equipped with automatic meter reading devices.

The City has determined to deliver the Letter of Credit to U.S. Bank National Association, as Fiscal Agent and Tender Agent, to provide credit enhancement and liquidity support for the 1997B Bonds. The Letter of Credit will constitute both a Credit Facility and Liquidity Facility, and the Bank a Credit Provider and Liquidity Provider, for the 1997B Bonds as described herein.

THE 1997B BONDS

General

The 1997B Bonds are outstanding in the aggregate principal amount and are dated and will mature (subject to prior redemption), as shown on the cover of this Reoffering Circular. The 1997B Bonds are issued in fully-registered form, registered in the name of Cede & Co., as nominee of The Depository Trust Company ("DTC").

This Reoffering Circular summarizes certain terms of the 1997B Bonds only while the 1997B Bonds bear interest at a Weekly Interest Rate. Should the 1997B Bonds be adjusted to a different Interest Rate Period, the 1997B Bonds will be subject to mandatory tender for purchase and, at that time, it is expected that a new Reoffering Circular or other disclosure document will be prepared.

Pursuant to an Amended and Restated Variable Rate Securities Agreement between the City and U.S. Bank National Association, as Fiscal Agent and Tender Agent, relating to the 1997B Bonds dated as of September 1, 2008, as amended by the First Amendment to Amended and Restated Variable Rate Securities Agreement dated September 1, 2011 (as so amended, the "Variable Rate Securities Agreement"), the 1997B Bonds will bear interest from their date of reoffering to and including September 6, 2011, at a rate set by the Remarketing Agent, and thereafter at a Weekly Interest Rate as described below under "Determination of Weekly Interest Rate," unless and until, at the direction of the City and upon compliance with the conditions set forth in the Variable Rate Securities Agreement, the 1997B Bonds are adjusted to bear interest from time to time at a Daily Interest Rate, Bond Interest Term Rate or Long-Term Interest Rate (each, an "Interest Rate Period"). All of the 1997B Bonds must be in the same interest rate period.

"Weekly Interest Rate Period" means each period during which a Weekly Interest Rate is in effect; and "Weekly Interest Rate" means a variable interest rate on the Variable Rate Series 1997B Bonds established weekly in accordance with the Bond Committee Determination (and as hereinafter described). "Daily Interest Rate Period" means each period during which a Daily Interest Rate is in effect; and "Daily Interest Rate" means a variable interest rate on the Variable Rate Series 1997B Bonds established daily in accordance with the Bond Committee Determination. "Short Term Interest Rate Period" means each period, comprised of Bond Interest Terms, during which Bond Interest Term Rates are in effect; "Bond Interest Term" or "BIT" means each period established in accordance with the Bond Committee Determination during which the Variable Rate Series 1997B Bonds bear interest at a Bond Interest Term Rate; and "Bond Interest Term Rate" or "BIT Rate" means a term, non-variable interest rate on the Variable Rate Series 1997B Bonds established periodically in accordance with the Bond Committee Determination. "Long-Term Interest Rate Period" means each period during which a Long-Term Interest Rate is in effect; and "Long-Term Interest Rate" means a term, non-variable interest rate on the Variable Rate Series 1997B Bonds established in accordance with the Bond Committee Determination.

So long as the 1997B Bonds bear interest at the Weekly Interest Rate, interest shall be computed on the basis of a 365 or 366-day year, as appropriate, for the actual number of days elapsed. Authorized denominations of Bonds bearing interest at the Weekly Rate will be $100,000 and any integral multiple of $5,000 in excess of $100,000 (the "Authorized Denominations").

Interest on the 1997B Bonds is payable by the Fiscal Agent during any Weekly Interest Rate Period (i) on the first Wednesday of each calendar month, or if such Wednesday is not a Business Day, on the next succeeding Business Day, or if sooner, the last day of such Weekly Interest Rate Period, and (ii) as set forth in the Reimbursement Agreement for 1997B Bonds purchased by the Bank ("Purchased Bonds"). For any Weekly Interest Rate Period, interest shall accrue from the first day thereof and thereafter from each Interest Payment Date to and including the day immediately preceding the next succeeding Interest Payment Date or, if sooner, the day prior to the last day of the Weekly Interest Rate Period. Interest on the 1997B Bonds or the principal portion thereof called for redemption will cease to accrue on the date fixed for redemption of such 1997B Bonds. At no time shall any 1997B Bond (other than Purchased Bonds) bear interest at a rate in excess of 15% per annum (the

"Maximum Rate"). "Business Day" means any day other than a Saturday, a Sunday or any other day on which banks located in the Commonwealth of Pennsylvania (the "Commonwealth"), the Bank and the principal corporate trust office of the Fiscal Agent or the Corporate Trust Office of the Tender Agent are closed or are required to be closed or on which the New York Stock Exchange is closed.

Determination of the Weekly Interest Rate

The Weekly Interest Rate shall be determined by the Remarketing Agent by no later than 5:00 p.m., New York City time, on Tuesday of each week during a Weekly Interest Rate Period or the next succeeding Business Day if such Tuesday is not a Business Day. The first Weekly Interest Rate determined for each Weekly Interest Rate Period shall be determined on or prior to the first day of such Weekly Interest Rate Period and shall apply to the period commencing on the first day of such Weekly Interest Rate Period and ending on the next succeeding Tuesday. Thereafter, each Weekly Interest Rate shall apply to the period commencing on Wednesday and ending on and including the next succeeding Tuesday, unless such Weekly Interest Rate Period shall end on a day other than Tuesday, in which event the last Weekly Interest Rate shall apply to the period commencing on and including the Wednesday preceding the last day of such Weekly Interest Rate Period and ending on the last day of such Weekly Interest Rate Period.

The Weekly Interest Rate shall be the rate of interest per annum determined by the Remarketing Agent (as defined in the General Ordinance), based on the examination of tax-exempt obligations comparable, in the judgment of the Remarketing Agent, to the 1997B Bonds and known by the Remarketing Agent to have been priced or traded under then-prevailing market conditions, to be the minimum interest rate which, if borne by the 1997B Bonds, would enable the Remarketing Agent to sell all of such 1997B Bonds on the effective date of that rate at a price (without regard to accrued interest) equal to the principal amount thereof.

If the Remarketing Agent fails to establish a Weekly Interest Rate for any week during a Weekly Interest Rate Period, the interest rate for such week shall be deemed to be the same as the Weekly Interest Rate for the immediately preceding week, if the Weekly Interest Rate for such preceding week was determined by the Remarketing Agent. In the event that the Remarketing Agent did not determine the Weekly Interest Rate for the immediately preceding week, or if a Weekly Interest Rate determined by the Remarketing Agent for any week shall be held to be invalid or unenforceable by a court of law, the interest rate for such week shall be equal to 110% of the SIFMA Municipal Swap Index ("SIFMA") made available for the week preceding the date of determination, or if such index is no longer available, or no such index was so made available, for the week preceding the date of determination, 85% of the interest rate on 30-day high grade unsecured commercial paper notes sold through dealers by major corporations as reported in *The Wall Street Journal* on the day the Weekly Interest Rate would otherwise be determined by the Remarketing Agent.

Adjustment to an Alternate Interest Rate Period

The City may elect at any time to adjust the Interest Rate Period on the 1997B Bonds to an alternate Interest Rate Period, subject to certain conditions specified in the Variable Rate Securities Agreement, including delivery to the Fiscal Agent of an opinion of bond counsel specializing and nationally recognized in the field of municipal finance law, dated the effective date of such adjustment, to the effect that the action proposed to be taken is authorized or permitted by the laws of the Commonwealth and the Variable Rate Securities Agreement and will not adversely affect any exclusion from gross income for federal income tax purposes of interest on the 1997B Bonds.

If the City elects to adjust the 1997B Bonds to an alternate Interest Rate Period, all of the 1997B Bonds will be subject to such alternate Interest Rate Period. The written direction by which the City makes such election shall specify the effective date of the adjustment to any alternate Interest Rate Period, which effective date shall be a Business Day not earlier than the 10th day following the second Business Day after receipt by the Fiscal Agent and DTC of such direction from the City.

The Tender Agent is required to give notice to the owners of the 1997B Bonds of any adjustment to a new Interest Rate Period not less than 10 days prior to the effective date of such new Interest Rate Period. Such notice will state (i) that the interest rate on the 1997B Bonds will be adjusted to a Daily Interest Rate, a Long-Term Interest Rate or BIT Rates, as appropriate, unless the City rescinds its election to cause such adjustment, in which case the 1997B Bonds shall continue to bear interest at a Weekly Interest Rate; (ii) the proposed effective date of such alternate Interest Rate Period, and in the case of an adjustment to a Long-Term Interest Rate Period, the day on which such Long-Term Interest Rate Period shall end or in the case of an adjustment to a Short-Term Interest Rate Period, that a BIT and a BIT Rate for each such 1997B Bond will be determined not later than the first day of each BIT; (iii) that the 1997B Bonds are subject to mandatory tender for purchase on the proposed effective date of the new Interest Rate Period, setting forth the applicable purchase price; (iv) in the case of an adjustment to a Long-Term Interest Rate Period, the Liquidity Provider, if any; and (v) other information required for notice of mandatory tender for purchase.

Upon the failure of an adjustment to an alternate Interest Rate Period, the 1997B Bonds will continue to bear interest at Weekly Interest Rates and will continue to be subject to mandatory tender for purchase on the date which would have been the effective date of such adjustment.

Rescinding Election to Adjust to Alternate Interest Rate Period

If the City elects to rescind its election to adjust the interest rate on the 1997B Bonds from the Weekly Interest Rate, then the 1997B Bonds shall continue to bear interest at a Weekly Interest Rate commencing on the date which would have been the effective date of the Adjustment; and the 1997B Bonds will continue to be subject to mandatory tender for purchase on such date.

Tender for Purchase of Bonds

Optional Tender for Purchase During Weekly Interest Rate Period. During any Weekly Interest Rate Period, the beneficial interest in any 1997B Bond shall be purchased in an Authorized Denomination (provided that the amount of Bonds not purchased shall also be in an Authorized Denomination) from the holder thereof at the option of such holder on any Business Day at a purchase price equal to the principal amount thereof plus accrued interest upon delivery to the Tender Agent, the Fiscal Agent and the Remarketing Agent of an irrevocable written notice that states the principal amount of the owner's beneficial interest in the 1997B Bond and the Business Day (at least seven days after the date of delivery of such notice) on which the owner's beneficial interest in the 1997B Bond is to be purchased. Any notice delivered to the Tender Agent after 4:00 p.m. shall be deemed to have been received by the Tender Agent on the next succeeding Business Day.

Notice of Election Deemed to be Irrevocable Tender. The giving of notice by a beneficial owner of its election to have the beneficial interest in its 1997B Bond purchased during a Weekly Interest Rate Period shall constitute an irrevocable tender for purchase of such 1997B Bond provided that moneys sufficient to pay the purchase price are on deposit with the Tender Agent for such purpose. From and after the relevant purchase date, no interest shall accrue on the 1997B Bonds and the holder shall have no right except to receive the purchase price of the beneficial interest in such 1997B Bonds.

Mandatory Tender for Purchase on First Day of Each Interest Rate Period. The 1997B Bonds shall be subject to mandatory tender for purchase on the effective date of a conversion to a different Interest Rate Period (or on the day which would have been the first day of an Interest Rate Period had there been no occurrence of an event that resulted in the interest rate on the 1997B Bonds not being adjusted), at a purchase price equal to the principal amount of the 1997B Bonds, plus accrued interest, if any.

The Tender Agent shall give notice by first-class mail of an Adjustment to a different Interest Rate Period to the holders of the 1997B Bonds not less than 10 days prior to the proposed effective date of such Interest Rate Period.

Mandatory Tender for Purchase Upon Termination, Expiration or Replacement of the Credit Facility or Liquidity Facility. If the Tender Agent gives holders of the 1997B Bonds notice that, on the date specified in such notice, principal or redemption price of and interest on the 1997B Bonds will cease to be payable from the Credit Facility as a result of (i) the termination, replacement or expiration of such Credit Facility, including but not limited to termination at the option of the City in accordance with the terms of such Credit Facility (in each case, whether or not any Alternate Credit Facility has been obtained), or (ii) receipt by the Fiscal Agent of written notice from the Credit Provider (A) that an "Event of Default" under the Reimbursement Agreement has occurred and is continuing or (B) of non-reinstatement of the Interest Component of the Letter of Credit, and a written request from the Credit Provider that all of the 1997B Bonds are required to be tendered for purchase, then each such 1997B Bond shall be purchased or deemed purchased as provided herein. Any purchase of such 1997B Bonds as described in this paragraph shall occur: (1) on the fifth Business Day preceding any such expiration or termination of such Credit Facility without replacement by an Alternate Credit Facility, (2) on the date of the replacement of a Credit Facility, in any case where an Alternate Credit Facility has been delivered to the Tender Agent and (3) on the fourth Business Day after receipt of such notice, in any case described in clause (ii).

The Tender Agent shall give notice by mail to the holders of 1997B Bonds then payable from a Credit Facility on or before the 15th day preceding the replacement, termination or expiration of the Credit Facility in accordance with its terms; provided that in connection with any mandatory tender for purchase in accordance with clause (ii) of the preceding paragraph, the Tender Agent shall give notice by first class mail to the Owners, with a copy to the City and the Remarketing Agent, not later than three days prior to the tender date.

If the Tender Agent gives holders of the 1997B Bonds notice that, on the date specified in such notice, the 1997B Bonds will cease to be payable from the Liquidity Facility as a result of (i) the termination, replacement or expiration of such Liquidity Facility, including but not limited to termination at the option of the City in accordance with the terms of such Liquidity Facility (in each case, whether or not any Alternate Liquidity Facility has been obtained), or (ii) the Liquidity Provider's notifying the Tender Agent that an event with respect to the Liquidity Facility has occurred permitting the Liquidity Provider to terminate the Liquidity Facility upon notice in accordance with its terms (a "Mandatory Standby Tender"), then each such 1997B Bond shall be purchased or deemed purchased as provided in the Variable Rate Securities Agreement. Any purchase of such 1997B Bonds as described in this paragraph shall occur: (A) on the fifth Business Day preceding any such expiration or termination of such Liquidity Facility without replacement by an Alternate Liquidity Facility or upon any termination thereof as a result of a Mandatory Standby Tender, and (B) on the date of the replacement of a Liquidity Facility, in any case where an Alternate Liquidity Facility has been delivered to the Tender Agent.

The Tender Agent shall give notice by mail to the holders of the 1997B Bonds secured by Liquidity Facility (i) on or before the 15th day preceding the replacement, termination or expiration of such Liquidity Facility (except in the case of a termination resulting from an event referred to in the following paragraph) in accordance with its terms, or (ii) in the case of any Mandatory Standby Tender under such Liquidity Facility, no later than the Business Day following the receipt by the Tender Agent of notice of the Mandatory Standby Tender.

If there should occur any event resulting in the immediate termination or suspension of the obligation of the Liquidity Provider to purchase 1997B Bonds under the terms of any Liquidity Facility, then the Trustee shall as soon as practicably possible thereafter notify the holders of all the 1997B Bonds then outstanding that: (i) the Liquidity Facility has been terminated or suspended, as the case may be; (ii) the Tender Agent will no longer be able to purchase 1997B Bonds with moneys available under the Liquidity Facility; and (iii) the Liquidity Provider is under no obligation to purchase 1997B Bonds or to otherwise advance moneys to fund the purchase of 1997B Bonds.

Sources of Funds for Purchase of Tendered Bonds. Funds for the payment of the purchase price of 1997B Bonds required to be purchased in accordance with the Variable Rate Securities Agreement shall be derived from the following sources in the order of priority indicated:

(i) proceeds of the sale of such 1997B Bonds remarketed to any person pursuant to the Variable Rate Securities Agreement and furnished to the Tender Agent by the Remarketing Agent;

(ii) moneys furnished by the Bank to the Tender Agent; and

(iii) moneys, if any, furnished by the City at its option to the Tender Agent for such purpose;

except that in the event of any replacement of an existing letter of credit, the existing letter of credit will be drawn upon to pay for the purchase price and any accrued interest on tendered 1997B Bonds.

The City shall not have any obligation to pay the purchase price of 1997B Bonds required to be purchased pursuant to the Variable Rate Securities Agreement if the moneys described in clauses (i) and (ii) above are insufficient to provide for such payment.

If sufficient funds are not available for the purchase of all 1997B Bonds tendered or deemed tendered and required to be purchased on any Tender Date, the failure to pay the Purchase Price of all tendered 1997B Bonds when due and payable will not constitute an Event of Default under the General Ordinance and all tendered 1997B Bonds will be returned to their respective holders and, if the Remarketing Agent has suspended its duties as permitted under the Remarketing Agreement, will bear interest at the lower of SIFMA plus 2% and the Maximum Rate from the date of such failed purchase until all such 1997B Bonds are purchased as required in accordance with the Indenture. Thereafter, the Tender Agent will continue to take all such action available to it to obtain remarketing proceeds from the Remarketing Agent and sufficient other funds from the Liquidity Provider or the City.

Redemption of the 1997B Bonds

Mandatory Sinking Fund Redemption. The 1997B Bonds maturing on August 1, 2027 are subject to mandatory redemption prior to maturity (to the extent that such 1997B Bonds in the principal amount otherwise required to be redeemed have not been previously purchased by the City), in part, as drawn by lot by the Fiscal Agent, by application of moneys required to be deposited for that purpose in the Sinking Fund, on August 1 of the following years at a redemption price equal to 100% of the principal amount of each such 1997B Bond to be redeemed plus accrued interest to the date of redemption according to the following schedule.

Year	Principal Amount	Year	Principal Amount
2012	$3,100,000	2020	$4,400,000
2013	3,200,000	2021	4,600,000
2014	3,400,000	2022	4,800,000
2015	3,500,000	2023	5,000,000
2016	3,700,000	2024	5,200,000
2017	3,800,000	2025	5,500,000
2018	4,000,000	2026	5,700,000
2019	4,200,000	2027*	6,000,000

*Final maturity

The principal amount of the 1997B Bonds required to be redeemed on each mandatory sinking fund redemption date may be reduced by the principal amount of the 1997B Bonds theretofore redeemed (otherwise than by mandatory sinking fund redemption) or delivered to the Fiscal Agent for cancellation, and not theretofore applied as a credit against any mandatory sinking fund redemption obligation. Any such reduction shall be applied as a credit against the mandatory sinking fund obligation for the year or years selected by the City.

Optional Redemption. During a Weekly Interest Rate Period, the 1997B Bonds will be subject to optional redemption by the City, on any Business Day, in whole or in part, at a redemption price of par plus accrued interest to the date of redemption, if any.

Any Purchased Bonds shall be subject to optional redemption by the City, in whole or in part, at any time, and from time to time, from Available Moneys at a redemption price of par plus accrued interest to the date of redemption. Notwithstanding any other provision of the Variable Rate Securities Agreement, Purchased Bonds shall be redeemed prior to other Variable Rate Series 1997B Bonds.

Notice of Redemption

Notice of redemption of the 1997B Bonds shall be mailed by first class mail by the Fiscal Agent, not less than 30 days nor more than 60 days prior to the date fixed for redemption, to holders of Bonds and one or more Information Services (as defined in APPENDIX VII - "CONTINUING DISCLOSURE AGREEMENT"). From and after the date fixed for redemption, interest shall cease to accrue. Failure by the Fiscal Agent to give notice to DTC or any one or more Information Services or failure of DTC or any Information Services to receive notice or any defect in any notice shall not affect the validity of the proceedings for redemption.

If at the time of mailing notice of redemption the City shall not have deposited with the Fiscal Agent moneys sufficient to redeem the 1997B Bonds called for redemption, such notice may state that it is conditional in that it is subject to the deposit of the redemption moneys with the Fiscal Agent not later than the redemption date, and such notice shall be of no effect unless such moneys are so deposited.

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Debt Service Requirements[1]

Fiscal Year Ending June 30	1997B Bonds Interest[2]	1997B Bonds Principal	Aggregate Debt Service on Outstanding Bonds other than 1997B Bonds[3]	Aggregate Debt Service on all Outstanding Bonds
2012	$179,320.51[4]	$2,900,000.00[4]	$186,377,611.60	$189,456,932.11
2013	168,062.82	3,100,000.00	189,281,924.10	192,549,986.92
2014	160440.58	3,200,000.00	193,188,054.65	196,548,495.23
2015	152,058.54	3,400,000.00	193,239,063.90	196,791,122.44
2016	143,262.46	3,500,000.00	193,532,836.37	197,176,098.83
2017	136,593.24	3,700,000.00	162,335,836.14	166,172,429.38
2018	124,692.83	3,800,000.00	162,475,518.38	166,400,211.21
2019	114,815.07	4,000,000.00	113,182,999.03	117,297,814.10
2020	104,349.20	4,200,000.00	75,457,666.34	79,762,015.54
2021	93,427.13	4,400,000.00	75,436,944.44	79,930,371.57
2022	82,235.60	4,600,000.00	75,412,671.95	80,094,907.55
2023	71,688.81	4,800,000.00	75,416,036.94	80,287,725.75
2024	57,726.40	5,000,000.00	75,440,186.94	80,497,913.34
2025	44,863.78	5,200,000.00	75,456,636.95	80,701,500.73
2026	31,379.88	5,500,000.00	75,327,849.46	80,859,229.34
2027	17,276.14	5,700,000.00	75,364,061.96	81,081,338.10
2028	2,467.73	6,000,000.00	62,201,311.94	68,203,779.67
2029	–	–	82,104,061.94	82,104,061.94
2030	–	–	82,178,674.44	82,178,674.44
2031	–	–	82,169,468.19	82,169,468.19
2032	–	–	82,165,880.70	82,165,880.70
2033	–	–	41,406,836.92	41,406,836.92
2034	–	–	36,147,437.50	36,147,437.50
2035	–	–	36,133,406.25	36,133,406.25
2036	–	–	36,110,468.75	36,110,468.75
2037	–	–	8,683,125.00	8,683,125.00
2038	–	–	8,687,375.00	8,687,375.00
2039	–	–	8,683,375.00	8,683,375.00
2040	–	–	8,685,250.00	8,685,250.00
2041	–	–	8,686,875.00	8,686,875.00
Total	$1,684,660.72	$73,000,000.00	$2,580,969,445.78	$2,655,654,106.50

1 The table sets forth debt service due as of July 1, 2011, including principal and interest paid on August 1, 2011.

2 The table assumes that 1997B Bonds (which bear interest at a variable rate) will bear interest at a rate equal to the average interest rate on the 1997B Bonds during the period of 24 consecutive calendar months preceding the date of calculation (.2502%) and includes the 1999 Pennvest Loan.

3 Interest calculated at the fixed swap rate of 4.53% per annum for the 2005B Bonds; actual results may vary.

4 Fiscal Year 2012 principal and interest paid on August 1, 2011.

Special Considerations Relating to the 1997B Bonds

The Remarketing Agent is Paid By the City. The Remarketing Agent's responsibilities include determining the interest rate from time to time and remarketing 1997B Bonds that are optionally or mandatorily tendered by the owners thereof (subject, in each case, to the terms of the Indenture and the Amended and Restated Remarketing Agreement between the City and Citigroup Global Markets Inc. relating to the 1997B Bonds, dated as of September 1, 2008, as amended by the First Amendment to Amended and Restated Remarketing Agreement dated September 1, 2011 (as so amended, the "Remarketing Agreement")), all as further described in this Reoffering Circular. The Remarketing Agent is appointed by the City and is paid by the City for its services. As a result, the interests of the Remarketing Agent may differ from those of existing holders and potential purchasers of 1997B Bonds.

The Remarketing Agent Routinely Purchases Bonds for its Own Account. The Remarketing Agent acts as remarketing agent for a variety of variable rate demand obligations and, in its sole discretion, routinely purchases such obligations for its own account. The Remarketing Agent is permitted, but not obligated, to purchase tendered 1997B Bonds for its own account and, in its sole discretion, may routinely acquire such tendered Bonds in order to achieve a successful remarketing of the 1997B Bonds (i.e., because there otherwise are not enough buyers to purchase the 1997B Bonds) or for other reasons. However, the Remarketing Agent is not obligated to purchase 1997B Bonds, and may cease doing so at any time without notice. The Remarketing Agent may also make a market in the 1997B Bonds by routinely purchasing and selling 1997B Bonds other than in connection with an optional or mandatory tender and remarketing. Such purchases and sales may be at or below par. However, the Remarketing Agent is not required to make a market in the 1997B Bonds. The Remarketing Agent may also sell any 1997B Bonds it has purchased to one or more affiliated investment vehicles for collective ownership or enter into derivative arrangements with affiliates or others in order to reduce its exposure to the 1997B Bonds. The purchase of 1997B Bonds by the Remarketing Agent may create the appearance that there is greater third party demand for the 1997B Bonds in the market than is actually the case. The practices described above also may result in fewer 1997B Bonds being tendered in a remarketing.

Bonds May be Offered at Different Prices on Any Date Including an Interest Rate Determination Date. Pursuant to the Indenture and the Remarketing Agreement, the Remarketing Agent is required to determine the applicable rate of interest that, in its judgment, is the lowest rate that would permit the sale of the 1997B Bonds bearing interest at the applicable interest rate at par plus accrued interest, if any, on and as of the applicable interest rate determination date. The interest rate will reflect, among other factors, the level of market demand for the 1997B Bonds (including whether the Remarketing Agent is willing to purchase Bonds for its own account). There may or may not be Bonds tendered and remarketed on an interest rate determination date, the Remarketing Agent may or may not be able to remarket any 1997B Bonds tendered for purchase on such date at par and the Remarketing Agent may sell 1997B Bonds at varying prices to different investors on such date or any other date. The Remarketing Agent is not obligated to advise purchasers in a remarketing if it does not have third party buyers for all of the 1997B Bonds at the remarketing price. In the event a the Remarketing Agent owns any 1997B Bonds for its own account, it may, in its sole discretion in a secondary market transaction outside the tender process, offer such 1997B Bonds on any date, including the interest rate determination date, at a discount to par to some investors.

The Ability to Sell the 1997B Bonds Other Than Through the Tender Process May Be Limited. The Remarketing Agent may buy and sell 1997B Bonds other than through the tender process. However, it is not obligated to do so and may cease doing so at any time without notice and may require holders that wish to tender their 1997B Bonds to do so through the Tender Agent with appropriate notice. Thus, investors who purchase the 1997B Bonds, whether in a remarketing or otherwise, should not assume that they will be able to sell their 1997B Bonds other than by tendering the 1997B Bonds in accordance with the tender process.

The Remarketing Agent May Resign, Without a Successor Being Named. The Remarketing Agent may resign, upon 60 days' prior written notice, without a successor having been named. In addition, the Remarketing Agent may suspend its duties under the Remarketing Agreement upon the occurrence of certain extraordinary events specified in the Remarketing Agreement by notifying the City in writing or electronic communication of its election to do so.

Book-Entry Only System

DTC acts as securities depository for the 1997B Bonds. The 1997B Bonds are issued as fully-registered securities registered in the name of Cede & Co. (DTC's partnership nominee) or such other name as may be requested by an authorized representative of DTC. One fully-registered 1997B Bond is issued for each maturity of the 1997B Bonds, in the aggregate principal amount of such maturity, and deposited with DTC.

DTC, the world's largest securities depository, is a limited-purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code, and a "clearing agency" registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934. DTC holds and provides asset servicing for over 3.5 million issues of U.S. and non-U.S. equity issues, corporate and municipal debt issues, and money market instruments (from over 100 countries) that DTC's participants ("Direct Participants") deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities, through electronic computerized book-entry transfers and pledges between Direct Participants' accounts. This eliminates the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation ("DTCC"). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly ("Indirect Participants"). Standard & Poor's has assigned DTC a rating of AA+. The DTC Rules applicable to its Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at www.dtcc.com and www.dtc.org.

Purchases of the 1997B Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the 1997B Bonds on DTC's records. The ownership interest of each actual purchaser of each 1997B Bond ("Beneficial Owner") is in turn to be recorded on the Direct and Indirect Participants' records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the 1997B Bonds are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in the 1997B Bonds, except in the event that use of the book-entry system for the 1997B Bonds is discontinued.

To facilitate subsequent transfers, all 1997B Bonds deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of 1997B Bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the 1997B Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts such 1997B Bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time.

Redemption notices shall be sent to DTC. If less than all the 1997B Bonds within a maturity are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such maturity to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to the 1997B Bonds unless authorized by a Direct Participant in accordance with DTC's MMI Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the issuer as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts the 1997B Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Principal, redemption price, if any, purchase price, and interest payments on the 1997B Bonds will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts upon DTC's receipt of funds and corresponding detail information from the City or the Fiscal Agent, on payable date in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC, the Fiscal Agent, or the City, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal and interest to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the City or the Fiscal Agent, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners will be the responsibility of Direct and Indirect Participants.

DTC may discontinue providing its services as depository with respect to the 1997B Bonds at any time by giving reasonable notice to the City or the Fiscal Agent. Under such circumstances, in the event that a successor depository is not obtained, bond certificates are required to be printed and delivered.

The City may decide to discontinue use of the system of book-entry-only transfers through DTC (or a successor securities depository). In that event, bond certificates will be printed and delivered.

THE CITY AND THE FISCAL AGENT WILL NOT HAVE ANY RESPONSIBILITY OR OBLIGATION TO DTC PARTICIPANTS OR THE PERSONS FOR WHOM THEY ACT AS NOMINEES WITH RESPECT TO THE ACCURACY OF THE RECORDS OF DTC, ITS NOMINEE OR ANY DTC PARTICIPANT WITH RESPECT TO ANY OWNERSHIP INTEREST IN THE 1997B BONDS, OR PAYMENTS TO, OR THE PROVIDING OF NOTICE FOR, DTC PARTICIPANTS OR THE INDIRECT PARTICIPANTS OR BENEFICIAL OWNERS.

The information in this section concerning DTC and DTC's book-entry system has been obtained from sources that the City believes to be reliable, but the City takes no responsibility for the completeness or accuracy thereof, or the absence of materially adverse changes in such information subsequent to the date hereof. For further information, Beneficial Owners should contact DTC in New York, New York.

SECURITY FOR THE 1997B BONDS

Pledge of Project Revenues

Pursuant to the General Ordinance, the City pledges and assigns to the Fiscal Agent, in trust, for the security and payment of all Water and Wastewater Revenue Bonds (other than Subordinated Bonds as defined therein) issued under or subject to the General Ordinance, and grants to the Fiscal Agent, in trust, a lien on and security interest in all Project Revenues and amounts on deposit in or standing to the credit of the Water and Wastewater Funds. See APPENDIX II – "SUMMARIES OF CERTAIN AUTHORIZATIONS FOR THE 1997B BONDS." The Fiscal Agent shall hold and apply the Project Revenues and funds and accounts, in trust, for the equal and ratable benefit and security of all holders of Water and Wastewater Revenue Bonds (other than

Subordinated Bonds) issued under or subject to the General Ordinance. The General Ordinance provides that such pledge may also be for the benefit of the provider of a Credit Facility or a Qualified Swap (as defined therein), or any other person who undertakes to provide moneys for the account of the City for the payment of principal or redemption price of and interest on any series of Water and Wastewater Revenue Bonds (other than Subordinated Bonds) issued under or subject to the General Ordinance, on an equal and ratable basis.

Swap Agreement

On December 5, 2002, the City entered into an ISDA Master Agreement, Schedule and a Confirmation (collectively, the "Swap") relating to the Series 2005B Bonds, (which refunded a portion of the Series 1995 Bonds) with Citigroup Financial Products Inc., as successor to Salomon Brothers Holding Company, Inc. (the "Swap Provider"). The table below summarizes the terms of the Swap.

Initial Notional Amount	$86,105,000
Current Notional Amount	$83,275,000
Termination Date	August 1, 2018
Product	Fixed Payer Swap(1)
Rate Paid by Swap Provider	Bond Rate / 68.5% 1-month LIBOR
Rate Paid by City	4.53%
Dealer	Citigroup Financial Products, Inc.
Fair Value(2)	($13,490,543)

Notes:

(1) The City received an upfront payment of $4,000,000 for the related swaption. Citigroup exercised its option to enter into the Swap on May 4, 2005. Under the Swap, the City receives the bond rate or 68.5% of 1-month LIBOR in the event the average rate on the Series 2005B Bonds as a percentage of the average of the one-month LIBOR has exceeded 68.5% of one-month LIBOR for a period of more than 180 days. The City is currently receiving the LIBOR-based rate.

(2) Fair value is as of July 29, 2011, is shown from the City's perspective and includes accrued interest.

Under certain conditions, the Swap may be terminated prior to its stated termination date, in which case the City may be obligated to make a substantial payment to, or may be entitled to receive a substantial payment from, the Swap Provider. There can be no assurance that the Swap Provider will pay or perform its obligations under the Swap in accordance with the terms thereof, or that the Swap Provider will be able to pay any termination payment which it may be required to pay upon the occurrence of certain events of default or termination events under the Swap.

Water and Wastewater Funds

The Act and the General Ordinance establish the following funds and accounts to be held by the Fiscal Agent:

(a) Revenue Fund.

(b) Sinking Fund and within such fund a Debt Service Account, a Charges Account and a Debt Reserve Account.

(c) Subordinated Bond Fund.

(d) Rate Stabilization Fund.

(e) Residual Funds and within such fund a Special Water Infrastructure Account.

(f) Construction Funds and within such fund an Existing Projects Account, a Bonds Proceeds Account and a Capital Account.

The foregoing funds are referred to herein as the "Water and Wastewater Funds." The General Ordinance also establishes a Rebate Fund, which is not held for the benefit of the holders of the Water and Wastewater Revenue Bonds.

The application of Project Revenues under the General Ordinance and priority of payments are set forth below.

The Water and Wastewater Funds are required under the General Ordinance to be held separate and apart from all other funds and accounts of the City and the Fiscal Agent and the funds and accounts therein shall not be commingled with, loaned or transferred among themselves or to any other City funds or accounts except as expressly permitted by the General Ordinance.

The City is required by the General Ordinance to cause all Project Revenues received by it on any date to be deposited into the Revenue Fund upon receipt thereof by the City, and the Fiscal Agent shall, upon receipt of Project Revenues, deposit such Project Revenues into the Revenue Fund. The City and Fiscal Agent also shall cause to be deposited into the Revenue Fund such portion of the proceeds of the 1997B Bonds as are designated by Supplemental Ordinance or Bond Committee Determination and any other funds directed to be deposited into the Revenue Fund by the City.

If at any time sufficient moneys are not available in the Revenue Fund to pay Operating Expenses and to make the transfers described below under "Application of Project Revenues," then amounts on deposit in the Construction Fund, Rate Stabilization Fund and Residual Fund may be loaned temporarily, at the written direction of the City, to the Revenue Fund for the payment of such Operating Expenses to the extent of the deficiency, until such loaned amounts are required by the Water Department for purposes of the Fund making the loan. If a similar deficiency exists in the Construction Fund, amounts on deposit in the Revenue Fund, Rate Stabilization Fund and Residual Fund may be loaned temporarily, at the written direction of the City, to the Construction Fund, to the extent of the deficiency, until required by the Water Department for purposes of the Fund making the loan.

The City has covenanted in the General Ordinance that it will not direct the Fiscal Agent to transfer, loan or advance proceeds of the 1997B Bonds or Project Revenues from the Water and Wastewater Funds to any City account for application other than for Water Department purposes. The General Ordinance permits the application of Project Revenues to pay Interdepartmental Charges and also permits moneys to be transferred in each fiscal year from the Residual Fund to the City's General Fund in an amount not to exceed the lower of (i) all "Net Reserve Earnings" (as defined below) or (ii) $4,994,000. See "LITIGATION AND CLAIMS" herein. "Net Reserve Earnings" means the amount of interest earnings during the fiscal year on amounts in the Debt Reserve Account and the Subordinated Bond Fund less the amount of interest earnings during the fiscal year on amounts in any such reserve funds and accounts giving rise to a rebate obligation pursuant to Section 148(f) of the Code.

Application of Project Revenues

Under the provisions of the General Ordinance, Project Revenues are applied to the extent available in the following order of priority: (i) payment of Operating Expenses; (ii) payment of the principal or redemption price of and interest on Water and Wastewater Revenue Bonds issued under the General Ordinance (except Subordinated Bonds), payments under any swap agreement, payments under a Credit Facility to repay advances thereunder to pay any of the foregoing and payments with respect to fees and expenses in respect of a Credit Facility; (iii) payments into the Debt Reserve Account to the extent necessary to cure a deficiency therein; (iv) payments into any debt reserve account established within the Sinking Fund and not held for the equal and ratable benefit of all Water and Wastewater Revenue Bonds (other than Subordinated Bonds) to the extent necessary to cure a deficiency therein; (v) payment of principal or redemption price of and interest on Subordinated Bonds; (vi) all payments other than regularly scheduled swap payments, and amounts, other than amounts to pay advances under any Credit Facility (as defined in the General Ordinance); (vii) transfer to the City the amount necessary to pay General Obligation Bonds issued for the Water and Wastewater Systems; (viii) transfer to the Rate Stabilization Fund the amount determined by the Water Commissioner; (ix) transfer to the Capital Account of the Construction Fund the sum of the Capital Account Deposit Amount, the Debt Service Withdrawal and the Operating Expense Withdrawal, less any amounts transferred to the Capital Account from the Residual Fund; and (x) after providing for any inter-Fund loans, transfer to the Residual Fund any amount remaining on deposit in the Revenue Fund.

Debt Reserve Account

The General Ordinance establishes within the Sinking Fund a Debt Reserve Account which shall be funded from the proceeds of each series of Water and Wastewater Revenue Bonds; provided, however, that if the Supplemental Ordinance authorizing a series of Water and Wastewater Revenue Bonds shall so authorize, the deposit to the Debt Reserve Account in respect of such Water and Wastewater Revenue Bonds may be accumulated from Project Revenues over a period of not more than three Fiscal Years after the issuance and delivery of such Water and Wastewater Revenue Bonds. The moneys and investments in the Debt Reserve Account shall be held and maintained in an amount equal at all times to the Debt Reserve Requirement. If at any time the moneys in the Debt Service Account of the Sinking Fund shall be insufficient to pay as and when due the principal of (and premium, if any) or interest on any Water and Wastewater Revenue Bonds or other obligations payable from the Debt Service Account (including obligations arising in connection with Qualified Swap Agreements and Credit Facilities), the Fiscal Agent is required to pay over from the Debt Reserve Account the amount of such deficiency for deposit in the Debt Service Account. With respect to any issue of Water and Wastewater Revenue Bonds, in lieu of the required deposit into the Debt Reserve Account, the City may cause to be deposited into the Debt Reserve Account a surety bond, an insurance policy or an irrevocable letter of credit meeting the requirements of the General Ordinance and the Bond Committee Determination relating to such issue.

Under the terms of the General Ordinance, any surety bond, insurance policy or letter of credit provided by the City in lieu of required deposits within the Debt Reserve Account would have to meet the credit quality requirements of the General Ordinance. The insurer providing a surety bond or insurance policy is required to be an insurer whose municipal bond insurance policies insuring the payment of bond issues results in such issues being rated not lower than the second highest rating category (without regard to ratings subcategories) by either Moody's Investors Service Inc. ("Moody's") or Standard & Poor's Ratings Service ("S&P"). The letter of credit issuer providing a letter of credit is required to be a bank or trust company which is rated not lower than the second highest rating category (without regard to ratings subcategories). See APPENDIX II - "SUMMARIES OF CERTAIN AUTHORIZATIONS FOR THE BONDS - The Restated General Water and Wastewater Revenue Bond Ordinance of 1989 – Debt Reserve Account."

The Water Department is required to maintain a balance in the Debt Reserve Account at least equal to the Debt Reserve Requirement, which as of June 30, 2011, was $197,176,098.83. On June 30, 2011, the Debt Reserve Account contained $130,176,098.83 in cash and a $67,000,000 surety policy. The Debt Reserve Account is a parity debt service reserve for all outstanding Water and Wastewater Revenue Bonds. The Debt Reserve Account was amended by an ordinance approved on January 23, 2007 (the "Debt Reserve Account Amendment"), which authorizes (i) the Director of Finance to apply moneys currently on deposit in the Debt Reserve Account to purchase a surety bond or insurance policy complying with the terms of the General Ordinance (described below), (ii) the transfer of the resulting excess moneys in the Debt Reserve Fund to the Revenue Fund and, upon compliance with the provisions of the General Ordinance, to a new account in the Residual Fund called the Special Water Infrastructure Account and (iii) the application of the moneys deposited in the Special Water Infrastructure Account to the cost of renewals, replacements and improvements to the Water and Wastewater Systems. The City is permitted to replace up to approximately $131,000,000 of Water and Wastewater Bond proceeds in the Debt Reserve Account with one or more surety policies to be utilized to acquire or construct Water and Sewer infrastructure projects that are consistent with the original purposes of such bonds and to reimburse the Water Department for the costs related to such transactions. The projects that have been designated for funding using the Special Water Infrastructure Account are referred to collectively as the "New River City Program." See "CAPITAL IMPROVEMENT PROGRAM – New River City Program" herein.

Rate Covenants

The Rate Covenant contained in the General Ordinance requires the City to establish rents, rates, fees and charges for the use of the Water and Wastewater Systems sufficient to yield Net Revenues, as defined therein, in each Fiscal Year at least equal to 1.20 times the Debt Service Requirements for such Fiscal Year (recalculated to exclude therefrom principal and interest payments in respect of Subordinated Bonds). In addition, Net Revenues, in each Fiscal Year, must be at least equal to 1.00 times: (i) the Debt Service Requirements for such Fiscal Year (including Debt Service Requirements in respect of Subordinated Bonds); (ii) amounts required to be deposited into the Debt Reserve Account during such Fiscal Year; (iii) the principal or redemption price of and interest on General Obligation Bonds issued for the Water and Wastewater Systems payable in such Fiscal Year; (iv) debt service requirements on Interim Debt payable in such Fiscal Year; and (v) the Capital Account Deposit Amount for such Fiscal Year, less any amounts transferred from the Residual Fund to the Capital Account during such Fiscal Year. To ensure compliance with the Rate Covenant, the General Ordinance requires that the City review its rents, rates, fees and charges not less frequently than once in each Fiscal Year. For a discussion of the Water Department's experience in meeting the Rate Covenant, see "HISTORICAL AND PROJECTED FINANCIAL INFORMATION – Compliance with Rate Covenants" herein.

Insurance Covenants

In addition to the Rate Covenant described above, for each Fiscal Year, the City has covenanted to AGM, for so long as the Series 2005A Bonds, the Series 2005B Bonds and the portion of the Series 2010A Bonds insured by AGM are outstanding, to establish rates and charges for the use of the Water and Wastewater Systems sufficient to yield Net Revenues (excluding amounts transferred from the Rate Stabilization Fund into the Revenue Fund during, or as of the end of, such Fiscal Year) at least equal to 90% of the Debt Service Requirements (excluding debt service due on any Subordinated Bonds) in such Fiscal Year; and that in addition to the conditions described below under "Additional Bonds," any calculation by a Consulting Engineer of projected Rate Covenant compliance in connection with the proposed issuance of Additional Bonds for each Fiscal Year must state that Net Revenues (excluding amounts transferred from the Rate Stabilization Fund into the Revenue Fund during, or as of the end of, such Fiscal Year) in each Fiscal Year included in the projection period are projected to be at least equal to 90% of the Debt Service Requirements (excluding debt service due on any Subordinated Bonds) in such Fiscal Year. The foregoing agreement is for the benefit of AGM only and may be amended or waived by AGM in its sole discretion without the consent of holders of the 1997B Bonds.

Limitations on Effectiveness of Pledge of Project Revenues and Water and Wastewater Funds

The effectiveness of the pledge of the Project Revenues and the Water and Wastewater Funds may be limited because, while the Fiscal Agent will have custody of the Water and Wastewater Funds, the City will have complete control of deposits into and expenditures from the Water and Wastewater Funds, except that the City will not have control of expenditure of amounts on deposit in the Sinking Fund, including the Debt Reserve Account. No requisition procedure or other similar procedure will be established for the expenditure of moneys by the City from the Water and Wastewater Funds, and no consent or approval of the Fiscal Agent is required to be obtained by the City as a condition of the City's expenditure of moneys in the Water and Wastewater Funds. The Fiscal Agent will not monitor deposits into or withdrawals from the Water and Wastewater Funds (other than the Sinking Fund, including the Debt Reserve Account) or the purposes to which moneys in the Water and Wastewater Funds are applied.

The General Ordinance provides that if, on any date when a deposit is required to be made of the Project Revenues, the City fails to comply with any provision of the General Ordinance, the Fiscal Agent is authorized to and shall seek, by mandamus or other suit, action or proceeding at law or in equity, the specific enforcement or performance of the obligation of the City to cause the Project Revenues to be transferred to the Revenue Fund.

No daily, monthly or other periodic deposits are required to be made into the Sinking Fund prior to the dates on which debt service payments on the Water and Wastewater Revenue Bonds are due.

The enforcement of remedies available to Bondholders (or the Fiscal Agent or any trustee for Bondholders) under the Act or the General Ordinance may be limited as described herein under "REMEDIES OF BONDHOLDERS."

Additional Bonds

The General Ordinance permits the issuance of additional bonds which may be secured on a parity with the outstanding Water and Wastewater Revenue Bonds. The General Ordinance imposes certain conditions on the issuance of additional bonds thereunder, including the condition that a report of a Consulting Engineer be delivered to City Council stating that the Net Revenues are currently sufficient to comply with the Rate Covenant and are projected to be sufficient to comply with the Rate Covenant for each of the two Fiscal Years following the Fiscal Year in which the additional bonds are to be issued; provided that if interest on the additional bonds or a portion thereof has been capitalized, the projection shall extend to the two Fiscal Years following the Fiscal Year up to which interest has been capitalized. See APPENDIX II - "SUMMARIES OF CERTAIN AUTHORIZATIONS FOR THE BONDS" for a discussion of the circumstances under which additional Bonds may be issued under the General Ordinance.

Transfer to an Authority

The City is authorized under the General Ordinance, upon the satisfaction of the conditions specified in the General Ordinance, to convey and assign to a municipal authority or another entity all or substantially all of the City's right, title and interest in the Water and Wastewater Systems and thereupon to be released from all of its obligations under the General Ordinance and under the Water and Wastewater Revenue Bonds.

For a further discussion of the funds and accounts, priority of payment, the Rate Covenant, transfer of the Water and Wastewater Systems and other provisions of the General Ordinance, see APPENDIX II – "SUMMARIES OF CERTAIN AUTHORIZATIONS FOR THE 1997B BONDS."

THE REIMBURSEMENT AGREEMENT

The following is a summary of certain provisions of the Reimbursement Agreement between the City and the Bank delivered in connection with the reoffering of the 1997B Bonds (the "Reimbursement Agreement"). This summary does not purport to be complete and reference is made to the Reimbursement Agreement for complete statements of all provisions.

The City has entered into the Reimbursement Agreement with the Bank under which the Bank has agreed to issue the Letter of Credit in an aggregate amount not exceeding $71,482,794.52 (the "Stated Amount") and the City has agreed to reimburse the Bank for sums drawn on the Letter of Credit in accordance with its terms. The Stated Amount consists of (1) $70,100,000.00 (as from time to time reduced or reinstated as provided in the Letter of Credit, the "Principal Component") to support the payment of the principal or portion of the purchase price corresponding to principal of the 1997B Bonds, and (2) $1,382,794.52 (as from time to time reduced or reinstated as provided in the Letter of Credit, the "Interest Component") to support the payment of up to 48 days' interest on the 1997B Bonds or portion of the purchase price corresponding to interest at an assumed rate of 15% per annum. The Reimbursement Agreement also provides for a Letter of Credit fee, drawing fees, and other fees, interest and charges. The Reimbursement Agreement contains covenants and events of default in addition to those provided in the Variable Rate Securities Agreement and in the 1997B Bonds. Upon the occurrence of an event of default under the Reimbursement Agreement, the Bank may, among other things, direct the Fiscal Agent to call the 1997B Bonds for mandatory purchase. The Bank and the City may, from time to time, amend the Reimbursement Agreement without notice to, or consent of, the Fiscal Agent or any of the 1997B Bondholders.

The City's obligations under the Reimbursement Agreement are secured on a parity with the 1997B Bonds. See "SECURITY FOR THE 1997B BONDS" herein.

THE BANK

TD Bank, N.A. is a national banking association organized under the laws of the United States, with its main office located in Wilmington, Delaware. The Bank is an indirect, wholly-owned subsidiary of The Toronto-Dominion Bank ("TD") and offers a full range of banking services and products to individuals, businesses and governments throughout its market areas, including commercial, consumer, trust and insurance agency services. The Bank operates banking offices in Connecticut, Delaware, the District of Columbia, Florida, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, North Carolina, New York, Pennsylvania, Rhode Island, South Carolina, Vermont and Virginia. As of June 30, 2011, the Bank had consolidated assets of $180,000,000,000, consolidated deposits of $142,600,000,000 and stockholder's equity of $27,300,000,000, based on regulatory accounting principles. See APPENDIX V – "CERTAIN INFORMATION CONCERNING THE BANK" herein.

REMEDIES OF BONDHOLDERS

Remedies under the Act and the General Ordinance available to Bondholders and to any trustee for Bondholders appointed by the holders of 25% in outstanding principal amount of any series of Water and Wastewater Revenue Bonds in default are described in APPENDIX II – "SUMMARIES OF CERTAIN AUTHORIZATIONS FOR THE 1997B BONDS." In addition to the remedies therein described, Bondholders or a trustee therefor are entitled under the Pennsylvania Uniform Commercial Code to remedies as secured parties with respect to the Project Revenues and the funds on deposit in the Water and Wastewater Funds.

The ultimate enforcement of Bondholders' rights upon any default by the City in the performance of its obligations under the Act, the General Ordinance and the 1997B Bonds will depend upon the application of remedies provided in the Act, the General Ordinance and other applicable laws. Litigation may be necessary to obtain relief in accordance with these remedies. Such litigation may be protracted and costly. Remedies such as mandamus, specific performance or injunctive relief are equitable remedies, which are subject to the discretion of the court.

Enforcement of Bondholders' rights may be limited by and is subject to the provisions of the Federal Bankruptcy Code, as now or hereafter enacted, and to other laws or legal or equitable principles which may affect the enforcement of creditors' rights. The Pennsylvania Intergovernmental Cooperation Authority Act for Cities of the First Class (the "PICA Act") prevents the City from filing a petition for relief under Chapter 9 of the Federal Bankruptcy Code ("Chapter 9") as long as the Pennsylvania Intergovernmental Cooperation Authority has outstanding any bonds issued pursuant to the PICA Act, and if no such bonds were outstanding, requires approval in writing by the Governor of the Commonwealth for a filing under Chapter 9 by the City. See APPENDIX III – "CERTAIN INFORMATION CONCERNING THE CITY OF PHILADELPHIA – Pennsylvania Intergovernmental Cooperation Authority."

The filing of a petition under Chapter 9 operates as an automatic stay of the commencement or continuation of any judicial or other proceeding against the debtor or its property. However, a petition filed under Chapter 9 does not operate as a stay of application of pledged special revenues to the payment of indebtedness secured by such revenues. Special revenues include receipts derived from the ownership or operation of systems that are used to provide utility services and the proceeds from borrowing to finance such systems. The Federal Bankruptcy Code further provides that special revenues acquired by the debtor after the commencement of a Chapter 9 case shall remain subject to any lien resulting from any security agreement entered into by the debtor before the commencement of the case. However, the lien on special revenues derived from a system will be subject to the payment of the necessary operating expenses of that system. Therefore, Project Revenues acquired by the City after the filing of a Chapter 9 petition will remain subject to the lien of the General Ordinance in favor of the Bondholders, but will be subject to the payment of the Water and Wastewater Systems' necessary operating expenses as determined by the City. The Federal Bankruptcy Code also provides that a transfer of property of a debtor to or for the benefit of a bondholder, on account of such bond, may not be avoided as a preferential transfer.

Unless the debtor consents or the plan proposed under Chapter 9 so provides, the bankruptcy court may not interfere with any of the property or revenues of a Chapter 9 debtor or with such debtor's use or enjoyment of any income-producing property. Accordingly, if the City decided to use Bond proceeds, the Project Revenues or the Water and Wastewater Funds pledged for the benefit of the Bondholders for other than Water Department purposes, a bankruptcy court would not have the power to interfere with that decision. Even if a bankruptcy court had such power, the court, in the exercise of its equitable powers, could refuse to require the City to use Bond proceeds, the Project Revenues and the Water and Wastewater Funds to pay Bondholders.

The debtor may file a plan for the adjustment of its debts which may include provisions modifying or altering the rights of creditors generally, or any class of them, secured or unsecured. The plan, when confirmed by the court, binds all creditors which have had notice or knowledge of the plan and discharges all claims against the debtor provided for in the plan. No plan may be confirmed unless certain conditions are met, among which are that the plan is in the best interests of creditors, is feasible and has been accepted by each class of claims impaired thereunder. Even if the plan is not so accepted, it may be confirmed if the court finds that the plan is fair and equitable with respect to each class of non-accepting creditors impaired thereunder and does not discriminate unfairly. Thus, under the above described "cram-down" provisions of the Federal Bankruptcy Code, a plan of adjustment could be imposed on the Bondholders that would give them less than their anticipated rate of interest on the 1997B Bonds or possibly even less than a full return of their principal, and/or extend the time for payment of principal of or interest on the 1997B Bonds.

The foregoing references to the Federal Bankruptcy Code should not be construed as implying that the City expects to resort to the provisions of such statute or that, if it did, any proposed restructuring would include a dilution of the sources of payment of and security for the 1997B Bonds.

THE WATER DEPARTMENT

General

The Water Department was established by the City pursuant to the Charter with the power and duty to operate, maintain, repair and improve the Water and Wastewater Systems. The Charter requires the Water Department to fix and regulate rates and charges for supplying water and for wastewater treatment service in accordance with standards established by City Council. Such standards must enable the City to realize from rates and charges an amount at least equal to operating expenses and debt service charges on any debt incurred or to be incurred for the Water and Wastewater Systems, and proportionate charges for all services performed for the Water Department by all officers, departments, boards or commissions of the City. See "HISTORICAL AND PROJECTED FINANCIAL INFORMATION – Compliance with Rate Covenants" below. The Charter also authorizes the Water Department, with the authorization of City Council, to enter into contracts for supplying water service and sewer and sewage disposal service to users outside the limits of the City.

The operations of the Water Department are accounted for in the Water Fund, which is an enterprise fund of the City. The Water Fund is an accounting convention established pursuant to the Charter for the purpose of accounting for the assets, liabilities, revenues, expenses and Rate Covenant compliance on a legally enacted basis for the Water and Wastewater Systems. See APPENDIX I – "FINANCIAL STATEMENTS OF THE WATER FUND FOR FISCAL YEAR ENDED JUNE 30, 2010 AND 2009" attached hereto.

The Water and Wastewater Funds are funds required by the General Ordinance to be established and maintained with the Fiscal Agent for so long as the Water and Wastewater Revenue Bonds are outstanding for the purpose of segregating Bond proceeds and Project Revenues from other funds of the City not held exclusively for Water Department purposes.

Administration

The Water Department is managed by a Commissioner appointed by the Managing Director of the City with the approval of the Mayor. The Commissioner appoints deputies with the approval of the City's Managing Director; substantially all other employees of the Water Department are appointed under the provisions of the City's Civil Service Regulations.

The City's Department of Revenue performs all functions relating to meter reading, customer accounts and collections for the Water Department through the Water Revenue Bureau. The Department of Revenue and the Water Revenue Bureau are under the direction of the Director of Finance. The Director of Finance, as the chief financial, accounting and budget officer of the City, has overall responsibility for the fiscal administration of all City departments, including the Water Department. Audits of all City departments, including the Water Department, are performed annually by the Office of the City Controller. The Law Department of the City, headed by the City Solicitor, handles all legal matters affecting the Water Department.

The following are brief biographical descriptions of the Commissioner, his deputies and the senior management of the Water Department:

Howard M. Neukrug, P.E. was appointed Water Commissioner on February 3, 2011. Prior to that time, Mr. Neukrug's 32-year career with the Water Department included the positions of Deputy Commissioner of Environmental Services; Director, Office of Watersheds; and Director, Planning and Technical Services. He is a national leader for sustainable practices, infrastructure, water quality and quality management in the water industry and has served as an advisor to the United States Environmental Protection Agency, the State of Pennsylvania and the Delaware River Basin Commission. He is a Professional Engineer and a graduate in Civil and Urban Engineering from the University of Pennsylvania.

Debra A. McCarty was appointed Deputy Water Commissioner in April, 2004. She is principally responsible for managing the Water Department's Operations Division. She received a Bachelor of Engineering Sciences of Environmental Engineering from Johns Hopkins University in Baltimore in 1979. After serving in a private engineering firm for several years, she began her employment with the Water Department in 1982. Since her initial appointment, Ms. McCarty has held a number of increasingly responsible engineering and managerial positions, most recently holding the position of Chief of Wastewater, which included responsibility for the operation of the City's three large wastewater treatment plants. She has also served as plant manager of the Southwest Water Pollution Control Plant and Process Manager for the Northeast Water Pollution Control Plant.

Joseph S. Clare, III was appointed Deputy Commissioner in August, 2004. Mr. Clare previously served as General Manager of Finance since 2003 and Administrative Services Director and Assistant General Manager of Finance and Administration since September, 1998 and as Accounting Manager and Contracts Audit Supervisor for the Water Department since 1987. He also previously served as a Deputy Commissioner in the Department of Public Property. Mr. Clare is a Certified Public Accountant and received B.S. and M.B.A. degrees in Accounting Control and Finance from Drexel University.

David A. Katz was appointed Deputy Water Commissioner in June, 2001, managing the Water Department's Environmental Policy and Planning efforts. Previously, Mr. Katz had served as Divisional Deputy City Solicitor. He had been with the City's Law Department since 1987 and had served as the General Counsel to the Water Department since April, 1992. He holds a B.S. in Economics from the Wharton School, University of Pennsylvania and a J.D. from the Washington College of Law, American University. Prior to joining the Law Department, Mr. Katz served in a variety of public and private legal positions.

Stephen J. Furtek was appointed Interim General Manager of Planning and Engineering on March 1, 2005. His permanent appointment was effective January, 2006. Mr. Furtek is a registered Professional Engineer and holds a B.S. degree in Civil and Urban Engineering from the University of Pennsylvania. He has held a number of increasingly responsible positions since joining the Water Department in 1982, including Supervisor of the Water & Sewer Design Section and Manager of the Design Branch.

Christopher Crockett was appointed as the Water Department's Deputy Commissioner of Environmental Services on February 2, 2011 and previously served as head of the Water Department's Planning and Research Unit since 2007. He has held a number of increasingly responsible positions since joining the Water Department in 1995, primarily in research, planning, regulatory compliance, and laboratory services, and has become a nationally-known expert on many aspects of the water and stormwater industries. He holds a bachelors degree in Civil Engineering, a Masters in Environmental Engineering, and a Doctorate in Environmental Engineering from Drexel University and is also Registered Professional Engineer in Pennsylvania.

Gerald D. Leatherman was appointed Divisional Deputy City Solicitor and General Counsel to the Water Department in March, 2008. He joined the City's Law Department in 2003 serving as a Deputy City Solicitor in the Housing Code Enforcement and Neighborhood Transformation Divisions. Prior to that, Mr. Leatherman worked in the General Counsel's Office of the Philadelphia Housing Development Corporation and as a Private Practitioner. Mr. Leatherman received a Bachelor of Arts from the American University and a J.D. from Temple University Beasley School of Law.

Francis X. Meiers was appointed General Manager for Human Resources Administration in January, 2009. He holds a B.A. in Political Science from Temple University. Prior to his appointment as General Manager for Human Resources Administration, he served in the Water Department's Personnel Office where for 28 years he worked at a variety of human resources functions, most recently as the Water Department's Employee & Labor Relations Officer. In that capacity he facilitated performance management of the Water Department's workforce through supervisory and performance appraisal training, and by overseeing the Water Department's use of progressive discipline. In addition he played a central role in defending the Water Department's position during litigation resultant from the Water Department's actions related to employee and labor relations activities.

Joanne Dahme was appointed General Manager of the Public Affairs Division in January, 2009. She holds a B.C.E. degree in Civil Engineering from Villanova University and an M.J. in Journalism and a Masters in Creative Writing, both from Temple University. Ms. Dahme joined the Water Department in 1980 and served as the Manager of the Public Affairs Division from 1994 to 1999. She later served as a Watersheds Programs Manager for the Water Department's Office of Watersheds until returning to assume her current position in Public Affairs. She currently serves on the board of the Delaware Estuary Program in addition to several regional watershed planning committees.

Michelle L. Bethel was appointed Deputy Revenue Commissioner in charge of the Water Revenue Bureau in July, 2008. She holds a B.S. in Accounting with a Minor in Public Relations from Kutztown University and an M.B.A. in Human Resource Management from the University of Phoenix. Prior to her appointment as Deputy Revenue Commissioner, Ms. Bethel worked for the Commonwealth of Pennsylvania Department of Revenue in Harrisburg for 14 years. Ms. Bethel has extensive knowledge with customer service, collections, and compliance issues gained through working in increasingly responsible management positions. She also is a certified trainer.

Personnel

As of August, 2011, the Water Department employed approximately 1,918 permanent employees, of whom 1,440 are represented by District Council 33, and 236 by District Council 47, both of the American Federation of State, County and Municipal Employees. The balance (242) represents the Water Department's upper management, supervisory and senior engineering and administrative personnel who are not eligible for union membership. There are approximately 242 employees in the Water Revenue Bureau of the Revenue Department whose positions are funded by the Water Department. Union representation in the Water Revenue Bureau parallels that of the Water Department.

The City entered into collective bargaining agreements with District Councils 33 and 47, effective July 1, 2004, each of which expired on June 30, 2008. The City and each of District Council 33 and District Council 47 agreed upon contract extensions that expired on June 30, 2009. The parties have continued to operate under the expired contract terms.

Relationship to the City

The Water Department was established by the City pursuant to the Charter as one of the City's ten operating departments. As such, the Water Department reports to the Office of the Managing Director. The Water Department relies on other City departments and agencies for support of its operations. Eight departments receive a direct appropriation ("interdepartmental direct obligations") from the Water Department's operating budget at the beginning of each fiscal year to fund the support services to be rendered to the Water Department in such fiscal year. The eight departments are: the Revenue Department (Water Revenue Bureau) for meter reading, billing and collection services; the Law Department for legal services; the Department of Public Property for the rental of office space, communications and parking; the Office of Fleet Management for vehicle acquisition, fuel, and maintenance; the Department of Technology for computer support services; the Procurement Department for services related to the acquisition of goods and services; the Finance Department for fringe benefits, indemnities and support services; and to the Sinking Fund Commission for the payment of debt service.

Approximately 17 City departments and agencies, including the Revenue Department and the Department of Public Property, provide additional services to the Water Department during the year for which they are paid at the close of each fiscal year ("interfund charges"). Total interfund charges from these departments totaled $9,498,869 for Fiscal Year 2010 and $10,396,707 for Fiscal Year 2009. These additional services include purchasing of services, supplies and equipment by the Procurement Department; certain communication services by the Public Property Department; street repairs by the Streets Department; disbursements and cash management by the Director of Finance; auditing services by the Office of the City Controller; testing and hiring services from the Personnel department and Labor Relations unit and other support services provided by the Managing Director's Office, Civil Service Commission, Department of Licenses & Inspections, and the Police Department. The Water Department also charges the aviation fund through a year-end interfund charge, as discussed in the next paragraph.

The City is the largest customer of the Water Department. For Fiscal Year 2010, the City paid $24,113,187 for water, sewer, stormwater and fire connection charges and other services provided by the Water Department, which represented 4.41% of the Water Department's total revenues for that year. The Water Department also charged the City's Division of Aviation $768,056 for water, sewer, stormwater and fire connection charges and other services provided by the Water Department for Fiscal Year 2010. For Fiscal Year 2009, the City paid $21,596,137 for water, sewer, stormwater and fire connection charges and other services provided by the Water Department, which represented 3.97% of the Water Department's total revenues for that year. The Water Department also charged the City's Division of Aviation $1,610,376 for water, sewer, stormwater and fire connection charges and other services provided by the Water Department Projections in the Engineering Report include $27,262,000 in Fiscal Year 2012 and $28,756,000 in Fiscal Year 2013. City payments to the Water Fund are made as of the close of each Fiscal Year. The Fiscal Year 2012 budget includes an estimate of $26,000,000 for charges to the City's General Fund and $2,000,000 for charges to the City's Aviation Fund. The Fiscal Year 2011 budget included an estimate of $26,000,000 for charges to the City's General Fund and $2,000,000 for charges to the City's Aviation Fund.

The total interdepartmental direct obligations incurred by the Water Department for non-Water Department services for Fiscal Year 2010 were $303,803,711, including $196,717,154 in debt service and $68,542,599 in employee fringe benefits. The interfund charges from other departments totaled $9,498,869 for Fiscal Year 2010. The total interdepartmental direct obligations incurred by the Water Department for non-Water Department services for Fiscal Year 2009 were $295,905,119, including $184,253,017 in debt service and $77,710,681 in employee fringe benefits. The interfund charges from other departments totaled $10,396,707 for

Fiscal Year 2009. The Engineering Report includes interdepartmental charges of $60,012,000 (excluding debt service of $198,694,000 and fringe benefits of $85,085,000) in Fiscal Year 2012 and $62,022,000 (excluding debt service of $202,931,000 and fringe benefits of $89,302,000) in Fiscal Year 2013. The Fiscal Year 2011 budget includes an estimate of interdepartmental charges of $52,829,579 (excluding debt service of $195,044,421 and fringe benefits of $80,780,000). The Fiscal Year 2012 budget includes an estimate of interdepartmental charges of $54,570,287 (excluding debt service of $196,176,853 and fringe benefits of $95,802,000).

The Water System

The Water System provides water to the City, which comprises a service area of approximately 130 square miles. In addition, the Water Department has contracted to provide up to 35 million gallons ("MG") per day ("MGD") of water to Bucks County Water and Sewer Authority pursuant to an agreement with that authority. The population served by the Water System was approximately 1,738,000 as of the 2010 census, of which 1,526,000 individuals live in the City and 154,000 live in Bucks County. The Water Department's sales to Aqua Pennsylvania serve approximately 58,000 people in Montgomery and Delaware Counties. See "HISTORICAL AND PROJECTED FINANCIAL INFORMATION – Wholesale Contracts" herein.

The current projections on which the Engineering Report is based assume that the total population in the present service area will stabilize at approximately the levels indicated above for the remainder of this decade. As of December 2010, the Water System served 476,100 active retail customer accounts using 3,159 miles of mains and provided fire protection using approximately 25,200 fire hydrants. As of December 2010, approximately 41,750 water and/or wastewater accounts were in non-service status for a variety of reasons largely including non-payment.

The City obtains approximately 58% of its water from the Delaware River and the balance from the Schuylkill River. The City has been authorized by applicable regulatory authorities to withdraw up to 390 MGD from the Delaware River and up to 258 MGD from the Schuylkill River. The renewal of the Water Department's water allocation permits is currently being negotiated with regulatory agencies. The Pennsylvania Department of Environmental Protection ("PaDEP") has proposed reducing the Water Department's water allocations to levels that more closely reflect current actual usage. If the Water Department's allocation is reduced, existing and future wholesale water rates and costs of providing additional new water service to surrounding communities could be affected.

Water treatment is provided by the Samuel S. Baxter Plant on the Delaware River and by the Belmont and Queen Lane Plants on the Schuylkill River. The combined rated capacity of these plants under the Water Department's Partnership for Safe Water procedures is 546 MGD and their combined maximum capacity is 683 MGD. The storage capacity for treated and untreated water in the combined plant and distribution system totals 1,065.5 MG. In Fiscal Year 2010, the Water System distributed 89,242.5 MG of water at an average rate of 244.5 MGD. In Fiscal Year 2010 the maximum water production experienced by the Water System in one day was 286.2 MG and occurred on June 28, 2010.

The Wastewater System

The Wastewater System service area totals 360 square miles, of which 130 square miles are in the City and 230 square miles are in suburban areas. Service to suburban areas is provided under agreements with adjacent municipalities and municipal authorities, which generally require delivery of wastewater to the Wastewater System. The population served by the Wastewater System was approximately 2,283,000 as of the 2010 census, of which 1,526,000 individuals lived in the City and 757,000 lived in the suburbs. The current projections on which the Engineering Report is based assume that the total population in the present service area will stabilize at approximately these levels for the remainder of this decade. This was confirmed in the 2010 census, where only a minor increase in population was recorded throughout the region. As of December 2010, the

Wastewater System served 478,900 retail customer accounts. Also, as of December 2010, 35,150 Stormwater (only) accounts were created as a result of the Water Department's Stormwater Billing initiative.

The Wastewater System consists of three water pollution control plants ("WPCPs"), 21 pumping stations, approximately 3,657 miles of sewers, and a privately managed centralized biosolids handling facility. The Wastewater System includes 1,827 miles of combined sewers, 749 miles of sanitary sewers and 720 miles of stormwater conduit. The three WPCPs processed an average of 432 MGD of wastewater in calendar year 2010 and have a 522 MGD combined average daily design capacity. The Wastewater System is divided into three drainage districts, Northeast, Southeast and Southwest, respectively.

The federal Water Pollution Control Act, as amended (the "Clean Water Act"), provides for the restoration and maintenance of the chemical, physical and biological integrity of the nation's waters. To that end, the Clean Water Act establishes the National Pollution Discharge Elimination System ("NPDES"), a permit system administered by the United States Environmental Protection Agency (the "EPA") in conjunction with the states. The EPA has delegated the NPDES program for the Commonwealth to the PaDEP. The Water Department is subject to the requirements of the Clean Water Act and the conditions set forth in the NPDES applicable to each of the WPCPs. In addition, the City is subject to regulation by the PaDEP, which exercises regulatory authority over municipal sewage treatment operations, and by the Delaware River Basin Commission ("DRBC"), which exercises regulatory authority over withdrawals from and discharges into the Delaware and Schuylkill Rivers. Current NPDES permits for the Northeast, Southeast and Southwest WPCPs were issued and became effective on September 1, 2007 and are scheduled to expire August 31, 2012. These permits provide flexibility to treat additional flows resulting from efforts to control combined sewer overflows ("CSO"). PaDEP requires the Water Department to update its Combined Sewer Overflow Long Term Control Plan and Capital Improvement Program to provide additional projects that reduce CSO frequency and volume. The agreed upon Long Term Control Plan was signed on June 1, 2011 by the Water Department and DEP. See "ENVIRONMENTAL COMPLIANCE – CSO Program" herein. The Clean Water Act requires that publicly owned treatment works such as the treatment portions of the Wastewater System achieve levels of secondary treatment as defined in the Clean Water Act, or, where applicable, more stringent levels of treatment necessary to meet water quality standards established pursuant to any Commonwealth or federal law or regulation. By an order of the DRBC issued in 1969, the City is required to achieve effluent limitations, which are more stringent requirements than those needed to achieve secondary treatment levels as defined in the Clean Water Act.

In 2010, the Water Department's three Water Pollution Control Plants were selected to receive Awards from the National Association of Clean Water Agencies ("NACWA"). NACWA's Peak Performance Awards Program recognizes member agency facilities for excellence in wastewater treatment as measured by their compliance with NPDES permits. The Northeast and Southeast WPCPs were recognized with Platinum Awards. Platinum Awards pay special tribute to member agency facilities that have received Gold Awards, which recognize perfect compliance for five or more consecutive years. The Northeast and Southeast WPCPs have achieved perfect permit compliance for 6 and 11 years, respectively. In February 2010, the Southwest Plant received a violation for one NPDES parameter, which qualified the plant for a Silver award. Historically high flows in February contributed to the monthly mass loading of the CBOD 20 limit being exceeded. The Southwest plant recorded perfect compliance for the previous seven years and the Water Department does not expect such a violation to continue.

While the three WPCPs have continued their high levels of performance, the costs of operating them have been contained to approximately 3% annual increase between Fiscal Years 2000 and 2011 despite wage and energy cost increases. Currently, as part of its strategy to reduce CSO frequency and volume, the Water Department is treating a greater quantity of collected stormwater in the combined sewers that at one time was discharged to tributaries, removing pollutants at little additional cost for treatment. Optimization in the dosage of treatment chemicals, electricity use, reduced staffing levels and improved maintenance management practices have all contributed to this cost containment.

The Wastewater System has effectively and significantly improved the water quality of the Delaware River, thereby fostering both public and private development of the riverfront for commercial, residential and recreational uses.

HISTORICAL AND PROJECTED FINANCIAL INFORMATION

Historical Comparative Statement of Revenues and Expenses (Legally Enacted Basis)

The comparative statement of revenues and expenses set forth below has been derived from the financial statements of the Water Fund of the City. The City Controller has examined and expressed opinions on the basic financial statements of the City of Philadelphia contained in the City's Comprehensive Annual Financial Report for Fiscal Years 2006, 2007, 2008, 2009 and 2010 and the City of Philadelphia's basic financial statements for Fiscal Years 2009 and 2010. See also, APPENDIX IV – "CERTAIN INFORMATION CONCERNING THE CITY OF PHILADELPHIA – City Financial Procedures – Independent Audit and Opinion of the City Controller." The City Controller has not examined and expressed an opinion on the financial statements for the Water Fund contained in APPENDIX I to this Reoffering Circular or on any other financial data contained in this Reoffering Circular. Such financial statements for the Water Fund have been prepared by the Water Department and approved by the Director of Finance.

The City Controller has not participated in the preparation of this Reoffering Circular nor in the preparation of the budget estimates and projections and cash flow statements and forecasts set forth in various tables contained in this Reoffering Circular. The City Controller expresses no opinion with respect to any of the data contained in this Reoffering Circular.

For purposes of rate setting, calculating Rate Covenant compliance and debt service coverage and budgeting, the Water Fund accounts are maintained on the modified accrual basis of accounting, also referred to as the "Legally Enacted Basis." Under this basis, revenues are recorded on a receipts basis, except revenues from other governments and interest, which are accrued as earned. A 100% reserve is provided for all doubtful non-governmental receivables. With respect to governmental receivables, a 100% reserve is provided when the City has reason to believe that no appropriation has been made by other governments to finance these receivables. The Water Department does not account for payments for water and sewer service from its governmental contract customers as "revenues from other governments."

Expenditures are recognized and recorded as expenses at the time they are paid or encumbered, except expenditures for debt service and lease payments which are recorded when paid. A reserve is maintained for encumbrances at the close of the fiscal year intended to be sufficient to liquidate estimated obligations incurred in such fiscal year.

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Philadelphia Water Department
Historical Operating Results
(In Thousands)

Operating Revenues	FY06	FY07	FY08	FY09	FY10
Sales to General Customers	$408,794	$436,420	$444,814	$443,589	$460,274
Service (Sales) to Other Municipalities	$39,640	$31,529	$32,677	$33,400	$44,160
Services to Other Philadelphia Agencies (includes Fire Protection)	$29,108	$32,174	$24,334	$23,427	$24,881
Private Fire Connections	$2,057	$1,953	$1,604	$1,370	$1,593
Industrial Sewer Surcharge	$4,693	$4,754	$4,382	$4,484	$4,576
Other Operating Revenue	$1,657	$2,026	$6,663	$20,314	$13,546
Subtotals – Water	$165,223	$173,011	$174,921	$179,039	$186,670
Wastewater	$320,726	$335,845	$339,553	$347,545	$362,360
Total Operating Revenue	$485,949	$508,856	$514,474	$526,584	$549,030
Operating Expenses:					
Water	$122,226	$130,348	$148,132	$162,218	$144,535
Wastewater	$162,021	$172,788	$196,362	$215,034	$191,594
Total Operating Expenses	$284,247	$303,136	$344,494	$377,252	$336,129
Excess of Operating Revenues over Operating Expenses	$201,702	$205,720	$169,980	$149,332	$212,901
Non-Operating Revenues					
Interest on Investments	$15,877	$24,726	$85,331	$12,304	$3,802
Reimbursements - Pennsylvania Clean Streams Grant	$332	$463	$249	$401	$726
Other Non-Operating Revenues	$1,868	$2,284	$7,514	$22,907	$15,275
Total Non-Operating Revenues	$18,077	$27,473	$93,094	$35,612	$19,803
Excess of Revenues over Expenses before Interest Expenses and Principal Payments on Bonded Indebtedness	$219,779	$233,193	$263,074	$184,944	$232,704
Interest Expenses:					
General Obligation Bonds	0	0	0	0	0
Revenue Bonds	$87,789	$89,856	$82,433	$92,678	$96,770
Less: Interest Capitalized					
Bond Anticipation Notes					
Pennvest Loan	$76	$64	$53	$41	$29
Total Interest Expenses	$87,865	$89,920	$82,486	$92,719	$96,799
Excess of Revenues over Expenses Exclusive of Debt Principal Payments	$131,914	$143,273	$180,588	$92,225	$135,905
Add: Unencumbered Funds Available for Appropriation at Beginning of Fiscal Year	0	0	0	0	0
Deduct: Debt Principal Payments on Bonded Indebtedness During Fiscal Year	$78,550	$84,002	$92,501	$91,534	$100,118
Net Unapplied Project Revenues	$53,364	$59,271	$88,087	$691	$35,787
Deduct: Funds Transferred to General Fund	$4,994	$4,994	$4,994	$4,185	$2,304
Deduct: Funds Transferred to Residual Fund	$9,862	$11,330	$75,930	$14,052	$18,920
Deduct: Transferred to Renewal and Replacement Fund					
Deduct: Funds Transferred to Capital Account	$16,955	$16,988	$16,926	$17,140	$17,265
Add: Transfer from Renewal and Replacement Fund					
Transfer (TO)/FROM The Rate Stabilization Fund	-$21,553	-$25,959	$9,763	$34,686	$2,702
Unencumbered Funds Available for Appropriation at end of Fiscal Year	$0	$0	$0	$0	
Debt Service Coverage Ratio:					
Total Debt Service	1.08	1.08	1.42	1.09	1.09
Revenue Bond Debt Service	1.20	1.20	1.57	1.20	1.20

Analysis of Comparative Statement of Revenues and Expenses

Fiscal Year 2006

Revenues. Total operating revenues increased $33,900,000 primarily due to a 12.8% water and sewer rate increase effective February 1, 2005 coupled with a 1.9% increase effective on August 1, 2005. Total non-operating revenues increased $6,700,000 due to increased interest on investments.

Expenses. Total operating expenses increased $6,500,000 due primarily to a $3,100,000 increase in the cost of employee benefits, combined with a $2,700,000 increase in the purchase of services and a $1,500,000 increase in the cost of materials and supplies. These increases were partially offset by a $1,700,000 decline in the cost of equipment.

In Fiscal Year 2006, a deposit of $21,600,000 was made to the Rate Stabilization Fund. Deposits of $17,000,000 to the Capital Account and $9,900,000 to the Residual Account were made from the Water Fund Account.

Fiscal Year 2007

Revenues. Total operating revenues increased $22,900,000 primarily due to a 6.7% water and sewer rate increase effective July 1, 2006. Total non-operating revenues increased $9,400,000 due to increased interest on investments.

Expenses. Total operating expenses increased $18,900,000 due primarily to a $3,200,000 increase in purchase of services, a $2,200,000 increase in payroll services, coupled with a $9,300,000 increase in the cost of employee benefits and a $4,200,000 increase in the cost of materials and supplies.

In Fiscal Year 2007, a deposit of $26,000,000 was made to the Rate Stabilization Fund. Deposits of $17,000,000 to the Capital Account and $11,300,000 to the Residual Account were made from the Water Fund Account.

Fiscal Year 2008

Revenues. Total operating revenues increased $5,600,000 primarily due to a 4.2% water and sewer rate increase effective July 1, 2007. Total non-operating revenues increased $65,600,000 due to a transfer of funds from the Sinking Fund Reserve for the New River City Project.

Expenses. Total operating expenses increased $41,400,000 due primarily to a $14,500,000 increase in purchase of services, a $5,200,000 increase in payroll services, coupled with a $6,900,000 increase in the cost of employee benefits, a $2,000,000 increase in the cost of materials and supplies, a $2,100,000 increase in indemnities and taxes, and an increase of $10,700,000 in the net effect of the fund transfers described in the next paragraph.

In Fiscal Year 2008, a withdrawal of $9,800,000 was made from the Rate Stabilization Fund. Deposits of $16,900,000 to the Capital Account and $75,900,000 to the Residual Account, including transfers to the Special Water Infrastructure Account related to the New River City Program Sinking Fund Reserve substitution transaction in the amount of $64,325,000, were made from the Water Fund Account.

Fiscal Year 2009

Revenues. Total operating revenues increased $12,100,000 primarily due to a 7.1% water and sewer rate increase effective November 1, 2008. Total non-operating revenues decreased $57,500,000. The one-time transfer of funds from the Sinking Fund Reserve in Fiscal Year 2008 was not repeated in Fiscal Year 2009.

Expenses. Total operating expenses increased $32,800,000 due primarily to a $2,100,000 increase in purchase of services, a $5,200,000 increase in the cost of employee benefits, a $1,300,000 increase in the cost of materials and supplies, a $9,300,000 increase in debt service and an increase of $14,900,000 in the net effect of the fund transfers described in the next paragraph.

In Fiscal Year 2009, a withdrawal of $34,700,000 was made from the Rate Stabilization Fund. Deposits of $17,100,000 to the Capital Account and $14,100,000 to the Residual Account were made from the Water Fund Account.

Fiscal Year 2010

Revenues. Total operating revenues increased $22,400,000 primarily due to a 6.4% water and sewer rate increase effective July 1, 2009. Total non-operating revenues decreased $15,800,000 due to decreased interest on investments.

Expenses. Total operating expenses decreased $41,100,000 due primarily to a $14,000,000 decrease in employee related expenses, including fringe benefits and a decrease of $37,000,000 in the net effect of the fund transfers described in the next paragraph. These decreases were offset by a $12,700,000 increase in required debt service payments.

In Fiscal Year 2010, a withdrawal of $2,700,000 was made from the Rate Stabilization Fund. In Fiscal Year 2009, a withdrawal of $34,700,000 was made from the Rate Stabilization Fund, which represents a decrease of $32,000,000.

Fiscal Year 2011

The Department's Fiscal Year 2011 ended on June 30, 2011. Final end of year results are not yet available; however, preliminary end of year projections indicate a final revenue level of approximately $574 million, a final expense level of approximately $596 million and a total of approximately $22 million in liquidated obligations for prior years. A Rate Stabilization fund deposit of $13 million is also projected.

Fiscal Year 2012 Budget

The Charter requires City Council to adopt a balanced operating budget for the fiscal year on or before May 31 of each year. The Mayor's operating budget is developed from proposed budgets submitted by the various City departments, including the Water Department. The Water Department began preparation of its operating budget for Fiscal Year 2012 in October 2010, when all divisions were supplied with documentation to complete and return to the Finance Division reflecting their budgetary requests for the next fiscal year. The Water Department has developed and installed a computerized budgeting system to enable each division to prepare budget requests based on historical and current operating experiences. Divisional budget proposals setting forth estimated obligations for the ensuing fiscal year were submitted to the Finance Division in November 2010. Revenue estimates are prepared by the Water Revenue Bureau under the direction of the City's Finance Department and the Water Department. The Water Commissioner reviewed all divisional budget proposals and the Water Revenue Bureau's budget with the assistance of the Finance Division and submitted the Water Department's proposed budget to the City's Budget Bureau and the City's Managing Director in December 2010. The Mayor reviewed and approved the Water Department's 2012 Operating Budget and included it as part of his proposed budget to City Council, which was presented to City Council on March 19, 2011. City Council approved the proposed budget on May 20, 2011.

The operating budget reflected projected revenue (including prior year liquidations) and expense levels of $660,240,000, including a projected Rate Stabilization Fund withdrawal of $42,005,000. These projections included debt service of $196,177,000. The projections indicate the Water Department will be in compliance with all of its coverage requirements. The Engineering Report projects a Rate Stabilization Fund withdrawal of

$8,600,000 for Fiscal Year 2011 and $24,305,000 for Fiscal Year 2012 and that the Water Department will be in compliance with all of its coverage requirements for Fiscal Year 2012.

Compliance with Rate Covenants

In Fiscal Years 2006, 2007, 2008, 2009 and 2010 the Water Department met bond coverage requirements with a revenue bond debt coverage ratio of at least 1.20 each year, and a total debt service coverage ratio of at least 1.08 each year. Net revenues after operating expenses exceeded the amounts necessary to manage senior debt service coverage requirements resulting in deposits to the Rate Stabilization Fund totaling $21,553,000 in Fiscal Year 2006 and $25,959,000 in Fiscal Year 2007. Senior debt coverage requirements for Fiscal Years 2008, 2009 and 2010 resulted in draw downs of funds from the Rate Stabilization Fund of $9,763,000 , $34,686,000 and $2,702,000 respectively.

The General Ordinance mandates a debt service coverage ratio of at least 1.20 for revenue bond debt service and at least 1.00 for total debt service. All Water Fund expenditures are included in the coverage formula under the General Ordinance. The Water Department uses the Rate Stabilization Fund to manage coverage to 1.20 each year, with any revenue which would raise coverage over 1.20 deposited into the Rate Stabilization Fund.

For a summary of revenues, expenses and debt service coverages for Fiscal Years 2004 through 2010, see "HISTORICAL COMPARATIVE STATEMENT OF REVENUES AND EXPENSES (LEGALLY ENACTED BASIS) – Analysis of Comparative Statement of Revenues and Expenses" herein. For a discussion of the Rate Covenant contained in the General Ordinance, see "SECURITY FOR THE BONDS – Rate Covenant" herein.

Compliance with Insurance Covenants

The Water Department has also met the additional rate covenants contained in its insurance agreements with AGM described herein under "SECURITY FOR THE BONDS – Insurance Covenants" for each of the Fiscal Years such covenants have been in effect. Please refer to the tables below for an illustration of historical and projected continued compliance.

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Philadelphia Water Department
Historical Operating Results
(In Thousands)

	FY04	FY05	FY06	FY07	FY08	FY09	FY10
Excess of Revenues over Expenses before Interest Expenses and Principal Payments on Bonded Indebtedness	$159,569	$185,757	$219,779	$233,193	$263,074	$184,944	$232,704
Transfer (TO)/FROM The Rate Stabilization Fund	$28,779	$628	($21,553)	($25,959)	$9,763	$34,686	$2,702
Net Revenues including Rate Stabilization Fund	$188,348	$186,385	$198,226	$207,234	$272,837	$219,630	$235,406
Net Revenues excluding Rate Stabilization Fund	$159,569	$185,757	$198,226	$207,234	$263,074	$184,944	$232,704
Revenue Bond Debt Service **	$156,973	$155,320	$165,189	$172,696	$173,759	$183,026	$195,690
Ratio (minimum 90%)	102%	120%	120%	120%	151%	101%	119%

Note: For Fiscal periods where there was a Rate Stabilization Fund deposit, this amount was excluded from net revenues for calculation of compliance with the 90% test.

Projected Revenues, Expenses and Debt Service

Black & Veatch Corporation has been retained by the Water Department to provide an updated engineering assessment of the current condition, use and maintenance of the Water and Wastewater Systems.

The following table, prepared by Black & Veatch Corporation, presents a statement of projected revenues and revenue requirements for Water and Wastewater Systems operations for Fiscal Year 2011 through Fiscal Year 2017, consistent with the requirements of the General Ordinance.

See APPENDIX VIII – "ENGINEERING REPORT OF BLACK & VEATCH" herein for the full text of the Engineering Report prepared by Black & Veatch Corporation, updated as of June 3, 2011.

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PROJECTED REVENUE AND REVENUE REQUIREMENTS
(in thousands of dollars)

Line No.	Description			2011	2012	2013	2014	2015	2016	2017
				Fiscal Year Ending June 30,						
	OPERATING REVENUE									
1	Water Service - Existing Rates			215,669	216,681	214,586	212,037	209,478	207,739	206,081
2	Wastewater Service - Existing Rates			325,812	324,952	322,982	320,904	318,827	317,381	315,765
3	Total Service Revenue - Existing Rates			541,481	541,633	537,568	532,941	528,305	525,120	521,846
	Additional Service Revenue Required									
	Year	Percent Increase	Months Effective							
4	FY 2012	3.90%	12		21,124	20,965	20,785	20,604	20,480	20,352
5	FY 2013	6.40%	6			17,873	35,438	35,130	34,918	34,701
6	FY 2014	6.40%	12				37,706	37,378	37,153	36,922
7	FY 2015	6.40%	12					39,771	39,531	39,285
8	FY 2016	6.40%	12						42,061	41,799
9	FY 2017	2.50%	12							17,373
10	Total Additional Service Revenue Required			0	21,124	38,838	93,929	132,883	174,143	190,432
11	Total Water & Wastewater Service Revenue			541,481	562,757	576,406	626,870	661,188	699,263	712,278
12	Transfer From/(To) Rate Stabilization Fund			8,600	24,305	35,935	13,875	10,815	9,655	(3,160)
	Other Income (a)									
13	Other Operating Revenue			25,629	25,342	24,729	24,118	23,506	22,934	22,857
14	Construction Fund Interest Income			2,000	3,657	3,213	2,976	4,517	4,605	1,586
15	Debt Reserve Fund Interest Income			1,319	1,789	2,194	2,652	3,359	4,064	4,643
16	Operating Fund Interest Income			692	864	1,051	1,238	1,415	1,614	1,772
17	Rate Stabilization Interest Income			1,421	1,572	1,433	1,234	1,163	1,077	1,116
18	Total Revenues			581,142	620,286	644,961	672,963	705,963	743,212	741,092
	OPERATING EXPENSES									
19	Water & Wastewater Operations			300,512	323,060	339,418	354,496	370,335	386,982	404,484
20	Direct Interdepartmental Charges			56,623	60,012	62,022	64,103	66,257	68,487	70,796
21	Total Operating Expenses			357,135	383,072	401,440	418,599	436,592	455,469	475,280
22	**NET REVENUES AFTER OPERATIONS**			224,007	237,214	243,521	254,364	269,371	287,743	265,812
	DEBT SERVICE									
	Senior Debt Service									
	Revenue Bonds									
23	Outstanding Bonds			181,574	181,280	184,295	184,667	184,836	185,144	123,083
24	Pennvest Parity Bonds			681	1,525	2,114	10,780	11,116	11,116	11,116
25	Projected Future Bonds			4,411	14,866	16,522	16,521	28,519	43,521	87,308
26	Total Senior Debt Service			186,666	197,671	202,931	211,968	224,471	239,781	221,507
27	**TOTAL SENIOR DEBT SERVICE COVERAGE (L22/L26)**			1.20x	1.20x	1.20x	1.20x	1.20x	1.20x	1.20x
	Subordinate Debt Service									
28	Outstanding General Obligation Bonds			0	0	0	0	0	0	0
29	Pennvest Subordinate Bonds			1,227	1,022	0	0	0	0	0
30	Total Subordinate Debt Service			1,227	1,022	0	0	0	0	0
31	Total Debt Service on Bonds			187,893	198,694	202,931	211,968	224,471	239,781	221,507
32	**CAPITAL ACCOUNT DEPOSIT**			18,113	18,475	18,845	19,223	19,606	19,999	20,398
33	**TOTAL COVERAGE (L22/(L31+L32))**			1.08x	1.09x	1.09x	1.10x	1.10x	1.10x	1.09x
	RESIDUAL FUND									
34	Beginning of Year Balance			20,889	10,874	10,461	10,191	10,535	10,469	10,368
35	Interest Income (b)			447	181	30	4	0	0	22
	Plus:									
36	End of Year Revenue Fund Balance			16,682	18,256	19,550	20,521	21,935	23,899	19,264
37	Deposit for Transfer to City General Fund (c)			1,319	1,789	2,194	2,652	3,359	4,064	4,643
	Less:									
38	Transfer to Construction Fund			22,000	16,000	17,000	20,000	22,000	24,000	19,000
39	Transfer to City General Fund			1,319	1,789	2,194	2,652	3,359	4,064	4,643
40	Transfer to Debt Service Reserve Fund			5,143	2,851	2,851	181	0	0	0
41	End of Year Balance			10,874	10,461	10,191	10,535	10,469	10,368	10,654
	RATE STABILIZATION FUND									
42	Beginning of Year Balance			145,693	137,093	112,788	76,853	62,978	52,163	42,508
43	Deposit From/(To) Revenue Fund			(8,600)	(24,305)	(35,935)	(13,875)	(10,815)	(9,655)	3,160
44	End of Year Balance			137,093	112,788	76,853	62,978	52,163	42,508	45,668

(a) Includes other operating and nonoperating income, including interest income on funds and accounts transferable to the Revenue Fund.
(b) Includes interest earnings on Debt Service Reserve substitution funds deposited in the Special Water Infrastructure Account.
(c) Transfer of interest earnings from the Bond Reserve Account must first go to the Residual Fund as shown in Line 37 to satisfy the requirements for the Transfer to the City General Fund.

The City has covenanted in the General Ordinance that it has authorized the imposition of rates and charges by the Water Department sufficient to comply with the Rate Covenant and that it will not repeal or materially adversely dilute or impair such authorization. See APPENDIX III – "CERTAIN INFORMATION CONCERNING THE CITY OF PHILADELPHIA."

The Philadelphia Code requires the Water Department to give written notice to City Council at least 30 days in advance of the filing of notice of any proposed change in water or sewer rates or charges and to submit with such written notice financial, engineering and other data upon which the proposed changes are based. After the filing of the proposed regulations providing for changes in rates or charges with the City's Department of Records, the Department of Records is required to give public notice that the regulations have been filed and that any person affected by the proposed regulations may request a public hearing before the Water Department and the City Solicitor. Revised rates and charges become effective ten days after filing of a decision by the Water Commissioner at the conclusion of hearings or at any time thereafter, at the Commissioner's discretion.

In August 1992, the Water Department adopted Water Regulation 74 and Sewer Regulation 17, (currently codified in Philadelphia Water Department Regulation §§ 301.1 through 301.9), governing the change of water and sewer rates and charges. These regulations provide for appointment of a Hearing Officer, enumeration of the duties of the Hearing Officer, provision of a time frame for various elements of the rate change process, establishment of rules and guidelines for public hearings on proposed rate changes and advertisement thereof, compilation of a hearing record, the Hearing Officer's report and the Water Commissioner's Rate Determination.

Current Rate Structure

The water rate for a general service customer of the City consists of a service charge related to the size of the meter, plus a schedule of quantity charges for all water use. The sewer rate is similar in form. On October 21, 2008, the Water Commissioner's Rate Determination directed that there be a 7.1 percent, or a $3.49 monthly increase starting November 1, 2008, 6.4 percent or a $3.40 monthly increase starting July 1, 2009; 5.7 percent or a $3.20 monthly increase starting July 1, 2010, and a 5.9 percent or a $3.49 monthly increase starting July 1, 2011 (in each case the dollar increase is shown for typical customers with a 5/8 inch meter using 700 cubic feet or 5,236 gallons monthly). Similar increases were directed for other customers. This followed a 4.22% rate increase, effective July 1, 2007. Hearings on the proposed rates were held during the summer of 2008, with written briefs, exceptions and the Hearing Officer's report. Increases in fire connection and other charges are also included in each of the above noted rate changes.

The Water Department filed a notice of request for new rates for Fiscal Year 2009 through Fiscal Year 2012 with City Council on April 4, 2008. The rate request was filed with the Department of Records on May 5, 2008. In accordance with the regulations, a hearing examiner and public advocate were appointed. Public hearings were held from July 21 to July 31 and technical hearings were held during the week of August 11, 2008. The Department also proposed to change the way it charges customers for stormwater management services, which concluded with the Water Commissioner's decision of July 21, 2009 and the institution of new stormwater rates and charges, effective July 1, 2010.

The Water Department estimates that a typical customer has a 5/8 inch meter and uses 8,400 cubic feet of water per year, which, based on the current rate schedule, results in an annual charge of $352.44 for water service, $238.92 for wastewater service and $163.92 for stormwater service, for a total of $755.28 per year.

In addition to charges for general service customers, which are based on metered water consumption, the Water Department charges the City for water and wastewater service provided to City properties and the cost of the standard pressure public fire protection. Private protection also is billed at a flat rate varying with the size of the connection. The City is the largest customer of the Water Department. For Fiscal Year 2010, the City paid $24,113,187 for water, sewer, stormwater and fire connection charges and other services provided by the Water Department, which represented 4.41% of the Water Department's total revenues for that year. The Water

Department also charged the City's Department of Aviation $768,056 for water, sewer, stormwater and fire connection charges and other services provided by the Water Department in Fiscal Year 2010. For Fiscal Year 2009, the City paid $21,596,137 for water, sewer, stormwater and fire connection charges and other services provided by the Water Department, which represented 3.97% of the Water Department's total revenues for that year. The Water Department also charged the City's Division of Aviation $1,610,376 for water, sewer, stormwater and fire connection charges and other services provided by the Water Department. Projections in the Engineering Report include City payments of $27,262,000 in Fiscal Year 2012 and $28,756,000 in Fiscal Year 2013. City payments to the Water Fund are made as of the close of each Fiscal Year. The Fiscal Year 2012 budget includes an estimate of $26,000,000 for charges to the City's General Fund and $2,000,000 for charges to the City's Aviation Fund. The Fiscal Year 2011 budget included an estimate of $26,000,000 for charges to the City's General Fund and $2,000,000 for charges to the City's Aviation Fund. See APPENDIX IV – "CERTAIN INFORMATION CONCERNING THE CITY OF PHILADELPHIA."

Historical Rates

The table below shows historical monthly water and sewer rates, based, in each case, on a typical general service customer with a 5/8 inch meter using 700 cubic feet or 5,236 gallons per month.

Philadelphia Water Department
Monthly Water and Sewer Rate Charges

Effective Date	Water	Sewer	Total	Percentage Increase
07/01/1993	$10.61	$23.52	$34.13	N/A
07/01/1994	10.86	24.06	34.92	2.3%
07/01/1995	11.20	24.80	36.00	3.1
09/04/2001	12.16	24.77	36.93	2.6
07/01/2002	13.75	24.48	38.23	3.5
07/01/2003	15.06	23.60	38.66	1.1
02/01/2005	17.63	25.94	43.57	12.7
08/01/2005	18.06	26.32	44.38	1.9
07/01/2006	19.41	27.94	47.35	6.7
07/01/2007	20.36	28.99	49.35	4.2
11/01/2008	22.29	30.55	52.84	7.1
07/01/2009	24.56	31.68	56.24	6.4
07/01/2010	26.84	32.60	59.44	5.7
07/01/2011	29.37	33.57	62.94	5.9

Billing, Collections and Bookkeeping

Under the Charter, the Water Revenue Bureau is directly responsible for the billing, metering and collection of revenues for the Water Fund. The Water Revenue Bureau is part of the City's Revenue Department, which comes under the direction of the Finance Director. Since February 2003, oversight of the Water Revenue Bureau has been under the City's Revenue Commissioner, who reports directly to the Finance Director. Over the years, the Water Department and the Water Revenue Bureau have developed a close level of cooperation, which is expected to continue regardless of the reporting structure.

In the early 1990s, the Water Revenue Bureau began using outside collection agencies to collect unpaid revenues. The collection agencies' responsibilities include the implementation of the Utility Services Tenant's Rights Act ("USTRA"), which enables the Water Revenue Bureau to collect payments directly from the tenants when landlords refuse to pay. Collection agencies generated $4,000,000 in Fiscal Year 2009, $2,100,000 in Fiscal Year 2010 and $2,600,000 in Fiscal Year 2011. Collection agencies are also being utilized to collect on commercial delinquencies.

The Water Department is currently obligated to adhere to a strict moratorium on residential water service shut-offs from December 1 to March 31. A recently enacted ordinance further restricts the Water Department's ability to pursue customer payment and prohibits the termination of water service on holidays, Fridays and weekends throughout the year. The Water Department currently has a thorough process for customer notification prior to any shut-off activity that includes multiple mailed warnings to properties scheduled for termination of water service unless the customer makes full payment or enters into a payment agreement with the Water Revenue Bureau. The last action that the Water Department wishes to take is the shut-off of a water service.

During Fiscal Year 2009 the Water Department received and serviced 59,366 accounts for water service termination. Of these 29,950 were either shut off or were found off. The Water Department also restored service to 21,807 accounts and termination was cancelled on an additional 26,350 accounts. Approximately $3,900,000 was collected as part of the shut-off process. During Fiscal Year 2010, 59,457 accounts were referred for shut off. Of these 29,950 were either shut off or were found off. The Water Department also restored service to approximately 14,000 accounts and collected almost $3,900,000 as part of its shut-off process. During Fiscal Year 2011, 68,588 accounts were referred for shut-off. Of these 35,520 were either shut off or were found off. The Water Department also restored service to approximately 14,000 accounts and collected almost $5,300,000 as part of its shut-off process.

The City is required to maintain accounts receivable on its books for at least fifteen years. After that time, a panel determines what receivable, if any, should be written off. An allowance for doubtful accounts is provided for in the Water Department's financial statements for any receivables for which collection is unlikely. The City utilizes many methods to enforce collections of delinquent receivables including the termination of service, the filing and enforcement of property liens, legal proceedings with municipal courts and the Commonwealth Court, and Sheriff sales. Ultimately, Water Revenue Bureau has been able to collect in excess of 97.6% of all amounts due to the Water Department. The Water Fund accounts receivable balance also contains payment due by all City agencies (which pay balances once per year), and revenues outstanding from the City's sister agencies such as the Philadelphia Housing Authority and the Redevelopment Authority.

In January 2008, the Water Department instituted a new billing system called Basis 2. This system enhances the Water Department's ability to track customer billing history and to automatically flag delinquent accounts. Moving forward, the Water Department and the Water Revenue Bureau plan to improve their integration of systems for early notification of billing delinquency with the Water Department's enforcement shut-off unit. They have already initiated a termination of service procedure for delinquent government-owned properties. The Water Revenue Bureau has a "water only" Sheriff sale initiative whereby properties with high water delinquencies are identified for Sheriff sales. The Water Department and Water Revenue Bureau are also collaborating to improve the collection of third party accounts receivable and have implemented procedures for follow-up notices, the payment of most permit fees in advance and denial of new permits to delinquent contractors.

Over the past few years the Water Department has slowly expanded the acceptance of credit cards and other forms of electronic payment. On-line credit card payments have steadily increased and are now over $2,000,000 monthly for commercial and residential accounts. The Water Department also has been accepting credit cards on-site as an alternative to the on-site discontinuance of service and plans to expand the types of electronic payments accepted.

Automatic Meter Reading

In September 1997, the Water Department and the Water Revenue Bureau began the implementation of the Automatic Meter Reading Program (the "AMR Program") involving the replacement of all residential water meters with new meters equipped with radio transmitter meter reading devices ("ERT"). The AMR Program is the largest and most significant municipal water automatic meter reading endeavor to be implemented in the country. Installation commenced on schedule on September 11, 1997. By July 31, 2011, more than 492,912 new meters had been installed. This program has greatly improved the accuracy of billing and has resulted in fewer billing disputes, which has had a positive effect on customer service and collections. In addition to the increased revenue that results from such billing program improvements, the AMR Program significantly reduced the costs of meter reading and related support. Today, more than 99.5% of the Water Department's customers have AMR meters, drastically improving the Department's ability to initiate and enforce collection of delinquent accounts. The Water Department's AMR vendor ITRON has also begun the process of a wholesale battery replacement. The department is also working on the purchase and installation of upgraded AMR devices for all commercial customers that have ERTs.

Wholesale Contracts

The Water Department has two wholesale contracts to sell water to the Bucks County Water and Sewer Authority (the "BCWSA") and to Aqua Pennsylvania. Charges for metered water service to the BCWSA were set under a contract based on the recovery of operating costs and certain capital costs allocated to the BCWSA. In Fiscal Year 2008 and 2009, the Water Department received payments of $4,387,170, and $5,620,823, respectively for water service rendered to the BCWSA. Payments for fiscal Year 2010 and 2011 were $5,777,578 and $6,481,920, respectively. The contract for water service to the BCWSA expired on March 15, 2011, and a new six year contract was signed and executed in May 2011. For more information about this new contract see the section below, "Water Contract with the Bucks County Water and Sewer Authority." Sales to Aqua Pennsylvania (AP) generated total annual revenue of $3,445,684 in Fiscal 2011, $3,200,800 in Fiscal Year 2010, $3,064,858 in Fiscal Year 2009, and $3,106,352 in Fiscal Year 2008.

Contracts for wastewater treatment service with ten neighboring municipalities and authorities provide for the billing of charges based on operating costs attributable to the volume and strength of the wastewater received from each of these customers. Capital costs for wholesale wastewater customers are recovered by one of two different methods - four contract customers are billed monthly for depreciation and return on investment on allocated wastewater conveyance and treatment facilities, while four contracting entities have made, and continue to make, capital contributions to the Water Department for their allocated share of the investment in facilities related to the provision of service to these customers. The remaining two wholesale customers previously made capital contributions but have been converted to paying based on depreciation and return on investment for all future capital investments. Fiscal Year 2007 payments totaled $27,343,277 for all ten wholesale wastewater customers. Revenues for Fiscal Year 2008 were $28,630,133; Fiscal Year 2009 revenues were $29,950,733; Fiscal Year 2010 revenues were $34,069,431, and Fiscal Year 2011 revenues were $31,951,036. Total capital contributions from wholesale wastewater customers received by the Water Department as of June 30, 2011 are $116,088,084.

<u>Aqua Pennsylvania</u>. On June 29, 2000, the Water Department entered into a contract with the Philadelphia Suburban Water Company (which, as the result of a recent merger, is now Aqua Pennsylvania-AP) under which the Water Department agreed to provide wholesale water service through March 1, 2026. This agreement provides for service through two interconnections – one in Tinicum Township, Delaware County and another in Cheltenham Township, Montgomery County. The Tinicum interconnection allows for an average daily draw of 3.705 MGD and maximum daily demand of 7.0 MGD, and became operational in November, 2001. The Cheltenham interconnection allows for an average daily draw of 2.0 MGD and a maximum daily demand of 2.5 MGD. This interconnection was activated in 2002.

The Department has also had several preliminary discussions with Aqua Pennsylvania regarding the possibility of additional wholesale water sales at other interconnection points with their systems. In addition the Water Department and AP are discussing the transfer of approximately 170 Water Department customer accounts to AP and the sale of the associated water mains to AP in a very small section of Springfield Township. Given the modest revenue generated from these customers, the advanced age of the water mains, and the operational difficulties of working in another jurisdiction, the Water Department believes it would be advantageous to transfer these customers to AP.

Bucks County Water and Sewer Authority. On March 15, 2011, the 45-year wholesale water agreement between the Water Department and the BCWSA expired, and a new six-year contract with BCWSA was executed on May 18, 2011. The new contract institutes a 12% management fee and phases in a new rate methodology over the term of the contract. The new methodology is based on the cost of service on a system-wide basis as opposed to just the part of the water system that directly serves BCWSA. This is similar to method used for the Aqua Pennsylvania contract.

The Water Department and the BCWSA executed an amendment to their 1988 agreement on May 18, 2011, which resolved the BCWSA's previous challenges to the Water Department's rate methodology and required clarification of the use of the existing rate methodology in future rate studies as part of the new six-year water contract.

Lower Southampton Township. The Water Department executed a new agreement with Lower Southampton Township in June 2010 that ended the Township's on-going capital contributions as of December 31, 2009 (including all accumulated charges for the PC-30 sewer) and implemented an increasing annual charge for depreciation and return on investment on new capital projects begun after January 1, 2010. The new agreement provided an initial payment of $863,111 and a restructuring of capital payments to the Water Department, as well as an increased management fee of 12% on the Township's future wastewater billings.

Delaware County Regional Water Quality Control Authority. The Water Department has been serving the Delaware County Regional Water Quality Control Authority ("DELCORA") under a thirty year agreement to provide 50 MGD of wastewater treatment capacity at its Southwest Water Pollution Control Plant. Fiscal Years 2008 and 2009 revenues under this agreement were approximately $9,200,000 and $7,700,000, respectively. Fiscal Years 2010 and 2011 revenues were approximately $8,300,000 and $8,900,000, respectively. In mid-2006 the Water Department and DELCORA extended their long-term wastewater agreement. which expired on July 25, 2011. The Water Department and DELCORA are currently negotiating a new two-year contract which will increase their management fee to 12%, maintain their contractual flow limits at current levels, and re-structure their exceedance charges for any exceedances in flows or pollutant loadings.

Lower Moreland Township. Lower Moreland Township also exceeded its contractual instantaneous flow limit and has clearly indicated its willingness to participate in the Water Department capital project to eliminate effluent violations at the PC-30 location. A new contract to codify the Lower Moreland Township's obligations in this project as well as increases in Lower Moreland Township's relatively small contractual flows was completed in 2007.

Springfield Township. Springfield Township, Montgomery County, has exceeded its contractual limits for the delivery of both biochemical oxygen demand and suspended solids. Springfield Township has been notified of the Water Department's need to significantly amend the current agreement or replace it with a new agreement.

Cheltenham Township. In June 2010, Cheltenham Township and the Water Department entered into an agreement for a new five year term, which provides for a 12% management fee on the Township's future wastewater billings.

Changes in Rates and Charges for Stormwater Management Services

The Water Department filed a notice of request for new rates for Fiscal Year 2009 through Fiscal Year 2012 with City Council on April 4, 2008. See "HISTORICAL AND PROJECTED FINANCIAL INFORMATION – Current Rate Structure" herein. New stormwater rates and charges became effective on July 1, 2010 (Fiscal Year 2011), and are being phased in over a four year period.

The City's cost of stormwater management has been steadily and significantly increasing. As the City's stormwater management costs increase, it becomes more important to recover the costs of management on a basis that is the most fair and reasonable to all properties that place a demand on the sewer systems. Over a decade ago, the Water Department convened a Citizens Advisory Group ("CAG") to recommend to the City a more equitable stormwater charge methodology. After a two year deliberation, CAG came to a consensus and recommended that the Water Department transition from a meter-based stormwater management charge to one that was based on a property or parcel's gross area and impervious area. At the time, the Water Department was unable to implement this recommendation due to technological limitations. Today, the City has the information systems necessary to develop a more equitable program and the Water Department has designed a new parcel area based stormwater charge consistent with the principles recommended by CAG.

For many years, the Water Department has recovered the costs of operation and maintenance of its stormwater system components (pipes, storm drains, pump stations, treatment facilities, and billing) through a service charge related to customers' water meter size. This method was considered a reasonable means to approximate the contribution of stormwater runoff from a property. Properties with larger water meters usually also have large impervious area (land covered by asphalt, pavement and structures which generate runoff). Many other utilities use meter sizes or a combination of meters and measured volume to allocate the cost responsibility among customers for stormwater runoff and infiltration/inflow volume conveyed to the sewer system. Most municipalities do not finance stormwater operations through dedicated stormwater user fee revenues, and instead finance stormwater operations through their General Fund revenues.

Residential properties are currently charged for stormwater collection and treatment in the amount of $11.06 plus a billing and collection charge of $2.60 for a combined charge of $13.66 monthly as part of the monthly service charge. This charge is currently based upon the weighted average residential parcel gross and impervious area of a residential property, is currently still associated with the standard 5/8-inch residential meter.

Beginning in Fiscal Year 2011, all residential properties, regardless of meter size, were assessed a separate service charge for stormwater management services and related billing and collection costs. The current meter based stormwater charge component has been removed from the wastewater service charge portion of their bill.

All non-residential properties are being transitioned from a meter based charge to a charge based on gross and impervious area for stormwater charges across its entire customer base over a four-year period, which began on July 1, 2010. This transition will result in more equitable stormwater charges that closely match the cost of managing stormwater runoff from each property. Current calculations show that the majority of large meter customers will see a reduction or otherwise minor impact on the stormwater component of their water and sewer bills. For those customers that will see noticeable increases in their stormwater fees, the Water Department is working to identify opportunities to reduce the stormwater runoff from the properties through the use of best management practices, and thus decrease their stormwater fees.

The Water Department is also assessing properties that do not presently have water or sewer accounts for stormwater management. These parcels generate stormwater runoff that is managed by the City and therefore should be reasonably charged for such service. Such previous non-customers include parking lots, utility right-of-ways and vacant land. Charges to these parcels began with the four-year phase-in plan that commenced in Fiscal Year 2011. Currently, 35,150 new parcels are billed for these charges.

CAG also encouraged the City to provide a mechanism for customers to ease the burden of property based stormwater charges. The Water Department has included a stormwater credit process as part of the new stormwater rates. Customers who have the ability to decrease the amount of directly connected impervious area (hard surfaces that direct runoff to the City's sewer system) on their property may do so using any number of stormwater management practices (rain gardens, infiltration islands, porous asphalt and sidewalks, vegetated swales, green roofs) and may apply for applicable stormwater credits. The Water Department reviews the stormwater credit request, and based on the stormwater credit program regulations, re-evaluates stormwater charges for that property.

Since the July 2010 implementation of the new stormwater parcel based fee, a number of other programs have been instituted to address non-residential customer concerns, including:

- A new Customer Advisory Council has been formed to review the department's regulations involving credits, incentives and other options to mitigate the high cost to a small group of impacted customers.

- The development of the Stormwater Management Incentives Program ("SMIP") which provides low interest loans to customers who meet selective criteria to invest in the design and implementation of a stormwater management practice that meets the department's Clean Water Act permit requirements and that will provide the customer with a stormwater credit.

- A temporary Stormwater Assistance Phase-in Program ("SWAPP") that caps non-residential customers who see more than a 10% increase of more than $100 in their monthly bill between their Fiscal Year 2011 and Fiscal Year 2012 monthly stormwater fees. This program is in place for Fiscal Year 2012 with the option for the department to renew it in Fiscal Year 2013.

- The Water Department was also authorized as part of the Fiscal Year 2012 budget to investigate the possibility of expanding the SMIP to include a grant component. Preliminary administrative work on this program is ongoing.

- In June 2011, City Council amended the City Code to allow for the billing of parcel-based stormwater charges for properties that had previously obtained a discontinuance ("d") permit. This action allows the Water Department to bill previously exempted properties for stormwater services. The department is in the process of providing official notice to these properties to begin billing and collection, which will result in approximately 21,000 additional accounts.

CAPITAL IMPROVEMENT PROGRAM

The Charter requires the City Council to adopt annually, on or prior to May 31, a capital budget for the ensuing fiscal year and a capital program showing the capital expenditures planned for that year and each of the five ensuing fiscal years. See "HISTORICAL AND PROJECTED FINANCIAL INFORMATION – Analysis of Comparative Statement of Revenues and Expenses." The Capital Improvement Program of the Water Department for Fiscal Years 2012 through 2017 and the Water Department's 2012 capital budget are described below. Expenditures have been approved by City Council as part of the City's capital program and capital budget, except as noted below. Additionally, the City may change the elements of the Capital Improvement Program from time to time and may change the proposed financing schedule reflected in the Capital Improvement Program.

The Water Department's Operations and Planning and Engineering Division is continuing to implement improvements to the Water Department's capital program planning process to better anticipate future needs for the infrastructure maintenance and upgrades in an evolving regulatory environment. To that end, the Water Department is in its sixth year of the sewer assessment program, evaluating the Water Department's collector systems infrastructure. This project includes cleaning and video inspection of approximately 60 miles of the sewer system per year. This information is used to evaluate the current Collector System Capital Program and make recommendations for changes accordingly.

Another capital program initiative includes a second generation of the Water Department's capital program information system. The computerized system is browser based using state of the art computer technology to track and schedule the Water Department's Capital Program. This system links numerous Water Department programs and databases including the Geographic Information System, the Water Main Break database, the vender payment system, and the plant maintenance management system. As a result of the implementation of ERV (Engineering Records Viewer), the Water Department and selected managers from other departments can access, at their workstation, all record drawings, as-builts, and historic information pertaining to a specific section of the City, block, or project, electronically. The system was built for long-term use through open architecture design, expandability, and programming flexibility. The Water Department has expanded the preventive and predictive maintenance management system to all seven treatment plants, initiated new procedures to plan and track long-term capital projects within the treatment plants, and improved communication through reporting capabilities and tracking of projects between the Operations and Planning and Engineering Divisions. Through these initiatives and capital planning tools, both the level and volatility of the Water Department's long-term capital expenditures can be managed more cost-effectively.

The following table sets forth major elements of the Water Department's adopted Capital Improvement Program for Fiscal Years 2012 through 2017.

Fiscal Years 2012-2017
Capital Improvement Program
(In Dollars)

Capital Budget Summary	2012	2012-2017
Collector System/CSO/Flood Relief	**$83,860,000**	**$591,290,000**
Conveyance System	**22,610,000**	**155,460,000**
Engineering, Administration & Material Support	**29,774,000**	**193,811,000**
Treatment Facilities	**51,341,000**	**391,902,000**
Totals	**$187,585,000**	**$1,332,463,000**

Development of Fiscal Year 2012 Capital Budget

The Charter requires City Council to adopt a balanced capital budget for the fiscal year on or before May 31 of each year. The Water Department has developed and installed a computerized budgeting system to enable each division to prepare budget requests based on historical and current experience. The Water Department began preparation of its capital budget for Fiscal Year 2012 in October 2010. The proposed budget was approved by the City Planning Commission and the Mayor's office and was included in the City budget and five-year financial plan presented to City Council on March 22, 2011. City Council approved the Fiscal Year 2012 capital budget in June 2011.

Future Financings

Approximately 77% of the costs of the Capital Improvement Program are expected to be funded with the proceeds of debt to be incurred during Fiscal Years 2012 through 2017. The City expects most of such debt to be in the form of Water and Wastewater Revenue Bonds issued under the Act and the General Ordinance. Any additional grants or loans received by the Water Department from Pennvest or other agencies will reduce the amount of future Water and Wastewater Revenue Bonds to be issued.

The current financial plan anticipates the issuance of new money bonds in several transactions as necessary to fund the approved Capital Improvement Program. The City expects to issue up to $135,000,000 principal amount of bonds in the Fall of 2011 under the Twelfth Supplemental Ordinance pursuant to remaining authorizations therein. The emphasis of the Capital Improvement Program is on the renewal and replacement of the water conveyance and sewage collection systems along with improvements to the water and wastewater treatment plants. As described in the Engineering Report, certain additional revenue bond issues are anticipated. As part of the Capital Improvement Program, the Water Department anticipates additional borrowings of $200,000,000 during Fiscal Year 2014, $250,000,000 in Fiscal Year 2015, and $200,000,000 in Fiscal Year 2017.

The remaining anticipated bond issues in Fiscal Years 2012 through 2015 are authorized under the Fourteenth Supplemental Ordinance. The anticipated bond issue in Fiscal Year 2017 has yet to be authorized by City Council.

The City is continually monitoring refunding opportunities for its outstanding debt and may undertake certain refundings depending on market conditions.

Pennvest Loans

On April 20, 2009, the Water Department was notified that three of its traditional water and sewer applications, totaling $184,893,000, were approved for funding by Pennvest through low interest loans of 1.193% during the construction period and for the first five years of amortization (interest only payments are due during the construction period, up to three years) and 2.107% for the remaining 15 years. In addition, its $30,000,000 green infrastructure application was approved for funding through a low interest loan on the same terms. Additional debt service for these loans has been included in the Water Department's Fiscal Year 2012 budget, the Water Department's five-year plan projections and the Engineering Report. These loans are being provided on an "interest only" basis during the construction period of up to three years, after which they are amortized on a 20-year basis at 1.193% for the first five years and 2.107% for the next 15 years. The Water Department has accepted all of the funding offered, and the City issued the 2009 Pennvest Bonds and the 2010 Pennvest Bond to secure such loans under the Twelfth Supplemental Ordinance and will be issuing future Water and Wastewater Revenue Bonds with respect to such funding. The department has drawn down $88,183,576.45 on these Pennvest loans to date.

New River City Program

Under the terms of the General Ordinance, the City is permitted to replace up to approximately $131,000,000 of Water and Wastewater Bond proceeds in the Debt Reserve Account with one or more surety policies to be utilized to acquire or construct Water and Sewer infrastructure projects that are consistent with the original purposes of such bonds and to reimburse the Water Department for the costs related to such transactions. any surety bond, insurance policy or letter of credit provided by the City in lieu of required deposits within the Debt Reserve Account would have to meet the credit quality requirements of the General Ordinance. See "SECURITY FOR THE 1997B BONDS – Debt Reserve Account."

In accordance with the Debt Reserve Account Amendment and the General Ordinance, a partial substitution in the amount of $67,000,000 was completed in late November 2007. AGM provided the surety policy, transaction costs were paid, and the balance of the funds ($64,325,000) were deposited into the Special Water Infrastructure Account of the Residual Fund as required by the General Ordinance. There have been no subsequent surety substitutions to the Debt Reserve Account.

In connection with the New River City Program, the Water Department executed a program agreement with Philadelphia Authority for Industrial Development ("PAID") to provide program management and oversight for the program. To date, twelve projects totaling $83,697,833 have been executed (actual disbursements will be limited to the $64,325,000 currently available in the Special Water Infrastructure Account and may be supplemented with other grants and/or loans). Eight of the twelve projects are completed. $18,602,941.20 of the project funds remain undisbursed as of June 30, 2011 for approved projects currently under construction and expected to be completed before June 30, 2012. As subsequently described, the transfer of the water and sewer utilities at PNBC from PAID to the Water Department, including the projects outlined above, occurred in November, 2009. See "MANAGEMENT INITIATIVES – Transfer of the Water and Sewer System at the Former Philadelphia Naval Shipyard" herein.

On December 18, 2009, Moody's affirmed the Aa3 insurance financial strength rating of AGM, with a negative outlook. On May 17, 2010, S&P affirmed its AAA counterparty credit and financial strength ratings on AGM and continued its negative outlook on AGM. An explanation of the significance of any rating action should be obtained from the rating agency furnishing the same. AGM currently meets the credit rating requirements prescribed by the General Ordinance with respect to eligible providers of surety policies for deposit in the Debt Reserve Account. The City and the Water Department are monitoring the financial condition and ratings of AGM in relation to such credit quality requirement. There can be no assurance as to any further ratings action that Moody's or S&P may take with respect to AGM.

Capital Facilities Assessment Program

The Water Department has developed a comprehensive assessment program for its water, wastewater, and finished water pumping facilities, which proactively addresses future capital funding requirements. The program is called The Capital Facilities Assessment Program ("CFAP") and its intention is to complement the established maintenance program at each facility by instituting a framework for the periodic assessment of major infrastructure. CFAP inspections are prompted in Maximo, the computerized maintenance management system, utilized at these facilities. These assessments give the Water Department the physical condition, re-inspection schedule and inspection methodology for each infrastructure asset. All of this information is organized and documented, which aids the facility managers in scheduling Operations and Maintenance and capital inspections.

ENVIRONMENTAL COMPLIANCE

Combined Sewer Overflow Program

The fundamental goal of the Water Department's Long Term Combined Sewer Overflow Program referred to as the "Green City, Clean Waters Program," is to improve and preserve the water environment in the Philadelphia area and to fulfill the Water Department's obligations under the Clean Water Act and the Pennsylvania Clean Streams Law by implementing technically viable, cost-effective improvements and operational changes and utilizing numerous green alternatives.

The present NPDES permits require the Water Department to implement a combined sewer overflow program. In older sections of the City, both wastewater and stormwater are conveyed in one pipe to the sewage treatment plant. This is known as a combined system. Combined systems were designed so that during dry weather all wastewater is conveyed to the sewage treatment plant. However, during certain rain events, additional stormwater exceeds the capacity of the collection system and/or wastewater treatment plant. During these rain events, the combined system was designed to discharge, or overflow, the excess stormwater/wastewater mix directly to local waterways. The Water Department has 164 CSO points in its collection system.

In 1997, the Water Department submitted its Combined Sewer Overflow Long Term Control Plan ("CSOLTCP") to the PaDEP. This Plan required that the Water Department continue implementation of the Nine Minimum Controls ("NMCs"), which are industry accepted best practices to efficiently operate and maintain the sewer system, and identify $48,000,000 (1997 dollars) of capital improvement projects that would ensure localized capture and storage of wet weather flows within the existing sewer collection system. These two efforts successfully reduced overflow volume by five to ten percent or roughly two billion gallons per year. Initial efforts were focused on detecting and eliminating overflows during dry weather, obtaining the most storage possible in the sewer system, and stepping up inspections and monitoring at sites where overflows occur. The final component of the CSOLTCP embraced the development of regional watershed partnerships and comprehensive watershed based planning and analyses that would identify additional, priority actions to further improve water quality in Philadelphia area water bodies. The Water Department committed to the development of Integrated Watershed Management Plans ("IWMPs"), which are guided by a 20-year vision to restore the region's waterways to fishable, swimmable and beautiful rivers and streams that are life sustaining and are an amenity to nearby communities.

In August of 2008, the Water Department entered into a Consent Order and Agreement with the PaDEP requiring an update to the original CSOLTCP by September 1, 2009. This CSOLTCP Update ("LTCPU"), or what is also referred to as the Green City, Clean Waters Program, can best be described by listing the basic underlying principles:

- Utilizing rainwater as a resource by recycling, re-using and recharging long neglected groundwater supplies,
- Maintaining and upgrading one of the nation's oldest water infrastructure systems,
- Transforming rivers and streams into recreation destinations and green open space for visitors and citizens,
- Preserving and restoring habitat for aquatic species within urban stream corridors,
- Collaboration to revitalize the City with an emphasis on sustainability, and
- Energizing citizens, partnerships, public and regulatory partners to adopt and join in this watershed-based strategy.

The PaDEP and the Water Department signed a consent order and agreement dated as of June 1, 2011 (the "COA") that will allow the Water Department to officially embark on the implementation of its landmark strategy that uses green practices to substantially eliminate combined sewer overflow to the City's waterways as set forth in the Green City, Clean Waters Program. The City of Philadelphia is a national leader in its approach to the management and reduction of combined sewer overflow. Its Green City, Clean Waters Program is the most innovative stormwater management program in the nation to date, markedly ambitious in its use of green infrastructure rather than undertaking a grey approach the management of CSO. The Program is by far the most cost-effective way for the City to meet the requirements of the COA, the PaDEP, the Clean Water Act and its own laudable goal of protecting its waterways. The Water Department estimates that the City's use of green infrastructure in lieu of a grey approach will save the City approximately $8 billion over the length of the Program, as discussed below.

The Water Department submitted the plan to the US EPA and the PaDEP in September 2009 after vetting the plan with an enthusiastic public. Green City, Clean Waters lays the groundwork for the Water Department to spend approximately $2 billion over the next 25 years (1.2 billion dollars net present value) to use largely green technologies such as stormwater tree pits, vegetated bumpouts, porous asphalt, rain gardens, sidewalk planters as a means to transform manmade surfaces that repel the rain to green acres which capture rainwater runoff to infiltrate, store and manage the rain as a precious resource. The plan also includes wastewater treatment facility enhancements and pipe renewal and replacement. Green City, Clean Waters works in tandem with the Mayor's Greenworks Philadelphia vision in order to reinvent Philadelphia into a green, sustainable city of the future. The Water Department projects that utilizing a gray approach to accomplish the same goals would cost the City approximately $10 billion.

The Water Department has softly launched the plan over the last few years to development green infrastructure designs that work best in the Philadelphia landscape. These early projects serve as public demonstrations to citizens and provide the Water Department and its many partners with early opportunities to monitor and improve the efficiencies of these practices.

The COA complies with Clean Water Act requirements by adopting the Presumption Approach to Combined Sewer Overflow (CSO) control. Under the Presumption Approach, the COA sets the ultimate water quality goal as the elimination or removal of the mass of pollutants that otherwise would be removed by the capture of 85% by volume of the combined sewage collected in the City's combined sewer system during precipitation events. To ensure this ultimate goal is met, the COA requires that interim water quality milestones at Year 5, 10, 15 and 20 of the COA. The interim milestones require the City to achieve specific numbers in three categories: (1) Total Greened Acres; (2) Overflow Reduction Volume; (3) Miles of Interceptor Lined. A Greened Acre is where the first inch of runoff is collected and managed on-site thereby reducing CSO discharges to the City's system. The interim milestones will be included in the City's upcoming NPDES permits.

The COA includes financial protections in the event that the costs of complying with the COA exceed our projections. Should COA costs increase to the point where they exceed 2.27% of the Median Household Income the City may petition the PaDEP for an extension of time to complete the COA so that the financial burden does not become excessive on ratepayers. The COA also includes stipulated penalties for violations of the COA. The only significant penalties involve non-compliance with the 5 year milestone targets. Penalties start at $25,000 per month for each violation (for the first 6 months) and increase up to $100,000 per month for uncured violations of 13 months or more. COA negotiations took almost two years. The negotiations resulted in a document memorializing the ultimate goal for the program and setting interim milestones that the Water Department believes are fair, reasonable, affordable and achievable.

The EPA participated in negotiations of the COA and is fully informed on its status. The EPA has delegated authority over the COA to the PaDEP but has reserved the right to take future action if it deems so necessary.

A list of featured projects – and information on Green City, Clean Waters can be found at the Water Department's website: http://www.phillywatersheds.org.

Lead and Copper Rule Compliance History

Beginning in 1992, the Water Department has conducted nine rounds of in-home sampling for compliance with the Lead and Copper Rule ("LCR") as summarized in the table below. During the first round of sampling in 1992, the Water Department was above the action level ("AL") for lead. The AL for lead is defined as less than or equal to 0.015 mg/L in 90% of the home tap samples. The AL for copper is defined as less than or equal to 1.3 mg/L in 90% of the home tap samples. Following that initial round, the Water Department made various changes in its corrosion control strategy, based on in-house research and industry knowledge. In subsequent rounds, Philadelphia met the action levels for both lead and copper.

Lead and Copper Monitoring History

			Lead		Copper	
Year	Samples required	Homes sampled	90th Percentile	Action level	90th Percentile	Action level
Jan-Jun 1992	100	162	0.021 mg/L		0.9 mg/L	
Jul-Dec 1992	100	143	0.015 mg/L		0.8 mg/L	
Jan-Jun 1997	100	118	0.014 mg/L		0.4 mg/L	
Jul-Dec 1997	100	108	0.011 mg/L		0.4 mg/L	
Jun-Sep 1998	50	78	0.010 mg/L	0.015 mg/L	0.3 mg/L	1.3 mg/L
Jun-Sep 1999	50	59	0.009 mg/L		0.3 mg/L	
Jun-Sep 2002	50	63	0.013 mg/L		0.3 mg/L	
Jun-Sep 2005	50	107	0.010 mg/L		0.3 mg/L	
Jun-Sep 2008	50	97	0.006 mg/L		0.3 mg/L	

Following the initial sampling period, the PaDEP allowed the Water Department to go to reduced monitoring. Currently, the Water Department has to conduct LCR monitoring every three years. The Water Department did not exceed the AL for copper in any of the nine rounds of sampling and the latest round of testing produced the lowest lead results to date. The next sampling period for the LCR is June to September 2011 and is currently underway.

Drinking Water Regulatory Achievements

The water provided by the Water System meets all physical, chemical, radiological and bacteriological water quality standards established by the EPA under the Safe Drinking Water Act and by the PaDEP. The Water Department is aware of recent proposed and planned state and federal regulations relating to drinking water quality and has completed research and monitoring efforts with respect to the content and status of these regulations so that it will be able to comply with such regulations when adopted.

The Water Department continues to prepare for possible future regulations regarding the distribution system. The Water Department has a district metered zone, uses online water quality monitors at reservoirs, pump stations and other distribution system locations, and water system hydraulic monitoring and modeling. All of these tools allow the Load Control Center to research and track water through the system. The Department is actively involved in monitoring, commenting on, and implementing practices to respond to PaDEP and EPA rulemaking for distribution systems.

The EPA promulgated two sister rules, the Interim Enhanced Surface Water Treatment Rule ("IESWTR") and the Stage 1 Disinfectant/Disinfection By-Product Rule, both of which took effect January 1, 2002. The Water Department complied with these rules by implementing improvements at its treatment facilities. All three water treatment facilities, Baxter, Queen Lane and Belmont, are operating the enhanced coagulation process to achieve the total organic carbon removal goals established in the IESWTR. Belmont and Queen Lane dose potassium permanganate at the raw water intake mains to control algae and odors during the March through October period. Baxter utilizes powdered activated carbon for odor control (algae growth is not a problem in the Delaware River) and to enhance total organic carbon removal during storm events. Chlorine contact goals ("CT") are achieved by dual feed chlorine application points at each facility. Combined filter effluent turbidity at each facility routinely averages 0.06 NTU, well under the 0.30 NTU regulatory limit. Total trihalomethanes (TTHM) and haloacetic acids (HAA5) average about 50% and 65% of the regulatory limits, respectively, of 80 and 60 ppb. In January 2006, EPA promulgated the Long Term Stage 2 Enhanced Surface Water Treatment Rule ("LT2ESWTR") and the Stage 2 Disinfection and Disinfection Byproducts Rule ("Stage 2 D/DBPR"). Full implementation of these regulations is not required until 2012, but the Water Department, through previous treatment changes, already complies with these new rules for its Baxter and Belmont water treatment plants and is prepared to comply by 2012 for the Queen Lane water treatment plant. The Queen Lane water treatment plant is in bin 2 for the cryptosporidium monitoring plan required under the LT2ESWTR. The combined filter effluent (CFE), individual filter effluent (IFE), and source water protection credits allowed under the rule will be pursued by the Water Department. Each of these programs award a 0.5 log removal credit. An additional 1 log removal is required for bin 2. Queen Lane has over five years of experience achieving the CFE and IFE credit requirements. Water quality improvements, especially in the area of reducing disinfection byproduct formation, will still be pursued. The Water Department's Bureau of Laboratory Services completed a one-year study of distribution disinfection byproduct sampling locations as required by the EPA's Stage 2 D/DBP Rule and the Individual Distribution Sampling Evaluation (IDSE) requirement in 2008. The IDSE report was submitted to the PaDEP in 2009. A selection of 16 monitoring locations determined by the IDSE process was approved by the PaDEP that will be used in future compliance monitoring with Stage 2 D/DBPR. The Water Department expects that full compliance with this new rule will be achieved.

Clean Air Act

The federal Clean Air Act ("CAA"), as amended, sets forth requirements for the regulation of certain air emissions. In January 1994, the PaDEP published regulations pursuant to the CAA's mandates for the control of Volatile Organic Compounds ("VOC") and Nitrogen Oxides ("NOx") emissions from major stationary sources. The Northeast WPCP and the Biosolids Recycling Center/Southwest WPCP complex (the "BRC/SW facility") were found to be a major source of VOC and NOx emissions, while the Southeast WPCP is a Natural Minor source. The Office of Philadelphia Air Management Services ("AMS") issued the Water Department a Title V State Operating Permit for the Northeast WPCP and BRC/SW facility on June 1, 2001. Prior to their expiration in

June 2006, the Water Department timely filed for the renewal of its Title V permits and is currently awaiting its new permits. The State's Odor Emission Limitation Regulations are included as part of these permits. During calendar years 2007 and 2008, AMS issued two violations in both 2007 and 2008 at the Northeast WPCP and none at the BRC/SW facility. In 2009, 2010, and 2011 to date, odor violations were not issued at either facility. Due to these odor incidents, the Water Department hired a consultant to assist in the development of a long-term odor control strategy. The Water Department and AMS are working to finalize the odor strategy for the Northeast WPCP. Odors at the BRC/SW facility have been dramatically reduced with the termination of composting at the facility and will be further reduced once the new pellitization facility is on line at the BRC/SW facility.

The Water Department believes it has identified a major source of the odors at the Northeast Plant and is working with a discharger to correct this problem. The Water Department has worked closely with AMS in developing their Odor Response Plan (which is part of the permit) and this plan is implemented whenever odors are detected. The original June 1, 2001 permit expired on June 1, 2006 and the Water Department is currently in negotiations with AMS for the renewal permits. AMS has requested an Administrative Consent Order for odors at the Northeast WPCP and the BRC/SW facility before it issues the Water Department its new Title V permits. Initial discussions with AMS regarding the scope and content of the Administrative Consent Order have begun. The Water Department continues to operate its facilities in a manner that maximizes treatment while minimizing odors.

The CAA also has a Risk Management Plan ("RMP") component which is required for all facilities where regulated substances (chlorine, ammonia, methane) are stored above designated levels. The RMPs are designed to minimize the impact of a process accident on the surrounding community. In June 1999, the Water Department submitted to EPA, their RMPs for covered facilities. In 2007, the Water Department eliminated the use of compressed liquid chlorine gas at all of its facilities substituting instead liquid sodium hypochlorite. Therefore, none of the Water Department facilities are regulated under the RMP component of the CAA.

Polychlorinated Biphenyls (PCBs)

Pursuant to Section 303(d) of the Clean Water Act, the Delaware River has been declared impaired for an organic chemical known as polychlorinated biphenyls ("PCBs"). As a result of this, the DRBC is performing a Total Maximum Daily Load ("TMDL") analysis. The TMDL will define how severely the river is impaired and will set forth a plan to reduce loadings of PCBs into the river. The current understanding is that the river exceeds its allowable loadings by three orders of magnitude (that is 1,000 times greater than allowed). Loadings come from virtually every source imaginable, e.g., sediments, air, runoff from land, contaminated sites as well as point sources which include the Water Department's three wastewater treatment plants. The Water Department's NPDES permits require it to implement a pollutant minimization plan ("PMP") which involves tracking down sources of PCBs and referring them to the appropriate agency for remediation. This involves additional staff to track down the sources of PCBs coming into the plant and devising programs to reduce the loadings coming to the Water Department's plants. The level and extent of clean up that will be required by each source category in the future is currently being evaluated by the DRBC, EPA and the states comprising the DRBC.

The Poquessing Intercepting Sewer

The Water Department has determined that a manhole located along the Poquessing Creek Interceptor overflows and discharges into the Poquessing Creek in Northeast Philadelphia during extreme wet weather events. This manhole's monitoring and maintenance designation is PC-30. The Poquessing Interceptor not only serves the City but also accepts flow from three suburban Townships, namely Lower Southampton, Bensalem and Lower Moreland. The discharge of sanitary waste and stormwater from PC-30 into the Poquessing Creek constitutes a violation of Pennsylvania's Clean Streams Law and the Clean Water Act. The Water Department worked, along with the PaDEP, to understand the causes of the overflow and discharge and to develop a plan to correct the discharge.

It has been determined that the root cause of the discharge from PC-30 stems from the fact that during extreme wet weather events, the amount of stormwater discharged into the Interceptor by the City, Lower Southampton, Bensalem and Lower Moreland exceeds the carrying capacity of the City's conveyance system. PC-30 thus becomes a relief point overflowing and discharging into the Poquessing Creek. Since the City's conveyance system is exceeded in these extreme wet weather events, the PaDEP has asked the City, pursuant to the Pennsylvania Sewage Facilities Act, commonly known as Act 537, to place a moratorium on the addition of any new connections to the Poquessing Interceptor until the City submits a Corrective Action Plan ("CAP") to address the overflow and a Connection Management Plan ("CMP") to ensure that newly allowed connections won't have a materially adverse impact on the environment.

The City has agreed and has submitted its CAP and CMP to the PaDEP and the PaDEP has approved both documents. The City's CAP involves the building of a relief sewer to capture and transport the overflow. The cost of the relief sewer is $51,300,000 and its estimated completion date is December, 2011. The City's CAP addresses both the environmental issue under the Cleans Streams Law as well as the requirements under Act 537. The City's CMP will allow for and manage new connections to the Poquessing Interceptor. In addition, the City is working along with Lower Southampton, Bensalem and Lower Moreland to either share the costs of relief sewer or to have these Townships build their own solutions so that their wet weather flows do not exceed their contractual limits. Further, the City is requiring, and the Townships are implementing, an I&I program to reduce infiltration into the Township's sewers thus reducing the flows into the Poquessing Interceptor.

The PaDEP issued a Consent Order and Agreement ("COA") regarding the overflows at manhole PC-30. The COA requires the Water Department to construct a parallel relief sewer. The Water Department submitted a Water Quality Management Part II Application for authorization to construct and operate the parallel relief sewer in December, 2008. The PaDEP issued the permit on May 21, 2009. The contractor was issued a Notice to Proceed on September 30, 2009. The estimated original completion date of the project was July 21, 2011. The project has experienced minor delays and the Water Department has asked for and obtained a time extension from the PaDEP extending the completion date to December 31, 2011.

Manayunk Main Intercepting Sewer

The Water Department has determined that the Main Intercepting Sewer located along the Schuylkill River overflows during extreme rain events and discharges into the Schuylkill River in the Manayunk section of the City. This overflow is referred to as Relief Point R-20. The Main Intercepting Sewer serves the Northwest section of the City. The discharge of sanitary waste and stormwater from R-20 into the Schuylkill River constitutes a violation of Pennsylvania's Clean Streams Law and the Clean Water Act. The Water Department has been working along with the PaDEP to understand the causes of the overflow and discharge and to develop a plan to correct the discharge.

It has been determined that the root cause of the discharge from R-20 stems from the fact that during extreme wet weather events the amount of stormwater discharged into the Interceptor by the City exceeds the carrying capacity of the City's conveyance system. Since the City's conveyance system is exceeded in these extreme wet weather events the PaDEP has asked the City, pursuant to the Pennsylvania Sewage Facilities Act, commonly known as Act 537, to place a moratorium on the addition of any new connections to the Main Intercepting Sewer until the City submits a Corrective Action Plan ("CAP") to address the overflow and a Connection Management Plan (CMP) to insure that newly allowed connections won't have a materially adverse impact on the environment.

The City has agreed and has submitted its CAP and CMP to the PaDEP. The City's CAP involves the building of a 3.0 million gallon storage tank on Venice Island along the Main Interceptor to capture the overflow. The City's CAP addresses both the environmental issue under the Cleans Streams Law as well as the requirements under Act 537. The City's CMP will allow for and manage new connections to the Main Interceptor. This project is also incorporated into the Department's current NPDES Permit.

The PaDEP issued a Consent Order and Agreement (COA) regarding the overflows at Relief Point R-20. The COA requires the Water Department to construct a 3 million gallon storage tank on Venice Island. The Water Department submitted a Water Quality Management Part II Permit Application for authorization to construct and operate a storage tank. The PaDEP issued a Water Quality Part II Permit on July 21, 2010. The project was bid on May 10, 2011 with a total bid of $44.6M. The contractor was issued the Notice to Proceed on July 22, 2011 per the requirements of the COA. The storage tank must be constructed and operational within 34 months of receipt of the Water Quality Management Permit.

Stormwater Management

The Water Department delivers many of the City's stormwater management services, including maintenance of the City's 720 miles of separate storm sewers, 1,827 miles of combined sewers and approximately 76,214 stormwater inlets. In recent years, changes in work practices and investment in new equipment have enabled the Water Department to steadily increase the number of inlets cleaned annually from 52,349 in Fiscal Year 1995 to 72,802 in Fiscal Year 2010. In Fiscal Year 2008, the Water Department cleaned 75,804 inlets, removing over 12,891 tons of debris. In Fiscal Year 2009, the Water Department cleaned 77,012 inlets, removing over 14,334 tons of debris. In Fiscal Year 2010, the Water Department cleaned 72,802 inlets, removing over 13,551 tons of debris. In addition, the Waterways Restoration team and the Water Department's skimmer vessel removed a total of 1,437 tons of debris and 18.45 tons of debris, respectively, in Fiscal Year 2010. More recently, the Water Department has set for itself the goal of cleaning all inlets at least once per year, averaging 6,400 inlets cleaned per month.

In 1987, the Clean Water Act was amended to address discharges from municipal separate storm sewer systems. Municipal separate storm sewer systems collect stormwater from homes, businesses, streets, and other sources and convey it directly to rivers and creeks without treatment. Cities whose separate storm sewer systems serve a population of over 100,000 were required under these amendments to obtain a NPDES permit for their discharges. The Clean Water Act requires dischargers to reduce any contaminated flow in the storm sewer system to the maximum extent practicable.

The PaDEP issued the City its initial stormwater permit on September 29, 1995, effective for five years. The permit requires the City to implement four management programs to reduce the discharge of pollutants from its municipal separate storm sewer systems. The management programs require the City to reduce pollution from (1) commercial and residential areas; (2) illicit connections; (3) industrial facilities; and (4) construction sites.

The initial five-year NPDES Phase I stormwater permit issued in 1995 was scheduled to expire in September, 2000. The Water Department applied for a new permit in March, 2000 as required. The Water Department finalized a new stormwater permit in 2005 which expires September 30, 2010. Preliminary discussions have been held with the PaDEP to delay the permit renewal two years in order to align it with expiration of the CSO permit on July 31, 2012. An application for renewal was submitted on March 29, 2010, in advance of the April 1, 2010 deadline, which provides an outline of and possible additions and/or changes to the permit. This permit complements the philosophy and implementation strategies of the City's CSO permit. The MS4 permit is currently under negotiation, and the Water Department expects to have a new permit in place in September 2012. The Water Department has also been a municipal partner in the state-sponsored Act 167 Stormwater Management Plan for the Darby-Cobbs Watershed (completed in 2006) and was the sponsor for the Tookany/Tacony-Frankford Watershed Act 167 Plan (completed in 2009). The Water Department has recently contracted with the PaDEP to conduct a county-wide Act 167 Plan, focusing on the Pennypack (completed Summer 2011), Poquessing (Winter 2011) and Wissahickon (Fall 2012) watersheds over the next four years.

Most importantly, these planning efforts resulted in groundbreaking revisions to the City's Stormwater Regulations, which went into effect on January 1, 2006. There are four main components of the Regulations: Water Quality, Channel Protection, Flood Control, and Nonstructural Site Design. All projects with more than 15,000 square feet of earth disturbance must comply with all four of the components. Some redevelopment projects may be exempt from the channel protection and flood control requirements. Since 2006, the Water Department's Stormwater Team reviewed over 1,225 conceptual plans for stormwater zoning permits, over 900 final technical plans for stormwater building permits, over 375 coordinated reviews with the state Department of Environmental Protection, and over 400 erosion and sediment control site inspections. Plans reviewed cover approximately 2.2 square miles of earth disturbance, in which the first one inch of rainfall is required to be captured or infiltrated. As of May, 2011, over 1,375 acres (2.2 square miles) of development have been approved resulting in a total of 1.3 billion gallons of runoff managed/reduced. Implementation of these approved plans will result in the reduction or management of over 1.3 billion gallons of runoff, or 3.75 % of the City's annual runoff.

RECENT DEVELOPMENTS

Iodine-131 Sampling & Watershed Characterization Program

Following the nuclear accidents in Japan in 2011, the EPA and the PADEP increased monitoring of radionuclides, including Iodine-131, in both surface water and finished drinking water in Pennsylvania. The monitoring results from both agencies indicated the need for a more comprehensive sampling program to characterize and better understand Iodine-131 concentrations in Philadelphia's drinking water sources and finished water.

RadNet is a national radiological surveillance program, run by the EPA, which monitors environmental radioactivity in the United States in order to provide baseline data during routine conditions and provide data for assessing public exposure and environmental impacts resulting from nuclear emergencies and large scale natural disasters. The RadNet program collects and analyzes data on radionuclides in air, rainwater, surface water, milk and drinking water samples. The RadNet database, collected since the 1980's, was made accessible to the public and voluntary program participants, like the Water Department, on the for the first time on April 1, 2011.

According to the EPA's RadNet data, there has been an overall increasing trend in Iodine-131 levels in Philadelphia's treated drinking water since the early 1990s. The EPA detected low levels of Iodine-131 in a number of drinking water samples before and since the Japanese nuclear incident. The EPA sample results for Iodine-131 published in a April 2011 RadNet posting are unrelated to radiation from Japan and nuclear sources in the Philadelphia area.

In addition, local survey sampling performed by the PaDEP on March 29, 2011 returned a surface water concentration of 14 pCi/L of Iodine-131 at Valley Green in the Wissahickon Creek, whose influence can affect raw water concentrations at the Queen Lane intake. On April 4, 2011, the PaDEP also collected samples of Queen Lane raw and finished water. The results indicated 2 pCi/L of Iodine-131 in the Queen Lane raw water, and 3 pCi/L of Iodine-131 in the Queen Lane finished water. The federal drinking water standard for Iodine-131 in finished water is 3 pCi/L, and is based on a long-term, running average, not a single day sample. Although Philadelphia is not exceeding any regulatory limits for Iodine-131, the Water Department is taking action to better understand the Iodine-131 levels observed in the City's source and finished waters through a tiered sampling program.

Iodine occurs naturally in the environment. Iodine-131 is a radioactive form of iodine. When certain atoms disintegrate, they release a type of energy called ionizing radiation. This energy can travel as either electromagnetic waves (i.e., gamma or X-rays) or as particles (i.e., alpha, beta or neutrons). The atoms that emit radiation are called radionuclides; e.g., radioactive iodine, cesium, and plutonium. Iodine-131 is a byproduct of nuclear energy production. It is also used in medicine to diagnose and treat disorders of the thyroid gland. Iodine-131 is a short-lived radioactive element with a half-life of 8 days, meaning every 8 days it loses half of its radioactivity. Unlike some radioactive chemicals, it does not persist for a long time.

An infant would have to drink almost 600 liters of water at 2.2 pCi/L (April RadNet level), to receive a radiation dose equivalent to one day's worth of the natural background radiation exposure that individuals experience continuously from natural sources of radioactivity in our environment.

Although the RadNet results indicate there is no risk to public health, the Water Department has not ignored the recent upward trend in Iodine-131 levels. In response, the Water Department has reviewed the RadNet database in consult with the EPA and the PaDEP and developed a Radionuclides Joint Action Plan (PaDEP, EPA, the Water Department) in April 2011. The Water Department is conducting a multi-phased watershed sampling and assessment program for Iodine-131 with the goal of quantifying Iodine-131 in the Schuylkill River watershed, Philadelphia's water supply. The Water Department also continues to work with the EPA and the PaDEP Radiation experts to better understand potential sources of Iodine-131 which may be impacting the watershed.

Iodine-131 Multi-Phase Study Approach

Phase 1 of the Water Department's watershed sampling program, which was an immediate assessment of Iodine-131 & Gross Beta Radiation in surface water and drinking water, was conducted April 12, 2011 through May 5, 2011. Results for drinking water samples indicated average Iodine-131 levels well below 1 pCi/L. As a result of these low levels, application of activated carbon, which was initially applied at our Queen Lane Water Treatment Plant as a precautionary measure in immediate response to the RadNet data, was discontinued on May 5, 2011.

A more comprehensive sampling program to characterize Iodine-131 concentrations in the Schuylkill Basin will be conducted in the next two program phases.

- Phase 2- Iodine-131 Drinking Water and Source Water Initial Characterization (45-day Snapshot)
- Phase 3- Iodine-131 Drinking Water and Schuylkill River Basin Characterization Study (1-year duration)

The Water Department monitors its drinking water every day at its three water treatment plants and at points throughout its 3,000 mile delivery system. Our water is consistently better than Safe Drinking Water Act ("SDWA") standards and has always met all heath standards. Iodine-131 sampling is not required under the SDWA; however, the Water Department has been working with the EPA since 1989 on a voluntary basis to provide quarterly samples of river water and drinking water for analysis of various radiological elements.

The Water Department also continuously monitors water quality throughout the Schuylkill and Delaware River watersheds. The Water Department has a nationally recognized Source Water Protection Program, which embodies the department's multi-barrier approach to ensuring the safety and quality of Philadelphia's drinking water. Philadelphia's Source Water Program staff work closely with the department's treatment plant managers and operators to anticipate and respond to emergencies and challenges to conventional treatment techniques. The Source Water Protection Program takes a holistic approach to developing a thorough understanding of Philadelphia's water supply characteristics, including water quality conditions, major sources of actual and potential contamination, water availability, flow patterns and management practices, and tidal and reservoir impacts.

Baxter Water Plant Clear Well

In May 2010, the Water Department discovered a breach in the 50 MG clear water basin that serves the Torresdale Pump Station, which pumps finished water from the Baxter Plant. The breach was a 4-foot by 6-foot cave-in. The Water Department has covered and secured the breach and monitors for its effect on water quality. adverse effects have not been observed, the area has been closed-off to prevent further damage, and the basin remains in operation. The Water Department has completed a preliminary inspection of the basin and is currently evaluating alternatives for repair, replacement or bypass. The Water Department has sufficient storage upstream of this basin such that a permanent by-pass is a viable alternative. The Water Department continues to study the situation and anticipates selecting an alternative and developing a plan for a more permanent solution by the end of the 2011 calendar year.

Oak Lane Reservoir

The Oak Lane Reservoir was taken out of service on Tuesday, February 24, 2009, immediately after it was discovered that the polypropylene membrane cover was deteriorating and particles from the cover were released into the water. Operations to implement the shut down were efficient and effective with no negative impact on water supply. The lining and floating covers of the two-basin reservoir was originally installed in May 1997. The reservoir capacity is 70 MG and provided water to the East Oak Lane and West Oak Lane Pumping Stations. These pumping stations are now supplied directly from Lardner's Point Pumping Station, and no supply disruptions have been encountered since the reservoir went out of service. After studying several options it was determined to replace the cover and liner at this reservoir site. Design work was expedited and the project was bid and awarded in March 2011. The low bid was $4.3M. The contractor was issued a Notice to Proceed in March 2011. The cover and liner replacement work will take roughly 1.5 years to complete.

MANAGEMENT INITIATIVES

Water Accountability

The Water Department has been very successful in developing and applying programs to reduce uncaptured revenue and the loss of finished water from the distribution system. The Water Department has cut its non-revenue water by 40% over the past decade, from a typical annual level of 120-140 MGD prior to Fiscal Year 1995 to 76.6 MGD at the close of Fiscal Year 2010. The Water Department has been very active in promoting new methods through the American Water Works Association ("AWWA"), and has attained the recognition as an industry leader in this regard. The Water Department was the first water utility in the United States to adopt the best management water audit approach published by the International Water Association and the AWWA in 2000. The method accounts for all water as either consumption or losses. Apparent Losses are the paper losses due to customer meter inaccuracies, billing error and unauthorized consumption. These losses cause water utilities to lose a portion of the revenue to which they are entitled. Real Losses are physical losses, largely leakage. These losses cause excess production costs for water utilities. The summary data from the Water Department's recent water auditing history is given below.

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Philadelphia Water Department – Water Revenue Bureau Annual Water Audit Summary										
Component	**FY2010**	**FY2009**	**FY2008**	**FY2007**	**FY2006**	**FY2005**	**FY2004**	**FY2003**	**FY2002**	**FY2001**
Water Supplied, mgd (A)	244.5	245.8	250.7	255.3	253.8	260.3	263.0	270.2	263.0	267.5
Billed Consumption, mgd (B)	165.9	174.6	175.8	169.5	177.0	176.9	176.9	183.4	178.2	181.7
Unbilled Authorized Consumption, mgd (C)	2.0	2.1	2.1	2.3	2.4	2.3	2.4	3.0	2.5	2.4
Unbilled Authorized Consumption Costs	$778,548	$713,800	$717,200	$214,300	$191,000	$155,200	$159,700	$180,400	$145,900	$134,500
Total Authorized Consumption, mgd (D=B + C)	167.9	176.6	177.9	171.8	179.4	179.2	179.3	186.4	180.7	184.1
Water Losses, mgd (A-D)	76.6	71.2	72.8	83.5	74.4	81.1	83.7	83.8	82.3	83.4
Apparent Losses, mgd (E)	17.0	15.0	19.0	21.9	15.2	14.2	11.1	13.3	13.1	14.5
Apparent Losses costs, million	$30.0	$22.2	$27.3	$30.8	$20.3	$19.1	$10.9	$10.0	$9.0	$11.6
Real Losses, mgd (F)	59.6	56.2	53.8	61.6	59.2	66.9	72.6	70.5	69.2	68.9
Real Losses costs, million	$5.87	$4.84	$4.9	$5.1	$4.3	$3.9	$4.1	$3.7	$3.4	$2.5
Infrastructure Leakage Index, dimensionless	9.9	8.9	9.0	10.3	9.9	11.0	12.1	11.9	13.1	12.7
Non-revenue Water, mgd	78.6	73.3	74.9	85.8	76.8	83.4	86.1	86.8	84.8	85.8
Percent Non-revenue Water by volume*	34.9	32.3	32.4	36.3	32.7	34.6	35.4	32.1	32.2	32.1
Percent Non-revenue Water by cost	16.3	12.5	15.1	17.5	13.0	12.4	9.0	8.3	8.1	9.2

Unbilled Authorized Consumption = components of Authorized Consumption which are not billed and do not produce revenue.

Non-revenue Water = Unbilled Authorized Consumption (C) + Apparent Losses (E) + Real Losses (F), or

Non-revenue Water = Unbilled Authorized Consumption + Water Losses

***Percent Non-revenue Water by volume = Non-revenue Water/(Water Supplied – Exports).**
For example, in Fiscal Year 2010, 78.6/(244.5 – 19.2) = 34.9% Non-revenue Water by volume.

During Fiscal Year 2008, the City transitioned from its long time legacy customer billing system to the Basis2 Customer Billing System by Prophecy International Holdings, Ltd. Applications of this system continued to be refined in Fiscal Year 2010, and considerable progress was achieved in creating new output reports and expanding existing reports to include stormwater billing totals. Total billable consumption for Fiscal Year 2010 has been quantified at 165.9 MGD.

Over recent years the Water Department has implemented a host of programs to economically reduce and control water and revenue losses. In order to optimize revenue capture, the Water Department operates a Customer Meter Management Program featuring the nation’s second largest water utility Automatic Meter Reading system, and a successful Revenue Protection Program which has recouped millions of dollars of uncaptured revenue as shown in the table below.

Revenue Recoveries Through the Water Department's Revenue Protection Program

Fiscal Year	Water Recovered, MGD	Revenue Recovered
2010	**1.58**	**$ 2,384,500**
2009	**N/A**	**1,603,500**
2008	**N/A**	**636,300**
2007	**0.36**	**531,400**
2006	**1.01**	**1,413,000**
2005	**1.74**	**2,835,000**
2004	**1.67**	**2,003,000**
2003	**1.14**	**1,782,000**
2002	**0.69**	**1,037,000**
2001	**5.81**	**2,900,000**
Total	**N/A**	**17,125,200**

The Water Department also has been an industry leader in controlling leakage losses in the water distribution system. The successful Leak Detection Program has been in continuous use for over 30 years and employs the latest electronic leak pinpointing equipment. In Fiscal Year 2007, the Water Department installed instrumentation to control leakage by advanced pressure management, a technique that has proven successful internationally. The Water Department is one of the first water utilities in the United States to employ this effective technique. By the close of Fiscal Year 2009, this pilot installation in an area of the water distribution system known as District Metered Area 5 had experienced a 90% reduction in leakage. Most importantly, this technique includes capabilities to inhibit the return of leakage and should lessen water main breaks, all in a very cost-effective manner.

During Fiscal Year 2007, the Water Department also began employing contracted services for in-line leak detection in active large-diameter transmission water piping. In the first four years of the program a total of almost 30 miles of piping was scanned and 63 hidden leaks were pinpointed. A number of these leaks were found to exist on inaccessible piping beneath interstate highways and wooded parkland. This service has added another highly effective tool to the battery of methods that the Water Department is employing to minimize lost water.

In Fiscal Year 2010, hydrant availability was 99.6%. The implementation of a new process to track hydrant information and deploy repair crews has resulted in hydrant availability remaining significantly above 99% since January 2006. A proactive program is responsible for this high reliability. The program calls for routine inspection, repair and painting. During Fiscal Year 2010, the Water Department coordinated with the Philadelphia Fire Department to inspect virtually all of the City's 25,200 fire hydrants and conducted 5,556 repairs, painted 2,976 hydrants and installed 724 tamper-proof hydrant locks on hydrants. Over 75.3% of the Water Department's hydrants have locking devices. Due to these locking devices hydrant abuse is controlled to levels that had no noticeable effect on the operation of the Water System.

Water Main Replacement

The Water Department's current accelerated water main replacement program has been in place for over ten years. The five-year average of 246.4 breaks per 1,000 miles is significantly better than the national average of 270 breaks per 1,000 miles. By reducing the emergency repairs required, the Water Department is better able to manage its crews and other resources, and continually provide better service to its customers. The Water Department also closely monitors water main conditions to determine that adequate capital investment is made to ensure the integrity of the Water System.

Distribution System Reservoir Planning Initiative

The Reservoir Team was created to better manage the strategic planning, capital program projects and operations and maintenance functions of the Water Department distribution system finished water storage reservoirs. In its initial work, the team updated all standard operating procedures and improved as-built facility documentation. In 2004, a comprehensive assessment of reservoir practices was conducted by a noted engineering consulting firm, Economic and Engineering Services, Inc. This assessment found that the Water Department provides outstanding upkeep of its reservoirs to meet the quantity and quality needs of the Water System. Since this time the Reservoir Team has strategically focused on the long-term options for the East Park and Oak Lane Reservoirs where the floating covers are into the second half of their useful lives. The Team's Strategic Planning Group obtained the services of the consulting group CH2M Hill who conducted hydraulic analysis and a life-cycle cost evaluation comparing replacement of floating covers and construction of pre-stressed wire-wound concrete tanks at East Park Reservoir. Based upon the consultant's findings, the team recommended, and the Water Department administration approved, a plan to construct concrete tanks at the East Park site. Concrete tanks are known to provide superior protection of water quality and have become common in the use of ground level reservoirs throughout the United States. Two tanks are now planned at a cost of $40,000,000 with the first tank targeted for 2013. CH2M Hill was selected in a competitive process to develop detailed design plans and specifications, and the design work is approximately 80% complete.

Optimization Programs

A full scale plant trial using the Belmont post chlorine contactor was conducted in August and September 2008, again in May 2009, and again in November 2009. The results indicate a potential 50% reduction in disinfection byproducts by eliminating pretreatment chlorine and adding post treatment chlorine. The full scale plant trial was conducted continuously from May 2010 through October 2010 in an attempt to gain long term operational experience, a stronger disinfection byproducts database, and to understand if any unforeseen operational problems occur. To date, water quality has been very good during each plant trial. The PaDEP has been kept abreast of the operation throughout all the trials. The PaDEP has been kept abreast of the operation throughout all the trials. The Planning and Research Unit has conducted research on pre and post ozone, biologically active filtration, magnetic ion exchange (MIEX) technology, alternative coagulants, manganese control strategies, and biofilm in the distribution system. By conducting this research and additional work, the Water Department has a database which allows assessment of what DBP levels can be achieved with each process alternative, or combination of processes. These technologies, along with membrane filtration and ultraviolet radiation, will be compared using water quality goals, feasibility, and economics. The final assessments will be evaluated by Planning and Research, Water Treatment, and the Water Department's Bureau of Laboratory Services to determine ideal future advanced treatment technologies for the Water Department.

The Water Department continues to participate in the Partnership for Safe Water (the "PfSW"), a national, joint program of the EPA and the water industry. The Water Department's three water treatment plants have received the 10-year Director's Award from the PfSW for compliance with the Phase III requirements for over 10 years. The Water Department continues to improve on individual filter performance and achieves less than 0.10 NTU in the filter effluent nearly 100% of the time. Individual filters meet PfSW standards greater than 99% of the time. The finished water effluent turbidity at all three plants averages less than 0.06 ntu, which is five times lower than the current regulatory standard of 0.3 ntu. This, in combination with a multibarrier approach, guards against outbreaks of water contamination. The Water Department continues to operate within guidelines that are far more rigorous than Commonwealth or federal laws require.

An additional example of its "more rigorous than required" approach is the Water Department's Microbial Communication Plan. This plan describes what communication will be taken at each level of treatment so that the multibarrier system is always enforced and that appropriate management personnel are notified of actions taken. In the plan, management includes Operations Management, the Bureau of Laboratory Services, and the Water Quality Committee (a management team comprising managers from the Health Department, Public

Affairs, Operations, Engineering, and Law). It also includes notification and involvement from the PaDEP, in addition to the City's Health Department, at water quality levels that are below the regulatory limits. This level of oversight and review helps to maintain very high standards and supports treatment plant management.

The Water Department pursues its proactive position within the community by developing a risk communication plan. This plan is in place to develop tools that explain issues of concern to the public. The basic elements of the process are: collection of pertinent "up to date," detailed information, often by conducting cutting edge research, for a topic position paper, sharing this information with preselected experts and citizen groups, and using the feedback to craft a document which helps communicate this issue effectively to the public. Examples of risk communication efforts include lead and copper corrosion, pharmaceuticals, haloacetic acids, and chloramines.

The Water Department continues to prepare for possible future regulations regarding the distribution system. The Water Department has a district metered zone, uses online water quality monitors at reservoirs and pump stations, and water system hydraulic monitoring and modeling. All of these tools allow the Load Control Center to research and track water through the system. The Water Department is actively involved in monitoring, commenting on, and implementing practices to respond to the PaDEP and the EPA rulemaking for distribution systems.

Water Treatment Research

The Water Department is utilizing over 10 years worth of pilot plant research to plot out the future of water treatment. The Water Department's water research team is developing a 5-year and 25-year plan using a matrix approach weighing the pros and cons of various alternatives. Metrics such as water quality, residual production, energy consumption, cost and hydraulic suitability are being used to discern which treatment system will be the best in the long run. The research aspect of the water research team is being shifted from water treatment to distribution system water quality. Limited and specific research has started into measurement of biodegradable dissolved organic carbon, nitrification and biofilm growth.

Drought Management

The Water Department has been a participant in the development of drought management plans, which allocate Delaware River Basin water resources during drought periods among jurisdictions dependent on the Delaware River for water supply. These plans have been used to effectively manage drought emergencies declared in the past and are expected to adequately address future drought emergencies. In addition, the City is able to draw water supply from both the Schuylkill and the Delaware River systems and therefore is not dependent on a single source of supply. Currently, the City and the Commonwealth are not under a drought watch or warning. The Water Department actively participates in flow management planning with the Delaware River Basin Commission as an advisor to Pennsylvania on the Supreme Court Consent Decree Parties Flow Working Group for the Delaware River.

Partnership for Safe Water Distribution Optimization Program

The Water Department became a charter member of the Partnership for Safe Water Distribution Optimization Program in March 2011. The program is patterned after the Water Treatment Program and is designed to achieve continuous improvement by optimizing operational performance to ensure delivery of high quality water. It is a self-assessment program supported by the Pennsylvania.

Sewer Infrastructure Assessment Program

Completed in Fiscal Year 2005, a $6,000,000 pilot sewer assessment program evaluated the condition of sewer system infrastructure using video technology to inspect over 215 miles of sewers, and used this information to build a database and ranking system to prioritize needed improvements. Trained Water Department personnel are continuing the sewer assessment surveys begun in Fiscal Year 2007 through Fiscal Year 2011. In Fiscal Years 2006-2010, the Water Department began to use data collected through the sewer assessment program to prioritize needed sewer reconstruction and repair, and schedule this work in the capital and operating budgets. This project has already helped to identify sewers that were in immediate need of repair, and it is anticipated that over time this project will result in a reduction of costly and disruptive emergency sewer repairs, such as those that occur when a sewer collapses. In Fiscal Year 2011, the Water Department continued the video inspections and performed additional excavations and repairs.

Wastewater Research

A wet weather monitoring program was established at the three WPCPs between 2008 and 2009 to evaluate the relationships between flow, TSS, and BOD along a storm's hydrograph in order to properly size high rate treatment facilities for the Water Department's CSO Long Term Control Plan ("LTCP") compliance. One year of sampling has been conducted at all three WPCP and this data is currently being summarized.

The dissolved air flotation thickeners ("DAFTs") at the Northeast and Southwest plants are being evaluated to optimize process performance. The purpose of this research is to optimize the performance of the existing DAFTs to maintain a consistent percent solids concentration between 4% and 5%. Currently, the percentage of solids in the DAFTs can drop below that range, particularly during winter months. The research for this project includes testing of the DAFT saturator tank efficiencies, an examination of current DAFT configuration and operation parameters, and a preliminary design of recommended improvements.

Nutrient removal is emerging as the next major water quality challenge for wastewater treatment. In 2009, EPA released a draft nationwide ammonia criteria for surface water based on ammonia toxicity for mussels. The DRBC Nutrient Subcommittee continues to express concern about the dissolved oxygen depletion in the Lower Delaware and the relationship between oxygen depletion and ammonia. Research is currently being done to determine how ammonia in the Southwest Water Pollution Control Plant effluent can be reduced by treating the biosolids centrate prior to entering the plant. This side stream treatment research project will utilize an existing aeration tank at the plant, which allows for low cost treatment by applying new research.

Algae are currently receiving a significant amount of attention both as biomass, which can be added to the anaerobic digester for, and as a good source of, quality biofuel. Several initiatives are underway to use algae to increase energy sustainability at WPCPs in general, and these initiatives are being followed to determine applicability for the Water Department.

Computational Fluid Dynamics

Within the auspices of the Engineering Division, the capacity to conduct computational fluid dynamic (the "CFD") modeling has been generated. This tool allows for better design and/or analysis of hydraulic processes, which is the majority of processes utilized in water and wastewater treatment. This capacity is utilized by both the water and wastewater side of the Water Department. For example, it is being used to determine the efficacy of a post filtration chlorine contactor at Samuel S. Baxter water treatment plant and it is also being used to analyze the velocity profile on influent flow in the Northeast WPCP set 2 primary tanks. Flow streams that intercept the accumulated sludge re-suspend that sludge thereby reducing the upper end capacity of that unit process. The CFD tool was used to modify the influent conditions to eliminate this effect increasing the hydraulic capacity of that process. The development of this capacity is in line with the Water Department's history of strong internal engineering.

Biosolids Treatment and Utilization

The City is required by federal and Commonwealth law, administered by the EPA and the PaDEP, respectively, to treat and dispose of biosolids captured during wastewater treatment at the City's WPCPs. Biosolids from the three WPCPs are treated at the Biosolids Recycling Center (the "BRC"). The BRC currently contains a dewatering station and a storage facility. The BRC has produced two grades of biosolids, as defined by state and federal regulations. These are Class A biosolids compost and Class B dewatered biosolids cake. Class B biosolids are used on farmlands and at mine reclamation sites and co-disposed with trash at municipal solid waste landfills Class A compost, which was produced at the BRC until October 2007 is put to a variety of local uses, including garden and horticultural applications and recreation sites.

Biosolids processing and distribution is governed at the national level by EPA regulations published at 40 CFR Part 503 regulations in February 1993 (the "Part 503 Regulations"). The Part 503 Regulations require, among other things, certain record keeping and monitoring procedures and compliance with technical standards for pathogen reduction, vector attraction reduction and pollutant limits. These regulations are self-implementing and directly enforceable, in that the EPA can initiate enforcement actions for non-compliance even in the absence of the EPA's issuance of permits under the NPDES permitting program. The Water Department is in full compliance with the technical standards in the Part 503 Regulations. For the most part, these standards have been adopted by Pennsylvania, Maryland, Virginia and New Jersey in those states' regulation of biosolids quality and use.

While the Water Department has been successful in using Class B biosolids over the last 25 years, the nation has witnessed continuing health and environmental concerns raised by the public with Class B biosolids recycling. As such, in the summer of 2003, the Water Department began a process to move to an entirely Class A biosolids process, which could operate in Philadelphia without odors. It entered into a contract with the engineering consultant firm Camp, Dresser & McKee to assist with the procurement of facilities and services for Philadelphia, to operate the dewatering station for 20 years and to construct new facilities to produce Class A biosolids products. Alternative processes identified for this procurement process included fully-enclosed composting systems and heat drying technologies. The Request for Qualifications was released in August 2003, and, in response, the City received qualification statements from four teams, two of which were found qualified and invited to receive a Request for Proposals. One team, Philadelphia Biosolids Services, LLC ("PBS") submitted a proposal on November 24, 2004. This team offered to build a pair of sludge dryers. The Water Department has negotiated a long term contract with PBS for improvements to the BRC. The contract includes a provision for interim operation of up to five years, during which PBS will take over operation of the existing Biosolids Recycling Center. Within the first three to five years, PBS will finance, design, build, own, and operate a thermal drying facility that will handle all of the sludge processed by the Water Department and make a Class A product in the form of pellets that can be used as fertilizer and has potential as a fuel. PBS will be responsible for the disposition of the Class A pellets, thus relieving the Water Department of this burden. The Class A period of operation will last 20 years with a five-year renewal at the option of the Water Department. The project is estimated to result in a savings of approximately $200,000,000 over the contract life.

On June 19, 2008, City Council passed enabling legislation to allow the proposed contract with PBS to proceed. Mayor Nutter approved the contract with PBS in October 2008 and PBS has been operating the facility since October 13, 2008. The Department entered into a contract and lease with the Philadelphia Municipal Authority ("PMA") to operate the Water Department's existing BRC, including a dewatering station, and to construct new thermal drying facilities to produce Class A biosolids pellets. The contract term is up to 25 years, including a five-year renewal option. PMA has contracted with PBS for these services. At the time the contract was executed, the Water Department transferred the remaining 60 employees at this facility to other assignments. Subsequently, the Water Department has transferred to other units certain vehicles and equipment that had been part of the existing BRC operation but were no longer needed by the contractor. At this time, most of the fixed assets associated with the facility, except for those related to the discontinued composting operations remain in service. As of December 2009, PBS has received construction financing in the amount of $68,275,000 through the Pennsylvania Economic Development Finance Authority and began construction of the thermal drying facilities early in 2010. Construction is expected to be completed in January, 2012.

Fiscal Year 2009 payments to PBS totaled $16,387,368.08 for nine months. Fiscal Year 2010 payments totaled $20,792,641 for this contract. Fiscal Year 2011 payments were $22,493,502, including a one time payment of $1,009,000 to Philadelphia Gas Works for an upgrade to the Texas Eastern natural gas pipeline that will serve the BRC. The budget for Fiscal Year 2012 includes $25,795,000 for this contract.

Watershed Management

The Water Department's Office of Watersheds (the "OOW"), created by the Water Department in Fiscal Year 1999, is working to achieve viable and measurable improvements to the region's waterways by implementing planning and management strategies that foster good science, public involvement and fiscal responsibility. Its goal is to meet regulatory requirements while enhancing the health and aesthetics of the environment. The OOW has been charged with the mission of integrating traditionally separate tasked programs, including the City's CSO program, the Stormwater Management Program, and its Source Water Protection Program, to maximize the resources allocated to these programs and to ensure the comprehensive achievement of each of their goals. The OWW organization is composed of engineers, aquatic biologists, environmental specialists, urban planners, GIS specialists and community and education outreach staff, which facilitates the necessary interdisciplinary approach to achieve watershed protection. The OOW is formulating watershed management plans for the City's receiving waters through the establishment of watershed partnerships. These partnerships act as a forum for participating members to work together to develop a watershed strategy that meets state and federal regulatory requirements but that also embraces the environmental/public sensitive approach to improve stream water quality and quality of life in communities. The Water Department has implemented an approach to water quality management that seeks to reduce water pollution from all sources in a manner that is based on measurable results, be it improvements to the dissolved oxygen and fecal coliform levels of the stream, or streambank restoration and the addition of riparian buffers to the adjoining park land, or a mixture of both. These improvements translate into a fair and equitable distribution of the costs related to pollution abatement and achieving water quality goals. The Water Department has also successfully engaged urban and suburban communities to explore inter-regional cooperation based on an understanding of the impact of land use and human activities on water quality. The Water Department has also been a municipal partner in the state-sponsored Act 167 Stormwater Management Plan for the Darby-Cobbs Watershed (completed in 2006) and was the sponsor for the Tookany/Tacony-Frankford Watershed Act 167 Plan (completed in 2009). The Water Department has recently contracted with the PaDEP to conduct a county-wide Act 167 Plan, focusing on the Pennypack completed in the summer of 2011, the Poquessing (winter 2011) and Wissahickon (fall 2012) watersheds over the next three years.

A river conservation plan was also initiated for the Delaware Direct Watershed, within the City's boundaries, in the winter of 2007. This river conservation plan will serve as the basis an integrated watershed management plan, with a special focus on storm flood relief projects and the Water Department's CSOLTCP (described below). The Water Department kicked off the IWMP planning for the Delaware River Watershed at the end of 2009.

Source Water Protection

Based on the assessment findings and identification of top priorities for source water protection, the Water Department facilitated the formation of the Schuylkill Action Network (the "SAN") in spring 2003 to focus on drinking water quality issues of the Schuylkill River Watershed, which covers parts of 11 counties in southeastern Pennsylvania. The SAN team members include the EPA Region III, the PaDEP, the Water Department, the DRBC, conservation districts, locally elected officials, watershed organizations, and other stakeholders assisting with crafting local solutions. In 2004, the SAN was awarded a $1,500,000 grant from the EPA's Targeted Watershed Program - one of only 13 awarded nationally in 2004. Funding from the grant is being applied to priority projects identified by the SAN's working groups.

The SAN working groups include a Steering Committee, a Planning Workgroup, and Technical Workgroups to address the complex issues in the Schuylkill River watershed. The SAN has been developing and implementing projects that restore and protect the watershed as a regional drinking water source; promoting stewardship and education; transferring the experience and lessons learned to other communities; and enhancing intergovernmental communication and coordination.

Most notably, the SAN initiated the first Early Warning System ("EWS") of its kind. The early notification of changes in river water quality is important to public water suppliers with drinking water intakes on both the Schuylkill and Delaware Rivers. The Delaware Valley EWS, which covers both the Schuylkill and lower Delaware Rivers, is a fully integrated computer-based system that includes three major components: a telephone-based notification system, the website and data management system, and a water quality monitoring network. The system provides a secure and centralized location through which the EWS participants, including water utility personnel, emergency responders, government agencies and industry representatives, can share information about source water quality and emergency or contamination events.

In addition, the SAN also launched the first recreational advisory system of its kind in the summer of 2005. The Philly RiverCast System is a forecast of water quality that predicts potential levels of pathogens in the Schuylkill River between Flat Rock Dam and Fairmount Dam (i.e., between Manayunk and Boathouse Row). The Philly RiverCast System uses a three-tier color scale to designate the suitability of water quality for contact recreational activities.

Green: Water quality is suitable for all recreational activities.
Yellow: Water quality may not be suitable for activities involving direct contact with the river
Red: Water quality is not suitable for activities involving direct contact with the river.

Since its launch in 2005, RiverCast has experienced approximately 150,031 visits. The interest in this site provides the Water Department will the ability to gauge the public's interest in the recreational use of the Schuylkill River, an essential component to encouraging public stewardship of the river's natural resources.

Based on the success of the Source Water Protection Program, the Water Department has been awarded the EPA Region III (Mid Atlantic States) 2002 Source Water Protection Award, the American Water Works Association's 2003 Exemplary Source Water Protection Award and the 2005 American Council of Engineering Companies Diamond Award for the Schuylkill River Source Water Assessment. These awards recognize the Water Department as the model for the region and country in the area of Source Water Protection.

Investigation and Mitigation of Flooding

Several areas of the City (South Philadelphia, Northern Liberties and Washington Square West) have experienced significant basement flooding during intense rain events. The frequency and intensity of flood producing rain events have increased over recent years. As a result of these events, the Water Department has initiated an intensive study of the basement flooding situation. The Water Department has initiated a hydraulic analysis of the sewer system in the flood prone areas in order to understand the cause of the basement flooding as well as to determine possible solutions. The Water Department has begun and will continue to schedule flood relief capital projects into its capital program as determined by the hydraulic analysis. Thus far, the Water Department has programmed flood relief projects in Snyder Avenue, in South Philadelphia, and in the Washington Square West area. These projects by their complex nature will take many years to design and construct. In order to provide relief for properties as quickly as possible while the capital solutions are identified, designed, and constructed, the Water Department has budgeted $1,100,000 in each of Fiscal Year 2010 and Fiscal Year 2011 for a Backwater Valve installation program.

This Backwater Valve installation program will consist of the Water Department, through private plumbers, evaluating flood prone properties to determine if they would benefit from the installation of a backwater valve(s). If the determination is positive, then a backwater valve configuration shall be engineered for that particular property and installed by a private plumber at the Water Department's cost. The property owners must agree to accept maintenance responsibility for the backwater valve(s). The Water Department has established an assistance program to alleviate flooding condition in basements due to heavy rainstorms. The following zip codes are eligible: 19107, 19123, 19145, 19146, 19147 and 19148. Seventy-two (72) properties were served in Fiscal Year 2009 at a total cost of $220,199.10. One hundred seventy six (176) properties were served in Fiscal Year 2010 at a total cost of $566,552.00.

Asset Management Initiative

The Water Department is developing an asset management structure, which will enhance the Water Department's philosophy and practices for infrastructure renewal. Presently functional units (i.e. wastewater operations) have developed performance measures and goals to achieve their core missions in managing their assets. The Water Department currently has a suite of programs in place to manage and assess its infrastructure in order to best meet their core missions (Maximo, capital facility inspection program, predictive/preventive maintenance programs for key assets, "point system" for scheduling water main replacement/rehabilitation, sewer assessment program for collector system condition assessment and GIS). These individual programs are utilized to make "best practice" rehabilitation or renewal decisions for the Water Department's collective infrastructure. The asset management initiative will investigate and identify appropriate asset management strategies for the Water Department to integrate into its decision making process to assist decision making and capital project ranking. This process will take place over the next several years. Consideration of the relative risk of failure for the individual asset, life-cycle costing for replacement, ancillary damage/consequences if the asset were to fail, and operations and maintenance history of the asset (to evaluate non-capital options for extending the individual assets life). With this information and existing Water Department programs, an effective process can be developed to assist managers in making informed decisions of either increased maintenance (operating budget) to extend useful life, planning for capital expenditure using life-cycle costing principles, and the relative rank of the capital expenditure compared to other proposed capital expenditures.

Energy

The Water Department has convened an energy committee tasked with the development of a comprehensive energy policy and plan. The cost of energy and the rate structure associated with it have determined how the Water Department traditionally thinks about energy. The Water Department has controlled energy cost well by monitoring electrical demand and reducing waste. However, removal of the rate caps on electricity, volatile energy markets in general, wet weather pumping scenarios and carbon footprint reduction have initiated a fresh look into policies and procedures to conserve energy and identify alternative sources. The energy committee has retained Black & Veatch Corporation to develop a five-year strategic energy plan for the Water Department. This plan will include rate projections, conservation management, and development of renewable energy sources. In the meantime, the Water Department has completed designs for a 5.6 megawatt digester gas (biomethane) cogeneration facility at its Northeast water pollution control plant. Once operational, this project will reduce the Water Department's electricity usage by 15% overall and save an estimated $4,000,000 in annual electricity costs.

Efforts to enhance digester gas production have been initiated. A preliminary feasibility analysis has been conducted for piloting the OpenCel cell-lysing system, which lyses the cells of the organic matter entering the anaerobic digester, resulting in an increase in available food for digester microbiology, reduced solids, and increased methane generation. The Rotamix chopper pump and nozzle configuration is being examined to determine what increase in food consumption and methane generation might occur simply from chopping digester contents and improving mixing. Food waste and FOG (fats, oils and grease) addition to the anaerobic digesters for co-digestion are being evaluated for program implementation feasibility. The Water Department now accepts glycol (aircraft de-icer fluid) from the Philadelphia International Airport directly into the anaerobic digesters at the Southwest water pollution control plant. This creates revenue for the Water Department and saves the airport money by reducing the cost of glycol disposal. Most importantly, this moves the waste stream process of glycol from an energy intensive aerobic process to an energy producing anaerobic process.

The Water Department has examined solar energy opportunities at its facilities; two projects have been initiated from this examination. One solar project, which is already complete, is a 250 kw system owned and operated by the Water Department at the Southeast water pollution control plant; the other will be a power purchase agreement at the Samuel S. Baxter water treatment plant. Solar power will offset daytime demand and produce renewable energy. The Water Department continues to explore the feasibility of renewable energy opportunities at its facilities from geothermal wells at its new West Philadelphia Sewer Maintenance Yard, to revisiting hydroelectric power options from the rivers.

The Philadelphia Naval Shipyard

The water and sewer infrastructure within the former Philadelphia Naval Shipyard is owned by PAID. This is a developing 1,200 acre industrial and commercial site that is now referred to as the Philadelphia Naval Business Center ("PNBC"). The Water Department had operated much of the water and sewer system under a contract with PAID since it was relinquished by the U.S. Navy under the federal base closure process. Since the contract inception in October 2002, the Water Department has billed PAID $2,930,784.83 for contract operations net of adjustments/corrections and all payments due have been paid.

The Water Department is currently working on a transition plan to assimilate the water and sewer systems into the public systems serving the rest of the City. The transfer of utility ownership and operation occurred in November 2009. Since some of the Navy-built water and sewer infrastructure at PNBC does not comply with Water Department standards, improvements are underway to modify and improve the existing system. Also, significant development is planned which require the expansion or reconfiguration of the current water and sewer infrastructure. The New River City program budget includes approximately $60,000,000 for the expansion and modernization of the water and sewer systems at PNBC.

At present, the Water Department delivers potable water to a master meter located at PNBC. Similarly, there is a single wastewater connection through which all wastewater from PNBC is discharged for treatment at the Water Department's Southeast Water Pollution Control Plant. PAID sub-meters and bills the businesses for water and sewer services. The current billings for water and sewer to PAID through the master meter for the 12-month period ending December 2009 totaled $507,494.55 and for December 2010 totaled $592,156.15.

Based on information provided by PAID, in 2009 there were approximately 132 existing water and sewer customers at PNBC at the time of transfer that will become direct Water Department customers. If the existing meter sizes and consumption patterns are assumed to continue, when these accounts are transitioned to direct retail billing, monthly billings of approximately $149,009 would result, or approximately $1,788,000 per year, based on rates in effect as of December, 2008. PNBC is one of the remaining large undeveloped parcels in the City, and the Water Department anticipates very significant growth in its commercial and industrial customer base there.

Security

In light of the events of September 11, 2001, the Water Department took steps to improve the security of the City's water supply and all other major Water Department facilities and assets. These steps were taken in close coordination with the City's Managing Director's Office and all other appropriate City agencies and departments. The Water Department is representative agency in the City of Philadelphia Emergency Operations Center, which is designed to permit City emergency personnel to respond quickly to any major event through specialized computer and communications equipment, including a backup 911 system. The Water Department remains in contact with federal, state, and local law enforcement and emergency personnel and has performed a vulnerability analysis of its entire potable water system. The work was primarily funded by the EPA and the Water Department delivered its report to the EPA on March 31, 2003. Details of the enhanced security measures already taken and those presently under consideration cannot be disclosed.

It should be noted that the Water Department had an extensive water quality protection and security plan in place prior to the events of September 11, 2001. All finished water basins are completely covered; all plants are fenced in and topped by barbed wire; gates are secured; video surveillance equipment has been installed; and the Water Department continues to draw and conduct nearly one thousand tests on water samples from various locations each day. Municipal guards were assigned to the main entrance at each water plant in 2002 to control access to the facility to only authorized persons and/or deliveries. Online water quality monitors provide continuous testing of all stages of the treatment process.

To further ensure the safety and quality of the City's drinking water, the Water Department will continue to expand its network to continuously monitor water quality using online instrumentation. The system provides the Water Department with the ability to track real-time water quality conditions at strategic locations throughout the City's water distribution system and to monitor any variations should they occur. Water quality data is currently transmitted from more than twenty monitoring sites to the Water Department's central laboratory where engineers and scientists check for early warning signs of water quality deterioration and document any unforeseen changes. These monitors will also be connected to the distribution systems monitoring network. The Water Department plans to assess the performance of the monitoring system at the current locations while continuing to investigate alternative technology for further installations at wholesale customer interconnects, pumping stations and other critical points in the distribution system.

Recently, the EPA, under its Water Security Initiative program, awarded a grant to the Water Department to develop and install a Contamination Warning System Demonstration Pilot for detecting and mitigating possible contamination of the City's drinking water distribution system. The City's project included total costs of $12,599,846. On November 21, 2008, the Water Department was notified that appropriations for the initial phase of the project totaling $2,677,963 were approved. The initial phase included $2,000,000 in Federal funds and $677,963 in local share. As of the close of calendar 2009, the Water Department has received $5,750,000 of federal funding. The Water Department received an additional $3,075,000 in calendar year 2010, which will complete the full $9,500,000 federal share for the Demonstration Pilot. The City's share will comprise approximately $3,000,000 when the project is finished. More than 80% of the City's share is comprised of services-in-kind comprised of salaries and benefits for existing City employees assigned to the project.

In 2009 preparations began to add back-up power generation to the Samuel S. Baxter Plant, the Torresdale High Service Pump Station and the Roxborough High Service Pump Station. Work on the Baxter Plant and the Roxborough High Station Pump Station was completed in 2010, and work at the Torresdale High Station Pump Station is expected to be completed by the end of the 2011 calendar year.

Design preparation is currently underway for emergency generation equipment and switchgear replacement at the following facilities: Fox Chase Booster pump station, Torresdale Raw Water pump station and East Oak Lane pumping station. The remainder of the Water Department facilities are being studied and evaluated. Subject to space constraints, switchgear requirements, and coordination with other projects, it is anticipated that most of these facilities will be outfitted with back-up power generators by 2017.

LITIGATION AND CLAIMS

Claims against the Water Department are paid out of the Water Fund and only secondarily out of the City's General Fund, in the event cash balances in the Water Fund are insufficient at the time of payment of the claim. The General Fund is then reimbursed by the Water Fund for any such advance. The following discussion concerning litigation and claims, which has been prepared based on information supplied by the Law Department and has been reviewed by the Law Department, relates to litigation and claims against the City chargeable to the Water Fund. A discussion of other litigation affecting the City is set forth under the caption in APPENDIX III – "CERTAIN INFORMATION CONCERNING THE CITY OF PHILADELPHIA – Litigation."

Various claims have been asserted against the Water Department and in some cases lawsuits have been initiated. The Water Department may be liable if these claims are reduced to judgment or otherwise settled in a manner requiring payment by the Water Department.

Claims against the Water Fund totaled approximately $2,500,000 in Fiscal Year 2007, $4,600,000 in Fiscal Year 2008, $5,000,000 in Fiscal Year 2009 and $5,400,000 in Fiscal year 2010. The Water Department's budget for each of Fiscal Years 2010 and 2011 contains an appropriation for Water Department claims in the amount of $6,500,000 for each such Fiscal Year.

A civil action was filed in the Court of Common Pleas on December 17, 2009 challenging certain portions of the Water Commissioner's Rate Determination, dated October 28, 2008 and related regulations (the "Rate Determination"). The aforesaid action seeks relief under the Declaratory Judgments Act, 42 Pa. C.S. 7531, *et seq*. and specifically challenges the validity of the Rate Determination which, among other things, established three successive increases in water and sewer rates for Fiscal Years 2010 through 2012. Preliminary objections were filed by the Water Department in response to the above action on January 22, 2010. These objections addressed all counts alleged in the complaint and requested that the Court of Common Pleas dismiss the complaint on grounds of lack of jurisdiction, legal insufficiency, failure to comport with law or rule of court and/or non-joinder of indispensable parties. Plaintiffs filed replies on February 12, 2010, and the Water Department filed a sur-reply on March 1, 2010. On May 12, 2010, the Court of Common Pleas sustained the preliminary objections raised by the Water Department and dismissed Plaintiffs' case in its entirety. Promptly thereafter, Plaintiffs filed an appeal to the Commonwealth Court of Pennsylvania. Briefs were filed by both parties from September to October 2010. Oral argument was held on February 8, 2011. The Commonwealth Court reversed and remanded the actions to the Court of Common Pleas on May 4, 2011, ordering further proceedings consistent with its decision. The case has not yet been listed for a pre-trial conference by the Court of Common Pleas. The City continues to believe that the lawsuit is without merit; however, there can be no assurance of the outcome of the action pending and the effect of such litigation on future rates.

TAX EXEMPTION

On November 25, 1997, Ballard Spahr Andrews & Ingersoll, LLP (now Ballard Spahr LLP) and Singley & Associates delivered their opinion to the effect that for federal income tax purposes under existing law as enacted and construed on such date, (i) interest on the Series 1997 Bonds is excludable from gross income assuming the accuracy of the certifications of the City and continuing compliance by the City with the requirements of the Internal Revenue Code of 1986, as amended (the "Code"); (ii) interest on the Series 1997 Bonds is not an item of tax preference for purposes of either individual or corporate federal alternative minimum tax, but interest on Series 1997 Bonds held by a corporation (other than an S corporation, regulated investment company, real estate investment trust or real estate mortgage investment conduit) may be indirectly subject to federal alternative minimum tax because of its inclusion in the adjusted current earnings of a corporate holder; and (iii) interest on Series 1997 Bonds held by foreign corporation may be subject to the branch profits tax imposed by the Code.

In their opinion dated November 25, 1997, Ballard Spahr Andrews & Ingersoll, LLP and Singley & Associates also were of the opinion that, under the laws of the Commonwealth of Pennsylvania, as enacted and construed on such date, interest on the Series 1997 Bonds is exempt from Pennsylvania personal income tax and Pennsylvania corporate net income tax and the Series 1997 Bonds are exempt from personal property taxes in the Commonwealth of Pennsylvania

Ownership of Series 1997 Bonds may result in collateral federal income tax consequences to certain taxpayers, including, without limitation, financial institutions, property and casualty insurance-companies, individual recipients of Social Security or Railroad Retirement benefits, certain S corporation, and taxpayers who may be deemed to have incurred or continued indebtedness to purchase or carry the Series 1997 Bonds. No opinion is expressed as to these matters.

A person making payments of tax-exempt interest to a bondholder is generally required to perform "backup withholding" from the interest if the bondholder does not provide an IRS Form W-9 to the payor. "Backup withholding" means that the payor withholds tax from the interest payments at the backup withholding rate, currently 28%. Form W-9 states the bondholder's taxpayer identification number or basis of exemption from backup withholding.

If a holder purchasing a 1997B Bond through a brokerage account has executed a Form W-9 in connection with the account, as generally can be expected, there should be no backup withholding from the interest on the 1997B Bond. In any event, backup withholding does not affect the excludability of the interest on the 1997B Bonds from gross income for federal income tax purposes. Any amounts withheld pursuant to backup withholding would be allowed as a refund or a credit against the owner's federal income tax once the required information is furnished to the Internal Revenue Service.

A copy of the approving opinion of Ballard Spahr Andrews & Ingersoll, LLP and Singley & Associates delivered in connection with the issuance of the 1997B Bonds is attached as Appendix IV hereto. Co-Bond Counsel has not undertaken to update the approving opinion delivered on November 25, 1997.

Ballard Spahr LLP and The Smyler Firm, Co-Bond Counsel, in connection with and on the date of the delivery of the Letter of Credit, expect to deliver an opinion to the effect that the delivery of the Letter of Credit as described in this Reoffering Circular will not, in and of itself, adversely affect the exclusion of interest on the 1997B Bonds from gross income of the owners thereof for federal income tax purposes.

NEGOTIABLE INSTRUMENTS

The Act provides that bonds issued thereunder shall have all the qualities and incidents of securities under the Uniform Commercial Code of the Commonwealth of Pennsylvania and shall be negotiable instruments, transferable, however, solely on the books of the City kept for such purpose.

REMARKETING

The 1997B Bonds are being remarketed by Citigroup Global Markets Inc., pursuant to an Amended and Restated Remarketing Agreement between the City and Citigroup (the "Remarketing Agreement"). Citigroup will earn remarketing fees paid by the City in connection with periodic remarketings pursuant to the Remarketing Agreement.

By acceptance of a confirmation of purchase, delivery or transfer of a 1997B Bond, each beneficial owner (a "Beneficial Owner") of an interest in a 1997B Bond will be deemed to have acknowledged the cancellation and termination of the Policy and that such Beneficial Owner will have no recourse to the Policy for payment of principal of or interest on the 1997B Bonds. See "PLAN OF FINANCE" herein.

CERTAIN RELATIONSHIPS

Ballard Spahr LLP and The Smyler Firm each provide ongoing legal services to the City.

RATINGS

Moody's Investors Service ("Moody's") has assigned to the 1997B Bonds the ratings of "Aa1/VMIG 1". Standard & Poor's Rating Services, a Division of The McGraw–Hill Companies, Inc. ("Standard & Poor's") is expected to assign to the 1997B Bonds the ratings of "AAA/A-1+".

The ratings are based upon (i) the ratings of the Bank, (ii) the long term ratings of the Water Department and (iii) Moody's and S&P's credit correlation of the ratings of the Bank and the Water Department. The Bank's long term and short term ratings from Moody's and Standard & Poor's as of the date of this reoffering circular are "Aa2" and "AA-", respectively. The underlying ratings assigned to the 1997B Bonds by Moody's and Standard & Poor's are "A1" and "A", respectively.

An explanation of the significance of each of such ratings may only be obtained from the rating agency furnishing the same. There is no assurance that any of such ratings will be maintained for any given period of time or that they may not be raised, lowered or withdrawn entirely, if in a rating agency's judgment circumstances so warrant. Any downward change in or withdrawal of any such ratings may have an adverse effect on the price at which the 1997B Bonds may be resold. Neither the City nor Citigroup have assumed any responsibility to advise the holders of the 1997B Bonds of any change in any rating on the 1997B Bonds or maintain any particular rating on the 1997B Bonds.

LEGAL MATTERS

The validity and tax exempt status of the 1997B Bonds were passed upon by Ballard Spahr Andrews & Ingersoll, LLP and Singley & Associates, in connection with the issuance of the 1997B Bonds on November 25, 1997. Such opinion has not been updated and a copy of such opinion is attached hereto as Appendix IV.

Certain legal matters in connection with the substitution of the Letter of Credit and remarketing of the 1997B Bonds will be passed upon for the City by the City Solicitor and by Ballard Spahr LLP and The Smyler Firm, Co-Bond Counsel, both of Philadelphia, Pennsylvania. Certain legal matters in connection with the issuance of the Letter of Credit and will be passed upon for the Bank by its counsel, Obermayer Rebmann Maxwell & Hippel LLP.

FINANCIAL ADVISOR

Phoenix Capital Partners, LLP and Public Financial Management, Inc., both of Philadelphia, Pennsylvania, have been retained by the City as Co-Financial Advisors (the "Financial Advisors") in connection with the reoffering of the 1997B Bonds. The Financial Advisors have assisted in the preparation of this Reoffering Circular and in other matters relating to the planning, structuring and reoffering of the 1997B Bonds by the City.

NO LITIGATION OPINION

Upon the delivery of the 1997B Bonds, the City Solicitor will furnish an opinion, in form satisfactory to Co-Bond Counsel and the Remarketing Agent, to the effect, among other things, that to the best of his knowledge after customary inquiry there is no litigation or other legal proceeding pending, or threatened in writing against the City, to restrain or enjoin the issuance or delivery of the 1997B Bonds or challenging the validity of the proceedings of the City taken in connection therewith or the pledge or application of any moneys provided for the payment of the 1997B Bonds, or contesting the powers of the City with respect to any of the foregoing.

CERTAIN REFERENCES

All summaries of the provisions of the 1997B Bonds and the security therefor, the Act, the General Ordinance set forth herein and in APPENDIX II and all summaries and references to other materials not purported to be quoted in full, are only brief outlines of certain provisions thereof and do not constitute complete statements of such documents or provisions. Reference is made hereby to the complete documents relating to such matters for the complete terms and provisions thereof or for the information contained therein. All estimates, assumptions and statistical information contained herein, while taken from sources considered reliable, are not guaranteed. So far as any statements are made in this Reoffering Circular involving matters of opinion, or projections or estimates, whether or not expressly so stated, they are made merely as such and not as representations of fact.

The attached Appendices are integral parts of this Reoffering Circular and should be read in their entireties together with all foregoing statements in this Reoffering Circular.

The agreement between the City and holders of Bonds is fully set forth in the 1997B Bonds and the General Ordinance. Neither this Reoffering Circular nor any advertisement for the 1997B Bonds is to be construed as constituting an agreement with purchasers of the 1997B Bonds.

CONTINUING DISCLOSURE

In accordance with the requirements of Section (b)(5) of Rule 15c2-12 promulgated by the Securities and Exchange Commission, the City entered into a continuing disclosure undertaking (the "Continuing Disclosure Agreement") with Digital Assurance Certification, L.L.C., to provide continuing disclosure to the owners of the 1997B Bonds. See APPENDIX VII – "CONTINUING DISCLOSURE AGREEMENT" for the detailed provisions of the Continuing Disclosure Agreement.

ADDRESSES OF PRINCIPAL PARTIES

City:	City of Philadelphia Office of the Director of Finance 1330 Municipal Services Building 1401 J.F. Kennedy Boulevard Philadelphia, Pennsylvania 19102 Attention: Director of Finance Telephone: (215) 686-6140 Facsimile: (215) 568-1947
	City Treasurer's Office 1401 John F. Kennedy Blvd. Suite 640 MSB Philadelphia, Pennsylvania 19102 Attention: City Treasurer Telephone: (215) 686-2300 Facsimile: (215) 686-3815
Financial Office of Water Department:	City of Philadelphia Water Department Aramark Tower 1101 Market Street, 5th Floor Philadelphia, Pennsylvania 19102 Attention: Deputy Commissioner for Finance Telephone: (215) 685-6106 Facsimile: (215) 685-4915
Fiscal Agent, Tender Agent, Paying Agent and Registrar:	U.S. Bank National Association 123 South Broad Street, 11th Floor Philadelphia, Pennsylvania 19109 Attention: Corporate Trust Department Telephone: (215) 670-6303 Facsimile: (215) 670-6337
Bank:	TD Bank, N.A. One Commerce Square 2005 Market Street, 2nd Floor Philadelphia, Pennsylvania 19103 Attention: Joseph Tammaro Telephone: (215) 282-4482 Facsimile: (215) 252-4033

the Remarketing Agent: Citigroup Global Markets Inc.
390 Greenwich Street, 5th Floor
New York, New York 10013
Attention: Short-Term Tax Exempt Trading
Telephone: (212) 723-7082
Facsimile: (212) 723-8809

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This Reoffering Circular has been duly executed and delivered by the following officers on behalf of the City of Philadelphia.

CITY OF PHILADELPHIA

By: /s/ Michael A. Nutter
Michael A. Nutter, Mayor

By: /s/ Alan L. Butkovitz
Alan L. Butkovitz, City Controller

By: /s/ Donna J. Mouzayck
Donna J. Mouzayck, First Deputy City Solicitor

Approved:

By: /s/ Rob Dubow
Rob Dubow, Director of Finance

APPENDIX I

FINANCIAL STATEMENTS OF THE WATER FUND
FOR FISCAL YEARS ENDED JUNE 30, 2010 AND 2009

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Financial Statements
For Fiscal Year Ended June 30, 2010

Philadelphia
Water Department

CITY OF PHILADELPHIA WATER DEPARTMENT

2010 FINANCIAL STATEMENTS

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The City of Philadelphia Water Department
Management Discussion and Analysis

The Water Department was established by the City pursuant to the City's Home Rule Charter with the power and duty to operate, maintain, repair and improve the Water and Wastewater Systems. The Charter requires the Water Department to fix and regulate rates and charges for supplying water and for wastewater treatment service in accordance with standards established by City Council. Such standards must enable the City to realize from rates and charges an amount at least equal to operating expenses and debt service charges on any debt incurred or to be incurred for the Water and Wastewater Systems, and proportionate charges for all services performed for the Water Department by all officers, departments, boards or commissions of the City. The Charter also authorizes the Water Department, with the authorization of City Council, to enter into contracts for supplying water service and sewer and sewage disposal service to users outside the limits of the City.

The operations of the Water Department are accounted for in the Water Fund, which is an enterprise fund of the City. The Water Fund is an accounting convention established pursuant to the Charter for the purpose of accounting for the assets, liabilities, revenues, expenses and Rate Covenant compliance on a legally enacted basis for the Water and Wastewater Systems. The Water and Wastewater Funds are funds required by the 1993 General Water Revenue Bond Ordinance to be established and maintained with the Fiscal Agent for so long as the Revenue Bonds authorized under the ordinance are outstanding. Under the ordinance, Water Fund Bond proceeds and Project Revenues must be segregated from other funds of the City.

The Philadelphia Water Department is a municipal utility serving the citizens of the Philadelphia region by providing integrated water, wastewater, and stormwater services. The utility's primary mission is to plan for, operate, and maintain both the infrastructure and the organization necessary to purvey high-quality drinking water, to provide an adequate and reliable water supply for all household, commercial, and community needs, and to sustain and enhance the region's watersheds and quality of life by managing wastewater and stormwater effectively.

The Water Department, which began water system service in 1801, supplies water to the City and a portion of each of Montgomery, Delaware and Bucks Counties, Pennsylvania, and wastewater service to the City and to ten municipalities and authorities located in Montgomery, Delaware and Bucks Counties, Pennsylvania. The population served by the water system was approximately 1,728,900 as of the 2000 census, of which 1,518,000 were in the City, 154,000 were in Bucks County and approximately 56,900 in Montgomery and Delaware Counties. The population served by the wastewater system was approximately 2,218,000 as of the 2000 census, of which 1,518,000 were in the City and 700,000 were in the suburbs.

Administration

The Water Department is managed by a Commissioner appointed by the Managing Director of the City with the approval of the Mayor. The Commissioner appoints deputies with the approval of the City's Managing Director; substantially all other employees of the Water Department are appointed under the provisions of the City's Civil Service Regulations.

The City's Department of Revenue performs all functions relating to meter reading, customer accounts and collections for the Water Department through the Water Revenue Bureau. The Department of Revenue and the Water Revenue Bureau are under the direction of the Director of Finance. The Director of Finance, as the chief financial, accounting and budget officer of the City, has overall responsibility for the fiscal administration of all City departments, including the Water Department. Audits of all City departments, including the Water Department, are performed annually by the Office of the City Controller. The Law Department of the City, headed by the City Solicitor, handles all legal matters affecting the Water Department.

Water and Wastewater Systems

The water and wastewater systems of Philadelphia are owned by the City and operated by the City's Water Department. The water system provides water to the City (130 square mile service area), to Aqua Pennsylvania, Inc., formerly Philadelphia Suburban Water Company, and to the Bucks County Water and Sewer Authority. The City obtains approximately 58 percent of its water from the Delaware River and the balance from the Schuylkill River. The water system serves approximately 472,600 accounts through 3,137 miles of mains, three water treatment plants, 15 pumping stations and provides fire protection through more than 25,200 fire hydrants.

The wastewater system services a total of 360 square miles of which 130 square miles are within the City and 230 square miles are in suburban areas. The total number of accounts is approximately 471,000. The wastewater and stormwater systems contain three water pollution control plants, 17 pumping stations, and approximately 3,652 miles of sewers. Based on its current NPDES discharge permit, the City is required to achieve effluent limitations that are considered more stringent than those required to achieve secondary treatment levels as defined in the Federal Water Pollution Control Act, as amended.

PWD's three water treatment plants deliver approximately 260 million gallons of top quality drinking water each day. The Department performs more than 350,000 tests annually at these plants to ensure consistent, optimal treatment and a healthy water supply. In addition, thousands of samples of tap water are analyzed annually at the Department's state of the art testing laboratory. These samples are collected from City reservoirs and from more than 65 locations throughout the Philadelphia area as well as monitoring water flows and pressures at 40 locations throughout the City.

The Department also treats wastewater at its three water pollution control plants. These plants treat approximately 490 million gallons of wastewater per day that meet or exceed federal and state standards, protecting and preserving our precious waterways. The Philadelphia Water Department also operates a central laboratory facility, and a range of technical and administrative support services.

Effective November 9, 2009, the Water Department entered into a contract with the Philadelphia Authority for Industrial Development to assume ownership and control of the public water and sewer system located within the former Philadelphia Naval Shipyard. The Philadelphia Navy Yard consists of approximately 1,100 acres of land, which was the Philadelphia Naval Shipyard and Naval Station from 1875 to 1995. The Navy officially closed the Philadelphia Navy Yard in 1995 and turned the property over to the City of Philadelphia, namely Philadelphia Authority for Industrial Development (PAID). The city at that time tasked the Philadelphia Industrial Development Corporation (PIDC) with the job of redeveloping the Navy Yard.

The Navy Yard contains approximately 38 miles of water mains, 21 miles of sewers, and 60 miles of stormwater conduit. The water system contains approximately 1,220 valves, 92 potable water hydrants, and a pump station. The waste water system contains approximately 1,340 manholes, 3 small lift stations, and 1 large pump station.

In 2007 the City created the New River City program using $67 Million of Water Department Debt Service Reserve funds. These funds were required to be used for water, wastewater, and/or stormwater purposes. Approximately $60 Million were allocated to PIDC for use at the Navy Yard to improve these systems. Several infrastructure improvement contracts are currently underway. Overall the improvement projects are about 2/3 complete

The management of the Water Department has prepared this narrative overview and analysis of the financial statements of the City of Philadelphia, Pennsylvania Water Fund for the fiscal year. The information presented here should be read in conjunction with the financial statements immediately following the discussion and analysis.

Financial Highlights

The Water Department met its bond coverage ratios for the year with a revenue bond coverage ratio of 1.20, a total debt service coverage ratio of 1.10, and a net operating revenue bond coverage ratio of 1.19 prior to the deduction of the transfer to the rate stabilization fund.

At the end of the current fiscal year, the Water Fund’s net assets totaled $755.2 million resulting from an excess of its assets over its liabilities; its unrestricted net assets showed a balance of $168.5 million.

The Water Fund’s net assets showed an increase of $39.3 million during the current Fiscal Year compared with $6.7 million for the prior fiscal year.

Net Assets

As noted earlier, net assets are useful indicators of a government's financial position. At the close of the current fiscal year, the Water Department's assets exceeded its liabilities by $755.2 million.

Capital assets, such as land, buildings, meters, water mains, and sewer lines, less any outstanding debt issued to acquire these assets comprise $225.6 million of the Water Department's net assets. Although these capital assets assist in providing services to our customers, they are generally not available to fund the operations of future periods.

In addition, a portion of the Department's net assets, $361.1 million is subject to external restrictions as to use. The remaining component of net assets is the unrestricted net assets, which ended the fiscal year with $168.5 million.

Bond Issuance

On April 15, 2010, PWD settled on $396,460,000 in refinancing revenue bonds. The bonds were issued as the City of Philadelphia, Pennsylvania-Water and Wastewater Revenue Bonds, Series 2010A. These bonds were used to refinance the series 2003 City of Philadelphia, Pennsylvania-Water and Wastewater Revenue Bonds and to pay costs related to the transaction. The Series 2003 Bonds were insured by AGM with Dexia as the liquidity provider. The liquidity facility expired on April 1, 2010 and was not renewed by Dexia. The City refunded the Series 2003 Bonds with the proceeds of the Series 2010A Bonds and terminated the Series 2003 Swap as further described in the forepart of the Official Statement for this transaction.

The bonds were issued at true interest cost of 3.384965%. The final bond maturity was accelerated to 2019 with a bond yield of 4.11%. The 2010A issue included both insured (AGM) and uninsured bonds. As part of the transaction the department received confirmation of its existing bond ratings from each of the three major bond rating agencies. Copies of the bond official statement and the rating agency reports are available on our website.

Bond Restructuring

On July 1, 2009 the Department successfully completed its "remarketing" of the series 2005b bonds. The remarketing involved the removal of DEPFA as liquidity provider and FSA as bond insurer and the substitution of Bank Of America, NA to provide both liquidity and credit enhancement via a direct pay letter of credit. Details of the transaction are more fully described in the reoffering circular which was issued in connection with this transaction and is available on the department's internet site.

Termination of Rate Lock (Swap) Agreement

In February, 2007 the City entered into a "rate lock" agreement with two counterparties for a $180,000,000 portion of these bonds which has an execution date of not later than

February 21, 2008, unless extended by the parties. These agreements were extended by the City until August 2010.

The eleventh supplemental ordinance (#060620) authorized the City to issue up to $325,000,000 in aggregate principal amount (exclusive of original issue discount) of additional Water and Wastewater Revenue Bonds (the "2009 New money bonds") under the general ordinance to finance certain capital projects of the Water department. The City originally anticipated issuing such bonds during Fiscal year 2008 and has entered into the 2007 Swap agreements (as described below) relating to $180,000,000 aggregate principal amount of such bonds. The 2009A new money issue was also authorized under this ordinance.

In connection with the anticipated issuance of the 2008 New Money bonds, on February 21, 2007, the City entered into two separate forward starting interest rate swap transactions, each evidenced by an ISDA Master Agreement, Schedule and a Confirmation, as amended on February 10, 2009 (collectively the "2007 Swap agreements", and together with the 2002 Swap agreement, the "Swap agreements) between the City and each of Merrill Lynch Capital Services, Inc. and Wachovia Bank, National Association (the "2007 Swap providers"). The 2007 Swap agreements are intended to hedge the interest rate risk on $180,000,000 aggregate principal amount of the 2008 New Money bonds, split equally between the 2007 Swap providers. Under the 2007 Swap Agreements, commencing on August 1, 2010, if the City issues new money variable rate bonds, the City will make regularly scheduled payments to the 2007 Swap Providers on the notional amount thereof at a fixed rate of 4.52275%, and the 2007 Swap Providers will make regularly scheduled payments to the City on such notional amount at a variable rate equal to the Bond Market Association Rate or the Securities Industry and Financial Markets Association Rate

The City's regularly scheduled payments under the Swap agreements are secured on a parity basis by a lien and a security interest in all project revenues for the benefit of each of the Swap Providers, as the Swap provider, and with respect to the 2002 Swap agreement, Financial Security Assurance Inc., as the bond insurer. All other obligations of the City under each of the Swap agreements, including payments due upon early termination of a Swap agreement, are secured by a lien on and security interest on all project revenues subordinate to the lien prescribed in the previous sentence.

Under certain conditions, each of the Swap agreements may be terminated prior to its stated termination date in which case the City may be obligated to make a substantial payment to, or may be entitled to receive a substantial payment from the applicable Swap provider. There can be no assurance that a Swap provider will pay or perform its obligations under the applicable Swap agreement in accordance with the terms thereof, or that Swap provider will be able to pay any termination payment which may be required to pay upon the occurrence of certain events of default or termination under the applicable Swap agreement.

On June 30th, 2010, one of the two forward starting swap "rate lock" agreements with Merrill Lynch & Co. was terminated. A termination fee of $15,198,000 was paid and is included in debt service expense on the modified cash basis income statement. The City completed the termination of the second swap in August 2010 in conjunction with the issuance of the 2010C-D bonds described below.

Authorized and Unissued Bonds:

During FY2007, the Department was authorized to issue additional Water and Wastewater Revenue Bonds in the aggregate principal amount of $325,000,000 under ordinance 060620. A portion of these bonds have not yet been issued and are planned to be issued in August, 2010 as the Series 2010C-D Water & Wastewater Revenue Bonds at a maximum par amount of $185,000,000. The proceeds of the bonds will be applied to (i) fund capital improvements to the City's Water and Wastewater Systems (as hereinafter defined), (ii) fund a Debt Reserve Account of the Sinking Fund (as hereinafter defined) relating to the bonds, and (iii) pay costs of issuance relating to the new bonds. In February, 2009 the City extended its forward starting swap "rate lock" agreement with two counterparties for $180,000,000 of these bonds. These agreements had an execution date of not later than August 1, 2010, unless further extended by the parties.

The department is also authorized for the issuance of $135,000,000 in additional new money bonds under the 12th supplemental ordinance (no. 090321). The current capital spending plan calls for the issuance of these bonds in early FY 2014.

Pennvest Loans

During fiscal years 2009 and 2010, the Water Department settled on several new Pennvest (the Pennsylvania State Infrastructure Financing Authority) Loans.

These loans are more fully described in the "Pennvest Loans" section of the footnotes attached to the financial statements.

Subsequent Events

On August 4, 2010, PWD settled on $185,000,000 in new money revenue bonds. The bonds were issued as the City of Philadelphia, Pennsylvania-Water and Wastewater Revenue Bonds, Series 2010C.

This transaction is more fully described in the "Subsequent Events" section of the footnotes attached to the financial statements.

Water and Wastewater Rates

In terms of rates, the Philadelphia Water Department continues to have some of the lowest rates in the region for water, wastewater, and storm-water services. The PWD has had great success in containing costs, increasing employee productivity, and improving services. The Department has initiated numerous measures to improve service, reduce costs, and enhance revenues over the past decade. The cost of operating the wastewater facilities has been reduced. The refinancing of more than $2 billion in revenue bonds has resulted in a cumulative net present value savings in excess of $78 million in debt service expense. A Revenue Protection Unit created in Fiscal Year 2000 has recovered more than $20 million in previously unbilled revenue to date. The Department has steadily improved the credit rating of the revenue bonds. All seven of the major plant facilities have been winning national performance awards on an annual basis.

In April of 2008, the Water Department announced a revision of rates for the period covering FY09 through FY12. After conclusion of the rate process, the Commissioner issued his opinion granting rate increases on November 1, 2008, July 1, 2009, July 1, 2010 and July 1, 2011. The new rates enable the Philadelphia Water Department to meet its obligations under the City Charter of having a balanced budget through June 2012 and to meet its bond covenants. The new rates will allow the Water Department to meet rapidly escalating costs of fuel, chemicals, employee benefits, regulatory demands, and debt service, and to continue a variety of initiatives that are critical to protecting Philadelphia's drinking water quality, preserving its waterways, and improving stormwater management programs. The continuing demographic changes in the City are causing the Department's fixed costs (to maintain water mains, sewer mains, pumping stations, treatment plants, sewer inlets, etc.) to be spread over fewer customers.

Beginning July 1, 2009, a typical residential customer's bill increased by an additional $3.40 a month, for a total monthly bill of $56.24. This change was for the period of July 1, 2009 to June 30, 2010. A typical senior citizen's monthly bill increased by an additional $2.02, or a total monthly bill of $35.03, for those seniors who qualify for the Department's 25-percent senior citizen discount. The income test to qualify for this discount was increased to $28,900 on July 1, 2009. In addition, the Department has adopted rate changes to be phased in for Fiscal Years 2011 and 2012. These changes include:

• $3.20 increase in the typical monthly bill (total monthly bill $59.44) from July 1, 2010 to June 30, 2011; and

• $3.49 increase in the typical monthly bill (total monthly bill $62.93) from July 1, 2011 to June 30, 2012.

Unlike many neighboring communities where sewer bills are separate from water bills or assessed through an annual charge, Philadelphians receive a bill that combines water, wastewater, and storm-water charges. Unfortunately, this combined billing sometimes leads to the impression that our water rates are high. In fact, even with the most recent revisions to rates, Philadelphia's water and sewer charges continue to be among the lowest in the region.

As shown on the following table, PWD's water rates are less than half those charged by many neighboring investor-owned utilities.

2010 Regional Residential Water and Sewer Charges*		
	Monthly Water Bill	**Monthly Sewer Bill**
Aqua Pennsylvania+	$60.42	N/A
Pennsylvania American Water+	$54.31	N/A
New Jersey American Water+	$37.18	N/A
North Penn Water Authority +	$25.08	N/A
North Wales Water Authority +	$22.85	N/A
Doylestown Township	$31.54	$42.15
Lower Gwynedd Municipal Authority **	N/A	$33.16
CCMUA (Camden County) **	N/A	$26.25
Trenton	$30.25	$28.93
Philadelphia Water Department	***$26.84***	***$19.12***

Rates in effect on November 8, 2010. Storm water charges ($13.48) are excluded from sewer calculations, because many jurisdictions fund such services from the general tax base or a separate utility assessment.
*Calculations based on 5,236 gallons/month (700 cu.ft.)
** Sewer-only utility.
+ Water-only utility.

Source: Philadelphia Water Department

Historical Rates

The table below shows monthly water and sewer rates, based, in each case, on a typical customer with a 5/8 inch meter using 700 cubic feet or 5,236 gallons monthly.

Philadelphia Water Department
Monthly Water and Sewer Rate Charges

Effective Date	Water	Sewer	Total	Percentage Increase
07/01/1993	$10.61	$23.52	$34.13	N/A
07/01/1994	10.86	24.06	34.92	2.3%
07/01/1995	11.20	24.80	36.00	3.1
09/04/2001	12.16	24.77	36.93	2.6
07/01/2002	13.75	24.48	38.23	3.5
07/01/2003	15.06	23.60	38.66	1.1
02/01/2005	17.63	25.94	43.57	12.7
08/01/2005	18.06	26.32	44.38	1.9
07/01/2006	19.41	27.94	47.35	6.7
07/01/2007	20.36	28.99	49.35	4.2
11/01/2008	22.29	30.55	52.84	7.1
07/01/2009	24.56	31.68	56.24	6.4
07/01/2010	26.84	32.60	59.44	5.7
07/01/2011	29.37	33.57	62.94	5.9

Bond Ratings

As of the close of the current fiscal year, Moody's, Standard and Poor's, and Fitch rate the City and its enterprise fund bonds as follows:

City of Philadelphia's Bond Ratings
General Obligation and Revenue Bonds

	Moody's Investor's Service	**Standard & Poors Corporation**	**Fitch IBCA**
General Obligation Bonds	A1*	BBB	A-**
Water & Sewer Revenue Bonds	**A1***	**A**	**A+****
Aviation Revenue Bonds	A2	A+	A

*Ratings were recalibrated by Mooody's on April 23, 2010
** Ratings were recalibrated by Fitch April 30, 2010

The following excerpt accompanied the reaffirmed A1 rating of Moody's Investors Service issued on July 19, 2010:

> The management team of this large combined water and wastewater system has produced strong operational and financial performance over the past decade. Operational achievements include continued improvements in environmental compliance, the launch of a proactive water main replacement program that has significantly reduced the number of main breaks, and the installation of automatic meters for a significant proportion of residential customers. In addition to the improved accuracy of billing, the billing cycle was accelerated to a monthly basis, and both of these improvements have led to an increase in 120 day payment patterns. Operating costs have been well-managed, with significant reductions in some areas such as contracted electricity costs and a projected $197 million in savings over the life of a contract for the management outsourcing of the biosolids recycling center. As discussed in detail below, management has been able to maintain significant cash balances that support the system's working capital needs, help with rate stabilization, and provide for contingencies.

The following excerpt accompanied the affirmed A+ rating of Fitch issued in July 2010:

> The underlying 'A+' rating for the combined water and wastewater system (the system) reflects independent rate-setting authority and an affordable rate structure, manageable capital needs relative to the overall size of the system and its customer base, ample water supply coupled with substantial treatment capacity at all facilities, and a relatively stable service area.

The following excerpt accompanied the upgrade to the A rating of Standard and Poor's:

> The stable outlook reflects Standard & Poor's opinion of the water department's improved financial position and operations, which we expect management will continue to maintain due to its conservative budgeting practices.

Fund Balances

During FY 2010 the department withdrew $2.7 million from its Rate Stabilization Fund, bringing the cumulative fund balance to approximately $145.7 million, all of which is available to provide necessary working capital to the department and to offset future rate increases. In addition, approximately $18.9 million was transferred to the Residual Fund and $16.5 million was transferred from the Residual Fund to the Capital Fund. Virtually all of these funds will be used to provide capital funding to reduce the amount of additional bond issues to fund the capital program. To date, the department has transferred in excess of $271.3 million to its capital fund via its annual 1% transfer and $87.4 million via additional discretionary transfers to capital from its Residual fund.

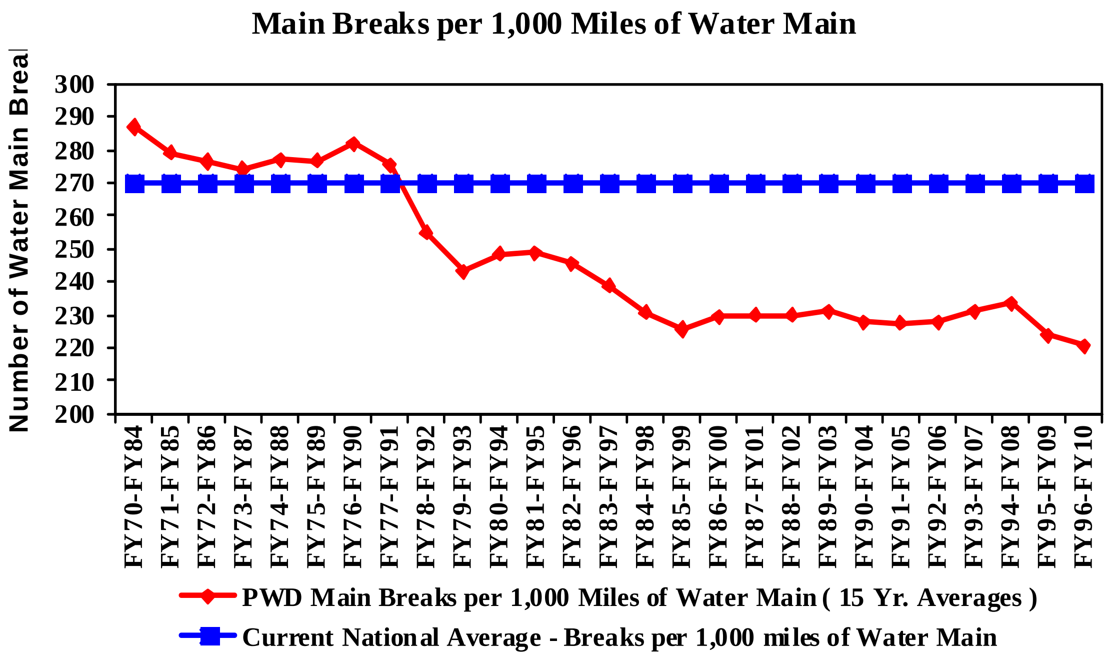
Maintaining excellence in water purity standards

Philadelphia’s drinking water meets or surpasses the requirements of state and federal standards 100 percent of the time. Since voluntarily joining the U.S. Environmental Protection Agency’s (EPA) Partnership for Safe Water (PfSW) in 1996 (a joint program of the EPA and the water industry), the PWD has committed itself to reduced "turbidity," an industry standard measure of water purity. In FY10, the turbidity of Philadelphia’s water (.05 ntu) was 83 percent lower than the amount required by state and federal regulations and 50 percent lower than the Partnership’s turbidity goal of 0.1 ntu. Nationally, the Philadelphia Water Department's three water treatment plants are among an elite group of 31 facilities that have received the Director's Award from the Partnership for Safe Water for meeting the Partnership goals for 10 consecutive years. To put this in perspective, there are over 400 water treatment plants enrolled in the PfSW and there are over 4,700 water utilities nationwide

Optimize water and sewer main replacement

PWD closely monitors water main conditions to ensure that adequate capital investment is made, the integrity of the water supply system is sustained, and the occurrence of disruptive and costly water main breaks is reduced. In FY10 16 miles of water mains were replaced.

As shown in the chart below, the PWD’s FY96-FY10 fifteen year moving average level of 221 breaks per 1,000 miles is less than the national average of 270 breaks per 1,000 miles, and is the lowest level in more than 20 years.

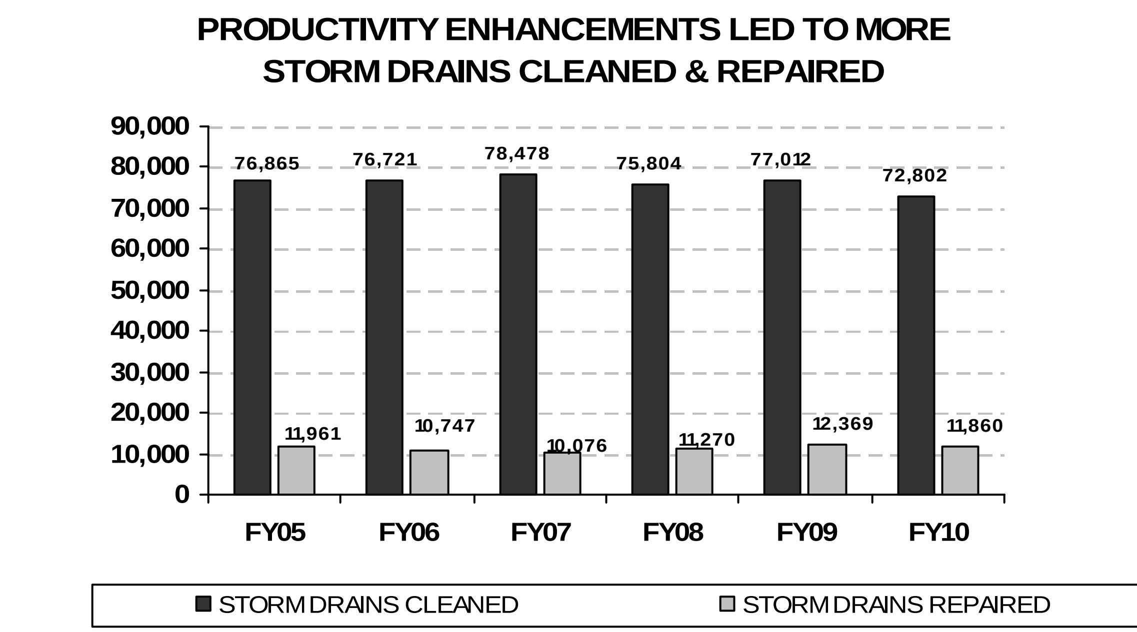


Reducing unbilled or non-revenue water

PWD maintains programs to reduce uncaptured revenue and loss of treated water from the distribution system. Over the past 15 years, PWD has cut non-revenue water by 45 percent, from 133 million gallons per day (mgd) to 73 mgd at the close of FY09. PWD continued a number of successful loss control initiatives in FY09, including a leak detection and repair program that surveyed 953 miles of pipeline for leaks, and abated over 31 mgd of leakage, representing a cost savings of over $1,700,000. PWD completed the 3-year pilot phase of its first permanent District Metered Area (DMA) which includes pressure control features to reduce the occurrence of leakage and water main breaks. The results of this project have been impressive, saving over one million gallons of water per day for an annual savings of $55,000 with full payback projected by 2013. PWD is also one of the few water utilities in the United States employing inline leak detection services on its large-diameter transmission pipelines as a strategy to detect leaks before they become catastrophic ruptures. Through October 2010 a total of 63 leaks almost 30 miles of large pipelines have been identified and most have been repaired. In addition, the PWD's Revenue Protection Program continued to recover uncaptured revenue from billing errors, lost customer accounts, and unauthorized consumption. This program has recovered almost $21 million since its inception in 2000. Going forward, water loss control activities are keying on investigation of customer meter application and accuracy for large commercial and industrial customers, which, while small in number, account for a relatively large portion of the water consumed in the City of Philadelphia.

Improved stormwater flood control

PWD’s management of the storm water system is an important multi-faceted service for both flood control and environmental protection. With approximately 79,500 storm drains to maintain, the Department focuses on keeping them in good condition to prevent blockage of storm water flow and creation of hazardous conditions for pedestrians. In FY10, PWD cleaned 72,802 storm drains. In addition, the Department reconstructed 11,860 storm drains. As shown on the following chart, the PWD has maintained a high level of performance in these two important areas, and aims to clean each storm drain at least once per year.



Source: Philadelphia Water Department

In January 2006, PWD initiated new Storm-water Regulations. The new regulations are an important tool in the City's efforts to reduce flooding and to protect our rivers and streams. Accordingly, all development projects that disturb more than 15,000 square feet of earth must comply with water quality and non-structural site design requirements that are consistent with state and federal storm water best management practices. During FY 10, PWD received 424 conceptual submittals for zoning permits and 384 full Post Construction Technical submittals for building permits. Stormwater regulations include four major components: Water quality protection, channel protection, flood control, and non-structural site design (minimizing impervious land cover). The results of this program since inception have been significant. The program has approved over 1,500 acres of proposed development. Based on this area, approximately 1.5 billion gallons of storm water run off is managed annually, reducing excess burden and stress on the City's stormwater infrastructure and treatment plants.

Sinking Fund Reserve Substitution

In late November, 2007, a partial substitution in the amount of $67 million was completed. AGM was contracted to provide the surety policy. At that time the transaction costs were paid and the balance of the funds ($64,325,000) were deposited into the Residual Fund-Special Water Infrastructure Account as required by the Ordinance. No provision was included in either the Fiscal Year 2009 or Fiscal Year 2010 Water Fund budget for additional substitutions.

As part of the New River City program, the Water Department executed a program agreement with PAID to provide program management and oversight. To date, eight asset acquisition agreements totaling $83,697,833 have been executed (actual disbursements will be limited to the $64,325,000 in currently available funding and may be supplemented with the "Pennworks" grant/loan discussed herein). Four of the eight projects are substantially completed; final disbursement has been made on two of these, and the other two are in process. The other four projects are underway and are expected to be completed within the next 12 months. As described in a preceding section, the transfer of the water and sewer utilities at PNBC from PAID to the Water Department, including the projects outlined above, occurred in November, 2009.

Approximately $16.2 million was paid to PIDC during FY 2010 for this project.

Bond Insurance Ratings

On November 21, 2008, Moody's Investors Service Inc. ("Moody's") reduced the Aaa insurance financial strength of FSA and its affiliated insurance operating companies to Aa3 with developing outlook. An explanation of the significance of any rating action should be obtained from the rating agency furnishing same.

FSA currently meets the credit rating requirements prescribed by the General Ordinance with respect to eligible providers of supply policies for deposit in the Debt Reserve Account. The City and the Water Department are monitoring the financial condition and ratings of FSA in relation to such credit quality requirement, and are considering all options currently available to ensure continued compliance in this respect.

Protecting Drinking Water Supplies

PWD is the owner and operator of the highly renowned Delaware Valley Early Warning System (EWS). The EWS is an integrated monitoring, notification, and communication system designed to provide advanced warning of surface water contamination events in the Schuylkill and lower Delaware River watersheds.

The EWS is comprised of 4 principal components; the EWS Partnership, the notification system, the monitoring network, and the web-based database and portal. The EWS Partnership consists of stakeholders, which include representatives from both public and private drinking water treatment plants in the coverage area, industries who withdraw water from the Schuylkill and Delaware rivers for daily operations, the federal government, and representatives of state government agencies from both PA and NJ. The notification system contains both automated telephone notification and web-based notification capabilities.

In order to further strengthen the monitoring and notification capabilities of the EWS, PWD recently implemented the following system enhancements:

- Integrating industrial users with intakes into the EWS partnership and designing an industrial user fee based on withdrawal and position in the watershed;
- Adding the City of Philadelphia Office of Emergency Management (OEM) as an EWS member as part of a pilot expansion of the EWS partnership to include county OEMs;
- Creating the Spill Model Analysis Tool which allows users to test the travel time of a spill without generating an event that notifies other users. This effort incorporated the National Hydrologic Data stream network into all EWS mapping functionality, resulting in more accurate calculations of spill paths and travel times;

In addition to the above changes, PWD is currently in the process of developing a 5-year strategic plan for the EWS. Through the strategic planning process, PWD is evaluating the system's core functions, user base, and potential funding sources. As of 2010, the EWS consists of 92 partner organizations with 286 individual members. During the past year there were a total of 28 water quality events reported. Operation, maintenance and development costs during this period totaled $351,994 and income from user fees totaled $73,765.

Long-Term Control Plan for Combined Sewer Overflows

During heavy rainstorms, the release of some stormwater and sewage overflows from combined sewers (sewers that carry stormwater and sanitary waste in one pipe) to the City's rivers and streams, causes pollution to these waterways. In 1997, PWD submitted its Combined Sewer Overflow Long Term Control Plan (CSOLTCP) to the PA Department of Environmental Protection. These plans included the incorporation of Nine Minimum Controls (NMCs) - using industry accepted best practices to efficiently operate and maintain our sewer system, in addition to the identification of $48 million of capital improvement projects that would ensure localized capture and storage of wet weather flows within the existing sewer collection system. These efforts successfully reduced overflow volume by three percent or six billion gallons a year. Initial efforts were focused on detecting and eliminating overflows during dry weather, getting the most storage possible in our sewer system, and stepping up inspections and monitoring at sites where overflows occur.

The final component of the CSOLTCP embraces the development of regional watershed partnerships committed to the development of Integrated Watershed Management Plans (IWMPs). These plans are guided by a 20 year vision to restore our region's waterways to fishable, swimmable and beautiful rivers and streams that are life sustaining and are an amenity to our communities. In September 2009, the Philadelphia Water Department released its *Green City, Clean Waters* plan for meeting its CSOLTCP to meet its regulatory obligations while also looking to ensure that investments in the stormwater system also help to revitalize Philadelphia environmentally. The Department determined that a green stormwater management infrastructure approach would provide maximum return in environmental, economic and social benefits within the most efficient timeframe. Green stormwater infrastructure includes: planters, rain barrels, green roofs, permeable pavements, an enhanced network of street trees and restored creek corridors. Over the next five years, the PWD will lay the foundation for achieving the Green City, Clean Waters vision over the full 20 year implementation period of this plan and beyond.

Waterways Restoration Program

In FY04, the PWD created the Waterways Restoration Team (WRT), which consists of four crews devoted to removing trash and large debris from the streams and tributaries that define our neighborhoods. The teams also perform restoration work around PWD's storm and combined sewer outfalls and streambanks that contain exposed infrastructure. In addition, these teams maintain a number of green infrastructure Best Management Practices (BMPs) that have been installed by PWD and are recognized as a component of the department's sewer collection system. In FY08, the teams removed 346 tons of debris including 41 cars, 1,969 tires and 83 shopping carts from Philadelphia's streams. In FY09, 658 tons of debris was removed, and in FY10 1,437 tons were removed. A large component of the team's mission is to work in partnership with the Fairmount Park Commission to restore tributaries and streams that have been significantly damaged over decades by the volume and velocity of flows from sewer outfalls and from the forces of storm water runoff.

Awards and Recognition

The Philadelphia Water Department and the Partnership for the Delaware Estuary Inc. presented "Healthy Stream, Healthy City, Healthy World" at the 2010 Philadelphia Flower Show. A rendition of a reclaimed stream was featured in the exhibit to demonstrate the extensive environmental benefits they provide as well as their ability to enrich our city's natural beauty, fish, wild life, and water quality.

In Fiscal Year 2010, the Philadelphia Water Department's three Water Pollution Control Plants were selected to receive Platinum Awards from the National Association of Clean Water Agencies (NACWA). The Southwest Water Pollution Control Plant was recognized for seven years of perfect permit compliance, the Southeast Water Pollution Control Plant was recognized for ten years of perfect permit compliance and the Northeast Water Pollution Control Plant achieved Platinum status for recording the required five years of perfect compliance. NACWA's Peak Performance Awards program recognizes member agency facilities for excellence in wastewater treatment as measured by their compliance with their National Pollutant Discharge Elimination System (NPDES) permits. Platinum Awards pay special tribute to member agency facilities that have received Gold Awards for five consecutive years

Requests for Information

This financial report is designed to provide a general overview of the City of Philadelphia Water Department's finances for all interested parties. Questions concerning any of the information provided in this report, or requests for additional information, should be addressed to the Philadelphia Water Department, Finance Division, Aramark Tower, 5th Floor, 1101 Market Street, Philadelphia, Pa. 19107.

STATEMENT OF NET ASSETS, JUNE 30, 2010 AND 2009

(amounts in thousands)

	2010	2009
ASSETS		
Current Assets:		
Cash on Deposit and on Hand	$ 30	$ 30
Equity in Treasurer's Account	69,795	56,445
Due from Other Governments	373	456
Accounts Receivable	225,170	209,454
Allowance for Doubtful Accounts	(90,980)	(89,845)
Inventories	12,913	12,800
Prepaid Insurance - Surety Bond	-	-
Total Current Assets	217,301	189,340
Noncurrent Assets:		
Restricted Assets:		
Equity in Treasurer's Account	290,282	377,704
Sinking Funds and Reserves	117,852	116,075
Grants for Capital Purposes	-	-
Deferred Outflow - Financial Instruments	29,227	-
Receivables	898	1,145
Total Restricted Assets	438,259	494,924
Net Pension Asset	17,371	37,878
Capital Assets:		
Land	5,919	5,919
Infrastructure	1,983,922	1,915,671
Construction in Progress	204,591	151,517
Buildings and Equipment	1,497,507	1,461,682
Accumulated Depreciation	(1,880,592)	(1,808,339)
Total Capital Assets	1,811,347	1,726,450
Total Noncurrent Assets	2,266,977	2,259,252
Total Assets	**2,484,278**	**2,448,592**
LIABILITIES		
Current Liabilities:		
Vouchers Payable	25,043	9,172
Accounts Payable	8,388	7,761
Salaries & Wages Payable	3,641	3,320
Construction Contracts Payable	33,113	8,224
Accrued Expenses	19,292	18,416
Deferred Revenue	8,016	7,478
Funds Held in Escrow	-	2,820
Current Portion of Long Term Obligations	102,862	94,778
Total Current Liabilities	200,355	151,969
Noncurrent Liabilities:		
Long Term Obligations	1,555,568	1,623,779
Unamortized Discount and Loss	(81,322)	(66,395)
Derivative Instrument Liability	29,227	-
Other Noncurrent Liabilities	25,256	23,343
Total Noncurrent Liabilities	1,528,729	1,580,727
Total Liabilities	**1,729,084**	**1,732,696**
NET ASSETS		
Invested in Capital Assets, Net of Related Debt	225,589	190,535
Restricted For:		
Capital Projects	97,580	87,404
Debt Service	117,852	116,075
Rate Stabilization	145,693	147,637
Unrestricted	168,480	174,245
Total Net Assets	**$ 755,194**	**$ 715,896**

STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET ASSETS
FOR THE FISCAL YEAR ENDED JUNE 30, 2010 AND 2009

(amounts in thousands)

	2010	2009
Operating Revenues:		
Charges for Goods and Services	$ 546,361	$ 494,087
Miscellaneous Operating Revenues	5,989	5,566
Total Operating Revenues	552,350	499,653
Operating Expenses:		
Personal Services	106,120	110,324
Purchase of Services	68,613	85,553
Materials and Supplies	35,429	38,795
Employee Benefits	71,634	81,855
Indemnities and Taxes	5,126	5,859
Depreciation and Amortization	86,490	83,996
Total Operating Expenses	373,412	406,382
Operating Income (Loss)	178,938	93,271
Nonoperating Revenues (Expenses):		
Operating Grants	3,048	583
Interest Income	6,015	21,252
Net Pension Obligation	(20,506)	(7,401)
Debt Service - Interest	(103,619)	(100,254)
Other Expenses	(4,967)	(16,741)
Total Nonoperating Revenues (Expenses)	(120,029)	(102,561)
Income (loss) before Transfers	58,909	(9,290)
Transfers Out	(28,315)	(4,185)
Capital Contributions	-	-
Change in Net Assets	30,594	(13,475)
Net Assets - Beginning of Period	715,896	722,606
Adjustment	8,704	6,765
Net Assets - End of Period	**$ 755,194**	**$ 715,896**

STATEMENT OF CASH FLOWS
June 30, 2010 (amounts in thousands)

	2010	2009
Cash Flows from Operating Activities		
Receipts from Customers	$ 535,572	$ 492,875
Payments to Suppliers	(89,110)	(122,952)
Payments to Employees	(175,309)	(190,137)
Claims Paid	(4,915)	(5,100)
Other Receipts (Payments)	-	-
Net Cash Provided by Operating Activities	**266,238**	**174,686**
Cash Flows from Non-Capital Financing Activities		
Operating Grants Received	3,048	583
Operating Subsidies and Transfers to Other Funds	(28,315)	(4,185)
Net Cash Provided by Non-Capital Financing Activities	**(25,267)**	**(3,602)**
Cash Flows from Capital & Related Financing Activities		
Proceeds from Capital Debt	13,431	133,039
Capital Contributions Received	-	-
Acquisition and Construction of Capital Assets	(136,316)	(100,009)
Interest Paid on Capital Debt	(96,799)	(92,719)
Principal Paid on Capital Debt	(99,919)	(91,534)
Other Receipts (Payments)		
Net Cash Provided (Used)by Non-Capital Financing Activities	**(319,603)**	**(151,223)**
Cash Flows from Investing Activities		
Interest and Dividends	4,560	18,626
Net Cash Provided by Investing Activities	4,560	18,626
Net Increase (Decrease) in Cash & Cash Equivalents	(74,072)	38,487
Balances - Beginning of the Year	434,179	395,692
Balances - End of the Year	**$ 360,107**	**$ 434,179**
Reconciliation of Operating Income (Loss) to Net Cash Provided (Used) by Operating Activities:		
Operating Income (Loss)	178,938	93,271
Adjustments to Reconcile Operating Income to Net Cash Provided (Used) by Operating Activities:		
Depreciation Expense	86,490	83,996
Change in Assets and Liabilities:		
Receivables, Net	(16,434)	(6,533)
Inventories	(113)	2,608
Accounts and Other Payables	16,819	1,589
Accrued Expenses	-	-
Deferred Revenue	538	(245)
Net Cash Provided by operating activities	**$ 266,238**	**$ 174,686**

BUDGETARY COMPARISON SCHEDULE
Water Operating Fund
For the Fiscal Year Ended June 30, 2010

(amounts in thousands)

Revenues	Budgeted Amounts			Final Budget to Actual
	Original	Final	Actual	Positive (Negative)
Locally Generated Non-Tax Revenue	$ 528,141	$ 513,029	$ 516,378	$ 3,349
Revenue from Other Governments	4,000	3,000	2,631	(369)
Revenue from Other Funds	81,469	58,696	27,734	(30,962)
Total Revenues	**$ 613,610**	**$ 574,725**	**$ 546,743**	**$ (27,982)**
Expenditures and Encumbrances				
Personal Services	111,393	111,417	101,754	9,664
Pension Contributions	39,986	38,686	27,494	11,192
Other Employee Benefits	40,420	41,720	39,974	1,746
Sub-Total Employee Compensation	191,799	191,823	169,222	22,602
Purchase of Services	123,152	123,127	106,002	17,125
Materials and Supplies	53,025	53,038	41,991	11,047
Equipment	6,320	6,308	2,435	3,872
Contributions, Indemnities and Taxes	6,513	6,513	4,897	1,616
Debt Service	200,123	200,123	196,917	3,206
Debt Service - Interest	-	-	-	-
Short-Term Interest	-	-	-	-
Payments to Other Funds	49,678	49,678	47,987	1,691
Total Expenditures and Encumbrances	630,610	630,610	569,450	61,160
Operating Surplus (Deficit) for the Year	**$ (17,000)**	**$ (55,885)**	**$ (22,707)**	**$ 33,178**
Fund Balance Available, July 1, 2009	-	-	-	-
Operations in Respect to Prior Fiscal Years				
Commitments Cancelled - Net	17,000	17,000	22,707	5,707
Prior Period Adjustments	-	-	-	-
Adjusted Fund Balance, July 1, 2009	17,000	17,000	22,707	5,707
Fund Balance Available, June 30, 2010	**$ -**	**$ (38,885)**	**$ 0**	**$ 38,885**

BONDED DEBT FOR THE FISCAL YEAR ENDED JUNE 30, 2010

(amounts in thousands)

Series	ORIGINAL AUTHORIZATION Date	Issued	Outstanding June 30, 2010	Maturities	Interest Rates	FISCAL YEAR 2011 DEBT Service Interest	Principal Requirements	Outstanding June 30, 2011
Revenue Bonds:								
Series 1993	08/01/93	1,157,585	73,685	6/2008 to 6/2011	5.50 to 7.00	5,158	73,685	-
Series 1995	04/15/95	221,630	38,240	8/2007 to 8/2012	5.30 to 6.25	2,016	11,960	26,280
Series 1997 (B)	11/25/97	100,000	75,800	8/2007 to 8/2027	Variable	168	2,800	73,000
Series 1998	12/25/98	135,185	135,185	12/2011 to 12/2014	5.25	7,097	-	135,185
Series 2001	11/15/01	285,920	137,875	11/2011 to 11/2028	3.800 to 5.500	7,069	-	137,875
Series 2003 *	04/01/03	381,275	-	6/2008 to 6/2023	Variable	-	-	-
Series 2005 (A)	05/04/05	250,000	235,000	7/2007 to 7/2035	3.250 to 5.250	11,682	4,610	230,390
Series 2005 (B)	05/04/05	86,105	83,275	8/2007 to 8/2018	Variable	3,763	405	82,870
Series 2007 (A)	05/04/07	191,440	179,845	8/2007 to 8/2027	4.00 to 5.00	8,553	4,665	175,180
Series 2007 (B)	05/04/07	153,595	153,110	11/2007 to 11/2031	4.00 to 5.00	6,959	210	152,900
Series 2009 (A)	05/21/09	140,000	140,000	1/2017 to 1/2036	5.15 to 5.25	7,294	-	140,000
Series 2010 (A)	04/15/10	396,460	390,045			18,159	3,245	386,800
Pennvest - 1999	04/30/00	6,700	711	7/2007 to 4/2019	1.41 to 2.73	19	72	639
Pennvest - 2009 (C)	06/16/10	13,431	13,431	7/2013 to 6/2033	1.193 to 2.107	154	-	13,431
Total Revenue Bonds		**3,519,326**	**$ 1,656,202**			**78,093**	**101,652**	**$ 1,554,550**
General Obligation Bonds:								
Pennvest	06/15/93	20,000	2,228	07/2007 to 04/2012	1.00	17	1,210	1,018
Total Bonded Debt			**$ 1,658,430**			**78,110**	**102,862**	**$ 1,555,568**

* Refunded in FY 2010

ANNUAL BONDED DEBT SERVICE REQUIREMENT:

Fiscal Year	Interest	Principal	Total
2011	78,110	102,862	180,972
2012	70,620	109,942	180,562
2013	65,362	117,271	182,633
2014	59,541	123,822	183,363
2015	53,430	130,176	183,606

The First Series through the Thirteenth were refunded.

Capitalized Interest added to Construction in Progress in Fiscal 2010 was $5,286,925
Interest Expense was reduced by the same amount.

SUPPLEMENTAL SCHEDULE OF RATE COVENANT COMPLIANCE FOR FISCAL YEAR ENDED JUNE 30, 2010 (Legally Enacted Basis)

(amounts in thousands)

LINE NO.		2010
1.	Total Revenue and Beginning Fund Balance	$566,749
2.	Net Operating Expense	-334,045
3.	Transfer (To) From Rate Stabilization Fund	2,702
4.	**Net Revenues**	**235,406**
5.	Revenue Bonds Outstanding	-195,690
6.	General Obligation Bonds Outstanding	0
7.	Pennvest Loan	-1,227
8.	**Total Debt Service**	**-196,917**
9.	**Net Revenue after Debt Service**	**38,489**
10.	Transfer to General Fund	-2,304
11.	Transfer to Capital Fund	-17,265
12.	Transfer to Residual Fund	-18,920
13.	**Total Transfers**	**-38,489**
14.	**Net Operating Balance for Current Year**	**0**

The rate covenant contained in the General Ordinance requires the City to establish rates and charges for the use of the Water and Wastewater Systems sufficient to yield Net Revenues, as defined therein , in each fiscal year at least equal to 120%(coverage A) of the Debt Service Requirements for such fiscal year (excluding debt service due on any Subordinated Bonds). In addition, Net Revenues, in each fiscal year, must equal at least 100%(coverage B) of : (i) the Debt Service Requirements (including Debt Service Requirements in respect of Subordinated Bonds) payable is such fiscal year; (ii) amounts required to be deposited of Subordinated Bonds) payable in such fiscal year; (ii) amounts required to be deposited into the Debt Reserve Account during such fiscal year; (iii)debt service on all General Obligations Bonds issued for the Water and Wastewater Systems payable is such fiscal year; (iv) debt service payable on Interim Debt in such fiscal year; and (v) the Capital Account Deposit Amount for such fiscal year, less amounts transferred from the Residual Fund to the Capital Account during such fiscal year. To insure compliance with the rate covenant, the General Ordinance requires that the City review its rates, rents, fees, and charges at least annually.

Additional Rate Covenant. As long as the Insured Bonds are outstanding, the City covenants to establish rates and charges for the use of the System sufficient to yield Net Revenues (excluding amounts transferred from the Rate Stabilization Fund into the Revenue Fund during, or as of the end of, such fiscal year) at least equal to 90% (coverage C) of the Debt Service Requirements (excluding debt service on any Subordinated Bonds) in such fiscal year.

COVERAGE A:	
Line 4	$235,406
/ Line 5	$195,690
= COVERAGE A:	1.20

COVERAGE B:	
Line 4	$235,406
/ Line 8 + Line 11	$214,182
= COVERAGE B:	1.10

COVERAGE C:	
Line 4 - Line 3	$232,704
/ Line 5	$195,690
= COVERAGE C:	1.19

1. THE GOVERNMENT OF PHILADELPHIA

The City of Philadelphia was founded in 1682 and was merged with the county in 1854. The City currently occupies an area of 129 square miles along the Delaware River, serves a population in excess of 1.4 million and is the hub of a five county metropolitan area including Bucks, Chester, Delaware, and Montgomery counties in Southeastern Pennsylvania.

The city's water department supplies water and provides wastewater treatment services to residents of Philadelphia and portions of Bucks, Montgomery, and Delaware Counties (G.O. rated Aa1, Aaa, and Aa2, respectively), although over 90% of customers are residents of the city and approximately 9% are from Bucks County. Philadelphia has experienced a long trend of industry and population loss since 1950, with a particularly sharp economic retreat hitting in the late 1980's and early 1990's. The late 1990's saw a resumption of growth, with employment up 5.7% between 1998 and 2001, and then down about 1.6% between 2001 and 2003, reflecting the slowdown in the national economy. The decline flattened in fiscal 2004 and then grew by about 1.0% in 2005, 0.9% in 2006, and 0.7% in 2007. Although employment continued to grow for 2008 (overall annual growth was 0.2%), employment growth halted in October and turned negative in every month from November through March. Manufacturing has continued to decline in importance, and as of 2005, diversified services account for 54% of total employment (or more than 60% including the finance/insurance/real estate sector). Population loss during the 1990's was just over 4%, although this was only about half the loss that had been estimated prior to the 2000 census count. With an estimated 1.45 million residents, the city remains the nation's fifth most populous. The suburban portions of the service area are wealthier and somewhat faster-growing than the city, but are much less significant to the system as they account for less than 10% of total customer revenues.

There are two principal governmental entities in Philadelphia: (1) the City of Philadelphia, which performs both the ordinary Municipal functions and the traditional County functions; and (2) the School District of Philadelphia, which is part of the Public Education System of the Commonwealth of Pennsylvania. In addition to the School District of Philadelphia, there are a number of other governmental and quasi-governmental entities operating within the City. The financial statements as set forth herein present only the operations of the City of Philadelphia Water Fund.

The City is governed largely under the 1951 Philadelphia Home Rule Charter. In some matters, including the issuance of short and long-term debt, the City is governed by the laws of the Commonwealth of Pennsylvania.

The City Government is responsible for establishing and the Water Department is responsible for maintaining internal controls designed to protect the assets of Water Department from loss, theft or misuse and to ensure that adequate accounting data are compiled to allow for the preparation of Financial Statements in conformity with **G**enerally **A**ccepted **A**ccounting **P**rinciples. These internal controls are subject to periodic evaluation by management and the City Controller's Office in order to determine their adequacy.

The Philadelphia Water Department serves the Greater Philadelphia region by providing an integrated water, wastewater, and storm water system. The utility's primary mission is to plan for, operate, and maintain both the infrastructure and the organization necessary to purvey high quality drinking water, to provide an adequate and reliable water supply for all household, commercial, and community needs, and to sustain and enhance the region's watersheds and quality of life by managing wastewater and storm water effectively. In fulfilling its mission, the utility seeks to be customer-focused, delivering services in a fair, equitable, and cost-effective manner, with a commitment to public involvement. Having already served the City and region for nearly two centuries, the utility's commitment for the future includes an active role in the economic development of Greater Philadelphia and a legacy of environmental stewardship.

The Water Revenue Bureau of the Department of Revenue of the City gathers and processes meter readings of the Water Department customers, issues the invoices for the services provided by the Water Department, processes the revenue collected for these services, thus maintaining the Accounts Receivable of the Water Department. The Director of Finance performs general fiscal accounting and has overall responsibility for the fiscal administration of all City departments, including the Water Department. The audit requirements for the City, including the Water Department, are the responsibility of the Office of the City Controller. Legal matters affecting the Water Department are the responsibility of the Office of the City Solicitor.

In order to accomplish its mission and pursuant to the Philadelphia Home Rule Charter, the Water Department has the power and duty to operate, maintain, repair and improve the City's Water and Wastewater Systems. The Water Department is managed by a Commissioner who is appointed by the City's Managing Director with the approval of the Mayor. The Commissioner appoints his deputies with the approval of the City's Managing Director and substantially all other employees are appointed under the provisions of the City's Civil Service Regulations. The executive offices of the Water Department are located at Aramark Tower, 1101 Market Street, Philadelphia, Pennsylvania 19107-2994.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The financial statements of the Philadelphia Water Department have been prepared in accordance with Generally Accepted Accounting Principles (GAAP) as they apply to governmental units. The Governmental Accounting Standards Board (GASB) of the American Institute of Certified Public Accountants is the accepted standard setting body for establishing governmental accounting and financial reporting principles. The more significant of the City's accounting policies are described below.

A. Basis of Accounting

For purposes of rate setting, calculating rate covenant compliance, debt service coverage and budgeting, the Water Fund accounts are maintained on the modified accrual basis of accounting also referred to as the "Legally Enacted Basis." Under this basis, revenues are recognized in the accounting period in which they are received. Investment earnings are recorded when earned, as they are measurable and available. Expenditures are recorded in the accounting period in which the fund liability is incurred, if measurable, except expenditures for debt service, prepaid expenditures, and other long-term obligations, which are recognized when paid. Expenditures for claims and judgments, compensated absences and other long-term obligations are accrued if expected to be liquidated with available resources.

At fiscal year-end the Water Fund accounts are adjusted to the full accrual basis of accounting required by GAAP. The Water Fund is accounted for on a flow of economic resources measurement focus. With this measurement focus, all assets and all liabilities associated with the operation are included on the Statement of Net Assets. Fund equity (i.e., net total assets) is segregated into contributed capital and retained earnings components. In accrual basis accounting, revenues are recognized in the accounting period in which they are earned and expenses are recognized at the time the liabilities are incurred. Under GASB Statement No. 20, Accounting and Financial Reporting for Proprietary Activities, the Water Fund will continue to follow Financial Accounting Standards Board (FASB) pronouncements issued on or before November 30, 1989 unless those pronouncements conflict with or contradict GASB pronouncements and will follow FASB standards issued after that date which do not conflict with GASB standards.

Water revenues, net of uncollected accounts, are recognized as billed on the basis of scheduled meter readings. Revenues are accrued for unpaid bills at June 30 and for services provided but not yet billed at June 30.

B. Legal Compliance

The City's budgetary process accounts for certain transactions on a basis other than GAAP.

In accordance with the Philadelphia Home Rule Charter, the City has formally established budgetary accounting control for its operating and capital improvement funds.

The operating funds of the City-consisting of the General Fund, five Special Revenue Funds (County Liquid Fuels Tax, Special Gasoline Tax, Hotel Room Rental Tax, Grants Revenue and Community Development Funds) and two Enterprise Funds (Water and Aviation Funds) – are subject to annual operating budgets adopted by City Council. These budgets appropriate funds for all City departments, boards and commissions by major class of expenditure within each department. Major classes are defined as: personal services; purchase of services; materials and supplies; equipment; contributions; indemnities and taxes; debt service; payments to other funds; and miscellaneous. The appropriation amounts for each fund are supported by revenue estimates and take into account the elimination of accumulated deficits and the re-appropriation of accumulated surpluses to the extent necessary. All transfers between major classes (except for materials and supplies and equipment, which are appropriated together) must have Council approval. Appropriations not expended or encumbered at year-end are lapsed. Departmental comparisons of budget to actual activity are located in the City's Supplemental Report of Revenues and Obligations.

The City Capital Improvement Fund budget is adopted annually by the City Council. The Capital Improvement budget is appropriated by project for each department. Due to the nature of the projects, it is not always possible to complete all bidding, contracts, etc. within a twelve-month period. All transfers between projects exceeding twenty percent for each project's original appropriation must be approved by City Council.

As part of the amendment process, budget estimates of City related revenues are adjusted and submitted to City Council for review. Changes in revenue estimates do not need City Council approval, but are submitted in support of testimony with regard to the appropriation adjustments.

The following schedule reconciles the differences between the Legally Enacted Basis and GAAP Basis:

Fund Balance-Legal Basis 6/30/10	$	-
Assets omitted from the legal basis:		
(1) Receivables from Other Governments or Funds	$	49,592
(2) Fixed Assets-Net of Depreciation		1,811,347
(3) Restricted Assets		408,881
(4) Proprietary Portion of Net Pension Obligation		17,372
	$	2,287,192
Liabilities omitted from the legal basis:		
(5) Construction Contracts Payable	$	(33,113)
(6) Other Current Liabilities		(130,516)
(7) Bonds Payable and Other Long-Term Debt		(1,499,502)
	$	(1,663,131)
Fund Balance accounts included in the legal basis:		
(8) Reserve for Collectible Receivables	$	84,970
(9) Reserve for Inventories		12,913
(10) Reserve for Purchase Commitments		33,250
	$	131,133
Equity accounts omitted from the legal basis:		
(11) Invested in Capital Assets, Net of Related Debt		(225,589)
(12) Restricted for Capital Projects		(97,580)
(13) Restricted for Debt Service		(117,852)
(14) Restricted for Rate Stabilization		(145,693)
	$	(586,714)
Unrestricted Net Assets – GAAP Basis – 6/30/2010	$	168,480

C. Water Account

The City has established a City of Philadelphia Water Account to be held exclusively for Water Department purposes, separate and apart from all other funds and accounts of the City, and not to be commingled with the City's Consolidated Cash Account or any other fund or account of the City not held exclusively for Water Department purposes.

The City has covenanted that it will not make temporary loans or advances of Bond proceeds or Project Revenues (even while temporarily held in the City's Consolidated Cash Account) from the Water Account, the Water Sinking Fund, the Water Sinking Fund Reserve or the Water Rate Stabilization Fund to any City account not held exclusively for Water Department purposes. The City has established subaccounts within the Water Account into which deposits and from which disbursements shall be made for operating and capital purposes.

D. Pledge of Revenues

Section 4.02 and 4.04 of The ordinance of 1989, amended 1993, which authorized the issuance of Water and Sewer Revenue Bonds, hereby pledges and assigns to the Fiscal Agent for the security and payment of all Bonds, a lien on and security interest in all Project Revenues and amounts on deposit in or standing to the credit of the: 1) Revenue Fund; 2) Sinking Fund et.al.; 3) Subordinated Bond Fund: 4) Rate Stabilization Fund; 5) Residual Fund; and 6) Construction

Fund etal. The Fiscal Agent shall hold and apply the security interest granted in trust for the Holders of Bonds listed above without preference, priority, or distinction; provided however, that the pledge of this ordinance may also be for the benefit of a Credit Facility and Qualified Swap, or any other person who undertakes to provide moneys for the account of the City for the payment of principal or redemption price and interest on any Series of Bonds (other than Subordinated Bonds), on an equal and ratable basis with Bonds, to the extent provided by any Supplemental Ordinance or Determination.

E. Grants from Other Governments

Grants from Federal, State, and other governments are recognized as revenue when grant expenditures have been recorded. Grants are recorded as non-operating revenues.

F. Property, Plant and Equipment

Property, plant and equipment are stated at cost. Where cost could not be developed from the records available, estimated historical cost was used to record the value of the assets. Upon sale or retirement, the cost of the assets and the related accumulated depreciation are removed from the accounts. Maintenance and repair costs are charged to operations.

Capital assets are defined by the City as assets with an initial individual cost of more than $5,000 and an estimated useful life in excess of three years.

G. Depreciation

Depreciation on fixed assets is provided on the straight-line method over their estimated useful lives as follows:

Computer equipment	3 years
Automotive	5 years
Leasehold Improvements	8 years
General and monitoring equipment	10-20 years
Buildings	40 years
Reconstructed transmission and distribution lines	40 years
New transmission and distribution lines	50 years

H. Construction in Progress

Cost of construction includes all direct contract costs plus overhead charges. Overhead costs include direct and indirect engineering costs and interest incurred during the construction period on projects financed with Revenue Bond proceeds. Interest is capitalized by applying the average financing rate during the year to construction costs incurred. Interest earnings on bond proceeds reduce the amount capitalized. Capitalization of interest during construction for Fiscal Year 2010 was $5,286.925.

I. Amortization of Bond Discount

Bond discounts and issuance costs are deferred and amortized by the bonds outstanding method.

J. Inventories

The materials and supplies inventory is priced using the “moving average cost” method.

K. Revenues

All billings rendered to general customers through June 30, 2010 are included in accounts receivable. In addition an amount for services rendered through June 30, 2010, but not billed, has been accrued. Historically, billings and collections for general customers remain relatively constant except for periods when there has been a rate change.

L. Rates

Under the Charter, the Water Department is empowered and required to establish rates for water and wastewater service, in accordance with standards ordained by City Council, but without further authorization required by the City Council, at levels which provide sufficient revenue to meet operating expenses of the water and wastewater systems, including interdepartmental charges for services provided to the Water Department, and debt service requirements on all obligations issued for the Water Department, as well as other specific covenants of the General Ordinance.

The City has covenanted in the General Ordinance that it has authorized the imposition of rates and charges by the Water Department sufficient to comply with the Rate Covenant and that it will not repeal or materially adversely dilute or impair such authorization.

The Philadelphia Code requires the Water Department to give written notice to City Council at least 30 days in advance of the filing of notice of any proposed change in water or sewer rates or charges and to submit with such written notice financial, engineering and other data upon which the proposed changes are based. After the filing of the proposed regulations providing for changes in rates or charges with the City's Department of Records, the Department of Records is required to give public notice that the regulations have been filed and that any person affected by the proposed regulations may request a public hearing before the Water Department and the City Solicitor. Revised rates and charges become effective ten days after filing of a decision by the Water Commissioner at the conclusion of hearings or at any time thereafter, at his discretion.

The Water Department filed a notice of request for new rates for the period Fiscal Year 2009 through Fiscal Year 2012 with City Council on April 4, 2008. The rate request was filed with the Department of Records on May 5, 2008. In accordance with the regulations, a hearing examiner and public advocate were appointed. Public hearings were held during the period from July 21 to July 31 and technical hearings were held during the week of August 11, 2008. The Department also proposed to change the way it charges customers for stormwater management services; this part of the case was concluded with the Water Commissioner's decision of July 21, 2009, and new stormwater rates and charges were effective on July 1, 2010.

No timely challenges to the City's existing rate determinations have been filed. Several parties have filed for intervention or participation in the recent rate case; however, the Department believes that the time to appeal any decision on the revenue requirements part of the case has passed. A civil action was commenced on December 17, 2009 when a Complaint was filed with the Court of Common Pleas. Plaintiffs' Complaint contains seven counts that purport to state claims seeking declaratory relief under the Declaratory Judgments Act, 42 Pa. C.S. 7531, et seq. challenging the legality of parts of the Philadelphia Water Department Rate Determination, dated October 21, 2008 ("Rate Determination") and related regulations (Sections 300, et seq.) issued by the Water Commissioner, effective November 1, 2009 (the "Regulations"), to the extent that the Regulations establish three successive increases in water and sewer rates implemented or to be implemented during the period Fiscal Years 2010-2012. Preliminary

Objections were filed in response to the above action on January 22, 2010. These objections address all seven counts of Plaintiffs' Complaint and request that the Court reject the complaint grounds of lack of jurisdiction, legal insufficiency, failure to comport with law or rule of court and/or non-joinder of indispensable parties. Replies to such Preliminary Objections were filed February 12, 2010, and a sur-reply was filed on March 1, 2010. On May 12, 2010, the Court sustained the Preliminary Objections raised by the Water Department and dismissed Plaintiff's case in its entirety. Plaintiff has since filed a Notice of Appeal with the Commonwealth Court of Pennsylvania. The City believes that the lawsuit was without merit and properly dismissed by the Court of Common Pleas; however, there can be no assurance of the outcome of the appeal pending before the Commonwealth Court and the effect of such litigation on future rates. Bucks County Water and Sewer Authority has filed for arbitration with respect to the current rate notice. The parties have agreed to a 90-day stay to give the parties time to settle the matter and have participated in the exchange of information and partial settlement discussions

M. Advance Service Charge

The City's Water Fund Regulations provide for the assessment of an "Advance Service Charge" (ASC) at the time a property is initially connected to the system. The initial charge is calculated to be the equivalent of three (3) monthly service charges. This long-standing practice of assessing an initial charge equivalent to the average of three monthly service charges has been consistent whether the billing period was semi-annually (through 1979), quarterly (1979-1994) or monthly (1994-current). The Fund includes these charges in current revenues at the time they are received. Fund regulations also provide for a refund of any advance service charges upon payment of a $100 fee and permanent disconnection from the system. During FY 2010 334 disconnection permits were issued resulting in a refund or final credit of approximately $329,500 and 960 new connection permits were issued resulting in additional advance service charges of approximately $338,200.

N. Insurance

The City, except for the Gas Works, the Airport, and certain other properties, is self-insured for most fire and casualty losses to its structures and equipment and provides statutory worker's compensation, unemployment benefits, and health and welfare to its employees through a self-insured plan. Construction contractors are required to carry protective general liability insurance indemnifying the City and the Contractor. A reserve for payment of reported worker's compensation claims and incurred but unreported claims has been recorded in the accompanying financial statements as Other Long-Term Obligations.

O. Investments

All highly liquid investments (except for Repurchase Agreements) with a maturity of three months or less when purchased are considered to be cash equivalents.

The investments of the City are reported at fair value. Short-term investments are reported at cost, which approximates fair value. Securities traded on national or international exchanges are valued at the last reported sales price. The fair value of real estate investments is based on independent appraisals. Investments, which do not have an established market, are reported at estimated fair value.

P. Deferred Revenues

Deferred revenues represent funds received in advance of being earned. In the Water Fund, deferred revenues relate principally to overpaid Water and Sewer bills.

Q. Interfund Charges

In accordance with an agreement between the Finance Director and the Water Department, the Finance Director may transfer to the General Fund up to a limit of $4,994,000 in any fiscal year in “excess interest earnings” as defined by the Rate Covenants under the Ordinance. In fiscal 2010, excess interest earnings of $2,303,986 were transferred to the General Fund of the City.

3. ACCOUNTS RECEIVABLE

Balances consisted of the Following:

FISCAL YEAR ENDED JUNE 30, 2010

Accounts Receivable:		
Billed in the Last Twelve Months	$	130,889,170
Billed in 15-year Cycle Billing		43,896,918
Penalties on Receivables		28,576,468
Other Receivables		21,807,363
Total	$	225,169,919
Bad Debts Written Off	$	13,535,707
Allowance for Doubtful Accounts:		
Billed in the Last Twelve Months	$	-
Billed in 15-year Cycle Billing		41,994,835
Penalties on Receivables		27,484,229
Other Receivables		21,501,324
Total	$	90,980,388

FISCAL YEAR ENDED JUNE 30, 2009

Accounts Receivable:		
Billed in the Last Twelve Months	$	112,240,726
Billed in 15-year Cycle Billing		46,360,685
Penalties on Receivables		30,630,361
Other Receivables		20,222,623
Total	$	209,454,395
Bad Debts Written Off	$	9,115,844
Allowance for Doubtful Accounts:		
Billed in the Last Twelve Months	$	-
Billed in 15-year Cycle Billing		52,808,871
Penalties on Receivables		24,495,304
Other Receivables		12,541,219
Total	$	89,845,394

4. THE TEN LARGEST RETAIL CUSTOMERS OF THE PHILADELPHIA WATER DEPARTMENT DURING FISCAL YEAR 2010

Customer		Billings (Millions)	% of total Billings	Consumption (MGD)	% of Total Consumption
City of Philadelphia	$	28.143	5.51%	9.49	5.58%
Philadelphia Housing Authority		11.939	2.34	4.23	2.48
Philadelphia School District		6.719	1.31	1.58	0.93
Trigen Corporation		4.907	0.96	2.14	1.26
Sunoco		4.218	0.83	4.34	2.55
University of Penna.		3.752	0.73	1.60	0.94
Temple University		2.769	0.54	1.10	0.65
US Government		2.766	0.54	1.19	0.7
SEPTA		1.945	0.38	0.38	0.22
Paperworks Industries Inc.		1.769	0.35	2.43	1.43
Total Top Ten	$	68.927	13.49%	28.48	16.73%
Total Retail Billings	$	511.040		170.14	

5. WHOLESALE CUSTOMERS OF THE PHILADELPHIA WATER DEPARTMENT DURING FISCAL YEAR 2010

The department is permitted, via ordinance, to provide wholesale water and sewer service to jurisdictions outside of the City's borders. This "wholesale" service is provided via agreement. Service is limited to delivery of water or acceptance of wastewater at the City border.

Wastewater Customer		Revenues	% of total Revenues
Delcora	**$**	**8,789,736**	**25.80%**
Bucks County Water & Sewer Authority		**7,295,679**	**21.41%**
Upper Darby Township		**3,389,507**	**9.95%**
Cheltenham Township		**3,239,440**	**9.51%**
Lower Merion Township		**2,816,586**	**8.27%**
Lower Southampton Township		**2,117,190**	**6.21%**
Springfield Township - Erdenheim		**2,538,979**	**7.45%**
Bucks (for Bensalem) *		**1,554,095**	**4.56%**
Abington Township		**1,339,683**	**3.93%**
Lower Moreland Township		**736,917**	**2.16%**
Springfield Township - Wyndmoor		**251,619**	**0.74%**
Total	**$**	**34,069,431**	

Water Customer		Revenues	% of total Revenues
Bucks County Water & Sewer Authority		**5,777,578**	**64.35%**
Upper Darby Township		**3,200,883**	**35.65%**
Total	**$**	**8,978,461**	
Total Wholesale Revenues	**$**	**43,047,892**	

6. PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment at June 30, 2010 and 2009 consisted of the following:

Fiscal Years Ended		**June 30, 2010**		**June 30, 2009**
Land	$	5,919,160	$	5,919,160
Buildings and related improvements		1,427,513,880		1,393,076,406
Meters and other improvements		96,773,569		85,927,860
Equipment		69,993,066		68,605,739
Transmission and distribution lines		1,887,148,203		1,829,743,103
Construction in progress		205,851,976		151,517,409
Total	$	3,693,199,854	$	3,534,789,677
Less: Accumulated Depreciation		(1,880,592,059)		(1,808,339,469)
Total	$	1,812,607,795	$	1,726,450,208

7. IMPAIRED ASSETS

Government Accounting Standards Board (GASB) Statement 42 requires the disclosure of the impairment of any major capital assets. Over the years there have been a number of PWD assets that were either damaged or destroyed, were abandoned or became functionally obsolete.

In the past, as these assets were removed from service their cost was removed from Utility Plant in service. Assets that were removed from service include the first Mixing & Receiving building at our Biosolids Recycling center which was destroyed by fire in the early 1990's, the grit, scum and screenings incinerators and related handling equipment at our waste water plants which were abandoned due to clean air permit considerations, the chlorine facilities at our water and wastewater plants that were replaced due to safety and clean air act considerations and the high pressure fire system which was removed from service in January 2005 when it was determined to be functionally obsolete.

One additional facility remains in service, which has become "functionally obsolescent" - the portion of our Biosolids Recycling Center which performs composting. Composting of our sludge products was stopped in approximately March of 2007 as an interim solution to the air management problems that have occurred at this site. A permanent solution for sludge processing that does not involve composting is still in the development. PWD's engineering division estimates the value of the compost facilities that are "functionally obsolescent" (which were built in conjunction with the remaining BRC facilities which will remain in service such as the mixing/receiving building, administrative offices and the dewatering facility) to be in the area of $20 million, including the value of any land acquisition and site preparation costs.

In the summer of 2003, the Water Department began a process to move to an entirely Class A biosolids process, and one that could operate in Philadelphia without odors. It entered into a contract with the engineering consultant firm Camp, Dresser & McKee to assist with procurement of facilities and services for Philadelphia to operate for 20 years the dewatering station, and to construct new facilities to produce Class A biosolids products. Alternative processes identified for this procurement process included fully-enclosed composting systems and heat drying technologies. The Request for Qualifications was released in August 2003, and, in response, the City received qualification statements from four teams, of which two were found qualified and invited to receive a Request for Proposals. One team, Philadelphia Biosolids Services, LLC ("PBS") submitted a proposal on November 24, 2004. This team offered to build a pair of sludge dryers. The Water Department has negotiated a long term contract with PBS for improvements to the Biosolids Recycling Center. The contract includes a provision for interim operation of up to five years, during which PBS will take over operation of the existing Biosolids Recycling Center. Within the first three to five years, PBS will finance, design, build, own, and operate a thermal drying facility that will handle all of the sludge processed by the Water Department and make a Class A product in the form of pellets that can be used as fertilizer and has potential as a fuel. PBS will be responsible for the disposition of the Class A pellets, thus relieving the Water Department of this burden. The Class A period of operation will last twenty years with a five year renewal at the option of the Water Department. The project is estimated to result in a savings of approximately $200 million over the contract life. On June 19, 2008, City Council passed enabling legislation to allow the proposed contract to proceed. Mayor Nutter approved the contract with PBS in October 2008 and PBS has been operating the facility since October 13, 2008. Total payments for Fiscal Year 2009 were $12,609,352. Total payments for Fiscal Year 2010 were $22,828,657. The Fiscal Year 2011 proposed budget includes $21,480,000 for payments to PBS.

As a result of the transfer of operations and the discontinuance of composting operations, a total of \$40.5 million of equipment and facilities were retired. The balance of the equipment and facilities being utilized by the contractor remains on the balance sheet.

No additional asset impairments occurred during FY 2010

8. VACATION

Employees are credited with vacation at rates which vary according to length of service. Vacation may be taken or accumulated up to certain limits until paid upon retirement or termination. Employees' vacation time accrued in Fiscal Year 2010 was \$9,120,870 and in 2009 was \$9,598,019. The expense for vacation pay is recognized in the year earned.

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9. SICK LEAVE

Employees are credited with varying amounts of sick leave per year according to type of employee and/or length of service. Employees may accumulate unused sick leave to 200 days and union represented employees may convert up to 20 sick days per year to vacation days at a ratio of 2 for 1. Non-uniformed employees (upon retirement only) are paid 30% of unused sick time, not to exceed predetermined amounts. Employees, who separate for any reason other than indicated above, forfeit their entire sick leave. The City budgets for and charges the cost of sick leave as it is taken.

10. CAPTALIZED LEASES

Leases consist of \$2,675,389 in photocopier and computer equipment in Fiscal 2010. Capital leases are defined by the Financial Accounting Standard Board in Statement 13, <u>Accounting for Leases.</u>

11. RATE STABILIZATION FUND

The Rate Stabilization Fund was created with the sale of the Series 1993 Revenue Bonds on August 20, 1993. The purpose of the Fund is to maintain assets to be drawn down to offset future deficits (and corresponding rate increase requirements) in the Water Department Operating Fund.

During Fiscal 2010 the fund had the following activity:

Balance at July 1, 2009	$	147,636,618
Transfer to Operating Fund		(2,701,524)
Interest Earnings		1,321,553
Interest Transferred to Water Operating Fund		-
Balance at June 30, 2010	**$**	**146,256,647**

12. RESIDUAL FUND

The Residual Fund was created with the sale of the Series 1993 Revenue Bonds on August 20, 1993. The purpose of the Fund is to maintain the remaining assets after payment of all operating expenses, payment of all debt service obligations including payments under a swap agreement, scheduled transfers to the Rate Stabilization fund, and required deposits to the Capital Account of the Construction Fund.

During Fiscal 2010 the fund had the following activity:

Balance at July 1, 2009	$	81,324,002
Interest Income		253,189
Deposit from Operating Fund		21,223,671
Capital Payments for New River City Project		(16,716,033)
Transfer to General Fund		(2,303,986)
Transfer to Capital Projects Fund		(16,468,000)
Balance at June 30, 2010	**$**	**67,312,843**

Note: Currently $46,424,217 is reserved for prior year encumbrances. (New River City Project)

13. ACCOUNTING FOR THE NEW RIVER CITY PROJECT FUNDS – WATER SINKING FUND RESERVE SUBSTITUTION

Pursuant to the Water Department's General Bond Ordinance, the Sinking Fund Reserve provides a reserve against default of the payment of principal and interest on Water Revenue Bonds when due.

The New River City Ordinance dated 1/23/07 (Bill No 060005) authorized the purchase and deposit of a surety bond that meets the requirements of the General Ordinance to replace $67,000,000 of the Sinking Fund reserve Balance. The $67,000,000 will be used as follows:

$2,010,000	Cost of the surety bond
290,000	legal and financial services
375,000	Management fees
64,325,000	Costs of certain water and sewer infrastructure components of the New River City Program

The prepaid surety bond was recorded as an asset in the Sinking Fund Reserve and amortized over the lives of the outstanding bonds.

As of June 30, 2010, $46,424,217 in unexpended proceeds from the substitution remains. PWD has approved projects that are currently in process that would expend the balance of the remaining funds.

14. DEFERRED COMPENSATION PLAN

The City offers its employees a deferred compensation plan in accordance with Internal Revenue Code section 457. As required by the Internal Revenue Code and Pennsylvania laws in effect at June 30, 2007, the assets of the plan are held in trust for the exclusive benefit of the participants and their beneficiaries. In accordance with GASB Statement No. 32, *Accounting and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans,* the City does not include the assets or activity of the plan in its financial statements.

15. ARBITRAGE REBATE

The City has issued Water Revenue Bonds subject to federal arbitrage requirements. Federal tax legislation requires the accumulated net excess of interest income on the proceeds of these issues over interest expense paid on the bonds be paid to the federal government at the end of a five-year period. In Fiscal 2005, $30,077 was paid. As of June 30, 2005 there was no arbitrage liability. There was no Arbitrage liability incurred during FY 2006. There was no Arbitrage liability incurred during FY 2007. There was an arbitrage liability as of June 30, 2008 in the amount of $571,496.00. There was an arbitrage liability as of June 30, 2009 in the amount of $493,111.00. As of June 20, 2010 there was an arbitrage liability of $72,158.00

16. DEBT PAYABLE

Defeased Debt

In prior years, the Water Fund defeased certain bonds by placing the proceeds of new bonds in irrevocable trusts to provide for all future debt service payments on old bonds. Accordingly, the trust account assets and the liability for the defeased bonds are not included in the Water Fund's financial statements. At year end, $172.5 million of bonds outstanding was considered defeased.

Financings

In July 2009, the outstanding balance of $83.7 million of Water & Wastewater Revenue Refunding Bonds, Variable Rate Series 2005B was remarketed under an irrevocable direct pay letter of credit (LOC) from Bank of America. The LOC replaces a bond insurance policy from Financial Security Assurance, Inc. ("FSA") and a liquidity facility for the 2005B Bonds provided by DEPFA Bank. The LOC will constitute both a credit facility and liquidity facility and Bank of America, N.A. a credit provider and liquidity provider for the 2005B Bonds. The bonds continue to have a weekly interest rate maturing in 2018.

In April 2010, PWD settled on $396,460,000 in refinancing revenue bonds. The bonds were issued as the City of Philadelphia, Pennsylvania-Water and Wastewater Revenue Bonds, Series 2010A and authorized under Ordinance #100005. These bonds were used to refinance the series 2003 City of Philadelphia, Pennsylvania-Water and Wastewater Revenue Bonds and to pay costs related to the transaction. The Series 2003 Bonds were insured by AGM with Dexia as the liquidity provider. The liquidity facility expired on April 1, 2010 and was not renewed by Dexia. The City refunded the Series 2003 Bonds with the proceeds of the Series 2010A Bonds and terminated the Series 2003 Swap as further described in the forepart of the Official Statement for this transaction. The bonds were issued at total average interest cost of 3.384965%. The final bond maturity was accelerated to 2019 with a bond yield of 4.11%. The 2010A issue included both insured (AGM) and uninsured bonds. This transaction considerably reduced the Water Department's risk exposure related to interest rate swaps ,variable interest rates and liquidity costs .

On June 30th, 2010, one of the two forward starting swap "rate lock" agreements with Merrill Lynch & Co. was terminated. A termination fee of $15,198,000 was paid and is included in debt service expense on the modified cash basis income statement. The City anticipates the termination of the second swap to occur in conjunction with the issuance of the 2010C-D bonds described below.

Pennvest Loans

On April 20, 2009, the Water Department received notice that Pennvest (the Pennsylvania State Infrastructure Financing Authority) had approved three of the traditional water and sewer applications, totaling $184.893 million, were approved for funding through low interest loans of 1.193% during the construction period and for the first five years of amortization (interest only payments are due during the construction period, up to three years) and 2.107% for the remaining fifteen years. In addition, a $30,000,000 “green infrastructure” application was also approved for funding through a low interest loan on the same terms. The Department did not originally anticipate the funding of these projects through additional borrowings. Additional debt service for these loans has been included in the Department’s Fiscal Year 2010 budget, the Department’s five year plan projections and the Engineering Report. These loans are being provided on an “interest only” basis during the construction period of up to three years, after which they are amortized on a 20 year basis at 1.193% for the first five years and 2.107% for the next fifteen years. The Department has accepted all of the funding. A supplemental ordinance to the Restated General Ordinance authorizing $350,000,000 in new borrowing (the Twelfth Supplemental Water Bond Ordinance No. 090321) was introduced and approved by City council in May, 2009. The City and Pennvest finalized loan documents on the three traditional loans described above during FY 2010.

Pennvest loan number 83104 (series 2009B) was settled on October 14, 2009. The maximum loan amount is $42,886,030. Estimated project costs are currently $33,195,803. Project draws on the amount of $3,039,858.72 have been requested through June 30 , 2010. No reimbursements have yet been received on this loan.

Pennvest loan number 83105 (series 2009C) was settled on October 14, 2009. The maximum loan amount is $57,268,193. Estimated project costs are currently $50,423,484. Project draws on the amount of $13,430.972.51 have been requested and received through June 30 , 2010. Interest only payments on this loan are scheduled to begin on July1, 2010.

Pennvest loan number 27771 (series 2009D) was settled on March 31, 2010. The maximum loan amount is $84,759,263. Estimated project costs are currently $82,462,284. Project draws on the amount of $8,455,618.68 have been requested through June 30 , 2010. No reimbursements have yet been received on this loan.

Pennvest loan number 75235 (series 2010B) is not currently scheduled for settlement. The maximum loan amount is $30,000,000. Estimated project costs are currently $30,000,000. No Project draws have been requested or received through June 30, 2010.

Additional debt service for these loans has been included in the Department’s Fiscal Year 2011 budget, the Department’s five year plan projections and the Engineering Report. These loans are being provided on an “interest only” basis during the construction period of up to three years, after which they are amortized on a 20 year basis at 1.193% for the first five years and 2.107% for the next 15 years. The Pennvest loans were authorized through a supplemental ordinance to the Restated General Ordinance (the Twelfth Supplemental Water Bond Ordinance No. 090321

Subsequent Events

On August 4, 2010, PWD settled on $185,000,000 in new money revenue bonds. The bonds were issued as the City of Philadelphia, Pennsylvania-Water and Wastewater Revenue Bonds, Series 2010C. The net proceeds of $170.5 million from these bonds will be used to fund a portion of the Water Department’s 2011 to 2016 Capital budget and to pay costs related to the transaction. The City also terminated the two forward starting 2007 Swap agreements as further described in the forepart of the Official Statement for this transaction.

The bonds were issued at true interest cost of 4.373226%. The final bond maturity was in 2040 had yield of 4.884%. The 2010C issue was insured by AGM. The financing included the termination of the Wachovia (now Wells Fargo) forward starting swap agreement on July 27, 2010 which resulted in a termination payment of $15,015,000 which was funded with proceeds of the 2010C bonds and will be amortized over the life of these bonds for GAAP accounting purposes.

Thanks to the efforts and to the assistance of many of PWD managers in compiling and presenting the data in the department's official statement, the department was able to access the market to complete this transaction which provided essential funding for infrastructure replacement and reduced the Water Department’s risk exposure related to interest rate swaps, variable interest rates and liquidity costs. The department recently received confirmation of its existing bond ratings from each of the three major bond rating agencies. (Moody’s: A1, S&P: A, Fitch: A+)

Future Financings

Approximately 70% of the costs of the Capital Improvement Program are expected to be funded with the proceeds of debt to be incurred during the six-year period. The City expects most of such debt to be in the form of Water and Wastewater Revenue Bonds issued under the Act and the General Ordinance. A portion of the debt may be evidenced by loans to the City from Pennvest, established by the Commonwealth to provide low interest cost financing for water and wastewater projects within the Commonwealth. Such loans are expected to be evidenced by water and wastewater revenue bonds. Any additional loans received by the Water Department from Pennvest will reduce the amount of future Water and Wastewater Revenue Bonds to be issued.

The department is also authorized for the issuance of $135,000,000 in additional new money bonds under the 12th supplemental ordinance (no. 090321). The current capital spending plan calls for the issuance of these bonds in early FY 2014.

In addition to the $215 million of Pennvest Loans described earlier, the Capital Improvement Program provides for the issuance of revenue bonds in the anticipated principal amount (exclusive of original issue discount) of $135,000,000 near the beginning of Fiscal Year 2014. The emphasis of the Capital Improvement Program is on the renewal and replacement of the water conveyance and sewage collection systems along with improvements to the water and wastewater treatment plants. Additional Revenue bond issues are anticipated during or after Fiscal Year 2011 as necessary to fund the approved capital program. See APPENDIX II – “ENGINEERING REPORT.” Black & Veatch Corporation has made certain assumptions in its Engineering Report with respect to inflation which are not reflected in the formal Capital Improvement Plan of the Water Department.

Another $350 million issue is planned for Fiscal 2015, but has not yet been authorized.

City of Philadelphia Water & Sewer Swap Interest Rates

City Entity	Water	Water
Related Bond Series	2005 Refunding	2010 (2) Forward
Initial Notional Amount	$86,105,000	$90,000,000
Current Notional Amount	$83,275,000	$90,000,000
Termination Date	8/1/2018	1/1/2037
Product	Fixed Payer Swap (1)	Fixed Payer Swap
Rate Paid by Dealer	Bond Rate/ 68.5% 1-month LIBOR	SIFMA
Rate Paid by City Entity	4.53%	4.52275%
Dealer	Citigroup Financial Products Inc.	Wachovia Bank, N.A.
Dealer Rating	A3/A (Citigroup Inc.)	Aa2/AA
Fair Value (3)	(14,133,142)	(15,093,563)

Notes:

(1) The City received an up front payment of $4,000,000 for the related swaption. Citigroup exercised its option to enter into the swap on 5/4/2005. Under the swap, the City receives the bond rate or 68.5% of 1-month LIBOR in the event of an Alternative Floating Rate Date. An Alternative Floating Rate Date has been triggered and the City is currently receiving the LIBOR-based rate.

(2) On 2/10/2009, the City amended the effective date on the forward starting swap from 2/17/2009 to 8/1/2010. This resulted in an upward adjustment in the fixed rate from 4.1184% to 4.52275%. The City terminated the forward starting swap with Merrill Lynch on 6/30/2010. The City paid a termination payment of $15,198,000 to Merrill Lynch.

3) Fair values are shown from the City's perspective and include accrued interest.

City of Philadelphia 2003 Water & Sewer Swap

Objective In December 2002, the City entered into a swaption that provided the City's Water and Sewer Department with an up-front payment of $25.0 million. The original notional amount was $381,275,000. As a synthetic refunding of all or a portion of its 1993 Bonds, this payment approximated the present value savings, as of December 2002 of a refunding on March 18 2003, based upon interest rates in effect at the time. The swaption gave Citigroup (formerly Salomon Brothers Holding Company, Inc), the option to enter into an interest rate swap to receive fixed amounts and pay variable amounts. On April 8, 2010, the City terminated the swap and refunded the underlying bonds to fixed rate. The City paid a swap termination payment of $48,755,000 to Citigroup.

City of Philadelphia, 2005 Water & Sewer Swap

Objective: In December, 2002, the City entered into a swaption that provided the City with an up-front payment of $4.0 million. As a synthetic refunding of all or a portion of its 1995 Bonds, this payment approximated the present value savings, as of December 2002, of a refunding on May 4, 2005. The swaption gave Citigroup (formerly of Salomon Brothers Holding Company, Inc), the option to enter into an interest rate swap to receive fixed amounts and pay variable amounts.

Terms: Citigroup exercised its option to enter into a swap May 4, 2005, and the swap commenced on that date. Under the terms of the swap, the City pays a fixed rate of 4.53% and receives a variable payment computed as the actual bond rate or alternatively, 68.5% of one month LIBOR, in the event the average rate on the Bonds as a percentage of the average of one month LIBOR has exceeded 68.5% for a period of more than 180 days. Citigroup exercised its option during this fiscal year to pay 68.5% of one month LIBOR under the swap. The payments are based on an amortizing notional schedule (with an initial notional amount of $86.1 million), and when added to an assumption for remarketing, liquidity costs and cost of issuance were expected to approximate the debt service of the refunded bonds at the time the swaption was entered into.

As of June 30, 2010, the swap had a notional amount of $83.3 million and the associated variable-rate bond had an $83.3 million principal amount. The bonds' variable-rate coupons are not based on an index but on remarketing performance. The bonds mature on August 1, 2018 and the related swap agreement terminates on August 1, 2018.

Fair value: As of June 30, 2010, the swap had a negative fair value of ($14.1 million). This means that the Water Department would have to pay this amount if the swap terminated.

Risk: As of June 30, 2010 the City is not exposed to credit risk because the swap had a negative fair value. Should interest rates change and the fair value of the swap become positive, the City would be exposed to credit risk in the amount of the swap's fair value. Since the City is now receiving 68.5% of one month LIBOR, the City is exposed to (i) basis risk, as reflected by the relationship between the variable-rate bond coupon payments and 68.5% of one month LIBOR received on the swap, and (ii) tax risk, a form of basis risk, where the City is exposed to a potential additional interest cost in the event that changes in the federal tax system or in marginal tax rates cause the rate paid on the outstanding bonds to be greater than the 68.5% of LIBOR received on the swap. The swap includes an additional termination event based on credit ratings. The swap may be terminated by the City if the ratings of Citigroup or its Credit Support Provider fall below A3 and A-, or by Citigroup if the rating of the City's water and wastewater revenue bonds falls below A3 or A-.There are 30-day cure periods to these termination events. However, because the City's swap payments are insured by Assured Guaranty Municipal Corp. (formerly FSA), no termination event based on the City's water and wastewater revenue bond ratings can occur as long as Assured is rated at least A or A2.

As of June 30, 2010, rates were as follows:

Terms	Rates	
Fixed payment to Citigroup under Swap	Fixed	4.53000%
Variable payment from Citigroup under Swap	68.5% of one month LIBOR	
	(0.23868%)	
Net interest rate swap payments		4.29132%
Variable rate bond coupon payments	Weekly resets	0.21%

Synthetic interest rate on bonds 4.50132%

Swap payments and associated debt: As of June 30, 2010, debt service requirements of the variable-rate debt and net swap payments for their term, assuming current interest rates remain the same, were as follows:

Fiscal Year Ending	Variable Rate Bonds		Interest Rate	
June 30	Principal	Interest	Swaps Net	Total Interest
2011	405,000	174,878	3,573,597	3,748,475
2012	425,000	174,027	3,556,217	3,730,244
2013	450,000	173,135	3,537,979	3,711,114
2014	14,820,000	172,190	3,518,668	3,690,858
2015	15,535,000	141,068	2,882,694	3,023,762
2016-2019	51,640,000	221,151	4,519,189	4,740,340

City of Philadelphia Forward-Starting Water & Wastewater Swaps

Objective: In February, 2007, the City entered into two forward starting swaps to take advantage of the current low interest rate environment in advance of the issuance of water and wastewater revenue bonds expected to be issued by the City in 2008. The notional amount was evenly split between two counterparties, Merrill Lynch Capital Services, Inc. and Wachovia Bank, N.A. On June 30, 2010, the swap with Merrill Lynch was terminated. The City paid a termination payment of $15,198,000 to Merrill Lynch.

Terms: The swap confirmation was amended in December, 2007, to move the swap start date from February, 2008, to February, 2009 as the bond issuance had been delayed. In February 2009 the swap confirmation was amended again to move the swap start date from February 2009 to August 2010, as the bond issuance had been delayed. The termination date is January, 2037. The swap was priced based on an amortizing notional schedule with a $90 million initial notional amount. Under the swap, the City would pay a fixed rate of 4.52275% and will receive a variable rate equal to the SIFMA Municipal Swap Index.

Fair value: As of June 30, 2010, the swap had a negative fair value of ($15.1 million). This means that the Water and Sewer Department would have to pay this amount to terminate the swap.

Risk: As of June 30, 2010, the City is not exposed to credit risk because the swap had a negative fair value. Should interest rates change and the fair value of the swap become positive, the City would be exposed to credit risk in the amount of the swap's fair value. The City is subject to traditional basis risk should the relationship between SIFMA and the bonds change, if SIFMA resets at a rate below the variable-rate bond coupon payments, the synthetic interest rate on the bonds will increase. The swap included additional termination events based on credit ratings. The swap may be terminated by the City if Wachovia fails to have a rating of at least Baa2 or higher or BBB or higher, or by Wachovia if the City fails to have a rating of at least Baa2 or higher or BBB or higher.

The Wachovia swap was terminated in connection with the issuance of the 2010C bonds in August, 2010 (see subsequent events).

17. BOND RATINGS, AS OF JUNE 2010:

In April 2010 Moody's Investors Service assigned the A3 underlying rating and stable outlook to the City of Philadelphia's $396,460,000 Water and Wastewater Revenue Refunding Bonds, Series of 2010A. The A3 underlying rating reflects the system's strong management, improved financial operations, significant cash balances in the Rate Stabilization Fund, ongoing improvements addressing environmental concerns and an above average debt position. Although conservative projections show that management may draw on the Rate Stabilization Fund over the next several years to meet the 1.2x net revenue coverage mandated by the rate covenant, recent improvements to financial operations, as well as anticipated ongoing rate increases, will likely mitigate the dependence on this fund. The closed-loop system is effectively segregated financially from the city's general funds and accounts, with a daily sweep of customer revenues to a third party fiscal agent. In addition, a moderate portion of revenues is related to wholesale services provided under contract to various suburban communities outside of the City.

In April 2010, Standard & Poor's Ratings Services assigned its 'A' long-term rating, and stable outlook, to Philadelphia, Pa.'s series 2010A $396,460,000 and Wastewater Revenue Refunding Bonds affirmed its 'A' long-term rating and underlying rating (SPUR), with a stable outlook, on the city's existing water and wastewater revenue debt.

In their report, *Standard & Poor's Ratings Services* commented as follows:

> In our opinion, positive credit factors include the city's:
>
> - Stable financial performance despite its reliance on rate stabilization support -- With the rate stabilization funds, senior-lien debt service coverage (DSC) was an adequate 1.2x in fiscal 2009;
> - Competitive rates, which will remain low despite planned increases through fiscal 2012; and
> - Experienced management team continues to emphasize, and is achieving, improved system maintenance, stronger collections, and more-comprehensive fiscal monitoring systems.
>
> In our opinion, despite these positive credit factors, the rating remains restrained by the city's:
>
> - Continued reliance on rate stabilization fund support -- projections have officials continuing to draw on the fund over the forecast period of 2010-2016 -- to meet covenanted coverage;
> - Overall service area economy, characterized by weak demographic trends, including a long-term population decline, resulting in overcapacity in the water system;
> - Sizable capital improvement program (CIP) for the system, totaling $1.04 billion for fiscals 2010-2015; and
> - Highly leveraged system with a debt-to-plant ratio of 94%, which we consider high.

In May 2010, Moody's and Fitch Ratings both recently announced that they were recalibrating their long-term municipal ratings to their respective global rating scales. The current ratings assigned to the Bonds by Moody's and Fitch Ratings are on their respective global rating scales. The recalibrations do not reflect a change in credit quality, or a change in Moody's or Fitch

Ratings' credit opinions, of an issue or issuer; the recalibrations are simply changes in scale. More information is currently available from Moody's at http://www.moodys.com/gsr and from Fitch Ratings at http://www.fitchratings.com. As a result of the recalibrations PWD's underlying ratings were raised by Moody's from A3 to A1 and by Fitch from A- to A+. These ratings were subsequently affirmed in their July 2010 ratings reports on the City of Philadelphia's $185 million Water and Wastewater Revenue Bonds, Series of 2010C issued in August, 2010.

CITY OF PHILDELPHIA'S BOND RATINGS			
YEAR	MOODY'S INVESTOR'S SERVICE	STANDARD & POORS CORP.	FITCH IBCA
2010	A1	A	A+
2009	A3	A	A-
2008	A3	A	A-
2007	A3	A-	A-
2006	A3	A-	A-
2005	A3	A-	A-
2004	A3	A-	A-
2003	A3	A-	A-
2002	A3	A-	A-
2001	A3	A-	A-
2000	Baa1	BBB+	A-
1998	Baa1	BBB+	BBB+
1997	Baa1	BBB	BBB+
1995	Baa	BBB	BBB+
1993	Baa	BBB-	BBB
1991	B	BBB	BBB
1990	Baa	BBB	
1974	A	A	

18. PENSION PLAN

The City, via the Municipal Pension Plan, maintains the following employee retirement system:

(1) City Plan

(a) Plan Description

The Philadelphia Home Rule charter (the Charter) mandates that the City maintain an actuarially sound pension and retirement system. To satisfy that mandate, the City's Board of Pensions and Retirement maintains the single-employer Municipal Pension Plan (the Plan). The Plan covers all officers and employees of the City and officers and employees of five other governmental and quasi-governmental organizations. By authority of two Ordinances and related amendments passed by City Council, the Plan provides retirement benefits as well as death and disability benefits. Benefits vary by the class of employee. The Plan has two major classes of members – those covered under the 1967 Plan and those covered under the 1987 Plan. Each of these two plans have multiple divisions.

Retirement Benefits

An employee who meets the age and service requirements of the particular division in which he participates is entitled to an annual benefit, payable monthly for life, equal to the employee's average final compensation multiplied by a percentage that is determined by the employee's years of credited service. The formula for determining the percentage is different for each division. If fund earnings exceed the actuarial assumed rate by a sufficient amount, an enhanced benefit distribution to retirees, their beneficiaries, and their survivors shall be considered. A deferred vested benefit is available to an employee who has 10 years of credited service, has not withdrawn contributions to the system and has attained the appropriate service retirement age. Members of both plans may opt for early retirement with a reduced benefit. The **Deferred Retirement Option Plan** (DROP) was initiated on October 1, 1999. Under this plan, employees that reach retirement age may accumulate their monthly service retirement benefit in an interest bearing account at the Board of Pensions for up to four (4) years and continue to be employed by the City of Philadelphia.

Death Benefits
If an employee dies from the performance of duties, his/her spouse, children, or dependent parents may be eligible for an annual benefit ranging from 15% to 80% of the employees final average compensation. Depending on age and years of service, the beneficiary of an employee who dies other than from the performance of duties will be eligible for either a lump sum benefit only or a choice between a lump sum or an annual pension.

Disability Benefits
Employees disabled during the performance of duties are eligible for an immediate benefit equal to contributions plus a yearly benefit. If the employee subsequently becomes employed, the benefit is reduced by a percentage of the amount earned. Certain employees who are disabled other than during the performance of duties are eligible for an ordinary disability payment if they apply for the benefit within one year of termination. If the employee subsequently becomes employed, the benefit is reduced by a percentage of the amount earned.

Membership
Membership in the plan as of July 1, 2009 was as follows:

Retirees and beneficiaries currently receiving benefits	35,694
Terminated members entitled to benefits but not yet receving them	1,336
Active Members	28,632
Total Members	65,662

The Municipal Pension fund issues a separate annual financial report. To obtain a copy, contact the Director of Finance of the City of Philadelphia.

(b) Funding Policy
Employee contributions are required by City Ordinance. For Plan 67 members, employees contribute 3.75% of their total compensation that is subject to Social Security Tax and 6% of compensation not subject to Social Security Tax. Plan 87 contribution rates are defined for the membership as a whole by Council ordinance. Rates for individuals are then determined annually by the actuary so that total individual contributions satisfy the overall rate set by Council.

The City is required to contribute the remaining amounts necessary to fund the Plan, using an acceptable actuarial basis as specified by the Home Rule Charter, City Ordinance and State Statute. Court decisions require that the City's annual employer contributions are sufficient to fund:

- The accrued actuarially determined normal costs;
- Amortization of the unfunded actuarial accrued liability determined as of July 1, 1985. The portion of that liability attributable to a class action lawsuit by pension fund beneficiaries (the Dombrowski suit) is amortized in level installments, including interest, over 40 years through June 30, 2009. The remainder of the liability is amortized over 34 years with increasing payments expected to be level as a percentage of each year's aggregate payroll.
- Amortization in level dollar payments of the changes to the July 1, 1985 liability due to the following causes over the stated period:
- Non-active member's benefit modifications (10 years)
- Experience gains and losses (15 years)
- Changes in actuarial assumptions (20 years)
- Active members' benefit modifications (20 years)

Under the City's current funding policy, the total required employer contribution for the current year amounted to $566.0 million or 40.0% of covered payroll of $1,423.0 million. The City's actual contribution was $297.4 million. The City's contribution did not meet the Minimum Municipal Obligation (MMO) as required by the Commonwealth of Pennsylvania's Acts 205 and 189.

In Fiscal Year 2010 the City made several changes to the pension plan based on Act 44, which provided a new method of determining municipal distress levels and alternative funding relief in response to the 2008/2009 market decline. The City adopted fresh start amortization, alternating to 30 years and lowered the assumed rate of interest from 8.75% to 8.25% assuming a partial deferral of the pension payments in fiscal years 2010 and 2011 of $150 million and $90 million respectively, which must be repaid by fiscal year 2014. The change in amortization period and the partial deferral were approved by the Commonwealth of Pennsylvania General Assembly.

The Annual Pension Cost and related percentage contributed for the three most recent fiscal years are as follows:

(Millions of USD)

Fiscal Year Ended June 30	Annual Pension Cost	Percentage Contributed	Net Pension Obligation
2008	561.0	76.10%	(559.5)
2009	559.0	81.47%	(456.0)
2010	597.0	54.89%	(171.6)

The actuarial valuation to compute the current year's required contribution was performed as of July 1, 2009. Methods and assumptions used for that valuation include:

- The individual entry age actuarial cost method
- A ten-year smoothed market value method for valuing investments
- A level percentage closed method for amortizing the unfunded liability
- An annual investment rate of return of 8.25%
- Projected annual salary increases of 5% (including inflation)
- Annual inflation of 2.75%
- No post-retirement benefit increases

Administrative costs of the Plan are paid out of the Plan's assets.

(c) Annual Pension Cost and Net Pension Obligation

The City and other employers' annual pension cost and net pension obligation (NPO) for the Municipal Pension Plan for the current year were as follows:

(Thousands of USD)

Annual Required Contribution (ARC)		581,123
Interest on Net Pension Obligation (NPO)		(39,899)
Adjustment to ARC		55,744
	Annual Pension Cost	596,968
Contributions Made		(312,556)
	Increase in NPO	284,412
NPO at Beginning of Year*		(455,988)
NPO at End of Year		(171,576)
Interest Rate		8.75%
15 Year Amortization Factor (EOY)		8.18%

(d) Summary of Significant Accounting Policies

Financial statements of the Plan are prepared using the accrual basis of accounting. Contributions are recognized as revenues when due, pursuant to formal commitments, as well as statutory or contractual requirements. Benefits and refunds paid are recognized when due and payable in accordance with the terms of the plan.

19. OTHER POST EMPLOYMENT BENEFITS (OPEB)

Primary Government

Plan description: The City of Philadelphia self-administers a single employer, defined benefit plan and provides health care for five years subsequent to separation for eligible retirees. Certain union represented employees may defer their coverage until a later date but the amount that the City pays for their health care is limited to the amount that the City would have paid at the date of their retirement. The City also provides lifetime insurance coverage for all eligible retirees. Firefighters are entitled to $7,500 coverage and all other employees receive $6,000 in coverage. The plan does not issue stand alone financial statements, and the accounting for the plan is reported within the financial statements of the City of Philadelphia.

Funding Policy: The City funds its retiree benefits on a pay-as-you-go basis. To provide health care coverage, the City pays a negotiated monthly premium for retirees covered by union contracts and is self insured for non unionized employees. For fiscal year 2010, the City paid $71.7 million for retiree healthcare.

Annual OPEB Cost and Net OPEB Obligation: The City's annual other post employment benefit (OPEB) expense is calculated based on the annual required contribution of the employer (ARC), an amount actuarially determined in accordance with the parameters of GASB statement 45. The ARC represents a level of funding, which if paid on an ongoing basis, is projected to cover normal cost each year and amortize any unfunded actuarial liabilities over a period not to exceed thirty (30) years. The following table shows the components of the City's annual OPEB cost for the year, the amount actually contributed to the plan and changes in the net OPEB obligation (dollar amount in thousands)

Annual Required Contribution	93,602
Interest on Net OPEB Obligation	1,057
Adjustment to ARC	(815)
Annual OPEB Cost	93,844
Payments Made	(71,693)
Increase/(Decrease) in net OPEB Obligation	22,151
Net OPEB Obligation - Beginning of Year	21,150
Net OPEB Obligation - End of Year	43,301

Funded Status and Funding Progress: The City is funding OPEB on a pay as you go basis and accordingly, the unfunded actuarial accrued liability for benefits was $1.1 billion, as of July 1, 2009, the most recent actuarial valuation date. The covered annual payroll was $ 1.5 billion and the ratio of the UAAL to the covered payroll was 79.0 percent.

Actuarial Methods and Assumptions: Costs were determined according to the individual entry age actuarial cost method with the attribution period ending at each decrement age. This is consistent with the cost method used for the City of Philadelphia Municipal Retirement System. Unfunded liabilities are funded over a 30 year period as a level percentage of payroll, which is assumed to increase at a compound annual rate of 4% per year. The actuarial assumption included a 5.0% compound annual interest rate on the City's general investments.

20. CLAIMS, LITIGATION AND CONTINGENCIES

Generally, claims against the City are payable out of the General Fund, except claims against the City Water Department, City Aviation Division, or Component Units which are paid out of their respective funds and only secondarily out of the General Fund which is then reimbursed for the expenditure. Unless specifically noted otherwise, all claims hereinafter discussed are payable out of the Water Fund. The Act of October 5, 1980, P.L. 693, No. 142, known as the "Political Subdivision Tort Claims Act," established a $500,000 aggregate limitation on damages arising from the same cause of action or transaction or occurrence or series of causes of action, transactions or occurrences with respect to governmental units in the Commonwealth such as the City. The constitutionality of that aggregate limitation has been upheld by the United States Supreme Court. There is no such limitation under federal law.

Various claims have been asserted against the Water Department and in some cases lawsuits have been instituted. Many of these claims are reduced to judgment or otherwise settled in a manner requiring payment by the Water Department. At year-end, the aggregate estimate of loss deemed to be **probable** is $3.3 million.

In addition to the above, there are other lawsuits against the Water Department in which some amount of loss is reasonably **possible**. The aggregate estimate of the loss, which could result if unfavorable legal determinations were rendered against the Water Department with respect to these lawsuits, is $4.8 million.

21. ENHANCED SECURITY

In light of the events of September 11, 2001, when terrorists struck the United States, the Water Department took steps to improve the security of the City's water supply and all other major Water Department facilities and assets. These steps were taken in close coordination with the City's Managing Director's Office and all other appropriate City agencies and departments. The Water Department is representative agency in the City of Philadelphia Emergency Operations Center. The EOC is designed to permit City emergency personnel to respond quickly to any major event through specialized computer and communications equipment, including a backup 911 system. This center can accommodate around the clock staffing by officials from the Police, Fire, Health, and Water Departments and additional City agencies. The Water Department remains in contact with federal, state, and local law enforcement and emergency personnel and has performed a vulnerability analysis of its entire potable water system. The work was primarily funded by the EPA and the Water Department delivered its report to the EPA on March 31, 2003. Details of the enhanced security measures already taken and those presently under consideration cannot be disclosed.

It should be noted that the Water Department had an extensive water quality protection and security plan in place prior to the events of September 11, 2001. All finished water basins are completely covered; all plants are fenced in and topped by barbed wire; gates are secured; video surveillance equipment has been installed; and the Water Department continues to draw and conduct nearly one thousand tests on water samples from various locations each day. Municipal Guards were assigned to the main entrance at each water plant in 2002 to control access to the facility to only authorized persons and/or deliveries. Online water quality monitors provide continuous testing of all stages of the treatment process.

To further ensure the safety and quality of the City's drinking water, the Water Department will continue to expand its network to continuously monitor water quality using online instrumentation. The system provides the Department with the ability to track real-time water quality conditions at strategic locations throughout the City's water distribution system and to monitor any variations should they occur. Water quality data is currently transmitted from more than twenty monitoring sites to the Water Department's central laboratory where engineers and scientists check for early warning signs of water quality deterioration and document any unforeseen changes. The water treatment plants have online instrument clusters at multiple raw and finished water locations. These monitors will also be connected to the distribution systems monitoring network. The Water Department plans to assess the performance of the monitoring system at the current locations while continuing to investigate alternative technology for further installations at wholesale customer interconnects, pumping stations and other critical points in the distribution system. Recently, the EPA, under its Water Security Initiative program, awarded a grant to the Water Department to develop and install a Contamination Warning System Demonstration Pilot for detecting and mitigating possible contamination of the City's drinking water distribution system. Philadelphia, New York, San Francisco, and Dallas were the cities selected for this research pilot program. The City's project included total costs of $12,599,846. On November 21, 2008, the Department was notified that appropriations for the initial phase of the project totaling $2,677,963 were approved. The initial phase included $2.0 million in Federal funds and $677,963 in local share. As of the close of calendar 2009, PWD has received $5.75 million of federal funding. PWD anticipates receiving an additional $3.75 million in calendar year 2010, which will complete the full $9.5 million federal share for the Demonstration Pilot. The City's share will comprise approximately $3 million when the project is finished. More than 80% of the City's share is comprised of services-in-kind comprised of salaries and benefits for existing City employees assigned to the project.

The City recently received a grant to design and install Emergency Back-up Power generation at key facilities. The Water Department's treatment and finished water pumping stations were included. Installation of Back-up Power Generators was completed at the Belmont High Service Pumping Station in 2007 and at the Samuel S. Baxter water treatment plant in 2009. Capital contract work began in late 2009 on an Emergency Back-up Power generation installations at for the Torresdale High Service Pump Station and the Roxborough High Service Pump Station. Design work is underway on emergency generation equipment for East Oak Lane Reservoir Pump Station and Fox Chase Booster Pumping Station. The remainder of the Water Department facilities is scheduled for design and construction over the next five fiscal years with the final facility being in-service in 2015.

APPENDIX II

SUMMARIES OF CERTAIN AUTHORIZATIONS FOR THE 1997B BONDS

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APPENDIX II

SUMMARIES OF CERTAIN AUTHORIZATIONS FOR THE BONDS

The following are summaries of certain provisions of The First Class City Revenue Bond Act (the "Act") and the Restated General Water and Wastewater Revenue Bond Ordinance of 1989 as amended and supplemented (the "General Ordinance"). The summaries are not, and should not be regarded as, complete statements of the provisions of these documents and legislation. Reference is made to the Act and the General Ordinance, copies of which are available from the Office of the Director of Finance, 1300 Municipal Services Building, 1401 J.F. Kennedy Boulevard, Philadelphia, Pennsylvania 19102, for the complete terms and provisions thereof.

THE FIRST CLASS CITY REVENUE BOND ACT
(Act 234 of the General Assembly of
the Commonwealth, approved October 18, 1972,
P.L. 955; 53 P.S. §§ 15901-15924)

General Authorization; Definition of Project; Bonds to be Special Obligations

The Act is intended to provide a comprehensive authorization to the City of Philadelphia (the "City") and any other Pennsylvania cities of the first class to issue revenue bonds ("Bonds") to finance various types of projects.

The Act defines "Project" to include, among other things, any building, structure, facilities or improvements of a public nature, the related land, rights or leasehold estates in land and the related furnishings, machinery, apparatus or equipment of a capital nature, which the City is authorized to own, construct, acquire, improve, lease, operate, maintain or support; any item of construction, acquisition or extraordinary maintenance or repair thereof, the City's share of the cost of any of the foregoing or any combination thereof undertaken jointly with others; and any combination of any of or all of the foregoing or any undivided portion of the cost of any of the foregoing as may be designated as a "Project" by the City for financing purposes and in respect of which the City may reasonably be expected to receive "Project Revenues" (as defined in the Act).

Bonds issued under the Act are required to be payable solely from Project Revenues and to be secured solely by such revenues and by any reserve funds which may be created or funded in connection with the Bonds. The Bonds are not permitted to pledge the credit or taxing power of the City to create any debt or charge against the tax or general revenues of the City, or create any lien against any of the City property other than the Project Revenues pledged therefore and reserve Funds established in respect of the Bonds. The Bonds do not constitute a debt of the City, and are excluded from the calculation of the City's debt-incurring capacity under the Pennsylvania Constitution.

Estimates of Future Revenues

To establish that Project Revenues will be sufficient to amortize all Bonds outstanding, the Act requires a finding to be made in the ordinance authorizing the issuance of the Bonds that the pledged Project Revenues will be sufficient to pay any prior parity charges thereon and the principal of and interest on the Bonds. This finding is to be based on a report of the chief fiscal officer of the City filed with the City Council and supported by appropriate schedules and summaries. The report of the chief fiscal officer of the City may be based on a report of consulting engineers employed by the City to evaluate the project.

For the purpose of estimating future Project Revenues, the Act provides that only the following shall be included: (i) those rents, rates, tolls or charges to the general public which, under existing authorizations, will be reasonably collectible in such year under the schedule or rate of rents, rates or charges which are or will be in effect during such year in accordance with such ordinance, resolutions or rate schedule or which may be imposed by administrative action without further legislation; (ii) those bulk payments which may be imposed under subsisting legislation or which are provided under subsisting agreements or which are the subject of an expression of intent by the prospective obligor deemed reliable by the chief fiscal officer of the City; and (iii) those governmental subsidies or payments which, under subsisting legislation, are subject to reasonably precise calculation and, unless stated in such legislation or authorization to be of an annually or more frequently recurring nature, are payable in such year.

Detail of Bonds and City Covenants

The Act provides that the ordinance authorizing the issuance of the Bonds shall fix the aggregate amounts of the Bonds to be issued from time to time and determine, or designate officers of the City to determine, the form and details of the Bonds. The City may include in its Bond ordinance various covenants with Bondholders, including covenants governing the imposition, collection and disbursement of Project Revenues, Project operation and maintenance, the establishment, segregation, maintenance, custody, investment and disbursement of sinking funds and reserves, the issuance of additional priority or parity bonds, the redemption of the Bonds and such other provisions as the City deems necessary or desirable in the interest or for the protection of the City or of such Bondholders. Under the Act the covenants, terms and provisions of the Bond ordinance made for the benefit of Bondholders constitute contractual obligations of the City, but such covenants (within limitations, if any, fixed by the Bond ordinance) may be modified by agreement with a majority in interest of the Bondholders or such larger portion thereof as may by provided in the Bond ordinance.

Sinking Fund

The Act requires that the Bond ordinance shall provide for the establishment of a sinking fund for the payment of the principal of and interest on the Bonds. Payment into such sinking fund shall be made in annual or more frequent installments and shall be sufficient to pay or accumulate for payment all principal of and interest on the Bonds for which the sinking fund is established as and when the same shall become due and payable. The sinking fund shall be managed by the chief fiscal officer of the City and moneys therein to the extent not currently required, shall be invested, subject to limitations established by the Bond ordinance and the Act. Interest and profits from investment of moneys in the sinking fund shall be added to such fund and may be applied in reduction of or to complete required deposits into the sinking fund. Excess moneys in the sinking fund shall be repaid to the City for its general purposes or may be applied as may be provided in the Bond ordinance. All moneys deposited in the sinking fund are subjected to a perfected security interest for the benefit of the holders of the Bonds, for which the fund is established, until property disbursed. This perfected security interest also applies, under the terms of the Act, to moneys in the sinking fund reserve created as part of the sinking fund by the General Ordinance.

Refunding

Any outstanding Bonds issued under the Act or other bonds issued for purposes for which Bonds are issuable under the Act, whether issued before or after the effective date of the Act, may from time to time be refunded by Bonds issued under the Act and are subject to the same protections and provisions required for the issuance of an original issue of Bonds. The last stated maturity date of the refunding Bonds may not be later than ten years after the last stated maturity date of the Bonds to be refunded. If outstanding Bonds are refunded in advance of their maturity or redemption date, the principal thereof and interest thereon to payment or redemption date, and redemption premium payable, if any, will no longer be deemed to be outstanding obligations when the City shall have deposited with a bank, bank and trust company or trust company, funds irrevocably pledged to the purpose, which are represented by demand deposits, interest-bearing time accounts, savings deposits, certificates of deposit (insured or secured as public funds) or specified obligations of the United States or of the Commonwealth of Pennsylvania sufficient to effect such redemption or payment or, if interest on the deposited funds to the time of disbursement is also pledged, sufficient, together with such interest, for such purpose and, in the case of redemption, shall have duly called the Bonds for redemption or given irrevocable instructions to give notice of such call.

Validity of Proceedings; Suits and Limitations Thereon

Prior to the delivery of any Bonds, the City is required to file with the Court of Common Pleas of Philadelphia County (the "Court") a transcript of the proceedings authorizing the issuance of the Bonds. If no action is brought on or before the twentieth day following the date of recording of the transcript, or when the proceedings have been approved finally by the Court, then notwithstanding any defect or error in such proceedings, the validity of the proceedings, the City's right to issue the Bonds, the lawful nature of the purpose for which the Bonds are issued, and the validity and enforceability of the Bonds in accordance with their terms may not thereafter be inquired into judicially, in equity, at law, or by civil or criminal proceedings, or otherwise, either directly or collaterally except where a constitutional question is involved.

Negotiable Instruments

The Act provides that Bonds issued thereunder shall have the qualities and incidents of securities under Article 8 of the Uniform Commercial Code of the Commonwealth and shall be negotiable instruments.

Exemption from State Taxation

The Commonwealth pledges with the holders from time to time of Bonds issued under the Act that such Bonds, and interest thereon, shall at all times be free from taxation within and by the Commonwealth, but this exemption does not extend to underwriting profits or to gift, succession or inheritance taxes or any other taxes not levied directly on the Bonds and the receipt of interest thereon.

Defaults and Remedies

If the City should fail to pay the principal of or interest on any Bond when the same shall be due and payable, the remedy provisions of the Act permit the holder of such Bond, subject to the limitations described below, to recover the amount due in an action in Philadelphia Common Pleas Court; but a judgment rendered in favor of the Bondholder in such an action is collectible only from Pledged Amounts. The holders of 25% or more in aggregate principal amount of the Bonds of such series then outstanding which are in default, whether because of failure of timely payment which is not cured in 30 days, or failure of the City to comply with any other provisions of the Bonds or any Bond ordinance, may appoint a trustee to represent them. On being appointed, the trustee shall be the exclusive representative for the affected Bondholders and the individuals rights of action described above shall no longer be available. The trustee may, and upon written request of the holders of 25% or more in aggregate principal amount of Bonds in default, and on being furnished with indemnity satisfactory to it, shall, take one or more of the following actions, which, if taken, shall preclude similar action, whether previously or subsequently initiated, by individual holders of Bonds; enforce, by proceedings a law or in equity, all rights of the holders of the Bond; bring suit on the Bonds; bring in suit in equity to require the City to make an accounting for all pledged Project Revenues received and to enjoin unlawful action or action in violation of the holders' rights; and, after 30 days' written notice to the City, and subject to any limitations in the Bond ordinance, declare the unpaid principal of the Bonds to be immediately due and payable, together with interest thereon at the rates stated in the Bonds until final payment, and upon the curing of all defaults, to annual such declaration. In any suit, action or proceeding by or on behalf of holders of defaulted Bonds, trustee fees and expenses, including operating costs of a project and reasonable counsel fees, shall constitute taxable costs, and all such costs and expenses allowed by the Court shall be deemed additional principal due on the Bonds and shall be paid in full from any recovery prior to any distribution to the holders of the Bonds. The General Ordinance limits any such recovery to Pledged Amounts. The trustee shall make distribution of any sums so collected in accordance with the Act.

Refunding with General Obligation Bonds

Upon certification by the City's chief fiscal officer that Project Revenues pledged for the payment of Bonds have become insufficient to meet the requirements of the ordinance or ordinances under which the Bonds were issued, the City Council is empowered, but not required, subject to applicable Pennsylvania constitutional debt limitations, to authorize the issuance and sale of general obligation refunding bonds of the City, without limitation as to rate of interest and in such principal amount (subject to the aforesaid limitations on indebtedness) as may be required, together with other available funds, to pay and redeem such Bonds including principal, interest to the date fixed for redemption or payment and premium, whether or not the principal of or interest on the refunding bonds shall exceed the principal of or interest on the bonds to be refunded.

THE RESTATED GENERAL WATER AND WASTEWATER REVENUE BOND ORDINANCE OF 1989

(Ordinance of the City Council approved June 24, 1993 - Bill No. 544)

The following is a summary of certain terms defined in the Restated General Water and Wastewater Revenue Bond Ordinance of 1989 (the "General Ordinance") and used in this Reoffering Circular. Reference should be made to the General Ordinance for a full and complete statement of its terms and any capitalized terms used herein but not otherwise defined. The Bonds are being issued under the terms of the General Ordinance. The following summarizes the terms of the General Ordinance. All capitalized terms used in the following summary of the General Ordinance are defined as in the General Ordinance, and may be differently referenced in other portions of this Reoffering Circular.

Certain Definitions

Accredited Value means, with respect to Capital Appreciation Bonds, the amount to which, as of any specified time, the Original Value of any such Bond has been increased by accretion, all as may be provided in an applicable Supplemental Ordinance.

Act means The First Class City Revenue Bond Act, approved October 18, 1972 (Act No. 234, 53 P.S. §15901 to 15924), as from time to time amended.

Bond or *Bonds* means, upon and after issuance of the first series of bonds under the General Ordinance, if and to the extent Outstanding at any time, (i) the Existing Bonds and (ii) all series of bonds authorized and issued under one or more supplemental ordinances amending and supplementing the General Ordinance.

Bond Committee means the Mayor, City Controller and City Solicitor or a majority thereof. Bond Counsel means a firm of nationally recognized bond counsel selected by the City.

Bondholder or *Holder* means any registered owner of Bonds or holder of Bonds issued in coupon form at the time Outstanding.

Capital Account means the Capital Account within the Construction Fund.

Capital Account Deposit Amount means an amount equal to one percent (1%) of the depreciated value of property, plant and equipment of the System or such greater amount as shall be annually certified to the City in writing by a Consulting Engineer as sufficient to make renewals, replacements and improvements in order to maintain adequate water and wastewater service to the areas served by the System.

Capital Appreciation Bonds means any Bonds issued under the General Ordinance which do not pay interest either until maturity or until a specified date prior to maturity, but whose Original Value increases periodically by accretion to a final Maturity Value.

Charges Account means the Charges Account established within the Sinking Fund to provide for the payment of fees under any Credit Facility to the extent payment of such fees are not otherwise provided.

City Controller means the head of the City's auditing department as provided by the Philadelphia Home Rule Charter.

City Solicitor means the head of the City's law department as provided by the Philadelphia Home Rule Charter.

Code means the Internal Revenue Code of 1986, as amended.

Construction Fund means the Construction Fund established pursuant to the General Ordinance.

Consulting Engineer means a nationally recognized Independent registered consulting engineer or a nationally recognized Independent firm of registered consulting engineers, in either case having experience in the design and analysis of the operation of water and wastewater systems of the magnitude and scope of the System.

Credit Facility means any letter of credit, standby bond purchase agreement, line of credit, surety bond, insurance policy or other insurance commitment or similar agreement (other than a Qualified Swap or an Exchange Agreement) that is provided by a commercial bank, insurance company or other institution, with a current long term rating (or whose obligations thereunder are guaranteed by a financial institution with a long term rating) from Moody's and S&P not lower than the credit rating of any Series of Bonds which has no Credit Facility, to provide support for a Series of Bonds or for any issue of Subordinated Bonds, and shall include any Substitute Credit Facility.

Debt Reserve Account means the Debt Reserve Account of the Sinking Fund established in the General Ordinance.

Debt Reserve Requirement means with respect to all Bonds, an amount equal to the lesser of (i) the greatest amount of Debt Service Requirements payable in any one Fiscal Year (except that such Debt Service Requirement will be computed as if any Qualified Swap did not exist and the Debt Service

Requirements attributable to any Variable Rate Bonds may be based upon the fixed rate of interest as set forth in the Supplemental Ordinance or Determination for such Bonds), determined as of any particular date or (ii) the maximum amount to be financed with proceeds of Bonds permitted by Section 148(d) (1) of the Code (or any successor provision).

Debt Service Account means the Debt Service Account of the Sinking Fund established in the General Ordinance.

Debt Service Requirements, with reference to a specified period, means:

(a) amounts required to be paid into any mandatory sinking fund established for the benefit of Bonds during the period;

(b) amounts needed to pay the principal or redemption price of Bonds maturing during the period and not to be redeemed at or prior to maturity through any sinking fund established for the benefit of Bonds;

(c) interest payable on Bonds during the period, with adjustment for capitalized interest or redemption through any sinking fund established for the benefit of Bonds; and

(d) all net amounts, if any, due and payable by the City under a Qualified Swap during such period.

For purposes of estimating Debt Service Requirements for any future period, (i) any Option Bond outstanding during such period shall be assumed to mature on the stated maturity date thereof, except that the principal amount of any Option Bond tendered for payment and cancellation before its stated maturity date shall be deemed to accrue on the date required for payment pursuant to such tender; and (ii) Debt Service Requirements on Bonds for which the City has entered into a Qualified Swap shall be calculated assuming that the interest rate on such Bonds shall equal the stated fixed or variable rate on the Qualified Swap or, if applicable and if greater than such stated rate, the applicable rate for any Bonds issued in connection with the Qualified Swap adjusted, in the case of a variable rate obligation, as provided in the General Ordinance.

Calculation of Debt Service Requirements with respect to Variable Rate Bonds shall be subject to adjustment.

Debt Service Withdrawal means the aggregate amount withdrawn from the Capital Account during a Fiscal Year and applied toward the payment of principal or redemption price of or interest on Bonds or toward the elimination of a deficiency in any reserve fund established for the benefit of Bonds.

Determination means a determination by the Bond Committee regarding certain matters relating to the issuance of a Series of Bonds, made pursuant to the General Ordinance or the Supplemental Ordinance providing for the issuance of such Se ties of Bonds.

Director of Finance means the chief financial officer of the City as established by the Philadelphia Home Rule Charter.

Effective Date means when (but only when) all Prior Bonds issued under the Prior Ordinance have been paid or defeased as set forth in Section 10 of the Act.

Exchange Agreement means, to the extent from time to time permitted by applicable law, any interest exchange agreement, interest rate swap agreement, currency swap agreement or other contract or agreement, other than a Qualified Swap, authorized, recognized and approved by a Supplemental Ordinance or Determination as an Exchange Agreement and providing for (i) certain payments by the City from the Residual Fund and (ii) payments by an entity whose senior long term debt obligations, other senior unsecured long term obligations or claims paying ability, or whose obligations under an Exchange Agreement are guaranteed by an entity whose senior long term debt obligations, other senior unsecured long term obligations or claims paying ability are rated not less than A3 by Moody's, A- by S&P or A- by Fitch, or the equivalent thereof by any successor thereto as of the date the Exchange Agreement is entered into; which payments by the City and counterparty are calculated by reference to fixed or variable rates and constituting a financial accommodation between the City and such counterparty.

Existing Bonds means the bonds originally issued under the Prior Ordinance other than Prior Bonds, which Existing Bonds shall be specified in a certificate of the Director of Finance on the Effective Date and thereafter shall be secured by the General Ordinance.

Financial Consultant means a firm of investment bankers, a financial consulting firm, a firm of certified public accountants or any other firm which is qualified to calculate amounts required to be rebated to the United States pursuant to Section 148(1) of the Code.

Fiscal Agent means a bank or other entity designated as such pursuant to the General Ordinance or its successor.

Fiscal Year means the fiscal year of the City.

Fitch means Fitch Ratings and any successor thereto.

General Obligation Bonds means the general obligation bonds of the City issued and outstanding from time to time to finance improvements to the System and adjudged, pursuant to the Constitution and laws of the Commonwealth of Pennsylvania, to be self-sustaining on the basis of expected Project Revenues.

General Ordinance means the Restated General Water and Wastewater Revenue Bond Ordinance of 1989.

Government Obligations means direct obligations of, or obligations the principal of and interest on which are unconditionally guaranteed by, the United States of America, including but not limited to interest obligations of the Resolution Funding Corporation or any successor thereto.

Independent means a person who is not a salaried employee or elected or appointed official of the City; provided, however, that the fact that such person is retained regularly by or transacts business with the City shall not make such person an employee within the meaning of this definition.

Initial Deposit means the initial, one time, deposit to be made by the City from any source into the Rate Stabilization Fund upon the establishment of such Rate Stabilization Fund.

Interdepartmental Charges means the proportionate charges for services performed for the Water Department by all officers, departments, boards or commissions of the City which are required by the Philadelphia Home Rule Charter to be included in the computation of operating expenses of the Water Department.

Interim Debt means any bond anticipation notes or other temporary borrowing which the City anticipates permanently financing with Bonds or other long term indebtedness under the General Ordinance or otherwise.

Maturity Value with respect to Capital Appreciation Bonds means the amount due on the maturity date.

Moody's means Moody's Investors Service and any successor thereto.

Net Revenues for any period means the Project Revenues collected during such period and deposited into the Revenue Fund plus (x) the amounts, if any, transferred from the Rate Stabilization Fund into the Revenue Fund during, or as of the end of, such period and (y) interest earnings during such period on moneys in any of the funds or accounts established under the General Ordinance to the extent such interest earnings are credited to the Revenue Fund pursuant to the General Ordinance minus the sum of (a) Operating Expenses incurred during such period and (b) the amounts, if any, transferred from the Revenue Fund to the Rate Stabilization Fund during, or as of the end of, such period; provided, however that in determining such Net Revenues the Initial Deposit shall not reduce such Net Revenues.

Operating Expenses for any period means all costs and expenses of the Water apartment necessary and appropriate to operate and maintain the System in good operating condition, and shall include, without limitation, salaries and wages, purchases of services by contract, costs of materials, supplies and expendable equipment, maintenance costs, costs of any property or the replacement thereof or for any work or project, related to the System, which is not properly chargeable to property, plant and equipment, pension and welfare plan and worker's compensation requirements, provisions for claims, refunds and uncollectible receivables and for Interdepartmental Charges, all in accordance with generally accepted accounting principles consistently applied, but Operating Expenses shall exclude depreciation, amortization, interest and sinking fund charges.

Operating Expense Withdrawal means the aggregate amount withdrawn from the Capital Account during a Fiscal Year and applied toward the payment of Operating Expenses.

Option Bond means any Bond which by its terms may be tendered by and at the option of the Holder thereof for payment by the City prior to its stated maturity date or the maturity date of which may be extended by and at the option of the Holder thereof.

Ordinance means the General Ordinance, as amended from time to time by one or more Supplemental Ordinances in accordance with the provisions of the General Ordinance.

Original Value with respect to Capital Appreciation Bonds means the principal amount paid by the initial purchasers on the date of original issuance.

Outstanding, when used with reference to Bonds, means, as of any date, all Bonds theretofore or thereupon being authenticated and delivered under the General Ordinance except (i) any Bonds cancelled by the Fiscal Agent at or prior to such date; (ii) Bonds (or portion of Bonds) for the payment or redemption of which moneys, equal to the principal amount, Accredited Value or redemption price thereof, as the case may be, with interest (except to the extent of any Capital Appreciation Bonds) to the date of maturity or redemption date, shall be held in trust under the General Ordinance and set aside for such payment or redemption (whether at or prior to the maturity or redemption date), provided that if such Bonds (or portions of Bonds) are to be redeemed, notice of such redemption shall have been given as provided in the General Ordinance or provision satisfactory to the Fiscal Agent shall have been made for the giving of such notice; (iii) Bonds in lieu of or in substitution for which other Bonds shall have been authenticated and delivered pursuant to the General Ordinance; and (iv) Bonds deemed to have been paid as provided in the General Ordinance.

Philadelphia Home Rule Charter means the Philadelphia Home Rule Charter, as amended or superseded by any new home rule charter, adopted pursuant to authorization of the First Class City Home Rule Act approved April 21, 1949, P.L. 665 §l et seq. (53 P.S. §13101 et seq.).

Prior Bonds means the bonds issued under the Prior Ordinance designated as Water and Sewer Revenue Bonds (i) the First Series through Ninth Series, and the Eleventh Series and Twelfth Series, and (ii) to the extent the following bonds are defeased on the Effective Date, the Tenth Series and the Thirteenth Series through Sixteenth Series.

Prior Ordinance means the General Water and Sewer Revenue Bond Ordinance of 1974 approved May 16, 1974, as amended and supplemented from time to time.

Project Revenues means all rents, rates, fees and charges imposed or charged for the connection to, or use or product of or services generated by the System to the ultimate users or customers thereof, all payments under bulk contracts with municipalities, governmental instrumentalities or other bulk users, all subsidies or payments payable by Federal, State or local governments or governmental agencies on account of the cost of operation of, or the payment of the principal of or interest on moneys borrowed to finance costs chargeable to the System, all grants, payments and contributions made in aid or on account of the System exclusive of grants and similar payments and contributions solely in aid of construction and all accounts, contract rights and general intangibles representing the foregoing.

Purchase and Remarketing Fund means, with respect to each Series of Bonds subject to tender for purchase pursuant to an applicable Supplemental Ordinance or Determination, the Fund so designated in such Supplemental Ordinance.

Qualified Escrow Securities means funds which are represented by (a) demand deposits, interest-bearing time accounts, savings deposits or certificates of deposit, but only to the extent such deposits or accounts are fully insured by the Federal Deposit Insurance Corporation or any successor United States governmental agency, or to the extent not insured, fully secured and collateralized by Government Obligations having a market value (exclusive of accrued interest) at all times at least equal to the principal amount of such deposits or accounts, (b) if at the time permitted under the Act, obligations of any state or political subdivision thereof or any agency or instrumentality of such state or political subdivision for which cash, Government Obligations or a combination thereof have been irrevocably pledged to or deposited in a segregated escrow account for the payment when due of principal or redemption price of and interest on such obligations, and any such cash or Government Obligations pledged and deposited are payable as to principal or interest in such amounts and on such dates as may be necessary without reinvestment to provide for the payment when due of the principal or redemption price of and interest on such obligations, and such obligations are rated by any Rating Agency in the highest rating category assigned by each such rating service to obligations of the same type, or (c) noncallable Government Obligations. In each case such funds (i) are subject to withdrawal, maturing or payable at the option of the holder, at or prior to the dates needed for disbursement, provided such deposits or accounts, whether deposited by the City or by such depository, are insured or secured as public deposits with securities having at all times a market value exclusive of accrued interest equal to the principal amount thereof, (ii) are irrevocably pledged for the payment of such obligations and (iii) are sufficient, together with the interest to disbursement date payable with respect thereto, if also pledged, to meet such obligations in full.

Qualified Rebate Fund Securities means either:

(a) Government Obligations; or

(b) rights to receive the principal of or the interest on Government Obligations through (i) direct ownership, as evidenced by physical possession of such Government Obligations or unmatured interest coupons or by registration as to ownership on the books of the issuer or its duly authorized paying agent or transfer agent, or (ii) purchase of certificates or other instruments evidencing an undivided ownership interest in payments of the principal of or interest on Government Obligations.

Qualified Swap or *Swap Agreement* means, with respect to a Series of Bonds, any financial arrangement that (i) is entered into by the City with an entity that is a Qualified Swap Provider at the time the arrangement is entered into; (ii) provides that (a) the City shall pay to such entity an amount based on the interest accruing at a fixed rate on an amount equal to the principal amount of the Outstanding Bonds of such Series, and that such entity shall pay to the City an amount based on the interest accruing on a principal amount initially equal to the same principal amount as such Bonds, at either a variable rate of interest or a fixed rate of interest computed according to a formula set forth in such arrangement (which need not be the same as the actual rate of interest borne by the Bonds) or that one shall pay to the other any net amount due under such arrangement or (b) the City shall pay to such entity an amount based on the interest accruing on the principal amount of the Outstanding Bonds of such Series at a variable rate of interest as set forth in the arrangement and that such entity shall pay to the City an amount based on interest accruing on a principal amount equal to the Outstanding Bonds of such Series at an agreed fixed rate (which shall not be the same as the rate on the Bonds) or that one shall pay to the other any net amount due under such arrangement; and (iii) which has been designated in writing to the Fiscal Agent by the City as a Qualified Swap with respect to the Bonds.

Qualified Swap Provider means, with respect to a Series of Bonds, an entity whose senior long term debt obligations, other senior unsecured long term obligations or claims paying ability, or whose payment obligations under a Qualified Swap are guaranteed by an entity whose senior long term debt obligations, other senior unsecured long term obligations or claims paying ability, are rated (at the time the subject Qualified Swap is entered into) at least as high as Aa by Moody's, and AA by S&P, or the equivalent thereof by any successor thereto.

Rate Covenant means the rate covenant contained in the General Ordinance.

Rate Stabilization Fund means the Rate Stabilization Fund established pursuant to the General Ordinance.

Rating Agency means Moody's, S&P or Fitch, to the extent that any of such rating services have issued a credit rating on the Bonds or, upon discontinuance of any of such rating services, such other nationally recognized rating service or services if any such rating service has issued a credit rating on the Bonds.

Rebate Bond Year, for purposes of the General Ordinance and in order to facilitate compliance with the arbitrage rebate requirements of the Code, shall mean the period or periods specified in a Supplemental Ordinance or Determination for a Series of Bonds.

Rebate Fund means the Rebate Fund established pursuant to the General Ordinance.

Remarketing Agent means a Remarketing Agent appointed in the manner provided in the applicable Supplemental Ordinance or Determination authorizing the issuance of Variable Rate Bonds.

Remarketing Agreement means an agreement providing for the remarketing of tendered Variable Rate Bonds by a Remarketing Agent, as more fully set forth and defined in the Supplemental Ordinance authorizing any Series of Variable Rate Bonds.

Residual Fund means the Residual Fund established pursuant to the General Ordinance.

Revenue Fund means the Revenue Fund established pursuant to the General Ordinance. S&P means Standard & Poor's Ratings Services and any successor thereto.

Series when applied to Bonds means, collectively, all of the Bonds of a given issue authorized by Supplemental Ordinance, as provided in the General Ordinance, and may also mean, if appropriate, a subseries of any Series if, for any reason, the City should determine to divide any Series into one or more subseries of Bonds.

Sinking Fund means the Sinking Fund established pursuant to the General Ordinance.

Sinking Fund Installment means an amount so designated which is established pursuant to the General Ordinance.

Special Water Infrastructure Account means the Special Water Infrastructure Account of the Residual Fund established in the General Ordinance.

Standby Agreement with respect to a Series of Bonds, means an irrevocable letter of credit and related reimbursement agreement, line of credit, standby bond purchase agreement or similar agreement providing for the purchase of all or a portion of the Bonds of such Series, as amended, supplemented or extended from time to time.

Standby Purchaser, with respect to a Series of Bonds, means the provider of the Standby Agreement for such Series of Bonds.

Subordinated Bond means any Bond referred to in, and complying with the provisions of the General Ordinance with respect to Subordinated Bonds.

Subordinated Bond Fund means the Subordinated Bond Fund established in the General Ordinance.

Substitute Credit Facility means any letter of credit, standby bond purchase agreement, line of credit, surety bond, insurance policy or other insurance commitment or similar agreement (other than a Qualified Swap or an Exchange Agreement) that replaces a Credit Facility and is provided by a commercial bank, insurance company or other financial institution with a current long term credit rating (or whose obligations thereunder are guaranteed by a financial institution with a long term rating) from Moody's and S&P not lower than the credit rating of any Series of Bonds which has no Credit Facility.

Supplemental Ordinance means an ordinance supplemental to the General Ordinance enacted pursuant to the Act and the General Ordinance by the Council of the City.

System means the entire combined water system and wastewater system of the City, now Outstanding and hereafter acquired by lease, direct control, purchase or otherwise or constructed by the City, including any interest or participation of the City in any facilities in connection with said System, together with all additions, betterments, extensions and improvements to said System or any part thereof hereafter constructed or acquired and together with all lands, easements, licenses and rights of way of the

City and all other works, property or structures of the City and contract rights and other tangible and intangible assets of the City now or hereafter owned or used in connection with or related to said System.

Tender Agent, with respect to a Series of Bonds, means any commercial bank or trust company organized under the laws of any state of the United States or any national banking association designated as a tender agent for such Series of Bonds, and its successor or successors hereafter appointed in the manner provided in the applicable Supplemental Ordinance or Determination.

Uncertificated Bond means any Bond which is fully registered as to principal and interest and which is not represented by an instrument.

Variable Rate Bond means any Bond, the rate of interest on which is subject to change prior to maturity and cannot be determined in advance of such change.

Water and Wastewater Funds means, collectively, the Revenue Fund, the Sinking Fund, the Subordinated Bond Fund, the Rate Stabilization Fund, the Residual Fund and the Construction Fund.

Water Commissioner means the head of the Water Department as provided by the Philadelphia Home Rule Charter.

Water Department means the Water Department of the City created pursuant to Section 3-100 of the Philadelphia Home Rule Charter.

SUMMARY OF OPERATIVE PROVISIONS OF THE GENERAL ORDINANCE

The following is a summary of certain operative provisions of the General Ordinance. Reference should be made to the General Ordinance for a full and complete statement of its provisions and the meaning of any capitalized terms used herein but not otherwise defined.

Form and Terms of Bonds

All Bonds shall be in substantially such form as may be approved by the City and set forth in the Supplemental Ordinance or Determination providing for the issuance thereof. Bonds shall be generally designated as Water and Wastewater Revenue Bonds of the City and shall be issued in such Series and within such Series in such subseries as the City may from time to time determine. The aggregate principal amount of Bonds which may be issued, authenticated and delivered under the General Ordinance is unlimited, but prior to the issuance of such Series of Bonds, the City shall enact a Supplemental Ordinance authorizing such Series and the maximum aggregate principal amount of such Series.

The Bonds shall be issued in fully registered form, except as provided in the General Ordinance and, such Bonds shall be issued upon and contain such additional terms as may be set forth in the supplemental Ordinance and Determination providing for the issuance of the Bonds in question. As required by Section 5 of the Act, all Bonds shall contain a brief statement of the Project Revenues pledged as security therefor and the priority or priorities, if any, in the application of such pledged Project Revenues and shall contain a covenant of the City to pay from the pledged Project Revenues on the respective due dates the amounts required to pay the interest on and principal or redemption price of the Bonds. Bonds may be designated as of such Series by date, number, letter or otherwise and may also have such individual letters, identifying numbers or other marks, and such descriptive panels, registration panels, legends or endorsements placed thereon as may, consistent with The General Ordinance and the

Act, be determined by a Supplemental Ordinance, Determination or the Director of Finance. The Bonds may also have printed thereon or on the reverse thereof the text of an approving legal opinion with respect thereto. Any portion of the text of any Bond may be set forth on the reverse thereof with an appropriate reference on the face of the Bond.

The Bonds of each Series shall be issued in such aggregate principal amount, shall be in such denominations, shall mature or be subject to mandatory redemption in such principal amounts, on such dates and at such places, shall have such Sinking Fund Installments for Bonds of like maturity and interest rate, shall bear interest from such date or dates and at such rate or rates (including variable, adjustable, convertible or other rates), shall be subject to optional redemption at such times and upon such terms, shall (if such Bonds are Option Bonds) be subject to optional or mandatory tender, and shall contain such other terms and conditions not inconsistent with the General Ordinance or the Act, all as shall be determined by the City and set forth in the Supplemental Ordinance or Determination under which such Bonds are issued, or as shall be determined by a designated officer or officers of the City thereunto authorized by the Supplemental Ordinance, or in the absence of such provisions or designation, as shall be determined by the Director of Finance as specified below.

If permitted by applicable law, any Series of Bonds may be issued as Uncertificated Bonds and the foregoing provisions specifying the form of Bonds shall be inapplicable to such Series.

A Series of Bonds may be secured by a Credit Facility meeting the requirements of the General Ordinance and the applicable Supplemental Ordinance. In connection with the issuance of its Bonds or at any time thereafter so long as a Series of Bonds remains Outstanding, the City also may enter into Qualified Swaps or Exchange Agreements if the Bond Committee determines that such Qualified Swap or Exchange Agreement will assist the City in more effectively managing its interest costs. The City's payment obligation under any Qualified Swap shall be made from the Sinking Fund and its payment obligation under any such Exchange Agreement shall be made from the Residual Fund created pursuant to the General Ordinance. Unless otherwise acknowledged by each Rating Agency by virtue of its confirmation of the existing credit ratings on the City's Outstanding Bonds, the City will not enter into any Qualified Swap or Exchange Agreement unless it gives at least fifteen (15) day's advance notice of its intention to do so to each of the Rating Agencies, which notice shall specify the identity of the Qualified Swap Provider or Exchange Agreement counterparty, as the case may be.

Sale of Bonds; Taxes Not to be Assumed; Authority of Director of Finance

Bonds may be sold by the City at public, private, or invited sale upon such terms not inconsistent with the Act and at such prices as the City may determine. To the extent that the Supplemental Ordinance authorizing any Series of Bonds and the Determination relating to such Series shall not otherwise provide:

(a) all Bonds shall be sold at competitive public sale to the purchaser or purchasers submitting the highest and best bid upon such terms and conditions of the bidding as shall be specified in an official notice of sale issued in the name of the City by the Director of Finance;

(b) no covenant to pay or assume any taxes shall be included in such Bonds; and,

(c) subject to the foregoing, the terms upon which are the prices for which the Bonds are to be sold or exchange, and the form, terms or provisions of the Bonds including, without limitation, the matters referred to in Section 5 of the Act, shall be determined by the Director of Finance who is designated in the General Ordinance as the officer of the City authorized to make such determinations based, to the extent applicable, on the prices, interest rates or other terms set forth in the highest and best proposal conforming to the bidding specifications, as ascertained and accepted on behalf of the City by the Director of Finance.

Payments of Principal, Redemption Price and Interest; Date of Bonds

Unless otherwise provided in any Bond or the Supplemental Ordinance or Determination relating thereto:

(a) The principal or redemption price of each Bond shall be payable upon surrender thereof at the principal Philadelphia office of the Fiscal Agent in Philadelphia, Pennsylvania or at the principal office of a paying agent designated in such Bonds.

(b) The interest due on any Bond in fully registered form shall be payable by check or draft mailed to the Holder thereof, or at the request of a Holder of one million (1,000,000) dollars or more in principal amount or maturity value of Bonds by wire transfer to an account at a financial institution in the United States, designated in writing to the Fiscal Agent-or the paying agent, subject to such provisions concerning record dates as may be contained in such Bond and in the Supplemental Ordinance and Determination providing for the issuance and terms thereof.

(c) The principal or redemption price of and the interest on each Bond shall be payable in any coin or currency of the United States of America or Bonds of a Series may be payable in such foreign currency as may be specified in the Supplemental Ordinance authorizing such Series of Bonds, if applicable law permits.

(d) Fully registered Bonds of each Series shall be dated as of the date six months preceding the interest payment date next following the date of execution thereof by the Fiscal Agent, unless such date of execution shall be an interest payment date, in which case they shall be dated as of such date of execution; provided, however, that if, as shown by the records of the Fiscal Agent, interest on the Bonds of any Series shall be in default, fully registered Bonds of such Series issued in lieu of Bonds surrendered for transfer or exchange may be dated as of the date to which interest has been paid in full on the Bonds surrendered. Fully registered Bonds of each Series shall bear interest from their date.

Notwithstanding any other provision in The General Ordinance to the contrary, the foregoing provisions of this Section are subject to the express understanding that the principal of and interest on all Bonds issued hereunder and the premium, if any, payable on redemption thereof, shall be payable only from Project Revenues and other funds provided for the payment of Bonds. The Bonds are not general obligations of the City and do not pledge the general credit or taxing power or create any debt or charge against the general revenues of the City, or create any lien against any property of the City other than pledged Project Revenues.

Execution of Bonds

The Bonds shall be executed on behalf of the City by the Fiscal Agent by the manual signatures of two of its duly authorized officers or signers, under the seal of the City which shall be either affixed or reproduced thereon in facsimile and shall be countersigned and attested by the manual or facsimile signature of the City Controller, or in such other manner as shall be authorized by law and prescribed by Supplemental Ordinance. Any such Bonds may be executed, issued and delivered notwithstanding that one or more of the officers or signers signing such Bonds or whose facsimile signature shall be upon such Bonds shall have ceased to be such officers or signers at the time when such Bonds shall actually be delivered, and although at the nominal date of the Bond any such person shall not have been such officer or signer.

Bond Registrar and Bond Register

The City shall designate one or more persons to act as "Bond Registrar" for the Bonds provided that the Bond Registrar appointed for the Bonds shall be either the Fiscal Agent or a person which would meet the requirements for qualification as a Fiscal Agent imposed by the General Ordinance. Any person other than the Fiscal Agent undertaking to act as Bond Registrar shall first execute a written agreement, in form satisfactory to the City and the Fiscal Agent, to perform the duties of a Bond Registrar under the General Ordinance, which agreement shall be filed with the Fiscal Agent.

The Bond Registrar shall act as registrar and transfer agent for the Bonds. The City shall cause the Bond Registrar to designate, by a written notification to the Fiscal Agent, a specific office location at which the Bond Register is kept. The principal corporate trust office of the Fiscal Agent shall be such office in respect of the Bonds for which the Fiscal Agent is acting as Bond Registrar.

The Bond Registrar shall, in any case where it is not also the Fiscal Agent, forthwith following each regular record date and at any other time as reasonably requested by the Fiscal Agent, certify and furnish to the Fiscal Agent and any paying agent as the Fiscal Agent shall specify, the names, addresses, and holdings of Bondholders and any other relevant information reflected in the Bond Register, and the Fiscal Agent and any such paying agent shall for all purposes be fully entitled to rely upon the information so furnished to it and shall have no liability or responsibility in connection with the preparation thereof.

Interchangeability of Bonds

Fully registered Bonds, upon surrender thereof at the office of Bond Registrar with a written instrument of transfer satisfactory to the Bond Registrar, duly executed by the registered owner or his duly authorized attorney may at the option of the registered owner thereof, and upon payment by such registered owner of any charges, which the City or Bond Registrar may make, be exchanged for an equal aggregate principal amount of fully registered Bonds of the same Series, maturity and interest rate of any other authorized denominations.

Negotiability, Transfer and Registry

Fully registered Bonds, shall be transferable only by the registered owner thereof in person or by his attorney duly authorized in writing, upon surrender thereof together with a written instrument of transfer satisfactory to the Bond Registrar duly executed by the registered owner or his duly authorized attorney. Upon the transfer of any such fully registered Bonds the City shall issue and the Bond Registrar shall execute in the name of the transferee a new fully registered Bond or Bonds of the same aggregate principal amount and Series, maturity and interest rate as the surrendered Bonds.

The City, the Fiscal Agent and any paying agent designated in the Bonds may deem and treat the person in whose name any Bond shall be registered in the Bond Register as the absolute owner of such Bond, whether such Bond shall be overdue or not, for the purpose of receiving payment of, or on account of, the principal and redemption price of and interest on such Bond and for all other purposes, and all such payments so made to any such registered owner or upon his order shall be valid and effectual to satisfy and discharge the liability upon such Bond to the extent of the sum or sums so paid, and neither the City, the Fiscal Agent nor any paying agent designated in the Bond shall be affected by any notice to the contrary.

Any consent, waiver or other action taken by the registered owner of any Bond pursuant to the provisions of the General Ordinance shall be conclusive and binding upon such Holder, his heirs, successors or assigns, and upon all transferees of such Bond whether, or not notation of such consent, waiver or other action shall have been made on such Bond or on any Bond issued in exchange therefor.

Regulations With Respect to Exchanges and Transfers

In all cases in which the privilege of exchanging Bonds or transferring registered Bonds is exercised, the City shall execute and deliver Bonds in accordance with the General Ordinance. All Bonds surrendered in any such exchanges or transfers shall forthwith be delivered to the Bond Registrar and cancelled or retained by the Bond Registrar. For every such exchange or transfer of Bonds, whether temporary or definitive, the City or the Bond Registrar may make a charge sufficient to reimburse it for any tax, fee or other governmental charge imposed by a governmental unit other than the City in connection with said exchange, transfer or registration and for any charge of insuring Bonds during the delivery thereof. Neither the City nor the Bond Registrar shall be required to transfer or exchange Bonds of any Series for a period of 20 days next preceding any selection of Bonds to be redeemed or thereafter until after the first mailing of any notice of redemption, or to transfer, exchange or register any Bonds called for redemption.

Coupon Bonds

The Act authorizes the Bonds to be issuable in coupon form. Notwithstanding such authorization pursuant to the Act, any Series of Bonds, the interest on which is excludable from gross income tax purposes, shall not be issued in coupon form unless the Fiscal Agent receives an opinion of Bond Counsel satisfactory to the Fiscal Agent to the effect that execution and delivery of Coupon Bonds will not adversely affect the exclusion of interest on such Series of Bonds from gross income for federal income tax purposes. Taxable Bonds may be issued in coupon form as provided by Supplemental Ordinance.

Credit Enhancement; Exchange Agreements; Qualified Swaps

As provided by Supplemental Ordinance or Determination relating to any Series of Bonds and subject to the requirements of the General Ordinance, the City may provide for a Credit Facility, Exchange Agreement or Qualified Swap with respect to any Series of Bonds.

Purpose of Bonds; Combination or Projects for Financing Purposes

The Bonds issued under the General Ordinance shall be issued for the purpose (i) of paying the costs of Projects (as such term is defined in the Act) relating to the System, (ii) of reimbursing any fund of the City from which such costs shall have been paid or advanced, (iii) of funding any of such costs for which the City shall have outstanding bond anticipation notes or other obligations, (iv) of refunding any Bonds or bonds of the City issued for the foregoing purposes or (v) of financing anything else relating to the System permitted under the Act. The water and wastewater systems of the City (referenced in the definition of "System" above) are combined as a Project for the purpose of capital financing but the separate accounts or subaccounts required by the Philadelphia Home Rule Charter shall be maintained within the funds and accounts established under the General Ordinance in accordance with the Philadelphia Home Rule Charter.

Pledge or Revenues; Grant of Security Interest; Limitation on Recourse

The City pledges, and assigns to the Fiscal Agent, its successors in trust and its assigns, for the security and payment of all Bonds (other than Subordinated Bonds) and grants to said Fiscal Agent, its successors in trust and its assigns, a lien on and security interest in (i) all Project Revenues and (ii) all amounts on deposit in or standing to the credit of the funds and accounts (other than the Rebate Fund) established in the General Ordinance together with interest earnings on amounts in such funds and accounts (other than the Rebate Fund). The Fiscal Agent shall hold and apply the security interest granted in the General Ordinance and the pledged revenues and funds described therein, in trust, for the equal and ratable benefit and security of all present and future Holders of Bonds (other than Subordinated Bonds) issued pursuant to the provisions of the General Ordinance and each Supplemental Ordinance, without preference, priority or distinction of any one Bond over any other Bond (other than Subordinated Bonds); provided however, that the pledge of the General Ordinance may also be for the benefit of a Credit Facility and Qualified Swap, or any other person who undertakes to provide moneys for the account of the City for the payment of principal or redemption price of and interest on any Series of Bonds (other than Subordinated Bonds), on an equal and ratable basis with Bonds, to the extent provided by any Supplemental Ordinance or Determination.

For the purpose of compliance with the filing requirements of the Uniform Commercial Code in order to perfect the security interest granted by the General Ordinance, the Fiscal Agent shall be deemed to be, and the City recognizes the Fiscal Agent as, the representative of Bondholders to execute financing statements as the secured party.

Neither the Bonds nor the City's reimbursement or other contractual obligations under any Credit Facility, Qualified Swap or Exchange Agreement shall constitute a general indebtedness or a pledge of the full faith and credit of the City within the meaning of any constitutional or statutory provision or limitation of indebtedness. No Bondholder or beneficiary of any of the foregoing agreements shall ever have the right, directly or indirectly, to require or compel the exercise of the ad valorem taxing power of the City for the payment of the principal and redemption price of or interest on the Bonds or the making of any payments under the General Ordinance. The Bonds and the obligations evidenced thereby and by the foregoing agreements, shall not constitute a lien on any property of or in the City, other than the Project Revenues and amounts on deposit in or standing to the credit of the Water and Wastewater Funds and interest earnings on amounts in such funds.

Parity Bonds

All Bonds issued under the General Ordinance (other than Subordinated Bonds) shall be parity Bonds equally and ratably secured by the pledge of and grant of the security interest in the Project Revenues and the amounts on deposit in or standing to the credit of the funds and accounts (other than the Rebate Fund), together with interest earnings on amounts in such funds and accounts (other than the Rebate Fund) without preference, priority or distinction as to lien or otherwise, except as otherwise provided, of any one Bond over any other Bond or as between principal and interest.

The City reserves the right, and nothing in the General Ordinance shall be construed to impair such right, to finance improvements to the System by the issuance of its general obligation bonds or by the issuance, under ordinances other than Supplemental Ordinances, of water and/or wastewater revenue bonds or notes for the payment of which Project Revenues may be used or pledged subject and subordinate to the payment from such Project Revenues of the payments described below under "Transfers From Revenue Fund" and subject to the elimination of any deficiency in any fund or account established under the General Ordinance or under any Supplemental Ordinance.

Establishment of Funds and Accounts

The following funds and accounts are established by the General Ordinance and shall be held by the Fiscal Agent:

(a) Revenue Fund;

(b) Sinking Fund and within such Fund a Debt Service Account, a Charges Account and a Debt Reserve Account;

(c) Subordinated Bond Fund;

(d) Rate Stabilization Fund;

(e) Residual Fund and within such Fund a Special Water Infrastructure Account;

(f) Construction Fund, and within the Construction Fund, separate accounts designated as follows:

(i) the Existing Projects Account, into which existing proceeds, if any, of revenue bonds heretofore issued under the Act in respect of the System shall be deposited,

(ii) the Bond Proceeds Account, into which proceeds of Bonds issued under the General Ordinance shall be deposited, and

(iii) the Capital Account;

(g) Rebate Fund.

Nothing in the General Ordinance shall be construed to prevent the City from establishing, in connection with the issuance of one or more Series of Bonds, additional funds or accounts to be held for the benefit of one or more Series of Bonds issued under the General Ordinance, as set forth in Supplemental Ordinances; provided that, no such additional funds or accounts shall be established unless, in the opinion of Bond Counsel, establishment of additional funds or accounts would not adversely affect the exclusion of interest on Bonds, if any, from gross income for federal income tax purposes.

Segregation of Water and Wastewater Funds; Deposit of Project Revenues into Revenue Fund

(a) The Water and Wastewater Funds shall be held separate and apart from all other funds and accounts of the City and the Fiscal Agent and the funds and accounts therein shall not be commingled with, loaned or transferred among themselves or to any other City funds or accounts except as expressly permitted by the General Ordinance.

(b) The City shall cause all Project Revenues received by it on any date to be deposited into the Revenue Fund upon receipt thereof by the City and the Fiscal Agent shall, upon receipt of Project Revenues, deposit such Project Revenues into the Revenue Fund. The City and Fiscal Agent also shall cause to be deposited into the Revenue Fund such portion of proceeds of Bonds as designated by Supplemental Ordinance or Determination and any other funds directed to be deposited into the Revenue Fund by the City. The Fiscal Agent shall, at the written direction of the City, disburse from the Revenue Fund the amounts and at the times specified below under "Transfers From Revenue Fund."

(c) If at any time sufficient moneys are not available in the Revenue Fund to pay Operating Expenses and to make transfers required pursuant to the General Ordinance, then amounts on deposit in the Construction Fund, Rate Stabilization Fund and Residual Fund may be loaned temporarily, at the written direction of the City, to the Revenue Fund for the payment of such Operating Expenses to the extent of the deficiency, until such loaned amounts are required by the Water Department for purposes of the Fund making the loan. If a similar deficiency exists in the Construction Fund, amounts on deposit in the Revenue Fund, Rate Stabilization Fund and Residual Fund may be loaned temporarily, at the written direction of the City, to the Construction Fund, to the extent of the deficiency, until required by the Water Department for purposes of the Fund making the loan.

Transfers From Revenue Fund

Amounts on deposit in the Revenue Fund shall be applied by the Fiscal Agent, at the written direction of the City, in the following manner and in the following order of priority:

(a) to the City or its designees to pay such sums as are necessary to meet Operating Expenses in a timely manner;

(b) (i) on or before the dates that the principal or redemption price of and interest on Bonds (other than Subordinated Bonds) or payments under a Swap Agreement or Credit Facility are due, to deposit in the Debt Service Account of the Sinking Fund the amount necessary to provide for the timely payment of the principal or redemption price of and interest on such Bonds (other than Subordinated Bonds), any payments under any Swap Agreement and any amounts under a Credit Facility to repay advances thereunder to pay any of the foregoing, and (ii) on or before the dates that other payments are due under any Credit Facility with respect to Bonds (other than Subordinated Bonds) to deposit in the Charges Account of the Sinking Fund the amount necessary to make such payments;

(c) if the transfers in paragraphs (a) and (b) above are being made according to schedule, for deposit in the Debt Reserve Account, the amount, if any, required to eliminate any deficiency therein;

(d) if the transfers in paragraphs (a) and (b) above are being made according to schedule, and following any transfer required pursuant to paragraph (c) above, to deposit in any debt reserve account established within the Sinking Fund and not held for the equal and ratable benefit of all Bonds (other than Subordinated Bonds), the amount, if any, required to eliminate any deficiency therein;

(e) if the transfers in paragraphs (a) and (b) above are being made according to schedule, and following any transfer then required to be made pursuant to paragraphs (c) and (d) above, to deposit in the Subordinated Bond Fund the amount necessary to provide for the timely payment of the principal or redemption price of and interest on Subordinated Bonds, and forward to the paying agent in respect of bond anticipation notes (payable by exchange for, or out of the proceeds of the sale of Subordinated Bonds) the amount necessary to provide for the timely payment of interest thereon (to the extent not capitalized);

(f) if the transfers in paragraphs (a) and (b) above are being made according to schedule, and following any transfer then required to be made pursuant to paragraphs (c), (d) and (e) above to pay to the City the amount necessary to provide for the timely payment of the principal or redemption price of and interest on General Obligation Bonds;

(g) if the transfers in paragraphs (a) and (b) above are being made according to schedule, and following any transfer then required to be made pursuant to paragraphs (c), (d), (e) and (t) above, to transfer to the Rate Stabilization Fund such amount as the Water Commissioner may determine, the first such determination to be made on the Effective Date and to include the balance on that date in the Renewal and Replacement Fund created under the Prior Ordinance and the unencumbered operating balance of the Water Department as of the end of the Fiscal Year immediately preceding the Effective Date;

(h) if the transfers in paragraphs (a) and (b) above are being made according to schedule, and following any transfer then required to be made pursuant to paragraphs (c) , (d) , (e), (f) and (g) above, to transfer to the Capital Account of the Construction Fund on June 20, of each Fiscal Year (or the first business day following June 20 if June 20 is not a business day) an amount equal to the sum of (i) the Capital Account Deposit Amount, (ii) the Debt Service Withdrawal for the preceding Fiscal Year and (iii) the Operating Expense Withdrawal for the preceding Fiscal Year, less any amounts transferred during the Fiscal Year to such Capital Account from the Residual Fund; and

(i) if the transfers in paragraphs (a) and (b) above are being made according to schedule, and following any transfer then required to be made pursuant to paragraphs (c), (d), (e), (f), (g) and (h) above and after providing for the repayment of any inter-Fund loans, to transfer as of June 30 of each year all remaining amounts to the Residual Fund.

Notwithstanding the foregoing, nothing in the General Ordinance shall prevent the City from directing the transfer of amounts on deposit in any fund or account established under the General Ordinance into the Rebate Fund in the amounts and at the times specified below under “Funds and Accounts — Rebate Fund.”

Sinking Fund

The Sinking Fund is to be a consolidated fund for the equal and proportionate benefit of the Holders of all Bonds (other than Subordinated Bonds) from time to time Outstanding and each account therein may be invested and reinvested on a consolidated basis.

The Fiscal Agent, as directed by the City by Supplemental Ordinance, Determination or other written direction, shall pay out of the Debt Service Account of the Sinking Fund to the designated paying agent or agents (i) on or before each interest payment date for any of the Bonds (other than Subordinated Bonds) the amount required for the interest payable on such date; and (ii) on or before each principal, redemption or prepayment date for any Bonds (other than Subordinated Bonds), the amount required for the principal, redemption or prepayment payable on such date, and (iii) on or before the respective due dates the amounts, if any, due under any Swap Agreements. Such amounts shall be applied by the designated paying agent or agents on the due dates thereof. The Fiscal Agent shall also pay out of the Debt Service Account of the Sinking Fund the accrued interest included in the purchase price of Bonds purchased for retirement and on or before the due dates any amounts owing by the City under any Credit Facility on account of advances to pay principal of or interest or redemption premium on Bonds (other than Subordinated Bonds).

Amounts accumulated in the Debt Service Account with respect to any Sinking Fund Installment (together with amounts accumulated therein with respect to interest on the Bonds for which such Sinking Fund Installment was established) if so directed by the City, shall be applied by the Fiscal Agent, on or prior to the 60th day preceding the due date of such Sinking Fund Installment, to the purchase of Bonds of the Series, maturity and interest rate within each maturity for which such Sinking Fund Installment was established. All purchases of Bonds pursuant to this provision shall be made at prices not exceeding the applicable sinking fund redemption price of such Bonds plus accrued interest, and such purchases shall be made by the Fiscal Agent as directed by the City. As soon as practicable after the 42nd day preceding the due date of any such Sinking Fund Installment, the Fiscal Agent shall proceed to call for redemption, by giving notice as provided in the General Ordinance, on such due date Bonds of the Series, maturity and interest rate within each maturity for which such Sinking Fund Installment was established (except in the case of Bonds maturing on a Sinking Fund Installment date) in such amount as shall be necessary to complete the retirement of the unsatisfied balance of such Sinking Fund Installment after making allowance for any Bonds purchased with moneys held in the Subordinated Bond Fund which the City has directed the Fiscal Agent to apply as a credit against such Sinking Fund Installment. The Fiscal Agent shall pay out of the Sinking Fund to the appropriate paying agent or agents, on or before such redemption date (or maturity date) the amount required for the redemption of the Bonds so called for redemption (or for the payment of such Bonds then maturing) and such amount shall be applied by such paying agent or agents to such redemption (or payment). All expenses in connection with the purchase or redemption of Bonds shall be paid by the City from Project Revenues.

In the event of the refunding of any Bonds, the Fiscal Agent shall, if the City so directs, withdraw from the Sinking Fund all, or any portion of, the amounts accumulated therein with respect to principal or interest on the Bonds being refunded and deposit such amounts with itself or another financial institution serving as escrow agent to be held for the payment of the principal or redemption price, if applicable, and interest on the Bonds being refunded; provided that such withdrawal shall not be made unless immediately thereafter the Bonds being refunded shall be deemed to have been paid as described below under "Deposit of Funds for Payment of Bonds." In the event of a refunding, the City may also direct the Fiscal Agent to withdraw from the Sinking Fund all, or a portion of, the amounts accumulated therein with respect to principal and interest on the Bonds being refunded and deposit such amounts in any fund or account established under the General Ordinance.

If any Bond shall not be presented for payment when the principal thereof becomes due, either at maturity or otherwise or at the date fixed for redemption thereof, if moneys sufficient to pay such Bond shall have been deposited with the Fiscal Agent, it shall be the duty of the Fiscal Agent to hold such moneys, without liability to the City, any Bondholder or any other person for interest thereon, for the benefit of the owner of such Bond. Notwithstanding the foregoing, any moneys in the Sinking Fund for the payment of the interest, principal or redemption premium of Bonds unclaimed for two (2) years after the due date shall be repaid to the City but such repayment shall not discharge the obligation, if any, for which such moneys were previously held in the Sinking Fund; provided, however, that such repayment shall not be made unless, at the time of such repayment, there shall exist no deficiency in any fund or account established under the General Ordinance or any Supplemental Ordinance.

The Fiscal Agent shall pity out of the Charges Account to the appropriate payees any fees, expenses and other amounts due under any Credit Facility with respect to Bonds (other than Subordinated Bonds), to the extent such amounts are not paid from the Debt Service Account.

Credits Against Sinking Fund Installments

If at any time Bonds of any Series or maturity for which Sinking Fund Installments shall have been established are purchased or redeemed other than (i) from amounts accumulated in the Debt Service Account or (ii) Bonds deemed to have been paid as described under "Deposit of Funds for Payment of Bonds" below, and, with respect to such Bonds which have been deemed paid, irrevocable instructions have been given to the Fiscal Agent to redeem or purchase the same on or prior to the due date of the Sinking Fund Installment to be credited under this paragraph, the City may from time to time and at any time by written notice to the Fiscal Agent specify the portion, if any, of such Bonds so purchased, redeemed or deemed to have been paid and not previously applied as a credit against any Sinking Fund Installment which are to be credited against future Sinking Fund Installments. Such notice shall specify the amounts of such Bonds to be applied as a credit against such Sinking Fund Installment or Installments and the particular Sinking Fund Installment or Installments against which such Bonds are to be applied as a credit; provided, however that none of such Bonds may be applied as a credit against a Sinking Fund Installment to become due less than 42 days after such notice is delivered to the Fiscal Agent. All such Bonds to be applied as a credit shall be surrendered to the Fiscal Agent for cancellation on or prior to the due date of the Sinking Fund Installment against which they are being applied as a credit. The portion of any such Sinking Fund Installment remaining after the deduction of any such amounts credited toward the same (or the original amount of any such Sinking Fund Installment if no such amounts shall have been credited toward the same) shall constitute the unsatisfied balance of such Sinking Fund Installment for the purpose of calculation of Sinking Fund Installments due on a future date.

Debt Reserve Account

Unless otherwise provided in the applicable Supplemental Ordinance, the City is required, under direction of the Director of Finance, to deposit in the Debt Reserve Account from the proceeds of sale of each Series of Bonds issued under the General Ordinance, an amount which, when added to the Outstanding balance in the Debt Reserve Account, will be equal to the Debt Reserve Requirement immediately after the issuance of such Series of Bonds. The money and investments in the Debt Reserve Account shall be held and maintained in an amount equal at all times to the Debt Reserve Requirement provided that if the Supplemental Ordinance authorizing a Series of Bonds shall authorize the accumulation from Project Revenues of a reserve of such amount in respect of such Bonds over a period of not more than three Fiscal Years after the issuance and delivery of such Bonds, then the full payment of the annual deposits required under such Supplemental Ordinance will meet the Debt Reserve Requirements of the General Ordinance in respect of such Bonds.

If at any time and for any reason, the moneys in the Debt Service Account of the Sinking Fund are insufficient to pay as and when due, the principal of (and premium, if any) or interest on any Bond or Bonds or other obligations payable from the Debt Service Account then due (including under Swap Agreements and Credit Facilities), the Fiscal Agent is authorized and directed to withdraw from the Debt Reserve Account and pay over the amount of such deficiency for deposit in the Debt Service Account. If by reason of such withdrawal or for any other reason there shall be a deficiency in the Debt Reserve Account, the City covenants to restore such deficiency promptly from Net Revenues.

Any moneys in the Debt Reserve Account in excess of the Debt Reserve Requirement is required to be transferred to the Revenue Fund at the written direction of the City.

Notwithstanding the foregoing provisions, in lieu of the required deposits into the Debt Reserve Account, the City may cause to be deposited into the Debt Reserve Account a surety bond or an insurance policy payable to the Fiscal Agent for the account of the Bondholders and any Qualified Swap or an irrevocable letter of credit in an amount equal to the difference between the Debt Reserve Requirement and the remaining sums, if any, then on deposit in the Debt Reserve Account. The surety bond, insurance policy or letter of credit shall be payable (upon the giving of notice as required thereunder) on any interest payment date on which moneys will be required to be withdrawn from the Debt Reserve Account and applied to the payment of debt service on the Bonds and such withdrawal cannot be met by amounts on deposit in the Debt Reserve Account or provided from any other Fund under the General Ordinance. The insurer providing such surety bond or insurance policy shall be an insurer whose municipal bond insurance policies insuring the payment, when due, of the principal of and interest on municipal bond issues results in such issues being rated in not lower than the second highest rating category (without regard to rating subcategories) by either Moody's or S&P. The letter of credit issuer shall be a bank or trust company which is rated not lower than the second highest rating category (without regard to ratings sub-categories) by either Moody's or S&P. If a disbursement is made pursuant to a surety bond, an insurance policy or a letter of credit provided pursuant to this paragraph, the City shall be obligated either (i) to reinstate the maximum limits of such surety bond, insurance policy or letter of credit or (ii) to deposit into the Debt Reserve Account, funds in the amount of the disbursement made under such surety bond, insurance policy or letter of credit, or a combination of such alternatives, as shall provide that the amount in the Debt Reserve Account equals the Debt Reserve Requirement within a time period not longer than would be required to restore the Debt Reserve Account by operation of this provision and from the same source of funds as provided in the General Ordinance. Upon the occurrence of any reduction or suspension or any credit rating with respect to such surety bond, insurance policy or letter of credit (or the provider thereof) required by the General Ordinance, the City shall so notify the provider of the surety bond, insurance policy or letter of credit and prior to the effective date of such cancellation shall either provide a substitute surety bond, insurance policy or letter of credit meeting the above-described requirements or shall deposit cash in the Debt Reserve Account so that the amount in such Account shall equal the Debt Reserve Requirement. The Director of Finance may use funds already held in the Debt Reserve Account to purchase appropriate surety bonds or insurance policies for deposit in the Debt Reserve Account in lieu of some or all of the current cash or other deposits therein, which surety bonds or insurance policies shall satisfy the requirements described in this paragraph.

Subordinated Bond Fund

Subject to the third paragraph under this heading, the Fiscal Agent shall apply amounts in the Subordinated Bond Fund to the payment of the principal of, redemption premium, if any, and interest on Subordinated Bonds of a Series and to payments due under any Credit Facilities and Exchange Agreements with respect to Subordinated Bonds in accordance with the provisions of, and subject to the priorities and limitations and restrictions provided in, the Supplemental Ordinance and Determination authorizing such Series of Subordinated Bonds.

At any time and from time to time the City may deposit in the Subordinated Bond Fund for the payment of the principal of, redemption premium, if any, and interest on Subordinated Bonds amounts received from any source other than Project Revenues which is not inconsistent with the General Ordinance or any Supplemental Ordinance or Determination.

If at any time the amounts in the Sinking Fund shall be less than the current requirement of such fund pursuant to paragraphs (b) and (c) under "Transfers from Revenue Fund" above and there shall not be on deposit in the Debt Reserve Account, the Capital Account or the Residual Fund available moneys sufficient to cure such deficiency, then the Fiscal Agent shall withdraw from the Subordinated Bond Fund and deposit in the Sinking Fund the amount necessary (or all the moneys in said fund, if less than the amount necessary) to eliminate such deficiency.

Any moneys in the Subordinated Bond Fund for the payment of the interest, principal or redemption premium of Subordinated Bonds unclaimed for two years after the due date are to be repaid to the City but such repayment shall not discharge the obligation, if any, for which such moneys were previously held in the Subordinated Bond Fund; provided, however, that such repayment shall not be made unless, at the time of such repayment, there shall exist no deficiency in any fund or account established under the General Ordinance or any Supplemental Ordinance.

Construction Fund

Proceeds of Bonds issued for capital purposes are to be deposited into the Bond Proceeds Account of the Construction Fund and disbursed according to established procedures of the City.

The Fiscal Agent shall on the Effective Date deposit in the Existing Projects Account proceeds of Prior Bonds as directed by a Supplemental Ordinance or Determination; deposit in the Bond Proceeds Account the proceeds of Bonds as directed by a Supplemental Ordinance or Determination; and deposit in the Capital Account any amounts transferred pursuant to paragraph (h) under "Transfers from Revenue Fund" above. Amounts in the Existing Projects Account and Bond Proceeds Account shall be applied as directed in writing by the City for purposes permitted by the Act and the Bonds and such other purposes as are permitted under the General Ordinance.

Amounts deposited in the Capital Account may be applied at the written direction of the City to (i) payments for the cost of renewals, replacements and improvements to the System; (ii) payments into the Sinking Fund or into the Subordinated Bond Fund to cure a deficiency in one of the foregoing; or (iii) the purchase of Bonds if a Consulting Engineer shall first have certified to the City that amounts remaining on deposit in the Capital Account following the proposed purchase of Bonds will be sufficient to pay the cost of renewals, replacement and improvements to the System projected to be payable during such Fiscal Year; provided, however, that no Bond shall be purchased at a price in excess of the principal amount and redemption price which would be applicable if the Bond were redeemed at the time such Bond was first subject to redemption.

As described in paragraph (c) under "Segregation of Water and Wastewater Funds; Deposit of Project Revenues into Revenue Fund" above, the General Ordinance requires that, if at any time sufficient moneys are not available for the payment of Operating Expenses, then amounts on deposit in the Capital Account may be used for the payment of Operating Expenses to the extent of the deficiencies.

Residual Fund

Amounts on deposit in the Residual Fund may be used at the written direction of the City (i) to pay Operating Expenses; (ii) to fund transfers to any fund or account established under the General Ordinance or under a Supplemental Ordinance (other than the Revenue Fund and the Rate Stabilization Fund) ; (iii) to make payments required under any Exchange Agreement; (iv) for the payment of principal, redemption premium, if any, and interest on any revenue bonds or notes (the proceeds of which were applied in respect of the System) issued under the Act but not under the General Ordinance; (v) for the payment of principal, redemption premium, if any, and interest on any General Obligation Bonds; (vi) for the payment of principal, redemption premium, if any, and interest on other general obligation debt issued in respect of the System; (vii) for the payment of amounts due under capitalized leases or similar obligations relating to the System; and (viii) to fund a transfer to the City's "General Fund" in an amount not to exceed the lower of (A) all "Net Reserve Earnings" as defined below or (B) $4,994,000. "Net Reserve Earnings" shall mean the amount of interest earnings during the Fiscal Year on amounts in the Debt Reserve Account and the Subordinated Bond Fund less the amount of interest earnings during the Fiscal Year on amounts in any such reserve funds and accounts giving rise to a rebate obligation pursuant to Section 148(f) of the Code.

The General Ordinance provides that the City establish expenditure authority from the Residual Fund to enable it to pay Operating Expenses and the other items permitted by the General Ordinance. In the event that there is a substitution of appropriate surety bonds or insurance policies from some or all of the deposits held in the Debt Reserve Account, a transfer of resulting excess money in the Debt Reserve Account to the Revenue Fund and, following compliance with the provisions described under "Transfers From Revenue Fund" in this Appendix III, a transfer of remaining amounts of such excess to the Residual Fund, such remaining amount shall be deposited into the Special Water Infrastructure Account. Any amounts deposited in the Special Water Infrastructure Account may be used to finance water-related infrastructure projects.

Rate Stabilization Fund

Pursuant to the General Ordinance, as of the effective date of the General Ordinance and as of June 30 of each Fiscal Year, the City may transfer (i) from the Rate Stabilization Fund to the Revenue Fund or (ii) from the Revenue Fund to the Rate Stabilization Fund, the amount determined by the Water Commissioner to be transferred for such Fiscal Year.

Rebate Fund

(a) The General Ordinance provides that the Rebate Fund shall be maintained for so long as any Series of Bonds is Outstanding, and for 60 days thereafter (or such other period as may be specified by the Code and applicable regulations), for the purpose of paying to the United States Treasury the amount required to be rebated pursuant to Section 148(f) of the Code. All amounts in the Rebate Fund, including income earned from investment d amounts in the Rebate Fund, shall be held by the City free and clear of the lien created by the General Ordinance.

(b) Any moneys in the Rebate Fund are to be invested exclusively in Qualified Rebate Fund Securities and investment earnings are to be credited to the Rebate Fund. The City is required to maintain records of the date and amount of each deposit made into the Rebate Fund and of the investments made of such amounts, so that the investment earnings allocable to each deposit made into the Rebate Fund can be identified as if such deposits were made in segregated accounts; provided that the City may direct the Fiscal Agent in writing to commingle the amounts deposited into the Rebate Fund and shall not be required to segregate such deposits.

(c) The City is required to determine, or is required to retain a Financial Consultant to determine, within 30 days of the end of each Rebate Bond Year, the amount required to be rebated to the United States as described in Section 148(0 of the Code, as calculated from the date of original delivery of the related Series of Bonds. Such amount, less any amounts previously rebated to the United States as described in paragraph (e) below, is referred to as the "Required Rebate Fund Balance." To the extent that the amount on deposit in the Rebate Fund at the end of any Rebate Bond Year is in excess of the Required Rebate Fund Balance, such excess shall, at the direction of the Director of Finance, be transferred to the Sinking Fund. To the extent that the amount on deposit in the Rebate Fund at the end of any Rebate Bond Year is less than the Required Rebate Fund Balance, the City shall deposit an amount equal to such deficiency into the Rebate Fund. Notwithstanding the foregoing, under the General Ordinance the City is not required to determine the Required Rebate Fund Balance, except as required in connection with making the payments to the United States Treasury as described in paragraph (e) below, if during the preceding Rebate Bond Year there have been no investments made of amounts on deposit in any fund or account established under the General Ordinance or of Bond proceeds on deposit in other funds or accounts in "non-purpose investments" (as defined in Section 148(0(6) of the Code) having a yield higher than the yield on the related Series of Bonds.

(d) The City is required to direct the Fiscal Agent in writing to withdraw from the Rebate Fund and pay over to the United States Treasury (1) not less frequently than once each five years after the date of issuance of a Series of Bonds, an amount, as determined by the City or a Financial Consultant, equal to 90% of the Required Rebate Fund Balance and (2) not later than 60 days after the retirement of the last Bond of a Series, 100% of the Required Rebate Fund Balance with respect to such Series.

(e) The City or the Fiscal Agent, as the case may be, is required to retain records of the determinations of the amounts required to be deposited in the Rebate Fund, of the proceeds of any investments of moneys in the Rebate Fund, and of the amounts paid to the United States, until the date six years after the retirement of the last of the Bonds Outstanding.

(f) The provisions regarding the Rebate Fund may be amended or deleted from the General Ordinance without any further action of the City Council, upon receipt by the City of an opinion of Bond Counsel that such amendment or deletion will not adversely affect the exemption of interest on a Series of Bonds from Federal income tax. Any moneys on deposit in the Rebate Fund shall be transferred to the Sinking Fund to the extent permitted by any such opinion.

Management of Funds and Accounts

The General Ordinance provides that the moneys on deposit in the funds and accounts established under the General Ordinance, to the extent not currently required, shall be invested and secured as required by Section 9 of the Act, all at the direction and under the management of the Director of Finance or such other chief fiscal officer of the City as may hereinafter be established.

Investment of Funds and Accounts

All moneys deposited in any fund or account established under the General Ordinance or under any Supplemental Ordinance may be invested by the City or by the Fiscal Agent, at the oral or written direction of the City, in any investments permitted by law (except as otherwise provided in the General Ordinance with respect to the Debt Reserve Account and Rebate Fund); provided that any investments with respect to amounts on deposit in the funds (other than the Debt Reserve Account) and accounts established under the General Ordinance shall mature or shall be subject to redemption by the holder thereof upon demand at par no later than the date when such amounts are needed for the purposes of such funds or accounts. Interest earnings on amounts on deposit (i) in the Revenue Fund are to be credited to the Revenue Fund; (ii) in the Sinking Fund (except as provided in (iii) below) are to be credited to the Sinking Fund to the extent needed to meet Debt Service Requirements in respect of Bonds (other than Subordinated Bonds) and additional interest earnings shall be credited to the Revenue Fund; (iii) in the Debt Reserve Account shall be credited to the Debt Reserve Account until such account is fully funded and shall then be credited to the Residual Fund up to the maximum amount to be transferred to the City's General Fund and any excess is to then be transferred to the Revenue Fund; (iv) in the Subordinated Bond Fund are to be credited to the Subordinated Bond Fund to the extent needed to meet Debt Service Requirements in respect of Subordinated Bonds and additional interest earnings shall be credited to the Revenue Fund or to such other fund or account established under the General Ordinance as the City may direct pursuant to a Supplemental Ordinance; (v) in the Residual Fund, shall be credited to the Residual Fund; (vi) in the Rate Stabilization Fund shall be credited to the Revenue Fund; (vii) in the Construction Fund shall be credited to the appropriate account of the Construction Fund or to the Revenue Fund, as the City shall direct; and (viii) in the Rebate Fund shall be credited to the Rebate Fund.

Valuation of Funds and Accounts

In computing the assets of any fund or account established under the General Ordinance, investments and accrued interest thereon are to be deemed a part thereof. Such investments shall be valued on June 30 of each Fiscal Year at the lower of the cost or current market value thereof if the applicable maturity is more than one year and at par if the applicable maturity is equal to or less than one year plus accrued interest, or at the redemption price thereof, if then redeemable at the option of the holder; provided that investments in any reserve fund or reserve account of the Sinking Fund established pursuant to a Supplemental Ordinance may be valued as provided in the Supplemental Ordinance establishing it. The annual valuation is to apply for all purposes of the General Ordinance except if Bonds are issued or a fund deficit occurs based on the annual valuation, in which cases a valuation is to be made on the date Bonds are issued or the deficit is eliminated, as the case may be.

Covenants of the City

Rate Covenant: Pursuant to the General Ordinance, the City covenants with the Bondholders that it will, at a minimum, impose, charge and collect in each Fiscal Year such water and wastewater rents, rates, fees and charges as shall yield Net Revenues which shall be equal to at least 1.20 times the Debt Service Requirements for such Fiscal Year (recalculated to exclude therefrom principal and interest payments in respect of Subordinated Bonds); provided that such water and wastewater rents, rates, fees and charges shall yield Net Revenues which shall be at least equal to 1.00 times (i) the Debt Service Requirements for such Fiscal Year (including Debt Service Requirements in respect of Subordinated Bonds); (ii) amounts required to be deposited into the Debt Reserve Account during such Fiscal Year; (iii) the principal or redemption price of and interest on General Obligation Bonds payable during such Fiscal Year; (iv) debt service requirements on Interim Debt payable during such Fiscal Year; and (v) the Capital Account Deposit Amount for such Fiscal Year (less any amounts transferred from the Residual Fund to the Capital Account during such Fiscal Year). In estimating debt service requirements on any Interim Debt for the purposes of projecting compliance with this covenant, the City is entitled to assume that (i) such Interim Debt will be amortized over a period of up to the maximum term permitted by the Act, provided however, such period shall not be in excess of the useful life of the assets to be financed, on an approximately level debt service basis and bear interest at the average interest rate on bonds of a similar maturity and credit rating (without any credit enhancement) as the Bonds outstanding under the General Ordinance. Promptly upon any material change in the circumstances which were contemplated at the time such rents, rates, fees and charges were most recently reviewed, but not less frequently than once in each Fiscal Year, the City is required to review the rents, rates, fees and charges as necessary to enable the City to comply with the foregoing requirements; provided that such rents, rates, fees and charges shall in any event produce moneys sufficient to enable the City to comply with its covenants in the General Ordinance.

In estimating Debt Service Requirements on any Variable Rate Bonds for purposes of projecting compliance with this covenant or funding the Debt Reserve Account, the City is entitled to assume that such Variable Rate Bonds will bear interest at a rate equal to (i) the average interest rate on the Variable Rate Bonds during the period of 24 consecutive calendar months preceding the date of calculation or (ii) if the Variable Rate Bonds were not Outstanding during the entire 24-month period, the average interest rate on the Variable Rate Bonds since their date of issue or (iii) such other rate as may be specified in a Supplemental Ordinance or Determination.

Pursuant to the General Ordinance, the City represents that it has, by its Code of General Ordinances, as amended, authorized the imposition of rents, rates, fees and charges by the Water Department sufficient from time to time to comply with the Rate Covenant and covenants with the Holders of Bonds that it will not repeal or materially adversely dilute or impair such authorization.

Timely Payment of Principal, Redemption Premium and Interest: Pursuant to the General Ordinance, the City covenants with the Holders of all Bonds Outstanding under the General Ordinance that so long as such Bonds shall remain Outstanding it will pay or cause the Fiscal Agent or a paying agent to pay from the Project Revenues deposited in the Sinking Fund and the Subordinated Bond Fund the principal of, redemption premium, if any, and interest on all Bonds as the same shall become due and payable and as more particularly set forth in the Bonds and to pay the amounts due with respect to any and all Credit Facilities (including the reimbursement agreement or similar related agreement) and Qualified Swaps.

Operation of System: Pursuant to the General Ordinance, the City covenants with the Holders of all Bonds Outstanding under the General Ordinance that so long as such Bonds shall remain Outstanding it will continuously maintain the System or cause the System to be maintained in good condition and will continuously operate the System or cause the System to be operated.

Conditions of and Provisions Relating to Issuing Bonds: The City covenants with the Holders of all Bonds Outstanding under the General Ordinance that so long as any such Bonds shall remain Outstanding it will not issue any Series of Bonds under the General Ordinance without first complying with certain conditions stated in the General Ordinance including, without limitation, (a) the enactment of a Supplemental Ordinance, (b) the filing with the Fiscal Agent of a transcript of the proceedings relating to the issuance of such Series of Bonds, (c) the delivery to the City Council of a Consulting Engineer's Report, (d) the filing with the Fiscal Agent of certain opinions of counsel and (e) the execution of appropriate documents.

The Consulting Engineer's Report referred to in the preceding paragraph shall state that the Net Revenues are currently sufficient to comply with the Rate Covenant and are projected to be sufficient to comply with the Rate Covenant for each of the two Fiscal Years following the Fiscal Year in which the Bonds are to be issued; provided that if interest on such Bonds or a portion thereof has been capitalized, the projection shall extend to the two Fiscal Years following the Fiscal Year up to which interest has been capitalized on the Bonds or a portion thereof.

The General Ordinance provides that upon compliance with the conditions enumerated in the preceding paragraph and unless otherwise provided in the applicable Supplemental Ordinance or Determination, accrued interest on Bonds (other than Subordinated Bonds) shall be deposited in the Sinking Fund, accrued interest on Subordinated Bonds shall be deposited in the Subordinated Bond Fund, an amount sufficient to satisfy the requirements concerning the Debt Reserve Account shall be deposited in the Debt Reserve Account and the balance of the proceeds of the Bonds shall be deposited in the Bond Proceeds Account of the Construction Fund and shall be disbursed therefrom, in accordance with established procedures of the City; provided, however, that if such Bonds shall be issued for the purpose of funding or refunding Bonds previously issued by the City such proceeds shall, unless otherwise directed by the Supplemental Ordinance, be deposited in a special fund or account to be established with and held by the Fiscal Agent or another entity acting as an escrow agent and invested (if appropriate) and disbursed under the direction of the Director of Finance for the purpose of retiring the Bonds being funded or refunded.

Refunding Bonds

If the City shall, by Supplemental Ordinance, authorize the issuance of refunding Bonds pursuant to Section 10 of the Act, in the absence of specific direction or inconsistent authorization in the Supplemental Ordinance, the Director of Finance is authorized in the name and on behalf of the City to take all such action, including the irrevocable pledge of proceeds and the income and profit from the investment thereof for the payment and redemption of the funded or refunded Bonds, bonds or notes and, if there shall have been provided a Qualified Swap with respect to the Bonds to be refunded, provision for the payment, if any, of all amounts due and payable by the City under such Qualified Swap, and including the publication of all required redemption notices or the giving of irrevocable instructions therefor, as may be necessary or appropriate to accomplish the funding or refunding and to comply with the requirements of Section 10 of the Act.

Subordinated Bonds

The City may, at any time, or from time to time, issue Subordinated Bonds for any purpose permitted under the General Ordinance and under the Act. Subordinated Bonds shall be payable out of, and may be secured by a security interest in and a pledge and assignment of, Project Revenues and amounts on deposit in the Subordinated Bond Fund; provided, however, that any such security interest in and pledge and assignment of Project Revenues and amounts on deposit in the Subordinated Bond Fund shall be, and shall be expressed to be, subordinate in all respects to the security interest in, and pledge and assignment of, the Project Revenues and the amounts on deposit in the funds and accounts (other than the Rebate Fund but including the Subordinated Bond Fund) established under the General Ordinance for the security of the Bonds (other than Subordinated Bonds).

Annual Reports

The City covenants with the Holders of all Bonds Outstanding under the General Ordinance that so long as such Bonds shall remain Outstanding it will, within 120 days following the close of each Fiscal Year of the City or as soon thereafter as is practicable (not exceeding 150 days following the close of each Fiscal Year), file with the Fiscal Agent a report of the operation of the System, setting forth, among other things, in reasonable detail financial data concerning, and consolidated for, the water and wastewater components of the System for such Fiscal Year, including a balance sheet and a statement of income, expenses, and surplus (in each case not inconsistent with the statement of income, expenses, and other accounts of the City audited by the City Controller) prepared by the Water Department in accordance with generally accepted accounting principles consistently applied, showing compliance with the Rate Covenant, accompanied by a certificate of the Water Commissioner that the water and wastewater components of the System are in good operating condition and by a certificate of the Director of Finance that as of the date of such report the City has complied with all of the covenants in the General Ordinance and in all Supplemental Ordinances on its part to be performed. Such report shall be furnished to the Fiscal Agent in such reasonable number of copies as shall be required to meet the written requests of Bondholders therefor on a first come first served basis.

Disposition of Insurance Proceeds and Proceeds from the Sale of Assets

In the event that any assets of the System are destroyed or the City shall sell any assets of the System (except in the event of the sale or transfer of all or substantially all of the assets of the System to a municipal authority), the City shall, if the insurance proceeds or the proceeds from the sale of assets exceed 1.5% of the depreciated value of property, plant and equipment of the System, as shown on the financial statements of the City for the preceding Fiscal Year, apply such amounts, at the direction of the Director of Finance or such other chief fiscal officer of the City as may hereinafter be established (i) to the retirement of the principal amount of debt incurred in respect to the System; (ii) to the reconstruction, repair or replacement of assets of the System; or (iii) to the making of capital additions or improvements to the System.

Bonds Not to Become Arbitrage Bonds

The General Ordinance provides that the City covenants for the benefit of the Bondholders that, notwithstanding any other provision of the General Ordinance or any other instrument, it will neither make nor instruct the Fiscal Agent to make any investment or other use of amounts on deposit in the funds and accounts established by the General Ordinance or other proceeds of the Bonds which would cause any Series of Bonds issued under the General Ordinance as tax-exempt to be arbitrage bonds under Section 148 of the Code and the regulations thereunder to the extent that the same are applicable at the time of such investment; it will file any reports required to be filed pursuant to the Code; and it will not take or fail to take any action so as to render any Series of Bonds issued under the General Ordinance as tax-exempt to be arbitrage bonds under Section 148 of the Code.

Prohibition Against Certain Uses of Funds; Enforcement

(a) The City covenants that while any Bonds are Outstanding under the General Ordinance, it will not direct the Fiscal Agent to transfer, loan or advance proceeds of the Bonds or Project Revenues from the Water and Wastewater Funds to any City account for application other than for Water Department purposes.

(b) If, on any date when a deposit is required to be made of the Project Revenues, the City fails to comply with any provision of the General Ordinance, the Fiscal Agent is authorized to and shall seek, by mandamus or other suit, action or proceeding at law or in equity, the specific enforcement or performance of the obligation of the City to cause the Project Revenues to be transferred to the Revenue Fund, and shall have any and all other rights and remedies of a fiscal agent under the General Ordinance, any Supplemental Ordinance, the Act or otherwise at law or in equity.

Credit Facilities and Qualified Swaps

All or any of the foregoing covenants of the City for the benefit of the Bondholders may also be for the benefit of the providers of any Credit Facility and any Qualified Swap to the extent provided in a Supplemental Ordinance or Determination.

Bonds May Be Subject to Redemption

Bonds of any Series may be subject to either optional or mandatory redemption at the times, in the order, in the amounts, at the redemption prices, and under such terms, conditions and restrictions, ail as may be set forth in the Supplemental Ordinance authorizing the issuance of such Series of Bonds or in the Determination relating to such Series of Bonds or, in the absence of such provisions, as may be set forth in the Bonds of such Series, at the direction of the Director of Finance. Notwithstanding or in limitation of the foregoing, a Supplemental Ordinance or Determination for a Series of Bonds may contain provisions for optional redemption of a Series of Bonds which may be retained by the City as a call option or may be held by the City or sold simultaneously with such Series of Bonds or at future dates as determined by such Supplemental Ordinance or Determination.

Effect of Redemption, Payment

Upon compliance with certain notice requirements stated in the General Ordinance, or upon irrevocable instructions to give such notice having been delivered to the Fiscal Agent, irrevocable instruction having been delivered to the Fiscal Agent to pay said Bonds or portions thereof and to pay the amount, if any, due and payable under any Qualified Swap related to said Bonds, and funds having been deposited in the Sinking Fund or the Subordinated Bond Fund (as the case may be) prior to the date fixed for redemption, the Bonds or portions thereof so called for redemption shall become due and payable on the redemption date so designated, and interest on such Bonds or portions thereof shall cease from such redemption date, whether such Bonds be presented for redemption or not. The principal amount of all Bonds or portions thereof so called for redemption, together with the premium, if any, and accrued interest thereon, shall be paid by the Fiscal Agent or any other paying agent designated in the Bonds, upon presentation and surrender thereof in negotiable form.

Partial Redemption

Upon presentation of any Bond which is to be redeemed in part only, the City and the Fiscal Agent shall execute and deliver to the Holder thereof, at the expense of the City, a new Bond or Bonds of authorized denominations in a principal amount equal to and of the same Series and maturity as the unredeemed portion of the Bond or Bonds so presented.

Fiscal Agent

The Fiscal Agent under the Prior Ordinance or its successor, shall be Fiscal Agent as of the Effective Date for the General Ordinance. The City may appoint a successor Fiscal Agent by Supplemental Ordinance to act as Fiscal Agent under the General Ordinance, and in connection with the Bonds issued under the General Ordinance. The Fiscal Agent shall also act as depository of the Sinking Fund and the Subordinated Bond Fund, and may act as paying agent and bonds registrar.

Nothing in the General Ordinance is to be construed to prevent the City, in accordance with law, from engaging other Fiscal Agents from time to time or to engage other paying agents of the Bonds or any Series thereof in addition to, or as a successor to the Fiscal Agent. Any entity appointed by the City as Fiscal Agent under the General Ordinance shall be a trust company or national or state bank having trust powers and combined capital and surplus of at least million $50,000,000 and be qualified to serve pursuant to the Act. Any entity appointed by the City as Fiscal Agent under the General Ordinance as a successor to the Fiscal Agent shall assume all rights and obligations of the Fiscal Agent under the General Ordinance.

Subject to the foregoing, the General Ordinance provides that the proper officers of the City are authorized to enter into contracts or to confirm existing agreements governing the maintenance of funds and accounts and records, the disposal of cancelled Bonds, the rights, duties, privileges and immunities of the Fiscal Agent, and such other matters as are authorized by the Act and as are customary and appropriate and to confirm the agreement of the Fiscal Agent, in its several capacities, to comply with the provisions of the Act and of the General Ordinance.

The Fiscal Agent shall keep on file a copy of each report and its accompanying certificates delivered to it pursuant to the General Ordinance for a period of ten years and shall exhibit the same to, and permit the copying thereof by, any Bondholder or his authorized representative at all reasonable times.

Resignation of Fiscal Agent

The Fiscal Agent may resign and be discharged of the duties created by the General Ordinance by written resignation filed with the Director of Finance not less than 60 days before the date when such resignation is to take effect. Such resignation shall take effect on the day specified in such notice provided that a successor Fiscal Agent is appointed. If a successor Fiscal Agent is appointed prior to the date specified in the notice, the resignation shall take effect immediately on the appointment of such successor, and the City shall give the required notices described under “Appointment of Successor Fiscal Agent” below.

Appointment of Successor Fiscal Agent

If the Fiscal Agent or any successor Fiscal Agent resigns, is replaced, or is dissolved or if its property or business is taken under the control of any state or federal court or administrative body, a vacancy shall exist in the office of the Fiscal Agent, and the City shall appoint a successor within 30 days of such vacancy and shall mail notice of such appointment to the Bondholders and to the registered depositories at their registered addresses by first class mail, postage prepaid, within 30 days of such appointment.

Defaults and Statutory Remedies; Notice to Bondholders

If the City shall fail or neglect to pay or to cause to be paid the principal of, redemption premium, if any, or interest on any Bond or any Series of Bonds issued under the General Ordinance, whether at stated maturity or upon call for prior redemption, or if the City, after written notice to it, shall fail or neglect to make any payment owed by it as a result of a Credit Facility or Qualified Swap entered into with respect to Bonds and the provider of the Credit Facility or the Qualified Swap Provider provides written notification to the Fiscal Agent of such failure or neglect, or if the City shall fail to comply with any provision of any Bonds or with any covenant of the City contained in the General Ordinance, then, under and subject to the terms and conditions stated in the Act, the Holder or Holders of any Bond or Bonds shall be entitled to all of the rights and remedies, including the appointment of a trustee, provided in the Act; provided, however, that the remedy provided in Section 20(b)(4) of the Act may be exercised only upon the failure of the City to pay, when due, principal and redemption price (including principal due as a result of a scheduled mandatory redemption) and interest on a Series of Bonds.

Upon the occurrence of the event of default described above, or if an event occurs which could lead to a default with the passage of time and of which the Fiscal Agent has notice, the Fiscal Agent is required to, within 30 days, give written notice thereof by first-class mail to all Bondholders.

Remedies Not Exclusive; Effect of Delay in Exercise of Remedies

No remedy contained in the General Ordinance or in the Act conferred upon or reserved to the trustee, if any, or to the Holder of any Bond is intended to be exclusive (except as specifically provided in the Act) of any other remedy or remedies, and each and every such remedy shall be cumulative, and shall be in addition to every other remedy given under the General Ordinance or now or hereafter existing at law or in equity or by statute.

No delay or omission of a trustee, if one be appointed pursuant to Section 20 of the Act, or of any Holder of the Bonds to exercise any right or power accruing upon any default shall impair any such right or power or shall be construed to be a waiver of any such default, or an acquiescence therein; and every power and remedy provided with respect to an event of default under the General Ordinance, by the Act or otherwise may be exercised from time to time, and as often as may be deemed expedient.

Remedies to be Enforced Only Against Project Revenues

Any decree or judgment for the payment of money against the City by reason of default under the General Ordinance shall be enforceable only against the Project Revenues and the investments thereof and amounts on deposit in the funds and accounts (other than the Rebate Fund) established under the General Ordinance, and no decree or judgment against the City upon an action brought under the General Ordinance shall order or be construed to permit the occupation, attachment, seizure, or sale upon execution of any other property of the City.

Conveyance of System and Assignment, Assumption and Release

The General Ordinance provides that nothing in the General Ordinance is to prevent the City from conveying and assigning to a municipal authority created pursuant to the Municipality Authorities Act of 1945, as amended, or an authority created pursuant to any other applicable statute or to another entity (the "Authority") all or substantially all (or less than substantially all, as provided below) of its right, title and interest in the System and thereupon becoming released from all of its obligations under the General Ordinance, under any Supplemental Ordinance and under the Bonds and related obligations, including, but not limited to, Credit Facilities, Qualified Swaps and Exchange Agreements, (i) if the Authority assumes in writing the City's obligations (1) to operate or cause the System to be operated and to maintain or cause the System to be maintained in good condition; and (2) to pay the principal, redemption premium, if any, and interest on all Bonds issued, and all payments due under Credit Facilities, Qualified Swaps and Exchange Agreements entered into, pursuant to the General Ordinance and then outstanding according to the terms thereof; and (ii) if the instrument of assumption provides the Bondholders or the trustee or entity serving in a similar capacity and acting on behalf of the Bondholders with the substantial equivalent of all of the rights and remedies provided in the General Ordinance and the Act; provided, however, that before the City may consummate such a conveyance and assignment and obtain a release of its obligations under the General Ordinance, under any Supplemental Ordinance and under the Bonds, certain conditions are required to have been satisfied, including, without limitation, (a) the receipt by the City and the Fiscal Agent of certain opinions of counsel, (b) the granting of a security interest by the Authority to the trustee or entity serving in a similar capacity on behalf of the Bondholders, (c) a report of a Consulting Engineer detailing, among other things, continued compliance with covenants relating to Debt Service Requirements and (d) the conveyance and assignment to the Authority of amounts in the funds and accounts established under the General Ordinance. Upon a conveyance of all or substantially all of the assets of the System to the Authority, the General Ordinance provides that the provisions of the General Ordinance are to cease being enforceable against the City.

Amendments and Modifications

In addition to the enactment of Supplemental Ordinances supplementing or amending the General Ordinance in connection with the issuance of successive Series of Bonds, the General Ordinance provides that the General Ordinance and any Supplemental Ordinance may be further supplemented, modified or amended: (a) to cure any ambiguity, formal defect or omission therein or to make such provisions in regard to matters or questions arising thereunder which shall not be inconsistent with the provisions thereof and which shall not adversely affect the interests of Bondholders; (b) to grant to or confer upon Bondholders, or a trustee, if any, for the benefit of Bondholders any additional rights, remedies, powers, authority, or security that may be lawfully granted or conferred; (c) to incorporate modifications requested by any Rating Agency to obtain or maintain a credit rating on any Series of Bonds; (d) to comply with any mandatory provision of state or federal law or with any permissive provision of such law or regulation which does not substantially impair the security or right to payment of the Bonds but no amendment or modification shall be made with respect to any Outstanding Bonds to alter the amount, rate or time of payment, respectively, of the principal thereof or the interest thereon or to alter the redemption provisions thereof without the written consent of the Holders of all affected Outstanding Bonds; and (e) except as aforesaid, in such other respect as may be authorized in writing by the Holders of 67% in principal amount or Original Value in the case of Capital Appreciation Bonds of the Bonds Outstanding and affected. In the case of a Credit Facility or Qualified Swap, if and to the extent provided in the Supplemental Ordinance and Determination of Bonds related thereto, the provider thereof may be the representative of the Bondholders of such Series or portion of such Series for purposes of Bondholder consent, approval or authorization. The written authorization of Bondholders of any supplement to or modification or amendment of the General Ordinance or any Supplemental Ordinance need not approve the particular form of any proposed supplement, modification or amendment but only the substance thereof. Bonds, the payment for which has been provided for upon the redemption thereof, are to be deemed to be not Outstanding.

Deposit of Funds for Payment of Bonds

When interest on, and principal or redemption price (as the case may be) of, all Bonds issued under the General Ordinance, and all amounts owed under any Credit Facility, Qualified Swap and Exchange Agreement entered into under the General Ordinance, have been paid, or there shall have been deposited with the Fiscal Agent or an entity which would qualify as a Fiscal Agent under the General Ordinance an amount, evidenced by moneys or Qualified Escrow Securities the principal of and interest on which, when due, will provide sufficient moneys to fully pay the Bonds at the maturity date or date fixed for redemption thereof, and all amounts owed under any Credit Facility, Qualified Swap and Exchange Agreement entered into under the General Ordinance, the pledge and grant of a security interest in the Project Revenues made under the General Ordinance shall cease and terminate, and the Fiscal Agent and any other depository of funds and accounts established under the General Ordinance shall turn over to the City or to such person, body or authority as may be entitled to receive the same all balances remaining in any such funds and accounts established under the General Ordinance.

If the City deposits with the Fiscal Agent or such other qualified entity moneys or Qualified Escrow Securities sufficient to pay the principal or redemption price of any particular Bond or Bonds becoming due, either at maturity or by call for redemption or otherwise, together with all interest accruing thereon to the due date, interest on the Bond or Bonds shall cease to accrue on the due date and all liability of the City with respect to such Bond or Bonds shall likewise cease, except as provided in the following paragraph. Thereafter such Bond or Bonds shall be deemed not to be outstanding under the General Ordinance and shall have recourse solely and exclusively to the funds so deposited for any claims of whatsoever nature with respect to such Bond or Bonds, and the Fiscal Agent or such other qualified entity shall hold such funds in trust for such Holder or Holders.

Moneys deposited with the Fiscal Agent or such other qualified entity pursuant to the preceding paragraphs which remain unclaimed two years after the date payment thereof becomes due shall, upon written request of the City, if the City is not at the time to the knowledge of the Fiscal Agent or such other qualified entity (the Fiscal Agent having no responsibility to independently investigate), in default with respect to any covenant in the General Ordinance or the Bonds contained, be paid to the City; and the Holders of the Bonds for which the deposit was made shall thereafter be limited to a claim against the City; provided, however, that before making any such payment to the City, the Fiscal Agent or such other qualified entity shall, at the expense of the City, publish in a newspaper of general circulation published in Philadelphia, Pennsylvania, a notice that said moneys remain unclaimed and that, after a date named in said notice, which date shall be not less than 30 days after the date of publication of such notice, the balance of such moneys then unclaimed will be paid to the City.

The provisions regarding the deposit of funds for the payment of Bonds stated above are not be construed to limit the procedure set forth in Section 10 of the Act for calculating the principal or redemption price of and interest on any Bonds for the purpose of ascertaining the sufficiency of revenues for the purpose of Sections 7(a)(5) and 8(a) (iii) of the Act and for the purpose of determining the outstanding net debt of the City if General Obligation Bonds of the City are refunded pursuant to the Act.

Maintenance of Tax Exempt Status of Bonds

No deposit of funds for the payment of bonds shall be made if, in the opinion of Bond Counsel, such action shall cause the interest on any Series of Bonds initially issued as tax exempt Bonds, to become subject to Federal income tax.

Nothing contained in the General Ordinance shall require any Series of Bonds to be structured so that interest on such Bonds will be excluded from income of the Holders thereof for the purpose of calculating Federal income tax; provided that the provisions contained in the General Ordinance are satisfied.

Interested Parties

The General Ordinance provides that nothing in the General Ordinance expressed or implied is intended or is to be construed to confer upon, or to give to, any person or corporation, other than the City, the Owners of the Bonds, the Fiscal Agent, each provider of a Credit Facility, and Qualified Swap, Standby Agreement and Remarketing Agreement, any right, remedy or claim under or by reason of the General Ordinance or any covenants, condition or stipulation thereof; and all the covenants, stipulations, promises and agreements in the General Ordinance contained by and on behalf of the City shall be for the sole and exclusive benefit of the City, the Fiscal Agent, the Owners of the Bonds, each provider of a Credit Facility, Qualified Swap, Standby Agreement and Remarketing Agreement.

Ordinances are Contracts With Bondholders

The General Ordinance and Supplemental Ordinances adopted pursuant to the General Ordinance are contracts with the Holders of all Bonds from time to time Outstanding thereunder and are enforceable in accordance with the provisions of the General Ordinance and the laws of Pennsylvania.

Effectiveness

The General Ordinance provides that it is to become effective as to the holders of Bonds only upon consent in writing of the owners of not less than 67% in principal amount of all Bonds outstanding at the time of such consent.

APPENDIX III

CERTAIN INFORMATION CONCERNING THE CITY OF PHILADELPHIA

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THE GOVERNMENT OF THE CITY OF PHILADELPHIA

General

The City was incorporated in 1789 by an Act of the General Assembly of the Commonwealth of Pennsylvania (the "Commonwealth") (predecessors of the City under charters granted by William Penn in his capacity as proprietor of the colony of Pennsylvania may date to as early as 1684). In 1854, the General Assembly of the Commonwealth, by an act commonly referred to as the Consolidation Act, made the City's boundaries coterminous with the boundaries of Philadelphia County (the same boundaries that exist today) (the "County"), abolished all governments within these boundaries other than the City and the County and consolidated the legislative functions of the City and the County. Article 9, Section 13 of the Pennsylvania Constitution abolished all county offices in the City and provides that the City performs all functions of county government and that laws applicable to counties apply to the City.

Since 1952, the City has been governed under a Home Rule Charter authorized by the General Assembly of the Commonwealth (First Class City Home Rule Act, Act of April 21, 1949, P.L. 665, Section 17) and adopted by the voters of the City. The Home Rule Charter, as amended and supplemented to this date, provides, among other things, for the election, organization, powers and duties of the legislative branch (the "City Council"); the election, organization, powers and duties of the executive and administrative branch; and the basic rules governing the City's fiscal and budgetary matters, contracts, procurement, property and records. The Home Rule Charter, as amended, now also provides for the governance of The School District of Philadelphia (the "School District") as a home rule school district. Certain other constitutional provisions and Commonwealth statutes continue to govern various aspects of the City's affairs, notwithstanding the broad grant of powers of local self-government in relation to municipal functions set forth in the First Class City Home Rule Act.

Under the Home Rule Charter, as currently in effect, there are two principal governmental entities in the City of Philadelphia: (1) the City, which performs ordinary municipal functions as well as traditional county functions; and (2) the School District, which has boundaries coterminous with the City and has responsibility for all public primary and secondary education.

The court system in the City, consisting of Common Pleas, Municipal and Traffic Courts, is part of the Commonwealth judicial system. Although judges are paid by the Commonwealth, most other court costs are paid by the City, with partial reimbursement from the Commonwealth.

Government Services

Municipal services provided by the City include: police and fire protection; health care; certain welfare programs; construction and maintenance of local streets, highways, and bridges; trash collection, disposal and recycling; provision for recreational programs and facilities; maintenance and operation of the water and wastewater systems (the "Water and Wastewater Systems"); the acquisition and maintenance of City real and personal property, including vehicles; maintenance of building codes and regulation of licenses and permits; maintenance of records; collection of taxes and revenues; purchase of supplies and equipment; construction and maintenance of airport facilities; and maintenance of a prison system. The City owns the assets that comprise the Philadelphia Gas Works ("PGW" or the "Gas Works"). PGW serves residential, commercial, and industrial customers in the City. PGW is operated by Philadelphia Facilities Management Corporation ("PFMC"), a non-profit corporation specifically organized to manage and operate PGW for the benefit of the City.

Local Government Agencies

There are a number of significant governmental authorities and quasi-governmental non-profit corporations that also provide services within the City.

The Philadelphia Industrial Development Corporation ("PIDC") and its affiliate, the Philadelphia Authority for Industrial Development ("PAID"), coordinate the City's efforts to maintain an attractive business environment and to attract new businesses to the City and retain existing ones. Of the thirty members of the board of PIDC, seven are City officers or officials (the Mayor, the Director of Commerce, the President of City Council or a designee, the Chairman of the City Planning Commission, the City Solicitor, the Managing Director, and the Director of Finance), fifteen are nominated jointly by the President of the Greater Philadelphia Chamber of Commerce and the Director of Commerce, and eight are nominated by the President of the Greater Philadelphia Chamber of Commerce. The board of PAID is appointed by the Mayor.

The Philadelphia Municipal Authority (formerly The Equipment Leasing Authority of Philadelphia) ("PMA") was originally established for the purpose of buying equipment and vehicles to be leased to the City. PMA's powers have been expanded to include, without limitation, the construction and leasing of municipal solid waste disposal facilities, correctional facilities, and other municipal buildings. The PMA is governed by a five-member board appointed by City Council from nominations made by the Mayor.

The Redevelopment Authority of the City of Philadelphia (the "Redevelopment Authority") and the Philadelphia Housing Authority develop and/or administer low and moderate income rental units and housing in the City. The Redevelopment Authority, supported by Federal funds through the City's Community Development Block Grant Fund and by Commonwealth and local funds, is responsible for the redevelopment of the City's blighted areas. The Redevelopment Authority is governed by a five-member board appointed by the Mayor and must submit its budgets to the City for review and approval. The Philadelphia Housing Authority is normally governed by a five-member board with two members appointed by the Mayor, two appointed by the City Controller and a tenant member elected by the other members; however, on March 5, 2011, the board resigned to allow the U.S. Department of Housing and Urban Development to take over control of the Philadelphia Housing Authority for approximately a year, as a result of an ongoing federal investigation. On August 4, 2011, Michael P. Kelly was appointed Executive Director of PHA by the board. Mr. Kelly had a previously acted as receiver for PHA at the request of HUD during the federal investigation.

The Hospitals and Higher Education Facilities Authority of Philadelphia (the "Hospitals Authority") assists non-profit hospitals by financing hospital construction projects. The City does not own or operate any hospitals. The powers of the Hospitals Authority have been expanded to permit the financing of construction of buildings and facilities for certain colleges and universities and other health care facilities and nursing homes. The Hospitals Authority is governed by a five-member board appointed by City Council from nominations made by the Mayor.

The Philadelphia Parking Authority is responsible for the construction and operation of parking facilities in the City and at the Philadelphia International Airport and, by contract with the City, for enforcement of on-street parking regulations. The members of the Philadelphia Parking Authority's board are appointed by the Governor of Pennsylvania, with certain nominations from the General Assembly of the Commonwealth.

The Southeastern Pennsylvania Transportation Authority ("SEPTA"), which is supported by transit revenues and Federal, Commonwealth, and local funds, is responsible for developing and operating a comprehensive and coordinated public transportation system in the southeastern Pennsylvania region. Currently, two of the fifteen members of SEPTA's board are appointed by the Mayor and confirmed by City Council.

The Pennsylvania Convention Center Authority (the "Convention Center Authority") constructed and maintains, manages, and operates the Pennsylvania Convention Center, which opened on June 25, 1993. The Pennsylvania Convention Center is owned by the Commonwealth and leased to the Convention Center Authority. An expansion of the Pennsylvania Convention Center was completed in March 2011. This expansion enlarged the Pennsylvania Convention Center to almost 1,000,000 square feet of saleable space with the largest contiguous exhibit space in the Northeast, the largest convention center ballroom in the East and the ability to host large tradeshows or two major conventions simultaneously. Of the fifteen members of the board of the Convention Center Authority, two are appointed by the Mayor and one by each of the President and Minority Leader of City Council. The Commonwealth, the City and the Convention Center Authority have entered into an operating agreement with respect to the operation and financing of the Pennsylvania Convention Center.

School District

The School District was established by the Educational Supplement to the City's Home Rule Charter to provide free public education to the City's residents. Under the Home Rule Charter, its board is appointed by the Mayor and must submit a lump sum statement of expenditures to the City annually. Such statement is used by City Council in making its determination to authorize the levy of taxes on behalf of the School District. Certain financial information regarding the School District is included in the City's Comprehensive Annual Financial Report. It has no independent taxing powers and may levy only the taxes authorized on its behalf by the City and the Commonwealth. Under the Home Rule Charter, the School District is managed by a nine-member Board of Education appointed by the Mayor from a list supplied by an Educational Nominating Panel that is chosen by the Mayor. In some matters, including the incurrence of short-term and long-term debt, both the City and the School District are governed primarily by the laws of the Commonwealth. The School District is a separate political subdivision of the Commonwealth and the City has no property interest in or claim on any revenues or property of the School District.

The School District was declared distressed by the Secretary of Education of the Commonwealth pursuant to Section 691(c) of the Public School Code of 1949, as amended (the "School Code"), effective December 22, 2001. During a period of distress under Section 691(c) of the School Code, all of the powers and duties of the Board of Education granted under the School Code or any other law are suspended and all of such powers and duties are vested in the School Reform Commission (the "School Reform Commission") provided for under the School Code. The School Reform Commission is responsible for the operation, management and educational program of the School District during such period. It is also responsible for financial matters related to the School District. The School Code provides that the members of the Board of Education continue to serve during the time the School District is governed by the School Reform Commission, and that the establishment of the School Reform Commission shall not interfere with the regular selection of the members of the Board of Education. During the tenure of the School Reform Commission, the Board of Education will perform those duties delegated to it by the School Reform Commission. As of the date hereof, the School Reform Commission has not delegated any duties to the Board. Two of the five members of the School Reform Commission are appointed by the Mayor and three by the Governor of Pennsylvania.

SUMMARY FINANCIAL INFORMATION

Tables 1 and 2 below should be read in conjunction with the discussion concerning financial procedures of the City described under "CITY FINANCIAL PROCEDURES" below.

Table 1
General Fund
Summary of Operations (Legal Basis)
(Amounts In Millions of USD)

	Actual 2006	Actual 2007	Actual 2008	Actual 2009	Actual 2010	Current Estimate[4] 2011	Adopted Budget[6] 2012
Revenues							
Real Property Taxes[1]	395.8	397.5	402.8	400.1	402.2	488.7	486.7
Wage and Earnings Tax	1,111.2	1,167.4	1,184.8	1,117.0	1,114.2	1,149.9	1,188.6
Net Profits Tax	14.6	15.3	12.5	12.2	14.5	17.1	17.5
Business Privilege Tax	415.5	436.4	398.8	386.0	364.7	370.8	369.3
Sales Tax[2]	127.8	132.6	137.3	128.2	207.1	247.5	256.5
Other Taxes[3]	304.1	286.7	260.3	209.3	213.9	215.0	220.9
Total Taxes	2,369.0	2,435.9	2,396.5	2,252.8	2,316.6	2,489.0	2,539.5
Locally Generated Non-Tax Revenue	235.9	247.9	265.8	256.3	229.4	266.1	259.9
Revenue from Other Governments[5]	924.5	1,032.9	1,033.4	993.4	1,076.4	1,076.6	651.8
Receipts from Other City Funds[5]	24.9	27.4	27.2	135.4	31.9	64.2	51.5
Total Revenue	3,554.3	3,744.1	3,722.8	3,637.9	3,654.3	3895.9	3,502.7
Obligations/Appropriations							
Personnel Services	1,250.2	1,327.6	1,390.7	1,406.3	1,358.5	1,363.8	1,330.1
Purchase of Services	1,065.7	1,151.6	1,188.7	1,174.2	1,111.4	1,130.8	759.0
Materials, Supplies and Equipment	82.1	89.1	92.1	82.7	68.7	80.7	79.0
Employee Benefits	760.2	890.3	983.0	973.2	831.4	979.9	1,022.7
Indemnities, Contributions and Grants	110.9	119.0	120.9	130.0	128.0	109.4	117.5
City Debt Service	82.9	89.1	87.2	100.9	105.5	110.4	130.7
Other	38.6	31.2	32.3	22.7	26.0	0.0	4.0
Payments to Other City Funds	35.4	38.7	24.8	25.3	24.2	27.9	27.1
Total Obligations/Appropriations	3,426.0	3,736.6	3,919.8	3,915.3	3,653.7	3,802.9	3,470.1
Operating Surplus (Deficit) for the Year	128.2	7.5	(197.0)	(277.4)	0.6	93.0	32.6
Net Adjustments – Prior Year	30.1	35.9	18.6	20.7	22.6	24.5	24.5
Funding for Contingencies	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cumulative Fund Balance Prior Year	96.2	254.5	297.9	119.5	(137.2)	(114.0)	3.5
Cumulative Adjusted Year End Fund Balance (Deficit)	254.5	297.9	119.5	(137.2)	(114.0)	3.5	60.6

(1) Current Estimate 2011 reflects a 9.9% increase.
(2) Reflects 1% increase effective October 8, 2009.
(3) Includes Real Estate Transfer Tax, Parking Tax, Amusement Tax, and Other Taxes.
(4) From the June 30, 2011 Quarterly City Manager's Report (QCMR).
(5) State gaming revenues are reported as a Receipt from Other City Funds in 2009 and as Revenue from Other Governments in 2010, 2011 and 2012.
(6) The reduction in Revenue from Other Governments (State and Federal funding) in Fiscal Year 2012 is largely the result of transferring the majority of the Department of Human Services revenues and obligations to the Grants Revenue Fund.

Source: City of Philadelphia Department of Finance
Figures may not add up due to rounding.

Table 2
Principal Operating Funds (Debt Related)
Summary of Operations (Legal Basis)
(Amounts in Millions of USD)

	Actual 2006	Actual 2007	Actual 2008	Actual 2009	Actual 2010	Current[5] Estimate 2011	Adopted[6] Budget 2012
Revenues							
General Fund	3,554.3	3,744.1	3,722.8	3,637.9	3,654.3	3,895.9	3,502.7
Water Fund[1]	490.3	519.7	589.7	543.5	546.7	574.0	640.2
Aviation Fund[2]	271.5	268.6	287.9	294.1	290.2	304.6	386.1
Other Operating Funds[3]	41.9	44.9	113.2	49.5	50.1	49.9	51.6
Total Revenue	4,358.0	4,577.3	4,713.6	4,525.0	4,541.3	4,824.4	4,580.6
Obligations/Appropriations							
Personnel Services	1,412.9	1,498.2	1,568.9	1,579.0	1,523.6	1,528.3	1,515.6
Purchase of Services	1,233.5	1,328.5	1,441.4	1,369.2	1,312.8	1,347.8	1,034.9
Materials, Supplies and Equipment	136.2	145.9	151.1	140.7	128.9	137.7	154.0
Employee Benefits	845.3	990.1	1,095.8	1,091.4	932.8	1,101.5	1,162.4
Indemnities, Contributions and Taxes	116.5	122.6	127.1	135.9	134.4	117.0	129.3
Debt Service[4]	337.6	348.8	346.7	384.8	397.8	398.4	457.8
Other	38.6	31.2	32.3	22.7	24.2	0.0	4.0
Payments to Other City Funds	119.4	144.9	154.7	88.1	98.5	130.6	132.8
Total Obligations/Appropriations	4,240.0	4,610.2	4,917.9	4,811.8	4,553.0	4,761.4	4,590.8
Operating Surplus (Deficit) for the Year	118.0	(32.8)	(204.3)	(286.8)	(11.6)	63.0	(10.2)
Net Adjustments Prior Year	60.6	69.6	51.0	41.8	58.1	55.56	59.7
Funding for Contingencies	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cumulative Fund Balance (Deficit) Prior Year End	132.9	311.5	348.3	195.0	(50.0)	(3.4)	45.3
Cumulative Adjusted Year End Fund Balance (Deficit)	311.5	348.3	195.0	(50.0)	(3.4)	115.1	94.8

(1) Revenues of the Water Fund are not legally available for payment of other obligations of the City until, on an annual basis, all revenue bond debt service requirements and covenants relating to those bonds have been satisfied, and then only to the extent of $4,994,000 per year, provided certain further conditions are satisfied. From Fiscal Year 1991 to Fiscal Year 2003, the maximum transfer, per administrative agreement, was $4,138,000. For Fiscal Year 2004, the budgeted transfer was not made. For Fiscal Year 2005, the transferred amount was $4,401,000. For Fiscal Year 2006, 2007 and 2008, the transferred amount was $4,994,000. For Fiscal Year 2009, the transferred amount was $4,185,463. For Fiscal Year 2010 the transferred amount was $2,303,986, the current estimate for Fiscal Year 2011 is $3,004,000, and the budget for Fiscal Year 2012 is 3,788,000.

(2) Airport revenues are not available for other City purposes.

(3) Includes County Liquid Fuels Tax Fund, Special Gasoline Tax Fund and Water Residual Fund.

(4) Excludes PICA bonds.

(5) From the June 30, 2011 Quarterly City Manager's Report.

(6) The reduction in Revenue from Other Governments (State and Federal funding) in Fiscal Year 2012 is largely the result of transferring the majority of the Department of Human Services revenues and obligations to the Grants Revenue Fund.

Figures may not add up due to rounding.

DISCUSSION OF FINANCIAL OPERATIONS

Impact of Economic Downturn

Since October of 2008, the City has implemented significant actions to balance the budget and its five-year plans, including reducing overtime costs, reducing General Fund full and part time employee headcount by 1,600 (from June 30, 2008 to December 31, 2010), implementing a temporary five year sales tax increase and a 9.9% Real Estate Tax increase in Fiscal Year 2011, pension funding changes, freezing City funded and business privilege tax reductions until Fiscal Year 2014, increasing fees, and instituting spending cuts throughout the government. During this period of time, the City has improved its public safety results due to important changes in policing and has maintained delivery of its services.

The City undertook these measures as a result of the impact of the national and global recession. Beginning in August 2008, the City began to experience adverse budgetary performance for Fiscal Year 2009 as a result of the recession. In November 2008, the City projected a $1 billion gap over the five year period of the Seventeenth Five-Year Plan, and the City took a series of measures to close the projected gap for Fiscal Year 2009 and over the period of the Seventeenth Five-Year Plan. However, the economy deteriorated further and revenues declined at a greater pace than had been projected, leaving the City with a Fiscal Year 2009 operating deficit of $286.8 million resulting in a deficit of $236.8 million after prior year net adjustments of $41.8 million. Tax receipts continued to display weakness in Fiscal Year 2010, increasing the projected gap for both Fiscal Year 2010 and the period of the Eighteenth Five-Year Plan. In total during the six year period Fiscal Years 2009-2014, the projected shortfall reached $2.4 billion. The actions taken by the City, described above, are currently anticipated to close these projected gaps.

Fiscal Year 2012 Adopted Budget

The City's Fiscal Year 2012 budget was presented to City Council on March 3, 2011, was approved by City Council on June 23, 2011, and signed by the Mayor on June 24, 2011. The process and required timing for the approval of the budget is described under "CITY FINANCIAL PROCEDURES-Budget Procedures" herein. The budget projects estimated revenues of $3.503 billion, obligations of $3.470 billion, an operating surplus of $57.1 million and an ending fund balance of $60.6 million on the legally enacted basis.

The Fiscal Year 2012 budget conforms to the Twentieth Five-Year Plan (hereinafter defined) which was submitted to PICA (hereinafter defined) on July 7, 2011, and approved by PICA on July 26, 2011.

For the past several years, the financial position of the City's General Fund has been distorted by the timing of the receipt of reimbursements from the Commonwealth for the Department of Human Services. For a variety of reasons, those reimbursements have not been received in the same year as the costs were incurred. As a result, the costs are reflected in the City's fund balances, but the reimbursements are not, leading to fund balances that are distorted and artificially low. In some years, the late receipt of reimbursements has led to changes of tens of millions of dollars in the City's fund balance.

The Fiscal Year 2012 budget moves reimbursed costs and corresponding revenues for services provided by the Department of Human Services of approximately $495.1 million to the Grants Revenue Fund. As a result of this change the City's General Fund balance will better reflect the City's financial condition.

Fiscal Year 2011 Budget

The City's Fiscal Year 2011 budget was presented to City Council on March 4, 2010, was approved by City Council on May 20, 2010, and signed by the Mayor on June 1, 2010. The budget projects estimated revenues of $3.909 billion, obligations of $3.853 billion, an operating surplus of $80.5 million and an ending fund balance of $42.6 million after discharging the Fiscal Year 2010 fund balance deficit on the legally enacted basis. The budget includes a 9.9% Real Estate Tax increase which is estimated to yield $86 million. The Nineteenth Five-Year Plan (hereinafter defined) was approved by PICA on August 10, 2010.

Fiscal Year 2011 Current Estimate

The June 30, 2011 Quarterly City Manager's Report contains revised estimates for Fiscal Year 2011. Revenue estimates have been revised downward by $32.8 million versus the March 31, 2011 Quarterly City Manager's Report, largely as the result of delayed receipts of prior year Department of Human Services reimbursements, lower collections of Real Estate Transfer Tax and trash collection fees which are being partially off-set by higher than projected tax collections for Business Privilege Taxes, PICA Taxes and forfeited bail fees. The revised estimate of obligations includes $31 million in lower than projected obligations including lower costs for child welfare services of $15 million, debt service of $13 million and demolition of buildings of $3 million as compared to the March 31, 2011 Quarterly City Manager's Report. The revised estimate projects revenues for Fiscal Year 2011 of $3.895 billion, obligations of $3.803 billion, an operating surplus of $117.5 million, and an ending fund balance of $3.5 million after discharging the Fiscal Year 2010 fund balance deficit on the legally enacted basis.

As presented in this Appendix A, unless otherwise noted, current estimates for Fiscal Year 2011 are based on the June 30, 2011 Quarterly City Manager's Report .

Fiscal Year 2010 Budget

The City's Fiscal Year 2010 budget was presented to City Council on March 19, 2009, was approved by City Council on May 21, 2009, and signed by the Mayor on May 27, 2009. The budget projected estimated revenues of $3.815 billion, obligations of $3.694 billion and an ending fund balance of $85.3 million after discharging the Fiscal Year 2009 fund balance deficit on the legally enacted basis. The budget included a temporary one percent City Sales Tax increase which was estimated to yield $97 million in Fiscal Year 2010 increasing to an estimated $121 million in Fiscal Year 2014. The Sales Tax increase became effective on October 8, 2009. With the delay in Commonwealth approval of the temporary Sales Tax increase, reduced child welfare funding, revisions to the pension amortization schedule and other reductions and delays in implementation of revenue initiatives, the City revised the Fiscal Year 2010 budget and Eighteenth Five-Year Plan and submitted the revision to PICA on September 1, 2009. PICA approved the revised Eighteenth Five-Year Plan on September 16, 2009. Such revised Eighteenth Five-Year Plan was based upon Fiscal Year 2010 estimated projected revenues of $3.789 billion, obligations of $3.727 billion and an ending funds balance on the legally enacted basis of negative $51.7 million.

Fiscal Year 2010 Results

For Fiscal Year 2010, the City had revenues of $3.654 billion, obligations of $3.653 billion and an ending fund balance on the legally enacted basis of negative $114 million. The decrease in such ending fund balance from the projection used in the revised Eighteenth Five-Year Plan was the result of the delayed reimbursement of Department of Human Services costs from the federal and state governments.

CITY FINANCIAL PROCEDURES

Except as otherwise noted, the financial statements, tables, statistics, and other information shown below have been prepared by the Office of the Director of Finance and can be reconciled to the financial statements in the City's Comprehensive Annual Financial Report and Notes therein.

Independent Audit and Opinion of the City Controller

The City Controller has examined and expressed opinions on the basic financial statements of the City of Philadelphia contained in the City's Comprehensive Annual Financial Report for the Fiscal Year ended June 30, 2010 (the "Fiscal Year 2010 Comprehensive Annual Financial Report").

The City Controller has not participated in the preparation of this Reoffering Circular nor in the preparation of the budget estimates and projections and cash flow statements and forecasts set forth in various tables contained in this Reoffering Circular. Consequently, the City Controller expresses no opinion with respect to any of the data contained in this Reoffering Circular other than what is contained in the Fiscal Year 2010 Comprehensive Annual Financial Report.

Pennsylvania Intergovernmental Cooperation Authority

The City is required to develop an annual five-year financial plan and obtain annual approval of such five-year financial plan from the Pennsylvania Intergovernmental Cooperation Authority ("PICA"); the City is also required to prepare and submit quarterly reports to PICA. See "PENNSYLVANIA INTERGOVERNMENTAL COOPERATION AUTHORITY" for a further discussion of PICA, its relationship to the City and its financial oversight role.

Principal Operations

The major operations of the City are conducted through the General Fund. In addition to the General Fund, operations of the City are conducted through two other major governmental funds and 12 minor governmental funds. The two major governmental funds and three of the minor governmental funds are financed solely through grants from the Commonwealth and Federal government. The City's Debt Service Fund and Capital Projects Fund are also included with the minor governmental funds. The Fiscal Year 2012 Operating Budget moves the activities of the Department of Human Services from the General Fund to the Grants Revenue Fund.

Fund Accounting

Funds are groupings of activities that enable the City to maintain control over resources that have been segregated for particular purposes or objectives. All of the funds of the City can be divided into three categories: governmental funds, proprietary funds and fiduciary funds.

Governmental Funds. The governmental funds are used to account for the financial activity of the City's basic services, such as: general government; economic and neighborhood development; public health, welfare and safety; cultural and recreational; and streets, highways and sanitation. The funds' financial activities focus on a short-term view of the inflows and outflows of spendable resources, as well as on the balances of spendable resources available at the end of the fiscal year. The financial information presented for the governmental funds is useful in evaluating the City's short term financing requirements.

The City maintains twenty-three individual governmental funds. The City's Comprehensive Annual Financial Report (including for the City's fiscal year ended June 30, 2010), presents data separately for the General Fund, Grants Revenue Fund and Health Choices Behavioral Health Fund, which are considered to be major funds. Data for the remaining twenty funds are combined into a single aggregated presentation.

Proprietary Funds. The proprietary funds are used to account for the financial activity of the City's operations for which customers are charged a user fee; they provide both a long and short-term view of financial information. The City maintains three enterprise funds that are a type of proprietary funds - airport, water and wastewater operations, and industrial land bank.

Fiduciary Funds. The City is the trustee, or fiduciary, for its employees' pension plans. It is also responsible for PGW's employees' retirement reserve assets. Both of these fiduciary activities are reported in the City's Comprehensive Annual Financial Report (including for the City's fiscal year ended June 30, 2010), as separate financial statements of fiduciary net assets and changes in fiduciary net assets.

Basis of Accounting and Measurement Focus

Governmental funds account for their activities using the current financial resources measurement focus and the modified accrual basis of accounting. Revenues are recognized as soon as they are both measurable and available. Revenues are considered to be available when they are collectible within the current period or soon enough thereafter to pay liabilities of the current period. For this purpose, the City considers revenues to be available if they are collected within 60 days of the end of the current fiscal period. Expenditures are generally recorded when a liability is incurred, as in the case of full accrual accounting. Debt service expenditures, as well as expenditures related to compensated absences and claims and judgments, are recorded only when payment is due; however, those expenditures may be accrued if they are to be liquidated with available resources.

Imposed non-exchange revenues, such as Real Estate Taxes, are recognized when the enforceable legal claim arises and the resources are available. Derived tax revenues, such as wage, business privilege, net profits and earnings taxes, are recognized when the underlying exchange transaction has occurred and the resources are available. Grant revenues are recognized when all the applicable eligibility requirements have been met and the resources are available. All other revenue items are considered to be measurable and available only when cash is received by the City.

Revenue that is considered to be program revenue includes: (1) charges to customers or applicants for goods received, services rendered or privileges provided, (2) operating grants and contributions, and (3) capital grants and contributions. Internally dedicated resources are reported as general revenues rather than as program specific revenues; therefore, all taxes are considered general revenues.

The City's financial statements reflect the following three funds as major Governmental Funds:

- The General Fund is the City's primary operating fund. It accounts for all financial resources of the general government, except those required to be accounted for in other funds.

- The Health Choices Behavioral Health Fund accounts for resources received from the Commonwealth. These resources are restricted to providing managed behavioral health care to residents of the City.

- The Grants Revenue Fund accounts for the resources received from various federal, state and private grantor agencies. The resources are restricted to accomplishing the various objectives of the grantor agencies.

The City also reports on Permanent Funds, which are used to account for resources legally held in trust for use by the park and library systems of the City. There are legal restrictions on the resources of the funds that require the principal to remain intact, while only the earnings may be used for the programs.

The City reports on the following Fiduciary Funds:

- The Municipal Pension Fund accumulates resources to provide pension benefit payments to qualified employees of the City and certain other quasi-governmental organizations.

- The Philadelphia Gas Works Retirement Reserve Fund accounts for contributions made by PGW to provide pension benefit payments to its qualified employees under its noncontributory pension plan.

The City reports on the following major Proprietary Funds:

- The Water Fund accounts for the activities related to the operation of the City's water delivery and sewage systems.

- The Aviation Fund accounts for the activities of the City's airports.

Proprietary funds distinguish operating revenues and expenses from non-operating items. Operating revenues and expenses generally result from providing services and producing and delivering goods in connection with a proprietary fund's ongoing operations. The principal operating revenues of the Water Fund are charges for water and sewer service. The principal operating revenue of the Aviation Fund is charges for the use of the airport. Operating expenses for enterprise funds include the cost of sales and services, administrative expenses, and depreciation on capital assets. All revenues and expenses not meeting this definition are reported as nonoperating revenues and expenses.

Legal Compliance

The City's budgetary process accounts for certain transactions on a basis other than generally accepted accounting principles ("GAAP"). In accordance with the Home Rule Charter, the City has formally established budgetary accounting control for its operating and capital improvement funds.

The operating funds of the City, consisting of the General Fund, ten Special Revenue Funds (County Liquid Fuels Tax, Special Gasoline Tax, Health Choices Behavioral Health, Hotel Room Rental Tax, Grants Revenue, Community Development, Car Rental Tax, Wage Tax Reduction, Acute Care Hospital Assessment and Housing Trust Funds) and two Enterprise Funds (Water and Aviation Funds), are subject to annual operating budgets adopted by City Council. Included with the Water Fund is the Water Residual Fund. These budgets appropriate funds for all City departments, boards and commissions by major class of expenditure within each department. Major classes are defined as: personal services; purchase of services; materials and supplies; equipment; contributions, indemnities and taxes; debt service; payments to other funds; and advances and other miscellaneous payments. The appropriation amounts for each fund are supported by revenue estimates and take into account the elimination of accumulated deficits and the re-appropriation of accumulated surpluses to the extent necessary. All transfers between major classes (except for materials and supplies and equipment, which are appropriated together) must have approval of City Council. Appropriations that are not expended or encumbered at year-end are lapsed.

The City's capital budget is adopted annually by City Council. The capital budget is appropriated by project for each department. Requests to transfer appropriations between projects must be approved by City Council. Any appropriations that are not obligated at year-end are either lapsed or carried forward to the next fiscal year.

Schedules prepared on the legally enacted basis differ from the GAAP basis in that both expenditures and encumbrances are applied against the current budget, adjustments affecting activity budgeted in prior years are accounted for through fund balance or as reduction of expenditures and certain interfund transfers and reimbursements are budgeted as revenues and expenditures.

Budget Procedure

At least ninety days before the end of the Fiscal Year the operating budget for the next Fiscal Year is prepared by the Mayor and must be submitted to City Council for adoption. The budget, as adopted, must be balanced and provide for discharging any estimated deficit from the current Fiscal Year and make appropriations for all items to be funded with City revenues. The Mayor's budgetary estimates of revenues for the ensuing Fiscal Year and projection of surplus or deficit for the current Fiscal Year may not be altered by City Council. Not later than the passage of the operating budget ordinance, City Council must enact such revenue measures as will, in the opinion of the Mayor, yield sufficient revenues to balance the budget.

At least thirty days before the end of each Fiscal Year, City Council must adopt by ordinance an operating budget and a capital budget for the ensuing Fiscal Year and a capital program for the six ensuing years. If the Mayor disapproves the bill, he must return it to City Council with the reasons for his disapproval at the first meeting thereof held not less than ten days after he receives it. If the Mayor does not return the ordinance within the time required, it becomes law without his approval. If City Council passes the bill by a vote of two-thirds of all of its members within seven days after the bill has been returned with the Mayor's disapproval, it becomes law without his approval. The capital program is prepared annually by the City Planning Commission to present the capital expenditures planned for each of the six ensuing Fiscal Years, including the estimated total cost of each project and the sources of funding (local, state, Federal, and private) estimated to be required to finance each project. The capital program is reviewed by the Mayor and transmitted to City Council for adoption with his recommendation thereon. See Table 20 for a summary of the City's capital improvement program for the Fiscal Years 2012 through 2017.

The capital budget ordinance, authorizing in detail the capital expenditures to be made or incurred in the ensuing Fiscal Year from funds that City Council appropriates, is adopted by City Council concurrently with the capital program. The capital budget must be in full conformity with that part of the capital program applicable to the Fiscal Year that it covers.

Awards

For the thirtieth consecutive year, the Government Finance Officers Association of the United States and Canada ("GFOA") awarded its prestigious Certificate of Achievement for Excellence in Financial Reporting ("GFOA Awards") to the City for its Comprehensive Annual Financial Report ("CAFR") for the fiscal year ended June 30, 2009. The City received this recognition by publishing a report that was well organized and readable and satisfied both generally accepted accounting principles and applicable legal requirements. The City has applied for the GFOA Award for its 2010 CAFR.

REVENUES OF THE CITY

General

In 1932, the General Assembly of the Commonwealth adopted an act (commonly referred to as the Sterling Act) under which the City was permitted to levy any tax that was not specifically pre-empted by the Commonwealth. Prior to 1939, the City relied heavily upon the Real Estate Tax as the mainstay of its revenue system. Acting under the Sterling Act and other legislation, the City has taken various steps over the years to reduce its reliance on real property taxes as a source of income, including: (1) enacting the wage, earnings, and net profits tax in 1939; (2) introducing a sewer service charge to make the sewage treatment system self-sustaining after 1945; (3) requiring under the Home Rule Charter that the water, sewer, and other utility systems be fully self-sustaining; and (4) enacting in 1952 the Mercantile License Tax (a gross receipts tax on business done within the City), which was replaced as of the commencement of Fiscal Year 1985 by the Business Privilege Tax.

Major Revenue Sources

The City derives its revenues primarily from various taxes, non-tax revenues, and receipts from other governments. See Table 3 below for revenues by major source for Fiscal Years 2001-2012 and Table 4 below for General Fund tax revenues for Fiscal Years 2006-2012. The following descriptions do not take into account revenues in the Non-Debt Related Funds. The tax rates for Fiscal Years 2000 through 2010 are contained in the Fiscal Year 2010 Comprehensive Annual Financial Report.

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Table 3

Summary of Principal Operating Funds (Debt Related)
Revenues by Major Source
Fiscal Years 2001-2012 (Legal Basis)
(Amounts in Millions of USD)

	General Fund Tax Revenues						Other Revenues						
Fiscal Year	Real Property Taxes[1]	Wage Earnings & Net Profits Taxes[1]	Business Privilege Tax[1]	Sales and Use Tax[1]	Other Taxes[2]	Total Taxes	Water & Wastewater Charges	Airport Charges	Other Locally Generated Charges	Total Local Revenue	Revenue from Other Govts	Revenue from Other City Funds	Total Revenues
2001	363.4	1,059.0[3]	314.0[3]	111.3	130.0[3]	1,977.7	285.8	175.7	251.3	2,690.5	781.7	90.5	3,562.7
2002	376.8	1,019.3	295.8	108.1	148.6	1,945.4	302.8	181.7	257.9	2,687.8	722.5	80.8	3,491.1
2003	361.1	1,025.1	286.1	108.0	156.3	1,936.6	329.6	219.4	327.4	2,813.0	909.7	62.8	3,785.5
2004	377.7	1,062.6	309.2	108.0	202.2	2,059.7	383.1	235.0	207.4	2,885.2	834.2	92.1	3,811.5
2005	392.7	1,087.3	379.5	119.9	250.9	2,230.3	419.7	246.3	200.8	3,097.1	1,082.4	71.6	4,251.1
2006	395.8	1,125.8	415.5	127.8	304.1	2,369.0	460.4	269.4	236.2	3,335.0	953.1	69.9	4,358.0
2007	397.5	1,182.7	436.4	132.6	286.7	2,435.9	486.9	266.0	248.3	3,437.1	1,063.3	77.0	4,577.4
2008	402.8	1,197.3	398.8	137.3	260.3	2,396.5	555.0	275.3	267.5	3,494.3	1,066.2	153.1 [4]	4,713.6
2009	400.1	1,129.2	386.0	128.2	209.3	2,252.8	484.5	291.3	258.3	3,286.9	1,025.4	212.7 [5]	4,525.0
2010	402.2	1,128.7	364.7	207.1[6]	213.9	2,316.6	516.4	290.2	224.5	3,347.7	1,110.7[7]	82.7	4,541.3
2011 (Current Estimate)[9]	488.7[8]	1,167.0	370.8	247.5	215.0	2,489.0	541.5	302.2	266.1	3,498.8	1,109.5	116.1	4,824.4
2012 (Adopted Budget)[10]	486.7	1,206.0	369.3	256.5	220.9	2,539.5	567.1	381.1	259.1	3,747.6	686.4	146.6	4,580.6

(1) See Table 7 in the Fiscal Year 2010 Comprehensive Annual Financial Report for Tax Rates.
(2) Includes Real Estate Transfer Tax, Parking Tax, Amusement Tax, and Other Taxes.
(3) Accounting accrual changes required by GASB #33 resulted in additional one-time tax revenue accruals in Fiscal Year 2001. (Wage Tax, $50.4 million; Business Privilege, $5.2 million; Other Taxes, $4.3 million).
(4) In Fiscal Year 2008, there was an increase of $73 million in payment from Water Fund to Water Residual Fund.
(5) In Fiscal Year 2009, there was an $86 million payment from the Wage Tax Reduction Fund.
(6) Reflects 1% increase effective October 8, 2009.
(7) In Fiscal Year 2010, the Wage Tax Reduction payment is shown in the Revenue from Other Governments column.
(8) Reflects a Real Estate Real Estate Tax increase of 9.9%.
(9) From the June 30, 2011 Quarterly City Manager's Report.
(10) The reduction in Revenue from Other Governments (State and Federal funding) in Fiscal Year 2012 is largely the result of the transfer of the majority of the Department of Human Services revenue and obligations to the Grants Revenue Fund.

Figures may not add up due to rounding.

Table 4
General Fund Tax Revenues[1]
Fiscal Years 2006-2012
(Amounts in Millions of USD)

	Actual 2006	Actual 2007	Actual 2008	Actual 2009	Actual 2010	Current Estimate[5] 2011	Adopted Budget 2012
Real Property Taxes							
Current	354.1	367.2	366.5	365.6	364.3	451.2[4]	449.2
Prior	41.7	30.3	36.3	34.4	37.9	37.5	37.5
Total	395.8	397.5	402.8	400.0	402.2	488.7	486.7
Wage And Earnings Tax[2]							
Current	1,104.0	1,162.4	1,176.5	1,105.9	1,102.3	1,137.9	1,176.6
Prior	7.2	5.1	8.3	11.1	11.9	12.0	12.0
Total	1,111.2	1,167.5	1,184.8	1,117.0	1,114.2	1,149.9	1,188.6
Business Taxes							
Business Privilege							
Current	390.5	401.9	376.1	367.1	329.3	350.8	349.3
Prior	25.0	34.5	22.7	18.9	35.4	20.0	20.0
Subtotal Business Privilege	415.5	436.4	398.8	386.0	364.7	370.8	369.3
Net Profits Tax							
Current	11.8	10.9	9.1	9.5	12.1	14.6	15.0
Prior	2.8	4.3	3.4	2.7	2.4	2.5	2.5
Subtotal Net Profits Tax	14.6	15.3	12.5	12.2	14.5	17.1	17.5
Total Business Taxes	430.1	451.6	411.3	398.2	379.2	387.9	386.8
Other Taxes							
Sales and Use Tax	127.8	132.6	137.3	128.3	207.1[3]	247.5	256.5
Amusement Tax	17.0	16.4	18.0	21.4	21.8	21.1	21.6
Real Property Transfer Tax	236.4	217.3	184.0	115.1	119.2	117.3	120.8
Parking Taxes	48.4	50.3	55.5	70.4	70.5	72.5	74.3
Other Taxes	2.3	2.6	2.8	2.4	2.4	4.1	4.1
Subtotal Other Taxes	431.9	419.2	397.6	337.6	421.0	462.5	477.3
TOTAL TAXES	2,369.0	2,435.9	2,396.5	2,252.8	2,316.6	2,489.0	2,539.5

(1) See Table 7 in the Fiscal Year 2010 Comprehensive Annual Financial Report for Tax Rates.
(2) Beginning in Fiscal Year 1992, the City reduced the resident Wage and Earnings and Net Profits Tax from 4.96% to 3.46% and levied the PICA Tax at a rate of 1.50%, the proceeds of which are remitted to PICA for payment of debt service on PICA bonds and the PICA expenses. After paying debt service and expenses, net proceeds from the tax are remitted to the City as Revenue from Other Governments.
(3) Effective October 8, 2009, there was a 1% increase to the City Sales tax.
(4) Reflects a Real Estate Real Estate Tax increase of 9.9%.
(5) From the June 30, 2011 Quarterly City Manager's Report.

Figures may not add up due to rounding.

Wage, Earnings, and Net Profits Taxes. These taxes are levied on the wages, earnings, and net profits of all residents of the City and all non-residents employed within the City. In Fiscal Year 1992, the City reduced the City wage, earnings, and net profits tax on City residents by 1.5% and imposed the PICA Tax on wages, earnings and net profits at the rate of 1.5% on City residents. See "PENNSYLVANIA INTERGOVERNMENTAL COOPERATION AUTHORITY—Source of Payment of PICA Bonds." The table below sets forth the resident and non-resident wage and earnings tax rates for Fiscal Years 2001-2012, and the annual wage and earnings tax receipts in Fiscal Years 2001-2010, the current estimate for Fiscal Year 2011, and the adopted budget for Fiscal Year 2012.

Table 5
Summary of Wage, Earnings and Net Profits Tax Rates and Receipts

Fiscal Year	Resident Wage, Earnings and Net Profits Tax Rates[1]	Non-Resident Wage, Earnings and Net Profits Tax Rates	Annual Wage, Earnings and Net Profits Tax Receipts (including PICA Tax) (Amounts in Millions of USD)
2001	4.5635%	3.9672%	$ 1,332.6
2002	4.5385	3.9462	1,297.3
2003	4.5000	3.9127	1,306.6
2004	4.4625	3.8801	1,347.6
2005	4.4625 (Jul. 1)	3.8801 (Jul. 1)	1,387.5
	4.3310 (Jan. 1)	3.8197 (Jan. 1)	
2006	4.3310 (Jul. 1)	3.8197 (Jul. 1)	1,435.6
	4.3010 (Jan. 1)	3.7716 (Jan. 1)	
2007	4.3010 (Jul. 1)	3.7716 (Jul. 1)	1,510.6
	4.2600 (Jan. 1)	3.7557 (Jan. 1)	
2008	4.2600 (Jul. 1)	3.7557 (Jul. 1)	1,527.5
	4.2190 (Jan. 1)	3.7242 (Jan. 1)	
2009[2]	3.9800 (Jul. 1)	3.5392 (Jul. 1)	1,477.8
	3.9300 (Jan. 1)	3.5000 (Jan. 1)	
2010	3.9296	3.4997	1,472.0
2011	3.9280	3.4985	1,524.5 Current Estimate[3]
2012	3.9280	3.4985	1,563.1 Adopted Budget

(1) Includes PICA Tax.
(2) There were two rate decreases during Fiscal Year 2009.
(3) From the June 30, 2011 Quarterly City Manager's Report.

Commonwealth funding from gaming revenues is mandated by statue to be used to reduce the resident and nonresident wage tax rate. Gaming revenues were first used to reduce the wage tax rates in 2009. Revenues from gaming revenues were $86.545 million in FY2009, $86.270 million in FY2010 and are projected to be $86.277 million in FY2011. Accordingly, the wage tax rates in 2009, 2010 and 2011 reflect a rate reduction due to these revenues.

In the Seventeenth Five-Year Plan, the Mayor approved further reductions in this tax rate for each of the Fiscal Years 2009-2013. The Seventeenth Five-Year Plan approved reducing the wage tax from the Fiscal Year 2008 level of 4.2190% for residents and 3.7242% for non-residents to 3.60% for residents and 3.25% for non-residents by Fiscal Year 2013. These reduced rates include rate reductions funded with Commonwealth funds from gaming proceeds. In Fiscal Year 2009 there were two rate reductions: one that took effect July 1, 2008 and the other that took effect January 1, 2009. The Eighteenth Five-Year Plan suspended future City-funded rate reductions until Fiscal Year 2015. The Nineteenth Five-Year Plan suspended City-funded rate reductions until Fiscal Year 2014, and the Twentieth Five-Year Plan continues to suspend the City-funded rate reductions until Fiscal Year 2014.

Business Privilege Tax. In May 1984, the City enacted an ordinance substituting the Business Privilege Tax for the Mercantile License Tax. The Business Privilege Tax has been levied since January 1985 on every entity engaging in business in the City.

The Business Privilege Tax is a composite tax. Tax rates vary according to business classification (regulated, non-regulated, persons registered under the Pennsylvania Securities Act of 1972, manufacturing, wholesale, or retail) and method of tax computation employed. The various methods of tax computation are as follows: effective Fiscal Year 1989, all regulated industries, banks, trust companies, insurance companies, and public utilities, among others, were taxed at an annual rate of 3.25 mills on annual receipts not to exceed 6.5% of their net income. The tax on annual receipts and net income of all businesses, other than regulated industries, was levied at 3.25 mills and 6.5%, respectively, provided that persons registered under the Pennsylvania Securities Act of 1972 shall in no event pay a tax of less than 5.711 mills on all taxable receipts plus the lesser of 4.302% of net income or 4.302 mills on gross taxable receipts.

Non-regulated industry manufacturers can opt for a lower 5.395% rate on receipts from sales after deducting the applicable cost of goods. Non-regulated wholesalers may choose a gross receipts tax on wholesale transactions at a lower rate of 7.55% after deducting applicable product and labor costs. Non-regulated retailers have the option of choosing the lower rate of 2.1% on receipts from retail sales after deducting applicable product and labor costs.

All persons subject to both the Business Privilege Tax and the Net Profits Tax are entitled to apply a credit of 60% of their Business Privilege Tax liability against what is due on the Net Profits Tax, which credit may be carried back or forward for up to three years.

The tax rates for tax years 2003-2012 are set forth below.

Table 6
Summary of Business Privilege Tax Rates

Tax Year	Business Privilege
2003	2.300 mills
2004	2.100 mills
2005	1.900 mills
2006	1.665 mills
2007	1.540 mills
2008	1.415 mills
2009	1.415 mills
2010	1.415 mills
2011	1.415 mills
2012	1.415 mills

In Fiscal Year 1996, the City began a program of reducing the gross receipts portion of the Business Privilege Tax from its previous level of 3.25 mills. In the Seventeenth Five-Year Plan, the Mayor approved further reductions in the gross receipts portion of the Business Privilege Tax for each of the Fiscal Years 2009-2013. The Eighteenth Five-Year Plan suspended future City-funded rate reductions until Fiscal Year 2015. The Nineteenth Five-Year Plan suspended future City rate reductions until Fiscal Year 2014, and the Twentieth Five-Year Plan continues to suspend the City-funded rate reductions until Fiscal Year 2014.

All business activity is also assessed a one-time $300 licensing fee administered by the Department of Licenses and Inspections.

Real Property Taxes. A Real Estate Tax on all taxable real property is levied on the assessed value of residential and commercial property located within the City's boundaries. From Fiscal Year 2003 through Fiscal Year 2007 the City's portion of the rate was 34.74 mills and the School District's portion was 47.90 mills. In Fiscal Year 2008, City Council shifted 1.69 mills of City tax to the School District. In Fiscal Year 2008, the City's portion of the rate became 33.05 mills and the School District's portion became 49.59 mills. In Fiscal Year 2011, the Real Estate Tax rate was increased 9.9% through Fiscal Year 2012 with the City's portion of the rate increasing to 41.23 mills and the School District's portion remaining the same at 49.59 mills. In Fiscal Year 2012, the Real Estate Tax rate was increased 3.85% for Fiscal Year 2012 (one year only) with the City's portion of the rate remaining the same at 41.23 mills and the School District's portion increasing to 53.09 mills.

Sales and Use Tax. In connection with the adoption of the Fiscal Year 1992 Budget, the City adopted a 1% sales and use tax (the "City Sales Tax") for City general revenue purposes. The Commonwealth authorized the levy of this tax under the PICA Act. Vendors are required to pay this sales tax to the Commonwealth Department of Revenue together with the similar Commonwealth sales and use tax. The State Treasurer deposits the collections of this tax in a special fund and disburses the collections, including any investment income earned thereon, less administrative fees of the Commonwealth Department of Revenue, to the City on a monthly basis.

The City Sales Tax is imposed in addition to, and on the same basis as, the Commonwealth's sales and use tax. The City Sales Tax became effective September 28, 1991 and is collected for the City by the Commonwealth Department of Revenue. The Fiscal Year 2010 budget assumed an increase to 2% from the then-current 1% rate. The General Assembly of the Commonwealth enacted legislation authorizing this increase effective October 8, 2009. The Eighteenth Five-Year Plan and the Nineteenth Five-Year Plan assume this temporary increase will sunset on June 30, 2014, and the Twentieth Five-Year Plan also assumes the temporary increase will sunset on June 30, 2014.

The table below sets forth the City Sales Tax collected in Fiscal Years 2001 through 2010, the current estimate for Fiscal Year 2011 and the adopted budget for fiscal Year 2012.

Table 7
Summary of City Sales Tax Collections
(Amounts In Millions of USD)

Fiscal Year	City Sales Tax Collections
2001	$ 111.3
2002	108.1
2003	108.0
2004	108.0
2005	119.9
2006	127.8
2007	132.6
2008	137.3
2009	128.0
2010	207.1
2011 (Current Estimate[1])	247.5
2012 (Adopted Budget)	256.5

[1] From the June 30, 2011 Quarterly City Manager's Report.

Other Taxes. The City also collects real property transfer taxes, parking lot taxes, and other miscellaneous taxes such as the Amusement Tax.

Other Locally Generated Non-Tax Revenues. These revenues include license fees and permit sales, traffic fines and parking meter receipts, court related fees, stadium revenues, interest earnings and other miscellaneous charges and revenues of the City.

Revenue from Other Governments. The City's Fiscal Year 2010 General Fund received 29.5 percent of General Fund revenues from other governmental jurisdictions, including: (1) $580.8 million from the Commonwealth for health, welfare, court, and various other specified purposes; (2) $140.3 million from the Federal government; and (3) $78.6 million from other governments, in which revenues are primarily rental and payments from PGW and parking fines and fees from the Philadelphia Parking Authority. In addition, the net collections of the PICA Tax of $275.8 million are included in "Revenue from Other Governments."

The City's Fiscal Year 2011 General Fund current estimate projects that approximately 27.6 percent of General Fund revenues will be received from other governmental jurisdictions, including: (1) $560.5 million from the Commonwealth for health, welfare, court, and various other specified purposes; (2) $165.1 million from the Federal government; and (3) $55.7 million from other governments, in which revenues are primarily rentals and payments from PGW and parking fines and fees from the Philadelphia Parking Authority. In addition, the net collections of the PICA Tax of $291.2 million are included in "Revenue from Other Governments."

The City's Fiscal Year 2012 General Fund adopted budget projects that approximately 18.6 percent of General Fund revenues will be received from other governmental jurisdictions, including: (1) $212.6 million from the Commonwealth for health, welfare, court, and various other specified purposes; (2) $90.5 million from the Federal government; and (3) $53.7 million from other governments, in which revenues are primarily rentals and payments from the PGW and parking fines and fees from the Philadelphia Parking Authority. In addition, the net collections of the PICA Tax of $290.9 million are included in "Revenue from Other Governments. The decrease in Fiscal Year 2012 Revenue from Other Governments is largely due to the transfer of the majority of the Department of Human Services revenue and obligations to the Grants Revenue Fund.

These amounts do not include the substantial amounts of revenues from other governments received by the Grants Revenue Fund, Community Development Fund, and other operating and capital funds of the City.

Revenues from City-Owned Systems

In addition to taxes, the City realizes revenues through the operation of various City-owned systems such as the Water and Wastewater Systems and PGW. The City has issued revenue bonds with respect to the Water and Wastewater Systems and PGW to be paid solely from and secured by a pledge of the respective revenues of these systems. The revenues of the Water and Wastewater Systems and PGW are not legally available for payment of other obligations of the City until, on an annual basis, all revenue bond debt service requirements and covenants relating to those bonds have been satisfied and then, in a limited amount and upon satisfaction of certain other conditions.

Effective June 1991, the revenues of the Water Department were required to be segregated from other funds of the City. Under the City's Restated General Water and Wastewater Revenue Bond Ordinance of 1989 (the "Water Ordinance"), an annual transfer may be made from the Water Fund to the City's General Fund in an amount not to exceed the lesser of (a) all Net Reserve Earnings, as defined below, or (b) $4,994,000. Net Reserve Earnings means the amount of interest earnings during the fiscal year on amounts in the Debt Reserve Account and Subordinated Bond Fund, as defined in the Water Ordinance. Commencing in Fiscal Year 1991, the $4,994,000 amount was reduced to $4,138,000 by administrative agreement that remained in effect through Fiscal Year 2003. No such transfer was made in Fiscal Year 1992; however, the transfer was made in each subsequent year through Fiscal Year 2003. For Fiscal Year 2004, the transfer was to have increased to $4,994,000 but no payment was made. For Fiscal

Year 2005, the transferred amount was $4,401,000; for Fiscal Years 2006 through 2008, the transferred amount was $4,994,000. In Fiscal Years 2009 and 2010, the transferred amounts were $4,185,463 and $2,303,986, respectively. In Fiscal Year 2011, the current estimate is $3,004,000, and the Fiscal Year 2012 adopted budget amount is $3,788,000.

The revenues of PGW are segregated from other funds of the City. Payments for debt service on Gas Works Revenue Bonds are made directly by PGW. In previous years, PGW has also made an annual payment of $18,000,000 to the City's General Fund. For Fiscal Year 2005, the City agreed to forgo the $18,000,000 payment, and for Fiscal Years 2006, 2007, 2008, 2009 and 2010, the City budgeted the receipt of the $18,000,000 payment and the grant back of such amount to PGW. The City's Nineteenth Five-Year Plan assumes that the $18,000,000 payment will be made in each of Fiscal Years 2011 through 2015 and that the City will grant back such payment to PGW in each such Fiscal Year. See also "EXPENDITURES OF THE CITY -- Fiscal Year 2011 PGW Payment to City." The City's Twentieth Five-Year Plan includes the PGW annual payment of $18,000,000 to the City's General Fund but discontinues the City's grant back to PGW equal to the annual payment received from PGW for Fiscal Years 2012, 2013, 2014, 2015 and 2016.

Philadelphia Parking Authority

The Philadelphia Parking Authority ("PPA") was established by City ordinance pursuant to the Pennsylvania Parking Authority Law, P.L. 458, No. 208 (June 5, 1947). Various statutes, ordinances, and contracts authorized PPA to plan, design, acquire, hold, construct, improve, maintain and operate, own or lease land and facilities for parking in the City, including such facilities at Philadelphia International Airport (the "Airport" or "PHL"), and to administer the City's on-street parking program through an Agreement of Cooperation ("Agreement of Cooperation") with the City.

PPA owns and operates five parking garages at the Airport, as well as operating a number of surface parking lots at the Airport. The land on which these garages and surface lots are located is leased from the City, acting through the Department of Commerce, Division of Aviation, pursuant to a lease expiring in 2030 (the "Lease Agreement"). The Lease Agreement provides for payment of rent to the City, which is equal to gross receipts less operating expense, debt service on PPA's bonds issued to finance improvements at the Airport and reimbursement to PPA for capital expenditures and prior year operating deficits relating to its Airport operations, if any. The City received transfers of rental payments in Fiscal Years 2006 through 2010 that totaled $30,186,642, $33,184,918, $33,570,037, $31,239,909 and $23,732,623, respectively. The Fiscal Year 2011 current estimate is projected to be $28,008,550, and the Fiscal Year 2012 adopted budget amount is $27,000,000.

One component of the operating expenses is PPA's administrative costs. In 1999, at the request of the Federal Aviation Administration ("FAA"), PPA and the City entered into a letter agreement (the "FAA Letter Agreement") which contained a formula for calculating PPA's administrative costs and capped such administrative costs at 28% of PPA's total administrative costs for all of its cost centers. PPA owns and/or operates parking facilities at a number of non-Airport locations in the City. These parking facilities are revenue centers for purposes of the FAA Letter Agreement. According to PPA's audited financial statements, as filed with the City, PPA has been in compliance with the FAA Letter Agreement since its execution.

Assessment and Collection of Real and Personal Property Taxes

Historically, the Board of the Revision of Taxes (the "BRT") was responsible for both the property assessment and property appeals functions for the City. The BRT consists of a seven-member panel that is appointed by the Judges of the First Judicial District of Pennsylvania. On December 17, 2009, City Council passed legislation that would disband the BRT and replace it with separate offices for assessments and appeals, subject to the approval of City voters. In the May 10, 2010, primary election voters approved the separation of the assessment and appeals functions. On June 16, 2010 a new Chief

Assessment Officer, Rich McKeithen, was appointed by the Mayor and approved by City Council on June 17, 2010 to lead the new Office of Property Assessment.

According to the legislation, the BRT would cease to exist at the end of September 2010 and the changes described above would take effect; however, the Pennsylvania Supreme Court ruled on September 20, 2010 that the City could not abolish the existing appeals board because only the General Assembly of the Commonwealth has the authority to do so. Therefore, the BRT remains in place as the property appeals board; however, the separation of the property assessment function from the property appeals function proceeds as per the original legislation.

Beginning on October 1, 2010, the new Office of Property Assessment was formally created to conduct the annual assessment of all real estate located within the City. The Office of Property Assessment has begun the work to conduct a complete reassessment of the approximately 577,000 parcels in the City. Completion of the reassessment is a major priority for the Mayor's administration and is expected to be finalized in 2012. In the interim, there is a moratorium on all routine property assessments – exceptions to the moratorium include newly constructed properties, improved properties and consolidated or subdivided properties.

According to the existing appeals mechanism, the BRT has the authority to increase or decrease the property valuations contained in the returns of the assessors in order that such valuations conform with law. After all changes in property assessments, and after all assessment appeals, assessments are certified and the results provided to the Department of Revenue.

Real Estate Taxes, if paid by February 28, are discounted by 1%. If the tax is paid during the month of March, the gross amount of tax is due. If the tax is not paid by the last day of March, tax additions of 1.5% per month are added to the tax for each month that the tax remains unpaid through the end of the calendar year. Beginning in January of the succeeding year, the 15% tax additions that accumulated during the last ten months of the preceding years are capitalized and the tax is registered delinquent. Interest is then computed on the new tax base at a rate of 0.5% per month until the Real Estate Tax is fully paid. Commencing in February of the second year, an additional 1% per month penalty is assessed for a maximum of seven months. See the Fiscal Year 2010 Comprehensive Annual Financial Report for assessed and market values of taxable realty in the City and for levies and rates of collections.

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Table 8
City of Philadelphia
Real Property Taxes Levied and Collected
For the Calendar Years 2001 through 2010
as of June 30, 2010
(Amounts In Millions of USD)

		Collected within the Year of the Levy			Total Collections to Date	
Calendar Year of Levy[1]	Taxes Levied for the Year	Amount	Percentage of Levy	Collected in Subsequent Years	Amount[2]	Percentage of Levy
2001	356.6	326.7	91.6%	25.8	352.5	98.9%
2002	368.2	340.4	92.4%	26.0	366.4	99.5%
2003	359.4	326.8	90.9%	26.8	353.6	98.4%
2004	372.5	340.9	91.5%	25.3	366.2	98.3%
2005	373.5	350.3	93.8%	20.8	371.1	99.4%
2006	385.6	339.6	88.1%	21.1	360.7	93.5%
2007	391.7	347.5	88.7%	20.3	367.8	93.9%
2008	390.2	346.4	88.8%	18.9	365.3	93.6%
2009	396.5	315.4[3]	79.6%	29.7	345.1	87.0%
2010	405.8	353.7[3]	87.2%	N/A	353.7	87.2%

[1]Real Real Estate Tax bills are sent out in November and are payable at 1% discount until February 28th, otherwise the face amount is due by March 31 without penalty or interest.

[2] Includes collections through June 30, 2010.

[3] Includes collections through June 30, 2010. It is estimated that approximately 91% of the amount levied for 2010 will be collected within the year of levy.

Table 9
Principal Real Estate TaxPayers
2011 and 2002
(Amounts in Millions of USD)

	2011		2002	
Taxpayer	Assessment*	Percentage of Total Assessments	Assessment*	Percentage of Total Assessments
Franklin Mills Associates	57.6	0.47	48.1	0.49
Phila Liberty Place E LP	54.4	0.44	64.3	0.61
Nine Penn Center Associates	54.1	0.44	52.0	0.53
HUB Properties Trust	43.8	0.36	59.5	0.61
Brandywine Operating Partners	40.6	0.33	-	-
PRU 1901 Market LLC	35.2	0.29	32.3	0.33
Maguire/Thomas	33.9	0.28	32.0	0.33
Commerce Square Partners	33.3	0.27	32.3	0.33
Phila Shipyard Development Corp	30.3	0.25	-	-
Philadelphia Market Street	28.8	0.24	30.4	0.31
Total	412.0	3.37	350.9	3.54
Total Taxable Assessments **	12,225.0		9,953.3	

*Assessment Values rounded to the nearest $100,000 and only include the largest assessed property for each taxpayer -- additional properties owned by the same taxpayer are not included.
** Total Taxable Assessment as of May 5, 2011.
Source: City of Philadelphia, Board of Revision of Taxes.

Table 10
Ten Largest Certified Market and Assessment Values
of Tax-Abated Properties
Certified Values for 2011
(Amounts in Millions of USD)

Location	2011 Certified Market Value	Total Assessment	Total Taxable Assessment	Total Exempt Assessment	Exempt Thru Tax Year
1701 John F Kennedy Blvd.	181.5	58.1	2.9	55.2	2017
1001 N Delaware Ave	150.9	48.3	12.8	35.5	2020
2929L Arch St.	117.0	37.4	0	37.4	2015
1500 Spring Garden St.	54.8	17.5	2.9	14.6	2020
2201 Park Towne Pl.	48.0	15.4	13.5	1.9	2012
3401 Chestnut St.	35.3	11.3	0.7	10.6	2017
1327-39 Chestnut St.	35.0	11.2	10.9	0.3	2016
4000 Monument Rd.	31.8	10.2	6.2	4	2017
1601 N 15th St.	31.5	10.1	0.2	9.9	2017
200 W Washington Sq.	30.6	9.8	0.7	9.1	2014

Source: City of Philadelphia, Board of Revision of Taxes.

EXPENDITURES OF THE CITY

The major City expenditures are for personal services, employee benefits, purchase of services (including payments to SEPTA), and debt service.

Personal Services (Personnel)

As of June 30, 2011, the City employed 26,588 full-time employees with the salaries of 22,113 employees paid from the General Fund. Additional employment is supported by other funds, including the Water Fund and the Aviation Fund.

Additional operating funds for employing personnel are contributed by other governments, primarily for categorical grants, as well as for the conduct of the community development program. These activities are not undertaken if funding is not received.

The following table sets forth the number of filled full-time positions of the City as of the dates indicated.

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Table 11
Filled, Full Time Positions - All Operating Funds
as of June 30 (Actual)

	2006	2007	2008	2009	2010	2011	2012[1]
General Fund							
Police	7,287	7,424	7,367	7,443	7,378	7,219	7,371
Streets	1,858	1,814	1,839	1,724	1,693	1,689	1,785
Fire	2,270	2,399	2,326	2,252	2,187	2,146	2,229
Health	662	664	665	662	662	661	731
Courts	1,936	1,928	1,970	1,889	1,756	1,869	1,977
Prisons	2,225	2,176	2,131	2,294	2,254	2,166	2,310
Human Services	1,703	1,721	1,784	1,743	1,751	1,668	807
All Other	4,878	4,941	5,029	4,905	4,616	4,602	4,961
Total General Fund	22,819	23,067	23,111	22,912	22,297	22,020	22,171
Other Funds	4,616	4,598	4,642	4,570	4,566	4,540	6,276
Total - All Funds	27,435	27,665	27,753	27,482	26,863	26,560	28,447

[1] From the Operating Budget in Brief for Fiscal Year 2012.

Labor Agreements

Four major bargaining units represent City employees for collective bargaining purposes. District Councils 33 and 47 of the American Federation of State, County and Municipal Employees, AFL-CIO represents approximately 15,000 non-uniformed employees. The bargaining units for uniformed employees are the Fraternal Order of Police, Lodge 5 (the "FOP") and the Philadelphia Fire Fighters Association, Local 22, International Association of Fire Fighters AFL-CIO ("IAFF Local 22"), which together represent approximately 9,400 employees. The non-uniformed employees bargain under Act 195 of 1972, which allows for the limited right to strike over collective bargaining impasses. The uniformed employees bargain under Pennsylvania Act 111 of 1968, which provides for final and binding interest arbitration to resolve collective bargaining impasses. All contract expiration dates are June 30 unless otherwise noted.

On July 10, 2008, an arbitration panel awarded a one-year contract to the FOP effective July 1, 2008. The award called for a 2% wage increase effective July 1, 2008, a 2% wage increase effective January 1, 2009 and a 1% increase in longevity pay effective January 1, 2009. In addition, the panel reduced the per member per month health medical payment from the current monthly rate of $1,303 per member to $1,165 per member. The contract expired June 30, 2009.

On December 18, 2009, an arbitration panel awarded a five-year contract to the FOP effective July 1, 2009 which calls for no raise the first year, a 3% wage increase and one percent stress differential increase effective July 1, 2010, a 3% wage increase effective July 1, 2011, and reopeners on wages in Fiscal Year 2013 and 2014. The award also includes higher employee co-pays in the police medical plan, reduced City contributions to the union's healthcare fund in Fiscal Year 2010, self insurance for employee health benefits and a requirement that new employees choose between a 20 percent increase in pension contributions over the amount current employees pay or entering a 401(k) type retirement plan for the first time.

On June 21, 2011, an arbitration award was issued for a smaller unit comprised of uniformed employees of the Sheriff's Office and civilian employees of the Register of Wills. The award deferred wages and improvements for the civilian employees pending the outcome of negotiations with District Council 33. Uniformed employees of the Sheriff's Office received wage increases of 2.5% on July 1, 2010, 2.5% on July 1, 2011, and reopeners in Fiscal Year 2013 and 2014. A new pension plan similar to that for uniformed police was created, but with a lower benefit level. Since these employees were not in the uniformed division of the City's pension plan, the award created a new pension plan for the municipal division of the pension plan which must be approved by City Council in order to be implemented.

On October 17, 2008, an arbitration panel awarded a one-year contract to the IAFF Local 22 effective July 1, 2008. The award called for a 2% wage increase effective July 1, 2008, a 2% wage increase effective January 1, 2009, and a 1% increase in longevity pay effective January 1, 2009. In addition, the panel reduced the per member per month health medical payment from the current monthly rate of $1,444 per member to $1,270 per member. The contract expired on June 30, 2009.

On October 15, 2010, an arbitration panel awarded a four year contract to the IAFF Local 22 effective July 1, 2009 which calls for no raise the first year, a 3% wage increase effective July 1, 2010, a three percent wage increase effective July 1, 2011, and a 3% wage increase effective July 1, 2012. The award also includes a change from purchase of health insurance to self-insurance as of January 1, 2011, higher employee co-pays in the Fire medical plan, the union's healthcare fund will be responsible for the first $5 million in self-insurance costs, and a requirement that new employees choose between a 20% increase in pension contributions over the amount current employees pay or entering a 401(k) type retirement plan for the first time. The City has appealed the economic provisions of the award other than the revisions to the pension plan. The appeal is currently pending in the Philadelphia Court of Common Pleas.

The City reached a one year agreement with District Council 33 and District Council 47, which was effective July 1, 2008. The agreement called for a lump sum bonus of $1,100 per member. The agreement also called for no increase in the current per member per month health benefit payment. The contract expired June 30, 2009. Negotiations are currently underway with District Councils 33 and 47.

The following table presents employee wage increases for the Fiscal Years 2006 through 2012.

Table 12
Employee Wage Increases
Fiscal Years 2006-2012

Fiscal Year	District Council No. 33	District Council No. 47	Fraternal Order of Police	International Association of Fire Fighters
2006	2.0%	2.0%	3.0%	3.0%
2007	3.0%[1]	3.0%[1]	3.0%	3.0%
2008	4.0%[2]	4.0%[2]	4.0%	4.0%
2009	No increase[3]	No increase[3]	4.0%[4]	4.0%[4]
2010	[5]	[5]	0.0%[6]	0.0%[7]
2011	[5]	[5]	3.0%[6]	3.0%[7]
2012	[5]	[5]	3.0%[6]	3.0%[7]

(1) Third year of a four year contract: 3% effective July 1, 2006.
(2) Fourth year of a four year contract: 4% effective July 1, 2007.
(3) Cash bonus of $1,100 paid 15 days after ratification.
(4) One year contract: 2% effective July 1, 2008 and 2% effective January 1, 2009.
(5) Contract expired on June 30, 2009, negotiations are currently underway.
(6) Five year contract: 0% effective July 1, 2009, 3% effective July 1, 2010, 3% effective July 1, 2011, and re-openers on wages in Fiscal Years 2013 and 2014.
(7) Four year contract: 0% effective July 1, 2009, 3% effective July 1, 2010, 3% effective July 1, 2011, 3% effective July 1, 2012. The contract award is currently being appealed by the City.

Employee Benefits

The City provides various pension, life insurance, health, and medical benefits for its employees. General Fund employee benefit expenditures for Fiscal Years 2006 through 2012 are shown in the following table.

Table 13
General Fund Employee Benefit Expenditures
Fiscal Years 2006-2012
(Amounts in Millions of USD)

	Actual 2006	Actual 2007	Actual 2008	Actual 2009	Actual 2010	Current Estimate[2] 2011	Adopted Budget 2012
Pension Contribution[1]	346.5	436.8	430.8	459.0	346.7	492.5	554.3
Health/Medical/Dental	291.8	331.5	421.0	377.0	349.7	345.0	334.3
Social Security	60.8	64.1	69.7	68.8	65.2	70.2	62.1
Other	61.1	57.9	61.5	68.4	69.5	72.2	72.0
Total	760.2	890.3	983.0	973.2	831.4	979.9	1,022.7

[1] The Pension Contribution amount includes debt service on the Pension Obligation Bonds, Series 1999.
[2] From the June 30, 2011 QUARTERLY CITY MANAGER'S REPORT.

Municipal Pension Fund (Related to All Funds)

The Board of Pensions and Retirement (the "Pension Board") is charged under the Philadelphia Home Rule Charter with the creation and maintenance of an actuarially sound retirement system providing benefits for all City employees. The Pension Board, pursuant to the Home Rule Charter, is composed of the Director of Finance, who serves as chairperson, the Managing Director, the City Solicitor, the Personnel Director, the City Controller and four members who are elected by the Civil Service employees of the City of Philadelphia. The elected members serve a four-year term of office.

The Pension Board formally approves all benefit applications, but its major role is that of "trustee," to ensure that the retirement system remains actuarially and financially sound for the benefit of current and future benefit recipients. The Pension Board, with the assistance of its professional consultants, develops the policies and strategies which enable the Pension Board to successfully execute its fiduciary obligations.

Court decisions have interpreted the requirement to maintain a retirement system, described above, to mean that the City must make contributions to the Municipal Pension Fund sufficient to fund:

A. Accrued actuarially determined normal costs; and

B. Amortization of the unfunded actuarial accrued liability ("UAAL").

Prior to July 1, 2009, the amortization of the UAAL was determined in accordance with the provisions of the Pennsylvania Municipal Pension Plan Funding Standard and Recovery Act, 1984 ("Act 205"), as amended from time to time. Any increases or decrease in unfunded liabilities were amortized according to Act 205; however, effective for the July 1, 2009 valuation, which defines the City's contribution obligation for the Fiscal Year ending on June 30, 2010, and subsequent valuations, which define the City's contribution obligation in subsequent fiscal years, and as further described below, the unfunded liability may be amortized over a fixed 30 year period as a level dollar amount pursuant to Act 44.

Based on the City's actuarial report dated March 22, 2011 for the period ending July 1, 2010, the UAAL was $4.936 billion which equals a funding ratio of 47% and a UAAL as a percentage of covered payroll of 347.3%, each based on actuarial assets of $4.381 billion. The market value of the assets in the Municipal Pension Fund was $3.651 billion as of July 1, 2010, and the funding ratio based on such market value was 39%. As of June 30, 2011, the market value of assets in the Municipal Pension Fund was $4.0 billion.

As part of Act 44, which provided for a new method of determining municipal distress levels and alternative funding relief in response to the 2008/2009 market decline, the City adopted the fresh start amortization alternative of 30 years (previously 20 years) and lowered the assumed rate of interest for funding valuation purposes from 8.75% to 8.25%.† Additionally, the legislation allowed the City to defer a portion of its pension payment in the amount of $150 million in Fiscal Year 2010 and $80 million in Fiscal Year 2011 to be paid back (including interest) over a four-year period ending in Fiscal Year 2014. The change in amortization period and the partial deferral were approved by the Pennsylvania General Assembly.

A schedule of funding progress as of June 30, 2010, a comparative schedule of operations of the City's Municipal Pension Fund for Fiscal Years 2001 through 2010, the City's annual pension cost and net pension obligation for Fiscal Years 2008, 2009 and 2010, and the actuarial valuation method for determining the City's contributions (subject to the changes described above), among other items, are contained in the Fiscal Year 2010 Comprehensive Annual Financial Report, attached to this Reoffering Circular as Appendix B.

Non-uniformed employees become vested in the Municipal Pension Plan upon the completion of ten years of service. Upon retirement, non-uniformed employees may receive up to 80% of their average final compensation depending upon their years of credited service. Generally, uniformed employees become vested in the Municipal Pension Plan upon the completion of ten years of service. Upon retirement, uniformed employees may receive up to 100% of their average final compensation depending upon their years of credited service. City employees participate in arrangements set forth under one of two municipal pensions programs know as Plan 67 or Plan 87 (except as described for certain police employees below), depending, primarily, on such employee's date of hire. The retirement age differs for Plan 67 (age 55) and Plan 87 (age 60) for non-uniformed employees and also for Plan 67 (age 45) and Plan 87 (age 50) for uniformed employees.

Police employees hired on or after January 1, 2010 will have the option to participate in a defined benefit plan with a different benefit calculation formula and eligibility and vesting rules and a defined contribution plan with eligibility for City matching contributions, or enter Plan 87 but with an increased employee contribution rate of 6.0% instead of 5.0%.

Other Post-Employment Benefits

The City self-administers a single employer, defined benefit plan and provides health care for five years subsequent to separation for eligible retirees. Certain union represented employees may defer their coverage until a later date but the amount that the City pays for their health care is limited to the amount that the City would have paid at the date of their retirement. The City also provides lifetime insurance coverage for all eligible retirees. Firefighters are entitled to $7,500 coverage and all other employees receive $6,000 in coverage.

The City funds its retiree benefits on a pay-as-you-go basis. To provide health care coverage, the City pays a negotiated monthly premium for retirees covered by union contracts (other than police) and is self insured for nonunion employees and union police employees.

The City's annual other post employment benefit ("OPEB") expense is calculated based on the annual required contribution of the employer ("ARC"), an amount actuarially determined in accordance with the parameters of Governmental Accounting Standards Board Statement No. 45. The ARC represents a level of funding, which if paid on an ongoing basis, is projected to cover normal cost each year and amortize any unfunded actuarial liabilities over a period not to exceed thirty (30) years.

For Fiscal Year 2010, the City's ARC was $93.6 million and it contributed $71.7 million for OPEB expense; its net OPEB obligation for Fiscal Year 2010 was $43.3 million.

† On October 28, 2010, the Pension Board voted to further lower the pension fund's annual earnings assumption from 8.25% to 8.15%.

Further information on the City's annual OPEB expense and net OPEB obligation for Fiscal Years 2008, 2009 and 2010 and the funded status of the OPEB benefits is contained in the Fiscal Year 2010 Comprehensive Annual Financial Report, attached to this Reoffering Circular as Appendix B.

Purchase of Services

The City accounts for a number of expenditures as purchase of services. The following table presents major purchases of services in the General Fund in Fiscal Years 2006 through 2012.

Table 14
Purchase of Service in the General Fund
Fiscal Years 2006-2012
(Amounts in Millions of USD)

			Actual			Current[9] Estimate	Adopted[10] Budget
	2006	2007	2008	2009	2010	2011	2012
Human Services[1]	467.9	495.3	515.3	499.0	465.5	451.4	68.4
Public Health	61.1	65.5	65.1	67.9	64.7	69.3	65.7
Public Property[2]	137.9	156.3	139.5	142.6	136.2	138.9	141.5
Streets[3]	54.8	58.3	58.4	51.0	55.8	51.5	46.4
Sinking Fund - Lease Debt[4]	77.0	84.3	85.1	86.1	79.9	87.5	93.2
Legal Services[5]	33.6	35.4	37.3	37.3	35.9	36.6	37.6
First Judicial District	24.4	24.8	25.6	23.6	23.7	22.2	22.0
Licenses & Inspections[6]	11.5	11.4	11.9	9.6	8.2	4.1	7.1
Supportive Housing [7]	28.6	31.3	33.9	32.3	31.7	30.2	30.2
Prisons	82.8	87.5	93.6	110.7	106.4	108.0	104.0
All Other[8]	86.4	101.5	123.0	114.1	103.4	131.1	142.9
Total	1,065.7	1,151.6	1,188.7	1,174.2	1,111.4	1,130.8	759.0

(1) Includes payments for care of dependent and delinquent children.
(2) Includes payments for SEPTA, space rentals, utilities, and telecommunications. In Fiscal Year 2008, the telecommunications division was transferred to the Managing Director – Division of Technology ("DOT"). Services purchased for DOT appear in the table under the category "All Other."
(3) Includes solid waste disposal costs.
(4) Includes, among other things, Justice Center, Neighborhood Transformation Initiative and Stadium lease debt.
(5) Includes payments to the Defender Association to provide legal representation for indigents.
(6) Includes payments for demolition in Fiscal Year 2006 through Fiscal Year 2011.
(7) Includes homeless shelter and boarding home payments.
(8) Includes payment for Convention Center Subsidy and Vehicle leasing.
(9) From the June 30, 2011 QUARTERLY CITY MANAGER'S REPORT.
(10) The reduction in Revenue from Other Governments (State and Federal funding) in Fiscal Year 2012 is largely the result of the transfer of the majority of the Department of Human Services revenue and obligations to the Grants Revenue Fund.

Figures may not add up due to rounding.

City Payments to School District

In each fiscal year since Fiscal Year 1996, the City has made an annual grant of $15 million to the School District. Pursuant to negotiations with the Commonwealth to address the School District's current and future educational and fiscal situation, the Mayor and City Council agreed to provide the School District with an additional annual $20 million beginning in Fiscal Year 2002. In Fiscal Year 2008, the Mayor and City Council agreed to provide an additional $2 million, bringing the total contribution to $37 million. In Fiscal Year 2010, the City made a $38.5 million contribution. In Fiscal Year 2011, the

City made a $38.6 million contribution. The Fiscal Year 2012 adopted budget includes an additional contribution of $10 million, bringing the total contribution to $48.6 million.

Annual Payments to PGW

In order to assist PGW, (i) the City agreed to forgo the $18 million annual payment in Fiscal Year 2004, (ii) for Fiscal Years 2005, 2006, 2007, 2008, 2009 and 2010 the City made a grant to PGW equal to the annual payment received from PGW in such fiscal years, and (iii) the City's Nineteenth Five-Year Plan contemplates that in each of the Fiscal Years 2011 through 2015, the City will make a grant to PGW equal to the annual payment received from PGW in such Fiscal Years. See also "Fiscal Year 2011 PGW Payment to City." The City's Twentieth Five-Year Plan includes the PGW annual payment of $18,000,000 to the City's General Fund but discontinues the City's grant back to PGW equal to the annual payment received from PGW for Fiscal Years 2012, 2013, 2014, 2015 and 2016.

Fiscal Year 2011 PGW Payment to City

In Fiscal Year 2011, PGW remitted to the City the required annual payment of $ 18,000,000.

City Payments to SEPTA

The City made operating subsidy payments to SEPTA in Fiscal Years 2008, 2009, 2010 and 2011 of $61.3 million, $62.9 million, $64.2, and $65.9 million, respectively. The Fiscal Year 2012 budget projects operating subsidy payments to SEPTA of $66.3 million. The proposed Twentieth Five-Year Plan provides that the City's contribution to SEPTA will increase to $74.8 million by Fiscal Year 2016.

CITY CASH MANAGEMENT AND INVESTMENT POLICIES

Consolidated Cash

The Act of the General Assembly of the Commonwealth of June 25, 1919, P.L. 581, Art. XVII, § 6, gives the City the authority to make temporary inter-fund loans between operating and capital funds.

The Consolidated Cash Account provides for the physical commingling of the cash of all City Funds, except those which, for legal or contractual reasons, cannot be commingled (e.g., the Municipal Pension Fund, sinking funds, sinking fund reserves, funds of PGW, the Water Fund, the Aviation Fund and certain other restricted purpose funds). A separate accounting is maintained for the equity of each member fund in the Consolidated Cash Account. The City manages the Consolidated Cash Account pursuant to the following procedures:

To the extent that any member fund temporarily experiences the equivalent of a cash deficiency, the required advance is made from the Consolidated Cash Account, in the amount necessary to result in a zero balance in the cash equivalent account of the borrowing fund. All subsequent net receipts of a borrowing fund are applied in repayment of the advance.

All advances are made within the budgetary constraints of the borrowing funds. Within the General Fund, this system of inter-fund advances has historically resulted in the temporary use of tax revenues or other operating revenues for capital purposes and the temporary use of capital funds for operating purposes.

Procedures governing the City's cash management operations require the General Fund-related operating fund to borrow initially from the General Fund-related capital fund, and only to the extent there is a deficiency in such fund may the General Fund-related operating fund borrow money from any other funds in the Consolidated Cash Account.

Investment Practices

Cash balances in each of the City's funds are managed to maintain daily liquidity to pay expenses, and make investments that preserve principal while striving to obtain the maximum rate of return. In accordance with the Home Rule Charter, the City Treasurer is the City Official responsible for managing cash collected into the City Treasury. The available cash balances in excess of daily expenses are placed in demand accounts, swept into money market mutual funds, or used to make investments directed by professional money managers. These investments are held in segregated trust accounts at a separate financial institution. Cash balances related to Revenue Bonds for Water and Sewer and the Airport are directly deposited and held separately in trust. A Fiscal Agent manages these cash balances per the related bond documents and the investment practice is guided by administrative direction of the City Treasurer per the Investment Committee and the Investment Policy. In addition, certain operating cash deposits (such as Community Behavioral Health, Special Gas/County Liquid and "911" surcharge) of the City are restricted by purpose and required to be segregated into accounts in compliance with Federal or State reporting.

Investment guidelines for the City are embodied in legislation approved by City Council appearing in the Philadelphia City Code, Chapter 19-202. In furtherance of the City, State, and Federal legislative guidelines, the Director of Finance adopted a written Investment Policy (the "Policy") that first went into effect in August 1994 and most recently was revised in January 2011. The Policy supplements other legal requirements and establishes a comprehensive investment policy for the overall administration and effective management of all monetary funds (except the Municipal Pension Fund and PGW Retirement Reserve Fund).

The Policy delineates the authorized investments as approved by City Council Ordinance and the funds to which the Policy applies. The authorized investments include U.S. government securities, U.S. treasuries, U.S. agencies, repurchase agreements, commercial paper, corporate bonds, money market mutual funds, obligations of the Commonwealth, collateralized banker's acceptances and certificates of deposit, and collateralized mortgage obligations and pass-through securities directly issued by a federal agency of the United States, all of investment grade rating or better.

U.S. government treasury and agency securities carry no limitation as to the percent of the total portfolio. Repurchase agreements, money market mutual funds, commercial paper, and corporate bonds are limited to investment of no more than 25% of the total portfolio. Obligations of the Commonwealth and collateralized banker's acceptances and certificates of deposit are limited to no more than 15% of the total portfolio. Collateralized mortgage obligations and pass-through securities directly issued by a federal agency of the United States are limited to no more than 5% of the total portfolio.

U.S. government treasury and agency securities carry no limitation as to the percent of the total portfolio per issuer. Repurchase agreements and money market mutual funds are limited to no more than 10% of the total portfolio per issuer. Commercial paper, corporate bonds, obligations of the Commonwealth, collateralized banker's acceptances and certificates of deposit, and collateralized mortgage obligations and pass-through securities directly issued by a federal agency of the United States are limited to no more than 3% of the total portfolio per issuer.

The Policy also restricts investments to those having a maximum maturity of two years. Daily liquidity is maintained through the use of SEC-registered money market mutual funds with the balance of funds invested by the City or money managers in accordance with the Policy.

The Policy provides for an ad hoc Investment Committee consisting of the Director of Finance and the City Treasurer with ex-officio membership of a representative of each of the principal operating and capital funds, i.e., Water Fund, Aviation Fund, PGW and PMA. The Investment Committee meets quarterly with each of the investment managers to review each manager's performance to date and to plan for the next quarter. Investment managers are given any changes in investment instructions at these meetings. The Investment Committee approves all modifications to the Policy.

The Policy expressly forbids the use of any derivative investment product as well as investments in any security whose yield or market value does not follow the normal swings in interest rates. Examples of these types of securities include, but are not limited to: structured notes, floating rate or inverse floating rate instruments, securities that could result in zero interest accrual if held to maturity, and mortgage derived interest and principal only strips. The City currently makes no investments in derivatives.

General Fund Cash Flow

Because the receipts of General Fund revenues lag behind expenditures during most of each fiscal year, the City issues notes in anticipation of General Fund revenues and makes payments from the Consolidated Cash Account to finance its on-going operations. The City has issued notes in anticipation of the receipt of income by the General Fund in each fiscal year since Fiscal Year 1972 (with a single exception). Each issue was repaid when due, prior to the end of the fiscal year.

The timing imbalance referred to above results from a number of factors, principally the following: (1) real property, business privilege tax and certain other taxes are not due until the latter part of the fiscal year; and (2) the City experiences lags in reimbursement from other governmental entities for expenditures initially made by the City in connection with programs funded by other governments.

The City issued $285 million of Tax and Revenue Anticipation Notes in July 2010. These notes were repaid on June 30, 2011. The Twentieth Five-Year Plan projects Tax and Revenue Anticipation Notes in the amount of $250 million to be issued in Fiscal Year 2012.

DEBT OF THE CITY

The Constitution of the Commonwealth provides that the authorized debt of the City "may be increased in such amount that the total debt of said City shall not exceed 13.5% of the average of the annual assessed valuations of the taxable realty therein, during the ten years immediately preceding the year in which such increase is made, but said City shall not increase its indebtedness to an amount exceeding 3.0% upon such average assessed valuation of realty, without the consent of the electors thereof at a public election held in such manner as shall be provided by law." It has been judicially determined that bond authorizations once approved by the voters will not be reduced as a result of a subsequent decline in the average assessed value of City property.

The Constitution of the Commonwealth further provides that there shall be excluded from the computation of debt for purposes of the Constitutional debt limit, debt (herein called "self-supporting debt") incurred for revenue-producing capital improvements that may reasonably be expected to yield revenue in excess of operating expenses sufficient to pay interest and sinking fund charges thereon. In the case of general obligation debt, the amount of such self-supporting debt to be so excluded must be determined by the Court of Common Pleas of Philadelphia County upon petition by the City. Self-supporting debt is general obligation debt of the City, with the only distinction from tax-supported debt being that it is not used in the calculation of the Constitutional debt limit. Self-supporting debt has no lien on any particular revenues.

As of July 1, 2011, the Constitutional debt limitation for tax-supported general obligation debt was approximately $1,571,939,000. This amount is based upon a formula of 13.5% of the assessed value of taxable real estate within the City on a 10 year rolling average. The total amount of authorized debt applicable to the debt limit was $1,434,080,000, leaving a legal debt margin of $137,859,000. The calculation of the legal debt margin is as follows:

Table 15
General Obligation Bonded Debt
August 1, 2011
(in thousands)

Authorized, issued and outstanding	$1,343,505
Authorized and unissued	459,304
Total	1,802,809
Less: Self-supporting debt	(355,074)
Less: Serial bonds maturing within a year	(13,655)
Total amount of authorized debt applicable to debt limit	1,434,080
Legal debt limit	1,571,939
Legal debt margin	$ 137,859

The City is also authorized to issue revenue bonds pursuant to The First Class City Revenue Bond Act of 1972. Currently, the City issues revenue bonds to support the Division of Aviation, the Water Department and PGW. Bonds so issued are excluded for purposes of the calculation of the Constitutional debt limit.

Short-Term Debt

The City has issued notes in anticipation of the receipt of income by the General Fund in each fiscal year since Fiscal Year 1972 (with a single exception). Each note issue was repaid when due prior to the end of the fiscal year of issuance. The City issued $285 million of Tax and Revenue Anticipation Notes on July 28, 2010. These notes were repaid on June 30, 2011. The City expects to issue $200 million of notes in the first week of October 2011 which will be payable in June 2012.

Long-Term Debt

The table below presents a synopsis of the bonded debt of the City and its component units as of the date indicated. In addition, for tables setting forth a ten-year historical summary of tax-supported debt of the City and School District and the debt service requirements to maturity of the City's outstanding bonded indebtedness as of June 30, 2010, see the Fiscal Year 2010 Comprehensive Annual Financial Report.

Of the total balance of City tax-supported general obligation bonds issued and outstanding on June 30, 2011, approximately 18% is scheduled to mature within five years and approximately 39% is scheduled to mature within ten years.

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Table 16
Bonded Debt -- City of Philadelphia and Component Units
as of July 31, 2011
(Amounts in thousands)
(Unaudited)

Tax-supported bonds		
General Fund		$ 1,368,461
PA Intergovernmental Cooperation Authority		494,710
Subtotal: Tax-supported bonds		1,863,171
Other Long-Term Debt-Related Obligations		
Philadelphia Municipal Authority		
Municipal Services Building	$ 25,261	
Criminal Justice Center	135,850	
Juvenile Justice Center	97,850	258,961
Philadelphia Authority for Industrial Development		
Pension Bonds	1,412,418	
Stadiums	331,480	
Library	8,655	
Cultural and Commercial Corridor	122,860	
One Parkway	45,115	1,920,528
Parking Authority		15,365
Redevelopment Authority		245,880
Subtotal		4,303,906
Revenue bonds		
Water Fund		1,808,566
Aviation Fund		1,440,930
Gas Works		1,208,825
Subtotal: Revenue bonds		4,458,321
Grand total		$ 8,762,227

Source: Office of Director of Finance

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Table 17
City of Philadelphia
Annual Debt Service on City-Related Long-Term Debt
July 31, 2011
(Amounts in millions of USD)

	Tax Supported Bonds[1]			Other Long-Term Obligations[2]			Total		
Fiscal Year	Principal	Interest	Total	Principal	Interest	Total	Principal	Interest	Total
2012	$41.76	$67.44	$109.20	$75.71	$132.58	$208.29	$117.47	$200.02	$317.49
2013	48.54	68.44	116.98	82.53	139.30	221.83	131.06	207.74	338.80
2014	50.74	66.22	116.95	82.74	140.33	223.06	133.47	206.54	340.02
2015	53.45	63.55	117.00	84.00	143.93	227.93	137.45	207.48	344.93
2016	52.01	60.86	112.87	83.92	140.23	224.15	135.93	201.09	337.02
2017	54.57	58.20	112.77	84.11	139.85	223.96	138.67	198.05	336.73
2018	57.21	55.35	112.56	89.56	139.03	228.59	146.77	194.38	341.15
2019	60.12	52.34	112.45	74.57	138.25	212.82	134.68	190.59	325.27
2020	62.56	49.50	112.05	64.12	138.01	202.13	126.68	187.50	314.18
2021	54.36	46.37	100.72	64.28	137.88	202.16	118.64	184.25	302.89
2022	57.89	43.58	101.47	64.62	137.58	202.20	122.50	181.16	303.66
2023	60.70	40.52	101.22	65.12	137.11	202.23	125.82	177.62	303.44
2024	63.80	37.24	101.04	65.76	136.51	202.26	129.56	173.75	303.30
2025	67.00	33.79	100.79	66.73	135.57	202.30	133.73	169.37	303.10
2026	62.93	30.38	93.31	80.13	121.38	201.51	143.06	151.76	294.82
2027	66.02	27.00	93.02	158.97	43.77	202.74	224.99	70.77	295.76
2028	69.82	23.61	93.42	164.13	34.54	198.67	233.95	58.15	292.10
2029	42.84	20.90	63.74	277.50	17.61	295.11	320.34	38.51	358.85
2030	58.20	18.39	76.58	53.73	7.81	61.53	111.92	26.20	138.12
2031	61.32	15.37	76.68	56.27	5.32	61.58	117.58	20.69	138.27
2032	64.58	12.18	76.76	13.63	3.21	16.84	78.21	15.39	93.60
2033	28.16	9.70	37.86	4.90	2.71	7.61	33.06	12.42	45.47
2034	14.70	8.38	23.07	5.22	2.39	7.61	19.91	10.77	30.68
2035	15.71	7.36	23.07	5.56	2.06	7.61	21.27	9.42	30.68
2036	16.80	6.28	23.07	5.92	1.69	7.61	22.71	7.97	30.68
2037	17.96	5.12	23.07	6.30	1.31	7.61	24.26	6.43	30.68
2038	19.22	3.85	23.07	6.71	0.90	7.61	25.93	4.75	30.68
2039	20.59	2.48	23.07	7.15	0.46	7.61	27.74	2.95	30.68
2040	8.52	1.50	10.02	0.00	0.00	0.00	8.52	1.50	10.02
2041	9.10	0.93	10.02	0.00	0.00	0.00	9.10	0.93	10.02
2042	9.71	0.32	10.02	0.00	0.00	0.00	9.71	0.32	10.02
TOTAL	$1,370.80	$937.14	$2,307.94	$1,893.85	$2,181.32	$4,075.17	$3,264.65	$3,118.46	$6,383.11

[1] Includes General Obligation bonds.
[2] Includes PAID, PMA, Parking Authority, and Redevelopment Authority bonds.

Other Long-Term Debt Related Obligations

The City has entered into other contracts and leases to support the issuance of debt by public authorities related to the City pursuant to which the City is required to budget and appropriate tax or other general revenues to satisfy such obligations, as shown on Table 16. The City budgets all other long-term debt-related obligations as a single budget item with the exception of the Parking Authority which has a budget of $1,336,700 for Fiscal Year 2012.

The Hospitals Authority and the State Public School Building Authority have issued bonds on behalf of the Community College of Philadelphia ("CCP"). Under the Community College Act, each community college must have a local sponsor, which for CCP is the City. As the local sponsor, the City is obligated to pay up to 50% of the annual capital expenses of CCP, which includes debt service. The remaining 50% is paid by the Commonwealth. Additionally, the City annually appropriates funds for a portion of CCP's operating costs (less tuition and less the Commonwealth's payment). The total payment to CCP in Fiscal Year 2008 was $24,467,924. The amount paid in Fiscal Year 2009 and Fiscal Year 2010 was $26,467,924 each year. The amount paid in Fiscal Year 2011 was $25,409,207. The budgeted amount for Fiscal Year 2012 is $25,409,207. This amount represents the portion of operating costs (less student tuition and the Commonwealth payment) and up to half of the annual capital expenses for the year.

Swap Information

The City has entered into various swaps related to its outstanding General Fund supported bonds as detailed in the following table:

Table 18
Summary of Swap Information
for General Fund Supported Bonds
as of July 31, 2011

City Entity	City GO	City Lease - PAID	City Lease - PAID	City Lease - PAID
Related Bond Series	2009B[(1)]	2001 (Stadium)	2007B (Stadium)	2007B (Stadium)
Initial Notional Amount	$313,505,000	$298,485,000	$217,275,000	$72,400,000
Current Notional Amount	$100,000,000	$193,520,000	$217,275,000	$72,400,000
Termination Date	8/1/2031	10/1/2030	10/1/2030	10/1/2030
Product	Fixed Payer Swap	Basis Swap[(2)]	Fixed Payer Swap	Fixed Payer Swap
Rate Paid by Dealer	SIFMA	67% 1-month LIBOR + 0.20%, plus fixed annuity	SIFMA	SIFMA
Rate Paid by City Entity	3.829%	SIFMA	3.9713%	3.9713%
Dealer	Royal Bank of Canada	Merrill Lynch Capital Services, Inc.	JP Morgan Chase Bank, N.A.	Merrill Lynch Capital Services, Inc.
Fair Value[(3)]	($12,544,645)	($6,977,579)	($31,305,300)	($10,431,570)

(1) On July 28, 2009, the City terminated a portion of the swap in the amount of $213,505,000 in conjunction with the refunding of its Series 2007B bonds with the Series 2009A fixed rate bonds and the Series 2009B variable rate bonds. The City made a termination payment of $15,450,000.

(2) PAID receives annual fixed payments of $1,216,500 from July 1, 2004 through July 1, 2013. As the result of an amendment on July 14, 2006, $104,965,000 of the total notional was restructured as a constant maturity swap (the rate received by PAID on that portion was converted from a percentage of 1-month LIBOR to a percentage of the 5-year LIBOR swap rate from October 1, 2006 to October 1, 2020). The constant maturity swap was terminated in December 2009. The City received a termination payment of $3,049,000.

(3) Fair values are as of July 31, 2011, and are shown from the City's perspective and include accrued interest.

While the City is party to several interest rate swap agreements, for which there is General Fund exposure and on which the swaps currently have a negative mark against the City, the City has no obligation to post collateral on these swaps while the City's underlying ratings are investment grade.

For more information related to certain swaps entered into in connection with revenue bonds issued for PGW, Water and the Airport, see the Fiscal Year 2010 Comprehensive Annual Financial Report. In addition, PICA has entered into swaps which are detailed in the Fiscal Year 2010 Comprehensive Annual Financial Report.

Letter of Credit and Liquidity Agreements

The City has entered into various letter of credit and standby agreements related to its General Fund supported bonds:

Table 19
Summary of Letter of Credit and Standby Agreements for General Fund Supported Bonds as of June 1, 2011

Variable Rate Bond Series	Amount Outstanding	Provider	Expiration Date
General Obligation Bonds, Series 2009B	$ 100,000,000	RBC	08/04/2014
PAID Multi-Modal Lease Revenue Refunding Bonds, Series 2007B	289,675,000	JP Morgan/ Bank of America/ PNC Bank	05/24/2013

On August 4, 2011, the City replaced the letter of credit for the General Obligation, Bonds Series 2009B.

Recent and Upcoming Financings

The City, along with PGW, anticipates remarketing Eighth Series B-E bonds in the amount of $255 million and also do fixed rate refunding for $75 million in Fiscal Year 2012.

The City, together with the Water Department, anticipates issuing revenue bonds in the amount of $135 million and also refunding bonds in approximate amount of $36 million in Fiscal Year 2012.

The City anticipates issuing tax and revenue anticipation notes in the amount of $250 million in Fiscal Year 2012.

The following is a list of financings that the City has entered into since the close of Fiscal Year 2010:

In April 2011, the City issued $252,720,000 General Obligation Bonds, Series 2011, $139,059,234 for capital projects and $119,733,727 for refunding for savings.

The City has entered into a $28,000,000 lease agreement with the PMA for the purpose of purchasing certain city vehicles. The lease payments are subject to annual appropriation by the City. This transaction closed in March 2011.

The City, in conjunction with the Philadelphia International Airport, issued $625 million of Airport Revenue Bonds and Airport Revenue Refunding Bonds. This transaction closed on November 15, 2010.

The City, along with PGW, issued $150 million of Ninth Series Gas Works Revenue Bonds. This transaction closed August 26, 2010.

The City, together with the Water Department, issued $185 million of new money water and wastewater bonds for capital projects. This transaction closed August 5, 2010.

In July 2010, the City issued the Tax and Revenue Anticipation Notes, Series A of 2010-2011 in the principal amount of $285 million.

The City is continually monitoring refunding opportunities for its outstanding debt and may undertake certain refundings depending on market conditions.

CITY CAPITAL IMPROVEMENT PROGRAM

The Capital Improvement Program for Fiscal Years 2012-2017 contemplates a total budget of $8,990,983,000 of which $1,972,365,000 is to be provided from Federal, Commonwealth, and other sources and the remainder through City funding. The following table shows the amounts budgeted each year from various sources of funds for capital projects. City Council adopted the Capital Improvement Program for Fiscal Years 2012-2017 on June 23, 2011.

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Table 20
Fiscal Years 2012-2017
Capital Improvement Program
(Amounts in Thousands of USD)

City Funds – Tax Supported	2012	2013	2014	2015	2016	2017	2012-2017
Carried-forward Loans	$240,051	$0	$0	$0	$0	$0	$240,051
Operating Revenue	33,509	9,529	8,029	7,029	6,029	3,729	67,854
New Loans	107,012	106,050	86,985	81,625	84,079	80,534	546,285
Pre-financed Loans	3,268	1,000	1,000	1,000	1,000	1,000	8,268
PICA Pre-financed Loans	26,492	0	0	0	0	0	26,492
Tax-supported Subtotal	410,332	116,579	96,014	89,654	91,108	85,263	888,950
City Funds – Self-Sustaining							
Carried-forward Loans	1,094,637	0	0	0	0	0	1,094,637
Operating	179,625	37,322	43,689	44,062	46,444	47,000	398,142
New Loans	683,803	791,680	668,941	866,664	972,741	635,060	4,618,889
Self-Sustaining Subtotal	1,958,065	829,002	712,630	910,726	1,019,185	682,060	6,111,668
Revolving Funds	18,000	0	0	0	0	0	18,000
Other Than City Funds							
Carried-Forward Other Government	17,171	0	0	0	0	0	17,171
Other Governments Off Budget	461	695	869	1,114	1,303	1,421	5,863
Carried-Forward State	67,944	0	0	0	0	0	67,944
State Off Budget	61,495	99,336	123,622	155,243	164,204	165,191	769,091
State	23,707	7,552	6,232	6,507	6,532	6,507	57,037
Carried-Forward Private	74,446	0	0	0	0	0	74,446
Private	17,020	25,120	25,020	25,020	25,020	25,020	142,220
Carried-Forward Federal	298,025	0	0	0	0	0	298,025
Federal Off Budget	25,548	30,258	30,579	7,324	7,324	9,154	110,187
Federal	132,460	86,311	57,340	48,690	50,490	55,090	430,381
Other Than City Funds Subtotal	718,277	249,272	243,662	243,898	254,873	262,383	1,972,365
TOTAL	$3,104,674	$1,194,853	$1,052,306	$1,244,278	$1,365,166	$1,029,706	$8,990,983

LITIGATION

Generally, judgments and settlements on claims against the City are payable from the General Fund, except for claims against the Water Department, the Division of Aviation, and the Gas Works. Claims against the Water Department are paid first from the Water Fund and only secondarily from the

General Fund. Claims against the Division of Aviation, to the extent not covered by insurance, are paid first from the Aviation Fund and only secondarily from the General Fund. Claims against the Gas Works, to the extent not covered by insurance, are paid first from Gas Works revenues and only secondarily from the General Fund.

The Act of October 5, 1980, P.L. 693, No. 142, known as the "Political Subdivision Tort Claims Act," (the "Tort Claims Act") establishes a $500,000 aggregate limitation on damages for injury to a person or property arising from the same cause of action or transaction or occurrence or series of causes of action, transactions or occurrences with respect to governmental units in the Commonwealth such as the City. The constitutionality of that aggregate limitation has been repeatedly upheld by the Pennsylvania Supreme Court. In February 1987, an appeal of a decision upholding such constitutionality to the United States Supreme Court was dismissed for want of jurisdiction. However, under Pennsylvania Rule of Civil Procedure 238, delay damages in State Court cases are not subject to the $500,000 limitation. Moreover, the limit on damages is inapplicable to any suit against the City which does not arise under state tort law such as claims made against the City under Federal civil rights laws.

The aggregate loss resulting from general and special litigation claims was $30.2 million for Fiscal Year 2001, $30.0 million for Fiscal Year 2002, $24.1 million for Fiscal Year 2003, $24.5 million for Fiscal Year 2004, $27.5 million for Fiscal Year 2005, $23.0 million for Fiscal Year 2006, $26.6 million for Fiscal Year 2007, $29.8 million for Fiscal Year 2008, $34.5 million for Fiscal Year 2009, $32.7 million for Fiscal Year 2010, and $33.7 million for Fiscal Year 2011. Estimates of settlements and judgments from the General Fund are $33.12 million for each of the Fiscal Years 2012 through 2016, respectively (based on the Twentieth Five-Year Plan). In budgeting for settlements and judgments in the annual Operating Budget and projecting settlements and judgments for each Five-Year Plan, the City bases its estimates on past experience and on an analysis of estimated potential liabilities and the timing of outcomes, to the extent a proceeding is sufficiently advanced to permit a projection of the timing of a result. General and special litigation claims are budgeted separately from back-pay awards and similar settlements relating to labor disputes. Usually, some of the costs arising from labor litigation are reported as part of current payroll expenses. For Fiscal Year 2011, payments for claims arising from labor settlements in the General Fund were $1.31 million of which $1.3 million were paid from the Indemnities account, and $6,000 from the Operating budgets of the affected departments. For Fiscal Year 2010, payments for claims arising from labor settlements in the General Fund were $1.4 million of which $1.38 million was paid from the Indemnities account, and $13,000 from the operating budgets of the affected departments. Actual claims paid out from the General Fund for settlements and judgments averaged $31.5 million per year over the five years from Fiscal Year 2007 through Fiscal Year 2011.

In addition to routine litigation incidental to performance of the City's governmental functions and litigation arising in the ordinary course relating to contract and tort claims and alleged violations of law, certain special litigation matters are currently being litigated and/or appealed and adverse final outcomes of such litigation could have a substantial or long-term adverse effect on the City's General Fund. These proceedings involve: environmental-related actions and proceedings in which it has been or may be alleged that the City is liable for damages, including but not limited to property damage and bodily injury, or that the City should pay fines or penalties or the costs of response or remediation, because of the alleged generation, transport, or disposal of toxic or otherwise hazardous substances by the City, or the alleged disposal of such substances on or to City-owned property; a class action suit alleging that the City failed to properly oversee management of funds in the deferred compensation plan of City employees; civil rights claims; and a pay dispute with former and current paramedics. The ultimate outcome and fiscal impact, if any, on the City's General Fund of the claims and proceedings described in this paragraph are not currently predictable.

Various claims in addition to the lawsuits described in the preceding paragraph have been asserted against the Water Department and in some cases lawsuits have been instituted. Many of these Water Department claims have been reduced to judgment or otherwise settled in a manner requiring payment by the Water Department. The aggregate loss for Fiscal Year 2009 which resulted from these claims and lawsuits was $5.0 million, and $4.9 million in Fiscal Year 2010. The aggregate loss for Fiscal Year 2011 was $5.4 million. The Water Fund's budget for Fiscal Year 2012 contains an appropriation for Water Department claims in the amount of $6.5 million, although the current estimate, based on the prior three fiscal years' expenditures, is for only $5.1 million in Fiscal Year 2012. The Water Fund is the first source of payment for any of the claims against the Water Department.

In addition, various claims have been asserted against the Division of Aviation and in some cases lawsuits have been instituted. Many of these Division of Aviation claims have been reduced to judgment or otherwise settled in a manner requiring payment by the Division of Aviation. The aggregate loss for Fiscal Year 2009 which resulted from these claims and lawsuits was $430,000 and $881,600 for Fiscal Year 2010. The aggregate loss for Fiscal Year 2011 was $1,685,000. The Indemnities budget for Aviation Fund claims for Fiscal Year 2012 contains an appropriation in the amount of $2.5 million, although the current estimate, based on the prior three fiscal years' expenditures, is only $889,000 in Fiscal Year 2012. The Division of Aviation is the first source of payment for any of the claims against the Division of Aviation.

ELECTED AND APPOINTED OFFICIALS

The Mayor is elected for a term of four years and is eligible to succeed himself for one term. Each of the seventeen members of the City Council is also elected for a four-year term which runs concurrently with that of the Mayor. There is no limitation on the number of terms that may be served by members of the City Council. Of the members of the City Council, ten are elected from districts and seven are elected at-large, with a minimum of two of the seven representing a party or parties other than the majority party. The District Attorney and the City Controller are elected at the mid-point of the terms of the Mayor and City Council.

The City Controller's responsibilities derive from the Home Rule Charter, various City ordinances and state and federal statutes, and contractual arrangements with auditees. The City Controller must follow Generally Accepted Government Auditing Standards ("GAGAS") established by the federal Government Accountability Office (formerly known as the General Accounting Office), and GAAS, Generally Accepted Auditing Standards promulgated by the American Institute of Certified Public Accountants. As of June 30, 2011, the Office of the City Controller had 113 employees, including 66 auditors, 24 of whom were certified public accountants.

The City Controller post-audits and reports on the City's and the School District's comprehensive Annual Financial Reports, federal assistance received by the City and the performance of City departments. The City Controller also conducts a pre-audit program of expenditure documents required to be submitted for approval, such as invoices, payment vouchers, purchase orders and contracts. Documents are selected for audit by category and statistical basis. The Pre-Audit Division verifies that expenditures are authorized and accurate in accordance with the Home Rule Charter and other pertinent legal and contractual requirements before any moneys are paid by the City Treasurer. The Pre-Audit Technical Unit, consisting of auditing and engineering staff, inspects and audits capital project design, construction and related expenditures. Other responsibilities of the City Controller include investigation of allegations of fraud, preparation of economic reports, certification of the City's debt capacity and the capital nature and useful life of the capital projects, and opining to PICA on the reasonableness of the assumptions and estimates in the City's five-year financial plans.

The principal officers of the City's government appointed by the Mayor are the Managing Director of the City (the "Managing Director"), the Director of Finance of the City (the "Director of Finance"), the City Solicitor (the "City Solicitor"), the Deputy Mayor for Planning and Economic Development and Director of Commerce (the "Director of Commerce") and the City Representative (the "City Representative"). These officials, together with the Mayor and the other members of the Mayor's cabinet, constitute the major policy-making group in the City's government.

The Managing Director is responsible for supervising the operating departments and agencies of the City that render the City's various municipal services. The Director of Commerce is charged with the responsibility of promoting and developing commerce and industry. The City Representative is the Ceremonial Representative of the City and especially of the Mayor. The City Representative is charged with the responsibility of giving wide publicity to any items of interest reflecting the activities of the City, its inhabitants and for the marketing and promotion of the image of the City.

The City Solicitor is head of the Law Department and acts as legal advisor to the Mayor, the City Council, and all of the agencies of the City government. The City Solicitor is also responsible for all of the City's contracts and bonds, for assisting City Council, the Mayor, and City agencies in the preparation of ordinances for introduction in City Council, and for the conduct of litigation involving the City.

The Director of Finance is the chief financial and budget officer of the City and is selected from three names submitted to the Mayor by a Finance Panel. The Director of Finance is responsible for the financial functions of the City including development of the annual operating budget, the capital budget, and capital program; the City's program for temporary and long-term borrowing; supervision of the operating budget's execution; the collection of revenues through the Department of Revenue; and the oversight of pension administration as Chairperson of the Board of Pensions and Retirement. The Director of Finance is also responsible for the appointment and supervision of the City Treasurer, whose office manages the City's debt program and serves as the disbursing agent for the distribution of checks and electronic payments from the City Treasury and the management of cash resources.

The following are brief biographies of Mayor Nutter, his chief of staff, his cabinet, as defined in the City Charter, the City Controller and the City Treasurer:

Michael A. Nutter, Mayor, was sworn in as the City's 98th Mayor on January 7, 2008. He won the Democratic nomination in a five-way primary election. Elected to Philadelphia City Council in 1992, the Mayor represented the City's Fourth Councilmatic District for nearly fifteen years. During his time in City Council, he engineered groundbreaking ethics reform legislation, led successful efforts to pass a citywide smoking ban, worked to lower taxes for Philadelphians and to reform the City's tax structure, and labored to increase the number of Philadelphia police officers patrolling the streets and to create a Police Advisory Board to provide a forum for discussion between citizens and the Police Department. Mayor Nutter received his B.A. from the Wharton School of Business at the University of Pennsylvania in 1979.

Alan L. Butkovitz is serving his second term as the City's elected City Controller, an office independent of the Mayor. Prior to his election as City Controller, Mr. Butkovitz served 15 years in the Pennsylvania House of Representatives, representing the 174th Legislative District in Northeast Philadelphia where he served on the Veterans Affairs and Urban Affairs Committees as well as committees on Aging and Older Adults, Children and Youth and Insurance. Mr. Butkovitz was widely praised for leading the bi-partisan investigation into violence in Philadelphia public schools. He authored legislation creating the Office of the Safe Schools Advocate, the first of its kind in the nation. Mr. Butkovitz was born and raised in the City. He is an attorney and received his Juris Doctor degree from Temple University Law School in 1976 and a bachelor's degree from Temple University in 1973.

Suzanne Biemiller, Interim Chief of Staff, was appointed the City of Philadelphia's Interim Chief of Staff by Mayor Michael A. Nutter on June 13, 2011. She had worked as Director of Policy, Planning and Coordination for the Mayor since January 2010. Previously, Ms. Biemiller worked as a consultant in the Mayor's Office of Sustainability, where she was the principle author and producer of *Greenworks Philadelphia,* the Administration's sustainability strategy. Prior to joining the Nutter Administration, Ms. Biemiller worked for The Pew Charitable Trusts as a senior program officer. While there, she managed the creation of the Philadelphia Research Initiative and produced a number of reports on the city's prospects and challenges. Ms. Biemiller also oversaw the start-ups of a number of local and national initiatives including the Transitional Work Corporation, Electionline.org, SoundAbout Philly and a Pennsylvania-based rural economic development effort. From 2003 to 2005, she took a leave from Pew to serve as the executive director of the Chestnut Hill Business Association. Ms. Biemiller has also worked as a legislative aide to former U.S. Representative Marjorie Margolies and as a project manager with the Philadelphia Industrial Development Corporation's Navy Yard redevelopment effort. Ms. Biemiller graduated from Williams College with a Bachelor of Arts in American Studies and has a Masters in Public Policy degree from Harvard University's Kennedy School of Government.

Richard Negrin, Deputy Mayor for Administration and Coordination and Managing Director, was appointed in July 2010. This Cabinet position has direct management responsibility over the City's key infrastructure departments and coordinates across all City government to provide oversight and support to ensure optimal performance. In December 2009, Mr. Negrin was appointed by Mayor Nutter to serve as Executive Director of the Board of Revision of Taxes to provide strong leadership and to revitalize, restructure and reform the embattled agency. From November 2006 through December 2009, Mr. Negrin served as Vice-Chair of the independent Philadelphia Board of Ethics which helped to change the culture of government by providing guidance, education and training on ethics rules to the entire City workforce as well as to promote greater transparency in government by overseeing financial disclosures by City officials and having oversight related to campaign finance limits and disclosures. Prior to joining the City, Mr. Negrin was Vice President, Associate General Counsel, and a member of the Executive Leadership Council of ARAMARK Corporation. Prior to joining ARAMARK, Mr. Negrin was a litigator with the law firm of Morgan, Lewis & Bockius LLP and was a prosecutor in the Major Trials Unit of the Philadelphia District Attorney's Office. Mr. Negrin is a graduate of Rutgers University School of Law, where he was the recipient of the Richard L. Barbour, Jr. Memorial Award. He received his Bachelor's degree in political science from Wagner College where he received the Pre-Law Prize for academic excellence. During college, Mr. Negrin was a consensus football all-American and served as captain of the football team, helping to lead them to the small college National Championship in 1987. After college, Mr. Negrin played briefly in the National Football League, signing contracts with the Cleveland Browns in 1988 and the New York Jets in 1989.

Rob Dubow, Director of Finance, was appointed on January 7, 2008. The Director of Finance is the Chief Financial Officer of the City. Prior to his appointment, Mr. Dubow was the Executive Director of PICA. He served as Chief Financial Officer of the Commonwealth from 2004 to 2005. From 2000 to 2004, he served as Budget Director for the City, where he had also been a Deputy Budget Director and Assistant Budget Director. Before working for the City, Mr. Dubow was a Senior Financial Analyst for PICA. He also served as a Research Associate at the Pennsylvania Economy League and was a reporter for the Associated Press. Mr. Dubow earned a Masters in Business Administration degree from the Wharton School of Business and a Bachelor of Arts degree from the University of Pennsylvania.

Shelley R. Smith, City Solicitor, was appointed on January 7, 2008. The City Solicitor of the City of Philadelphia is the City's chief legal officer, the head of the City's Law Department, and a member of the Mayor's Cabinet. Prior to her appointment, Ms. Smith was the Associate General Counsel for Regulatory Affairs - East at Exelon Corporation. Prior to joining Exelon, Ms. Smith was with Ballard Spahr as Of Counsel in the Labor, Employment & Immigration Group. Ms. Smith also spent more than a decade with the City's Law Department where she was trial attorney and supervisor in the Civil Rights Unit, Chief of the Affirmative Litigation and Labor and Employment Units, and, finally, Chair of the Corporate and Tax Group.

Alan Greenberger, Deputy Mayor for Planning and Economic Development and Director of Commerce, was appointed on June 30, 2009. Mr. Greenberger is also the Executive Director of the City Planning Commission where he chairs the Philadelphia Zoning Code Commission. A native of New York City, he moved to the City in 1974 to join Mitchell/Giurgola Architects. He became an associate of Mitchell/Giurgola in 1980, moved to Australia to join Mitchell/Giurgola & Thorpe, architects for the Australian Parliament House, and rejoined Mitchell/Giurgola in the City as a partner in 1986. In 1990, he and several partners at M/G changed the name of the firm to MGA Partners, where he practiced through 2008. He has been the lead designer on numerous MGA projects including the Department of State National Foreign Affairs Training Center, the West Chester University School of Music and Performing Arts Center, America on Wheels Museum, Lehigh University Linderman Library Renovation, Mann Center for the Performing Arts Master Plan and Pavilions, and the Centennial District Master Plan.

Melanie Johnson, City Representative, was appointed on January 7, 2008. The City Representative will promote and give wide publicity to items of interest reflecting the accomplishments of the City and its inhabitants and the growth and development of its commerce and industry. Ms. Johnson had served as the Director of Communications for the Nutter for Mayor Campaign since August of 2006. Prior experience includes her time as Press Secretary to Former Mayor Ed Rendell, Director of Communication for Multicultural Affairs Congress at Philadelphia Convention and Visitors Bureau, and Senior Account Executive at Beach Advertising.

Nancy E. Winkler, City Treasurer, was appointed City Treasurer effective January 31, 2011. Her responsibilities include oversight of all activities related to the issuance of debt by the City, managing the investment of approximately $2.0 billion of operating and bond funds as well as managing the City's depository banking. Prior to her tenure with the City, Ms. Winkler worked for over twenty-eight years with Public Financial Management (the PFM Group), from 1990 to 2011 as Managing Director, with responsibility to manage the firm's municipal, state and authority practices in New York and Maryland. Ms. Winkler holds a B.A. in American Studies and Economics from Georgetown University, where she was a George F. Baker Scholar.

PENNSYLVANIA INTERGOVERNMENTAL COOPERATION AUTHORITY

General

The Pennsylvania Intergovernmental Cooperation Authority ("PICA") was created on June 5, 1991 by the Pennsylvania Intergovernmental Cooperation Authority Act for Cities of the First Class (the "PICA Act"). PICA was established to provide financial assistance to cities of the first class. The City is the only city of the first class in the Commonwealth. The Governor of Pennsylvania, the President pro tempore of the Pennsylvania Senate, the Minority Leader of the Pennsylvania Senate, the Speaker of the Pennsylvania House of Representatives and the Minority Leader of the Pennsylvania House of Representatives each appoints one voting member of PICA's board. The Secretary of the Budget of the Commonwealth and the Director of Finance of the City serve as ex officio members of PICA's board with no voting rights.

The PICA Act provides that, upon request by the City to PICA for financial assistance and for so long as any bonds issued by PICA remain outstanding, PICA shall have certain financial and oversight functions. PICA has the power, in its oversight capacity, to exercise certain advisory and review procedures with respect to the City's financial affairs, including the power to review and approve five-year financial plans prepared at least annually by the City, and to certify non-compliance by the City with the then-existing five-year plan adopted by the City pursuant to the PICA Act. PICA is also required to certify non-compliance if, among other things, no approved five-year plan is in place; and PICA is required to certify non-compliance with an approved five-year plan if the City has failed to file mandatory revisions to an approved five-year plan. Under the PICA Act, any such certification of non-compliance would require the Secretary of the Budget of the Commonwealth to withhold payments due to the City from the Commonwealth or any of its agencies (including, with certain exceptions, all grants, loans, entitlements and payment of the portion of the PICA Tax, hereinafter described, otherwise payable to the City). See "PICA Bonds" below. Under the PICA Act, the City is required to make quarterly financial reports to PICA, as further described under "Quarterly Reporting to PICA" below.

Five-Year Plans of the City

The PICA Act requires the City to annually develop a five-year financial plan and obtain PICA's approval of it. The original five-year plan, which covered Fiscal Years 1992 through 1996, was prepared by the Mayor, approved by City Council on April 29, 1992 and by PICA on May 18, 1992. In each subsequent year, the City updated the previous year's five-year plan, each of which was approved by PICA.

The City's Eighteenth Five-Year Plan (the "Eighteenth Five-Year Plan"), covering Fiscal Years 2010-2014, included a one percent City Sales Tax increase through Fiscal Year 2014 and a partial deferral of the City's pension payment in Fiscal Year 2010 ($150 million) and Fiscal Year 2011 ($80 million) to be paid back in full by Fiscal Year 2014, as permitted under Act 44 of 2009 of the General Assembly of the Commonwealth ("Act 44"). In addition to the deferrals, the City changed the amortization period from 20 years to 30 years and lowered the interest rate assumption from 8.75% to 8.25%.[1] At PICA's request, the Eighteenth Five-Year Plan was revised to include at least $25 million in additional savings or recurring revenues in each year of the Eighteenth Five-Year Plan. PICA approved the revised Eighteenth Five-Year Plan on September 16, 2009, subject to the enactment of the legislation authorizing the increase in the City's sales tax and change in the City's pension fund payments. The Commonwealth enacted such legislation on September 18, 2009.

The Mayor presented the Nineteenth Five-Year Plan (the "Nineteenth Five-Year Plan") to City Council on March 4, 2010. City Council approved the Fiscal Year 2011 Budget on May 20, 2010, and the Mayor signed it on June 1, 2010. The Nineteenth Five-Year Plan was approved by PICA on August 10, 2010. The Nineteenth Five-Year Plan includes a temporary 9.9% Real Estate Tax increase through Fiscal Year 2012, which is estimated to generate $94.4 million in Fiscal Year 2011.

The Mayor presented the Twentieth Five-Year Plan (the "Twentieth Five-Year Plan") to City Council on March 3, 2011. The adopted Fiscal Year 2012 Operating Budget conforms to the Twentieth Five-Year Plan. The Twentieth Five-Year Plan was approved by PICA on July 26, 2011.

Quarterly Reporting to PICA

The PICA Act requires the City to prepare and submit quarterly reports to PICA so that PICA may determine whether the City is in compliance with the then-current Five-Year Plan. Under the PICA Act, a "variance" is deemed to have occurred as of the end of a reporting period if (i) a net adverse change in the fund balance of a covered fund of more than 1% of the revenues budgeted for such fund for that fiscal year is reasonably projected to occur, such projection to be calculated from the beginning of the

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[1] On October 28, 2010, the City's Board of Pensions and Retirement voted to further lower the pension fund's annual earnings assumption from 8.25% to 8.15%. This is reflected in subsequent five-year plans.

fiscal year for the entire fiscal year, or (ii) the actual net cash flows of the City for a covered fund are reasonably projected to be less than 95% of the net cash flows of the City for such covered fund for that fiscal year originally forecast at the time of adoption of the budget, such projection to be calculated from the beginning of the fiscal year for the entire fiscal year. The Mayor is required to provide a report to PICA that describes actual or current estimates of revenues, expenditures, and cash flows by covered funds compared to budgeted revenues, expenditures, and cash flows by covered funds for each month in the previous quarter and for the year-to-date period from the beginning of the then-current fiscal year of the City to the last day of the fiscal quarter or month, as the case may be, just ended. Each such report is required to explain any variance existing as of such last day.

PICA may not take any action with respect to the City for variances if the City (i) provides a written explanation of the variance that PICA deems reasonable; (ii) proposes remedial action that PICA believes will restore overall compliance with the then-current Five-Year Plan; (iii) provides information in the immediately succeeding quarterly financial report demonstrating to the reasonable satisfaction of PICA that the City is taking remedial action and otherwise complying with the then-current Five-Year Plan; and (iv) submits monthly supplemental reports as required by the PICA Act. PICA last declared a variance in February 2009. It has since been removed and there are no current variances.

PICA Bonds

PICA has previously issued eleven series of bonds. Under the PICA Act, PICA no longer has the authority to issue bonds for new money purposes, but may refund bonds previously issued by it. Two series of bonds remain outstanding: (i) Special Tax Revenue Refunding Bonds (City of Philadelphia Funding Program), Series of 2009 issued in the original aggregate principal amount of $354,925,000, having a final stated maturity date of June 15, 2023 and (ii) Special Tax Revenue Refunding Bonds (City of Philadelphia Funding Program), Series of 2010 in the original principal amount of $206,960,000, having a final stated maturity date of June 15, 2022. As of the close of business on June 30, 2011, the principal amount of PICA bonds outstanding was $494,710,000.

The proceeds of the previous series of bonds issued by PICA were used (a) to make grants to the City to fund General Fund deficits of the City, to fund the costs of certain capital projects undertaken by the City, to provide other financial assistance to the City to enhance productivity in the operation of City government, and to defease certain general obligation bonds of the City, (b) to refund other bonds of PICA and (c) to pay costs of issuance.

The PICA Act authorized the City to impose a tax for the sole and exclusive purposes of PICA. In connection with the adoption of the Fiscal Year 1992 budget and the adoption of the first Five-Year Plan, the City reduced the wage, earnings, and net profits tax on City residents by 1.5% and enacted a PICA Tax of 1.5% tax on wages, earnings and net profits of City residents (the “PICA Tax”). Proceeds of the PICA Tax are solely the property of PICA. The PICA Tax, collected by the City’s Department of Revenue, is deposited in the “Pennsylvania Intergovernmental Cooperation Authority Tax Fund” (the “PICA Tax Fund”) of which the State Treasurer is custodian. The PICA Tax Fund is not subject to appropriation by City Council or the General Assembly of the Commonwealth.

The PICA Act authorizes PICA to pledge the PICA Tax to secure its bonds and prohibits the Commonwealth and the City from repealing the PICA Tax or reducing the rate of the PICA Tax while any bonds secured by the PICA Tax are outstanding. PICA bonds are payable from the PICA revenues, including the PICA Tax, pledged to secure PICA’s bonds, the Bond Payment Account (as described below) and any debt service reserve fund established for such bonds and have no claim on any revenues of the Commonwealth or the City.

The PICA Act requires that proceeds of the PICA Tax in excess of amounts required for (i) debt service, (ii) replenishment of any debt service reserve fund for bonds issued by PICA, and (iii) certain PICA operating expenses, be deposited in a trust fund established pursuant to the PICA Act exclusively for the benefit of the City and designated the "City Account." Amounts in the City Account are required to be remitted to the City not less often than monthly, but are subject to withholding if PICA certifies the City's non-compliance with the then-current five-year plan.

The PICA Act establishes a "Bond Payment Account" for PICA as a trust fund for the benefit of PICA bondholders and authorizes the creation of a debt service reserve fund for bonds issued by PICA. Since PICA has issued bonds secured by the PICA Tax, the PICA Act requires that the State Treasurer pay the proceeds of the PICA Tax held in the PICA Tax Fund directly to the Bond Payment Account, the debt service reserve fund created for bonds issued by PICA and the City Account.

The total amount of PICA Tax remitted to PICA by the State Treasurer (which is net of the costs of the State Treasurer in collecting the PICA Tax) for each of the Fiscal Years 2001 through 2010, current estimate for Fiscal Year 2011 and the adopted budget for Fiscal Year 2012 are set forth below.

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Table 21
Summary of PICA Tax Remitted to PICA by the State Treasurer and Net Taxes Remitted to the City
(Amounts In Millions of USD)

Year	PICA Tax	PICA Annual Debt Service and Investment Expenses	Net taxes remitted to the City[1]
2001	$273.6	$107.0	$166.6
2002	278.0	107.3	170.7
2003	281.5	79.2	202.3
2004	285.0	78.9	206.1
2005	300.2	85.9	214.3
2006	309.9	87.1	222.8
2007	327.9	86.0	241.9
2008	341.8	86.4	255.4
2009	348.5	86.4	262.1
2010	343.3	68.9	274.4
2011[2]	357.5	66.3	291.2
2012[3]	357.0	66.1	290.9

(1) Does not include additional one-time grants to the City from PICA reserves in certain years.
(2) Current Estimate; from the June 30, 2011 QUARTERLY CITY MANAGER'S REPORT.
(3) From the 2012 adopted budget.

ADDITIONAL INFORMATION

Current City Practices

It is the City's practice to file its Comprehensive Annual Financial Report ("CAFR"), which contains the audited combined financial statements of the City, with the Municipal Securities Rulemaking Board ("MSRB") as soon as practicable after delivery of such report. The CAFR for the City's fiscal year ended June 30, 2010 was deposited with the MSRB on February 25, 2010, through the MSRB's Electronic Municipal Market Access (EMMA) system. The CAFR is prepared by the Director of Finance of the City in conformance with guidelines adopted by the Governmental Accounting Standards Board and the American Institute of Certified Public Accountants' audit guide, Audits of State and Local Government Units. Upon written request to the Office of the Director of Finance and payment of the costs of duplication and mailing, the City will make available copies of the CAFR for the Fiscal Year ended June 30, 2010. Such a request should be addressed to: Office of the Director of Finance, Municipal Services Building, Suite 1300, 1401 John F. Kennedy Boulevard, Philadelphia, Pennsylvania 19102. The CAFR is also available online at www.phila.gov/investor, the City's website ("City Website" or "Website"). The City also expects to provide financial and other information from time to time to Moody's Investors Service, Standard & Poor's Ratings Services, a division of The McGraw-Hill Companies, Inc. and Fitch Ratings, in connection with the securities ratings assigned by those rating agencies to bonds or notes of the City.

The foregoing statement as to filing or furnishing of additional information reflects the City's current practices, but is not a contractual obligation to the holders of the City's bonds or notes.

The City Website contains information in addition to that set forth in the CAFR. The "Terms of Use" statement of the City Website, incorporated herein by this reference, provides, among other things, that the information contained therein is provided for the convenience of the user, that the City is not obligated to update such information, and that the information may not provide all information that may be of interest to investors. The information contained on the City Website is not incorporated by reference in this Reoffering Circular and persons considering a purchase of the Bonds should rely only on information contained in this Reoffering Circular or incorporated by reference herein.

CITY SOCIOECONOMIC INFORMATION

Introduction

The City includes within its boundaries an area of approximately 130 square miles and a resident population of approximately 1.526 million according to the U.S. Census Bureau, 2010 Population Estimates. The City is in the heart of the eleven-county Philadelphia–Camden–Wilmington metropolitan statistical area with approximately six million residents. Air, rail, highway, and water routes provide easy access to the City.

The City, the fifth largest in the United States, is strategically located on the east coast with easy access to markets, resources, government centers, and transportation. The City's metropolitan area is the nation's fourth largest retail market with over 2,500 retail stores in Center City Philadelphia.

Quality of Life

The City is rich in history, art, architecture, and entertainment. World-class cultural and historic attractions include the Philadelphia Museum of Art (which houses the third largest art collection in the United States), the Philadelphia Orchestra, Academy of Music, Pennsylvania Ballet, the Constitution Center, the Kimmel Center, Pennsylvania Academy of Fine Arts, Franklin Institute, Mann Music Center, Opera Company of Philadelphia, and the Rodin Museum. The South Philadelphia sports complex, currently consisting of Lincoln Financial Field, Citizens Bank Park and the Wells Fargo Center, is home to the Philadelphia 76ers, Flyers, Phillies and Eagles. The City also offers its residents and visitors America's most historic square mile, which includes Independence Hall and the Liberty Bell, as well as Fairmount Park, which spans 8,000 acres and includes Pennypack Park and the country's first zoo.

The City is a center for health, education, and science facilities with the nation's largest concentration of healthcare resources within a 100-mile radius. There are presently more than 30 hospitals, seven medical schools, two dental schools, two pharmacy schools, as well as schools of optometry, podiatry and veterinary medicine, and the Philadelphia Center for Health Care Sciences in West Philadelphia. The City is one of the largest health care and health care education centers in the world, and a number of the nation's largest pharmaceutical companies are located in the Philadelphia area.

The City has the second largest concentration of students on the East Coast with eighty degree granting institutions of higher education and a total enrollment of over 300,000 students. Included among these institutions are the University of Pennsylvania, Temple University, Drexel University, St. Joseph's University, and LaSalle University. Within a short drive from the City are such schools as Villanova University, Bryn Mawr College, Haverford College, Swarthmore College, Lincoln University, and the Camden Campus of Rutgers University. The undergraduate and graduate programs at these institutions help provide a well-educated and trained work force to the Philadelphia community.

Hospitals and Medical Centers

The City also has major research facilities, including those located at its universities, the medical schools, The Wistar Institute, the Fox Chase Cancer Center, and the University City Science Center. The Children's Hospital of Philadelphia has recently completed the construction of a new $400 million biomedical research facility located within the Philadelphia Center for Health Care Sciences in West Philadelphia. A Comprehensive Cancer Center is also located at the University of Pennsylvania.

The following table presents data regarding hospitals and medical centers in the City. Due to mergers, consolidations and closures that have occurred or may occur in the future, this table is accurate only as of its publication date.

Table 22
Hospitals and Medical Centers as of June 2010

Institution Name	Total Beds
Aria Health System[1]	485
Belmont Center for Comprehensive Treatment	147
Chestnut Hill Hospital	119
Department of Veterans Affairs Medical Center-Philadelphia	142
Einstein Medical Center -Philadelphia	511
Fairmount Behavioral Health System	185
Fox Chase Cancer Center	100
Friends Hospital	192
Girard Medical Center/Continuing Care Hospital of Philadelphia	51
Good Shepherd Penn Partners	38
Hahnemann University Hospital	510
Hospital of the University of Pennsylvania	774
Jeanes Hospital	176
Kensington Hospital	35
Magee Rehabilitation Hospital	96
Mercy Hospital of Philadelphia	180
Methodist Hospital Division - TJUH	165
Nazareth Hospital	195
Penn Presbyterian Medical Center	245
Pennsylvania Hospital	435
Roxborough Memorial Hospital	141
Shriners Hospitals for Children - Philadelphia	39
St. Christopher's Hospital for Children	175
St. Joseph's Hospital	146
Temple University Hospital[2]	740
The Children's Hospital of Philadelphia	461
Thomas Jefferson University Hospital	701
Triumph Hospital Philadelphia	58

[1] Aria Health System includes data for all three divisions - Frankford, Torresdale and Bucks County.
[2] Temple includes data for Episcopal Hospital.
Source: Delaware Valley Healthcare Council of HAP, Monthly Utilization Report, June 2010.

Children's Hospital Expansion. The Children's Hospital of Philadelphia ("CHOP") is expanding its research facilities in West Philadelphia. The $400 million Colket Research Building was completed in the Fall of 2009 and it has opened. CHOP is currently completing design on the $500 million Ambulatory Care Facility, which is expected to begin construction in late 2011 and be opened in late 2013. In addition to this major development, CHOP has purchased the JFK Building on the banks of the Schuylkill River just south of South Street. Administrative offices and research laboratories will be housed in this new space. CHOP is currently reviewing design concepts for the JFK Building.

University of Pennsylvania. A major new $302 million cancer research and treatment center, the Center for Advanced Medicine, opened in October 2008. The West Tower of the Center of Advanced Medicine was completed in 2010 at a cost of $370 million.

The Fox Chase Cancer Center. The Fox Chase Cancer Center (the "Center") is a non-profit institution that is endeavoring to expand its campus in the northeast section of the City. In 2009, Fox Chase opened the $100 million Robert Young Research Pavilion that is currently occupied by the women's cancer treatment center, a research center and will soon house the Cancer Genome Institute. The Fox Chase Cancer Center and the Institute for Individualized Health, together, have formed a partnership to create the Cancer Genome Institute. When it opens, the Institute will be the largest cancer genome sequencing effort in the United States. The Institute will perform highly collaborative research to understand the complex molecular underpinnings of cancer, and then apply those discoveries at the point of care.

Wistar. The Wistar Institute (the "Institute") was founded in 1892 and was the nation's first independent biomedical research facility. The Institute is a leading Philadelphia and national research institute, becoming a National Cancer Institute in 1972. It is a leader in vaccine research, developing vaccines against rubella and rabies in addition to conducting research in the area of genetics. The Institute is located within the campus of the University of Pennsylvania, surrounded on all sides by University owned land. The original building was constructed in 1894, with an annex added in the early 1900's; an animal facility built in 1922 and expanded in 1975; and a cancer wing added in 1975. The Institute is embarking on a $100 million expansion and renovation project that will significantly increase its ability to carry out its mission. The Project will include the construction of a new research building on the site of the Institute's current vivarium, the replacement of the complex's infrastructure which will dramatically improve energy efficiency, and the creation of a new vivarium in existing space.

Demographics

During the ten-year period between 2000 and 2010, the population of the City increased from 1,517,550 to 1,526,006. During the same period, the population of the Commonwealth increased by 3.4%.

Table 23
Population
City, Pennsylvania & Nation

	1990	2000	2010	% Change 1990-2000	% Change 2000-2010
Philadelphia	1,585,577	1,517,550	1,526,006	-4.3%	0.9%
Pennsylvania	11,881,643	12,281,054	12,702,379	3.4%	3.4%
United States	248,709,873	281,421,906	308,745,538	13.2%	9.7%

Source: U.S. Census Bureau, Census 2010, Census 2000, Census 1990.

Table 24
Population Age Distribution

Philadelphia County

Age	1990	% of Total	2000	% of Total	2007–2009	% of Total	2010	% of Total
0-24	563,816	35.6	551,308	36.3	529,490	34.4	547,534	35.9
25-44	490,224	30.9	444,774	29.3	461,068	30.0	434,385	28.5
45-64	290,803	18.3	307,746	20.2	355,484	23.1	358,778	23.5
65-84	217,913	13.7	186,383	12.3	162,531	10.6	157,198	10.3
85 & up	22,801	1.4	27,339	1.8	30,653	2.0	28,111	1.8
Total	1,585,577	100	1,517,550	100	1,539,226	100.0	1,526,006	100

Pennsylvania

Age	1990	% of Total	2000	% of Total	2007–2009	% of Total	2010	% of Total
0-24	4,021,585	33.8	4,016,670	32.6	4,003,759	31.9	4,053,536	31.9
25-44	3,657,323	30.8	3,508,562	28.6	3,207,408	25.5	3,126,788	24.6
45-64	2,373,629	20	2,836,657	23.1	3,427,763	27.3	3,562,748	28.0
65-84	1,657,270	13.9	1,681,598	13.7	1,628,092	13.0	1,653,631	13.0
85 & up	171,836	1.4	237,567	1.9	297,534	2.4	305,676	2.4
Total	11,881,643	100	12,281,054	100	12,564,556	100.0	12,702,379	100

United States

Age	1990	% of Total	2000	% of Total	2007–2009	% of Total	2010	% of Total
0-24	90,342,198	36.3	99,437,266	35.3	104,507,545	34.3	103,699,067	34.1
25-44	80,754,835	32.5	85,040,251	30.2	83,150,108	27.3	83,432,695	27.4
45-64	46,371,009	18.6	61,952,636	22	77,943,353	25.6	78,058,246	25.7
65-84	28,161,666	11.3	30,752,166	11	33,370,213	11.0	33,147,948	10.9
85 & up	3,080,165	1.2	4,239,587	1.5	5,349,246	1.8	5,721,768	1.9
Total	248,709,873	100	281,421,906	100	304,320,465	100	304,059,724	100

Source: U.S. Dept. of Commerce, Bureau of the Census.

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The Economy

The City's economy is composed of diverse industries, with virtually all classes of industrial and commercial businesses represented. The City is a major business and personal service center with strengths in insurance, law, finance, health, education, and utilities.

The cost of living in the City is relatively moderate compared to other major metropolitan areas. The City, as one of the country's education centers, offers the business community a large, diverse, and industrious labor pool.

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Table 25
Office Rental Rates in Cities Throughout the United States (In $ Per Square Foot)

	May 2006	November 2006	May 2007	May 2008	November 2008	May 2009	November 2009	May 2010	November 2010
Atlanta	20.08	20.56	20.16	21.76	21.23	21.29	21.03	23.25	22.50
Chicago	23.77	22.97	22.44	24.75	24.78	24.56	24.82	23.95	23.70
Dallas	17.43	16.47	17.20	22.96	23.72	23.71	23.12	22.72	22.16
Denver	19.03	20.37	22.17	27.15	27.55	26.53	25.96	25.07	24.65
Houston	19.15	19.52	21.53	28.92	26.83	24.91	26.35	27.00	27.35
Los Angeles	23.12	22.59	23.74	30.52	30.51	29.92	28.72	28.74	28.80
New York	55.15	62.07	69.44	103.43	98.08	68.63	68.93	64.51	66.59
Philadelphia	22.42	22.96	22.60	24.35	25.26	25.24	24.09	25.36	25.91
Phoenix	24.29	26.19	27.32	29.14	29.17	28.23	26.72	26.89	25.70
Portland	21.58	22.41	23.00	25.85	27.62	26.99	26.65	26.33	25.86
San Francisco	30.62	31.11	35.81	49.71	48.57	39.40	33.94	33.17	33.97
St. Louis	21.12	21.75	21.21	22.82	22.42	22.78	22.51	22.58	22.55
Tampa	20.54	21.13	22.46	25.30	26.22	26.36	26.39	25.63	25.25
Washington, D.C.	42.74	43.58	44.00	51.05	51.26	51.77	51.74	51.75	53.03

Source: CB Richard Ellis, Global Market Rents Report; Global MarketView: Office Occupancy Costs Report.

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Employment

The employment and unemployment rates and the total number of jobs within the City are reflected in Tables 26 and 27, respectively.

Overall, the employment base has undergone a gradual shift over the last decade, most notably marked by growth in leisure/hospitality and education/health services sector employment. However the overall gap between local and national unemployment remains due to market conditions brought on by the nation's financial crisis. The City's and region's economies are diversified, with strong representation in the health care, government, and education sectors but without the domination of any single employer or industry.

The employment changes within the City principally have been due to declines in the manufacturing sector and the relatively stronger performance of the service economy. Although the jobs report is mixed, Philadelphia has recovered nearly 7,000 jobs since 2009 and the City's job levels are consistent with average levels dating from 2004. As reflected in the Table 28, total employment has generally trended upwards in education/healthcare and leisure/hospitality over the entire period shown, while overall growth decreased slightly in 2009 and continues to be sluggish.

In March 2000, PAID assumed ownership of more than 1,200 acres at the site of the former Philadelphia Navy Shipyard, Naval Station, Naval Hospital and Defense Supply Center and began implementing an aggressive redevelopment campaign. To date, at least 115 companies and three Navy operations have leased or purchased in excess of 5.5 million square feet of facilities at the complex, now known as The Navy Yard. The Navy has retained more than two million square feet of facilities. Together, the private and Navy facilities employ more than 8,000 people. The Navy Yard's long-term development plans call for more than ten million square feet of developed industrial and commercial space and employment ranging between 15,000-25,000 persons.

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<u>Table 26</u>
Labor Force Data Annual Average
Based on Residency (not seasonally adjusted)

	2003	2004	2005	2006	2007	2008	2009	2010	2011[3]
Philadelphia (000)[1]									
Labor Force	622.6	618.3	619.0	617.2	619.1	629.5	629.9	647.4	648.4
Employment	575.7	573.1	577.5	579.2	581.9	585.0	566.6	577.0	579.2
Unemployment	46.9	45.2	41.6	38.0	37.2	44.5	63.3	70.4	69.3
Unemployment Rate (%)	7.5	7.3	6.7	6.2	6.0	7.1	10.0	10.9	10.7
Philadelphia PMSA (000)[2]									
Labor Force	2,879.2	2,888.6	2,9196	2,949.2.	2,948.3	2,986.2	2,997.6	2,982.1	2954.8
Employment	2,722.4	2,741.7	2,781.9	2,817.4	2,822.3	2,826.3	2,749.7	2,712.3	2692.8
Unemployment	156.8	146.9	137.7	131.8	126.1	159.9	248.0	269.7	262.0
Unemployment Rate (%)	5.4	5.1	4.7	4.5	4.3	5.4	8.3	9.0	8.9
Pennsylvania (000)									
Labor Force	6,145.0	6,197.0	6,270.0	6,308.0	6,329.0	6,439.0	6,383.0	6,340.0	6381.0
Employment	5,796.0	5,860.0	5,958.0	6,021.0	6,054.0	6,096.0	5,870.0	5,791.0	5869.0
Unemployment	349.0	337.0	312.0	287.0	275.0	343.0	514.0	549.0	512.0
Unemployment Rate (%)	5.7	5.4	5.0	4.5	4.3	5.3	8.0	8.7	8.0
United States (000,000)									
Labor Force	146.5	147.4	149.3	151.4	153.1	154.3	154.1	153.9	154.5
Employment	137.7	139.3	141.7	144.4	146.0	145.4	139.9	139.1	140.1
Unemployment	8.8	8.1	7.6	7.0	7.1	8.9	14.3	14.8	14.4
Unemployment Rate (%)	6.0	5.5	5.1	4.6	4.6	5.8	9.3	9.6	9.3

(1) Philadelphia County
(2) The Philadelphia PMSA includes Philadelphia-Camden-Wilmington, PA, NJ, DE, MD Metro Stat Area.
(3) For June2011.
Source: Center for Workforce Information and Analysis, PA Dept of Labor and Industry, 2011.

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Table 27
Philadelphia County
Total Monthly Employment and Monthly Unemployment Rates
Based on Residency (Seasonally Adjusted)
2004 – 2010

	Total Employment in 000's							Unemployment Rate Percent						
Month	2004	2005	2006	2007	2008	2009	2010	2004	2005	2006	2007	2008	2009	2010
January	573.7	574.8	574.9	578.9	583.4	577.8	580.4	7.5	6.9	6.1	6.0	6.4	8.7	10.7
February	573.4	573.5	576.3	579.8	582.0	575.6	577.5	7.3	7.2	6.4	5.8	6.4	9.2	10.8
March	572.0	572.2	576.4	579.2	582.7	572.4	577.4	7.7	6.9	6.2	5.7	6.6	9.2	10.8
April	572.4	574.4	576.4	576.2	586.0	572.1	578.6	7.4	6.8	6.4	6.0	6.5	9.3	11.0
May	569.7	576.2	576.5	575.4	584.4	569.2	579.4	7.5	6.7	6.2	6.0	6.8	9.6	10.7
June	570.7	574.7	577.7	578.3	583.3	567.3	577.4	7.6	6.6	6.2	6.0	6.9	10.0	10.8
July	573.6	577.2	575.6	579.4	582.4	565.3	574.1	7.4	6.4	6.3	6.1	7.1	10.2	10.9
August	572.8	575.8	577.0	578.9	582.6	563.2	577.5	7.3	6.5	6.2	6.0	7.5	10.5	10.8
September	573.4	576.6	576.8	579.2	582.0	560.7	577.4	7.2	6.7	6.1	6.1	7.5	10.8	10.8
October	574.0	576.0	577.8	578.6	582.2	559.2	574.7	7.1	6.5	5.9	6.2	7.8	11.0	11.0
November	575.3	575.7	577.2	581.8	579.1	559.0	574.6	7.0	6.8	6.1	6.1	8.0	11.0	11.3
December	576.5	578.8	578.5	580.4	578.3	557.9	575.2	6.9	6.4	5.9	6.3	8.4	11.1	10.9

Source: Center for Workforce Information and Analysis, PA Dept of Labor and Industry, December 2010 (monthly) Seasonally Adjusted Labor Force, Philadelphia County.

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Table 28
Philadelphia City
Non-Farm Payroll Employment[1]
(Amounts in Thousands)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011[2]	Change from 2001 (%)	Average Annual % Change (%)
Construction & Mining	13.5	12.9	12.3	11.4	12.0	12.4	11.9	12.1	10.1	10.1	9.7	-27.85	-3.21
Manufacturing	40.2	37.7	34.0	32.6	31.2	29.9	28.5	27.8	25.7	24.8	24.3	-39.55	-4.91
Trade, Transportation, & Utilities	99.6	98.5	95.8	90.9	90.0	88.5	87.7	87.8	85.9	86.8	85.9	-13.78	-1.47
Information	17.1	17.0	15.9	13.6	13.2	12.8	12.6	12.5	12.6	12.3	12.3	-28.19	-3.26
Financial Activities	52.6	52.3	507	49.0	48.2	47.7	47.1	45.5	44.9	42.8	42.2	-19.73	-2.17
Professional & Business services	83.7	825.9	80.9	80.3	82.4	84.2	85.8	85.3	80.1	81.3	80.4	-3.97	-0.40
Education & Health Services	177.9	181.0	185.3	184.1	186.8	192.2	197.1	201.6	204.8	207.5	213.6	20.6	1.84
Leisure & Hospitality	56.5	54.2	52.9	54.6	56.6	58.0	58.0	57.9	56.9	58.4	59.7	5.66	.55
Other Services	29.2	29.9	29.0	28.5	28.5	28.2	28.0	27.8	26.6	26.5	26.7	-8.63	-0.90
Government	118.0	117.1	114.7	113.0	111.4	108.6	105.9	104.3	105.1	106.3	105.0	--11.05	-1.16
Total	688.3	683.5	671.5	658.0	660.3	662.5	662.6	662.6	652.7	656.7	659.7	-4.15	-0.42

Source: Bureau of Labor Statistics (BLS).2011
(1) Includes persons employed within the City, without regard to residency.
(2) *Preliminary average employment estimates through May, 2011.*

Table 29
Principal Employers in Philadelphia
as of June 30, 2010
(Listed Alphabetically)

Albert Einstein Medical
Children's Hospital of Philadelphia
City of Philadelphia
School District of Philadelphia
Southeastern Pennsylvania Transportation Authority
Temple University
Thomas Jefferson University Hospitals
United States Postal Service
University of Pennsylvania
University of Pennsylvania Hospital

Source: Philadelphia Department of Revenue.

Table 30
Fortune 500
Largest Corporations
With Headquarters in Philadelphia

(Amounts In Millions of USD)

Corporation	Type of Industry	Ranking	Revenues
Comcast	Telecommunications	66	37,937.0
Sunoco	Petroleum Refining	68	35,453.0
Cigna	Health Care/Insurance	122	21,253.0
ARAMARK	Diversified Outsourcing Services	194	12,571.7
Crown Holdings	Metal Products	301	7,941.0

Source: Fortune Magazine website, May 2011

Income

The following tables present data relating to per-capita income for the City, the PMSA, and the United States.

Table 31
Consumer Price Indices and Median Household Effective Buying Income

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
CPIU United States [1]	172.2	179.9	184.0	188.9	195.3	201.6	207.3	215.3	214.5	218.1
CPIU Philadelphia PMSA[1]	176.5	184.9	188.8	196.5	204.2	212.1	216.7	224.1	225.1	228.0
Buying Income[2]										
Philadelphia	$31,621	$29,995	$28,015	$28,150	$29,269	$30,748	$31,292	$30,746	$31,110	N/A
Philadelphia Metro Area[3]	$47,152	$43,800	$41,820	$42,852	$44,060	$45,395	$46,413	$46,900	$47,580	N/A
United States	$37,233	$38,365	$38,035	$38,201	$39,324	$39,324	$40,710	$41,792	$42,303	N/A

(1) Source: Consumer Price Index - All Urban Consumers. U.S. Bureau of Labor Statistics.
(2) Source: Sales & Marketing Management's 2009 Survey of Buying Power.
(3) Statistic is a measure of the Philadelphia, Camden & Wilmington Metropolitan Area.

Table 32
Number of Households by Income Range in Philadelphia County

	Number of Households[1]			Percentage of Households[1]		
Income	1990	2000	November 2007-2009[2]	1990	2000	2007-2009[2]
Under $ 9,999	136,335	109,237	82,818	22.6	18.5	14.5
$10,000-14,999	59,331	49,035	48,093	9.9	8.3	8.4
$15,000-24,999	108,405	89,059	76,005	18.1	15.0	13.3
$25,000-49,999	190,237	171,215	148,851	31.7	29.0	26.1
$50,000 and over	106,432	171,737	213,845	17.6	29.1	37.5
Total	600,740	590,283	569,612	100.0	100.0	100.0

(1) A household includes all the persons who occupy a housing unit.
(2) 2007-2009 American Community Survey 3 year estimates.
Source: U.S. Department of Commerce, Bureau of the Census.

Table 33
Number of Households by Income Range in United States

	Number of Households (000's)			Percentage of Households		
Income	1990	2000	2007 - 2009[1]	1990	2000	2007 - 2009[1]
Under $9,999	14,214	10,067	8,347	15.5	9.5	7.4
$10,000-14,999	8,133	6,657	6,313	8.8	6.3	5.6
$15,000-24,999	16,124	13,536	12,281	17.5	12.8	10.9
$25,000-49,999	31,003	30,965	28,141	33.7	29.3	24.9
$50,000 and over	22,519	44,312	58,022	24.5	42.1	51.3
Total	91,994	105,537	113,104	100.0%	100.0%	100.0%

(1) 2007-2009 American Community Survey 3 year estimates.
Source: U.S. Department of Commerce, Economics and Statistics Administration, 2000 Census of Population.
Figures may not add up due to rounding.

Retail Sales

The following table reflects taxable sales for the City from Fiscal Years 1997 to 2010.

Table 34
Taxable Retail Sales 1997-2010
(Amounts in Thousands of USD)

Fiscal Year	Taxable Sales
1997	9,637,833
1998	8,276,083
1999	9,604,970
2000	10,432,800
2001	11,107,100
2002	10,980,914
2003	10,933,524
2004	11,172,231
2005	12,001,439
2006	12,839,137
2007	13,643,582
2008	13,704,958
2009	13,211,446
2010	13,050,202

Source: Figures determined by dividing the City's local sales tax reported by the Pennsylvania Department of Revenue by the applicable local sales tax rate.

Transportation

The residents of the City and surrounding counties are served by a commuter transportation system operated by SEPTA. This system includes two subway lines, a network of buses and trolleys, and a commuter rail network joining Center City and other areas of the City to the airport and to the surrounding counties. A high speed train line runs from southern New Jersey to Center City and is operated by the Delaware River Port Authority. An important addition to the area's transportation system was the opening of the airport high speed line between Center City and the Philadelphia International Airport ("PHL") in 1985. The line places PHL less than 25 minutes from the Center City business district and connects directly with the commuter rail network and the Convention Center, which opened in June 1993. The opening of the commuter rail tunnel in 1984 provided a unified City transportation system linking the commuter rail system, the SEPTA bus, trolley, and subway lines, the high speed line to New Jersey, and the airport high speed line.

Amtrak, SEPTA, Norfolk Southern, CSX Transportation, Conrail and the Canadian Pacific provide inter-city commuter and freight rail services connecting the City to the other major cities and markets in the United States. More than 100 truck lines serve the Philadelphia area.

The City now has one of the most accessible downtown areas in the nation with respect to highway transportation by virtue of I 95; the Vine Street Expressway (I 676), running east-to-west through the Central Business District between I 76 and I 95; and the "Blue Route" (I 476) in suburban Delaware and Montgomery Counties which connects the Pennsylvania Turnpike and I 95 and thereby feeds into the Schuylkill Expressway (I 76) and thus into Center City Philadelphia.

The City operates PHL and Northeast Philadelphia Airport ("PNE") through its Division of Aviation. PHL is situated over 2,300 acres of land and is located approximately 7.2 miles from Center City Philadelphia. It is adjacent to I 95 and is served by a SEPTA commuter rail line with direct service to Center City Philadelphia. PHL serves residents of and visitors to a broad geographic area that includes portions of four states: Pennsylvania, New Jersey, Delaware and Maryland. In 2010, PHL handled approximately 30.8 million passengers, including 4.2 million international passengers. PHL is served by 30 different airlines and handles 621 daily departures to 124 cities, including 62 non-stop flights to 36 international destinations. PNE, a smaller reliever airport, is located on 1,150 acres situated within the City limits, 10 miles northeast of Center City Philadelphia. PNE provides for general aviation, air taxi, corporate, and occasional military use. The airport currently has no scheduled commercial service.

Water and Wastewater Systems

The water and wastewater systems of the City are owned by the City and operated by the City's Water Department. The water system provides water to the City (130 square mile service area), to Aqua Pennsylvania, Inc., formerly Philadelphia Suburban Water Company, and to the Bucks County Water and Sewer Authority. The City obtains approximately 58% of its water from the Delaware River and the balance from the Schuylkill River. The water system serves approximately 482,000 retail customer accounts through 3,159 miles of mains, three water treatment plants, 15 pumping stations and provides fire protection through more than 28,000 fire hydrants. The water treatment plants continue to meet and /or exceed their Safe Drinking Water Act as well as partnership for Safe Water standards.

The wastewater system services a total of 360 square miles of which 130 square miles are within the City and 230 square miles are in suburban areas. The total number of retail customer accounts is approximately 480,000 excluding approximately 46,000 stormwater only accounts. The wastewater and stormwater systems contain three water pollution control plants, a biosolids processing facility, 21 pumping stations, and approximately 3,663 miles of sewers. The wastewater treatment plants continue to meet and/or exceed their National Pollutant Discharge Elimination System permit limits.

Municipal Solid Waste Disposal

The City is responsible for collecting solid waste, including recycling, from residential households and some commercial establishments. On average, approximately 2,400 tons of solid waste per day are collected by the City. Municipal solid waste is disposed of through a combination of recycling processing facilities, private and City transfer stations within the City limits, and at various landfills operated outside the City limits. The City significantly reduced its waste disposal costs over the last decade. The current disposal contract, which began July 1, 2005, continues this trend. With three one-year City options, the contract can be extended through Fiscal Year 2012. Disposal rates escalate at a relatively low rate of approximately 3% per year over the contract term, and multiple vendors maximize operational flexibility and efficiencies.

Housing

The table below shows details related to Philadelphia County and the Commonwealth's housing markets:

Table 35
Characteristics of Housing Units

	1990	2000	2007-2009[1]	2010
Total Housing Units				
Philadelphia County	674,899	661,958	661,575	670,171
Pennsylvania	4,938,140	5,249,750	5,518,558	5,018,904
Percent Owner-Occupied				
Philadelphia County	62.0%	59.3%	56.8%	54.1%
Pennsylvania	70.6%	71.3%	71.5%	69.6%
Median Value of Owner-Occupied Housing				
Philadelphia County	$49,400	$59,700	$128,900	N/A
Pennsylvania	$69,700	$97,000	$152,300	N/A
Number/Average Persons per Housing Unit				
Philadelphia County	2.56	2.65	2.60	2.45
Pennsylvania	2.72	2.62	2.46	2.45

(1) 2007-2009 American Community Survey 3 year estimates.
Source: U.S. Department of Commerce, Bureau of the Census.

Promoting Economic Development

Mission

The goal of the City's economic development strategy is to create, maintain, and develop: (1) jobs by fostering an improved business environment; (2) increases in population; and (3) enhanced quality of life within the City—all in order to grow the City's tax base.

Background

In 2010 and early 2011, while the nation endured a slow economic recovery, the City of Philadelphia continued to capitalize on its assets to push economic priorities. Philadelphia's competitive advantages as a business location are based on size, strategic location, relative affordability, cultural and recreational amenities, and its growing strength in key industries. The City of Philadelphia is the fifth-largest city in the nation (2010 U.S. Census Data) with the third largest residential downtown and is at the center of the sixth largest metropolitan region. The Philadelphia region includes the fourth largest retail sales market in the nation, as well as a diverse network of business suppliers and complementary industries. The City's priorities include attraction and retention of knowledge workers, increasing educational attainment among Philadelphians, attracting development and promoting Philadelphia as a smart location for business in knowledge industries.

Strategic Location

The City is within a day's drive of 50 percent of the nation's population and is in key position to access regional and international markets, due to the transportation infrastructure centered here, including PHL, AMTRAK's Northeast Corridor service, major interstate highway access, regional SEPTA service and the Port of Philadelphia. Although the capacity of the Port of Philadelphia and PHL are currently limited, the Port of Philadelphia processed 3,644,919 metric tons of cargo and the airport processed 419,702 metric tons in 2010, both entities are in the midst of expansion projects which will ultimately increase cargo capacity in the region. The Port of Philadelphia is serviced by three Class I railroads and lies adjacent to the I-95 and I-76 highway routes, encompassing 4 million square feet of warehousing. PHL is similarly well located near these resources. As a passenger facility, PHL accommodated over 30 million passengers in 2010, a slight increase from 2009. PHL's passenger terminal expansion projects, scheduled to be completed in 2012, will increase passenger capacity and improve traveler experiences within the airport.

Beyond business, Philadelphians also benefit from this transportation infrastructure. For example, City's median commuting time is 19 percent lower than the national metropolitan average. Thirty-seven percent of residents do not drive their car to work, including 25 percent utilizing public transit, compared to just 10 percent nationally (2005-2009 American Community Survey). Access to public and alternative transportation also contributes to the affordability of the city.

Affordability

The City remains affordable when compared to its peers, as reflected in the chart below. The City's cost of living provides a competitive advantage over neighboring cities. In 2008, Forbes Magazine listed the City among the twenty best cities for young professionals to live, noting that college graduates are increasingly choosing the City over traditionally higher priced northeastern markets like Boston and New York.

Table 36
Cost of Living
2011 (First Quarter)[1]

Index	Philadelphia, PA	Washington-Arlington – Arlington, DC-VA	Boston, MA	New York (Manhattan), NY	National Average
Composite (100%)	126.5	140.5	133.9	217.4	100.0

[1] The Council for Community and Economic Research determines "Cost of Living" by weighing various living expenses including: cost of groceries, housing, utilities, transportation and health. The national average cost for each index area is set at "100," with the indices for each place calculated based upon their relation to that average.

Source: Council for Community and Economic Research ACCRA Cost of Living Index 2011

Arts, Culture, Recreation, and Sports

As a major urban center with a rich historic legacy, the City boasts of nationally recognized cultural amenities and entertainment opportunities, including landmarks such as Independence National Historical Park, the Philadelphia Art Museum, and the Kimmel Center for the Performing Arts, as well as recent developments, such as the construction of the Barnes Foundation Museum and the newly completed National Museum of American Jewish History. Additionally, the City is home to the nation's first “Percent for Art” Public Art Program, and the award winning Mural Arts Program, allowing arts access to all residents. Philadelphia is also home to the nation’s largest urban park, 9,200 acre Fairmount Park. The City continues to add green space as it embarks on redevelopment of trails and recreational areas along the Delaware and Schuylkill rivers.

Beyond recreation, the City offers a robust nightlife. The central business district (“CBD”) has experienced a 234 percent increase in fine dining restaurants since 1992 with 217 locations, and offers nearly as many outdoor cafes. The success of first-class sports facilities in South Philadelphia adds to the many recreation and entertainment options open to Philadelphians, regional residents and visitors.

Educational Attainment

The City captures a significant portion of the region’s educational employment and enrollment because of its major colleges and universities. Among a much larger regional network of universities representing approximately 300,000 students, 18 institutions of higher education have campuses in the City. Forty percent of those students live in the City during their studies. More recently, the Philadelphia region has retained a stronger share of native graduates than in previous years, with 71% retained in 2010 versus 64% in 2004. Also, among students not from the area, 48% stayed in the region in 2010 while only 29% stayed in 2004. On average, the region’s workforce over age 25 is better educated (with four-year college degrees) than those in other metropolitan areas across the U.S. (32%, compared to 27%).

Real Estate Market

Despite challenges in the national economy, the City’s central business district (the “CBD”), which encompasses 43.7 million rentable square feet, shows stable office market conditions. In the first quarter of 2011, the CBD posted a modest 21,000 square feet of positive net absorption during the first quarter, while the vacancy rate stayed flat at 12.5 percent, and average asking rental rates for class A space remain at $27.64 per-square-foot. While overall leasing velocity is below historical norms, the CBD has enjoyed two consecutive quarters of increases in overall occupancy, albeit modest increases.

Additional real estate opportunities will become available in the CBD in the upcoming year as GlaxoSmithKline relocates its 1,300-person Center City workforce to a 205,000 square-foot build-to-suit project in the Navy Yard in late 2012. The former GlaxoSmithKline site, among others, is under consideration for new hotel capacity for the City’s recently expanded Pennsylvania Convention Center. Other future development activity in the CBD includes a 125,000 square-foot tower near East Market Street, slated to be developed for the University of Pennsylvania Health System. Leasing activities are also underway for two additional projects in University City, the 90,000 square-foot 2.0 University Place project and the Science Center's next planned development, 3737 Market.

Major Industry Sectors

When compared to the average sector concentration in Pennsylvania counties, the City has a higher concentration of employment in six sectors, as noted in the chart below.

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Table 37
Philadelphia Industry Concentrations
Compared to Pennsylvania

Industry	Pennsylvania	Philadelphia County
Educational Services	1.65	4.75
Health Care and Social Assistance	1.23	1.72
Management of Companies and Enterprises	1.42	1.40
Finance and Insurance	1.03	1.23
Professional and Technical Services	0.91	1.14
Transportation and Warehousing	1.13	1.10
Arts, Entertainment, and Recreation	1.05	1.05

Source BLS: 2011 Location Quotient, Quarterly Census of Employment and Wages Data. Ratio of analysis-industry employment in the analysis area to base-industry employment in the analysis area divided by the ratio of analysis-industry employment in the base area to base-industry employment in the base area.

Knowledge Industry: Poised for Growth

The sector of the City's economy which has remained most insulated from the recent recession has been Education and Health Services, capturing a 20.6% growth rate since 2001. The City, in its strategic plan for economic development and job growth, has identified the "Eds and Meds," along with Professional and Business Services, and Leisure and Hospitality, as targeted growth sectors that will drive the City's recovery process and position it for continued long-term growth.

The Education sector not only provides stable support to the local economy, but also generates a steady supply of potential "Knowledge Industry" workers. In the knowledge industry, which relies on the supply of new college graduates, companies apply emerging technologies to deliver high-quality, knowledge-based services. The knowledge industry includes sectors as diverse as financial services, engineering, health care, insurance, law, life sciences, printing, publishing, and academia. In a 2009 report published by the Milken Institute, the Greater Philadelphia region's life sciences industry earned the number one ranking of the study's "current impact" category by directly employing 94,400 workers and generating $7.7 billion in direct revenue in 2008. These advantages equip the City and the region to continue to build its knowledge industries.

While the City has a strong core of knowledge-based industries, the City must capitalize on these advantages to ensure future growth and dynamism. Within the knowledge economy is another sector of great importance to the City and the region, the life sciences, which includes health care, research, biotechnology, and pharmaceuticals. The City is capitalizing on the region's opportunity to become an incubator for research generated by life sciences and educational institutions. Several sites now foster incubator opportunities, including the Philadelphia Navy Yard, the Science Center in West Philadelphia, and the west bank of the Schuylkill River bordered by the University of Pennsylvania, Children's Hospital of Pennsylvania and Drexel University.

The City's economy enjoys a large market share of for-profit creative industry companies which are technology-driven, known as businesses representing the "creative economy." A subset of the knowledge industry, the sector includes architecture, communications, design and merchandising, digital media, engineering, fashion design, graphic arts, information technology, interior and industrial design, marketing, music, film and video production, multimedia design, photography, planning product design and software development. The City supports several initiatives with the goal of increasing employment in this sector and fostering population growth in the City as a result. The City's population has increased 0.6% since 2000 according to the U.S. Census Bureau's 2010 figures. The City's official population is now recorded as 1,526,006.

Notably in the 2010 Census, several neighborhoods in the City experienced a significant increase of residents in their 20s and 30s. Six neighborhoods are now majority "young adult." This residential shift is also responsible for increasing wealth within those neighborhoods. For example, average household income increased 61 percent in Southeast Center City, and 57 percent in Northern Liberties.

Philadelphia International Airport

PHL is situated on over 2,300 acres of land located partly in the southwestern section of the City and partly in the northeastern section of Delaware County, about 7.2 miles southwest of Center City Philadelphia. PHL has four runways and seven terminal buildings, is served by 30 different airlines and handles 621 daily departures to 124 cities, including 62 non-stop flights to 36 international destinations. Currently, PHL accounts for over 141,000 jobs within the region and has a regional economic impact of $14.4 billion annually.

In calendar year 2010, PHL served 30.8 million passengers, including 4.2 million international travelers. PHL is ranked the ninth busiest airport in the nation and eleventh busiest in the world for aircraft operations (take-offs and landings). Since 2001, PHL has added two new terminals, one regional and one international, to its complex. This development, along with other terminal expansion, has more than doubled the size of the Airport terminal complex from 1.4 million to 3.1 million square feet and expanded the number of boarding gates by 94% from 65 to 126. Demand for air travel, spurred by low-fare competition with the entrance of Southwest Airlines in 2004, increased passenger traffic from 24.9 million in 2000 to 30.8 million in 2010. In addition, PHL serves as a key-connecting hub for US Airways.

Airport system capital improvements have been financed primarily through Federal and Commonwealth grants-in-aid, Passenger Facility Charge (PFC) revenues, general obligation bonds and Airport Revenue Bonds. The City currently has $1,470,385,000 of Airport Revenue Bonds outstanding. No general obligation bonds of the City issued to finance capital improvements to the Airport System are currently outstanding or contemplated. In November 2010, the City completed the sale of its Series 2010A Airport Revenue Bonds and 2010B, C, and D Airport Revenue Refunding Bonds totaling approximately $625 million in principal amount. The 2010A Airport Revenue Bonds financed several new capital projects, including expansion of the commuter terminal, Terminal B/C expansion design, taxiway design and construction, runway resurfacing, and infrastructure and terminal improvements. The 2010B, 2010C and 2010D Airport Revenue Bonds refunded the City's Series 1997B Airport Revenue Bonds, a portion of the 1998A Airport Revenue Bonds, and a portion of the 1998B Airport Revenue Bonds respectively.

PHL recently culminated a 10-year planning process and a 7-year environmental review process in January 2011 with the Federal Aviation Administration (the "FAA") issuing a Record of Decision approving the Airport's Capacity Enhancement Program (the "CEP"). Receipt of this final document enables PHL to proceed with the next steps required to expand and make critically needed improvements. The preferred alternative, as selected by the FAA, and known as "Alternative A," provides for a new runway, which will allow independent simultaneous aircraft operations in all weather conditions, to significantly reduce delays; two runway extensions (one of which will provide the necessary runway length to accommodate non-stop, long haul flights to reach around the world); enlarging and reconfiguring the existing terminal complex; relocating several off-airport facilities; developing a centralized ground transportation center; constructing an automated people mover for transport of passengers between terminals; and additional parking facilities that would also interface with the existing

SEPTA rail line. The cost of the CEP is estimated to be $6.4 billion in 2010 dollars and the total period for the phased construction would be approximately 13 calendar years, or between 2013 and 2025. The funding of this longer-term capital program will require the issuance of additional airport revenue bonds.

PHL's four-year Airport-Airline Use and Lease Agreement (the "Airline Agreement") expired on June 30, 2011. It established procedures for the annual review and adjustment of airlines rentals, fees and charges for airlines operating at PHL. PHL and the airlines have agreed upon a two-year extension to the Airline Agreement. As part of the extension, the airlines granted approval to PHL to proceed with projects totaling approximately $250 million. During the two-year extension, PHL and tenant airlines will discuss a longer-term agreement to cover the CEP period. It is anticipated that the PHL will issue bonds in October 2011 to initially fund a portion of the approved projects.

Philadelphia Industrial Development Corporation

PIDC is a private, not-for-profit Pennsylvania corporation, founded in 1958 as a joint venture between the City and the Greater Philadelphia Chamber of Commerce, with the mission of implementing the City's economic development initiatives. PIDC is governed by a 30-member Board of Directors appointed by the Mayor and the President of the Greater Philadelphia Chamber of Commerce. PIDC provides financing programs and real estate services to business and not-for-profit corporations throughout the City as well as coordinates workforce development and developer assistance programs offered by the City and the Commonwealth. PIDC manages the PAID, which serves as a conduit for the issuance of tax-exempt debt and other economic development initiatives. PIDC also is responsible for the redevelopment of the former Philadelphia Naval Shipyard and Naval Station, now collectively known as The Navy Yard, described further below under the section titled "The Navy Yard."

Financing Programs

PIDC offers a variety of financing programs, including direct loans, grants and tax-exempt financing, designed to encourage economic growth in the City.

PIDC Loan Programs: Largely funded by federal, state, and local government sources, PIDC loan programs generally offer subordinated financing and below-market interest rates. Eligible uses of PIDC loans include infrastructure costs, land acquisition, building construction, machinery/equipment purchase, or working capital. During 2010, PIDC settled seventy loan transactions and provided in excess of $50 million of funding to projects valued at approximately $416 million. During the first half of 2011, PIDC settled 31 loans totaling approximately $20 million.

PIDC and PAID Grant Programs: PIDC and PAID administer a number of federal, state and local grant programs, targeted to non-profit organizations in the City. The Commonwealth's Redevelopment Assistance Capital Program and the City's Cultural and Commercial Corridors grant program are important sources of capital funding to local cultural institutions, health-care organizations, universities and community development corporations. During 2010, 85 grant transactions totaling $167.3 million were closed through PIDC and PAID. During the first half of 2011, forty three grants totaling $200 million closed through PIDC and PAID.

PAID Tax-Exempt Programs: PAID issues, as a conduit, tax-exempt bonds for qualified manufacturing and not-for-profit organizations. PAID is also a conduit for taxable issues. During calendar year 2010, PAID settled ten tax-exempt financings for approximately $120 million for project costs totaling $147.5 million. During the first half of 2011, PAID has settled three tax-exempt bonds totaling $36 million.

Real Estate Services

On behalf of the City, PIDC is responsible for managing the City's industrial land inventory by acquiring, improving and selling industrial and commercial land throughout the City. Over the years, PIDC has successfully acquired, improved and sold more than 2,800 acres of such land in 18 industrial parks in the City.

- Industrial Land: PIDC's parcels are competitively priced, zoned and ready for development, as well as fully improved with roads and utilities. Many of these sites are located in established Northeast, West, and Southwest Philadelphia industrial parks with excellent access to transportation and workforce. The other industrial sites are situated in redeveloping commercial neighborhood corridors.

  Most of PIDC's properties are in designated incentive areas, which include specific entitlements to tax abatements, low interest loans and other benefits. Of particular note are the Keystone Opportunity Zones (KOZs), which abate business taxes for varying terms.

  PIDC is seeking opportunities to replenish the City's inventory of industrial land by purchasing distressed or underutilized industrially-zoned sites to improve and sell on behalf of the City. During the first half of 2011, there have been no industrial land sales. This reflects the impact of the overall slowdown in the national and regional economy and the shortage of quality industrial sites in the City. PIDC is negotiating two acquisitions of industrially-zoned sites, which if successful, will settle in 2011 or early 2012.

  In September 2010, PIDC published the Industrial Land and Marketing Strategy, along with the City Commerce Department and the City Planning Commission, which provides a comprehensive review of the City's industrial land inventory, and develops a new industrial land policy to serve as a guide for the nature, location and scale of industrial land acquisition and development for the foreseeable future. PIDC along with the City's Commerce Department and the Planning Commission will commence a comprehensive planning study of the Lower Schuylkill River, with the objective of revitalizing this heavily industrial portion of the City.

- Public Property Sales: In 2005, PIDC entered into an agreement with the City's Department of Public Property to market the City's surplus real estate. Since this effort began, PIDC has completed the sale of 34 properties resulting in approximately $17 million for the City's General Fund. PIDC completed five transactions in 2010 totaling $1,993,800 in sales. There have not been any property sales during the first half of 2011.
- Developer Selection: PIDC also manages developer selection and sales of key real estate assets in the City utilizing conventional RFQ/RFP methodology. PIDC recently selected a developer for development of a location on the Avenue of the Arts at Broad a& South Streets and expects to settle on this property during the last quarter of 2012.

The Navy Yard

During the past decade, the United States Department of Defense has downsized significantly in the Philadelphia area, resulting in substantial excess real estate in the City. PIDC is responsible for converting the former military property at The Navy Yard to civilian use. The Navy Yard, the largest former Defense Department asset with 1,200 acres and 6.5 million square feet of existing industrial and office space, is located on the Delaware River at the south end of Broad Street.

Since the ownership transfer in March 2000, PIDC has been responsible for planning, operations and development of this massive property. Initial development emphasis was on infrastructure and $25 million was invested on upgrades to the roads and utilities systems. The development of the Aker Philadelphia Shipyard, a $300 million state-of-the-art facility, was funded by federal, state, and local sources. To-date more than 115 companies and three Navy operations occupy in excess of 5.5 million square feet of space and employ more than 8,000 people.

In September 2004, PIDC and the City released an updated Navy Yard Master Plan, which focuses on mixed use development on 400 acres east of Broad Street and envisions over $2 billion of private investment in office, research, retail, residential, and recreational projects. To date, major progress has been achieved in implementation of the Master Plan:

- Industrial Anchors: The Navy Yard continues to be a vital industrial and manufacturing center, with the Aker Philadelphia Shipyard as a major anchor. Aker employs in excess of 600 persons in its commercial shipbuilding operation and has completed $2 billion worth of ship orders. During February of 2011, the Commonwealth announced the investment of $42 million (subject to various conditions) to allow Aker to compete for future orders of commercial ships.

  There are also a number of supplier and related industrial and manufacturing companies located at The Navy Yard. The US Navy also retains significant industrial facilities to support its foundry and propeller shop with nearly 800 employees. Building on the skilled workforce and range of industrial supplier companies located at The Navy Yard, Philadelphia Ship Repair and Rhoads Industries each lease a dry-dock, pier and related facilities to support commercial and military ship repair activity. Tasty Baking Company opened a 350,000 SF bakery and distribution center at The Navy Yard in 2010. This facility, along with an additional 200,000 square feet of speculative flex and industrial space, is being developed in the Navy Yard Commerce Center by Liberty Property Trust and Synterra Partners.

- Navy Yard Corporate Center: In 2003, PIDC selected a team led by Liberty Property Trust and Synterra Partners to develop 72 acres with 1.4 million square feet of Class A office space. Liberty/Synterra has developed three buildings, all of which are fully leased: (i) a 77,000-square-foot, multi-tenant speculative building, (ii) a 47,000 square foot build-to-suit headquarters for Unique Industries and (iii) a 95,000 square foot office building completed in the second quarter of 2009. PIDC and Liberty/Synterra are in pre-development for the next phase of speculative office construction.

- Additional Corporate Office Activity: The Navy Yard's shift from a federal, industrial property to a private sector business park is underscored by the number of headquarter relocations including the relocations of Vitetta Architects and Engineers, Unique Industries, and Barthco International. In 2006, Urban Outfitters ("Urban"), a major retailer of clothing, furnishings and accessories completed its $115 million corporate campus, an award-winning historic conversion of approximately 300,000 square feet of former industrial facilities. Urban has grown their headquarters workforce to more than 1,200 employees since relocating to The Navy Yard and completed work on a $20 million, 50,000 square feet expansion in June 2010. Urban exercised their options on additional space with the announcement of expansion plans which will add an additional 1,000 employees once completed in three years. In 2011, the pharmaceutical company GlaxoSmithKline announced the relocation of its operations and 1,300 employees from Center City Philadelphia to The Navy Yard. The brand new, 205,000 square foot, Class A office space facility represents $80 million dollars of private investment. The relocation of GlaxoSmithKline is currently anticipated to occur between fourth quarter 2012 and first quarter 2013.

- Research and Development: In addition to the development of general corporate office facilities, The Navy Yard has established an important market segment in technology and R&D activity. This activity is anchored by the Naval Ship Systems Engineering Station, an 1,800 person federal research lab that houses the Navy's premier research organization focusing on power, energy, fuel cells, propulsion, IT and systems integration. In order to complement and expand this research base, the Commonwealth designated the Navy Yard as a Keystone Innovation Zone (KIZ), providing access to a variety of state incentives for technology development. The KIZ team led by PIDC includes the U.S. Navy, Penn State University, the Delaware Valley Industrial Resource Center (DVIRC), the City of Philadelphia and the Ben Franklin Technology Partners of Southeastern Pennsylvania.

- Green Technology: In 2009, PIDC established the Navy Yard Clean Energy Campus as the identity of Navy Yard R&D activity. Early initiatives of the Clean Energy Campus have resulted in Penn State establishing a Navy Yard location for its graduate level engineering program; the relocation of Ben Franklin Technology Partners' Corporate Office to The Navy Yard; the development of the Building 100 Innovation Center by Ben Franklin, DVIRC and PIDC to house early stage technology companies focused on power and energy related research; and a cadre of twelve related companies with offices at The Navy Yard.

  PIDC and its Navy Yard Clean Energy Campus partners also continue to pursue significant federal funding for research, education and commercialization facilities. The Navy has commenced development on a new, $20 million energy test center. Penn State University was recently awarded $10 million in grants from the Department of Energy ("DOE") to establish regional, Mid Atlantic Centers at The Navy Yard for Solar Training and Resources, Clean Energy Applications and Smart Grid Development. These activities commenced in 2011. PIDC, Penn State University and nearly 100 partners have been awarded a $130 million grant from the Department of Energy to study new technology around energy efficient buildings at The Navy Yard.

  In 2009, significant private investments in the Clean Energy Campus were announced. The first was the development of a seven-acre, 1.5 mega watt solar array to be developed by a partnership of Conergy and Exelon Power Generation. This facility is expected to be under construction in 2011. The second project is the development of a 350,000 square feet, $400 million thin film, solar panel manufacturing facility by Heliospehra USA. This facility is proposed for a start of construction during 2011.

- Life Sciences: The Navy Yard also supports a significant and growing life sciences community. In 2004, AppTec Laboratory Services, a Minneapolis based provider of contract testing and manufacturing services to the pharmaceutical sector, developed a new, 75,000 square feet office and lab facility at The Navy Yard. AppTec, which started with 40 employees, was subsequently acquired by WuXi Pharmaceuticals and now the resultant firm employs 150 persons at The Navy Yard. This facility was recently acquired by Charles River Laboratories, North America's largest contract manufacturing operation. Phoenix IP Ventures, an intellectual property Merchant Bank focused in the life sciences area, established its corporate headquarters at The Navy Yard.

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Additional Projects under Construction

The following table lists additional projects currently under construction in the City for the City/Public sector.

Table 38
Projects under Construction

Project	Estimated Cost
City Hall Exterior Renovation Project	$90,000,000
Robin Hood Dell Restoration	$5,500,000
Emergency Standby Generators	$4,600,000
Philadelphia Industrial Correctional Center Security Upgrade Project	$2,100,000
Fire Point Source Capture	$11,000,000
Waterworks Esplanade Bulkhead Reconstruction	$1,100,000
New Youth Study Center	$93,000,000
Fire Department - New Engine 38	$7,000.000
The Police SWAT/Bomb Squad/K9 Facility	$10,500,000

Source: Office of Budget and Program Evaluation.

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APPENDIX IV

APPROVING OPINION OF BOND COUNSEL

DATED NOVEMBER 25, 1997

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434092.006(PF)

LAW OFFICES
BALLARD SPAHR ANDREWS & INGERSOLL
1735 MARKET STREET, 51ST FLOOR
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215-665-8500
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LAWYERS@BALLARDSPAHR.COM

LAW OFFICES
SINGLEY & ASSOCIATES
SECOND FLOOR
230 SOUTH BROAD STREET
PHILADELPHIA, PA 19102
(215) 875-0609
FAX (215) 875-3464

November 25, 1997

City of Philadelphia
Philadelphia, Pennsylvania

Smith Barney Inc., as
Representative of the Underwriters
One Liberty Place
1650 Market Street, 45th Floor
Philadelphia, PA 19103

Re: $100,000,000 City of Philadelphia, Pennsylvania Water and Wastewater Revenue Bonds, Variable Rate Series 1997B

Ladies and Gentlemen:

We have acted as Co-Bond Counsel in connection with the authorization, issuance and sale by the City of Philadelphia, Pennsylvania (the "City") of the City's Water and Wastewater Revenue Bonds, Series 1997A (the "Series 1997A Bonds") and the City's Water and Wastewater Revenue Bonds, Variable Rate Series 1997B (the "Variable Rate Series 1997B Bonds," and together with the Series 1997A Bonds, the "Series 1997 Bonds"), issued under and pursuant to The First Class City Revenue Bond Act of the Commonwealth of Pennsylvania, approved October 18, 1972, Act No. 234, P.L. 955, as amended (the "Act"), and the City's Restated General Water and Wastewater Revenue Bonds Ordinance of 1989, approved June 24, 1993 (Bill No. 544), as amended (the "General Ordinance"), as supplemented by the Third Supplemental Ordinance authorizing the issuance of the Series 1997 Bonds, approved October 16, 1997 (Bill No. 970515) (the "Third Supplemental Ordinance").

The Variable Rate Series 1997B Bonds, which are simultaneously being issued with the Series 1997A Bonds, are being issued for the purpose of providing funds which, together with other available funds of the City, will be applied (i) to finance certain capital projects of the City's Water Department, (ii) to fund a deposit to the Debt Reserve Account and (iii) to pay costs of issuance relating to the Series 1997 Bonds.

Pursuant to the City's General Water and Sewer Revenue Bond Ordinance of 1974, approved May 16, 1974 (Bill No. 1263), as amended and supplemented (the "Prior Ordinance"), the City has previously issued and there are presently outstanding $235,445,000 aggregate principal amount of Water and Sewer Revenue Bonds, Fourteenth Series, Fifteenth Series and Sixteenth Series (collectively, the "Water and Sewer Revenue Bonds"). In addition to the Water and Sewer Revenue Bonds authorized and issued pursuant to the Prior Ordinance, the City has previously issued and there are presently outstanding $1,079,325,000 aggregate principal amount of Water and Wastewater Revenue Bonds, Series 1993 (the "Series 1993 Bonds") and $216,000,000 aggregate principal amount of Water and Wastewater Revenue Bonds, Series 1995 (the "Series 1995 Bonds") pursuant to the General Ordinance. Upon the issuance of the Series 1993 Bonds, the General Ordinance superseded the Prior Ordinance and the outstanding Water and Sewer Revenue Bonds became subject to the General Ordinance and are no longer subject to the Prior Ordinance. All bonds outstanding under the General Ordinance, including the Water and Sewer Revenue Bonds, the Series 1993 Bonds and the Series 1995 Bonds, are collectively referred to herein as the "Bonds".

The Bonds, the Series 1997 Bonds and all other water and wastewater revenue bonds hereafter issued by the City under the General Ordinance are equally and ratably secured to the extent provided in the General Ordinance and the Act by the pledge of, and the security interest created in, all Project Revenues (as defined in the General Ordinance) derived from the water and wastewater systems of the City and all amounts on deposit in or standing to the credit of the funds and accounts (other than the Rebate Fund) established pursuant to the General Ordinance.

The City has covenanted in the Third Supplemental Ordinance that it will make no investment or other use of the proceeds of the Variable Rate Series 1997B Bonds which would cause the Variable Rate Series 1997B Bonds to be "arbitrage bonds" under Section 148 of the Internal Revenue Code of 1986, as amended (the "Code"), and the rules and regulations thereunder, and that it will comply with the requirements of said Section throughout the term of the Variable Rate Series 1997B Bonds. The City has further covenanted that it will comply with the requirements of the Code that must be met after the issuance of the Variable Rate Series 1997B Bonds in order that interest on the Variable Rate Series 1997B Bonds not be included in gross income for federal income tax purposes. An officer of the City has executed a certificate stating the reasonable expectations of the City on the date of issue of the Variable Rate Series 1997B Bonds as to future events that are material for purposes of Section 148 of the Code pertaining to arbitrage bonds. We have reviewed this certificate, and in our opinion the Variable Rate Series 1997B Bonds are not arbitrage bonds. Also, the City is filing with the Internal Revenue Service a report of the issuance of the Variable Rate Series 1997B Bonds as required by Section 149(e) of the Code as a condition of the exclusion from gross income of the interest on the Variable Rate Series 1997B Bonds for federal income tax purposes.

We have examined such proceedings, documents, statutes and decisions as we consider necessary as the basis for this opinion, including, inter alia, the Act, the General Ordinance, the Third Supplemental Ordinance, and an executed and authenticated Variable Rate Series 1997B Bond. We assume that all other Variable Rate Series 1997B Bonds have been similarly executed and authenticated.

Based upon the foregoing, it is our opinion that:

1. The City has the power under the Constitution and the laws of the Commonwealth of Pennsylvania to perform its obligations under the General Ordinance, the Third Supplemental Ordinance and the Variable Rate Series 1997B Bonds.

2. Under the Constitution and the laws of the Commonwealth of Pennsylvania, the General Ordinance and the Third Supplemental Ordinance, the City is authorized to issue the Variable Rate Series 1997B Bonds, and the terms of the Variable Rate Series 1997B Bonds comply with the requirements of the Act, the General Ordinance and the Third Supplemental Ordinance.

3. The purposes in respect of which the Variable Rate Series 1997B Bonds have been issued are lawful purposes under the Act and the General Ordinance.

4. The General Ordinance and the Third Supplemental Ordinance have been duly enacted and constitute legal, valid and binding obligations of the City with respect to the Variable Rate Series 1997B Bonds, enforceable in accordance with their respective terms, except as enforcement may be limited by bankruptcy, insolvency or other laws or equitable principles affecting the enforcement of creditors' rights.

5. The Variable Rate Series 1997B Bonds have been duly authorized, executed, authenticated, issued and delivered and are the legal, valid and binding obligations of the City, enforceable in accordance with their respective terms, except as enforcement may be limited as set forth in paragraph 4 hereof.

6. Under the Act and the General Ordinance, the Variable Rate Series 1997B Bonds constitute limited obligations of the City payable solely from Project Revenues (as defined in the General Ordinance) and all amounts on deposit in or standing to the credit of the funds and accounts (other than Rebate Fund) established pursuant to the General Ordinance, together with interest earnings, if any, on amounts in such funds and accounts (other than the Rebate Fund). The Variable Rate Series 1997B Bonds do not pledge the credit or taxing power or create any debt or charge against the tax or general revenues of the City or create any lien against property of the City other than all amounts on deposit in or standing to the credit of the funds and accounts (other than Rebate Fund) established pursuant to the General Ordinance, together with interest earnings on amounts in such funds and accounts (other than the Rebate Fund).

7. Under existing law as presently enacted and construed, interest on the Variable Rate Series 1997B Bonds (including any original issue discount properly allocable to the holder thereof) is excludable from gross income for purposes of federal income taxation, assuming the accuracy of certifications by the City and continuing compliance by the City with certain covenants and requirements of the Code, as described above. Interest on the Variable Rate Series 1997B Bonds will not be an item of tax preference for purposes of determining either individual or corporate alternative minimum tax. Interest on Variable Rate Series 1997B Bonds held by a corporation (other than an S corporation, regulated investment company, real estate investment trust or real estate mortgage investment conduit) may be indirectly subject to corporate alternative minimum tax because of its inclusion in the adjusted current earnings of such corporate holder. Interest on the Variable Rate Series 1997B Bonds held by a foreign corporation may be subject to the branch profits tax imposed by the Code.

Ownership of Variable Rate Series 1997B Bonds may result in collateral federal income tax consequences to certain taxpayers, including, without limitation, financial institutions, property and casualty insurance companies, certain S corporations with "excess net passive income," individual recipients of Social Security or Railroad Retirement benefits and taxpayers who may be deemed to have incurred or continued indebtedness to purchase or carry the Variable Rate Series 1997B Bonds. We offer no opinion as to such collateral tax consequences.

8. Under the laws of the Commonwealth of Pennsylvania as presently enacted and construed, the Variable Rate Series 1997B Bonds are exempt from personal property taxes in Pennsylvania, and interest on the Variable Rate Series 1997B Bonds is exempt from Pennsylvania personal income tax and corporate net income tax.

We express no opinion with respect to the accuracy or completeness of the preliminary or final official statement or other documents prepared in connection with the offering and sale of the Variable Rate Series 1997B Bonds or as to any other matter not set forth herein.

Very truly yours,

Ballard Spahr Andrews & Ingersoll
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APPENDIX V

CERTAIN INFORMATION CONCERNING THE BANK

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CERTAIN INFORMATION CONCERNING THE BANK

TD Bank, N.A. (the "Bank") is a national banking association organized under the laws of the United States, with its main office located in Wilmington, Delaware. The Bank is an indirect, wholly-owned subsidiary of The Toronto-Dominion Bank ("TD") and offers a full range of banking services and products to individuals, businesses and governments throughout its market areas, including commercial, consumer, trust and insurance agency services. The Bank operates banking offices in Connecticut, Delaware, the District of Columbia, Florida, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, North Carolina, New York, Pennsylvania, Rhode Island, South Carolina, Vermont and Virginia. As of June 30, 2011, the Bank had consolidated assets of $180.0 billion, consolidated deposits of $142.6 billion and stockholder's equity of $27.3 billion, based on regulatory accounting principles.

On April 1, 2011, TD and the Bank acquired Chrysler Financial Services Americas LLC ("Chrysler Financial") for cash consideration of approximately $6.3 billion. The purchase is comprised of net assets of $5.9 billion and approximately $400 million in goodwill. Under the terms of the acquisition agreement, the Bank acquired the Chrysler Financial business in the U.S. and TD acquired the Chrysler Financial business in Canada. The acquisition gives TD and the Bank all of Chrysler Financial's processes and technology as well as its existing portfolio of retail assets in both countries, and gives TD and the Bank a platform for asset generation in the North American automotive lending market, giving it the opportunity to significantly grow its consumer loan portfolio.

Additional information regarding the foregoing, and the Bank and TD, is available from the filings made by TD with the U.S. Securities and Exchange Commission (the "SEC"), which filings can be inspected and copied at the public reference facilities maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549, at prescribed rates. In addition, the SEC maintains a website at http://www.sec.gov, which contains reports, proxy statements and other information regarding registrants that file such information electronically with the SEC.

The information concerning TD and the Bank contained herein is furnished solely to provide limited introductory information and does not purport to be comprehensive. Such information is qualified in its entirety by the detailed information appearing in the documents and financial statements referenced herein.

The Letter of Credit has been issued by the Bank and is the obligation of the Bank and not TD.

The Bank will provide copies of the publicly available portions of the most recent quarterly Call Report of the Bank delivered to the Comptroller of the Currency, without charge, to each person to whom this document is delivered, on the written request of such person. Written requests should be directed to:

TD Bank, N.A.
1701 Route 70 East
Cherry Hill, New Jersey 08034
Attn: Corporate and Public Affairs

Information regarding the financial condition and results of operations of the Bank is contained in the quarterly Call Reports of the Bank delivered to the Comptroller of the Currency and available online at https://cdr.ffiec.gov/public. General information regarding the Bank may be found in periodic filings made by TD with the SEC. TD is a foreign issuer that is permitted, under a multijurisdictional disclosure system adopted by the United States, to prepare certain filings with the SEC in accordance with the disclosure requirements of Canada, its home country. Canadian disclosure requirements are different from those of the United States. TD's financial statements are prepared in accordance with Canadian generally accepted accounting principles, and may be subject to Canadian auditing and auditor independence standards, and thus may not be comparable to financial statements of United States companies prepared in accordance with United States generally accepted accounting principles.

The delivery hereof shall not create any implication that there has been no change in the affairs of TD or the Bank since the date hereof, or that the information contained or referred to in this Appendix B is correct as of any time subsequent to its date.

APPENDIX VI

FORM OF LETTER OF CREDIT

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IRREVOCABLE DIRECT PAY LETTER OF CREDIT NO. ____________

DATE OF ISSUE: September 1, 2011

ISSUING BANK:
TD Bank, N.A.
6000 Atrium Way
Mt. Laurel, NJ 08054
Attn: International Department

APPLICANT:
City of Philadelphia, Pennsylvania

BENEFICIARY:
U.S. BANK NATIONAL ASSOCIATION,
as Tender Agent and as Fiscal Agent

Amount/Currency:
Up to USD $71,482,794.52

Date and Place of Expiry:
September 1, 2015 at the office of the Issuing Bank designated herein for drawings (or, if not a Business Day, the next succeeding Business Day)

Ladies and Gentlemen:

At the request and for the account of our customer, the City of Philadelphia, Pennsylvania (the "City"), we hereby establish in your favor, as Tender Agent and as Fiscal Agent under the below-defined Variable Rate Securities Agreement, for the benefit of the holders from time to time of the City of Philadelphia, Pennsylvania, Water and Wastewater Revenue Bonds, Variable Rate Series 1997B (the "Bonds"), which have been issued by the City of Philadelphia, Pennsylvania (the "Issuer") under The First Class City Revenue Bond Act, approved October 18, 1972 (Act. No. 234, 53 P.S. Section 15901 et seq.), as amended and supplemented, and the Bond Committee Determination, the Borrower's Restated General Revenue Bond Ordinance of 1989 (Bill No. 544), approved June 24, 1993 (as may be amended from time to time, the "General Ordinance") and the Third Supplemental Ordinance authorizing the issuance of the Bonds (Bill No. 970515) approved October 16, 1997 (the "Third Supplemental Ordinance", and together with the General Ordinance, the "Ordinance") and are outstanding in the aggregate principal amount of $70,100,000.00, this Irrevocable Direct Pay Letter of Credit No.___________ in the amount of $71,482,794.52 (the "Stated Amount"), of which (1) $70,100,000.00 (as from time to time reduced or reinstated as provided in this Letter of Credit, the "Principal Component") shall support the payment of the principal or portion of the purchase price corresponding to principal of the Bonds and (2) up to $1,382,794.52 (as from time to time reduced or reinstated as provided in this Letter of Credit, the "Interest Component") shall support the payment of up to forty-eight (48) days' interest on the Bonds while the Bonds are Weekly Rate Bonds (each as defined in the Variable Rate Securities Agreement) or portion of the purchase price corresponding to interest at an assumed rate of 15% per annum, calculated on the basis of a 365/366-day year, effective immediately and expiring at 5:00 P.M. (Eastern time) on the below-defined Stated Termination Date or earlier as hereinafter provided. Any payment pursuant to a drawing under this Letter of Credit will be made by us with our own funds, and not from any separate funds of the City.

As used herein, the term "Variable Rate Securities Agreement" will be deemed to mean that certain Variable Rate Securities Agreement dated as of November 25, 1997, as amended and restated by the Amended and Restated Variable Rate Securities Agreement dated as of September 1, 2008, and as supplemented by that certain Fiscal Agent Agreement dated as of June 3, 1991 (collectively, the "Variable Rate Securities Agreement"), between the City and U.S. Bank National Association, as Tender Agent and as Fiscal Agent thereunder (in such roles, the "Tender Agent"), and the term "Reimbursement Agreement" means that certain Reimbursement Agreement dated as of September 1, 2011 between the City and us. As used herein, the term "Stated Termination Date" means September 1, 2015 (or, if not a Business Day, the next succeeding Business Day).

We hereby irrevocably authorize you to draw on us with respect to the Bonds (while the Bonds are Weekly Rate Bonds, as defined in the Variable Rate Securities Agreement), in an aggregate amount not to exceed the amount of this Letter of Credit set forth above and in accordance with the terms and conditions and subject to the reductions in amount as hereinafter set forth, (1) in one drawing per month (subject to the provisions contained in the next following paragraph) by your draft (in the form of Annex A attached hereto), payable at sight on a Business Day, and accompanied by your written and completed certificate signed by you in the form of Annex B attached hereto (such draft accompanied by such certificate being your "Interest Drawing"), an amount not exceeding the Interest Component, representing fifty three days' interest on such Bonds, computed at an assumed rate of 15% per annum; (2) in one or more drawings by one or more of your drafts (in the form of Annex A attached hereto), payable at sight on a Business Day, and accompanied by your written and completed certificate signed by you in the form of Annex C attached hereto (any such draft accompanied by such certificate being your "Liquidity Drawing"), an aggregate amount not exceeding the sum of the Principal Component and the Interest Component; (3) in one or more drawings by one or more of your drafts (in the form of Annex A attached hereto), payable at sight on a Business Day, and accompanied by your written and completed certificate signed by you in the form of Annex D attached hereto (any such draft accompanied by such certificate being your "Redemption Drawing"), an aggregate amount not exceeding the sum of the Principal Component and the Interest Component; and (4) in a single drawing by your draft (in the form of Annex A attached hereto), payable at sight on a Business Day, and accompanied by the original of this Letter of Credit and by your written and completed certificate signed by you in the form of Annex E attached hereto (such draft accompanied by such certificate being your "Final Drawing", and any Interest Drawing, Liquidity Drawing, Redemption Drawing or Final Drawing referred to herein being a "Drawing"), an amount not exceeding the sum of the Principal Component and the Interest Component. Each such Drawing shall cover principal of and/or interest on the Bonds. "Business Day" means any day other than a Saturday, Sunday or other day upon which banking institutions located in the state or states in which the City, our principal office (and our office specified herein for draws hereunder), the Remarketing Agent (as defined in the Variable Rate Securities Agreement) and the principal corporate trust office of the Fiscal Agent responsible for the administration of the Variable Rate Securities Agreement or the corporate trust office of the Tender Agent responsible for the administration of the Variable Rate Securities Agreement are located are closed or are required to close or on which the New York Stock Exchange and the payment system of the Federal Reserve System are closed.

If you shall draw on us by your Interest Drawing under clause (1) of the first sentence of the immediately preceding paragraph and you shall not have received from us within six (6) calendar days from the date on which we honor such drawing a written notice to the effect that (i) an Event of Default (as defined in the Reimbursement Agreement) has occurred and is then continuing or (ii) the Interest Component of the Letter of Credit will not be reinstated, and that all of the Bonds are required to be tendered for purchase, your right to draw on us in a single drawing by your Interest

Drawing under said clause (1) shall be automatically reinstated and, effective the seventh (7th) calendar day from the date on which we honor such drawing, you shall again be authorized to draw on us by your Interest Drawing in accordance with said clause (1); provided however, that the Interest Component of this Letter of Credit shall be decreased as hereinafter provided in connection with amounts drawn pursuant to Redemption Drawings or any Liquidity Drawing. The automatic reinstatement of your right to draw on us by your Interest Drawing shall be applicable to successive drawings by your Interest Drawings under clause (1) of the first sentence of the immediately preceding paragraph so long as this Letter of Credit shall not have terminated as set forth below.

Upon our honoring any Liquidity Drawing or Redemption Drawing presented by you hereunder, (i) the Principal Component of this Letter of Credit and the amounts available to be drawn hereunder by you with respect to principal of the Bonds by any subsequent Drawing shall be automatically decreased by an amount equal to the portion of such Liquidity Drawing or Redemption Drawing relating to principal of the Bonds, and (ii) the Interest Component of this Letter of Credit and the amounts available to be drawn hereunder by you with respect to interest on the Bonds by any subsequent Drawing shall be automatically decreased by an amount equal to the portion of such Liquidity Drawing or Redemption Drawing relating to interest, but shall automatically reinstate as follows:

(A) with respect to any decrease upon payment of any Liquidity Drawing, the amount of the Principal Component of this Letter of Credit and the portion of the Interest Component relating thereto shall be increased when and to the extent, but only when and to the extent, that we are reimbursed by or on behalf of the City for any amount drawn hereunder by any Liquidity Drawing. Any amount received by us from or on behalf of the City in reimbursement of amounts drawn hereunder by any Liquidity Drawing, if accompanied by your completed certificate signed by you in the form of Annex F attached hereto, shall be applied to the extent of the amount indicated therein to reimburse us for amounts drawn hereunder by your Liquidity Drawing; and

(B) with respect to any decrease upon payment of any Redemption Drawing or Final Drawing, the amount of such drawing shall not be reinstated.

(C) Funds from us under this Letter of Credit are available to you against presentation of your Interest Drawing, your Liquidity Drawing, your Redemption Drawing and your Final Drawing. Each sight draft drawn under this Letter of Credit must bear on its face the clause "Drawn under TD Bank, N.A. Irrevocable Direct Pay Letter of Credit No.________________." Each Drawing shall be presented to us at the following address: TD Bank, N.A., 6000 Atrium Way, Mt. Laurel, NJ 08054, Attention: International Department. A Drawing shall be deemed to have been presented on the date actually received by us. Presentation will also be deemed made upon our receipt of your telecopier transmission to us (at telecopier number (856) 533-6545) of a facsimile of the appropriate sight draft and drawing certificate properly completed and signed, together with (i) your undertaking to send to us by nationally recognized overnight courier, for receipt on the next following Business Day, the signed originals of such documents and (ii) your telephonic advice to us (at (856) 533-6562 or such other number as we shall specify to you in writing) of your sending of the above-described telecopier transmission. Presentation may not be made in any manner other than as provided in this paragraph. If we receive any of your Drawings (other than a Liquidity Drawing) at our aforesaid office, all in strict conformity with the terms and conditions of this Letter of Credit, not later than 10:00 A.M. (Eastern time) on a Business Day (provided that this Letter of Credit has not then terminated), we will cause payment of same by 1:00 P.M. (Eastern time) on such Business Day in accordance with your payment instructions. If we receive any Liquidity Drawing at our aforesaid office, all in strict conformity with the terms and conditions of this Letter of Credit, not later than 12:30 P.M. (Eastern time) on any Business Day (provided that this Letter of

Credit has not then terminated), we will cause payment of same by 2:30 P.M. (Eastern time) on the same Business Day in accordance with your payment instructions. Any Drawing (whether a Liquidity Drawing or other Drawing) so received after the aforesaid times (Eastern time) on any Business Day will be deemed, for the purposes of this paragraph and the next following paragraph, to have been received at the opening of business on the next succeeding Business Day. If requested by you, payment under this Letter of Credit may be made by wire transfer of Federal Reserve Bank funds to your account in a bank on the Federal Reserve wire system or by deposit of same day funds into a designated account that you maintain with us. As used in this Letter of Credit "cause payment" shall mean (i) the deposit of same day funds into a designated account with us, if such deposit is requested; or (ii) if wire transfer is requested, the entry of an appropriate wire transfer in the Federal Reserve wire system and the obtaining of a Federal Reserve reference number.

Upon the earliest of (i) our honoring your Final Drawing presented hereunder accompanied by this Letter of Credit, (ii) 5:00 p.m. (Eastern time) on the date on which we receive a certificate signed by you accompanied by this Letter of Credit stating that the City has provided and you have accepted an Alternative Letter of Credit (as defined in the Variable Rate Securities Agreement) in accordance with the terms of the Variable Rate Securities Agreement that is effective the date of such certificate, (iii) 5:00 p.m. (Eastern time) on the date on which we receive a certificate signed by you accompanied by this Letter of Credit (provided, however, that the Letter of Credit shall not be surrendered prior to honoring any draw request resulting from the mandatory tender for purchase of the Bonds on such Conversion Date) (as defined in the Variable Rate Securities Agreement) stating that a Conversion Date to an Interest Rate Period other than a Weekly Rate Period (as defined in the Variable Rate Securities Agreement) has occurred pursuant to the Variable Rate Securities Agreement and the Letter of Credit will not be applicable to the Bonds and (iv) the Stated Termination Date, this Letter of Credit shall terminate. Notwithstanding the giving by us of any notice of non-reinstatement of the Interest Component or the giving by us of any notice of any "Event of Default" as defined in our Reimbursement Agreement with the City, this Letter of Credit shall remain in effect in accordance with its terms and shall not terminate until the occurrence of the earliest of the circumstances described in clauses (i), (ii), (iii) and (iv) of the immediately preceding sentence.

This Letter of Credit is transferable in its entirety (but not in part) to any transferee whom you certify to us has succeeded you as Tender Agent under the Variable Rate Securities Agreement, and may be successively transferred. Transfer of the available balance under this Letter of Credit to such transferee shall be effected by the presentation to us of this Letter of Credit accompanied by a certificate in the form of Annex G attached hereto and payment of our transfer fee. Upon such presentation, we shall forthwith transfer the same to your transferee. A transfer fee is payable to us as set forth in the Reimbursement Agreement.

This Letter of Credit sets forth in full our undertaking, and such undertaking shall not in any way be modified, amended, amplified or limited by reference to any document, instrument or agreement referred to herein (including, without limitation, the Bonds), except only the Drawings referred to herein, which are hereby incorporated by reference; and any such reference shall not be deemed to incorporate herein by reference any document, instrument or agreement except for such Drawings.

Only you (or a transferee permitted by the terms of this Letter of Credit) may make drawings under this Letter of Credit. Upon the payment to you or to your account of the amount specified in a sight draft drawn hereunder, we shall be fully discharged on our obligation under this Letter of Credit with respect to such draft, and we shall not thereafter be obligated to make any further payments under this Letter of Credit in respect of such draft to you or to any other person who may have made to you or who makes to you a demand for payment of principal of, or interest on, any Bond.

Communications with respect to this Letter of Credit shall be addressed to the Bank at TD Bank, N.A., 6000 Atrium Way, Mt. Laurel, NJ 08054, Attention: International Department.

To the extent not inconsistent with the express terms hereof, this Letter of Credit shall be governed by, and construed in accordance with, the International Standby Practices 1998 ("ISP98") and, as to matters not covered by the ISP98, this Letter of Credit shall be governed by the internal laws of the Commonwealth of Pennsylvania, including without limitation the Uniform Commercial Code as in effect in the Commonwealth of Pennsylvania.

This Letter of Credit sets forth in full the terms of our undertaking, and such undertaking shall not in any way be modified or amended by reference to any other document whatsoever.

TD BANK, N.A.

By: ____
Name: __________________________________
Title: ___________________________________

<u>Annex A</u>

[Form of Sight Draft]

DRAWN UNDER TD BANK, N.A.
IRREVOCABLE DIRECT PAY LETTER OF CREDIT NO. __________________

FOR VALUE RECEIVED

Pay on Demand to

U.S. BANK NATIONAL ASSOCIATION, as Tender Agent

(U.S. $ ______________________)

Charge to account of TD Bank, N.A.

Irrevocable Direct Pay Letter of Credit No. ________________ dated September 1, 2011

TO: TD Bank, N.A.
6000 Atrium Way
Mt. Laurel, NJ 08054
Attention: International Department

____________________ , as Tender Agent

By:_________________________________
Authorized Signer

The signature below constitutes an endorsement of this sight draft.

____________________, as Tender Agent

By:_________________________________
Authorized Signer

[Insert payment instructions]

Annex B

[Form of Certificate for Interest Drawing]

CERTIFICATE FOR DRAWING IN CONNECTION WITH THE PAYMENT
OF UP TO FORTY-EIGHT (48) DAYS' INTEREST

Irrevocable Direct Pay Letter of Credit No. ____________

The undersigned, a duly authorized signer of the undersigned Tender Agent (the "Tender Agent"), hereby certifies to TD Bank, N.A. (the "Bank"), with reference to Irrevocable Direct Pay Letter of Credit No. _________________ (the "Letter of Credit"; the terms defined therein and not otherwise defined herein being used herein as therein defined) issued by the Bank in favor of the Tender Agent, as follows:

(1) The Tender Agent is the Tender Agent and the Fiscal Agent (herein, the "Tender Agent") as defined in the Reimbursement Agreement and in the Variable Rate Securities Agreement.

(2) The Tender Agent is making a drawing under the Letter of Credit with respect to a payment of interest on Bonds during a Weekly Rate Period, which payment is due and payable or which will become due and payable on the date specified as follows: [date]. As of the record date for such interest payment, none of the Bonds to which this drawing relates were City-Owned or Purchased Bonds, as those terms are defined in the Variable Rate Securities Agreement.

(3) [The Interest Drawing of which this Certificate is a part is the first Interest Drawing presented by the Tender Agent under the Letter of Credit, and covers interest on the Bonds accruing on and after September 1, 2011][*] OR [Not less than six (6) days has elapsed since the Interest Drawing last presented by the Tender Agent under the Letter of Credit was honored and paid by the Bank and the Tender Agent has not received within six (6) days after payment of such Interest Drawing a notice from the Bank that an Event of Default (as defined in the Reimbursement Agreement)[*] has occurred and that the Interest Component of the Letter of Credit will not be reinstated.][**]

(4) The amount of the Interest Drawing of which this Certificate is a part is $___________. It was computed in compliance with the terms and conditions of the Bonds and the Variable Rate Securities Agreement and does not exceed the amount available to be drawn by the Tender Agent as the Interest Component under the Letter of Credit.

[*] To be used in the Certificate relating to the first Interest Drawing only.
[**] To be used in each Certificate relating to each Interest Drawing other than the first Interest Drawing.

(5) Upon receipt by the undersigned of the amount demanded hereby, (a) the undersigned will apply the same directly to the payment when due of the interest amount owing on account of the Bonds on an interest payment date (or, to the extent not needed for that purpose, will be returned to the Bank), (b) no portion of said amount shall be applied by the undersigned for any other purpose, and (c) no portion of said amount shall be commingled with other funds held by the undersigned.

IN WITNESS WHEREOF, the Tender Agent has executed and delivered this Certificate as of the_________day of ________, 20___.

U.S. BANK NATIONAL ASSOCIATION as Tender Agent

By: ______________________________
Name:
Title:

Annex C

[Form of Certificate for Liquidity Drawing]

CERTIFICATE FOR DRAWING IN CONNECTION WITH THE PAYMENT OF THE PURCHASE PRICE OF BONDS TENDERED AT THE OPTION OF THE HOLDERS THEREOF OR PURSUANT TO MANDATORY TENDER

Irrevocable Direct Pay Letter of Credit No. ____________

The undersigned, a duly authorized signer of the undersigned Tender Agent (the "Tender Agent"), hereby certifies to TD Bank, N.A. (the "Bank"), with reference to Irrevocable Direct Pay Letter of Credit No. ___________ (the "Letter of Credit"; the terms defined therein and not otherwise defined herein being used herein as therein defined) issued by the Bank in favor of the Tender Agent, as follows:

(1) The Tender Agent is the Tender Agent and the Fiscal Agent (herein, the "Tender Agent") as defined in the Reimbursement Agreement and in the Variable Rate Securities Agreement.

(2) The Tender Agent is making a drawing under the Letter of Credit with respect to a payment, upon a tender of all or less than all of the Bonds during a Weekly Rate Period that are Outstanding (as defined in the Variable Rate Securities Agreement) (other than City-Owned or Purchased Bonds, as those terms are defined in the Variable Rate Securities Agreement), of the unpaid principal amount of, and up to forty-eight (48) days' interest on, the Bonds to be purchased as a result of [optional tender pursuant to the terms of Section 1.02(a) of the Variable Rate Securities Agreement] [mandatory tender pursuant to the terms of Section 1.02(c), (d) or (e) of the Variable Rate Securities Agreement].*

(3) The amount of the Liquidity Drawing of which this Certificate is a part is equal to the sum of (i) $_______________ being drawn in respect of the payment of unpaid principal of Bonds during a Weekly Rate Period (other than City-Owned or Purchased Bonds, as those terms are defined in the Variable Rate Securities Agreement) to be purchased as a result of a tender, plus (ii) $______________ being drawn in respect of the payment of interest on such Bonds.

(4) The Tender Agent shall cause to be registered in the name of the Bank, or its designee, as pledgee of the City, as provided in Section 2.01(b) of the Variable Rate Securities Agreement, and shall deliver or cause to be delivered to the Bank or its designee, a principal amount of Bonds equal to the principal amount of the Liquidity Drawing of which this Certificate is a part as promptly as practicable, and in any event within three (3) Business Days after presentation of said Liquidity Drawing.

---

* Select one

(5) Upon receipt by the undersigned of the amount demanded hereby, (a) the undersigned will apply the same directly to the payment when due of the purchase price of, and interest on, Bonds tendered pursuant to the Variable Rate Securities Agreement (or, to the extent not needed for that purpose, will be returned to the Bank), (b) no portion of said amount shall be applied by the undersigned for any other purpose, and (c) no portion of said amount shall be commingled with other funds held by the undersigned.

(6) The amount of the Liquidity Drawing of which this Certificate is a part was computed in compliance with the terms and conditions of the Bonds and the Variable Rate Securities Agreement and does not exceed the amount available to be drawn by the Tender Agent under the Letter of Credit; the amount being drawn hereby in respect of interest does not exceed the Interest Component and the amount being drawn hereby in respect of principal does not exceed the Principal Component.

The Tender Agent acknowledges that, pursuant to the terms of the Letter of Credit, upon the Bank's honoring of the Liquidity Drawing of which this Certificate is a part, the amount of the Letter of Credit and the amounts available to be drawn by the Tender Agent thereunder by any subsequent Drawing are automatically decreased, subject to reinstatement as set forth in the Letter of Credit.

IN WITNESS WHEREOF, the Tender Agent has executed and delivered this Certificate as of the __________ day of ________________.

U.S. BANK NATIONAL ASSOCIATION
as Tender Agent

By: ____________________________
Name:
Title:

Annex D

[Form of Certificate for Redemption Drawing]

CERTIFICATE FOR DRAWING IN CONNECTION WITH THE PAYMENT OF PRINCIPAL AND UP TO FORTY-EIGHT (48) DAYS' INTEREST UPON REDEMPTION

Irrevocable Direct Pay Letter of Credit No. _______________

The undersigned, a duly authorized signer of the undersigned Tender Agent (the "Tender Agent"), hereby certifies to TD Bank, N.A. (the "Bank"), with reference to Irrevocable Direct Pay Letter of Credit No. ______________________ (the "Letter of Credit"; the terms defined therein and not otherwise defined herein being used herein as therein defined) issued by the Bank in favor of the Tender Agent, as follows:

(1) The Tender Agent is the Tender Agent and the Fiscal Agent (herein, the "Tender Agent") as defined in the Reimbursement Agreement and in the Variable Rate Securities Agreement.

(2) The Tender Agent is making a drawing under the Letter of Credit with respect to a payment, upon redemption of less than all of the Bonds during a Weekly Rate Period that are Outstanding (as defined in the Variable Rate Securities Agreement), of the unpaid principal amount of, and up to forty-eight (48) days' interest on, the Bonds (other than City-Owned or Purchased Bonds, as those terms are defined in the Variable Rate Securities Agreement) to be redeemed pursuant to Section 3.01 of the Variable Rate Securities Agreement.

(3) The amount of the Redemption Drawing of which this Certificate is a part is equal to the sum of (i) $_______________ being drawn in respect of the payment of unpaid principal of Bonds during a Weekly Rate Period (other than City-Owned or Bank Bonds, as those terms are defined in the Variable Rate Securities Agreement) to be redeemed, plus (ii) $________________ being drawn in respect of the payment of interest on such Bonds.

(4) The amount of the Redemption Drawing of which this Certificate is a part was computed in accordance with the terms and conditions of the Bonds and the Variable Rate Securities Agreement and does not exceed the amount available to be drawn by the Tender Agent under the Letter of Credit; the amount being drawn hereby in respect of interest does not exceed the Interest Component and the amount being drawn hereby in respect of principal does not exceed the Principal Component.

(5) This Certificate and the Redemption Drawing of which it is a part are dated, and are being presented to the Bank for payment on, the date on which the unpaid principal amount of and interest on Bonds to be redeemed are due and payable under the Variable Rate Securities Agreement upon redemption of less than all of the Bonds that are Outstanding (as defined in the Variable Rate Securities Agreement).

(6) Upon receipt by the undersigned of the amount demanded hereby, (a) the undersigned will apply the same directly to the payment when due of the principal amount of, and interest on, Bonds to be redeemed pursuant to the Variable Rate Securities Agreement, (b) no portion of said amount shall be applied by the undersigned for any other purpose, and (c) no portion of said amount shall be commingled with other funds held by the undersigned.

The Tender Agent acknowledges that, pursuant to the terms of the Letter of Credit, upon the Bank's honoring the Redemption Drawing of which this Certificate is a part, the amount of the Letter of Credit and the amounts available to be drawn by the Tender Agent thereunder by any subsequent Drawing are automatically and permanently decreased by the amounts set forth in the Letter of Credit. The Tender Agent acknowledges that pursuant to the immediately preceding sentence, the Principal Component of the Letter of Credit is being permanently reduced by $_____________________ (the amount set forth in clause (i) of Paragraph 3 above) and the maximum amount to which the Interest Component can be reinstated under the Letter of Credit is being permanently reduced by $____________________________ (the product of (x) the amount set forth in clause (i) of Paragraph 3 above, times (y) 0.15, times (z) [ ]/365).

IN WITNESS WHEREOF, the Tender Agent has executed and delivered this Certificate as of the_____________ day of _________ , 20___.

U.S. BANK NATIONAL ASSOCIATION
as Tender Agent

By:__________________
Name:
Title:

Annex E

[Form of Certificate for Final Drawing]

CERTIFICATE FOR DRAWING IN CONNECTION WITH THE PAYMENT OF PRINCIPAL AND UP TO FORTY-EIGHT (48) DAYS' INTEREST, UPON STATED OR ACCELERATED MATURITY OR OPTIONAL OR MANDATORY REDEMPTION AS A WHOLE

Irrevocable Direct Pay Letter of Credit No. ______________

The undersigned, a duly authorized signer of the undersigned Tender Agent (the "Tender Agent"), hereby certifies to TD Bank, N.A. (the "Bank"), with reference to Irrevocable Direct Pay Letter of Credit No. __________________ (the "Letter of Credit"; the terms defined therein and not otherwise defined herein being used herein as therein defined) issued by the Bank in favor of the Tender Agent, as follows:

(1) The Tender Agent is the Tender Agent and the Fiscal Agent (herein, the "Tender Agent") as defined in the Reimbursement Agreement and in the Variable Rate Securities Agreement.

(2) The Tender Agent is making a drawing under the Letter of Credit with respect to a payment*

[ ] upon stated maturity, pursuant to the Bonds,

[ ] upon acceleration, pursuant to Section 4.02 or 4.11 of the Variable Rate Securities Agreement,

[ ] upon optional redemption in whole, pursuant to Section 3.01(a) of the Variable Rate Securities Agreement,

of the unpaid principal amount of and up to forty-eight (48) days' interest on, all of the Bonds during a Weekly Rate Period that are Outstanding within the meaning of the Variable Rate Securities Agreement (other than City-Owned or Purchased Bonds, as those terms are defined in the Variable Rate Securities Agreement).

(3) The amount of the Final Drawing of which this Certificate is a part is equal to the sum of (i) $ being drawn in respect of the payment of unpaid principal of Bonds (other than City-Owned or Purchased Bonds, as those terms are defined in the Variable Rate Securities Agreement), plus (ii) $ __________________ being drawn in respect of the payment of interest on such Bonds.

* Check applicable provision.

(4) The amount of the Final Drawing of which this Certificate is a part was computed in compliance with the terms and conditions of the Bonds and the Variable Rate Securities Agreement and does not exceed the amount available to be drawn by the Tender Agent under the Letter of Credit; the amount being drawn hereby in respect of interest does not exceed the Interest Component and the amount being drawn hereby in respect of principal does not exceed the Principal Component.

(5) Upon receipt by the undersigned of the amount demanded hereby, (a) the undersigned will apply the same directly to the payment when due of the principal amount of, and interest on, the Bonds pursuant to the Variable Rate Securities Agreement, (b) no portion of said amount shall be applied by the undersigned for any other purpose, and (c) no portion of said amount shall be commingled with other funds held by the undersigned.

The Tender Agent acknowledges that, pursuant to the terms of the Letter of Credit, upon the Bank's honoring the Final Drawing of which this Certificate is a part, the Letter of Credit is automatically terminated and no further amounts are available to be drawn by the Tender Agent thereunder.

IN WITNESS WHEREOF, the Tender Agent has executed and delivered this Certificate as of the___________________ day of _________________, _______.

U.S. BANK NATIONAL ASSOCIATION
as Tender Agent

By:_________________
Name:
Title:

Annex F

[Form of Reinstatement Certificate for Liquidity Drawing]

CERTIFICATE FOR THE REINSTATEMENT OF AMOUNTS AVAILABLE UNDER IRREVOCABLE DIRECT PAY LETTER OF CREDIT NO. _____________

The undersigned, a duly authorized signer of the undersigned Tender Agent (the "Tender Agent"), hereby certifies to TD Bank, N.A. (the "Bank"), with reference to Irrevocable Direct Pay Letter of Credit No. _________________ (the "Letter of Credit"; the terms defined therein and not otherwise defined herein being used herein as therein defined) issued by the Bank in favor of the Tender Agent, as follows:

(1) The Tender Agent is the Tender Agent and the Fiscal Agent (herein, the "Tender Agent") as defined in the Reimbursement Agreement and in the Variable Rate Securities Agreement.

(2) The amount of $_______________- paid to you today by or on behalf of the City is a payment made to reimburse you, pursuant to the Reimbursement Agreement, for amounts drawn under the Letter of Credit by Liquidity Drawings. Of such amount, $ ____________________________ represents the aggregate principal amount of Bonds resold or to be resold on behalf of the City and $_________________ represents interest on such Bonds. The Tender Agent hereby requests that you reinstate the Principal Component of the Letter of Credit upon receipt of such payment in an amount equal to such principal amount and that you reinstate the portion of the Interest Component of the Letter of Credit relating to such Bonds.

IN WITNESS WHEREOF, the Tender Agent has executed and delivered this Certificate as of the _____________ day of ____________, ______.

U.S. BANK NATIONAL ASSOCIATION
as Tender Agent

By:____________________
Name:
Title:

Annex G

[Form of Transfer Certificate]

INSTRUCTION TO TRANSFER

[Date]

TD Bank, N.A.
6000 Atrium Way
Mt. Laurel, NJ 08054
Attention: International Department

Re: TD Bank, N.A. Irrevocable Direct Pay Letter of Credit No. _________________

Gentlemen:

For value received, the undersigned beneficiary hereby irrevocably transfers to the following (the Transferee):

____
[Name of Transferee]

____
[Address]

all rights of the undersigned beneficiary to draw under the above-captioned Letter of Credit (the "Letter of Credit") in its entirety. The Transferee has succeeded the undersigned as Tender Agent under the Variable Rate Securities Agreement (as defined in the Letter of Credit).

By this transfer, all rights of the undersigned beneficiary in the Letter of Credit are transferred to the Transferee and the Transferee shall have the sole rights as beneficiary thereof, including sole rights relating to any amendments of the Letter of Credit, whether increases in the amount to be drawn thereunder, extensions of the expiration date thereof, or other amendments, and whether such amendments now exist or are made after the date hereof. All amendments of the Letter of Credit are to be delivered directly to the Transferee without necessity of any consent of or notice to the undersigned beneficiary. The undersigned hereby certifies that the Transferee has become successor Tender Agent under the Variable Rate Securities Agreement, and has accepted such appointment in writing.

The original of the Letter of Credit is returned herewith, and in accordance therewith we ask you to endorse the within transfer on the reverse thereof, and forward it directly to the Transferee with your customary notice of transfer.

Very truly yours,

U.S. BANK NATIONAL ASSOCIATION, as predecessor Tender Agent

By: ___________________________
Authorized Signer

We certify that we have succeeded U.S. BANK NATIONAL ASSOCIATION as Tender Agent under the Variable Rate Securities Agreement.

[Name of Transferee]

By: ___________________________
Authorized Signer

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APPENDIX VII

CONTINUING DISCLOSURE AGREEMENT

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CONTINUING DISCLOSURE AGREEMENT

$78,500,000
CITY OF PHILADELPHIA, PENNSYLVANIA
Water and Wastewater Revenue Bonds,
Variable Rate Series 1997B

This Continuing Disclosure Agreement (this "Disclosure Agreement") is executed and delivered as of this 10th day of September, 2008 by and between the City of Philadelphia, a corporation and body politic existing under the laws of the Commonwealth of Pennsylvania (the "City") and Digital Assurance Certification, L.L.C., as dissemination agent (the "Dissemination Agent"), relating to $78,500,000 aggregate principal amount of the City's Water and Wastewater Revenue Bonds, Variable Rate Series 1997B (the "Bonds").

The Bonds were issued under The First Class City Revenue Bond Act, P.L. 955, Act No. 234 of the General Assembly of the Commonwealth of Pennsylvania, approved October 18, 1972 (the "Act") and the City's Restated General Water and Wastewater Revenue Bond Ordinance of 1989, approved June 24, 1993 (the "Restated General Ordinance"), as supplemented by the First Supplemental Ordinance approved June 24, 1993 (the "First Supplemental Ordinance"), authorizing the issuance of Water and Wastewater Revenue Bonds, Series 1993, the Second Supplemental Ordinance approved May 9, 1994 (the "Second Supplemental Ordinance"), authorizing the issuance of Water and Wastewater Revenue Bonds, Series 1995, and the Third Supplemental Ordinance approved October 27, 1997 (the "Third Supplemental Ordinance"), authorizing the issuance of Water and Wastewater Revenue Bonds, Series 1997A and Water and Wastewater Revenue Bonds, Variable Rate Series 1997B. Since the Bonds were issued, the Restated General Ordinance also has been supplemented by (a) the Fourth Supplemental Ordinance approved December 11, 1998 (the "Fourth Supplemental Ordinance"), authorizing the issuance of Water and Wastewater Revenue Bonds, Series 1998, (b) the Fifth Supplemental Ordinance approved December 11, 1998 (the "Fifth Supplemental Ordinance"), authorizing the issuance of Water and Wastewater Revenue Bonds, Series 1999, (c) the Sixth Supplemental Ordinance approved December 11, 1998 (the "Sixth Supplemental Ordinance"), authorizing the issuance of Water and Wastewater Revenue Bonds, Series 1999A, (d) the Seventh Supplemental Ordinance approved May 10, 2001 (the "Seventh Supplemental Ordinance"), authorizing the issuance of Water and Wastewater Revenue Bonds, Series 2001A and Water and Wastewater Revenue Refunding Bonds, Series 2001B, (e) the Eighth Supplemental Ordinance approved November 22, 2002 (the "Eighth Supplemental Ordinance"), authorizing the issuance of the Water and Wastewater Revenue Bonds, Series 2005A, (f) the Ninth Supplemental Ordinance approved November 22, 2002 (the "Ninth Supplemental Ordinance"), authorizing the issuance of Water and Wastewater Revenue Refunding Bonds, Variable Rate Series 2003 and Water and Wastewater Revenue Refunding Bonds, Variable Rate Series 2005B, (g) the Tenth Supplemental Ordinance approved November 16, 2006 (the "Tenth Supplemental Ordinance") authorizing the issuance of the Bonds and (h) the Eleventh Supplemental Ordinance approved November 16, 2006 (the "Eleventh Supplemental Ordinance") authorizing the issuance of an additional $325,000,000 in aggregate principal amount (exclusive of original issue discount) of Water and Wastewater Revenue Bonds to finance certain capital projects for the Water Department. The Restated General Ordinance, as supplemented and amended by any amendment thereto contained in the First Supplemental Ordinance, the Second Supplemental Ordinance, the Third Supplemental Ordinance, the Fourth Supplemental Ordinance, the Fifth Supplemental Ordinance, the Sixth Supplemental Ordinance, the Seventh Supplemental Ordinance, the Eighth Supplemental Ordinance, the Ninth Supplemental Ordinance, the Tenth Supplemental Ordinance and the Eleventh Supplemental Ordinance, and as amended by an Ordinance approved on January 23, 2007, is hereafter referred to as the "General Ordinance."

In consideration of the mutual covenants, promises and agreements contained herein and intending to be legally bound hereby, the parties hereto agree as follows:

Section 1. <u>Definitions.</u>

In this Disclosure Agreement and any agreement supplemental hereto (except as otherwise expressly provided or unless the context clearly requires otherwise) terms defined in the recitals hereto shall have such meanings throughout this Disclosure Agreement, and, in addition, the following terms shall have the meanings specified below:

"Annual Financial Information" means the financial information or operating data with respect to the Water Department, delivered at least annually pursuant to Section 3 hereof, substantially similar to the type set forth in Exhibit A attached hereto and in accordance with the Rule. The financial statements comprising the Annual Financial Information are prepared according to accounting methods and procedures which conform to generally accepted accounting principles for governmental units as prescribed by the Governmental Accounting Standards Board.

"Bond Committee Determination" means the Bond Committee Determination dated October 29, 1997, as amended and supplemented by the Supplement to Bond Committee Determination dated November 20, 1997 and the Second Supplement to Bond Committee Determination dated August 21, 2008, by and among the Mayor, City Controller and the City Solicitor of the City of Philadelphia, Pennsylvania relating to the Bonds.

"Business Day" or "Business Days" means any day other than a Saturday or Sunday or, in the City, a legal holiday or a day on which banking institutions are authorized by law to close or a day on which the Dissemination Agent is closed.

"Disclosure Representative" means the Director of Finance of the City or such other official or employee of the City as the Director of Finance shall designate in writing to the Dissemination Agent.

"Fiscal Agent" means U.S. Bank National Association, as fiscal agent under the Fiscal Agent Agreement.

"Material Event" means any of the events listed in Section 4(a) of this Disclosure Agreement, if material within the meaning of the Rule.

"MSRB" means the Municipal Securities Rulemaking Board.

"National Repository" means any nationally recognized municipal securities information repository now or hereafter designated as such by the Securities and Exchange Commission for purposes of the Rule. The National Repositories currently approved by the Securities and Exchange Commission can be found at *www.sec.gov/info/municipal/nrmsir.htm*.

"Participating Underwriters" means any of the original underwriters of the Bonds required to comply with the Rule in connection with the purchase and reoffering of the Bonds.

"Registered Owner" or "Registered Owners" means the person or persons in whose name a Bond is registered on the books of the City maintained by the Fiscal Agent in accordance with the General Ordinance. For so long as the Bonds shall be registered in the name of the Securities Depository or its nominee, the term "Registered Owners" shall also mean and include, for the purposes of this Disclosure Agreement, beneficial owners and the owners of book-entry credits evidencing a beneficial ownership interest in the Bonds; provided, however, that the Dissemination Agent shall have no obligation to provide notice hereunder to owners of book-entry credits in the Bonds, except those who have filed their names and addresses with the Dissemination Agent for the purpose of receiving notices or giving direction under this Disclosure Agreement.

"Reoffering Circular" means the City's Reoffering Circular dated September 4, 2008 relating to the Bonds.

"Rule" means Rule 15c2-12 promulgated by the Securities and Exchange Commission under the Securities Exchange Act of 1934, as amended, as such rule may be amended from time to time.

"Securities Depository" means The Depository Trust Company, New York, New York, or its nominee, Cede & Co., or any successor thereto appointed pursuant to the General Ordinance.

"State Information Depository" means any public or private repository designated by the Commonwealth of Pennsylvania as a state information depository within the meaning of the Rule. As of the date of this Disclosure Agreement, there is no State Information Depository.

"Water Department" means the Water Department of the City of Philadelphia.

Section 2. **Authorization and Purpose of Agreement.** This Disclosure Agreement is authorized to be executed and delivered by the City pursuant to the Restated General Ordinance and the Third Supplemental Ordinance for the benefit of Registered Owners of the Bonds.

Section 3. **Provision and Filing of Annual Financial Information.**

(a) Within 240 days of the close of each fiscal year of the City, commencing with the fiscal year ended June 30, 2008, the Disclosure Representative shall file with the Dissemination Agent Annual Financial Information for such fiscal year. The Dissemination Agent shall file promptly upon receipt thereof the Annual Financial Information with each National Repository and with the State Information Depository, if any, the Annual Financial Information shall be in the form of the City's Comprehensive Annual Financial Report and, to the extent such information is not included therein, will include the other information set forth on Exhibit A, and will contain unaudited financial statements if audited financial statements are not available.

(b) As soon as audited financial statements for the City are available, commencing with the audited financial statements for the fiscal year ended June 30, 2008, the Disclosure Representative shall file the audited financial statements with the Dissemination Agent. The Dissemination Agent shall file promptly upon receipt thereof the audited financial statements with each National Repository and the State Information Depository, if any.

Section 4. Material Events.

(a) the City agrees that it shall provide through the Dissemination Agent, in a timely manner, each National Repository or to the MSRB and to the State Information Depository, if any, notice of the occurrence of any of the following events with respect to the Bonds if material within the meaning of the Rule (each a "Material Event"):

(1) principal and interest payment delinquencies;

(2) non-payment related defaults;

(3) unscheduled draws on debt service reserves reflecting financial difficulties;

(4) unscheduled draws on credit enhancements, if any, reflecting financial difficulties;

(5) substitution of credit or liquidity providers, if any, or their failure to perform;

(6) adverse tax opinions or events affecting the tax-exempt status of the Bonds;

(7) modifications to the rights of the holders of the Bonds;

(8) bond calls;

(9) defeasances;

(10) release, substitution, or sale of property securing repayment of the Bonds; and

(11) rating changes.

The foregoing eleven events are quoted from the Rule. No mandatory redemption shall be deemed a material event.

(b) Whenever the City concludes that a Material Event has occurred, the Disclosure Representative shall promptly notify the Dissemination Agent in writing of such occurrence, specifying the Material Event. Such notice shall instruct the Dissemination Agent to file a notice of such occurrence with each National Repository or the MSRB and the State Information Depository, if any. Upon receipt, the Dissemination Agent shall promptly file such notice with each National Repository or the MSRB and the State Information Depository, if any. In addition, the Dissemination Agent shall file with each National Repository or the MSRB and the State Information Depository, if any, notice of any failure by the City or the Dissemination Agent to timely file the Annual Financial Information as provided in Section 3 hereof, including any failure by the City or the Disclosure Representative to provide the Annual Financial Information on or before the date specified in Section 3(a) hereof, no later than noon of the following business day. Any filing with each National Repository, the MSRB and the State Information Depository, if any, shall be accompanied by the form annexed hereto as Exhibit B and made a part hereof.

(c) Notwithstanding the foregoing, the Dissemination Agent shall, promptly after obtaining actual knowledge of an event listed in clauses (a)(1), (3), (4), (5), (8) or (9) of this Section 4, notify the Disclosure Representative of the occurrence of such event and shall, within three Business Days after giving notice to the Disclosure Representative, file notice of such occurrence with each National Repository or the MSRB and the State Information Depository, if any, unless the Disclosure Representative gives the Dissemination Agent written instructions not to file such notice because the event has not occurred or the event is not material within the meaning of the Rule.

(d) The Dissemination Agent shall prepare an affidavit of mailing for each notice delivered pursuant to clauses (b) and (c) of this Section 4 and shall deliver such affidavit to the City no later than three Business Days following the date of delivery of such notice.

(e) The Dissemination Agent shall request the return from each National Repository, the MSRB and the State Information Depository, if any, of acknowledgement or receipt of any notice delivered to each National Repository, the MSRB and the State Information Depository, if any. Upon the return of all completed acknowledgements of a notice, the Dissemination Agent shall prepare an affidavit of receipt specifying the date and hour of receipt of such notice by each recipient to the extent such information has been provided to the Dissemination Agent. Such affidavit of receipt shall be delivered to the City no later than three Business Days following the date of receipt by the Dissemination Agent of the last completed acknowledgement. Any delivery may be made by electronic transmission through the DAC system.

Section 5. Amendment; Waiver.

(a) Notwithstanding any other provision of this Disclosure Agreement, the City and the Dissemination Agent may amend this Disclosure Agreement or waive any of the provisions hereof by a writing executed by each of the parties hereto, provided that no such amendment or waiver shall be executed by the parties hereto or be effective unless:

(i) the amendment or waiver is made in connection with a change in circumstances that arises from a change in legal requirements, change in law or change in identity, nature or status of the Water Department, the City or the governmental operations conducted by the City;

(ii) this Disclosure Agreement, as amended by the amendment or waiver, would have been the written undertaking contemplated by the Rule at the time of original issuance of the Bonds, after taking into account any amendments or interpretations of the Rule, as well as any change in circumstances; and

(iii) the amendment or waiver does not materially impair the interests of the Registered Owners of the Bonds.

(b) Evidence of compliance with the conditions set forth in clause (a) of this Section 5 shall be satisfied by the delivery to the Dissemination Agent of an opinion of counsel having recognized experience and skill in the issuance of municipal securities and federal securities law, acceptable to both the City and the Dissemination Agent, to the effect that the amendment or waiver satisfies the conditions set forth in clauses (a)(i), (a)(ii), and (a)(iii) of this Section 5.

(c) Notice of any amendment or waiver containing an explanation of the reasons therefor shall be given by the Disclosure Representative to the Dissemination Agent upon execution of the amendment or waiver and the Dissemination Agent shall promptly file such notice with each National Repository or the MSRB and the State Information Depository, if any. The Dissemination Agent shall also send notice of the amendment or waiver to each Registered Owner, including owners of book-entry credits who have filed their names and addresses with the Dissemination Agent.

Section 6. <u>Other Information.</u>

(a) Nothing in this Disclosure Agreement shall preclude the City from disseminating any other information with respect to the City or the Bonds, using the means of communication provided in this Disclosure Agreement or otherwise, in addition to the Annual Financial Information and the notices of Material Events specifically provided for herein, nor shall the City be relieved of complying with any applicable law relating to the availability and inspection of public records. Any election by the City to furnish any information not specifically provided for herein in any notice given pursuant to this Disclosure Agreement or by the means of communication provided for herein shall not be deemed to be an additional contractual undertaking and the City shall have no obligation to furnish such information in any subsequent notice or by the same means of communication.

(b) Nothing in this Disclosure Agreement shall relieve the Dissemination Agent of any of its duties and obligations under the General Ordinance or the Bond Committee Determination.

(c) Except as expressly set forth in this Disclosure Agreement, the Dissemination Agent shall have no responsibility for any continuing disclosure to the Registered Owners, the MSRB, any National Repository or any State Information Depository.

Section 7. <u>Default.</u>

(a) In the event that the City or the Dissemination Agent fails to comply with any provision of this Disclosure Agreement, the Dissemination Agent or any Registered Owner of the Bonds shall have the right, by mandamus, suit, action or proceeding at law or in equity, to compel the City or the Dissemination Agent to perform each and every term, provision and covenant contained in this Disclosure Agreement. The Dissemination Agent shall be under no obligation to take any action in respect of any default hereunder unless it has received the direction in writing to do so by the Registered Owners of at least 25% of the outstanding principal amount of the Bonds and if, in the Dissemination Agent's opinion, such action may tend to involve expense or liability, unless it is also furnished with indemnity and security for expenses satisfactory to it.

(b) A default under the Disclosure Agreement shall not be or be deemed to be an Event of Default under the Bonds, the General Ordinance or the Act and the sole remedy in the event of a failure by the City or the Dissemination Agent to comply with the provisions hereof shall be the action to compel performance described in Section 7(a) above.

Section 8. <u>Concerning the Dissemination Agent.</u>

(a) The Dissemination Agent accepts and agrees to perform the duties imposed on it by this Disclosure Agreement, but only upon the terms and conditions set forth herein. The Dissemination Agent shall have only such duties in its capacity as are specifically set forth in this Disclosure Agreement. The Dissemination Agent may execute any powers hereunder and perform any duties required of it through attorneys, agents, and other experts, officers, or employees selected by it, and the written advice of such counsel or other experts shall be full and complete authorization and protection in respect of any action taken, suffered or omitted by it hereunder in good faith and in reliance thereon. The Dissemination Agent shall not be answerable for the default or misconduct of any attorney, agent, expert or employee selected by it with reasonable care. The Dissemination Agent shall not be answerable for the exercise of any discretion or power under this Disclosure Agreement or liable to the City or any other person for actions taken hereunder, except only its own willful misconduct or negligence.

(b) The City shall pay the Dissemination Agent reasonable compensation for its services hereunder, and also all its reasonable expenses and disbursements, including reasonable fees and expenses of its counsel or other experts, as shall be agreed upon by the Dissemination Agent and the City. Nothing in this Section 8(b) shall be deemed to constitute a waiver of governmental immunity by the City. The provisions of this Section 8(b) shall survive termination of this Disclosure Agreement.

(c) The Dissemination Agent may act on any resolution, notice, telegram, request, consent, waiver, certificate, statement, affidavit, or other paper or document which it in good faith believes to be genuine and to have been passed or signed by the proper persons or to have been prepared and furnished pursuant to any of the provisions of this Disclosure Agreement; and the Dissemination Agent shall be under no duty to make any investigation as to any statement contained in any such instrument, but may accept the same as conclusive evidence of the accuracy of such statement in the absence of actual notice to the contrary. The Dissemination Agent shall be under no obligation to institute any suit, or to take any action under this Disclosure Agreement, or to enter any appearance or in any way defend in any suit in which it may be made a defendant, or to take any steps in the execution of the duties hereby created or in the enforcement of any rights and powers hereunder, until it shall be indemnified by the Registered Owners to its satisfaction against any and all costs and expenses, outlays and counsel fees and expenses and other reasonable disbursements, and against all liability; the Dissemination Agent may, nevertheless, begin suit, or appear in and defend suit, or do anything else in its judgment proper to be done by it as such Dissemination Agent, without indemnity.

Section 9. Term of Disclosure Agreement.

This Disclosure Agreement shall terminate upon (i) payment or provision for payment in full of the Bonds; (ii) repeal or rescission of Section (b)(5) of the Rule; or (iii) a final determination that Section (b)(5) of the Rule is invalid or unenforceable.

Section 10. Beneficiaries.

This Disclosure Agreement shall inure solely to the benefit of the City, the Dissemination Agent and the Registered Owners from time to time of the Bonds and nothing herein contained shall confer any right upon any other person.

Section 11. Notices and Filings.

(a) Any written notice to or demand may be served, presented or made to the persons named below and shall be sufficiently given or filed for all purposes of this Disclosure Agreement if deposited in the United States mail, first class postage prepaid, or in a recognized form of overnight mail or by telecopy with confirmation of receipt, addressed:

(i) to each National Repository and the State Information Depository, if any, at its address listed for such National Repository by the Security and Exchange Commission at *www.sec.gov/info/municipal/nrmsir.htm*

(ii) to the Dissemination Agent at:

Digital Assurance Certification, LLC
390 North Orange Avenue, Suite 1750
Orlando, FL 32801
Attention: Jenny Emami
Fax: (407) 515-6513

(iii) to the City or the Disclosure Representative at:

City of Philadelphia
Office of the Director of Finance
Municipal Services Building
1401 J.F. Kennedy Boulevard, Suite 1330
Philadelphia, PA 19102
Attention: Director of Finance
Fax: (215) 568-1947

(iv) to the MSRB at:

Municipal Securities Rulemaking Board
1900 Duke Street, Suite 600
Alexandria, VA 22314
Attention: CDI
Fax No.: (703) 797-6700

(v) to Bank of America, N.A. at:

Bank of America, N.A.
1600 JFK Boulevard, Suite 1100
Philadelphia, PA 19103
Attention: Maryann George
Fax No.: (267) 675-0366

or such other addresses as may be designated in writing to all parties hereto.

(b) Any filing under this Disclosure Agreement may be made to the National Repositories and State Information Depositories solely by transmitting such filing to the Texas Municipal Advisory Council (the "MAC") as provided at *http://www.disclosureusa.org* unless the United States Securities and Exchange Commission has withdrawn the interpretive advice in its letter to the MAC dated September 7, 2004.

Section 12. No Personal Recourse.

No personal recourse shall be had for any claim based on this Disclosure Agreement against any member, officer, or employee, past, present or future, of the City (including without limitation, the Disclosure Representative), or of any successor body as such, either directly or through the City or any such successor body, under any constitutional provisions, statute or rule of law or by the enforcement of any assessment or penalty or otherwise.

Section 13. Controlling Law.

The laws of the Commonwealth of Pennsylvania shall govern the construction and interpretation of this Disclosure Agreement.

Section 14. Removal and Resignation of the Dissemination Agent.

The City has appointed the Dissemination Agent as exclusive Dissemination Agent under this Disclosure Agreement. The City may, upon 30 days' written notice to the Dissemination Agent and the Fiscal Agent, replace or appoint a successor Dissemination Agent. Upon termination of the Dissemination Agent's services as Dissemination Agent, whether by notice of the City or the Dissemination Agent, the City agrees to appoint a successor Dissemination Agent or, alternately, agrees to assume all responsibilities of Dissemination Agent under this Disclosure Agreement for the benefit of the holders of the Bonds. Notwithstanding any replacement or appointment of a successor, the City shall remain liable until payment in full for any and all sums owed and payable to the Dissemination Agent. The Dissemination Agent may resign at any time by providing thirty days' prior written notice to the City.

Section 15. **Successors and Assigns.**

All of the covenants, promises and agreements contained in this Disclosure Agreement by or on behalf of the City or by or on behalf of the Dissemination Agent shall bind and inure to the benefit of their respective successors and assigns, whether so expressed or not.

Section 16. **Headings for Convenience Only.**

The descriptive headings of this Disclosure Agreement are inserted for convenience of reference only and shall not control or affect the meaning or construction of any of the provisions hereof.

Section 17. **Counterparts.**

This Disclosure Agreement may be executed in any number of counterparts, each of which when so executed and delivered shall be an original, but such counterparts shall together constitute but one and the same instrument.

Section 18. **Entire Agreement.**

This Disclosure Agreement sets forth the entire understanding and agreement of the City and the Dissemination Agent with respect to the matters herein contemplated and no modification or amendment of or supplement to this Disclosure Agreement shall be valid or effective unless the same is in writing and signed by the parties hereto.

[Signatures follow on next page.]

IN WITNESS WHEREOF, the CITY OF PHILADELPHIA, PENNSYLVANIA has caused this Disclosure Agreement to be executed by the Director of Finance and DIGITAL ASSURANCE CERTIFICATION, L.L.C., as Dissemination Agent, has caused this Disclosure Agreement to be executed by one of its duly authorized officers, all as of the day and year first above written.

CITY OF PHILADELPHIA, PENNSYLVANIA

By:__________________________
Director of Finance

DIGITAL ASSURANCE CERTIFICATION, L.L.C., as Dissemination Agent

By:__________________________
Authorized Officer

IN WITNESS WHEREOF, the CITY OF PHILADELPHIA, PENNSYLVANIA has caused this Disclosure Agreement to be executed by the Director of Finance and DIGITAL ASSURANCE CERTIFICATION, L.L.C., as Dissemination Agent, has caused this Disclosure Agreement to be executed by one of its duly authorized officers, all as of the day and year first above written.

CITY OF PHILADELPHIA, PENNSYLVANIA

By:______________________________
Director of Finance

DIGITAL ASSURANCE CERTIFICATION, L.L.C., as Dissemination Agent

By: Paula Stuart
Authorized Officer

EXHIBIT A

1. Commencing with the fiscal year ending June 30, 2008, a copy of the Comprehensive Annual Financial Report ("CAFR"), which contains the audited combined financial statements of the City, prepared by the office of the Director of Finance of the City in conformance with guidelines adopted by the Governmental Accounting Standards Board and the American Institute of Certified Public Accountants' audit guide, Audits of State and Local Government Units; and

2. Commencing with the Fiscal Year of the Water Department ending June 30, 2008, to the extent such information is not contained in the CAFR, an update of the information set forth in the financial statements of the Water Department for the Fiscal Years ended June 30, 2007 and June 30, 2006 included in Appendix I to the Reoffering Circular.

EXHIBIT B

MUNICIPAL SECONDARY MARKET DISCLOSURE

INFORMATION COVER SHEET

This cover sheet and material event notice should be sent to the Municipal Securities Rulemaking Board or to all Nationally Recognized Municipal Securities Information Repositories, and the State Information Depository, if applicable, pursuant to Securities and Exchange Commission Rule 15c2-12 or any analogous state statute.

City's and/or Other Obligated Person's Name: ______________________________
CUSIP Numbers (attach additional sheet if necessary): ______________________________

Nine-Digit CUSIP Number(s) to which this material event notice relates: ____________________
____

Information relates to all securities issued by issuer having the following six-digit numbers: ____
____

Number of pages of attached material event notice: ______________________________

Description of Material Events Notice (Check One):

1. ___Principal and interest payment delinquencies

2. ___Non-Payment related defaults
3. ___Unscheduled draws on debt service reserves reflecting financial difficulties
4. ___Unscheduled draws on credit enhancements reflecting financial difficulties
5. ___Substitution of credit or liquidity providers, or their failure to perform
6. ___Adverse tax opinions or events affecting the tax-exempt status of the security
7. ___Modifications to rights of security holders
8. ___Bond calls
9. ___Defeasances
10. ___Release, substitution, or sale of property securing repayment of the security
11. ___Rating changes
12. ___Failure to provide annual financial information as required
13. ___Other material event notice (specify):
14. ___Financial information: Please check all appropriate spaces:

___CAFR (a) __ includes __ does not include Annual Financial information
(b) __ Audited? Yes __ No __
___ Annual Financial Information: Audited? Yes __ No __
_____ Operating Data
Fiscal Period Covered: ______________________

* Financial Information should not be filed with the MSRB.

I hereby represent that I am authorized by the issuer or its agent to distribute this information publicly:

Signature:________________________
Name: __________________________
Title:____________________________
Employer:________________________
Address: ________________________
City, State, Zip Code:________________
Voice Telephone Number:____________

Please print the material event notice attached to the cover sheet in 10-point type or larger.

The cover sheet and notice may be faxed to the MSRB at (703) 683-1930. Contact the MSRB at (202) 223-9503 with questions regarding this form or the dissemination of this notice.

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APPENDIX VIII

ENGINEERING REPORT OF BLACK & VEATCH

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BLACK & VEATCH
Building a world of difference.

JOHN R. KERSTEN
Vice President, Black & Veatch Management Consulting
601 WALNUT STREET, SUITE 550W, PHILADELPHIA, PA 19106
+1407-408-1885 | KERSTENJR@BV.COM

6/3/2011

Mr. Rob Dubow
Director of Finance
City of Philadelphia
1300 Municipal Services Building
1401 J.F. Kennedy Boulevard, 13th Floor
Philadelphia, PA 19102

Dear Mr. Dubow:

In accordance with the requirements of The First Class City Revenue Bond Act (the Act), the Restated General Water and Wastewater Revenue Bond Ordinance of 1989, and the amendments and supplements thereto as set forth in the First through and including the Fifteenth Supplemental Ordinances (collectively, the General Ordinance), we are submitting herewith our Engineering Report prepared in connection with the authorization the Fourteenth and Fifteenth Supplemental Ordinances (Bill numbers 110375 and 110376) of Water and Wastewater Revenue Bonds which the Department currently plans to utilize in FY 2014 and FY 2015. Unless otherwise indicated, capitalized terms used but not defined herein shall have the same meanings assigned to such terms in the General Ordinance.

This letter report provides an updated status of the operations and financial projections of the Water Department of the City of Philadelphia (the Department) relative to our Engineering Report dated April 30, 2009 (the 2009 Engineering Report), prepared in connection with the remarketing of Water & Wastewater Refunding Bonds, Variable Rate Series 2005B (the 2005B Bonds), the issuance of Water and Wastewater Revenue Bonds, Series 2009A (the 2009A Bonds), and the issuance of Water and Wastewater Revenue Bonds, Series 2009B, 2009C, 2009D, and 2010B (the Pennvest Loans). This letter report, in conjunction with the 2009 Engineering Report, constitutes the Engineering Report for the authorization of the Fourteenth and Fifteenth Supplemental Ordinances (Bill numbers 110375 and 110376) of Water and Wastewater Revenue Bonds.

In the preparation of this letter report, we conducted interviews with key Department operating, engineering, and financial staff during the months of January 2010, February 2010, April 2010, June 2010, and May 2011. Such interviews included discussion of significant events, changes in operations, regulatory compliance, updates to the capital improvement program, and financial impacts which the Department has experienced since the completion of the 2009 Engineering Report. As a part of our review, we developed an updated summary table of projected revenues and revenue requirements for the Department for the period of fiscal years 2011 through 2017 as set forth in Table A, attached hereto and made a part of the Engineering Report for the authorization of the Fourteenth and Fifteenth

Supplemental Ordinances (Bill numbers 110375 and 110376) of Water and Wastewater Revenue Bonds.

Subject to the limitations set forth herein, this letter report was prepared for the City of Philadelphia, Pennsylvania (the City) by Black & Veatch Corporation (Black & Veatch) and is based on information not within the control of Black & Veatch. Black & Veatch has not been requested to make an independent analysis, to verify the information provided to it, or to render an independent judgment of the validity of the information provided by others. As such, Black & Veatch cannot, and does not, guarantee the accuracy thereof.

ORGANIZATION AND MANAGEMENT

The Department is organized in a manner to effectively and efficiently carry out its responsibilities of producing and delivering high quality drinking water; collecting and treating wastewater to permitted standards; and managing the collection and impact of stormwater runoff. The main divisions consist of Operations, Planning and Engineering, Finance and Administration, Human Resources, Public Affairs, Compliance, and Planning and Environmental Services. Legal affairs are handled through the City Solicitor's office with a full time General Counsel assigned to the Department. These divisions effectively work together to handle the various responsibilities associated with providing water, wastewater, and stormwater utility services.

The Water Commissioner is the head of the Department and is appointed by the City's Managing Director with approval of the Mayor. In February 2011, Howard Neukrug was appointed Water Commissioner after the retirement of former Water Commissioner Bernard Brunwasser. Prior to his appointment as Commissioner, Mr. Neukrug served in multiple positions during 32 years at the Department, including Deputy Commissioner of Environmental Services, Director of Office of Watersheds, and Director of Planning and Technical Services. He is assisted by four Deputy Water Commissioners that focus on key areas of the Department. The Deputy Water Commissioner for Compliance focuses on managing and addressing the various environmental and permitting issues associated with the water and wastewater systems. The Deputy Water Commissioner of Finance and Administration is responsible for preparing operating budgets; conducting internal audits, and managing capital financing programs. The Deputy Water Commissioner of Operations is responsible for the day to day operation and maintenance of the water and wastewater plants, distribution and collection systems, and associated assets necessary for carrying out the Department's primary responsibilities of providing drinking water services and wastewater and stormwater conveyance, treatment, and disposal services for Philadelphia. The Deputy Commissioner of Planning & Environmental Services is responsible for conducting planning related to the Department's multiple initiatives, including implementation of the proposed Long

Term Control Plan Update. In February 2011, Christopher Crockett was appointed Deputy Commissioner of Planning & Environmental Services.

The City has consolidated City employees with information technology skills into the Department of Technology as a means to realize operational efficiencies. Accordingly, approximately 40 Department employees (51 positions) within the Information Sciences & Technology (IS&T) Division were reassigned to the Department of Technology. These employees continue to primarily support the Department. Employees that were focused on critical operational tasks such as maintaining the treatment plants' operation control and data acquisition systems were not impacted by the organizational change. The Department has received assurance from the City that transitioned IS&T employees will remain fully committed to their existing responsibilities and believe this change will not adversely impact operations or performance.

As of May 2011, the Department had a total of approximately 1,853 employees. Of these, approximately 1,445 are represented by District Council 33, and 231 are represented by District Council 47 of the American Federation of State, County, and Municipal Employees Union. The Department's 177 upper management, supervisory, and senior engineering personnel are not eligible for union membership. Additionally, there are approximately 243 employees in the Water Revenue Bureau whose positions are funded by the Department. Present labor agreements are an extension to the previous contract which expired June 30, 2008. The extension agreements expired on June 30, 2009 but the parties have continued to operate under the expired contract terms.

The Department continues to be challenged with finding skilled workers to fill key technical and operational positions. As a proactive measure to address this challenge, an apprenticeship program has been established to develop employees with critical water and wastewater utility technical skills. The Department's Human Resources Division developed a screening process to determine which candidates are most suitable to the water or wastewater profession. These candidates are then hired to learn critical, science-based skills that will be key to the Department's success in future years. During calendar year 2010, 16 new engineers were hired to fill vacancies.

In FY 2010 the Department took responsibility for the operation and maintenance of the water, wastewater, and stormwater systems serving the Philadelphia Navy Yard. Previously the Navy Yard was a wholesale customer of the Department. The Department has already entered asset data related to the water lines and wastewater collection mains into its Geographical Information System (GIS). Permits previously held by the Navy for its stormwater outfalls will be incorporated into the Department's stormwater permits. The Department does not anticipate any significant cost increases for operating and maintaining the utility systems.

The Operations Division is working with the City to implement an asset management program for use by the Water Conveyance and Collectors sections within the Operations Division. The program selected is Cityworks® and will incorporate all of the Department's street-side assets such as mains, hydrants, and inlets. The goal of this new program is to implement a more efficient and standardized approach to tracking and performing the maintenance of these assets. Implementation has begun and is expected to be completed by the end of calendar year 2011. The Department believes this will lead to a more manageable transition from many independent legacy systems to Cityworks®.

WATER SYSTEM

During FY 2010 the average treated water delivered from the Baxter and Queen Lane water treatment plants was approximately 144 million gallons per day (MGD) and 64 MGD, respectively. This reflects a slight decrease from FY 2009. The average finished water produced by the Belmont water treatment plant was approximately 42 MGD. This is stable compared to FY 2009. A review of production data for the first six months of FY 2011 shows that production levels are approximately six percent higher when compared to the same period during FY 2010. There have been no changes to the Department's raw water withdrawal permits and management believes it has ample supply to meet projected customer demands.

The Department has continued to meet existing drinking water regulations through April 2011. It is also continuing its participation in the Partnership for Safe Water program which focuses on achieving more stringent performance goals to better prevent the entry of cryptosporidium, giardia, and other parasitic organisms into treated water. Through April 2011, the Department continued to produce finished water at turbidity levels well below those required by state and federal requirements. The Department is also becoming a charter member of the Partnership for Safe Water's Distribution System Optimization program. The program emphasizes improving distribution system integrity, particularly the in the areas of water quality, hydraulic reliability, and physical security.

On December 15, 2005 the United States Environmental Protection Agency (USEPA) promulgated two Rules under the Safe Drinking Water Act (SDWA) which will require the Department to meet additional requirements for monitoring and water quality when they go into effect starting in April 2012. The Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) and the Stage 2 Disinfectants and Disinfection Byproduct Rule (Stage 2 D/DBPR) both build upon earlier rules to address higher risk public water systems for protection measures beyond those required for existing regulations. These rules strengthen protection against microbial contaminants, especially cryptosporidium, and at the same time, reduce potential health risks of Disinfection Byproducts (DBPs). These rules were promulgated simultaneously to address concerns about risk tradeoffs between pathogens and DBPs.

The Department has been proactively preparing to meet these more stringent requirements. In terms of the Stage 2 D/DBPR, the Department indicates that its existing treatment processes are already meeting the more stringent 2012 standards. For LT2ESWTR, the Department has determined that the Queen Lane plant will fall into the Bin 2 category, which means that it will require an additional 1.0 log removal/inactivation credit to be in compliance by 2012. The Department intends to achieve this additional 1.0 log credit by maintaining individual and combined filter effluent turbidities at levels well below current regulatory requirements and by implementing a watershed control program. As an additional measure of assurance, the Department has submitted a Watershed Control Program to the Pennsylvania Department of Environmental Protection (DEP) to obtain an additional 0.5 log credit beyond what is required. The plan has not yet been approved by DEP. The Baxter and Belmont treatment plants have demonstrated that they will fall into the Bin 1 category, and therefore will not need additional log credits to be in compliance by 2012.

One of the Philadelphia Water Department's core missions continues to be the provision of safe, high quality drinking water, and this mission extends to the stewardship of the region's water resources. To this end, the Department has embraced a watershed protection approach that tracks and evaluates events and practices that may cause immediate or long term impacts on water quality. The Department is currently monitoring and addressing potential impacts to water quality related to the newly reported presence of Iodine-131 in the water supply and natural gas drilling activities in the upstream regions of the watersheds.

The Environmental Protection Agency (EPA) released data related to Iodine-131 in the wake of the Fukushima nuclear incident in Japan. The data was collected as part of a voluntary surveillance system whose purpose is to detect unusual events in environmental samples, including drinking water supplies. The Water Department participates in this voluntary program to allow for a quick response in the event that a potential threat to drinking water arises. The EPA's data showed that the level of Iodine-131 in Philadelphia's drinking water was higher than other cities, but still below the Maximum Contaminant Level. When EPA informed the Department of the results of their voluntary surveillance testing on April 1, 2011, the Department responded by modifying the treatment process to enhance removal of the contaminant, initiating a focused sampling program throughout the system, and developing a track-down program and Joint Action Plan with the EPA and DEP to identify the potential sources of Iodine-131. The Maximum Contaminant Level for Iodine-131 is 3 picocuries per liter (pCi/L), and is based upon an annual running average of quarterly samples and not a single sample. Philadelphia's drinking water has not exceeded this level, and the EPA has assured that the results reported for Philadelphia do not indicate any immediate health concern.

PWD is closely following the discussions surrounding Marcellus Shale drilling for natural gas to prevent any long term repercussions to its water supply. At this point in time, the Department believes that there is no immediate threat to the water supply from this activity and that the current regulatory framework, if enforced, is adequate to protect against immediate threats. The Department is monitoring upstream activities to be prepared if something appears to threaten the water supply. The Department has communicated and is in discussion with the EPA, DEP, and the Delaware River Basin Commission (DRBC) regarding their water supply concerns related to the Marcellus Shale drilling.

The Department continues to meet all existing drinking water regulations and also anticipates meeting all promulgated and future regulations currently being considered for microbial and turbidity parameters, DBPs, synthetic organic compounds, volatile organic compounds, inorganic compounds, radionuclides, and aesthetic parameters such as taste and odor. It continues to seek improvements to its processes through on-going pilot research and full scale plant trials. The Department continues to conduct full-scale trials at the Belmont treatment plant to evaluate the impact of post filter chlorine contact on DBP formation and the treatment process in general. Results of these tests are promising and suggest that DBPs can be reduced below current levels which are already in compliance.

The Department intends to implement changes to realize any additional benefits identified through the on-going pilot research and full scale plant trials, but at this point there is no specific timeline or budget for any improvements. In FY 2011 the Department compiled results of a decade of pilot, bench and full scale tests and has started the process to develop a vision for future long term upgrades to the water treatment plants. This project will consider appropriate unit processes to meet increasingly more stringent water quality requirements as well as plant and process size to meet current and projected demands.

The Water Conveyance section of the Operations Division is responsible for the reliable distribution of water to the Department's customers through approximately 3,137 miles of pipeline. For FY 2010 the section surveyed 1,133 miles of mains for leaks and repaired 646 main breaks and 293 valves. It also painted and repaired 2,976 and 5,556 hydrants, respectively. The miles of main surveyed for leaks is an increase from FY 2009. Through the first six months of FY 2011, the Department is ahead of the FY 2010 pace for mains surveyed.

The Bureau of Laboratory Services (BLS), a unit within the Planning and Engineering Division, received a Water Security Initiative Grant from the USEPA to develop a Contamination Warning System. The work consists of enhancing their remote on-line distribution monitoring system from 22 to 30 sites with additional state of the art analytical devices; sampling and analysis program enhancements; customer complaint surveillance; public health surveillance; and enhanced security monitoring. Development of a Consequence Management Plan in cooperation with other agencies is also included. To date the BLS has received access to $9.48 million of grant funding, which is the full award. The work was initiated in FY 2010 and is expected to be completed by December 2012. The Department will provide 25 percent of the aggregate amount (approximately $2.37 million) of in-kind labor and equipment costs. This will come through current and future operating budgets and is not expected to adversely impact operations since it is largely work already being performed.

The BLS is also acquiring a new Laboratory Information Management System (LIMS). The Request for Proposals (RFP) was released in March 2010 and the Department awarded a contract in FY 2011. Implementation of the LIMS is planned for FY 2012 at a cost of approximately $450,000. The LIMS will replace older and obsolete computer technology with improved capability to monitor samples from collection through the analytical process. The system will provide better management of the various regulatory and research sampling and analysis that the BLS conducts on a daily basis.

There are several important capital improvements that are currently in progress. The Baxter water treatment plant is currently undergoing upgrades to security through the installation of better fencing and lighting surrounding both the plant and clearwells. A new entrance to the Baxter water treatment plant is being constructed to better control access and the finished water storage basin is being secured through the sealing of redundant access points. A new generator has been installed to handle the energy needs of all key processes during power outages. Previously, several generators were used to supply power to individual processes. The security project is scheduled to be complete by October 2011. A set of new standby generators have been installed at the Torresdale Filtered Water Pump Station.

The Department is in the process of constructing a new high service pumping station for the Queen Lane water treatment plant. This new pump station will replace the existing pump station, providing enhanced reliability through upgraded electrical systems and more efficient pumps. The pumping capacity will be less than the existing pump station, but will allow for more efficient use of the neighboring Oak Lane Pump Station. This holistic approach will increase reliability and efficiency for both pump stations and likely result in a reduction in energy consumption. The project began in calendar year 2009, is nearly two-thirds complete, and is anticipated to be complete in mid-calendar year 2012. The project cost is $18.9 million and is being funded by the Pennvest Loans.

The primary sedimentation tanks at the Queen Lane Water Treatment Plant are being rehabilitated with project completion anticipated for in 2014. The Department is using the Pennvest Loans to fund the $9 million project.

The Oak Lane Reservoir was taken out of service on February 24, 2009 immediately after it was discovered that the polypropylene membrane cover was deteriorating and particles from the cover were released into the water. Operations to implement the shutdown were efficient and effective with no negative impact on water supply. Service to the East Oak Lane and West Oak Lane pumping stations is currently being handled by the Lardner's Point pumping station. The Department has designed, bid, and awarded a contract to replace the cover liner at this reservoir. The contractor was issued a notice to proceed in March 2011.

In May 2010 the Department discovered a breach in the 50 MG clear water basin that serves the Torresdale Pump Station, which pumps finished water from the Baxter plant. The breach was a 4-foot by 6-foot cave-in. The Department has covered and secured the breach and is monitoring for water quality impacts. No adverse impacts have been observed, the area is closed-off to prevent further damage, and the basin remains in operation. The Department has inspected the basin and is currently evaluating alternatives for repair, replacement or bypass. The Department has sufficient storage upstream of this basin that a permanent by-pass is a viable alternative. Within the coming months the Department anticipates selecting an alternative and developing a plan for a more permanent solution.

WASTEWATER SYSTEM

The average daily flow received by all three Water Pollution Control Plants (WPCPs) was approximately 468 MGD for FY 2010. This reflects an increase of approximately 12 percent from FY 2009 levels. For the first six months of FY 2011 the average flow was approximately 454 MGD.

The three WPCPs have maintained high levels of treatment such that they have been recognized by the National Association of Clean Water Agencies (NACWA), formerly the Association of Metropolitan Sewerage Agencies, with either Silver, Gold or Platinum awards over the past decade. The Southeast and Northeast WPCPs met all permit requirements in calendar year 2010 and will receive NACWA platinum awards for five or more years of continuous 100 percent National Pollutant Discharge Elimination System (NPDES) permit compliance.

In February 2010, the Department reported one exceedance of its NPDES permit at the Southwest Water Pollution Control Plant (SWWPCP) to the Pennsylvania Department of Environmental Protection (PADEP). The exceedance was related to the average monthly loading for Carbonaceous Biochemical Oxygen Demand (CBOD). The sampling methodology for $CBOD_{20}$ requires multiple dilutions to determine valid concentrations and the highest dilution, which is subject to the greatest potential for analytical error, produced higher than normal concentrations for the month. The end result was an exceedance of the average pounds per month limit for CBOD. The Department believes the results that produced the higher concentrations are questionable, but reported them to the PADEP as required. Based on discussions with staff, it does not appear that the exceedance is the result of any personnel or operational issues at the plant, and is not expected to continue.

The Department completed a feasibility study that looked into expanding the Northeast Water Pollution Control Plant (NEWPCP). This study included hydraulic analyses and other data to define requirements for expanding primary and secondary treatment capacity and was submitted to the PADEP for review. The PADEP has approved the concept and the Department is now moving forward with preliminary design. The expansion will be completed in multiple phases over multiple years and will focus on removing hydraulic bottlenecks and upgrading processes. The proposed Capital Improvement Program (CIP) Budget for FY 2012 through FY 2017 includes $33.0 million of funding for the NEWPCP expansion project.

On September 1, 2009 the Department filed its Long Term Control Plan Update (LTCPU) with the PADEP and the USEPA. The LTCPU is a comprehensive approach to reducing the impact of combined sewer overflows (CSOs). It combines traditional methods for capturing more stormwater runoff, such as the expansion of wastewater treatment plants, with "green" stormwater infrastructure improvements to prevent stormwater runoff from entering the combined sewer system in the first place. Examples of green stormwater infrastructure include pervious surfaces for streets, alleys, parking facilities, and other surfaces which allow stormwater to infiltrate into the ground as well as the use of rain barrels, rain gardens, and stream restoration projects. In total, the Department anticipates spending approximately $2.0 billion over the next 25 years to implement the program. The Department does not anticipate receiving grant funding and is currently planning to fund the majority of the related capital expenditures with future bond issues. The proposed CIP Budget for FY 2012 through FY 2017 includes $184.4 million of funding for these projects. The goal of the program after 25 years is to capture approximately 85 percent of equivalent mass capture of total suspended solids, BOD5, and coliform bacteria. This would result in the reduction of approximately 8.0 billion gallons of combined sewage entering Philadelphia's waterways each year. On June 1, 2011 the Department executed a consent order and agreement with PADEP memorializing the agreements with respect to the Long Term Control Plan.

The Collectors section of the Operations Division presides over an extensive urban sewer network and has the operational and maintenance responsibility for the sanitary, storm, combined sewers and storm water inlets within the City limits. During FY 2010 this section improved its performance related to the amount of debris recovered from waterways (1,437 tons) and number of sewers examined (23,201).

A recent change in the Operations Division was the retention of a private operator for the Biosolids Recycling Center (BRC) effective in October 2008. The Southwest and Northeast WPCPs have experienced no interruption in their ability to send digested sludge to the privatized facility, and centrate quality from the operation has been within contract limits. There were no odor complaints for 2009, and generally, community acceptance of the operation has improved. One item related to the operation of the BRC involves the sinking of a tourist boat in the summer of 2010 that resulted in the deaths of two individuals. The tourist boat was struck by a barge that is used to transport sludge from the Northeast WPCP to the BRC. The Department was not operating the barge or associated tugboat and does not anticipate any negative impact to its finances or operations. The National Transportation Safety Board (NTSB) is conducting an investigation of the incident.

The Department continues to work on several key wastewater capital improvement projects. The Dobson's Run project consists of a tunnel to improve the capture of stormwater runoff and reduce the incidents of CSOs. The project was substantially complete in the summer of 2010 and is now operational.

The Venice Island Storage Tank project consists of the construction of a three million gallon tank to capture flow during large wet weather events to prevent sanitary sewer overflows during extreme wet weather events. The project was bid in May 2011 for approximately $44.0 million.

The State Road PC 30 project consists of the construction of a relief sewer to increase collection system capacity and reduce the number of sanitary sewer overflows. A contract was awarded for this project in calendar year 2009 and it is scheduled to be completed in December 2011.

CAPITAL IMPROVEMENT PROGRAM

The Department conducts an ongoing review and update of its six-year Capital Improvement Program. The current proposed CIP covers FY 2012 through FY 2017 and budgets for projects related to the finished water conveyance system, wastewater collection system, stormwater control, water and wastewater treatment plants, utility vehicles, and capital project planning and implementation control.

For the six year planning period, the Department plans to fund approximately $1.33 billion of water and wastewater capital improvement projects. A major focus of the CIP is to complete projects that will mitigate flooding and CSOs that occur during major storm events, as well as upgrades and improvements to water and wastewater treatment plants.

The proposed capital program for FY 2011 and FY 2012 reflect similar levels of anticipated annual encumbrances for water and wastewater treatment plant improvements, water conveyance system improvements, and wastewater collection system improvements as the FY 2011 and FY 2012 level shown in the capital program for the prior FY 2010 through FY 2015 period, which was recognized in the 2009 Engineering Report. The proposed capital program for FY 2013 to FY 2015 reflect an average increase of $30.9 million of anticipated annual encumbrances for system improvements compared to the same period which was recognized in the 2009 Engineering Report. This increase is primarily due to increased encumbrances for storm flood relief, water plant, and water pollution control plant improvements.

FINANCIAL REQUIREMENTS

An update of the evaluation of the adequacy of revenues to meet projected revenue requirements was made for the fiscal years ending June 30, 2011 through June 30, 2017 and is summarized in Table A, attached at the end of this letter report. Table A is an update of the financial projections summarized in Table VI-8 of the 2009 Engineering Report, which covered the period of fiscal years ending June 30, 2009 through June 30, 2015. The financial data used to develop Table A of this letter report was obtained from the Department's financial statements for FY 2010, the latest available estimates for FY 2011, and the operating and capital budgets for FY 2012.

While there have been some negative revenue impacts primarily due to the overall downturn of the economy, there have been several positive activities and changes that have occurred relative to the financial projections set forth in the 2009 Engineering Report which have resulted in a positive net impact on the financial projections. Department staff continues to track the projected revenues, expenses, and fund balances to determine the potential need to initiate measures necessary to address the financial needs of the system.

The projection of water and wastewater service revenue has been revised to reflect the following revenue related activities and changes which have occurred since the 2009 Engineering Study:

- Revenue under existing rates has been updated to reflect the adopted rates effective July 1, 2010 and updated projections of accounts and billed volumes. The updated projection of annual revenue under the adopted rates effective July 1, 2010 for FY 2011 is $3.3 million less than the projected revenue included in the revenue projections shown in the 2009 Engineering Report. This reduction is primarily due to lower billings and collected revenues from City accounts as a result of the current downturn in the economy and reduced consumption due to conservation and program reductions.
- The FY 2012 additional service revenue has been updated based on a projection of revenue reflecting the adopted rates for FY 2012, the City's proposed Stormwater Assistance Phase-In Program (SWAPP), and updated projections of accounts and billed volumes. The purpose of the SWAPP is to provide temporary payment assistance to non-residential properties that have been highly impacted by the Department's stormwater rates. The proposed SWAPP program is anticipated to reduce FY 2012 revenues by $4.5 million relative to the projections set forth in the 2009 Engineering Study.
- The second phase of the FY 2009 to FY 2012 rate hearings related to retail service stormwater rates was completed in August 2009. The final decision from the second phase of the rate hearings accepted the proposed phase-in of parcel area based stormwater charges for non-residential retail customers, but increased the phase-in period from three to four years and delayed the beginning of the phase-in by one year from FY 2010 to FY 2011. Since the stormwater charges were developed to be revenue neutral, the revisions implemented in the final rate hearing decision did not impact the revenue projection.

- An agreement was reached with the Bucks County Water and Sewer Authority to allow for the January 2010 release of revenues being held in escrow as a result of a rate dispute. In May 2011 the City and Bucks County resolved the current rate dispute and executed a new water service agreement and an amendment to the existing wastewater service agreements which acknowledged Bucks County's acceptance of the City's rate methodology.

Based on these revenue related activities and changes which have occurred since the 2009 Engineering Study, the updated FY 2011 to FY 2015 projection of annual water and wastewater service revenue, including the additional service revenues anticipated for the adopted increases which take effect in FY 2012, averages $6.8 million less than the projected revenue included in the revenue projections of the 2009 Engineering Report. The updated projection of revenues for FY 2013 to FY 2017 recognize the levels required to meet projected revenue requirements and debt service coverage covenants and to maintain the end of year FY 2017 Rate Stabilization Fund balance of approximately $45.0 million to provide for adequate working capital needs.

For purposes of projecting annual operation and maintenance expenses in the 2009 Engineering Report, the Department's proposed budget for FY 2010 served as the "base year" for projection purposes. Projected operation and maintenance expenses for FY 2011, as shown in Table A, are based upon the Department's final budget and anticipated expenditures for FY 2011 as reflected in the proposed operating budget documents for FY 2011. This current estimate for FY 2011 is approximately $18.5 million less than previously projected in the 2009 Engineering Report for that year. This decrease from the projected FY 2011 expenditures is attributable to lower levels of anticipated expenses in all costs, with the most significant savings in fringe benefits (primarily due to a temporary reduction in required pension contributions), class 200 (purchase of services), and chemical expenses.

Using the proposed budget for FY 2012 as a base for future projections, reflecting increases in future operating expenses for personal services and other cost categories due to inflation beyond FY 2012, and analyzing historical actual to budget expenditure trends, the total projected operation and maintenance expenses for FY 2012 to FY 2015 average approximately $10.0 million lower per year as compared to the projections in the 2009 Engineering Report for those same years. This decrease from the projected levels is primarily attributable to lower levels of chemical costs reflected in the FY 2012 budget. The projected FY 2012 chemical costs reflect a $10.8 million decrease based on current chemical bid prices which are less than the estimates reflected in the FY 2010 initial budget request.

For the 2009 Engineering Report, the projected annual debt service reflected the debt service associated with the outstanding bonds as of the beginning of FY 2009, including the Water and Wastewater Revenue Refunding Bonds, Variable Rate Series 2003 (2003 Bonds), and the projected debt service associated with proposed bonds including the anticipated 2009A Bonds, $214.9 million of Pennvest Loans, a $180.0 million bond issue in FY 2011 relating to the 2007 SWAP Agreements, a $135.0 million bond issue in FY 2014, and a $350.0 million bond issue in FY 2015.

The updated summary of projected revenues and revenue requirements for the Department shown in the attached Table A reflects the updated projection of annual debt service on outstanding and proposed bonds based on the refunding of the 2003 Bonds by the Water and Wastewater Revenue Refunding Bonds Series 2010A (2010A Bonds) in FY 2010, the termination of the 2007 SWAP Agreements in FY 2010, and the issuance of the Water and Wastewater Revenue Bonds Series 2010C Bonds (2010C Bonds) in FY 2011. The projection of annual debt service on outstanding revenue bonds (Table A, Line 23) has been revised to reflect the addition of the 2009A Bonds, and the refunding of the 2003 Bonds by the 2010A Bonds. The annual debt service on Pennvest Parity Bonds (Table A, Line 24) has been revised to reflect the anticipated delay in the utilization of the Pennvest Loans and the anticipated reduced total loan amount of $196.1 million. The projected annual debt service of proposed revenue bonds (Table A, Line 25) has been revised to reflect the issuance of the 2010C Bonds. Based upon the proposed capital improvement program for FY 2012 through FY 2017 and the expected level of capital expenditures, it is anticipated that the Department will issue $139.7 million of Series 2010A Bonds in FY 2012, a $200.0 million bond issue in FY 2014, a $250.0 million bond issue in FY 2015, and a $200.0 million bond issue in FY 2017. The proposed debt service assumptions for the 2011A Bonds reflects a preliminary pricing analysis provided by the Department, which reflects the issuance of $139.7 million of bonds with an overall average coupon interest rate of 5.3 percent. The proposed debt service on subsequent bonds remain the same as the 2009 Engineering Report. The proposed subsequent bond issues reflect a 30-year amortization schedule, a 6.0 percent interest rate, and interest only payments through FY 2016. The updated projection of annual debt service for FY 2011 to FY 2015 averages $9.1 million less than the projected debt service included in the revenue requirement projections of the 2009 Engineering Report, primarily due to the reduced costs associated with the refunding of the 2003 Bonds.

Also recognized in the updated projections of revenues and revenue requirements are the various fund balances as of June 30, 2010, reflecting the actual year-end transfers which occurred during the November 2010 time frame, once the books were officially closed for FY 2010. Two of the key fund balances shown in the cash flow table of revenues and revenue requirements are the Rate Stabilization Fund and the Residual Fund balances. The actual beginning FY 2011 balances recognized in Table A are $145,693,000 for the Rate Stabilization Fund and $20,889,000 for the Residual Fund. These compare to the projected balances of $100,350,000 in the Rate Stabilization Fund and $10,444,000 in the Residual Fund as shown in the 2009 Engineering Report.

The overall projected revenue increases for FY 2012 to FY 2015 in the updated revenue and revenue requirement projections, taking into consideration the changes outlined above, amount to a cumulative 25.2 percent increase. These compare to a cumulative 35.5 percent increase shown in the 2009 Engineering Report. Projections of revenues and revenue requirements beyond FY 2015 were not shown in the 2009 Engineering Report. The reduction in the overall projected revenue increases is due to the positive net effect of the decreases in the projected annual revenue requirements and projected revenues under existing rates, as outlined above.

STATEMENTS AND CONCLUSIONS

In conducting our analyses and in forming an opinion of the projection of future operations summarized in this letter report, Black & Veatch has made certain assumptions with respect to conditions, events, and circumstances which may occur in the future. The methodology utilized by Black & Veatch in performing the analyses follows generally accepted practices for such projections. While Black & Veatch believes the assumptions are reasonable and appropriate, and the projection methodology valid, actual results may differ materially from those projected, as influenced by the conditions, events, and circumstances that actually occur that are unknown at this time and/or which are beyond the control of Black & Veatch.

The City may only distribute the complete report to third parties, including the above statements and not parts thereof. Any distribution of this report or any excerpt thereof to third parties shall be at the City's sole risk. The City's duty to distribute only the complete report, including the above statements, shall not apply to internal City documents derived from the report, that come within the scope of applicable records laws and are requested under such laws by interested citizens.

Based on these updated studies we offer the following statements and conclusions to indicate the City's conformance with specific requirements which must be met for the authorization of the 2011A Bonds, as stipulated in the Act and the General Ordinance:

1. Based on onsite physical inspections and investigations of major system facilities, conducted in December 2008 and January 2009, combined with discussions with Department staff at that time, as supplemented with additional interviews, and discussions with staff in January 2010, February 2010, April 2010, June 2010, and May 2011, it is our opinion that the Water and Wastewater Systems are in good operating condition or adequate steps are being taken to return them to good operating condition. The proposed six-year capital financing program will provide adequate funds necessary to sustain the system in good operating condition.

2. Proceeds from the 2011A Bonds will be applied to: (i) fund capital improvements to the City's Water and Wastewater Systems and (ii) pay the necessary deposits and issuance costs of the 2011A Bonds.

3. Project Revenues pledged to secure the 2011A Bonds are to be derived from the following sources: all rents, rates, fees, and charges imposed or charged for

the connection to, or use or product of or services generated by the Water and Wastewater Systems to the ultimate users or customers thereof, all payments under bulk contracts with municipalities, governmental instrumentalities or other bulk users, all subsidies or payments payable by Federal, State or local governments or governmental agencies on account of the cost of operation of, or the payment of the principal of or interest on moneys borrowed to finance costs chargeable to the Water and Wastewater Systems, all grants, payments, and contributions made in aid or on account of the Water and Wastewater Systems exclusive of grants and similar payments and contributions solely in aid of construction and all accounts, contract rights, and general intangibles representing the foregoing.

4. Based on actual and estimated future annual financial operations of the Water and Wastewater Systems from which pledged Project Revenues are to be derived, it is our opinion that the Water and Wastewater Systems will yield pledged Project Revenues (including projected revenue increases indicated in this report resulting from rate increases which may be imposed after an administrative process of the Department without further legislative action by City Council) over the amortization period of the 2011A Bonds sufficient to meet the payment or deposit requirements of:

   a. All expenses of operation, maintenance, repair and replacement of the Water and Wastewater Systems;

   b. All reserve funds required to be established out of such Project Revenues;

   c. The principal or redemption price of and interest on all Existing Bonds and the 2011A Bonds issued under the General Ordinance, as the same become due and payable, for which such Project Revenues are pledged; and

   d. The Rate Covenant set forth in Section 5.01 of the General Ordinance.

   The Project Revenues forming the basis for this projection comply with the requirements of the definition of “Project Revenues” contained in Section 2 of the Act.

5. The Net Revenues are currently sufficient to comply with the Rate Covenant and are projected to be sufficient (including projected revenue increases indicated in the report resulting from rate increases which may be imposed after an administrative process of the Department without further legislative action by City Council) to comply with the Rate Covenant for each of two fiscal years following the fiscal year in which the 2011A Bonds are issued.

6. In our opinion, water and wastewater rents, rates and charges, including projected increases (which may be imposed after an administrative process of the Department without further legislative action by City Council) are within generally acceptable ranges for such services and are collectible.

In accordance with the Department's agreements with Financial Guaranty Insurance Company (FGIC) and Assured Guaranty Municipal Corporation (AGM), formerly known as Financial Security Assurance, Incorporated, rates and charges for use by the Water & Wastewater Systems shall be sufficient to yield Net Revenues (excluding amounts transferred from the Rate Stabilization Fund into the Revenue Fund during, or as of the end of, such fiscal year) of at least 90 percent of the Debt Service Requirements (excluding debt service due on Subordinated Bonds) in such fiscal year. Further, any calculation by a consulting engineer of projected rate covenant compliance in connection with the proposed issuance of additional bonds for each fiscal year ending on or after June 30, 2000, must state that Net Revenues (excluding amounts transferred from the Rate Stabilization Fund into the Revenue Fund during, or as of the end of, such fiscal year) in each fiscal year included in the projection period covering fiscal years 2011 through 2017 are projected to be at least 90 percent of the Debt Service Requirements (excluding debt service due on Subordinated Bonds) in such fiscal year. The levels of additional service revenue projected for the study period are anticipated to provide for the debt service coverage and requirements of the FGIC and AGM agreements.

Very truly yours,
BLACK & VEATCH CORPORATION

John R. Kersten
Vice President

TABLE A
PROJECTED REVENUE AND REVENUE REQUIREMENTS
(in thousands of dollars)

Line No.	Description	Percent Increase	Months Effective	2011	2012	2013	2014	2015	2016	2017
				Fiscal Year Ending June 30,						
	OPERATING REVENUE									
1	Water Service - Existing Rates			215,669	216,681	214,586	212,037	209,478	207,739	206,081
2	Wastewater Service - Existing Rates			325,812	324,952	322,982	320,904	318,827	317,381	315,765
3	Total Service Revenue - Existing Rates			541,481	541,633	537,568	532,941	528,305	525,120	521,846
	Additional Service Revenue Required									
	Year	Percent Increase	Months Effective							
4	FY 2012	3.90%	12		21,124	20,965	20,785	20,604	20,480	20,352
5	FY 2013	6.40%	6			17,873	35,438	35,130	34,918	34,701
6	FY 2014	6.40%	12				37,706	37,378	37,153	36,922
7	FY 2015	6.40%	12					39,771	39,531	39,285
8	FY 2016	6.40%	12						42,061	41,799
9	FY 2017	2.50%	12							17,373
10	Total Additional Service Revenue Required			0	21,124	38,838	93,929	132,883	174,143	190,432
11	Total Water & Wastewater Service Revenue			541,481	562,757	576,406	626,870	661,188	699,263	712,278
12	Transfer From/(To) Rate Stabilization Fund			8,600	24,305	35,935	13,875	10,815	9,655	(3,160)
	Other Income (a)									
13	Other Operating Revenue			25,629	25,342	24,729	24,118	23,506	22,934	22,857
14	Construction Fund Interest Income			2,000	3,657	3,213	2,976	4,517	4,605	1,586
15	Debt Reserve Fund Interest Income			1,319	1,789	2,194	2,652	3,359	4,064	4,643
16	Operating Fund Interest Income			692	864	1,051	1,238	1,415	1,614	1,772
17	Rate Stabilization Interest Income			1,421	1,572	1,433	1,234	1,163	1,077	1,116
18	Total Revenues			581,142	620,286	644,961	672,963	705,963	743,212	741,092
	OPERATING EXPENSES									
19	Water & Wastewater Operations			300,512	323,060	339,418	354,496	370,335	386,982	404,484
20	Direct Interdepartmental Charges			56,623	60,012	62,022	64,103	66,257	68,487	70,796
21	Total Operating Expenses			357,135	383,072	401,440	418,599	436,592	455,469	475,280
22	**NET REVENUES AFTER OPERATIONS**			224,007	237,214	243,521	254,364	269,371	287,743	265,812
	DEBT SERVICE									
	Senior Debt Service									
	Revenue Bonds									
23	Outstanding Bonds			181,574	181,280	184,295	184,667	184,836	185,144	123,083
24	Pennvest Parity Bonds			681	1,525	2,114	10,780	11,116	11,116	11,116
25	Projected Future Bonds			4,411	14,866	16,522	16,521	28,519	43,521	87,308
26	Total Senior Debt Service			186,666	197,671	202,931	211,968	224,471	239,781	221,507
27	**TOTAL SENIOR DEBT SERVICE COVERAGE (L22/L26)**			1.20 x	1.20 x	1.20 x	1.20 x	1.20 x	1.20 x	1.20 x
	Subordinate Debt Service									
28	Outstanding General Obligation Bonds			0	0	0	0	0	0	0
29	Pennvest Subordinate Bonds			1,227	1,022	0	0	0	0	0
30	Total Subordinate Debt Service			1,227	1,022	0	0	0	0	0
31	Total Debt Service on Bonds			187,893	198,694	202,931	211,968	224,471	239,781	221,507
32	**CAPITAL ACCOUNT DEPOSIT**			18,113	18,475	18,845	19,223	19,606	19,999	20,398
33	**TOTAL COVERAGE (L22/(L31+L32))**			1.08 x	1.09 x	1.09 x	1.10 x	1.10 x	1.10 x	1.09 x
	RESIDUAL FUND									
34	Beginning of Year Balance			20,889	10,874	10,461	10,191	10,535	10,469	10,368
35	Interest Income (b)			447	181	30	4	0	0	22
	Plus:									
36	End of Year Revenue Fund Balance			16,682	18,256	19,550	20,521	21,935	23,899	19,264
37	Deposit for Transfer to City General Fund (c)			1,319	1,789	2,194	2,652	3,359	4,064	4,643
	Less:									
38	Transfer to Construction Fund			22,000	16,000	17,000	20,000	22,000	24,000	19,000
39	Transfer to City General Fund			1,319	1,789	2,194	2,652	3,359	4,064	4,643
40	Transfer to Debt Service Reserve Fund			5,143	2,851	2,851	181	0	0	0
41	End of Year Balance			10,874	10,461	10,191	10,535	10,469	10,368	10,654
	RATE STABILIZATION FUND									
42	Beginning of Year Balance			145,693	137,093	112,788	76,853	62,978	52,163	42,508
43	Deposit From/(To) Revenue Fund			(8,600)	(24,305)	(35,935)	(13,875)	(10,815)	(9,655)	3,160
44	End of Year Balance			137,093	112,788	76,853	62,978	52,163	42,508	45,668

(a) Includes other operating and nonoperating income, including interest income on funds and accounts transferable to the Revenue Fund.

(b) Includes interest earnings on Debt Service Reserve substitution funds deposited in the Special Water Infrastructure Account.

(c) Transfer of interest earnings from the Bond Reserve Account must first go to the Residual Fund as shown in Line 37 to satisfy the requirements for the Transfer to the City General Fund.

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Engineering Report

Remarketing Water and Wastewater Revenue Refunding Bonds, Variable Rate Series 2005B

Water and Wastewater Revenue Bonds, Series 2009A

Water and Wastewater Revenue Bonds, Series 2009B

Water Department
Philadelphia, Pennsylvania

April 30, 2009

BLACK & VEATCH

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BLACK & VEATCH
Building a world of difference.

April 30, 2009

Mr. Rob Dubow
Director of Finance
City of Philadelphia
1300 Municipal Services Building
1401 J.F. Kennedy Boulevard, 13th Floor
Philadelphia, PA 19102

Dear Mr. Dubow:

In accordance with the requirements of The First Class City Revenue Bond Act (the Act), the Restated General Water and Wastewater Revenue Bond Ordinance of 1989, and the amendments and supplements thereto as set forth in the First, Second, Third, Fourth, Fifth, Sixth, Seventh, Eighth, Ninth, Tenth, and Eleventh Supplemental Ordinances (together the General Ordinance), we are submitting herewith our Engineering Report prepared in connection with the remarketing of Water and Wastewater Revenue Refunding Bonds, Variable Rate Series 2005B (the "2005B Bonds"), the issuance of Water and Wastewater Revenue Bonds, Series 2009A (the "2009A Bonds" and together with the 2005B Bonds, the "Bonds"), and the issuance of Water and Wastewater Revenue Bonds, Series 2009B (the "2009 Pennvest Loans"). This report summarizes findings of engineering and financial studies related to the Water and Wastewater Systems of the City. We have made such investigation and review of the books, records, capital improvement programs, and water and wastewater facilities of the Water Department and such other investigations as we deemed necessary. Unless otherwise indicated, capitalized terms used but not defined herein shall have the same meanings assigned to such terms in the General Ordinance.

Projections of revenues and revenue requirements for the Water Department for the seven-year period of fiscal years 2009 through 2015 are shown in this report. In the preparation of this report, we conducted on-site inspections of the major water and wastewater facilities and personal interviews with key Water Department operating, engineering, and financial staff during the months of December 2008 and January 2009. The general physical condition of the Water and Wastewater Systems has been evaluated using three rating categories – good, adequate, and poor – as described below.

- *Good:* The facility is in condition to provide reliable operation in accordance with design parameters and requires only routine maintenance or minor improvements.
- *Adequate:* The facility is operating at or near design levels, however, non-routine renovation, upgrading, and repairs are needed to ensure continued reliable operation.
- *Poor:* The facility is not being operated within design parameters. Major renovations are required to restore the facility and assure reliable operation. Major expenditures for these improvements may be required.

Subject to the limitations set forth herein, this report was prepared for the City of Philadelphia by Black & Veatch Corporation (Black & Veatch) and is based on information not within the control of Black &

Veatch. Black & Veatch has not been requested to make an independent analysis, to verify the information provided to it, or to render an independent judgment of the validity of the information provided by others. As such, Black & Veatch cannot, and does not, guarantee the accuracy thereof.

In conducting our analyses and in forming an opinion of the projection of future operations summarized in this report, Black & Veatch has made certain assumptions with respect to conditions, events, and circumstances that may occur in the future. The methodology utilized by Black & Veatch in performing the analysis follows generally accepted practices for such projections. While Black & Veatch believes the assumptions are reasonable and appropriate, and the projection methodology valid, actual results may differ materially from those projected, as influenced by the conditions, events, and circumstances that actually occur that are unknown at this time and/or which are beyond the control of Black & Veatch.

The City may only distribute the complete report to third parties, including the above statements and not parts thereof. Any distribution of this report or any excerpt thereof to third parties shall be at the City's sole risk. The City's duty to distribute only the complete report, including the above statements, shall not apply to internal City documents derived from the report, that come within the scope of applicable records laws and are requested under such laws by interested citizens.

Based on these studies we offer the following statements and conclusions to indicate the City's conformance with specific requirements which must be met for the remarketing of the 2005B Bonds and issuance of the 2009A Bonds and 2009 Pennvest Loans, as stipulated in the Act and the General Ordinance:

1. Based on onsite physical inspections and investigations of major system facilities, conducted in December 2008 and January 2009, combined with discussions with key Water Department staff at that time, it is our opinion that the Water and Wastewater Systems are in good operating condition or adequate steps are being taken to return them to good operating condition. The proposed six-year capital program for fiscal years 2010 through 2015 should provide adequate funds to sustain the systems in good operating condition.

2. Proceeds from the 2005B Bonds were to be applied to refund a portion of the City of Philadelphia, Pennsylvania, Water and Wastewater Revenue Bonds, Series 1995 Bonds. Proceeds from the 2009A Bonds are to be applied to: (i) to finance major portions of the Water Department's capital improvement program for fiscal years 2010 through fiscal year 2015 and (ii) pay the issuance costs of the 2009A Bonds. Proceeds from the 2009 Pennvest Loans are to be applied to finance major portions of the Water Department's capital improvement program for fiscal years 2010 through fiscal year 2015

3. Project Revenues pledged to secure the Bonds and the 2009 Pennvest Loans are to be derived from the following sources: all rents, rates, fees, and charges imposed or charged for the connection to, or use or product of or services generated by the Water and Wastewater Systems to the ultimate users or customers thereof, all payments under bulk

contracts with municipalities, governmental instrumentalities or other bulk users, all subsidies or payments payable by Federal, State or local governments or governmental agencies on account of the cost of operation of, or the payment of the principal of or interest on moneys borrowed to finance costs chargeable to the Water and Wastewater Systems, all grants, payments, and contributions made in aid or on account of the Water and Wastewater Systems exclusive of grants and similar payments and contributions solely in aid of construction and all accounts, contract rights, and general intangibles representing the foregoing.

4. Based on actual and estimated future annual financial operations of the Water and Wastewater Systems, it is our opinion that the Water and Wastewater Systems will yield pledged Project Revenues (including projected revenue increases indicated in this report resulting from rate increases which may be imposed after an administrative process of the Water Department without further legislative action by City Council) over the amortization period of the Bonds and 2009 Pennvest Loans sufficient to meet the payment or deposit requirements of:

    a. All expenses of operation, maintenance, repair and replacement of the Water and Wastewater Systems;

    b. All reserve funds required to be established out of such Project Revenues;

    c. The principal or redemption price of and interest on all Existing Bonds and all Bonds issued under the General Ordinance, as the same become due and payable, for which such Project Revenues are pledged; and

    d. The Rate Covenant set forth in Section 5.01 of the General Ordinance.

    The Project Revenues forming the basis for this projection comply with the requirements of the definition of "Project Revenues" contained in Section 2 of the Act.

5. The Net Revenues are currently sufficient to comply with the Rate Covenant and are projected to be sufficient (including projected revenue increases indicated in the report resulting from rate increases which may be imposed after an administrative process of the Water Department without further legislative action by City Council) to comply with the Rate Covenant for each of two fiscal years following the fiscal year in which the Bonds are issued.

6. In our opinion, water and wastewater rents, rates and charges, including projected increases (which may be imposed after an administrative process of the Water Department without further legislative action by City Council) are within generally acceptable ranges for such services and are collectible.

In accordance with the Water Department's agreements with Financial Guaranty Insurance Company (FGIC) and Financial Security Assurance, Inc. (FSA), rates and charges for use by the Water &

Wastewater Systems shall be sufficient to yield Net Revenues (excluding amounts transferred from the Rate Stabilization Fund into the Revenue Fund during, or as of the end of, such fiscal year) at least 90 percent of the Debt Service Requirements (excluding debt service due on Subordinated Bonds) in such fiscal year. Further, any calculation by a consulting engineer of projected rate covenant compliance in connection with the proposed issuance of additional Bonds for each fiscal year ending on or after June 30, 2000, must state that Net Revenues (excluding amounts transferred from the Rate Stabilization Fund into the Revenue Fund during, or as of the end of, such fiscal year) in each fiscal year included in the projection period covering fiscal years 2009 to 2015 are projected to be at least 90 percent of the Debt Service Requirements (excluding debt service due on Subordinated Bonds) in each fiscal year. The levels of additional service revenue projected for the study period are anticipated to provide for the debt service coverage and requirements of the FGIC and FSA agreements.

Very truly yours,

BLACK & VEATCH CORPORATION

Peggy L. Howe
Vice President

I. Introduction

A. Purpose

The purpose of this report is to summarize findings of engineering studies performed by Black & Veatch Corporation (Black & Veatch) related to the water and wastewater systems of the City of Philadelphia (City). The Restated General Water and Wastewater Revenue Bonds Ordinance of 1989 and the amendments thereto as set forth in the First, Second, Third, Fourth, Fifth, Sixth, Seventh, Eighth, Ninth, Tenth and Eleventh Supplemental Ordinances (together the General Ordinance) require the preparation of such an Engineering Report as a condition to be met prior to the issuance of bonds under the General Ordinance.

In the preparation of this report, we performed site visits of major water and wastewater facilities and conducted personal interviews with key Water Department operating, engineering, and financial staff during the months of December 2008 and January 2009. Financial projections summarized in the report encompass the seven-year period of fiscal years 2009 through 2015.

Subject to the limitations set forth herein, this report was prepared for the City by Black & Veatch and is based on information not within the control of Black & Veatch. Black & Veatch has not been requested to make an independent analysis, to verify the information provided to it, or to render any independent judgment of the validity of the information provided by others. As such Black & Veatch cannot, and does not, guarantee the accuracy thereof.

In conducting our analysis and in forming an opinion of the projection of future operations summarized in this report, Black & Veatch has made certain assumptions with respect to conditions, events, and circumstances that may occur in the future. The methodology utilized by Black & Veatch in performing the analysis follows generally accepted practices for such projections. While Black & Veatch believes the assumptions are reasonable and appropriate, and the projection methodology valid, actual results may differ materially from those projected, as influenced by the conditions, events, and circumstances that actually occur that are unknown at this time and/or which are beyond the control of Black & Veatch.

The City may only distribute the complete report to third parties, including the above statements and not parts thereof. Any distribution of this report or any excerpt thereof to third parties shall be at the City’s sole risk. The City's duty to distribute only the complete report, including the above statements, shall not apply to internal City documents derived from the report, that come within the scope of applicable records laws and are requested under such laws by interested citizens.

B. Scope

This report addresses the organization and management, physical condition, adequacy of system capacity, operation and maintenance practices, and staffing levels of the water and wastewater systems. It provides a review of the proposed capital improvement program of the Water Department. The report also includes the results of studies regarding the financial requirements of the water and wastewater systems, which are based on a review of the Water Department's books, records, and other information.

This report has been prepared in conjunction with the remarketing of the Water and Wastewater Revenue Refunding Bonds, Variable Rate Series 2005B Bonds (the "2005B Bonds"), the issuance of Water and Wastewater Revenue Bonds, Series 2009A (the "2009A Bonds" and together with the 2005B Bonds, the "Bonds"), and the issuance of Water and Wastewater Revenue Bonds, Series 2009B (the "2009 Pennvest Loans"). Net bond proceeds of the original Series 2005B Bonds were used to refund a portion of the Water and Wastewater Revenue Bonds, Series 1995. The remarketing of the Series 2005B Bonds will include the transition of the insurance and liquidity responsibilities for the Bonds to the Bank of America. It is anticipated that the Water Department will realize a significant savings in annual interest costs as a result of this transition to Bank of America as the insurance and liquidity agent for the Bonds. Net bond proceeds of the 2009A Bonds, along with other sources of capital funds, are to be used to finance a portion of the Water Department's capital improvement program for fiscal years 2010 through 2015 and to pay the costs of issuance of the 2009A Bonds. Proceeds of the 2009 Pennvest Loans, along with other sources of capital funds, are to be used to finance a portion of the Water Department's capital improvement program for fiscal years 2010 through 2015.

C. Black & Veatch Qualifications

Black & Veatch is one of the largest and most experienced engineering, construction and consulting firms in the United States specializing in utility engineering. Experience includes the planning, design, operation analysis, and construction of water, wastewater, and energy generation and transmission systems. In addition, the firm has extensive experience in assisting utilities with management and financial aspects of their operations. The firm has been engaged in more than 40,000 projects for over 7,000 clients, including utilities owned by municipalities ranging in size from small villages to large metropolitan regions, investor-owned utilities, industrial and commercial businesses, and agencies of the United States and international government agencies.

The physical evaluation of the Water Department's water and wastewater systems has been performed by experienced personnel of the firm's Water Sector Business which provides study, design, and construction services in all facets of the water and wastewater fields. Water system engineering experience of this business unit includes the design of a broad variety of facilities such as source of supply, pumping stations, treatment plants, and transmission and distribution systems. Wastewater system engineering experience includes design of collection, interceptor, and trunk sewers; pumping stations; treatment systems; and sludge disposal facilities. The Water Sector Business also has extensive experience in operator training, plant management studies, and preparation of operation and maintenance manuals for both water and wastewater systems.

In performing our engineering assessment of the Water Department, Black & Veatch reviewed the current condition and operation and maintenance of the water and wastewater systems. We conducted inspections of the Water Department's major water and wastewater facilities in December 2008 and January 2009, including the three wastewater treatment plants, the three water treatment plants, and the Biosolids Recycling Center (BRC). As a result of our facility inspections, we find the overall condition of these facilities to be good. This indicates that the facilities are in a condition to provide reliable operation in accordance with design parameters and require only routine maintenance or minor capital improvements. We also met with key Water Department staff during this period to discuss other facilities, regulatory compliance, staffing, and the overall mission of the Water Department. Staff interviewed during our studies included representatives from each of the six various divisions of the Water Department: Finance and Administration; Operations; Planning and Engineering; Public Affairs; Human Resources; and, Information, Science and Technology.

The financial feasibility review has been performed by professionals from Black & Veatch's Enterprise Management Solutions Division which provides services in such areas as utility rate studies, property valuation, depreciation rate studies, financial analysis and planning, nonaudit accounting, management and operations analysis, and the preparation of consulting engineering reports for official statements. Having performed various financial studies for the City of Philadelphia Water Department on a continuous basis since 1972, including the preparation of the engineering reports for the Water and Sewer Revenue Bonds, issued under the General Water and Sewer Revenue Bond Ordinance of 1974, as amended and supplemented, and the Water and Wastewater Revenue Bonds, Series 1993, 1995, 1997A, 1997B, 1998 and 1999, 2001, 2003, 2005 and 2007 issued under the General Ordinance, personnel of the Division are quite familiar with the Water Department's financial affairs as they relate to revenues, expenses, rates, and other financing matters. Professionals from this Division were also involved in the water and wastewater rate hearings for which the first phase, related to the overall level of increases for fiscal years 2009 through 2012, was completed in October 2008, and the second phase, related to stormwater rate revisions, are currently nearing completion. As a result of these rate hearings, schedules of water and wastewater rates for retail service have been approved for fiscal years 2009 through 2012, and are in place. Rates applicable to wholesale water and wastewater rates are also adopted for this same four-year period.

II. Organization and Management

A. Overview

The water and wastewater systems serving the City of Philadelphia (City) are owned by the City and are operated as a self-supporting enterprise fund utility. The Water Department was established by the Philadelphia Home Rule Charter, approved April 17, 1951 as one of the City's ten operating departments. The Water Department is responsible for the planning, construction, operation, and maintenance of the two systems; rate setting; budgeting and detailed cost accounting; and preparation of financial statements for the water and wastewater systems. The Water Revenue Bureau is responsible for customer meter reading, billing, collection, and customer accounting for the water and wastewater systems and is currently overseen by the City's Revenue Commissioner. The City's Finance Director has top level oversight of the Water Revenue Bureau. The data from the Water Department's annual statements are included in the City's combined Comprehensive Annual Financial Report. The audit function for the City is the responsibility of the Office of City Controller. Other services are provided to the Water Department by other City departments. Legal matters affecting the Water Department are the responsibility of the City Solicitor's office, although the Water Department does have a Divisional Deputy City Solicitor assigned directly to the Water Department under the direction of the City Solicitor's office.

The Water Department has continued implementing its vision and strategic plan that focus on increasing the operational efficiency of the water and wastewater systems and providing satisfactory service to its customers. The results of this strategy have allowed the Water Department to achieve significant productivity gains and positive reports from its customers. In administering this strategy, a monthly performance measurement system, called the Monthly Manager's Report, is utilized. This report enables managers to receive up-to-date feedback on the performance of their units relative to strategic plan goals and objectives.

The Water Department senior management positions are staffed with highly qualified and trained personnel that collectively possess an average of 29 years of experience. This high level of experience exists despite the high number of retirements that have occurred over the past five years as a result of the Deferred Retirement Option Plan (DROP) created by the City in 1999 and through normal retirements and other staff turnover. Through the DROP program, approximately 338 Water Department staff retired between fiscal years 2004 and 2009. These positions have been filled from within the ranks of the Department's staff, thus maintaining a high level of institutional knowledge and dedication to the City.

While succession planning is difficult within a civil service structured organization such as the City's, the Water Department is preparing for these retirements by reviewing personnel needs at the section and unit level. The Water Department is also conducting a review of its organizational structure and is actively considering consolidating and streamlining positions and units to better focus organizational inter-relationships and accountability, as they have evolved through the present day in the execution of the Water Department's mission.

The Water Department continues to focus on filling unfilled positions. With the contracting out of the operation of the Department’s Biosolids Recycling Center (BRC) in 2008, the Department transferred most of the remaining BRC staff, numbering approximately 60 positions, to other operating units, thus filling much of the backlog of vacancies from the extended hiring freeze initiated under the previous City administration. The Department is absorbing approximately 20 City employees whose positions have been eliminated from other agencies as part of major cut-backs in General Fund positions. The Department has also been successful in hiring new staff in recent years. Through these three vehicles, the Department has successfully reduced their vacancies to a reasonable level, with most units reporting vacancy levels of less then 10 percent. Recognizing the need to be proactive in growing their work force, the Department launched an Apprentice Program in 2006. The Department has already filled some vacancies through this program, and managers currently working with participants of the program view it as being highly successful.

The Water Department is headed by the Water Commissioner who is appointed by the City's Managing Director with approval of the Mayor. The Commissioner is assisted in management of the Water Department by three Deputy Water Commissioners. The Water Department is currently organized into six divisions: (1) Operations, (2) Planning and Engineering, (3) Finance, (4) Human Resources, (5) Public Affairs, and (6) Information Science and Technology. There is also an Office of Environmental Policy and Planning. Each division is divided into units and subunits responsible for carrying out specific functions. An Organization Chart of the Water Department is shown on Figure II-1.

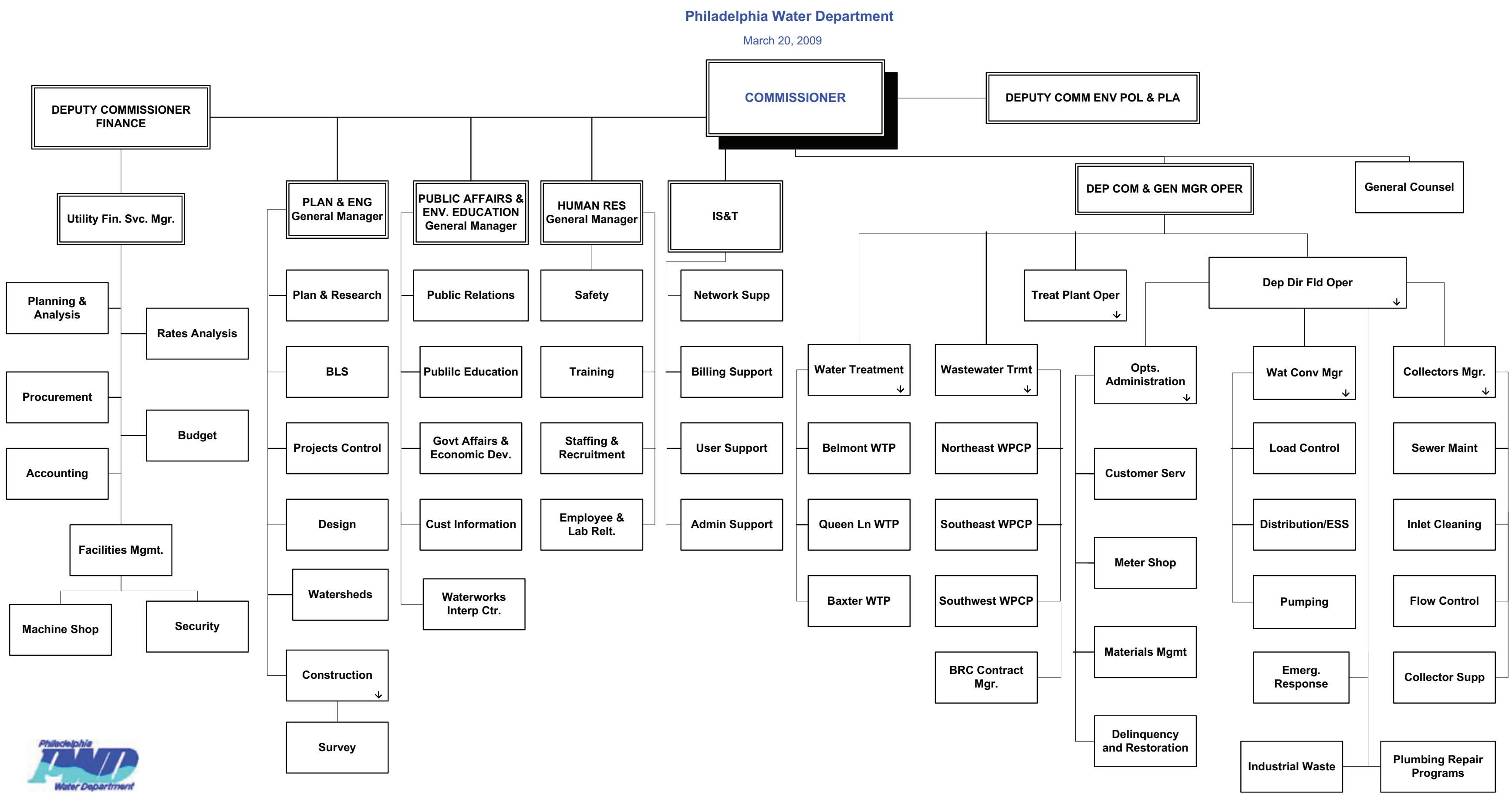


Figure II-1 – Organization Chart

As of June 2008, the Water Department had a total of approximately 1939 employees. Of these, 1464 are represented by District Council 33, and 208 are represented by District Council 47 of the American Federation of State, County, and Municipal Employees Union. The Department's 267 upper management, supervisory, and senior engineering personnel are not eligible for union membership. In addition there are 228 employees in the Water Revenue Bureau whose positions are funded by the Water Department. Present labor agreements are an extension to the previous contract which expired June 30, 2008. The extension agreements will expire on June 30, 2009.

The Water Department has always maintained security at their facilities using hardware and a uniformed security force that inspects remote unmanned facilities daily and on a random 24-hour basis. However, the events of September 11, 2001, have identified the need to improve its existing security systems. Prior to September 11, 2001, the Water Department had begun implementing additional monitoring and controls at its wastewater treatment plants, Biosolids Recycling Center and its remote facilities. Since that date there has been continued efforts to complete the implementation of these systems and other security measures to "harden" all facilities. For example, the Water Department has increased the size of its uniformed security force, prepared vulnerability assessments, limited access of personal vehicles on plant property, implemented access ID card systems at all facilities, implemented a new chemical delivery security system, and eliminated the use of chlorine gas at their treatment facilities.

The Water Department continues to implement operational recommendations of the Vulnerability Assessment report, and budget for any Capital Improvements required to upgrade the facilities to meet the recommended upgrades or improvements. In the coming years the department will purchase emergency generators for all plants and pump stations and continue to enhance physical security via fencing, lighting, camera systems and alarm systems. In addition, the Department is a recipient of a Contamination Warning System Demonstration Pilot grant from the United States Environmental Protection Agency (EPA). As discussed in more detail in Chapter III, this funding will be used to develop a comprehensive water contamination identification and response strategy.

The Water Department maintains their commitment to energy efficiency in all of their operations, and is re-invigorating this commitment in response to a series of internal and external factors including: the pending deregulation of power utilities in Pennsylvania in 2011, volatile energy markets, global and industry-wide emphasis on energy reduction and carbon footprint analysis, and the potential for energy intensive pumping or treatment requirements in the future. Previous or on-going efforts in energy conservation and optimization include: optimization of pumping strategies, multiple efforts to utilize co-generation facilities and implementation of lighting system evaluations and upgrades.

A new initiative starting in fiscal year 2009 is the development of a Utility Wide Energy Plan. The Department has contracted with a consultant for assistance in developing the plan, which will include rate projections in light of deregulation to occur in 2011, energy inventories and conservation management strategies and preliminary evaluations of various renewable energy sources. In addition, the Department initiated the design of a 4 megawatt biomethane cogeneration facility at its Northeast Water Pollution Control Plant (WPCP) that is planned for construction in fiscal year 2010. Once operational, the Department expects this project will reduce electricity usage by 10% Department-wide and save an estimated $2 million in annual electricity costs. The Department was also awarded a $30,000 grant to examine solar energy opportunities at its facilities to offset and reduce energy costs, and continues to evaluate opportunities for use of non-traditional alternative energy sources.

B. Operations Division

Over the years, the Philadelphia water and wastewater systems have grown and today are among the most complex large municipal systems of their kind in the country. Operation and maintenance of these systems require continuous attention for the following reasons:

- The public drinking water must be safe and comply with both the Safe Drinking Water Act (SDWA) regulations of the U.S. Environmental Protection Agency (EPA) and state requirements by the Pennsylvania Department of Environmental Protection (PaDEP).
- The effluents from the wastewater treatment plants discharged to the Delaware River must meet the limits set forth in the plants' National Pollutant Discharge Elimination System (NPDES) permits.
- The water and wastewater treatment plants, the sewerage and water conveyance systems and the pumping facilities must be maintained and operated in an acceptable manner that assures cost-effective and continuous performance with minimal adverse impacts to the public and the environment.
- Sewage sludge and other residuals must be properly treated, disposed of and distributed in accordance with Water Department policy and governing federal and state regulations.

Additionally, the Water Department must provide sufficient forward-looking engineering and planning to ascertain future operating requirements likely to emerge from upcoming environmental regulations. Because of the many new regulations that have been and continue to be promulgated, prudent advanced planning and engineering is essential in order to comply with strict timetables and to minimize costly expenditures to the Water Department resulting from these regulations. Due to the continued need for future regulatory compliance, the Operations Division interacts and works closely with both the Planning and Engineering Division and the Office of Environmental Policy and Planning.

The Operations Division's current organizational structure includes a Deputy Commissioner of Operations, who reports to the Water Commissioner. This Division includes the following operating units:

- Water Treatment
- Wastewater Treatment
- Water Conveyance
- Wastewater Collection
- Operations Administration
- Industrial Waste.

A recent change in the Operations Division was the retention of a private operator for the Biosolids Recycling Center effective in October 2008. Discussion of this change in operations is further discussed in this report in Section IV, Wastewater System.

This Division, responsible for the day-to-day operations and maintenance of the water and wastewater systems, relies on the support of the other five divisions to accomplish its mission and, maintains an especially close relationship with the Planning and Engineering Division in the following areas:

- Undertaking long-range planning and engineering.
- Coordinating regulatory agency requirements.
- Producing analytical results required to demonstrate permit and regulatory compliance.
- Preparing construction documents and coordinating design consultants.
- Coordinating construction projects.
- Establishing capital budgets and maintaining the current capital improvement program.

Based upon our interviews and investigations, we believe that the organization of the Operations Division is well suited to respond to issues affecting operations and maintenance. The structure provides for a smooth flow of communication to and from the division level and section levels. Management places great emphasis on holding regularly scheduled meetings with superintendents and technical group leaders to communicate plans and receive important feedback.

Based upon our observations and discussions with key staff, we find that the Operations Division coordinates effectively with the Planning and Engineering Division. Operations related planning and design projects are typically identified by the Operations Division and then developed by the Planning and Engineering Division. The Planning and Engineering Division is also responsible for including these projects in the Capital Improvement Program.

In order to provide for more effective decision making ability, the Operations Division has implemented procedures focused on identifying all capital improvements and replacement/rehabilitation project needs at each of its major facilities. The projects are identified on a master list by facility and projected for a six-year capital planning period. The projects are prioritized in order of importance and are current through regular review and communication. The project listing provides the Operations Division with a comprehensive budget program enabling it to maintain continuity of service while tracking corresponding budget requirements.

The management of the Operations Division and the Planning and Engineering Division has responded capably to the needs of the water and wastewater systems and are well positioned to meet projected needs in the coming years. Key management personnel have qualifications and experience commensurate with their responsibilities which enables them to deliver reliable, cost-effective water and wastewater services to the system's users.

The Operations Division has attracted a strong technical staff to supervise its operations and maintenance program. Similarly, the Planning and Engineering Division is also staffed by highly skilled scientists, engineers, planners, and technicians. In our opinion the Operations Division is adequately staffed to meet current system requirements.

C. Planning and Engineering Division

The Planning and Engineering Division is organized into six specialty related sections designed to support the needs of the Water Department. This Division had 191 budgeted positions with 22 vacancies as of the end of Calendar Year 2008. Descriptions of the sections are provided below:

(1) Planning and Research Section - This group provides services in such areas as applied research, feasibility studies, strategic planning, financial planning, energy management, and distribution and conveyance systems planning and rehabilitation. The section has three units (Asset Management and Planning, Planning and Technical Services and Environmental Engineering).

The Asset Management and Planning Unit includes the Water and Sewer Systems Planning and Stormwater Plan Review programs. The Water and Sewer Systems Planning program provides valuable services regarding the upgrading and rehabilitation of the water main and sewer infrastructure. Water main and sewer replacement is driven by a point system which considers factors such as age, materials and number of breaks. Sewer replacement is driven by the Sewer Assessment Program (SAP).

The recently completed complete sewer assessment program used video cameras to inspect the entire collection system, and the results were used to establish an asset database and a point system. Ongoing inspections will insure that the infrastructure is inspected regularly, the database is current and deficiencies are identified. All video sewer inspections are electronically stored and points assessed based on uniform evaluation criteria and Operations and Maintenance (O&M) considerations.

All water and sewer infrastructure are catalogued in the Department's GIS database, which will serve as the foundation of the street-side asset management program to be implemented in 2009. This program will consolidate all existing databases and work order management programs and allow for ready access to all historical information and facilitate asset management practices.

The Stormwater Plan Review program is responsible for reviewing and approving the stormwater plans for proposed development greater than 15,000 square feet and insuring compliance with the City stormwater regulations adopted in January 2006. In the three years since its inception, this program has reduced stormwater runoff by three percent and will result in future savings of an estimated $425 million in capital costs and $80 million in O&M expenses.

The Planning and Technical Services and Environmental Engineering units provide services in areas such as applied research, feasibility studies, strategic planning, financial planning, and energy management. A sampling of the units' activities are described as follows:

- Water treatment and distribution system research and plant pilot studies to optimize treatment processes, assure future regulatory standards can be attained and evaluate new technologies.
- Wastewater treatment research such as supporting the Department's initiative to evaluate the limits of the wastewater treatment capacity and identify alternative strategies for increasing capacity or otherwise effectively handling storm flows.
- Computer modeling to evaluate the hydraulics of the unit processes within the water and wastewater plants. This was utilized in evaluating the feasibility post-filter chlorine contact the Baxter WTP and in profiling and optimizing the flow into the primary tanks at the Northeast WPCP.
- Energy management programs including the Utility-Wide Energy Plan, consultation on the co-generation initiative under development at the Northeast plant, administration of the solar energy grant and on-going investigations into alternative energy initiatives.
- Department interface with the Delaware River Basin Commission.

(2) Office of Watersheds – The Office of Watersheds (OOW) is charged with integrating the traditionally separate but inherently related Combined Sewer Overflow (CSO) program, the Storm Water Management program and the Source Water Protection program, to maximize the effectiveness of resources allocated to these programs and to ensure the comprehensive achievement of each program's goals. The Office of Watersheds is responsible for implementing planning and management strategies that foster practical and cost effective scientifically based solutions with effective public involvement.

From 1999 to 2008, OOW has implemented a comprehensive watershed assessment strategy, integrating biological, chemical and physical assessments to provide both quantitative and qualitative information regarding the aquatic integrity of the Philadelphia regional watersheds. OOW uses this information to develop a Watershed Management Plan for each watershed. Taking a collaborative approach OOW uses the planning process as a vehicle for stakeholder input in the Management Plans. Ultimately, the Plans identify and prioritize water quality concerns, sources of pollution and treatment or restoration recommendations in each watershed.

The recommendations of these plans are incorporated into the CSO, Stormwater and Source Water program goals as appropriate. It is a goal of the OOW to achieve viable and measurable improvements to the region's waterways and to meet regulatory requirements, while enhancing the health and aesthetics of the environment and being affordable to the customer base.

The Office of Watersheds organization is composed of engineers, aquatic biologists, environmental specialists, urban planners, GIS specialists and community and education outreach staff, which facilitates the necessary interdisciplinary approach to achieve watershed protection. Some of the more unique programs and projects being conducted by or in collaboration with the Office of Watersheds are briefly identified below:

- CSO Program - The Combined Sewer Overflow (CSO) program is a significant responsibility of the OOW. The fundamental goal of the CSO program is to improve and preserve the water environment in the Philadelphia area and to fulfill the Water Department's obligations under the Clean Water Act and the Pennsylvania Clean Streams Law by implementing technically viable, cost-effective improvements and operational changes. The present NDPES permits held by the Water Department require the implementation of a combined sewer overflow program.

The strategy to attain these goals has three phases: aggressive implementation of a comprehensive program for Nine Minimum Controls; planning, design and construction of 17 capital projects that further enhance system performance and reduce CSO volume and frequency; and commitment of up to $4 million in services and resources toward comprehensive watershed-based planning and analyses that will identify additional, priority actions to further improve water quality in Philadelphia area water bodies (Cobbs Creek and Tookany/Tacony-Frankford Watershed Management Plans).

The current Long Term Control Plan (LTCP) includes significant capital expenditures to address capture and treatment requirements. Capital projects in the construction or design phase include: enhancements to the real-time control system, Dobsons Run project, Venice Island (R-20) storage tank and State Road (PC-30) relief sewer. These projects are in the Capital Budget for fiscal years 2009 and 2010 with an estimated total expenditure of $105 million dollars. In addition the Department is evaluating alternatives for the expansion of the wastewater treatment plants primary and secondary treatment capacities to increase wet weather capacity.

The three phases of the CSO program strategy successively provide more comprehensive programs that follow the direction of the EPA CSO Policy and its guidance documents and are consistent with the requirements of the Clean Water Act. The Phase I Nine Minimum Controls and the Phase II capital improvement program should result in implementation of the highest level of cost-effective, technology-based improvements. The Department believes that these programs will provide a substantial reduction in CSO volume and frequency and a significantly greater percentage of combined sewer flow transported and treated at the Water Department's three wastewater plants.

Phase II of the LTCP also includes operation, maintenance and monitoring improvements, in addition to capital projects. Maintenance and operations of the CSO structures includes ongoing inspections, minor maintenance and comprehensive maintenance activities. Comprehensive maintenance provides complete mechanical, instrument and electrical servicing (as required).

In contrast to Phases I and II, the Water Department's LTCP Phase III is water quality-based. Its emphasis on the completion of watershed planning for each basin is geared to ensure cost effective solutions based upon a solid foundation of in stream research. Each integrated watershed management plan seeks to identify: sources of instream pollution; the relative impact of each source on the attainment of water quality standards; the measures needed to control various sources in addition to CSOs; and, the ultimate ability to attain water quality standards. These plans are created through a stakeholder-driven process, one in which the Partnership members prioritize the goals of the plans to ensure that they include hefty components of community education, stewardship, overall environmental quality, and regional coordination.

The Department's NPDES permits were renewed in September 2007 and require submittal of an updated LTCP in September of 2009. The overall timeframe for the completion of the LTCP will be subject to negotiation and is anticipated to range between 20 and 30 years. OOW is working collaboratively with other divisions to develop a LTCP that is watershed based, integrating both "green" (land based) and "gray" (traditional tanks, tunnels and treatment) solutions. The Department continues to demonstrate the value of utilizing a watershed based approach to addressing CSOs while at the same time improving water quality and offering benefits to the community. This approach is supported by the regulatory community as a means to obtain tangible water quality improvement, while reducing capital expenditures for large CSO capture and treatment projects. The Department's commitment to and demonstrated success with their program, should reduce the probability that the Federal Government will invoke a Consent Order Agreement to force compliance with CSO objectives, and could ultimately save the Department billions of dollars while offering social and environmental benefits beyond those achieved through traditional solutions.

- Stormwater Program - The stormwater program is responsible for maintaining compliance with the City's NPDES Stormwater Management Permit. PaDEP issued the City its initial storm water permit on September 29, 1995, effective for five years. The permit requires the City to implement four management programs to reduce the discharge of pollutants from its municipal separate storm sewer systems. The management programs require the City to reduce pollution from (1) commercial and residential areas; (2) illicit connections; (3) industrial facilities; and (4) construction sites.

  The initial 5-year NPDES Phase I storm water permit issued in 1995 expired in September, 2000. The Water Department applied for a new permit in March, 2000 as required, and the then existing permit remained in effect until the new permit was issued in September 2005. The program focuses on areas of the city serviced by separate storm sewers but is managed closely with the CSO Program and Source Water Protection program to effectively reduce stormwater flows, enhance stormwater quality and improve stream quality.

  The program applies the watershed based approach using land-based solutions to retain, reduce and treat stormwater runoff or discharges. In recent years the program has focused on: the Wissahickon Creek Total Maximum Daily Limit (TMDL) (conducting a feasibility study, developing a monitoring program and identifying best management practices (BMPs) to meet sediment load reduction requirements), the Delaware River TMDL (monitoring and abatement of polychlorinated biphenyls (PCBs) in the storm system), continuance of the defective laterals program, pollutant source identification, and an overall discharge management, characterization and management program.

Through these initiatives the Department will identify and prioritize BMPs for implementation. The Department currently has over 10 million dollars budgeted over the next five years for stormwater BMPs including: stream restoration, stream bank stabilization and stormwater wetland creation projects.

The program has developed partnerships within the watersheds that enable leveraging of grant funding and resources to achieve results. The Water Department has been a municipal partner in the state sponsored Act 167 Stormwater Management Plan for the Darby-Cobbs Watershed (completed in 2006) and was the sponsor for the Tookany/Tacony-Frankford Watershed Act 167 Plan (completed in 2008). The Water Department has recently contracted with the PaDEP to conduct a county-wide Act 167 Plan, focusing on the Pennypack (fall 2008), Poquessing (fall 2009) and Wissahickon (fall 2011) watersheds over the next five years.

- Storm Flood Relief – The OOW modeling group is conducting hydraulic modeling in support of the Department's efforts to identify solutions for storm flow related basement flooding which has occurred in certain areas of the City in recent years. The Department's Capital Budget for the next five years includes over 200 million dollars dedicated to storm flood relief projects in Northern Liberties, South Philadelphia and Washington Square West.

- Source Water Protection Program – This program is charged with protecting Philadelphia's drinking water supply. The initial focus was the completion of the Source Water Assessments for over 50 surface water intakes on the Schuylkill and Delaware Rivers with the goal of assessing risks and prioritizing measures to protect the Water Department's source water. The effort relied upon establishing partnerships with other water utilities along the watersheds of both rivers. The program built upon the Assessments and the partnerships and is currently focusing on implementing protective measures.

Through a partnership with federal, state and local interests the Department helped to secure a 1.5 million dollar EPA Targeted Watersheds Grant dedicated to implementing protection measures throughout the Schuylkill River Watershed. Other initiatives include the Delaware Valley Early Warning System, the Schuylkill RiverCast recreational water quality forecasting system, climate change research, investigation of microbial source tracking as a means to identify sources of pollution and piloting of pharmaceutical take-back programs to reduce the flushing and ultimate discharge of used pharmaceutical products to rivers.

- Green City Program - This program emphasizes the use of sustainable locally based greening projects, such as street tree plantings, lot conversions to green space, and community gardens and recognizes that reduced infrastructure costs are possible through practical and environmentally friendly programs, even in urbanized neighborhoods.

- Partnerships - The Water Department's successful watersheds program has been made possible through the creation of watershed partnerships and regional partnerships, recognizing the linkage of all users both upstream and downstream.

- Fairmont Fish Ladder - In partnership with the Army Corps of Engineers, rehabilitation is nearing completion on the fish ladder on the Schuylkill River, which is intended to increase the number of fish above the dam.

- Source Water Protection Early Warning System - Through an initial $750,000 grant from PaDEP, the Water Department in concert with other regional water utilities, developed an early warning communications and notification system for water suppliers on the Delaware and Schuylkill Rivers. This innovative system allows automated notifications of water quality events, provides for remote access to real-time and historical water quality data along both rivers, and serves as a forum for information sharing via an interactive web-site. The system is used by water utilities and regulatory agencies throughout the region to share information about routine and emergency water quality events. The system as been effective in improving communication and fostering cooperation among the regional drinking water community.

- Waterways Restoration Team – This recently formed unit, operates under the Sewer Maintenance unit with the Operations Division and works closely with OOW to implement watershed restoration projects in-house. The Water Department recognized that this new team was needed to help implement the extensive watershed assessment initiatives required as part of the Long-term CSO Control Plan, Stormwater Management Phase I permit, and Source Water Protection program. This team enables the Water Department to better coordinate its infrastructure improvement projects with ecologic improvement goals to help it meet permit requirements while incorporating watershed-based management into maintenance strategies. This team inventories problem areas along City streams, develops monthly maintenance tasks, helps to restore aquatic habitat through removal of debris and obstructions, implements stream restorations and coordinates natural and constructed drainage channel and right-of-way work with the Fairmount Park Commission.

- TMDL development - 77 of the 78 streams in Philadelphia are impaired and will eventually require the development of Total Maximum Daily Limits (TMDLs). A TMDL for polychlorinated biphenyls (PCBs) was established for the Delaware River in 2003 and a TMDL for nutrients and sediment was finalized for the Wissahickon Creek in 2006. The Water Department was active in the development of these TMDLs and has been proactive in meeting their requirements.

The Office of Watersheds' watershed management program has been recognized by both the PaDEP and the US EPA as a success. The EPA has highlighted the program as a national model. The comprehensive work of the Office of Watersheds in the areas of source water protection, stormwater and combined sewer overflows has enabled the Water Department to receive a number of significant awards and recognition.

(3) Bureau of Laboratory Services (BLS) – BLS is the Department's environmental laboratory responsible for providing analytical services to meet water and wastewater regulatory requirements and in support of various Department research initiatives. BLS operates a state-of-the-art laboratory facility and is comprised of the following groups: (1) Administrative Branch, (2) Inorganic Laboratory, (3) Materials Engineering Laboratory, (4) Organic Laboratory, (5) Aquatic Biology Laboratory and (6) Scientific and Regulatory Affairs.

BLS is responsible for the development of standard operating procedures and the quality assurance program at the water and wastewater laboratories. They are directly responsible for wastewater laboratories and support the water treatment laboratories which are under the direct supervision of each plant's manager. BLS is responsible for administering compliance with the water quality monitoring requirements under both the federal Safe Drinking Water Acts (SDWA) and state regulations. Approximately 1000 sets of drinking water samples are collected each month from the water treatment plants, reservoirs and distribution system. These samples are tested for chemical and bacteriological parameters to assure product quality.

BLS is responsible for monitoring and maintaining distribution system water quality and administering the Department's Cross Connection Control Program. To this end, BLS operates and maintains real-time water quality monitoring stations at 18 locations throughout the distribution system. BLS developed a Cross Connection Control Manual for the City which provides standards for the prevention of water contamination. They are also responsible for certifying plumbers with regard to proper installation and testing of Department-required backflow preventing valves.

BLS is involved in monitoring the water quality in Philadelphia's urban streams. In this capacity, BLS maintains a staff of scientists focused on stream water quality monitoring and aquatic life assessments. These scientists work closely with the Office of Watersheds in the development of Watershed Management Plans and collecting of data required for the annual reports required under the Stormwater Management Program and Combined Stormwater Overflow (CSO) Program permits.

BLS also performs materials and investigative testing in support of construction activities and in response to emergency or problematic conditions. Another important aspect of their work is conducting vendor surveillance prior to installation of materials and equipment on various Water Department projects.

The work performed by BLS is important from a water quality and regulatory reporting standpoint and, based on their proactive approach, in minimizing construction related problems, thereby facilitating overall water and wastewater operations.

(4) Projects Control Section - This group is responsible for developing, maintaining, tracking, and coordinating the capital improvement program. Projects are developed by the facility manager, approved by the section manager and Deputy Commissioner of Operations then submitted to Projects Control where they are prioritized and placed in a timeline to allow budget development for a six-year horizon. Longer-term projects are placed in a year 2050 file for incorporation into future budgets. The Water Department began preparation of its capital budget for fiscal year 2009 though 2014 in October 2007, when all divisions were supplied with documentation to complete and return to the Projects Control Section reflecting their budgetary requests for the next fiscal year. The Water Department has developed and installed a computerized budgeting system to enable each division to prepare budget requests based on historical and current experience. The Water Commissioner reviewed all budget proposals with the assistance of the Projects Control's staff and submitted the Water Department's proposed fiscal year 2009 budget to the City's Planning Commission in December 2007. The Mayor approved the Water Department's Capital

Budget and included it as part of his proposed budget to City Council in February, 2008 and it was approved in May, 2008.

(5) Design Section - This group performs all engineering functions associated with design and construction. A representative list of the group's activities follows:

- Evaluates and designs new and rehabilitation projects.
- Provides input into maintenance, renovation, and reconstruction issues.
- Reviews and coordinates designs prepared by consultants.
- Reviews shop drawings and reviews requests by contractors for deviations from plans and specifications.
- Maintains record plans.
- Provides engineering assistance to Operations Division during disruptions in water and wastewater service.
- Coordinates with other agencies such as the Pennsylvania Department of Transportation (PADOT), Philadelphia Streets and Department and Redevelopment Authority, SEPTA and private utilities.
- Assists in public education of various issues associated with the water and wastewater systems.
- Reviews plans prepared by private developers for adherence to Water Department standards.

The Design unit has two large groups (Plant Design and Water and Sewer Design. The section maintains its service levels by employing outside consultants to supplement the in-house staff, as necessary.

(6) Construction Section - This group assumes responsibility for projects upon issuance of the construction notice-to-proceed. Responsibilities include assurance of contractor compliance with design contract documents, processing change orders if necessary, responding to request for information and handling payment requests from contractors. Construction unit also provides surveying services which assists the contractors in construction stake out at the site, complies with surveying procedures.

D. Finance and Administration Division

The Finance and Administration Division is responsible for the development of water and wastewater revenue requirements and rates, the preparation and control of the operating budgets, the management of capital financing programs, the conduct of internal audits, the administration of customer revenue and rate programs and the general accounting of operating and capital funds. In addition, the Division handles the maintenance of the inventory control, functionalized cost, and fixed asset accounting systems, procurement, and preparation and follow-up on documentation of federal and state grants. Further, the Division provides support services in the areas of office and facilities management. This Division also oversees the Department's Facilities Management, Machine Shop and Security units.

In accomplishing the responsibilities identified above, the Division's major objectives include compliance with all legal reporting requirements, securing goods and services needed to continue operations from vendors, determining a fair and equitable water and wastewater rate structure to provide sufficient funds for both operating and capital programs, monitoring of all budgetary expenditures, promoting performance management measurement and reporting, and developing special accounting systems.

The Finance Division organizational structure includes a Deputy Commissioner, who reports directly to the Water Commissioner. The division has nine units (Procurement, Administrative Services, Planning and Analysis, Rate Analysis, Accounting/Accounts Payable, Budget, Facilities Management, Machine Shop, and Security). The authorized staffing level for the division is 174. There are also about 8 positions (7 filled) in the capital payments unit budgeted in the capital fund. When the current budget was prepared, 148 of the 166 operating budget positions were filled. The majority of these vacancies are in the Facilities Management unit.

(1) Core financial services are provided by the Planning and Analysis, Administrative Services, Rate Analysis, Procurement, Budget, and Accounting/Accounts Payable units.

(2) The Facilities Management unit is responsible for all building maintenance work (concrete, electrical, HVAC) for all Department structures except the three water and three wastewater facilities. The Security unit and the Machine Shop unit both report directly to the head of the Facilities Management unit.

Key management positions within the Finance Division are staffed with highly capable individuals, most of whom are long-term Water Department employees. In our opinion, the Finance Division is organized to efficiently respond to financial needs from other divisions of the Water Department as well as with other City of Philadelphia departments and other entities outside of the City government, as necessary.

E. Human Resources Division

This Division provides administrative and human resources planning services to the various divisions and their respective units. Some of the key objectives of this division include: coordination of traditional personnel functions with initiatives in manpower and management training; insuring that personnel recruitment, placement, training, career development and safety programs are consistent with the Water Department's long-term human resources needs and affirmative action goals; initiating policy development related to administration and human resources management and insuring effective communication within the Water Department of policies and procedures generated by management; coordination of labor management initiatives and employee relations programs with the Water Department's long range operational plans. The three units in this Division are Personnel, Training, and Safety and Health. Authorized staff for these units is 32. The division currently has 5 vacancies.

Through its Human Resources Division, the Water Department maintains an active training program for all employees. Each job has training courses tailored to improving the employees' knowledge and performance. A new training center was opened in fiscal year 2003 on the grounds of the Belmont Water Treatment Plant, with trainers coming from both within the Water Department and outside contractors.

The Training unit oversees close to fifty course offerings covering a broad range of topics, and is engaging in new initiatives. The Training Unit also led the development of the Department's Apprentice Program, which started in 2006. Under this program the Department seeks out motivated high school students interested in applicable trades (science, electrical, mechanical, etc…) and hires these students as apprentices. The students work part-time as an apprentice until they graduate, they are then hired full-time under the apprentice program. Once they complete the required training they will be hired as full-time civil service employees. Managers and mentors working with apprentices and graduates of the program speak highly of the program. Future training initiatives include:

- Providing training in fundamental skills, such as reading and mathematics.
- Increasing the variety and availability of safety and skilled trades training.

The Safety and Health unit utilizes a team of industrial hygienists to build training programs and support Water Department safety committees in their goal to assure a safe work environment. As noted in Table II-1, long term efforts have shown a general downward trend to leveling off of paid days lost.

Table II-1 – Safety Record

Fiscal Year	Paid Days Lost
1993	4,821
1994	3,884
1995	2,278
1996	1,499
1997	982
1998	1,053
1999	1,155
2000	772
2001	1,217
2002	1,028
2003	959
2004	1,163
2005	1,452
2006	1,873
2007	1,430
2008	1,757

F. Public Affairs Division

The Public Affairs Division supports and enhances the services performed by the Water Department's five other divisions to provide better service to the public. The Public Affairs Division consists of four units. These units, together with their primary areas of focus, are presented below.

(1) Public Education Unit - As its name implies, this unit is responsible for carrying out the Water Department's public education programs. Public education targets school children, neighborhood groups and the individual water customer. During calendar year 2008, more than 49,100 people toured Department facilities or were touched by the Department's outreach programs. The Public Affairs Division has been responsible for the Water Department's strong publications and extended outreach programs. It has been actively involved in developing public outreach programs for better understanding of urban watersheds, and the part

each citizen and industry plays in protecting these valuable resources. It has secured significant financial assistance from various organizations in the Delaware Valley in support of their efforts, including the US EPA, the Delaware River Port Authority, and the Pennsylvania Departments of Environmental Protection and Conservation and Natural Resources.

Among the many projects developed and being implemented by the Public Affairs Division is the Fairmount Water Works Interpretive Center, which was opened in October 2004. The Center traces the history of the Schuylkill River and illustrates the complicated relationship between human civilization and the river. The Center is staffed by four environmental educators, and features interactive exhibits on the urban watershed; a Water Laboratory; a classroom/media center; and interpretive displays. In 2008, the Center attracted 34,422 visitors consisting of school children, adult groups, professional groups and the general public. The Center has formed strategic partnerships with partners such as the School District of Philadelphia, the Partnership for the Delaware Estuary, the University of Pennsylvania Institute for Environmental Studies, and the Academy of Natural Sciences. A grant from the Claneil Foundation, received in 2008, will create a new exhibit, *Seeing is Believing*, which will link scientists at the Department's Bureau of Laboratory Services with visitors to the Interpretive Center for real-time investigations of aquatic biology and chemistry.

The Public Affairs Division utilizes a Water Quality Council (WQC), comprised of 40 representatives from various civic, environmental, industrial, and academic organizations, including Water Department staff. The WQC meets quarterly to discuss policy and strategy for public education, and provides advice and support of the Water Department's public education programs.

(2) Public Relations Unit - This unit ensures that the Department's communications with the press are effectively delivered. The Water Department takes a proactive approach to informing the press about its mission. In 2008, there were 59 press releases and materials covering general topics and water main and sewer rehabilitation. Topical press kits are routinely sent to the media to address subjects such as illegal use of fire hydrants, drought, and seasonal variations in the frequency of water main breaks.

In fiscal year 2008, the Water Department participated in a story with the Associated Press on the subject of pharmaceuticals in drinking water. The story received national attention and the Water Department included a section in the annual Consumer Confidence Report as part of efforts to inform the public on this subject. Information on pharmaceuticals in drinking water was posted on the Department's website, along with other advisories and copies of brochures and bill stuffers created for the public.

(3) Government Affairs Unit - This unit ensures that the Water Department interfaces on a continual basis with City Council, the Mayor's Office, and the State Capital. Legislation, at all levels of government, is monitored and routed to the appropriate Department staff for their review.

(4) Customer Information Unit – The Water Department is very customer service oriented. Although billing complaints are currently primarily handled by the Water Revenue Bureau, the Customer Information Unit assists in this important function. All operational complaints are handled by the Water Department Call Center. Operational complaints are tracked using a computer system. In addition to operational complaints, the unit has received an increasing number of calls transferred from the Water Revenue Bureau.

During calendar year 2008 the unit received 213,652 calls, with an average wait time of only 15 seconds. A great deal of emphasis is placed on obtaining input from customers and using their input to continuously improve service. Merging of the Water Revenue and Water Department Call Centers to allow better coordination of customer service efforts has been completed. The representatives at each center are cross-trained to reduce the need to transfer customer calls between units, which has significantly improved customer service satisfaction.

G. Information Science and Technology

The Information Science & Technology (IS&T) Division centralizes all computer operations and application support and manages the hardware and software computer systems for the Water Department. The IS&T Division is divided into four units:

(1) Systems Management Support provides desktop support, installs software on servers and desktops.

(2) Billing Support provides support for the processing of customer water and wastewater bills. Their efforts are coordinated with the Water Revenue Bureau which has the primary responsibility for support for the billing and billing system.

(3) User Support oversees and provides application development, manages and supports IT projects within the Department.

(4) Administrative Support provides contact administration, timekeeping, procurement and other related administrative functions.

The IS&T Division has an authorized staff level of 54 and has 9 vacancies.

Several projects in which the IS&T group is currently involved include:

- Upgrading of the capital management program (CAPIT)
- Upgrading of the plant side work order management system, MAXIMO.
- Creating a database to store and retrieve all sewer assessment video inspection records and linking these records to GIS; and
- Unifying street side work orders into CityWorks (Inlet Cleaning, Sewer Maintenance, distribution, Call Center complaints).

The Division of Technology (DOT) has been given the responsibility to review and approve all computer hardware and software acquisitions, and may consolidate appropriate City information processing activities. Some examples of consolidation efforts are:

- Centralized firewalls to protect all City systems;
- City-wide Customer Information Work Order Management System;
- Imaging system; and
- Help desk and desk top support.

The Water Department works closely with DOT and the Managing Director's Office to integrate existing applications, where appropriate, into the consolidation effort. Recent department efforts include:

- Linking the Department's customer information system (CityWorks) to the City-wide Customer Information Work Order Management System and 311;
- Sharing GIS files with all users;

- Upgrading the Department's Human Resources application to link with the City's new Oracle ERP HR.

H. The Office of Environmental Policy and Planning

The Office of Environmental Policy and Planning was created in June 2001 and is responsible for proactively managing and addressing the various environmental issues applicable to the operation of the Water and Wastewater System. These responsibilities include:

- Negotiating and challenging, as necessary, all permits including NPDES, Stormwater, Clean Air Act, TMDLs, etc.
- Developing an overall strategy for the Water Department for the handling of new emerging challenges, such as the TMDLs for Volatile Organic Compounds (VOCs), PCBs and sediment loads, Combined Sewer Overflow (CSO) implementation, Separated Sewer Overflow (SSO) implementation, etc.
- Reviewing, commenting on, and challenging, as necessary, any new laws and regulations affecting the Water Department.
- Testifying before applicable government agencies and commissions to advance and advocate the Water Department's position.
- Responding effectively to any potential environmental problems or issues should they arise.
- Developing environmental policies that guide decision-making on operating and capital budget issues.
- Ensuring that all environmental reporting to governmental agencies is timely and accurate.
- Negotiating and resolving any environmental violations alleged by any regulatory agency.
- Negotiating and entering into contracts with PWD's suburban customers related to PWD's environmental initiatives or the customer's violations of the terms of its contract.
- Responding to both formal and informal requests for information as requested by any regulatory agency.

I. Water Revenue Bureau

Established under the City Charter, the Water Revenue Bureau (WRB), which directly reports to the Revenue Commissioner and ultimately to the Office of the Director of

Finance, has the responsibility for meter reading, billing, and collection of water and wastewater revenue for services provided by the Water Department. WRB responsibilities also include enforcement of payments and customer relations. 228 of the 260 budgeted positions are currently filled.

Since 1992, the WRB and the Water Department have increased their level of coordination of activities. In accordance with a 1992 agreement, both the Office of the Director of Finance and the Water Commissioner monitor collection of water and wastewater revenues. The cooperation between these two City agencies has improved reporting on revenue collections, implementation of monthly billing, collection of aged receivables by private collection agencies, and enforcement actions. Monthly meetings with the WRB and the Water Department executive staffs, and meetings between the Office of the Director of Finance, Water Commissioner, and other key personnel, serve to maintain communications and enable prompt and direct response to issues involving both the WRB and the Water Department.

In September, 1997, the Water Department and the Water Revenue Bureau began the implementation of the Automatic Meter Reading Program (the "AMR Program") involving the replacement of all residential water meters with new meters equipped with radio transmitter meter reading devices. The AMR Program is the largest and most significant water automatic meter reading endeavor to be implemented in the country. Installation commenced September 11, 1997, on schedule. As of December 2008, more than 487,000 new meters had been installed. This program has greatly improved the accuracy of billing, which has resulted in fewer billing disputes, which has had a positive effect on customer service and collections. In addition to the increased revenue that results from such billing program improvements, the AMR Program significantly reduced the costs of meter reading and related support.

The Department recently collaborated with the Water Revenue Bureau in the implementation of a new billing system. The new Basis2 Customer Billing System was implemented in fiscal year 2008 and replaces the twenty-five (25) year old application previously supporting WRB. The new billing system is generating bills and operating as anticipated, while the Department and WRB continue to work together to optimize and customize the new system and work on generating appropriate reports.

J. Conclusions

It is our opinion that the Water Department is organized in a manner which provides for efficient system operations and maintenance, and that the divisional and subdivisional structure provides for delegation of management authority and responsibility through various levels and work units. A good working internal relationship has developed among divisions to facilitate execution of all phases of the Water Department's responsibilities.

Despite the fact that a number of senior level staff are retiring, senior management positions are staffed with highly qualified and trained personnel. Recent senior staff retirements have been filled with experienced Department professionals and succession planning for future retirements is in place. The Department maintains a seasoned group of management professionals with a current average of 29 years of experience.

III. Water System

A. Introduction

The Philadelphia Water Department began service in 1801 with the dedication of two pumping stations that raised water from the Schuylkill River to two elevated tanks located where City Hall now stands. From there the water flowed to the homes of early Philadelphia through wooden pipes. The Water Department has continued to serve the City's growing needs without interruption since this beginning, through continual adaptation of the latest technological advancements in water service.

Today, the major elements of the water system include three river supply intakes, three treatment plants, storage facilities and a conveyance network. The water system service areas and major facilities are shown in Figure III-1 on the following page.

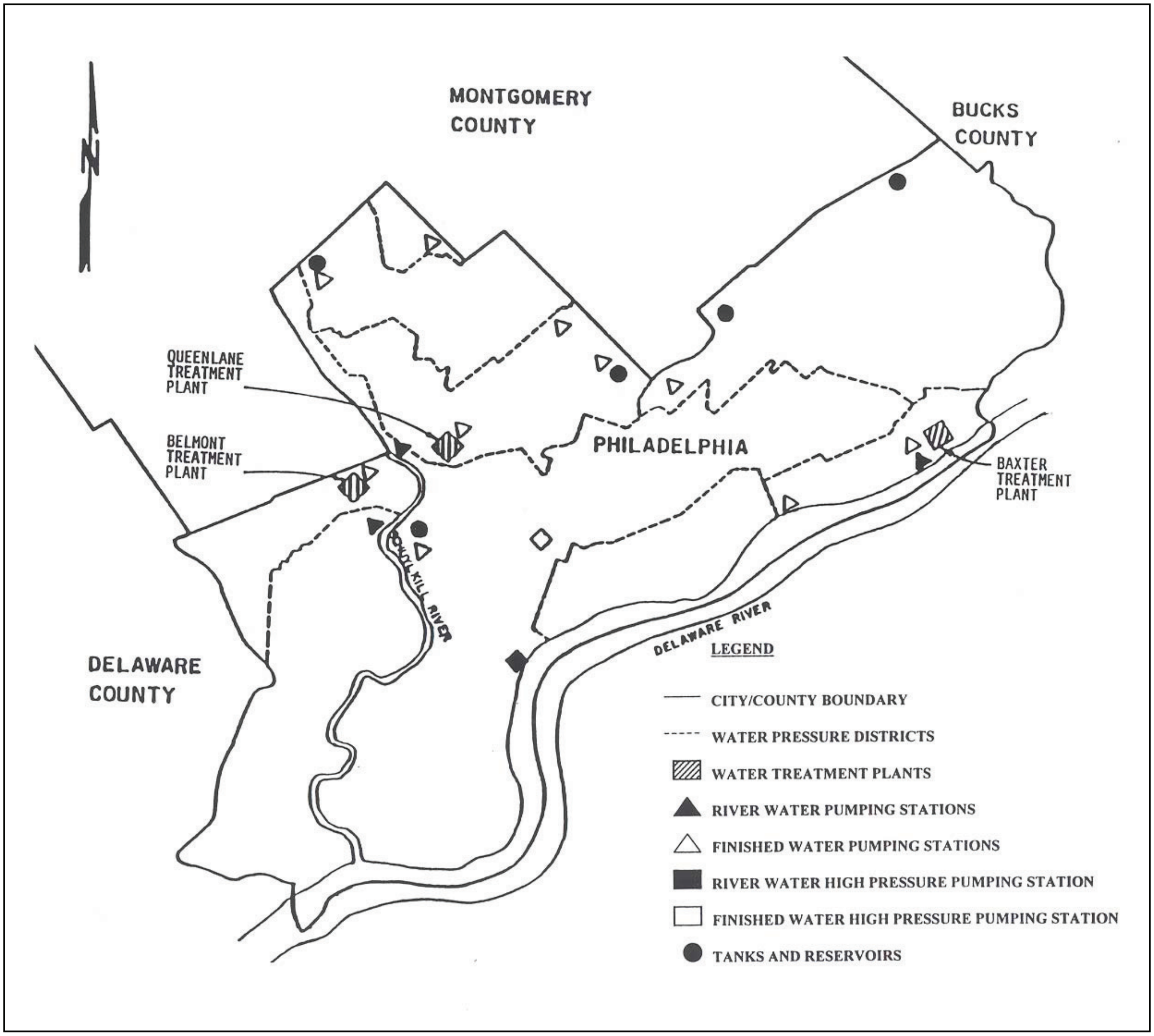
B. Water Supply

The Water Department presently supplies water to Philadelphia and portions of Bucks County, Montgomery County and Delaware County. The service to Bucks County is provided under a wholesale contract with the Bucks County Water and Sewer Authority. This contract provides for the sale of treated water to Bucks County at a maximum rate of up to 35 million gallons per day (mgd). The service to Montgomery and Delaware Counties is provided under an agreement signed in fiscal year 2000 with Aqua Pennsylvania, a subsidiary of Aqua America (formerly known as Philadelphia Suburban Water Company), which provides for the sale of treated water at a rate of up to 9.5 mgd.

The City obtains approximately 58 percent of the water supply from the Delaware River and 42 percent from the Schuylkill River. These withdrawals are authorized under water entitlements granted to the City of Philadelphia by the Pennsylvania Department of Environmental Protection (PaDEP) and the Delaware River Basin Commission (DRBC). The DRBC is an interstate agency responsible for regulation of water resources in the Delaware River Basin. It is accountable to the states of Delaware, New Jersey, New York and Pennsylvania, and to the federal government.

The Water Department participates with the DRBC on drought and flow management planning and is adequately prepared to address future drought conditions should they occur. A 1984 Agreement among the states dependent on the Delaware River established patterns of division for the Basin's resources during formally declared drought periods. This agreement

Figure III-1 – Water System Facilities



Note: In January 2005, both the River Water High Pressure Pumping Station and the Finished Water High Pressure Pumping Station were decommissioned. These facilities are those shown above and remain in place, but have been taken out of service. The standard pressure fire protection system, which has been utilized for the provision of fire protection service to Center City for many years, replaces the decommissioned non-potable water high pressure fire system.

and resulting drought management plans have been used to effectively manage drought emergencies declared in the past and are expected to adequately address future drought emergencies. The Water Department is currently participating in flow management planning with the Delaware River Basin Commission as an advisor to Pennsylvania on the Supreme Court Consent Decree Parties Flow Working Group for the Delaware River.

The Water Department's ability to draw water supply from both the Schuylkill and the Delaware Rivers provides flexibility and additional drought protection as they are not dependent on a single source of supply. Currently, the City of Philadelphia and State of Pennsylvania are not under a drought watch or warning.

1. System Capacity

The Water Department delivers water through an integrated system that reflects the PaDEP and DRBC entitlements, and contains raw water intake capability, treated water capacity, and storage capacity commensurate with those entitlements. The total rated capacity of the three water treatment plants is 536 mgd. The capacities of other elements within the water supply system appear in Table III-1. Compared with these capacities, the average annual daily treated water delivery in fiscal years 2005, 2006, 2007 and 2008 was 260.3 mgd, 253.7 mgd, 255.3 mgd and 250.7 mgd, respectively.

2. Population

The population served by the Water System was approximately 1,728,900 as of the 2000 Census, of which 1,518,000 were located in the City, 154,000 were in Bucks County, and approximately 56,900 were in Delaware and Montgomery Counties. Population growth for the service area is expected to be flat out to 2030, with the City declining slightly over the next few years and stabilizing and the suburban population growing slowly and then stabilizing. Declining average customer consumption and reduced leakage in the water distribution system are accounting for lower water delivery from the treatment plants. This value stood at 250.7 mgd for the fiscal year ending June 30, 2008. It is projected that water delivery will decline to 239 mgd by 2015 due to continued reductions in these components of water demand. These reductions will impart both a slight reduction in water revenue and reduction in marginal operating costs. In summary, the water treatment, storage, and distribution facilities are of adequate capacity to provide for the present and foreseeable future requirements.

Table III-1 Water System Capacities						
Facility	**Raw Water Pumping Capacity**	**Allocation, max daily withdrawal**	**Hydraulic Treatment Capacity**	**Capacity for Partnership for Safe Water**	**Water Storage Capacity** Raw Water	**Water Storage Capacity** Treated Water
	mgd	mg	mgd	mgd	mg	mg
Queen Lane Plant	200		150	140	207.2	85
Belmont Plant	170		110	86	83.3	42.1
Schuylkill Supply		258				
Baxter Plant	480		423	310	170	206.8
Delaware Supply		423 DEP 390 DRBC				
Distribution System*					---------	200
System Totals	850	681 DEP 648 DRBC	683	536	460.5	604.9

mg – million gallons

mgd – million gallons per day

* Includes treated water stored at East Park Reservoir, Roxborough Basins and Standpipes, Somerton Standpipes, Foxchase Tank. Excludes Oak Lane Reservoir which was taken out of service in February 2009.

C. Water Quality

1. Historical Water Quality

The Philadelphia Water Department has continuously maintained 100 percent compliance with all drinking water regulations in effect at the time. The United States Environmental Protection Agency (EPA) promulgated two new regulations in 2005 and the Water Department is well positioned to meet these additional requirements in 2012 as prescribed. This section describes the Water Department's water quality initiatives, compliance with present regulations and actions being taken to meet the recently promulgated regulations.

2. Partnership for Safe Water

Since January 1996, when the Water Department signed a voluntary agreement with the EPA to participate in the Partnership for Safe Water Program (the Partnership), the Department has been committed to reducing "turbidity," an industry standard measure of water purity. The purpose of the Partnership is to provide a format for drinking water utilities around the country to survey their facilities, treatment systems, operations, maintenance, and management procedures in order to identify opportunities and implement practices that will enhance the water system's potential to prevent the entry of *Cryptosporidium, Giardia*, and other parasitic organisms into the treated water. The Water Department joined approximately 300 water utilities in evaluating and assessing their water treatment procedures against extremely stringent performance goals. The self-assessments and other reviews have focused on improvements that can be made without incurring substantial capital or operating expenditures. Through these efforts, the turbidity of Philadelphia's drinking water in 2008 was about five times lower than required by state and federal requirements.

In fiscal year 1999, Philadelphia became the first major city in the U.S. with multiple drinking water plants to receive an EPA Director's Award for meeting certain additional requirements of the Partnership for Safe Water (Phase III of the program), including completion of a self-assessment and peer review. This year the Water Department was awarded the prestigious 10 Year Director's Award for meeting the stringent criteria of the Phase III for ten consecutive years. This represents a tremendous accomplishment and is a tribute to the Department's dedication to providing the best possible service to their customers. The Water Department's association with the Partnership has resulted in overall lower turbidity of its finished drinking water thus enhancing public health protection. Their efforts have also enabled the Water Department to meet the requirements of the Interim Enhanced Surface Water Treatment Rule and positioned them for compliance with the Long Term 2 Enhanced Surface Water Treatment Rule.

3. Regulatory Requirements

The water operations of the Water Department are subject to the requirements of the Safe Drinking Water Act (the "SDWA") of 1974, as amended in 1986 and 1996. The 1986 Amendments extended the regulatory agenda of the EPA to include, among other things, the development of drinking water standards for 83 contaminants, criteria by which surface water supplies would be required to utilize filtration performance standards for disinfection, and the banning of lead-containing materials from distribution and home plumbing systems. The 1996 Amendments changed the emphasis of developing rules only slightly, but these latest Amendments did stress some new issues such as the protection of source waters, annual reports to consumers on the quality of their drinking water, regulation of filter backwash water within treatment facilities, and the establishment of a state revolving loan fund. Since 1998, several new rules have been implemented.

The Interim Enhanced Surface Water Treatment Rule (ESWTR) and the Stage 1 Disinfectants and Disinfection Byproducts Rule (Stage 1 D/DBPR) were both promulgated in December 1999 and became effective in January 2002. The Filter Backwash Recycling Rule was promulgated in May 2001 and became effective in December 2003. The Radionuclides Rule was promulgated in December 2000 and also became effective in December 2003. The Arsenic Rule was promulgated in March 2001 and became effective in January 2006. The Long Term 2 Enhanced Surface Water Treatment Rule and the Stage 2 Disinfectants/Disinfection Byproducts Rule where promulgated in January 2006 and became effective in March 2006. The Groundwater Disinfection Rule (GWR) was promulgated in November 2006 and became effective January 2007, but is not relevant to the Water Department who relies exclusively on surface water. Several of these key regulations are discussed below.

The Water Department has conducted an extensive water quality monitoring program to assess the potential impacts of the SDWA regulations. The Water Department's Bureau of Laboratory Services (BLS) analyzes approximately 1000 drinking water samples each month collected from the water treatment plants, reservoirs and distribution system. The Water Department's Planning and Engineering Division staff tracks the development of regulations, and provides input into the formulation of the regulations. The Water Department's Planning and Engineer Division and Operations Division conduct research (laboratory, pilot and plant scale) to insure the Department is positioned to meet future regulations.

Philadelphia treated water quality meets all existing drinking water regulations. It also anticipates meeting all recently promulgated and future regulations for microbial and turbidity parameters, disinfection byproducts, synthetic organic compounds, volatile organic compounds, inorganic compounds, radionuclides, and aesthetic parameters such as taste and odor.

a. Lead and Copper Rule

The Lead and Copper Rule was promulgated in June 1991. It addresses the control of copper and lead that may leach from home plumbing systems. Compliance with the rule is based upon treatment technique requirements that are triggered by exceedances of the lead action level of 0.015 mg/l or the copper action level of 1.3 mg/l measured at 90 percent of the consumers' taps sampled.

Compliance Status: The Water Department is in full compliance with the regulation. The Water Department has taken steps to further optimize its treatment process including an aggressive public outreach effort to inform customers how they can minimize leaching of lead from home plumbing. The Water Department has a uniform treatment approach at all three water treatment plants, using optimized pH and a zinc orthophosphate corrosion inhibitor. The Water Department achieved a 90th percentile lead level of 0.006 mg/L and a 90th percentile copper level of 0.3 mg/L based on 2008 monitoring results. The Water Department is also in compliance with the associated Optimized Corrosion Control Treatment (OCCT) guidelines, which require finished water levels of phosphate to be greater than 0.2 mg/L as phosphorus and finished water pH to be between 6.8 and 7.8.

The Philadelphia Water Department is planning to optimize the corrosion control strategy based on the 2008 compliance results and will decrease their zinc orthophosphate dose to 1.4 parts per million from the current dosage of 1.5 parts per million. The Water Department adds phosphate to water to control the rate of metal loss by corrosion in the water supply network, which includes the internal piping in residences and commercial or industrial facilities. This optimization will balance water quality goals and treatment chemical costs and increase treatment efficiency.

b. Total Coliform Rule (TCR)

The TCR requires water systems to monitor for total and fecal coliform at specific locations throughout the distribution system. The rule allows up to 5 percent total coliform positive samples.

The TCR is currently under revision. It is anticipated that the new rule will be promulgated in late 2010. The Water Department is actively participating in the rule development and associated regulatory negotiations and is well positioned to comply with the new regulation.

Compliance Status: The Water Department is in full compliance with the TCR and its performance has been exceptional. During the past four fiscal years, the Water Department has not had any total coliform violations from its 80 monitoring locations.

c. Disinfectants/Disinfection By-products Rule (D/DBPR)

This rule regulates levels of disinfectants and disinfection by-products. Stage 1 of the rule was promulgated in December 1998 and became effective on January 1, 2002. Stage 2 of this Rule was promulgated in January 2006 and became effective on March 6, 2006. These rules contain maximum residual disinfectants levels (MRDLs), maximum contaminant levels (MCLs) for disinfection by-products and a treatment technique for total organic carbon (TOC) removal. The Stage 1 Rule reduced the MCL for total trihalomethanes (TTHM) from

100 μg/L to 80 μg/L and established an MCL of 60 μg/L for the sum of five haloacetic acids (HAA5), another group of disinfectant by-products. In addition, MRDLs were established for chlorine (4 mg/L), chloramines (4 mg/L), chlorine dioxide (0.8 mg/L), chlorite (1.0 mg/L), and bromate (0.010 mg/L).

Compliance Status with Stage 1: The Water Department is in full compliance with the Stage 1 MCLs and treatment technique. The annual average level of TTHMs in 2007 for the Department's three water treatment plants ranged from 36 - 46 μg/L, and for HAA5s ranged from 26 – 31 μg/L. All three water treatment plants are being operated in an enhanced coagulation mode and, as a result, are consistently exceeding the required monthly removals of TOC. The Department is in compliance with the 4.0 mg/L MRDL for chloramines, with the highest individual sample measuring 2.88 mg/L.

Compliance Status with Stage 2: The Stage 2 phase of the D/DBPR was promulgated in January 2006 and became effective on March 6, 2006 with compliance monitoring to begin in April 2012. This rule maintains the TTHM and HHA_5 MCLs at 80 μg/L and 60 μg/L, respectively, but changes the method of calculating the system annual average from running annual averages (RAAs) to locational running annual averages (LRAAs). Under this regulation the Water Department was required to conduct an Initial Distribution System Evaluation (IDSE) to identify sample locations for future compliance monitoring. The Water Department has completed this evaluation and submitted the resulting report to EPA. Based on this monitoring effort, the Water Department expects to be in full compliance with the Stage 2 D/DBPR when compliance monitoring begins in 2012.

d. *Interim Enhanced Surface Water Treatment Rule (ESWTR)*

This rule was promulgated in December 1998 and became effective on January 1, 2002. This Rule lowered the turbidity treatment technique level to 0.3 NTU in 95 percent of the samples from the previous level of 0.5 NTU. It also set a maximum turbidity of 1.0 NTU in the finished water and required installation of continuous turbidity monitors on each filter. The Rule requires that operating procedures be revised and follow-up investigations be conducted if individual filters are found to exceed specific monitoring criteria.

Compliance Status: The Water Department is in full compliance with all requirements of this Rule. Through its participation in the Partnership program, the Water Department maintained filtered effluent turbidity at levels less than or equal to 0.1 NTU more than 99.9 percent of the time during fiscal years 2007 and 2008.

e. *Long-Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR)*

The LT2ESWTR was promulgated in January 2006 and became effective on March 6, 2006 with compliance monitoring to begin in April 2012. Regulatory requirements under the LT2ESWTR are based upon concentration of *Cryptosporidium* or *E. coli* in the source water of individual treatment plants. The Rule requires microbial monitoring (2 years of monthly *Cryptosporidium* and *E. coli* monitoring) to determine each drinking water treatment plants average source water *Cryptosporidium* level. Based on this level the treatment plants are placed in different "bins" with varying removal and/or inactivation credit requirements, with higher influent *Cryptosporidium* levels requiring greater removal or inactivation. Utilities meet their resulting requirements by implementing enhanced treatment practices as defined in the "microbial toolbox." The microbial toolbox defines a range of treatment, prevention or optimization options that utilities can implement in order to obtain the additional removal and/or inactivation credits required to meet the treatment technique of this Rule.

The Department, utilizing the analytical services of the Bureau of Laboratory Services (BLS), completed the microbial monitoring prior to the rule becoming effective. This monitoring was accepted by the EPA as meeting the requirements of the regulation. Based on the monitoring results the Belmont and Baxter Treatment Plants had average *Cryptosporidium* levels less than 0.075 oocysts/L and qualify for Bin 1, meaning that no additional treatment will be required. The Queen Lane Plant's average *Cryptosporidium* level exceeded 0.075 oocysts/L but was less than 1.0 oocysts/L, putting the Queen Lane Plant into Bin 2. Bin 2 plants are required to achieve 1.0 log removal/inactivation credit through implementation of microbial toolbox components. The Water Department intends to meet their 1 log requirement by developing and implementing a Watershed Control Program (an extension of their existing Source Water Protection Plan) and by continuing to maintain the very low levels of turbidity in the combined and individual filters effluents.

f. Consumer Confidence Reports Rule

The 1996 SDWA Amendments require the Water Department to issue an annual report on treated water quality to its consumers, called the, Consumer Confidence Report (CCR). The Department has done this annually in the format required by the Rule. The Water Department's CCR goes beyond the requirements and provides educational information regarding the source water protection and the water treatment process, along with information about research and public outreach initiatives.

g. Filter Backwash Recycling Rule (FBRR)

The FBRR became effective in December 2003. The recycle streams regulated by the FBRR are filter backwash water, sludge thickener supernatant and liquids from dewatering processes. The rule requires recycle flows to pass through all processes of the treatment plant in order to maintain removal credit for *Cryptosporidium.* In the case of conventional treatment facilities like those of the PWD, this requires the return of recycle streams prior to or concurrent with the point of primary coagulant addition. The rule also requires the Department to maintain records related to the wastewater streams generated at each treatment plant.

Compliance Status: The Water Department currently discharges all of its filter backwash and settling basin waste streams to the sewer system for treatment at the wastewater treatment plants, with the exception of the spent backwash water at the Baxter water treatment plant. The Baxter filter backwash water is recycled to the raw water basin, ahead of the point of coagulant addition, for reprocessing through the complete treatment process. Therefore, the Department is in compliance with the requirements of the FBRR.

h. Source Water Assessment Program

The 1996 SDWA Amendments required each state to develop a Source Water Assessment Program, designed to stress protection of the source water prior to treatment. The Water Department was selected by PaDEP to lead a joint effort with Aqua Pennsylvania and Pennsylvania-American Water Company to perform a source water assessment of water intakes along the Schuylkill River and its tributaries during fiscal years 2001 and 2002. A similar effort was undertaken with utilities that utilize the Delaware River as a source of supply. In all, the program involved 50 surface water intakes on the Schuylkill and Delaware Rivers.

More recently the focus of this effort has been to utilize the knowledge gained from the Assessments to develop and implement source water protection plans and programs. The Water Department completed Source Water Protection Plans for the Schuylkill and Delaware Rivers in 2006 and 2007, respectively. The Water Department is utilizing a partnership approach involving regulatory agencies, utilities and watershed groups; the Water Department has developed an innovative and broad-based program that will yield far-reaching environmental and source water protection benefits. The program has earned a number of national recognitions awards and stands as a model for other communities to emulate.

i. Arsenic Rule

The Arsenic Rule became effective on March 3, 2001 and established an MCL of 0.01 mg/L for total arsenic. The compliance date for systems with arsenic levels that exceed the MCL is January 23, 2006.

Compliance Status: The Water Department is in compliance with the Arsenic Rule. Arsenic levels in the finished water supply are below method detection limits.

j. Radionuclides Rule

The Radionuclides Rule became effective on December 8, 2003. It retained the MCLs for combined radium-226 and 228 (5 pCi/L) and gross alpha (15 pCi/L) and established a new MCL for uranium of 30 μg/L.

Compliance Status: The Water Department is in compliance with the Radionuclides Rule. Radium-226 and uranium levels in the finished water supply are below method detection limits. Detectable levels of Radium-228 and gross alpha have been recorded but were in all cases less than one-half of the MCL.

4. Water Security

The Philadelphia Water Department continues to implement the recommendations of the Vulnerability Assessments conducted water system wide in 2003. The recommendations ranged from physical security measures such as limiting facility access and installing fencing and alarm systems, to cyber security measures, acquiring of emergency generators, installation of real-time water quality monitors at key locations in the treatment process, conversion from gaseous chlorine to liquid sodium hypochlorite and employing of security guards at each facility. In the coming years the Department will expend in excess of 15 million dollars toward additional security initiatives.

In 2008 the Water Department was one of four cities nationwide to receive an EPA Water Security Initiative Contamination Warning System Demonstration Pilot grant (WSI grant). Through this program the Department will develop a comprehensive and integrated system to detect, confirm, respond to and remediate contamination of the distribution system. The Department's original proposal outlined a program that was awarded nearly 10 million dollars over a three year period with a 20 percent match required of the Department. The level of funding is currently uncertain at this point, however the EPA has committed 2 million dollars for fiscal year 2009 and it is likely that the Department will receive similar or greater funding for fiscal years 2010 and 2011. The Department is currently revising the project scope to design a program that can be implemented in phases to insure that valuable work is derived each year based on funding limitations.

The Department is developing this program as an extension of existing security initiatives. Among other things, it will build upon and utilize the existing distribution system water quality monitoring network which is comprised of 18 real-time water quality monitoring stations at fixed locations in the distribution system along with two raw water stations and two portable monitoring panels. Each distribution system station has a pH probe, turbidimeter, chlorine analyzer and a conductivity probe. These stations transmit water quality data to the central laboratory via radio signal on a real-time basis. The network allows for continuous monitoring of the water quality in the distribution system. Alarm set-points have been established to alert staff if water quality deviates from a defined range. Protocols have been established for response to these alarms and will likely be developed further as part of the WSI grant program.

The Water Department is a founding member of the EPA Region 3 Laboratory Response Plan for Drinking Water. Through this plan the Department has access to federal, state and local laboratories for analytical support during a water quality contamination event. The Plan defines the roles of various agencies that might be involved in a response, includes protocols for initiation of the laboratory network, and details sample transport, QA/QC and data reporting requirements. Utilization of this program will be incorporated to any plan developed under the WSI grant.

D. Water Treatment Plants

The water system is served by the Baxter, Queen Lane, and Belmont Water Treatment Plants. The Baxter plant treats water from the Delaware River; the Queen Lane and Belmont plants are supplied by the Schuylkill River. All three plants provide similar treatment, consisting of raw water sedimentation, coagulation, flocculation, clarification, rapid sand or dual media filtration, disinfection and fluoridation. Finished water can be stored at the treatment site for later distribution, or discharged directly to the distribution system. Portions of each treatment facility date from the early 1900s. Major improvements and additions were completed at the Belmont plant in 1965 and at the Queen Lane plant in 1960. The Baxter plant went on line as a new rapid sand filtration plant in 1959. Other major improvements including automation and new chemical feed systems were made in the past decade.

A centralized preventive maintenance program serves common components of the three water treatment plants. Components that require either periodic repair or rehabilitation are placed on a master schedule that includes both preventive and corrective maintenance activities. Priorities for actions are defined using this schedule and reviewed at periodic intervals. Each plant maintains a preventive maintenance program for equipment components that require inspection and lubrication on a more frequent basis than the components covered by the centralized program's master schedule.

A program at all three plants to convert the single media rapid sand filters to sand and anthracite dual media filters is almost complete. All single media rapid sand filters have been converted to sand and anthracite dual media filters at Belmont and Queen Lane. The remaining 28 rapid sand filters at Baxter are being converted under a current contract. The conversions are anticipated to be complete in spring 2010. Conversion to dual media increases filter capacity and provides attendant benefits by reducing the required backwash frequencies. Reduced backwash frequencies, in turn, yield energy savings.

The Water Department continues to conduct pilot scale investigations to respond to upcoming regulations and to investigate effects of proposed process changes. The initial phases of the pilot plant studies investigated the impact of changing coagulant dosages, the pH of coagulation, and the point of chlorination. These studies demonstrated the potential reduction in disinfection by-products that can be achieved by reducing coagulation pH and delaying the addition of chlorine. This work was completed and integrated into the current water treatment process. This work precipitated the current initiative to investigate various alternatives for reducing or eliminating pre-chlorine application including: evaluations of post-filter chlorination at the Belmont and Baxter Water Treatment Plants and preliminary evaluations of alternative pre-oxidants (chlorine dioxide or hydrogen peroxide).

The pilot plant research continued with the investigation of the practicality of using ozone to inactivate *Cryptosporidium oocysts*. The conclusions from this extensive phase indicate that ozonation for inactivation is very expensive. The capital related cost is estimated at $100 million, plus $40 million in contingency for re-pumping. With the completion of *Cryptosporidium* monitoring under LT2ESWTR, the Department determined that they will be able to meet regulatory requirements without installing ozone or ultraviolet disinfection.

More recently, the pilot plant studies focused on the effectiveness of coagulants other than ferric chloride, the benefits of a new technology for organics removal and the effectiveness and limitations of oxide coated media for manganese (Mn) control. The Water Department has predominantly used ferric chloride; however, with changes in the coagulant market place and escalating chemical costs, it is imperative that they evaluate alternative coagulants in comparison to ferric chloride on the basis of performance and cost. The Department also investigated the use of a new technology for the removal of organic compounds prior to coagulation. The benefit of this technology is the removal of DBP precursors prior to application of chlorine and a resulting reduction in DBP production.

The research emphasis on manganese removal is the result of full-plant trials in which delaying the addition of chlorine resulted in poor filter performance, likely related to incomplete Mn oxidation within the filters. The Water Department has participated in two AwwaRF research efforts on this topic. The first was an international multi-utility study to further the understanding of the occurrence of Mn in drinking water. This work is complete with a report published in 2006. The current study focuses on Mn removal through biological filtration and is to be completed by 2010. Although Mn is currently undetectable in Philadelphia's drinking water, proposed changes in the treatment process may produce a level of Mn that could be of aesthetic concern, producing what is called, “black water.” The pilot plant studies will help the PWD avoid manganese problems that may result from treatment modifications that are under consideration.

Other research initiatives are on-going and include: participation in multiple AwwaRF studies on Endocrine Disrupting Compounds and Personal Care Products in drinking water; investigations of the biostability of the treated water; and, computational fluid dynamic (CFD) modeling to investigate post-filter chlorine contact alternatives at the Baxter WTP. These projects will help the Water Department optimize their treatment processes, prepare for future regulations, protect and educate their customers, and implement new processes as needed.

1. Baxter Water Treatment Plant

The Baxter Water Treatment Plant became operational as a new rapid sand filtration plant in 1959. The Baxter plant draws water from the Delaware River and, after treatment, it flows to the Torresdale Treated Water Pumping Station for distribution to the northern and central parts of the City and to Bucks County. The Baxter plant is the largest of the three water plants, with a design capacity of 320 mgd and a peak hydraulic rate of 420 mgd. Filter production information for the past four years are shown on Table III-2.

Table III-2	**Baxter Plant Annual Filter Production**	
Year	**Average Daily Output**	**Maximum Daily Output**
	mgd	mgd
2005	153	196
2006	148	197
2007	151	196
2008	150	189

The Baxter plant is budgeted for a staff of 55, and currently has 3 vacancies. They recently added a new staff position, the Maintenance Supervisor. This position is common within other departments and was added at Baxter to allow the Plant Superintendent to focus more on plant operations and process optimization. The increasingly stringent regulatory obligations require a more fine tuned treatment process and leave little room for operational error, which in turn requires constant effort on the part of the Plant Superintendent.

Sixty-six of the original 94 rapid sand filters have rebuilt underdrains and have been converted to a dual media configuration. Conversion of the remaining 28 sand filters is underway with an anticipated completion in May 2010. In addition to the conversion and rebuilding of the underdrains, this contract includes repair of the annular space (connection between the effluent pipe and the filter wall). As part of their on-going efforts to optimize the filtration process and meet Partnership and internal turbidity goals, the plant staff continues to evaluate various operational techniques to reduce the magnitude of the post-backwash turbidity spike. The optimized sequence is a three step process that concludes with stepped defluidization which includes an extended terminal subfluidization wash. The plant staff found that the addition of the extended wash was extremely effective in reducing the post backwash peak. The filter is then allowed to stand for 2 hours before being ramped back into service. The plant also has the capability to filter-to-waste, but this is reserved for bringing a filter back into service after a repair or other unusual circumstance.

In an ongoing effort to reduce DBPs the Baxter Plant staff continues to evaluate various disinfection strategies and consider alternatives for removal of DBP precursor materials. The current strategy has been in place since 2006, is very effective and has reduced DBPs to levels well below those required under Stage II of the D/DBP Rule. This strategy involves adding Powdered Activated Carbon (PAC) at the intake and splitting the initial chlorine dose between the rapid mix and flocculation stages. PAC added at the intake adsorbs dissolved organic material and settles in the raw water sedimentation basis. In additional to reducing DBPs, PAC removes taste and order compounds. This allowed Baxter to discontinue adding potassium permanganate, which it previous used for taste and odor control. The Baxter staff conducted research and developed seasonal dosing standards that are used to determine the optimum PAC dose based on a daily basis. Reducing the chlorine dose at the rapid mix and delaying the addition of just a few milligrams per liter is enough to allow remaining organic material to react with the coagulant prior to chlorine addition and thus reduce DBP formation.

The raw water sedimentation basin was dredged in May 2008. About 350,000 cubic yards of sediment were removed to a dredge soils site. This will increase the volume of the sedimentation basin, allowing a longer detention and contact time with the PAC. Removal of the sediments will also prevent resuspension of undesirable compounds into the water column.

Vulnerability Assessments conducted in 2002 identified measures to reduce vulnerability to an emergency situation (intentional or accidental). The measures identified included physical security, cyber security, process control and redundancy. The Water Department has been actively implementing the recommendations of the assessments. To this end the plant has installed fencing, limited access and converted from chlorine gas to sodium hypochlorite. More recently, the Baxter plant installed on-line monitoring panels at the intake, outlet from the courts (finished water tank) and outlet from the clearwell. These panels include pH probes, turbidimeters, chlorine analyzers and conductivity probes, and are used to track water quality real-time to identify changes that could be indicative of a plant upset or contamination of the water supply.

Baxter uses a Supervisory Control and Data Acquisition (SCADA) system program to monitor the treatment process from the intake to the plant effluent. All on-line process data (water quality and operational) is collected and displayed real-time, allowing plant staff to quickly observe and react to changes. Baxter will be replacing their existing Distributed Control System (DCS) in 2011. The new system will be windows based and will pull in data from the SCADA system but will not be utilize the data to initiate process changes.

Other projects either planned or on-going at the Baxter plant are listed below.

- The filter waste header valves are currently being replaced and automated. This will allow for initiation of filter-to-waste via the individual filter's control panels. In the future these valves will be connected to the new DCS to allow remote initiation of filter-to-waste. All valves have been replaced and performance tested.
- A new foam roof has been installed on the pre-treatment building. Installation is complete, currently addressing "punch list" items.
- Baxter will continue to implement the recommendations of the Vulnerability Assessments in the coming years.
    - In FY 2009, Baxter will receive an emergency generator capable of supplying energy for all key process. They currently have several generators that feed individual processes.
    - Two projects to upgrade plant and clearwell security with fencing, lighting and a new plant entrance are scheduled to go out to bid in 2009.
    - A project to enhance security of the finished water basin through the sealing of excess access hatches and capping of vents is planned for fiscal year 2009 or 2010.

- Plant staff plans to conduct a full scale plant trial to evaluate a new technology for air scour for filter backwashing. The new technology will be piloted in one filter and compared to an existing filter's performance. The trial is being conducted in advance of an anticipated need to replace the existing surface water wash system.
- The backwash towers are scheduled for interior lining and exterior painting and welding during the fiscal year 2009 or 2010.
- Upgrades and repair of the sedimentation basins are scheduled for fiscal year 2009 or 2010. This is to include new railings, repair of basin joints, concrete repairs and painting of clarifiers.
- A consultant is currently working on the design and permits for improvements to the raw water basin berm.

2. Queen Lane Treatment Plant

The Queen Lane Water Treatment Plant began service in 1912 as a 70 mgd slow sand filter plant. The plant was improved several times, including a complete renovation in 1960. The Queen Lane plant draws water from the Schuylkill River and serves as the main distribution point for service to center city and northwest Philadelphia, west of Broad Street and east of the Schuylkill River. The plant is rated at 140 mgd. Recent filter production rates are shown on Table III-3.

Table III-3 Queen Lane Annual Filter Production

Year	Average Daily Output	Maximum Daily Output
	mgd	mgd
2005	68.3	85.7
2006	67.3	94.7
2007	67.0	92.3
2008	65.5	88.9

Residuals from the flocculation and sedimentation basins are sent to the Southeast Water Pollution Control Plant (WPCP), as is the filter backwash. The solids load necessitates the addition of phosphate. There is currently a study to determine if the Northeast WPCP can handle Queen Lane's residuals and what piping modifications would need to be completed to achieve transport. An initial trial was unsuccessful, but helpful in identifying piping modifications. If possible this change would reduce the Water Department's chemical costs by eliminating the use of phosphate at Southeast.

Projects recently completed or on-going at the Queen Lane plant are listed below.

- Installation of a chemical storage and delivery system for non-ionic polymer is complete, and the system is in use. The non-ionic polymer is used to enhance filter performance during cold weather by increasing filter run length and reducing post backwash turbidity peaks.
- Replacement and upgrade of the Distributed Control System to a Windows-based system is complete.
- Upgrades to the filter backwash system are complete and include: replacement of the backwash pump switchgear and repair of the washwater tank. Replacement of the backwash valves is currently underway.
- The switchgear for the pre-treatment building has been replaced and the potassium permanganate tanks have been re-lined with new mixers installed.
- Re-pointing of the clearwell and retaining walls was completed in 2007.
- Security initiatives have been implemented throughout the plant in recent years and include: installation of a new security system at the raw water basin (fence alarm and new key pads), closure of an existing raw water basin access tunnel and installation of real-time water quality monitors (pH, turbidity, chlorine and conductivity) at the raw water basin effluent and clearwell effluent.
- Doors and windows in the filter building have been replaced.
- Chemical storage and delivery systems for sodium hydroxide and sulfuric acid have been installed and should be fully operational in 2009. These systems will provide additional flexibility for adjusting pH to meet desired treatment goals at the rapid mix and filter effluent locations.

Projects planned to be implemented in the near-term at the Queen Lane plant are listed below.

- A contract is in place to replace all filter drain valves and upgrade the power supply in the coming year.
- A project to completely rehabilitate the flocculation/sedimentation basins has been designed and is slated to go out to bid in 2009. This will be a four year effort focusing on one basin per year and will include replacement of all equipment as well as some structural repairs.
- Elimination of the raw water basin bypass to the filters is to be designed in early 2009. This project will enhance security by placing a physical

barrier in the existing by-pass that currently would allow direct flow from the raw water basin to the filter building, by-passing pre-treatment and flocculation/sedimentation.

- Significant infrastructure improvements related to the filter influent and effluent conduits are to be designed in 2009. These include: reconnecting the north by-pass to the clearwell, installation of chemical dosing lines in the north conduit, repairs to the center conduit to the clearwell, repairs to the settled water conduit, and repairs to the annular space to the filters.
- Two failed filters are to be rehabilitated (new media, underdrains and surface wash systems).
- Upgrade of the lighting and electrical system in the filter building is planned for 2009.
- Construction of an equipment storage building is still in the planning phase and is likely to be implemented in FY2010.
- Longer range projects include: a new pumping station for Roxborough and the Queen Lane High Service District, installation of an automatic shutdown of the flocculation/sedimentation process to shutdown flow in the event of loss of chemical feed, replacement of the main switchgear, renovation of the pre-treatment building and additional security improvements including purchase of generators capable of powering the entire plant.

Staffing at the Queen Lane Plant recently increased to 55 budgeted positions with the addition of a new graduate engineer position. The plant currently has only 3 vacancies.

3. Belmont Treatment Plant

The Belmont Water Treatment Plant draws water from the Schuylkill River and serves as the source of supply for West Philadelphia. The Belmont plant is rated at 80 mgd. Recent filter production rates are shown on Table III-4.

Table III-4	Belmont Plant Annual Filter Production	
Year	**Average Daily Output**	**Maximum Daily Output**
	mgd	mgd
2005	49.2	57.6
2006	44.6	52.1
2007	42.5	54.2
2008	40.8	51.7

Residuals from the flocculation and sedimentation basins are sent to the Southwest Water Pollution Control Plant (WPCP), as is the filter backwash. An internal discharge permit for the Belmont plant residuals flow was issued by the department's Industrial Waste Unit in July 1994. The permit required that routine discharges to the sewer be monitored weekly. Additional sampling is required during periods of high treatment flow rates and high river turbidity. Although this permit has expired and IWU has not reissued it, the plant continues to operate and monitor under the same conditions as required by the permit.

The Water Department continues to investigate methods for the reduction of DBP production at all three plants. In this vain, the Belmont Plant conducted a full scale trial of post-filter chlorination in August 2008, utilizing part of the existing clearwell as the post-filter chlorine contactor. The planned trial happened to occur at the same time as major source water quality disturbance, thus the results are somewhat difficult to interpret. However, the effort was successful in helping the research team trouble shoot their protocol. They intend to conduct more trials in the coming year to evaluate the feasibility of this process at Belmont.

Other projects recently completed or on-going at the Belmont plant are listed below.

- Solids removal from and concrete repairs to the east and west flocculation/sedimentations basins were completed in 2007 as were the replacement of the pretreatment control valves and the painting of the clarifier.
- Installation of a plant service water supply connection to Belmont Road was completed in 2006.
- Installation of on-line water quality monitors at the raw water basin effluent, high service and gravity sample locations is complete.
- Installation of a feed system for dosing of carbon and potassium permanganate prior to the raw water basin was completed in 2007.

- Replacement of filter surface wash valves, actuators and spool piping is complete.
- Replacement of the drain valves for the filters on the north side of the plant was completed in 2008.
- Replacement of the backwash actuators is complete.
- The low voltage panel board is currently being replaced.
- Two emergency generators are to be purchased, one low voltage to allow emergency shutdown and a second to be acquired as part of the High Service upgrade in 2010.
- Replacement of the existing, oversized polymer feed system is substantially complete.
- Redesign of the sulfuric acid feed system is substantially complete.
- Relining of the sewer within the plant site began in January 2009.
- Installation of redundant backwash control system (second meter and flow control valve) was installed in January 2009.

Future projects at the Belmont plant are listed below.

- Replacement of filter influent valves on all filters is scheduled for 2009. This will be a phased project requiring isolation and shut down of filter quadrants.
- Rehabilitation of the raw water basin is in design and anticipated to be implemented in fall 2009. This will include relining of the basin, replacement of the center flume and the addition of a carbon feed system.
- Other projects that are currently in design:
    - Automation of the flocculation/sedimentation basin blowdown process for the removal of settled solids.
    - Upgrading of the hydrated lime system to replace existing oversized slakers.
    - Replacement of filter effluent valves and installation of a master shutoff capability tied to the emergency generator.
    - Replacement of the existing variable frequency drives (VFDs) on the flocculators.
    - Replacement of the high voltage switchgear and purchase of a high voltage generator.
    - Installation of security lighting and access control.
    - Automation of the filter-to-water process to allow for remote initiation of valves that send filter effluent to a drain after filter start-up.

Staffing at Belmont has a budgeted level of 51 positions, with 3 vacancies. However, in addition to the budgeted positions, there are currently 4 apprentices assigned to Belmont. These trainees are working in the areas of electrical maintenance and science technology.

E. Water Conveyance

The mission of the Water Conveyance Section is to reliably and efficiently transport and distribute water, on demand, preserving quality and providing service focused on overall customer satisfaction. The section is composed of four units, including: Distribution, Pumping, Load Control, and Headquarters. The Division has 352 authorized positions. Currently, there are 18 vacancies.

A major initiative within the Water Department in recent years has been the development an overarching asset management system for all units in Conveyance and Collector Systems to inventory and track the infrastructure associated with the distribution and sewer systems. This program should be in place in 2009. It will utilize the department's existing Geographic Information System and will be a central location for the management of all street-side assets. It will replace the individual systems currently used by each unit for tracking of infrastructure repairs, replacements and related projects, thus streamlining work, consolidating data into one location and reducing duplication of efforts.

Water Conveyance will be involved with the implementation of the recently received Water Security Initiative (WSI) grant. The Department hopes to expand their distribution system water quality monitoring capabilities, integrate hydraulic modeling capabilities into contamination response protocols and enhance cyber security among other things.

1. Distribution Unit

The responsibility of this unit is to provide permanent repairs and maintenance to the water distribution infrastructure, construct service connections, supply twenty-four hour emergency response and provide local control of the water distribution systems, rectify system failure and maintain product control, provide reliable and cost effective water supply, while being responsive to the customers' as well as environmental needs. Major components of the distribution system include: 3,137 total miles of pipeline (393 miles of transmission and 2,744 miles of distribution mains), 25,181 hydrants and 89,529 valves (82,666 valves 12" and smaller and 6,863 valves 16" and larger).

Table III-5 shows the major performance parameters for the unit for the last four fiscal years.

Table III-5 Repair Record				
Service Parameter	FY 05	FY 06	FY 07	FY 08
Breaks Repaired	720	611	826	688
Discontinuance Orders Completed	1392	1264	820	579
Valves Repaired	222	209	198	303
Leak Survey (miles of pipeline)	1,279	1,113	1,024	1,113
Hydrants Repaired	4,432	5,042	5,007	4,447

A preventive maintenance program that involves both field investigations as well as systematic scheduling of repairs and replacements is in place for the pipeline infrastructure. This program has been in place for over ten years and is highly effective. The Department's current level of 231.2 breaks per 1,000 miles is significantly better than the national average of 270 breaks per 1,000 miles. The program consists of: leak surveys, utilization of information obtained from the sewer assessment program, examination of portions of repaired mains to determine extent and depth of corrosion and possible causes of breaks, as well as corrosion control studies. A recent addition to the preventative maintenance program is the use of a new technology used to inspect large diameter transmission mains to identify defects and small leaks. Conventional leak detection technology is generally not effective for larger transmission mains. This new technology allows for in-pipe inspections of active transmission mains, is highly sensitive and has proven quite effective for the Department. The implementation of this technology has evolved into the establishment of a new maintenance crew within the Distribution Unit, which will focus on inspection and repair of transmission mains. The Department is contracting for continued implementation of the inspection technology multiple times each year. Between inspections the Department will focus on addressing defects detected during the previous inspection. This program has allowed the Water Department to identify and address small leaks in major infrastructure prior to the occurrence of major main breaks, thus avoiding the massive response effort, property damage and financial expenditures associated with large main breaks.

In order to assure proper operation of the network's 89,529 valves, a valve tracking program is in place. This program records all valve activities (operation, inspection, repair and replace). Table III-6 summarizes the valve program for fiscal year 2008.

Table III-6 Valve Maintenance (Fiscal Year 2008)			
Valves	Total	Small (12" or smaller)	Large (16" or larger)
Operated	12,533	10,733	1,800
Found defective	270	232	38
Repair/Replace	123	96	27

In fiscal year 2008 hydrant availability was 99.7%. The Water Department attributes this high reliability to the implementation of a new process used to track hydrant information and deploy repair crews. The process was initiated in 2006 and has resulted in hydrant availability above 99% since that time. A preventative maintenance program includes routine inspections, repairs, and painting. During fiscal year 2008 the Water Department partnered with the Fire Department to inspect almost all of the city's 25,181 fire hydrants, leading to 4,777 repairs and 2,672 hydrants painted. In addition, 1,547 tamper-proof hydrant locks were installed. Over 68.9% of the department' hydrants have locking devices, and hydrant abuse has been controlled to levels that had no noticeable effect on the operation of the water system.

Unit maintenance activities are currently tracked using a variety of computer programs. These programs include: distribution (DMIS), valves (VMIS) and hydrants. In the coming year of all these programs will be migrated over to the new asset management system currently under development for Water Conveyance and Collector Systems. This will allow street-side maintenance activities to be tracked uniformly and will provide a more unified customer information system.

2. Pumping Unit

The unit's responsibility is to maintain and repair all raw and potable water pumping systems. Additionally, the unit maintains all raw water intakes, finished water reservoirs, system tanks and standpipes. The unit strives to maximize pump availability, pump efficiency and productive use of all maintenance resources. Table III-7 details the unit's success for these three parameters.

Table III-7 Pumping Unit Activity				
	FY 05	FY 06	FY 07	FY 08
Pump availability	97.1	95.6	95.8	94.5
Station Efficiency (wire to water)	77.3	76.9	77.8	77.2
% planned work (a productivity measurement)	95.6	95.5	94.7	94.8

Pump availability remains at a consistently high level due to the proactive maintenance approach employed. Despite the age of the majority of the pumps, the unit has been able to hold pump efficiencies steady. This is accomplished through good maintenance practices and using techniques such as impeller modification to better suit actual demand. Station efficiency is an overall measure of pumping system efficiency accounting for motor and pump efficiencies across all pump stations and representing the percentage of energy put into the system that is actually used to move water (the ratio of mechanical output to electrical input). The efficiency has been stable at about 77 percent over the past four years, which given the age of the equipment, is considered to be a high level of efficiency. The percent planned work activity is a measure of the productivity of the Pumping Unit staff in terms of time spent on planning maintenance activities as compared to time spent on emergency repairs. This measure reflects the effectiveness of the preventative maintenance program.

The Pumping Unit, with support from Load Control, accomplishes a significant amount of non-routine repairs, maintenance and installation in-house. In recent years this unit optimized several oversized pumps by decreasing the impeller size to allow for more efficient operation. They also installed two 48-inch magnetic flow meters (mag-meters) at the Queen Lane raw water pump station. These in-house retrofits are examples of how the unit is optimizing existing assets and implementing new technology to allow for increased efficiency and accuracy. Future plans call for the continuing efforts of downsizing of additional selected pumps to better match system demand and replacing of additional master meters.

Another in-house initiative led by Load Control is the design of a new High Service pump station for the Queen Lane plant. The new pump station will replace the outdated and oversized existing station. One goal of the design is to downsize the capacity to an extent that will allow neighboring Oak Lane station to increase pumping and function at a more optimal level.

The Pumping Unit is also in the process of rehabilitating all of their standing storage tanks. The two Somerton Tanks (5 million gallons each) are currently being rehabilitated, with Fox Chase tanks and Roxborough standpipe to follow in 2009 and 2010, respectively. This effort will enhance water quality and increase the security and integrity of the tanks.

The Water Department continues to implement the recommendations of the 2003 Vulnerability Assessments system-wide. To this end the Department is in the process of acquiring emergency generators for all pumping stations. A generator is already installed at Belmont High Service, with the others still in design. All pump stations are also scheduled for switchgear upgrades in the coming years. The first such upgrade is the 6.3 million dollar upgrade at the Torresdale station.

All pump maintenance is currently tracked by a computer program (PUMA). In order to attain uniformity, this computer program will be replaced by the asset management system currently under development and planned for implementation in 2009.

3. Load Control Unit

The mission statement of the Load Control Unit follows: "In order to provide a reliable supply of water to meet all community needs we will operate the water transmission system Load Control Center, maintain the Supervisory Control and Data Acquisition system, conduct hydraulic investigations, develop and utilize a current hydraulic model of the entire water distribution system and assist in long-term planning for responsible management of the City's water supply infrastructure."

The development of a hydraulic model for the entire city is almost complete. Currently, eight of eleven pressure district models are complete, as is a city-wide transmission system model. The final three models are under development and are scheduled to be complete by July 2011. An integrated system-wide model will also be developed. The existing models have already been used to simulate operational changes, size pumps, plan water main relays and investigate water quality issues. Water Department staff will update the models frequently to insure that they are accurate and account for ongoing system changes.

The Load Control Center and water transmission system operate continuously. All pumps are controlled centrally using a SCADA system. It is a priority of the unit to provide a reliable supply of water in a cost effective manner. This is achieved by using the SCADA system to maximize the use of system storage during peak hours then pumping as much as much as possible to refill lost storage during the less costly off-peak hours. Table III-8 illustrates the unit's ability to control electrical demand (a major cost component of the operation).

Table III-8	**Load Control Unit - Electrical Demand**			
	FY05	FY06	FY07	FY08
Average Daily Delivered Water, mgd	260.3	253.7	255.3	250.7
Total Power Consumption, million kilowatt-hours	127.2	127.0	127.5	127.0
Total Peak Billing Demand, Kilowatts	146,101	145,620	145,000	145,035
Total Expenditures for Power	$6,314,000	$6,400,000	$6,525,000	$6,614,500
Cost per million gallon pumped (raw & treated water)	$66.46	$69.11	$70.02	$72.28

Average daily delivery to the water system has leveled off at approximately 250 mgd after steadily declining from a peak of 378 mgd in 1977. Load Control is challenged to find operational cost savings to match the delivery rate decline, while using pumping systems that were designed for higher demands. At most pumping stations, only the smallest pump runs during on-peak hours. Replacement of the existing pumps with smaller pumps is often cost-prohibitive due to unacceptably long payback periods. However, Load Control engineers have worked with Pumping Unit staff to replace a pump impeller at one station, trim the diameter of three impellers at another station, replace two large pumps with two small pumps at a third station, and design a completely new, correctly sized pumping station at a fourth location where the existing pumping station equipment is nearing the end of its useful life. All these projects were designed, purchased and installed in-house by Load Control engineers and Pumping unit technicians. Load Control and Pumping staff continue to monitor each district for opportunities to improve pumping efficiency and lower overall costs.

The unit provides a variety of water distribution system testing and investigative functions. These functions include fire flow testing, fire system troubleshooting, water quality investigations and investigation of new leak management initiatives. Asset management support services provided by the unit include: planning and scheduling of capital program water system work, review of all capital program design documents, oversight for the Valve Maintenance Information System and coordination of the Large Valve Management Program. The unit also plays a lead role in the Water Accountability Committee and the Reservoir Team.

4. Water Conveyance Headquarters Unit

The Water Conveyance Headquarters Unit manages water distribution in the City and oversees the Water Accountability Committee, which coordinates the Water Department's on-going Water Loss Control Program with City managers. The Water Accountability Committee of the City of Philadelphia exists to promote a high level of efficiency in the water delivery and billing processes and perform the strategic planning necessary to implement lasting improvements in water and revenue loss reduction. The committee is a multi-functional team including personnel from the Water Department and the Water Revenue Bureau. The Water Loss Control Program strives to reduce the volume of non-revenue water. Major elements of this program are: compilation of the annual water audit, progressive leakage management, customer meter management, revenue protection, reduction of unauthorized consumption, piloting of new technologies and benchmarking. Through these programs the Water Department has reduced non-revenue water by 40% over the past decade.

a. Annual Water Audit

The Water Department has been very active in promoting new auditing methods through the American Water Works Association, and was the first utility in the United States to adopt the best management water audit methodology published in 2000. They have received recognition as an industry leader in this regard. The method accounts for all water as either consumption or losses (apparent or real). Apparent Losses are the paper losses due to customer meter inaccuracies, data handling error and unauthorized consumption. These losses cause water utilities to lose a portion of the revenue to which they are entitled and understate the aggregate consumption of the customer population. Real Losses are physical losses, largely leakage. These losses inflate the marginal water production costs for water utilities. Summary results of the annual audit for fiscal years 2000 to 2008 are presented in Table III-9. It is noted that the Department implemented a new billing system in January 2008. Certain inconsistencies were noted in the fiscal year 2008 audit data and are presumed to be the result of this implementation occurring midway through the year and the Department's continued efforts to customize and refine the new system. The structure of the audit methodology is important in that it fixes a cost impact on both apparent and real losses. It can be seen that, despite a reduction in overall loss volumes, the overall cost impact of losses continues to increase, largely due to increased costs to supply water and the costs of uncaptured revenue due to apparent losses. Hence, stepped-up water loss control is still a large priority for the Department.

Table III-9 Water Audit Results 2000 – 2008

Component	FY2008*	FY2007	FY2006	FY2005	FY2004	FY2003	FY2002	FY2001	FY2000
Water Supplied, mgd	250.7	255.3	253.8	260.3	263.0	270.2	263.0	267.5	277.7
Billed Consumption, mgd (may include some unmetered consumption)	175.8	169.5	177.0	176.9	176.9	183.4	178.2	181.7	185.8
Non-revenue Water, mgd	74.9	85.8	76.8	83.4	86.1	86.8	84.8	85.8	91.9
Percent Non-revenue Water by volume	32.4	36.3	32.7	34.6	35.4	32.1	32.2	32.1	33.1
Percent Non-revenue Water by cost	15.1	17.5	13.0	12.4	9.0	8.3	8.1	9.2	11.1
Unbilled Authorized Consumption, mgd	2.1	2.3	2.4	2.3	2.4	3.0	2.5	2.4	3.0
Unbilled Authorized Consumption Costs	$717,200	$214,300	$191,000	$155,200	$159,700	$180,400	$145,900	$134,500	$149,000
Apparent Losses, mgd	19.0	21.9	15.2	14.2	11.1	13.3	13.1	14.5	18.6
Apparent Losses costs, million	$27.3	$30.8	$20.3	$19.1	$10.9	$10.0	$9.0	$11.6	$13.7
Real Losses, mgd	53.8	61.6	59.2	66.9	72.6	70.5	69.2	68.9	70.3
Real Losses costs, million	$4.9	$5.1	$4.3	$3.9	$4.1	$3.7	$3.4	$2.5	$2.9
Infrastructure Leakage Index, dimensionless	9.0	10.3	9.9	11.0	12.1	11.9	13.1	12.7	12.3

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The Infrastructure Leakage Index (ILI) gives a measure of leakage control standing and is the ratio of the current level of leakage to the technically low limit believed achievable (unavoidable level) if leakage must be completely minimized due to scarce resource availability, shortages, etc. For systems not confronting such pressures, AWWA recommends targeting an ILI of no more than 8.0. The Water Department's loss control activities have been effective in reducing their ILI over the past decade from a high of 13.1 in 2002 to a low of 9.0 in 2008.

b. Leakage Management

The Department manages leakage via a combination of traditional leak detection and repair activities (find and fix approach) and by advanced technologies such as pressure management (predict and prevent approach). The Leak Detection Survey program has operated successfully within the Water Conveyance Section for thirty years. Leak detection crews use state-of- the-art technology (leak correlator and correlating leak loggers) to proactively survey the water distribution system for hidden leaks. In fiscal year 2008, 1,113 miles of mains were surveyed with corrective measures abating 36.07 mgd of leakage. Summary results of this proactive program are presented in Table III-10.

Table III-10 Leak Survey

Service Parameter	FY 05	FY 06	FY 07	FY 08
Leak Survey (miles of pipeline)	1,278	1,113	1,024	1,113
Leakage Abated (mgd)	38.08	29.15	27.66	36.07

In 2006 the Water Department extended their leak detection program to transmission mains through the use of new technology designed specifically for large diameter mains. To date this program has inspected 19.78 miles of transmission main and detected 45 leaks.

The Department's use of advanced pressure management as a sustainable leakage control technique is discussed under Section 4e (Piloting New Technology and Benchmarking).

c. Meter Management

The Water Department's water meter management program maintains several dozen production meters and a customer meter population of close to one half million. The Water Department also manages the Automatic Meter Reading (AMR) system that provides routine customer meter readings to the billing process. These programs are discussed below.

(1) Production Metering

The Water Department maintains meters on transmission supply mains at its three water treatment plants, pumping stations, reservoirs, as well as interconnections to Bucks County Water & Sewer Authority and Aqua Pennsylvania. All meters are connected to the Load Control Center SCADA System and are continuously monitored and balanced on a daily basis. Most meters are verified on at least an annual basis by Load Control technicians and an engineering consultant, and the export sales meters are checked quarterly. This structured level of meter management ensures accuracy in the calculation of the total volume of water supplied to the distribution system.

(2) Customer Meter Management

Customer meters are managed by the Water Department's Metering Unit. This group replaces faulty meters and automatic meter reading equipment, investigates suspicious consumption patterns, and performs a host of related duties. The Metering Unit also operates meter test equipment and performs routine meter accuracy testing. The demands on the Metering Unit have grown since the installation of Automatic Meter Reading, since much more reliable customer consumption data now exists, revealing many more problems such as tampering and equipment failure.

The Meter Shop has focused recently on the assessment of large customer meters, particularly the appropriateness of sizing of these meters. Large meters are defined as those greater than one-inch in size. Approximately 3 percent of all meters fall in this category, but these accounts tally almost 50% of the billed consumption total. Highlights of this program are presented below.

- Meters ranging from one to two-inches in diameter are generally replaced every 10 years in order to maintain accurate registration. Those meters from three to six-inches have a 4-year replacement interval, and those from eight to ten-inches are replaced on a 2-year frequency. This increasing frequency for the large meters assures that they will provide a high accuracy and level of performance.
- A concerted look at downsizing oversized large meters in the system has also been undertaken. Approximately 250 meters per year have been downsized on average during the past four years. Large meter management results in benefits to both the customer and the Water Department. Meter downsizing results in a decrease to the customer's monthly water service charge, while replacing misapplied turbine meters with compound meters results in increased registration and related volumetric billings. The Department is investigating the use of single jet meters to further enhance the accuracy of measured volumes. The Metering Unit and the Department's water efficiency consultant began an effort in fiscal year 2008 to obtain customer consumption profiles by data-logging meters at a variety of buildings.

(3) Automatic Meter Reading System

The first installation phase of the Automatic Meter Reading (AMR) System from 1997-1999 included the replacement of all residential water meters, sized 5/8-inch or 3/4-inch, with new meters equipped with radio transmitter meter reading devices (Encoder, Receiver, Transmitter units or ERTs). Philadelphia's AMR System is the largest and most significant water automatic meter reading endeavor to be fully implemented in the country. This program is substantially complete with over 99 percent (of 471,000 accounts) residential and commercial customers having AMR capability. The second phase of the program to replace large meter commercial and industrial customers with AMR is almost complete at 93% (of 12,900 accounts). Significant improvements in customer service and consumption data integrity have been realized as a result of the AMR System. The system is also being leveraged to gain additional benefits in the areas of leakage management and control of unauthorized consumption. Additional benefits of the system include:

- Reduced intrusion into individual homes, resulting in greater customer convenience and security
- Accurate and reliable meter readings
- Fewer customer complaints due to estimated billing
- Improved ability to detect apparent losses, particularly unauthorized consumption
- Long-term savings and revenue improvements

d. Revenue Protection

The Revenue Protection Program focuses on recovering uncaptured revenue from compromised customer accounts. It has been successful in recovering over $15 million during its life. Each year the program pursues targeted groups of accounts perceived as areas of missed water consumption and billings. For the past three years the major focus of the program has "zero consumption" accounts; the majority of which have occurred due to tampering. Table III-11 summarizes recent program results.

Many of the accounts investigated by Revenue Protection occur due to unauthorized consumption. As in many large urban areas, unauthorized consumption occurs in many ways. The Department provides effort to address the major causes of this missing revenue. Over 30,000 accounts are shutoff for non-payment every year and a notable portion of these accounts illegally restore their service. Up to 3,000 of these are confirmed to have been "illegally restored" and are terminated a second time. The Delinquency & Restoration Unit is piloting new technologies to improve shutoff effectiveness.

Table III-11 Water Revenue Bureau Annual Water Audit Summary

Fiscal Year	Water Recovered, mgd	Revenue Recovered
2000	1.39	$2,100,000
2001	5.81	$2,900,000
2002	0.69	$1,037,000
2003	1.14	$1,782,000
2004	1.67	$2,003,000
2005	1.74	$2,835,000
2006	1.01	$1,413,000
2007	0.36	$531,400
2008	N/A*	$636,300
Total	13.45	$15,237,700

* Data not available due to recent implementation to Basis 2 customer billing system

Reduction of unauthorized fire hydrant use is another Department loss control initiative. The Department's recent efforts have focused on installing tamper-proof locks (center compression locks CCL) in those areas most susceptible to fire hydrant abuse. In fiscal year 2008, 1,547 tamper-proof hydrant locks were installed. To date over 68.9% of the department' hydrants have locking devices. It is the department's intent to have tamper-proof locks installed on all hydrants in the future.

e. Piloting New Technology and Benchmarking

Through participation in AwwaRF research studies and internal efforts the Water Department is continuously investigating new and innovative technologies for water loss control. As part of the AwwaRF study "Leakage Management Strategies" the Department isolated a small area of the distribution system to establish a pilot District Management Area (DMA) to evaluate leakage as a function of distribution system water pressure. The research found that the DMA approach is feasible in US water utilities and the Department achieved a significant, sustainable leakage reduction in the DMA and a payback period of less than five years. With the completion of the study, the Department is continuing their efforts to optimize operations of the DMA for further reduction of leakage through the use of flow modulated pressure control. The DMA pressure is controlled to coincide with demand and thus reduce leakage potential. Using pressure reducing valves, system pressure is reduced during the night (low flow) and increased during the day (higher flows). Maintaining optimal pressure is effective in reducing background leaks or seepage, while monitoring changes in pressure during low flow periods is useful in identifying leaks. The Department will continue to focus on this DMA in the near-term with consideration of additional applications in other parts of the distribution system.

Benchmarking activities provide beneficial information regarding realistic goals for water losses. In order to assure proper comparisons, the Water Department formats all loss control information to conform with the International Water Association (IWA)/AWWA water audit format. This provides the ability to compare department progress with national and international water providers. The Department continues to hold leadership roles in AWWA and other industry organizations and is at the forefront in advancing proactive water loss control methods in the US water industry. This has included outreach to a number of state and regional water regulatory agencies to introduce the water audit methodology. During these activities the Department has had opportunities to share its best practice approaches with many agencies and assist other utilities in compiling water audits to further the use of performance indicators and benchmarking.

Loss control programs are never complete. Ongoing activities continue to build on successful efforts of the past. Future program initiatives include:

- Utilize the full potential of the new billing system to enhance the management of customer account data.
- Increase staff levels to enhance revenue collections.
- Search for opportunities to improve efficiency and timeliness in addressing leakage on customer services connection piping.
- Utilize the new work order management system to better track leak categories and repair times.
- Further reduce time between leak identification and repair.
- Continue to investigate programs to reduce leakage losses through pressure control.
- Pilot the use of a Fixed Network (continuous reading) AMR technology to monitor customer meters remotely at short time intervals. This would provide increased data collection opportunities and create opportunities to pilot an array of new capabilities known as Advanced Metering Infrastructure (AMI) including leak noise loggers on customer piping, automatic shutoff valves, automated backflow detection and other enhancements.

F. System Storage and Pumping

The Water Department provides finished water storage at each treatment plant. In addition, there are seven other treated water storage reservoirs, standpipes, or basins in the system. All finished water storage is covered.

The principal covered storage reservoirs and their approximate capacities are:

East Park (Northeast)	147.2 million gallons
Oak Lane	72.8 million gallons
Roxborough (Upper & Lower)	28.5 million gallons

In addition, the Fox Chase and Somerton tanks and the Roxborough standpipe provide 22.5 million gallons of in-system storage.

The Oak Lane Reservoir was taken out of service on February 24, 2009 immediately after it was discovered that the polypropylene membrane cover was deteriorating and particles from the cover were released into the water. Operations to implement the shutdown were efficient and effective with no negative impact on water supply. The reservoir provided water to the East Oak Lane and West Oak Lane Pumping Stations. These pumping stations are now supplied directly from Lardner's Point Pumping Station while an investigation into the cause of the breakdown is conducted and a plan of action is instituted. It is expected that the reservoir will be out of service for an extended period of time.

The Water Department's Reservoir Team manages the strategic planning, capital program projects, and operations and maintenance functions of the Water Department's reservoirs. Prior to the occurrence at the Oak Lane Reservoir, the Strategic Planning Group had focused on the long-term options for East Park and Oak Lane Reservoirs where the floating covers are into the second half of their useful lives. The long-term plan is to replace the existing East Park Reservoir with up to 5 (five) 30 million gallon concrete storage tanks. The tanks will provide water quality, security and maintenance benefits over the existing reservoir and floating cover. The current plan is to install 3 (three) tanks in the near-term with potential for expansion in the future. A contract for the design was awarded in late 2008. It is anticipated that construction will occur in 2013.

Pumping stations are located at each treatment plant with seven other stations located off-site providing water service pressure in the distribution system. The major pumping stations, divided into Delaware and Schuylkill Divisions, are:

Delaware Division	Schuylkill Division
East Oak Lane	Belmont High Service
Fox Chase Booster	Belmont Raw Water
Lardners Point	Chestnut Hill
Torresdale Low Service	East Park Booster
Torresdale High Service	Queen Lane High Service
Torresdale Raw Water	Queen Lane to Roxborough
West Oak Lane	Queen Lane Raw Water
	Roxborough High Service

By utilizing reservoir storage capacity and pumping capabilities, through the Load Control Center, the Water Department is able to provide water during periods of water shortage in a given service area. A great deal of flexibility is built into the system. With few exceptions water can be provided city wide from any of the three treatment plants.

IV. Wastewater System

A. Introduction

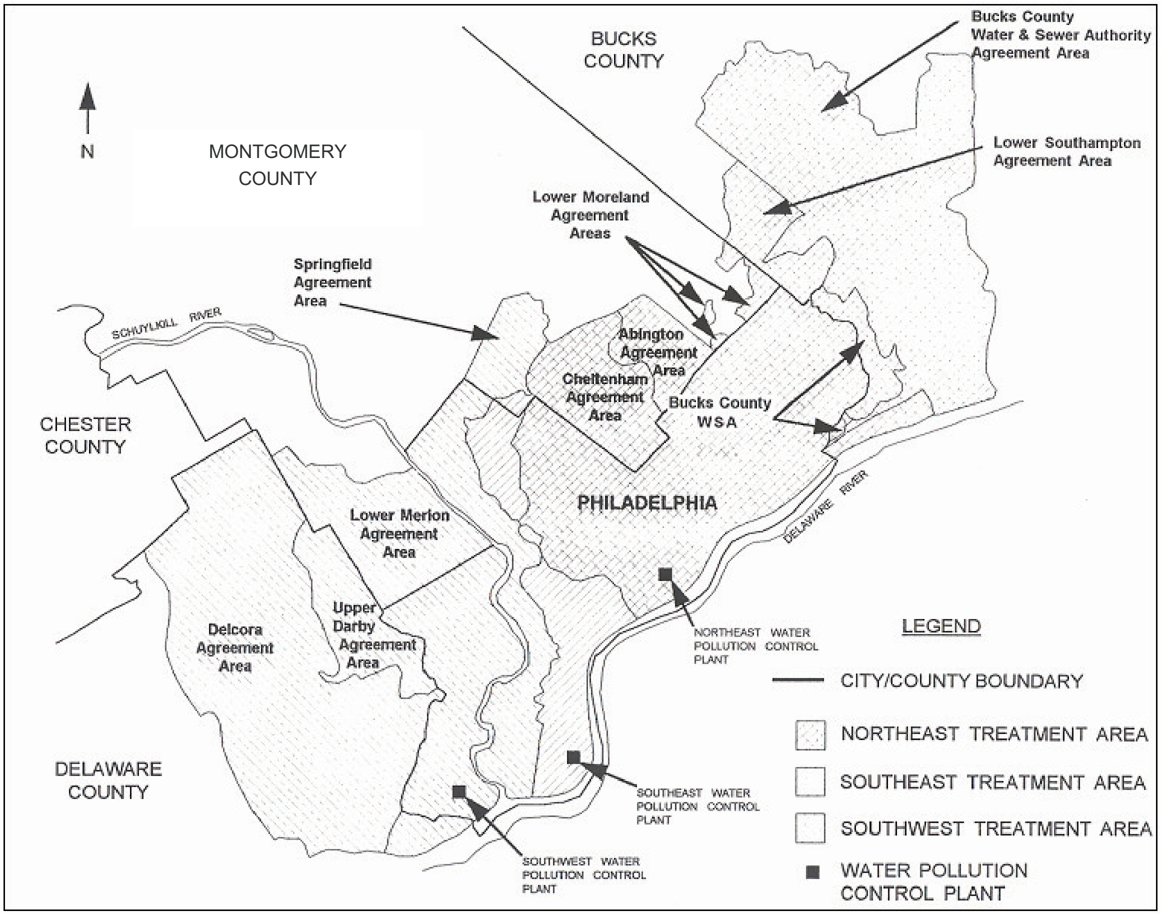
By the end of the Nineteenth Century, Philadelphia had established a Department of Sewerage and had constructed approximately 800 miles of sanitary and storm sewers. In 1923, the Northeast Water Pollution Control Plant (WPCP) went into service with a capacity of 60 million gallons per day (mgd). From that point until the mid-1940s, most expenditures were for collection and transmission facilities rather than for treatment works. It was not until 1946 that wastewater service charges in the City provided the means of financing the modernization of the original Northeast WPCP and the construction of the original Southeast and Southwest plants as primary treatment facilities. All three wastewater treatment plants were upgraded in the 1970s and 1980s to provide secondary treatment. Construction of the Biosolids Recycling Center (BRC), formerly the Sludge Processing and Distribution Center (SPDC) which manages sludge produced from all three treatment plants, was subsequently completed in 1989.

B. Wastewater System Overview

The Philadelphia Water Department's wastewater system currently serves the City of Philadelphia, and parts of Bucks, Montgomery, and Delaware Counties. According to the 2000 census, the total service area population is approximately 2,218,000 including approximately 1,518,000 people within the City and 700,000 residents in outlying municipalities. The service area population is distributed over 360 square miles, with 230 square miles in suburban communities and 130 square miles in the City.

The wastewater collection system consists of approximately 3,652 miles of sewers, 16 pumping stations (13 City Owned and 3 owned by others but operated by the City), 85,000 manholes, 26 storm relief structures, 78,572 stormwater inlets, and 26 metering chambers to monitor flows from surrounding townships. There are 749 miles of sanitary sewer, 717 miles of storm sewer, 1,825 miles of combined sanitary and storm sewer, and 135 miles of major interceptor sewer that convey wastewater to the treatment plants. The sewers range in size from 8-inch diameter to 21 feet by 24 feet arch-shaped conduits and are constructed of brick, vitrified clay or reinforced concrete. The wastewater system is divided into three drainage districts, each served by a treatment plant as indicated in Figure IV-1.

Figure IV-1 – Wastewater Service Areas



Wholesale Suburban Customers

Contracts for wastewater treatment service with nine neighboring municipalities and authorities provide for the billing of charges based on wastewater strength and volume. As illustrated in Figure IV-1, parts of Bucks and Montgomery Counties contribute to the Northeast plant; parts of Montgomery and Delaware Counties contribute to the Southwest plant; and Springfield Township of Montgomery County contributes to the Southeast plant. In 1999, one of the Water Department's wholesale customers, Bensalem Township, consolidated its wastewater contract into the Bucks County Water and Sewer Authority contract.

Table IV-1 summarizes the contract limit flows and actual flows by receiving plant.

Table IV-1 Suburban Flows to WPCPs		
	Annual Average Daily Flow Maximum (mgd)	**Average Daily Flow in Fiscal Year 2008 (mgd)**
Northeast Plant	56.6	37.3
Southeast Plant	1.0	0.5
Southwest Plant	84.7	45.7
Total	142.3	83.5

C. Relevant Regulatory Permits and Consent Decrees

The City's wastewater treatment plants and the collection system are regulated by three permits which include:

- National Pollutant Discharge Elimination System
- Stormwater
- (Title V) Title V Major Source Operating Permits-Clean Air Act

1. NPDES Permits

The National Pollutant Discharge Elimination System (NPDES) permits for the Northeast, Southeast, and Southwest WPCPs all became effective September 1, 2007 and will expire August 31, 2012. These permits provide flexibility to treat potential additional flows resulting from system wide efforts to control combined sewer overflows. NPDES permit limitations are included in Table IV-2. The permits are designed to enable PaDEP to utilize them as a single source document in their review of the wastewater system compliance status. Key components of the permits and several of the more significant changes that have been negotiated with these permits are summarized below.

The NPDES permit is comprised of three major components: Parts A, B and C. Part A regulates the effluent discharges for each plant and provides for monitoring, record keeping, and reporting requirements. Table IV-2 details the key effluent discharge limitations established in the permits. Additionally, Part A outlines monitoring requirements for the plant's stormwater outfall system -- the plant's individual stormwater system -- which were formerly part of a separate permit. Part A also lists all combined sewer outfalls that are tributary to each of the wastewater treatment plants. Specific limitations and programs for the combined sewer outfalls are detailed in the other sections of the permit.

Significant changes to Part A of the permits reflect the inclusion of the plant's stormwater outfall system as a part of the permitted facilities. Each plant's stormwater outfalls at each plant must be monitored for select parameters on an annual basis. The Water Department must prepare a Preparedness, Prevention, and Contingency Plan (PPC) to assure that stormwater outfalls do not pollute the receiving waters and Best Management Practices (BMPs) will be implemented.

Other changes to Part A of the NDPES permit include additional fecal coliform limitations were established in the new permits. In addition to the fecal coliform geometric mean limitation, the instantaneous maximum for the fecal coliform concentration shall not exceed 1,000 per 100 milliliters in more than 10 percent of the samples. This requirement takes effect September 1, 2009 for the Northeast plant and may increase the difficulty in attaining the desired pathogen kill and still meet the total residual chlorine limitation; however, the plant operators will likely be able to comply with this requirement. Similar requirements have been in place since September 2007 for the Southwest and Southeast plants.

Part B of the NPDES permit outlines Management Requirements, Penalties and Liabilities and Other Responsibilities. There have been no significant changes to Part B of the permit from the previous versions.

Table IV-2 Current NPDES Key Effluent Limitations	
Effluent Characteristic	**Discharge Limitation** (Average Monthly)
$CBOD_5$ (mg/l)	25[(1) (2)]
$CBOD_5$ (lbs/d)	36,430[(1)], 19,800[(2)]
$CBOD_5$ (% removal)	86[(1)], 89.25[(2)]
$CBOD_5$ (% removal at flows > MDF)	See footnote 5
BOD_5 (mg/l)	30[(3)]
BOD_5 (lbs/d)	19,650[(3)]
BOD_5 (% removal)	86[(3)]
BOD_5 (% removal at flows > MDF)	See footnote 6
TSS (mg/l)	30
TSS (lbs/d)	52,540[(1)], 50,040[(2)], 28,025[(3)]
TSS (% removal)	85
TSS (% removal at flows > MDF)	See footnote 7
pH	6-9
Fecal Coliform	200/100 ml[(4)]
Total Residual Chlorine (mg/l)	0.5
Average Monthly Flow - AMF (mgd)	monitor/report
Maximum Daily Flow – MDF (mgd)	monitor/report
Maximum Daily Flow – MDF recognized for calculating % removals at high flow day events (mgd)	315[(1)], 300[(2)], 168[(3)]

(1) Northeast WPCP
(2) Southwest WPCP
(3) Southeast WPCP
(4) Geometric mean
(5) If a calendar month includes one or more days where flows exceed the MDF, a value of 86 % and 89.25 % respectively at the Northeast WPCP and the Southwest WPCP may be used for those days for calculating $CBOD_5$ percent removal.
(6) If a calendar month includes one or more days where flows exceed the MDF, a value of 86 % at the Southeast WPCP may be used for those days for calculating BOD_5 percent removal.
(7) If a calendar month includes one or more days where flows exceed the MDF, a value of 85% may be used for those days for calculating TSS percent removal.

mg/l	milligrams per liter
ppd	pounds per day
mgd	million gallons per day
$CBOD_5$	Carbonaceous Biological Oxygen Demand (five day)
BOD_5	Biochemical Oxygen Demand (five day)
TSS	Total Suspended Solids
AMF	Average Monthly Flow
MDF	Maximum Daily Flow

Part C of the permits contains 29 “Other Requirements.” Some of the key requirements are summarized as follows:

- Standard test methods are referenced for all of the parameters being monitored.
- Requirements are established for stormwater outfalls serving the wastewater plants. This section calls for the preparation of a Preparedness, Prevention and Contingency Plan (PPC) for each facility. Also, an annual comprehensive site compliance evaluation must be performed as well as the implementation of Stormwater Management Best Management Practices (BMPs).
- The Water Department will need to re-evaluate its local limits associated with its pretreatment program. The schedule calls for the local limits re-evaluation to be completed within one year of the permit issuance date.
- Laboratory certification is a new requirement but should have no significant impact on the Department since its laboratory already meets certification requirements.
- There is a new section related to calculating and reporting mass loadings. This section acknowledges the Department’s efforts to reduce the frequency and volume of untreated sewage discharges and allows flexibility in calculating and reporting removal levels and mass loadings at the treatment plants during high flows.

- There is another new requirement related to the development of an Operations and Maintenance Plan. It requires that each wastewater treatment facility update its plan whenever a significant revision to the facility occurs. The plan contains the following elements:
    - Process control strategy
    - Monitoring and compliance plan
    - Wet weather operations strategy
    - Emergency operations plan
    - Preventative maintenance plan
    - Emergency maintenance plan
    - Solids management plan

  Each of the wastewater treatment plants already has O& M manuals and Standard Operating Procedures (SOPs) that in total would conform to this requirement.

- A Sludge Dewatering Summary Report is now required. This monthly report is to be filed along with the Discharge Monitoring Reports (DMRs).

- A Polychlorinated Biphenyls (PCBs) Requirements Plan is also required to be prepared. The Department has previously prepared, and the DRBC has accepted, a Pollution Minimization Plan (PMP) related to PCBs. The Department updates this plan annually.
- Development of a Combined Sewer Overflow (CSO) Program is required. This section details a comprehensive program to minimize combined sewer overflows and has three components:
  - Implementation of the Nine Minimum Controls
  - Implementation of the Long Term CSO Control Plan
  - Monitoring and Assessment

  The details and schedules for all components of the CSO Program were developed by PaDEP with substantial input provided by the Department

2. Stormwater Permit

PaDEP has the authority to regulate municipal stormwater through the NPDES Municipal Separate Storm Sewer System (MS4).

Sections of the permit include:

- Sediment Total Maximum Daily Load (TMDL) for Wissahickon Creek
- Pollutant Minimization Plan (PMP) for Polychlorinated Biphenyls (PCBs) in the City's Municipal Separate Storm Sewer System (MS4)
- Storm Water Management Program
  - Source Identification
  - Discharge Management, Characterization, and Watershed-based Assessment and Management Program for three watersheds (Pennypack, Poquessing and Wissahickon)
- Detection, Investigation, and Abatement of Illicit Connections and Improper Disposal
- Monitoring and Control Pollutants from Industrial Sources
- Monitoring and Control Storm Water form Construction Activities
- Best Management Practices (BMPs)

The new stormwater permit contains many of the programs from the Water Department's first stormwater permit and also includes the following new programs: (1) watershed based assessment and management programs for those tributaries receiving stormwater flow; (2) implementation of various innovative stormwater best management practices; and (3) a pollutant minimization plan for identifying and tracking possible sources of PCB contamination into the storm sewer system. The Water Department has implemented these new requirements of the MS4, and is in full compliance.

3. Title V Major Source Operating Permits

As amended, the Federal Clean Air Act (the "Clean Air Act," CAA) sets forth requirements for the regulation of certain air emissions. In January 1994, the PaDEP published regulations pursuant to the Clean Air Act's mandates for the control of VOC and NOx emissions from major stationary sources. These regulations required, in part, that all sources of VOC and NOx quantify their emissions. The three WPCPs are sources of VOCs and NOx.

The Title V permits require bi-annual reporting for NOx and VOC emissions. Section C, Facility Wide Requirement of the Title V permits, also contains requirements regarding odor emissions. Any detection of a malodorous air contaminant outside the facility property line must be reported. Permit requirements consist of monitoring and reporting. No limitations are stipulated.

In June 2001, Title V Major Source Operating Permits were issued for the Northeast WPCP and the combined site of the Southwest WPCP and the Biosolids Recycling Center (BRC); the Southeast WPCP is considered a minor source and does not have a Title V permit. Both permits have been administratively continued while new permits are being negotiated with the City's Health Department Air Management Services (AMS).

The CAA also required the development of a Risk Management Plan (RMP) for all Water Department facilities where regulated substances (chlorine, ammonia, methane) are stored. The RMPs are designed to minimize the impact of a process accident on the surrounding community. Risk Management Plans were prepared and submitted for each facility. Because of the replacement of gaseous chlorine with liquid sodium hypochlorite as a disinfectant, RMPs are no longer required at the wastewater treatment plants.

During calendar year 2008, no odor violations issued at the SW/BRC facility, however, two violations were issued at the Northeast facility. For the Northeast facility, the Water Department has developed a long-term odor control strategy to rectify these issues. The Water Department believes it has identified a major source of the odors and is working with a discharger to correct this problem. The Water Department has worked closely with AMS in developing its Odor Response Plan -- which is part of the permit -- and this plan is implemented whenever odors are detected. The Water Department continues to operate its facilities in a manner that maximizes treatment while minimizing odors.

With the recent privatization of the BRC in October 2008, as discussed later in this report, future individual permits may be issued for Northeast WPCP, Southwest WPCP, and BRC.

D. Water Pollution Control Plants Overall Performance

The three WPCPs have maintained high levels of treatment such that they have been recognized by the National Association of Clean Water Agencies (NACWA), formerly the Association of Metropolitan Sewerage Agencies ("AMSA"), with either Silver, Gold or Platinum awards over the past decade. The three WPCPs met all permit requirements in calendar year 2007 and have received NACWA platinum and gold awards. In calendar year 2007, all three wastewater treatment plants achieved perfect NPDES compliance. The Southeast and Southwest Plants received platinum awards for 5 or more years of perfect compliance. The Northeast Plant received a gold award. All three plants achieved perfect NPDES compliance in 2008.

E. Northeast WPCP

1. Service Area

The Northeast plant serves northeast Philadelphia and suburban areas in southeast Bucks and eastern Montgomery counties.

2. Capacity and Performance

The plant is sized for a design average flow of 210 mgd and a peak flow of 420 mgd. As indicated in the NPDES permit, specific projects are detailed to further increase the capture and treatment of combined sewage flows. Table IV-3 summarizes these projects.

During fiscal year 2008, the plant treated an average flow of approximately 160 mgd. Plant performance is normally well below permit limits. Effluent concentrations are typically at or below 10 mg/l for $CBOD_5$ and TSS. Total Residual Chlorine (TRC) levels are also below permit requirements. In fiscal year 2008 there were two odor complaints.

Table IV-3 CSO Projects Related to the Northeast WPCP		
Project	Schedule	Status
Real Time Control Center Rehabilitate the monitoring network	9/1/2010	Underway
Improve mixing in mixed liquor channel to secondary clarifiers 9 through 16	Complete by 9/1/2008	Complete
Develop capability to add polymer on Set 1 secondary clarifiers to maintain effluent quality	Complete by 9/1/2008	Complete
Improve step feed modes during wet weather events by converting the manual gate operators to motor driven	Complete by 9/1/2008	Complete
Plan Design and Construct modifications to increase secondary capacity to 435 mgd Modify Set 2 secondary effluent channels to reduce hydraulic restrictions Provide second conduit to Set 2 Primary clarifiers to convey additional flow to Set 2 Primary tanks	9/1/2012	Preliminary engineering Underway
Define requirements to provide primary treatment treat and disinfection for 535 mgd and secondary treatment for 435 mgd	Explore by 3/1/2009	Engineering Investigation underway
In line storage Tacony Creek Park (T-14)	Complete by 9/1/2011	Awaiting Bid
In line storage Rock Run Relief (R-15)	Complete by 9/1/2010	Construction Substantially Complete
In line storage State Road PC 30	Complete by 9/1/2012	Design work complete

3. *Liquid Stream Process*

The facility consists of a preliminary treatment building providing screening, influent pumping and grit removal; primary clarifiers; aeration basins; final clarifiers and disinfection. Sludge from the Baxter Water Treatment plant is discharged to the Northeast plant. The characteristics of this sludge reduce available phosphorous for the activated sludge process. The plant has the ability to add phosphoric acid (to assure proper nutrient levels), but has not required this chemical addition in the recent past.

Key activities or improvements to the liquid stream process that have recently been made or are currently in progress include the following:

Projects recently completed:

- Five out of seven aeration tanks were drained and inspected
- Rebuilt 5 of the 6 blowers
- Overhauled influent pumps

Projects either planned or ongoing:

- Screenings from conveyance system - nearly complete
- Replacement of hydrogritters - design complete
- New pipes to increase flow between PTB and PST Set 1 - under design
- Replace Valve/Gate Actuators in PST Set I - in design
- Rehab Scum Collection Controls at FST Set I - design complete
- Repair/replace return sludge pipeline serving final tanks 1-8 - in design
- Removal of double deck effluent channel at FST-Set II - in design
- Automate FST Set 1 scum gate operation - under design

4. *Sludge Stream Process*

Sludge treatment is provided by dissolved air flotation (DAF), thickening of waste activated sludge (WAS), and anaerobic digestion of combined primary and thickened waste activated sludge. Digested sludge is delivered by gravity to two transfer tanks. Approximately once daily, the sludge from these tanks is discharged to barges and transported to the Biosolids Recycling Center (BRC) for final processing. On October 10, 2008 the Department privatized the operation of the BRC. Philadelphia Biosolids Services is now the operator. The transition has been smooth and has not impacted the solids handling and transporting conducted by the Northeast WPCP. Key activities or improvements to the sludge stream process that have recently been made or are currently in progress include the following:

Projects recently completed:

- Increased waste gas burner capacity
- Replaced floated sludge pumps
- Digesters 10 and 12 cleaned
- Gas tank inspection and bladder replacement

Projects either planned or ongoing include:

- Replace existing sludge pumps and valves on barges - bid

5. *Facility and Utility Maintenance Projects*

Recently completed and planned facility and utility maintenance projects include:

Projects recently completed:

- Testing of electrical and distribution components - plant wide
- Replace electrical switchgear and lighting for blower building - under construction

Projects either planned or ongoing:

- Upgrade SCADA Phase II - in construction
- Replace Emergency Lighting Plant wide - in design
- Rehab phone system - in design
- Replace Front Gate - in design
- Replace Aeration Tank High Voltage Switchgear - in design
- Elimination of street drains to effluent conduit - in design
- Replace Blower Building switchgear - in design
- Rehab Biogas Condensate vaults and meters and Aeration system valves - in design
- Redirect area storm drains at Streets Department facility - in design
- Rehab Plant Water System - in design
- Replace Building Breakers - in design
- Replace 480 V switchgear at FST Set II - in design

6. *Operation and Maintenance*

A process computer system is currently used for monitoring certain plant processes and for computing various process trends. This system is currently being upgraded. The following unit processes are automated: PTB screen conveyors, influent flow splitting to the primary tanks, return sludge, hypochlorite disinfection, digester feeding, and dissolved air flotation thickening system. Future plans call for the automation of influent pumping and final settling tank scum collection. Operators are assigned responsibility for key plant facilities with dedicated operator stations. The stations are equipped with computer monitors which assist the operator in making process control decisions. Recent work has made process and lab data more available via web based reporting, and trending and analysis of data has been greatly enhanced. An on-site process control laboratory is also used to check and optimize plant operation.

Maintenance management is facilitated by the computer program (MAXIMO). This Computer Maintenance Management system (CMMS) is a Department-wide initiative. This program is being used to organize all plant maintenance activities and to help staff emphasize predictive and preventive maintenance. Currently, planned maintenance accounts for approximately 75 percent of all the work orders.

The status of plant tankage, conduits, buildings and structures is tracked through the Capital Facilities Assessment Plan (CFAP). The CFAP identifies critical assets within the plant that need to undergo detailed inspection. Inspection work orders are generated through the MAXIMO program. Results of the inspection are used to prioritize repairs and/or replacements via the capital program.

The Northeast WPCP is operated seven days per week, three operating shifts daily. Approximately 115 (132 authorized) total staff, including administrative, operations, and maintenance personnel are employed at the Northeast plant. There are three certified operators. Currently, there are 17 vacant positions. Vacancies in the instrumentation and equipment operator series are considered the most critical.

Other significant Operation and Maintenance programs include:

- The chlorine minimization program continues. This program has resulted in both cost savings and water quality benefits.
- Digester cleaning programs have resulted in gas production increasing from 1.4 to 1.65 million cubic feet (mcf) per day.
- Participation in a Department apprenticeship program has brought in some new talent in the trades area.

7. *Odor Issues*

The Water Department continues its long standing commitment to managing odor emissions at the Northeast facility. Odor violations by calendar year are presented in Table IV-4. Since 2005, the number of odor violations has decreased significantly.

Table IV-4 Odor Violations						
Calendar Year	2003	2004	2005	2006	2007	2008
Violations	4	3	9	7	2	2

The reduction in odor violations has occurred as the Department has strengthened its odor minimization program. Some highlights of the Department's program include:

- Plant staff continues their proactive approach to minimizing odors and to address odor complaints quickly.
- Plant staff strives to maintain a good rapport with the neighboring community and with AMS staff.
- Periodic Odor Committee meetings are held to review odor data, reports and protocol related to corrective action taken to eliminate off-site odor. Some of the programs resulting from the work of the Odor Committee include:
    - Seasonal adjustments to process control variables to minimize odor.
    - Standard operating procedures that focus on odor control.
    - Continuous use of an odor reducing chemical (sodium permanganate).
- To further reduce odor sources, capital facilities will be built to allow for continual pumping and thickening of the primary sludge. This project will not only eliminate a potential odor source, but will also provide a more uniform feed to the digesters.

8. *Cogeneration System*

The Cogeneration facility utilizes excess digester gas as fuel to generate electricity. In fiscal year 2008, the facility utilized 6,954,000 standard cubic feet of digester gas and generated 214,476 kilowatt hours of electric energy. However, by the end of fiscal 2008, the cogeneration facility was no longer operational as the facility operator/contractor had closed both the cogeneration facilities at the Northeast and Southwest plants. Future plans call for using similar approaches to capture and use the energy of the excess digester gas. A consultant is currently entering into the detailed design phase for cogeneration facilities at the Northeast plant, with start-up scheduled for calendar year 2011.

F. Southeast WPCP

1. Service Area

The Southeast WPCP service area includes the eastern portion of Center City, the eastern portion of South Philadelphia, a portion of North Philadelphia, the majority of Kensington/Richmond, and the central portion of Germantown/Chestnut Hill. The Philadelphia Naval Base and a small portion of Springfield Township in Montgomery County are also served by the Southeast WPCP.

2. Capacity and Performance

The plant provides treatment for an average annual design flow of 112 mgd and a peak flow of 224 mgd. The average daily flow to the plant in fiscal year 2008 was 81 mgd. Plant performance meets or exceeds NPDES requirements. Effluent concentrations of less than 10 mg/1 for BOD and TSS are consistently achieved. Total residual chlorine levels are also below permit requirements. In fiscal year 2008, there were no odor complaints.

As indicated in the NPDES permit, specific projects are detailed to further increase the capture and treatment of combined sewage. For the Southeast WPCP, the permit identifies one capital improvement project, Real Time Control (RTC) and Flow Optimization for the Southeast Drainage District, a city wide control system. Projects that reduce the frequency and volume of CSO discharges in the Southeast Drainage District are detailed in the Annual Status Report and submitted to PaDEP.

3. Liquid Stream Process

Liquid stream processes of the plant facilities include: influent pumping, bar screens, grit removal, pre-aeration, primary clarifiers, air activated sludge process in covered aeration basins, final clarifiers, chlorination, and effluent pumping. Screenings and grit removed from the process are trucked to the Southwest WPCP for processing and ultimate disposal to a landfill.

Since 1996, reduced secondary system organic loadings have allowed plant staff to operate the secondary system without the existing cryogenic oxygen generation facility. The system is now operated in an air activated sludge mode, using the mechanical aerators and blowers for aeration.

Sludge from the Queen Lane Water Treatment plant is discharged to the Southeast plant. The characteristics of this sludge reduce available phosphorous for the activated sludge process. Therefore, phosphoric acid is added to assure proper nutrient levels are maintained. In order to reduce chemical costs, the Department may shift some of the water plant sludge to the Northeast WPCP. This is possible because there are points in the collector system where flow can be sent to either plant. Since the water plant sludge contains solids, removal of these solids may impact the percent removal levels for the Southeast WPCP. This will be closely monitored to assure NPDES permit compliance is met.

4. Sludge and Scum Stream Process

Primary sludge is pumped to a wet well in the sludge pumping station by pumps located in sumps at the primary clarifiers. Waste activated sludge is pumped to sludge storage tanks. Separate sludge transfer pumping systems are provided for primary and waste activated sludge. Two eight-inch force mains convey the sludge to the Southwest WPCP for processing. Both systems are located in the pump room of the sludge pumping station.

Scum and grease from the primary and secondary clarifiers are pumped to scum concentration tanks. The scum is collected and trucked to the Southwest WPCP for separate processing and ultimate disposal to a landfill.

5. Facility and Utility Maintenance Projects

Projects recently completed, ongoing or planned at the Southeast plant include the following:

- Grit and Screenings Handling System upgraded - complete
- Removal cryogenic oxygen generation system - complete
- Overhaul of 6 (out of 32) aeration mixer units - complete
- HVAC Improvements to Multiple Buildings Phase I - complete
- Aeration Tank expansion joint repair and gallery wall rehabilitation - complete
- Rehabilitation of primary tanks - complete
- Repairs to Chlorine Mixing Chamber and New Mixers - in construction
- Renew low voltage switchgear Access Buildings 5 & 6 - in construction
- Rehab of Grit Collecting Equipment - in construction
- Overhaul 4 aeration mixer units (32 total units, 6 already rebuilt) - maintenance project Fiscal 2009
- Rebuild influent pump # 2 - maintenance project Fiscal 2009
- Replace influent pumping station bar racks - in design

- Modify scum transport from concentration building - in design
- Replacement of waste activated sludge pumps, sludge grinders and primary sludge pumps - in design
- Conversion of chlorine tank shed to maintenance shops and offices - in design
- Rehab high mast lighting - in design
- Rehabilitate or replace sludge force mains (portion under the river) - in design
- Roof replacement Administration and Maintenance building - in design
- Rehab HVAC system phase II - in design

6. Operation and Maintenance

The plant operates continuously and has an authorized staffing level of 68, including four certified operators. There are two staff vacancies. Control of the plant is performed through the Process Control Center (PCC). The PCC houses a digital computer and operator interface equipment. The PCC operator has unit process CRT graphic displays available at the Central Computer Console. The computer can control the influent and effluent pumping stations, primary sludge pumping, final clarifier scum collection, return and waste activated sludge and disinfection systems.

A maintenance management system, known as MAXIMO, is utilized to plan, schedule and track all maintenance activities for process equipment. Planned maintenance work is averaging 92 percent of the total maintenance work orders. Major equipment uptime is greater than 90 percent. The Southeast plant has a predictive maintenance program that includes equipment vibration testing, oil analysis and infrared testing of electrical equipment.

The status of plant tankage, conduits, buildings and structures is tracked through the Capital Facilities Assessment Plan (CFAP). The CFAP identifies critical assets within the plant that need to undergo detailed inspection. Assets are cataloged, and inspections are programmed over a ten year period. . The MAXIMO system is used to generate inspection work orders. Results of facility inspections are used in the capital planning process.

A number of process and operations programs have been instituted which have resulted in substantial cost reduction and safer operation. Highlights of these modifications include:

- The operation of the secondary treatment process on atmospheric air rather than cryogenic oxygen continues to save electrical power. The program also reduces the maintenance requirements and the need for specialized technical service contracts.

- Energy Management initiatives such as off-peak operation, load shedding, and energy efficient lighting continue to save energy.
- On line analyzers for return activated sludge and mixed liquor suspended solids allow for more precise process control and reduction of chemicals.
- Participation in a Department apprenticeship program has brought in some new talent in the trades area.

G. Southwest WPCP

1. Service Area

The Southwest WPCP serves the western portions of Philadelphia and areas in eastern Delaware and southeastern Montgomery counties.

2. Capacity and Performance

The Southwest plant was designed to handle an average annual flow of 200 mgd and a peak flow of 400 mgd. Future plans call for the treatment of more flow during storm conditions. In order to accept more flows beyond 400 mgd, a variety of hydraulic bottlenecks will need to be eliminated. The limiting hydraulic factors include, conduits linking the primary clarifiers to the aeration basins, influent pumping station, and the plant effluent conduit.

The NPDES permit for each WPCP calls for the CSO Long Term Control Plan to be updated by September 1, 2009. This updated plan will address hydraulic limitations at the Southwest WPCP and discuss options. In addition the permit specifies capital improvement projects to increase the capture and treatment of combined sewage. Projects that relate to the Southwest WPCP drainage district are summarized in the Table IV-5.

During fiscal year 2008, the plant treated an average of 174 mgd. Plant performance is well below permit limits with effluent concentrations consistently below 10 mg/l for CBOD and TSS. Total Residual Chlorine (TRC) levels are also below permit requirements. In fiscal year 2008 the plant had no odor violations.

Table IV-5 CSO Projects Related to the Southwest WPCP		
Project	Schedule	Status
Real Time Control Center Rehabilitate the monitoring network	9/1/2010	Underway
Real Time Control Center Complete construction of projects designed to improve the capacity of the collector system and reduce the frequency and volume of CSO discharges	Update completed projects as part of the Annual Status Report	Ongoing
Real Time Control Center Main Relief Sewer Storage	Complete construction by 9/1/2008	Complete
Dobsons Run Eliminate CSO	9/1/2010	Underway
Replace caulking in the secondary clarifier launders to improve flow distribution	9/1/2008	Project complete
Main and Shurs Lane Eliminate CSO	9/1/2012	Design nearly complete

3. Liquid Stream Process

The plant liquid stream processes include influent pumping, screening, grit removal, pre-aeration/flocculation, primary clarification, secondary treatment using pure oxygen activated sludge, secondary clarification, effluent pumping, and disinfection.

The Southwest WPCP also receives water plant sludge from the Belmont facility and is the only plant to receive septage. The septage receiving program is monitored by the on-site laboratory and the Industrial Waste unit.

Over the past several years, the Water Department has implemented numerous upgrades and improvements to the Southwest WPCP. Key projects that have recently been completed, are currently in progress, or are planned include the following:

Completed Projects:

- Rebuilt bar screens
- Replaced hydrogritter assemblies
- Aerated influent channel - air diffuser repair
- Motor control center primary tank #1 - install PLC

- Primary settling tanks - repair to upper influent gates
- Rehabilitation of primary tank collection equipment
- Cryogenic Plant Main Air Compressor - inspect/rehabilitate rotating assemblies
- Replace return sludge pumps and flow meters
- Replacement of waste activated sludge line
- Rehabilitate final tank collection equipment

Ongoing Projects:

- Rehabilitate grit tanks
- Rehabilitate primary tank electrical system
- Replace return sludge line
- Replace sludge collection lines
- Rehabilitate piping and controls - LOX storage facilities

Planned Projects:

- Install sluice gate effluent pumping station

4. Sludge Stream Process

Waste activated sludge (WAS) from the Southwest plant is combined with WAS from the Southeast plant in mixing Chamber No. 1 and sent to the dissolved air flotation (DAF) tanks for thickening. The DAF thickened WAS is combined with primary sludge from both the Southwest and Southeast plants in Mixing Chamber No. 2. From there, the blended sludge is delivered to the digesters. After digestion, the sludge overflows into a sump where it is pumped to the Biosolids Recycling Center (BRC) for final processing. As previously noted, the Department privatized the operation of the BRC. The transition has not impacted the solids handling and transporting conducted by the Southwest WPCP.

Key improvements to the sludge stream process at the Southwest WPCP that have recently been completed, are currently in progress, or are planned include:

Completed Projects:

- Digester cleaning - cleaned five in fiscal 2008
- Replaced three mixed sludge pumps

Ongoing Projects:

- Replace sludge gas piping

Planned Projects:

- Digester cleaning - two are planned for fiscal 2009
- Rehabilitation of Waste Gas Burner System

5. Facility and Utility Maintenance Projects

The Water Department has also executed or planned upgrade projects to the general facility of the Southwest WPCP. Key improvements that have recently been completed, are currently in progress, or are planned include the following:

Completed Projects:

- Rehabilitate plant water electrical system

Ongoing Projects:

- Door replacement facility wide
- Replace/repair roadway lighting
- Inspect, test and calibrate electrical power system

Planned Projects:

- Replace switchgear in PTB and compressor buildings
- Replace roofing north and south digester buildings

6. Operation and Maintenance

The plant is continuously operated seven days per week. Approximately 126 total staff, including administrative, operations, and maintenance personnel are employed at the Southwest facility, including four certified operators. Currently, there are 10 vacant positions; however, all shift positions are filled, and there are no critical vacancies. The plant also participates in a Department wide apprenticeship program, and there are four interns currently serving in the program. Participation in a Department apprenticeship program has helped attract talented skilled trade professionals.

Main control of the plant is performed by the operating staff. Operators are assigned responsibility for key plant facilities with dedicated operator stations. The stations are equipped with computer monitors to assist the operators in making decisions regarding process control. The process control computer system has recently been upgraded. The system monitors all unit processes and currently controls the following operation parameters:

- aeration tank oxygen feed
- return sludge pumping
- activated sludge wasting
- secondary scum collection
- effluent hypochlorite dosing
- effluent pumping station
- digester tank feeding
- dissolved air flotation thickening

Future unit processes to be automated will also include the primary scum collection and the primary sludge pumping. An on-site process control laboratory is used to check operating parameters. The process engineering staff analyzes data, determines operating set points, and establishes operating procedures.

The NPDES permit held by the WPCP calls for the development and updating of the Operations and Maintenance Plan, which must include standard operating procedures (SOPs). The plan and the SOPs have undergone review and modifications during fiscal year 2008.

Plant staff is utilizing a computerized maintenance management system (MAXIMO) to plan and schedule all maintenance activities. For calendar year 2008**,** 90 percent of the maintenance work orders were planned. An aggressive predictive maintenance is also managed by plant staff. In fiscal 2008, vibration checks were made on 200 pieces of equipment, and thermography was performed on another 770 equipment items. All information obtained from the predictive maintenance activities is loaded into MAXIMO to build upon the equipment history database.

The status of major plant infrastructure, including all tanks, conduits and buildings, is tracked through the Capital Facilities Assessment Plan (CFAP). The CFAP identifies critical assets within the plant that need to undergo detailed inspection. Assets are cataloged, and inspections are programmed over a ten year period. The MAXIMO system is also used to generate inspection work orders and results of facility inspections are used in the capital planning process. Four digester tanks were inspected under this program in fiscal 2008.

In addition to maintenance efforts, plant staff has made changes to increase plant efficiency and has continued energy reduction and other saving initiatives. Examples of their efforts include:

- Better utilization of digester gas has allowed the 22 building campus to be heated with only digester gas. No fuel oil is utilized.
- Using respiration studies, it was possible to place 22 mechanical mixers in reserve status with an estimated annual savings of $480,000.
- The facility has a 1 megawatt load shed agreement with PECO. The agreement has been utilized and treatment standards were not compromised. Annual savings are $60,000.
- The operating levels of the Effluent Pumping Station were raised to increase the efficiency of the pumps and reduce pumping requirements.

- Plant staff is reviewing approaches to downsize the oxygen generation equipment and believes the units are currently oversized. With smaller generating units, the demands can be met at reduced energy levels.
- Increasing digester gas production by allowing airport de-icer to be fed directly to the digesters.
- Procurement and use of a special chopper pump to facilitate digester cleaning. Contract costs are reduced and the pounds of return centrate from dewatering are lessened.
- Grit handling and conveying procedures have been streamlined. This has resulted in labor savings and better housekeeping.

7. *Digester gas utilization*

The Cogeneration facility built in 1993 is no longer operational. The contracted company ceased operation in 2006 and left the site in 2008, and the facility has been demolished. Investigations continue to develop techniques to increase digester gas production, including all digester gas not used for HVAC purposes on site being sent to Philadelphia Biosolids Services for use in their sludge drying facility. This facility is scheduled to come on line in calendar year 2012.

H. Biosolids Recycling Center

1. *Introduction*

Philadelphia terminated the ocean disposal of biosolids in 1980. The end of ocean dumping meant that the City had to develop alternative methods of biosolids management. The first step taken was to establish an interim biosolids composting facility next to the Southwest WPCP. After completing detailed investigations, the City constructed a centralized biosolids dewatering and composting facility to handle the biosolids processing requirements associated with all three treatment plants. The Biosolids Recycling Center (BRC), formerly known as the Sludge Processing and Distribution Center, was completed in 1989. To facilitate the Water Department's long-term strategy to produce only Class A material at the BRC and reduce capital costs to attain that goal, the facility was privatized in October 2008.

2. *Biosolids Process Operations*

Digested biosolids pumped from the Southwest plant and digested sludge barged from the Northeast plant is delivered to three, one-million gallon biosolids storage tanks adjacent to the centrifuge dewatering building. The liquefied biosolids are pumped to the dewatering facility and centrifuged. The generated cake is used in a variety of programs, including composting, landfills, strip-mine reclamation, and farm application. All centrate is returned to the Southwest WPCP.

In preparation for the transition to privatization, the composting operation ended in February 2007, and compost screening ended in October 2007. The Class B biosolids have continued to meet all of the requirements of volatile solids destruction and vector attraction.

For fiscal year 2008 the dewatering processes performed well. Table IV-6 details the dewatering process parameters.

Table IV - 6

DEWATERING PROCESS PARAMETERS

Parameter	NE	SW	Total
Cake %TS	27.7	30.4	
Centrate %TS	0.18	0.15	
Feed %TS	2.29	2.28	
% Recovery	93.4	93.6	
Active Polymer Dose (LB/DT)	16.6	13.2	
Actual Polymer Dose (LB/DT)	40.6	32.6	
Centrate to SW (DT/Day)			8.6

3. Product Utilization

In 2008, the compost material and biosolids cake were utilized in a variety of ways. Table IV-7 summarizes product utilization.

Table IV-7

TOTAL WET TON DISTRIBUTION : JULY 2007 - JUNE 2008 (FY- 08)

PROGRAM	WET TONS	PERCENTAGE
Landfill	93,516	43.4%
Strip-mine	35,258	16.3%
PA-AGR	33,829	15.7%
MD-AGR	34,870	16.2%
VA-AGR	18,204	8.4%
	215,677	**Total Wet Tons**

a. Landfill Disposal

Disposal of biosolids is confined primarily to the winter season and periods of inclement weather or diminished need for nutrients by landowners. Philadelphia uses landfills that are privately-owned facilities -- contracted by Waste Management -- accepting municipal solid waste and that co-mingle the biosolids with the waste during daily disposal activities.

b. Strip-mine Reclamation

Reclamation of land stripped during coal mining activity with biosolids is one of Philadelphia's longest-standing recycling programs. In the past year, a portion of the biosolids was used in a tree farming application on the strip mined lands. Using a covered trench system, fast growing poplar trees are planted. This application can be accomplished year round, and preliminary results are very encouraging. The project is currently located in Schuylkill County, PA, in the anthracite coal region. The contractor is Waste Management and Processors, Inc., an affiliate of the Reading Anthracite Company.

c. Pennsylvania Agricultural

For over two decades, Philadelphia has made its biosolids available to farmers in southeastern Pennsylvania for fertilizing farmlands growing feed for sale to dairy and poultry operations. The contractor for this program is Mobile Dredging.

d. Maryland Agricultural

In 2001, Philadelphia enlarged its biosolids recycling program by expanding the agricultural use of biosolids nutrients to farms in the Maryland portion of the Delmarva Peninsula. These farms typically grow food for poultry producers that operate in the region. The contractor for this program is Synagro Technologies, Inc.

d. Virginia Agricultural

In early 2008, a program was initiated that expanded biosolids application to agricultural land in Virginia. The Virginia program operates during the winter and summer months when the demand for biosolids in Maryland and Pennsylvania are low. The addition of this program has significantly reduced the seasonal biosolids stockpiles, and has also reduced the amount of biosolids that will need to be taken to landfills. The contractor for this program is Synagro Technologies, Inc.

4. Operation and Maintenance

The BRC operates continuously Monday through Friday utilizing 15 shifts. Many of the unit processes are automated including polymer mixing, centrifuges, centrate system, mixing conveyors, and compost screening.

Preventive maintenance is actively practiced at the BRC. The unit utilizes MAXIMO for preventive maintenance scheduling and tracking work orders. Predictive maintenance is performed by a third party.

Since 2005, there have been only three odor violations, with all three occurring in fiscal year 2006, as noted in Table IV-8. This reduction is due to BRC staff maintaining a proactive approach to minimize odors. BRC odor monitoring is reported as part of the Title V Air Operations Permit that has been granted to the combined site of BRC/Southwest WPCP.

Table IV-8

Fiscal Year	Odor Violations
2005	0
2006	3
2007	0
2008	0

5. Privatization

a. Overview

The Department had been evaluating the privatization of the BRC operations for some time, based on the indicated cost effectiveness of such a change in operations and the decision to provide only Class A biosolids products in the future. In October of 2008, the Department entered into a 25 year contract for the private operations of the BRC. Under the terms of the contract, the Department will lease the BRC land and facilities to the private company, Philadelphia Biosolids Services. The lease encompasses the required land and facilities, and the company will operate the leased facilities and utilize developed sludge outlets at their discretion, build a pelletizing plant to produce class A biosolids within five years, and operate the pelletizing plant for a period of 20 years. At the end of the 25 year contract, all facilities and equipment will be turned over to the Department.

b. Contract Parameters

An outline of the contract schedule, contractor obligation, department obligation and transition assessment is as follows:

Schedule

Approval by City Council	6/19/2008
Service Agreement Date Signed	10/7/08
Commencement Date of Contract Operations	10/11/2008
Transition to Final Class A Pelletization	10/11/2008 - 2011 (fourth quarter)
Class A Operations	2011 (fourth quarter)-2033
Contract Termination	2033

Obligations of the Contractor

- Provide transition plan
- Security plan
- Staff facility
- Submit a comprehensive safety plan
- Emergency spill cleanup plan
- Nuisance mitigation plan
- Site acquisition plan for agricultural utilization sites
- Interim period operation plan
- Operate leased facilities
- Manage the reuse and disposal of the Class B product
- Provide required reports and records of Biosolids Applications
- Return to the Southwest WPCP agreed upon flow and loadings of centrate
- Generate operating reports
- Obtain and maintain site approvals and permits
- Implement a computerized maintenance management system
- Provide all required predictive and preventive maintenance
- Repair/replace equipment as needed
- Maintain all rolling stock
- Maintain the utility infrastructure
- Furnish and install pelletizer facility

- Start up and pass acceptance tests for the pelletizer facility
- Continue to operate the existing facilities and the pelletizer facility

Obligations of the Department

- Review and provide input to all planning documents
- Perform operability processing capacity demonstration for the dewatering equipment
- Provide up to 70,000 dry tons/contract year at an average solids concentration of 2.5% of anaerobically digested sludge
- Complete HVAC modifications to the dewatering facility
- Provide process and potable water to the company
- Receive centrate generated by the company
- Provide required maintenance to the Southwest WPCP pier

Transition Assessment

Philadelphia Biosolids Services assumed operation of the BRC facility in October 2008. Overall, to date the transition in operations of the BRC appears to be going smoothly. The Southwest and Northeast WPCP have experienced no interruption in their ability to send digested sludge to the privatized facility, and centrate quality from the operation has been within contract limits. All Department staff at BRC has been reassigned within the Department, except for a small percentage of the BRC staff which chose to retire from City service. Full time Department staff has been assigned to monitor the contract.

I. Wastewater Collection and Pumping

1. Organization and Responsibility

The Wastewater Collection section of the Water Department presides over an extensive urban sewer network. The section has the operational and maintenance responsibility for the sanitary, storm, combined sewers and storm water inlets within the City limits. The Wastewater Collection section also operates and maintains storm and sanitary pump stations and township wastewater metering chambers. In addition, the field work for many of the programs outlined in NPDES and Stormwater Permits is accomplished by the Wastewater Collection section. The section is sub-divided into four units. The units and their principal areas of responsibility are:

- Sewer Maintenance - responsible for maintenance and repair of sewers (storm, sanitary, combined and the Waterways Restoration Team)
- Inlet Cleaning - responsible for cleaning all storm water inlets

- Flow Control - operates and maintains all system pumping stations, combined sewer regulators, tide gates, rain gauges and township metering chambers. This unit also conducts all sewer television inspections
- Collector System Support - provides administrative and technical support to the other operating units and includes the Defective Lateral Detection and Abatement group

2. *Sewer Maintenance Unit*

The Sewer Maintenance Unit maintains the City's network of sewers which includes all storm, sanitary and combined sewers. Additionally, the unit is responsible for repairs to storm water inlets, manholes, sewer cleaning, and relieving choked sewers. In July 2003, the responsibility to maintain Drainage Rights of Way was transferred from the Water Department to the Fairmount Park Commission. At the same time, the Sewer Maintenance unit accepted the responsibility of waterways restoration. The Waterways Restoration Team covers all city streams and creeks. Their responsibilities include general inspection, debris removal, culvert cleaning, plunge pool filling, bank stabilization, outfall repair and seasonal operation of the Department's floatable removal boat.

The authorized staff level for the unit is 191. Currently, there are 15 vacancies, including critical vacancies for heavy equipment operators and brick masons. Table IV-9 contains a summary of the Sewer Maintenance Unit work order history.

Table IV -9 Sewer Maintenance Unit Work Order History

Maintenance Category	Fiscal Year			
	2005	2006	2007	2008
Sewers and Laterals Examined	12,385	10,694	11,444	13,261
Waterway Restoration- tons of debris removed	701	424	442	364
Inlets Reset and Reconstructed	11,961	10,837	9,988	11,270

To more effectively provide service, the Sewer Maintenance Unit was reorganized. Crew sizes have been reduced, and the number of crews has increased to 44, enabling the unit to more consistently manage their work order backlog. The reorganization has also allowed the unit to dedicate two crews full time to planned work. These crews perform proactive inspections to uncover and identify problems prior to CCTV video inspections. The inspection crew has recently further increased their diagnostic capabilities by utilizing quick view cameras. These cameras are lowered in the manhole and provide valuable information without the need for a confined space entry.

The Sewer Maintenance Unit has executed contract work to reduce root intrusion of sewer lines. In fiscal year 2006, two hundred and fifty-three locations (53,000 linear feet) were chemically treated to remove root growth. This work was performed by contract. Results of this chemical treatment are now being evaluated to determine future activities.

3. Inlet Cleaning Unit

The Inlet Cleaning Unit is primarily responsible for the inspection and cleaning of over 78,572 storm water inlets, the maintenance of inlet covers (retrieving, replacing, and locking) and for the relieving choked inlet traps and outlet piping. The Inlet Cleaning Unit has an authorized staff of 108 and a current vacancy level of 19, including critical vacancies for heavy equipment operators. Table IV-10 contains a four year summary of inlet cleaning. The % planned work represents the fact that the vast majority of the work was of a planned or scheduled nature as opposed to being reactive or emergency type activities.

Table IV-10 Inlet Cleaning

Fiscal Year	Inlets Cleaned	% planned work	Response time (days)
2005	76,865	--	--
2006	76,721	88	3.4
2007	78,478	90	3.2
2008	75,804	91	3.8

4. Flow Control Unit

The Flow Control Unit is responsible for the operation and maintenance of the combined sewer overflow system, the remote wastewater and stormwater pumping stations, the remote odor control facilities, the wastewater metering chambers, and the rain gauge network. The unit also performs all CCTV sewer inspections. The Flow Control Unit has an authorized staff 92 and 13 current vacancies, including critical vacancies for instrumentation and electronic technicians.

a. Combined Sewer Overflow Program

As previously mentioned, the Departments Office of Watersheds is responsible for the development of the Combined Sewer Overflow (CSO) Program. The Flow Control Unit is tasked with a significant amount of operation and maintenance activities to support the CSO Program.

The Flow Control Unit controls 177 CSO points in its collection system (one was recently eliminated as a component of the Department's CSO LTCP). The combined system also consists of 89 tide gates associated with CSOs, 26 storm relief structures (diversion chambers), 5 siphons, related wastewater control devices and a city-wide remote monitoring system.

Combined systems were designed so that during dry weather all wastewater is conveyed to the sewage treatment plant. However, during certain rain events, the additional stormwater exceeds the capacity of the collection system and/or wastewater treatment plant. Therefore, during these rain events, the combined system was designed to discharge, or overflow, the excess storm water/wastewater mix directly to local waterways. This flow condition can also occur during dry weather, and are referred to as dry weather overflow events (DWOs). Eliminating DWOs is a primary objective of the CSO program.

Table IV-11 provides a five year history of DWOs, which have been generally decreasing after reaching a local maximum in 2005.

Table IV-11 DWO Activity

Fiscal Year	2004	2005	2006	2007	2008
Dry weather overflows	8	33	18	13	16

The Flow Control Unit has increased remote monitoring of CSOs over time. Currently, over 220 level and flow monitors are in place at 142 sites. At the end of fiscal year 2008, eighty percent of the CSO monitoring sites were operable.

To further enhance the capture of CSO volume, the Water Department, through the Flow Control Unit, established a Real Time Control (RTC) center at its Fox Street facility, one of the capital programs detailed in the CSO Program LTCP. The RTC will consolidate a variety of existing monitoring/control systems (remote pump stations, CSO structures, rain gauges and inter-district diversions).

Capital projects related to the Flow Control Unit are listed below:

- Manayunk Sewer Basin Project - in design
- Poquessing Interceptor Overflow Storage Tank - in design

- Flow Automation of Cohocksink System - in design
- Tacony Creek Rock Run Relief Sewer Inflatable Gate and Controls - in construction
- Modifications to S-45 Regulator 67th & Essington - bid
- Modifications to Wingohocking Sewer Ramona Avenue T-14 Regulator - bid
- New Metering Chamber 51st& City Line Avenue - in design
- Rehab Odor Control Station Upper Schuylkill East - in design

b. Sewer Assessment Program

The Flow Control Unit currently has seven crews dedicated to CCTV inspection of sewers. The certified (NAASCO Pipeline Assessment Certification Program) crew technicians create a video record for each sewer segment inspected. This video contains their observations regarding any sewer defects in accordance with consistent defect code standards. All inspections for the day are wirelessly downloaded from the truck onto a server. The information is tied to the GIS system and made available to Department staff for design, hydraulic analysis and field troubleshooting purposes. Selected crews have access to the GIS system from truck mounted laptops.

The Flow Control Unit's goal is to perform these inspections in a production mode and inspect 150 miles of sewer annually. A five year inspection history is provided in Table IV-12.

Table IV-12 Sewer Inspection Miles

Fiscal Year	2004	2005	2006	2007	2008
Water Dept. Crews	48.8	60.5	59.3	53.5	56.1
Contractor Crews	110.2	---	---	---	---
Total Miles	159.0	60.5	59.3	53.5	56.1

The use of contractor inspection for sewer inspection was discontinued in 2005. Contractor inspection reporting techniques (raw data, hardware and software) could not be made compatible with the Department's information systems. The Department elected to utilize internal staff for this activity and is reviewing options to increase inspection production.

c. Wastewater/Stormwater Pumping Stations

The wastewater system includes 16 sanitary pumping stations (13 City-owned and 3 owned by others but operated by the City) and 3 stormwater pumping stations that are operated and maintained by the Flow Control Unit. The wastewater pumping stations range in capacity from 0.2 mgd to 195 mgd, and the stormwater pumping stations range in capacity from 6 mgd to 832 mgd. All the pumping stations are automated and remotely monitored. Each station has an emergency standby generator. Preventive and predictive maintenance is routinely practiced, and approximately 85 percent of the maintenance work orders are planned. Main pump equipment availability averaged 99.5 percent in fiscal year 2008. The Pumping Unit is in the process of implementing computerized maintenance management system software to schedule O&M and capital inspections for the 16 pumping stations.

Capital projects planned for the remote pumping stations include rehabilitation of the Belfry Drive and Rennard, Linden Avenue and Central Schuylkill wastewater pumping stations and rehabilitation of the 26th and Vare stormwater pumping station.

d. Odor Control

The Flow Control Unit operates and maintains two remote odor control facilities. Both facilities utilize sodium hypochlorite to eliminate the buildup of hydrogen sulfide, thereby reducing odors and protecting the sewer structure. Facilities are remotely monitored and are routinely inspected. The dosing station located at the Queen Lane Raw Water pumping station injects the solution into the Upper Schuylkill East interceptor. The dosing station at the Totem Road pumping station injects the solution into the Bucks County force main.

e. Wastewater Metering Chambers

The Flow Control Unit maintains 26 chambers for the metering of flows from the surrounding communities. The sites are routinely inspected, and flow meter calibration is done annually. All flow signals are telemetered to the Real Time Control Center (RTC). Operational availability for these metering chambers averaged 99 percent.

f. Rain Gauge Network

The city-wide system is operated and maintained by the Flow Control Unit. There are 24 gauges which are routinely polled by the computer system at Fox Street. Rain gauge information is used to estimate CSO discharge volume for PaDEP reports, modeling sewer hydraulics and analyzing storm sewer capacity. The gauges are routinely serviced and calibrated annually.

5. Collector System Support

The primary function of the Collector System Unit is to provide technical expertise to the operating units through engineering evaluations and studies. The unit investigates complex drainage and flooding problems, and also conducts hydraulic analysis of the collector system through field surveys and computer aided calculations. In addition, the Collector System Support Unit is also responsible for the management of maintenance contracts for collector system equipment and oversees the defective connection program. The unit has 27 positions and 9 vacancies. The Collection System Support Unit's major projects and programs include defective lateral detection and abatement, information and work order management, and manhole identification.

a. Defective Lateral Detection and Abatement Program

The program was initiated in fiscal year 1994 to insure Water Department compliance with the NPDES Stormwater permit. The 17 employee group performs a variety of tasks with the goal of identifying, tracking and eliminating sanitary flow into the storm system. The number of cross connections abated since the inception of the program and in fiscal year 2008 was 837 and 53, respectively. It is estimated that the program has eliminated 117.6 million gallons per year of sewer flow. Through June 2008, the group had tested 35,283 properties, found 995 illicit connections of which 837 have been repaired. Quarterly and annual reports on the program are provided to the PaDEP.

b. Information and Work Order Management

Within the collector system organization there are a variety of systems used to manage complaints and maintenance activities. Examples include Inlet Cleaning ICOIS, Sewer Maintenance SMOIS, and Remote Pump Stations PUMA. It is the Water Department's intent to unify these and other street maintenance systems with the existing customer information system. The Collector system support unit is part of this initiative.

c. Manhole Identification

The Collector System Support Unit recently completed a manhole numbering project. All manholes (approximately 85,000) within the City's drainage basins have been numbered. The numbering system allows for consistency with all TV inspection work and facilitates manhole identification for field crews. The numbering system resides in the Department's Engineering Record Viewer (ERV).

J. Toxics Reductions and Control

Under the National Pollutant Discharge Elimination System, the City is required to regulate industrial waste discharged to the wastewater collection system. The primary function of the Water Department's Industrial Waste Unit is to ensure compliance with federal industrial pretreatment standards. The unit handles a wide variety of additional assignments including:

- monitoring wastewater characteristics from townships
- determining industrial surcharges
- investigating spill incidents
- managing the Department's hazardous chemical storage tanks compliance program
- overseeing the sewer rental factor program
- administering the Department's hazardous waste removal contracts
- pretreatment support required for the Department's CSO program efforts
- stormwater sampling services as part of the illicit connection program detailed in the stormwater permit.
- assisting PaDEP to control storm quality from industrial activities - pertains to storm flows from industrial sites discharged to the municipal separate sewer system.
- administering the Department's polychlorinated biphenyl pollutant minimization plan (PCP PMP)
- issuing septage permits
- overseeing the groundwater discharge program (groundwater contaminated with petroleum products)
- supervising the manhole pump out program (permits are issued to utilities to ensure pump out water is not directed to storm sewers and is not contaminated)

There are seventeen positions budgeted for the unit and four vacancies. The most critical vacancies are for industrial waste control technicians.

The Water Department's pretreatment program dates from 1980 and has grown in scope. A formal permitting system is in place that addresses federal requirements and the impacts of each industrial discharge. Significant industrial users (SIUs) are subject to local limits which take into account the industry's potential for adverse impact to treatment plant performance, permit compliance, and sludge disposal options. Significant industries are distinguished from categorical industries, the latter of which are federally-identified industries in specific categories such as metal finishing and electroplating, which are subject to published federal categorical pretreatment standards. Local limits are currently being revaluated to assure protection of the water pollution control plants as part of an NPDES permit requirement.

The Water Department has issued final discharge permits to all categorical and significant users, over 140 permits have been issued. The identification of SIUs is an ongoing process. Permitted industries, through their self monitoring and reporting obligations, provide the bulk of data used by the Industrial Waste group to ascertain compliance with effluent standards. The Industrial Waste Unit samples and inspects each permitted user at least once annually.

The Industrial Waste Unit utilizes the self-monitoring and its own monitoring information to assure compliance, and most of the categorical and significant users are complying with their limitations. However, during fiscal year 2008, eight were reported to the EPA as being in significant non-compliance for calendar year 2007. The unit's pretreatment program is computerized including the review of industrial directories to identify candidate SIUs, review of compliance status and generation of compliance letters, and public notices of violation. The PaDEP receives an annual report on this program.

The industrial waste surcharge program assures that treatment costs associated with higher strength wastes -- greater than 250 mg/l BOD or 350 mg/l TSS -- are funded by the customer. In fiscal year 2008, over 750 samples were collected by the Industrial Waste Unit for the surcharge billing of 90 industries. Surcharge revenues for the three years are presented in Table IV-13.

Table IV-13 Surcharge Revenues

Fiscal Year	Surcharge
2004	\$4,727,367
2005	\$4,793,628
2006	\$4,241,421
2007	\$4,521,705
2008	\$4,263,678

Private septage haulers are licensed in the City and spot-checked randomly to ascertain compliance with discharge standards. The Industrial Waste Unit issues permits to septage haulers to offload at the Southwest WPCP, and all trucks are sampled prior to discharge. Chemical haulers are prohibited from discharging into the sewer collection system.

Periodic sampling of the wholesale wastewater customers, i.e. outlying townships, is conducted by the Industrial Waste Unit. Wholesale customers are billed on flow and strength of the wastewater, and in some cases, a standard strength is used for selected customers.

The Industrial Waste Unit also receives and processes applications for sewer rental factors (SRF). An SRF gives customers a credit for the amount of water not returning to the sewer system. In some circumstances, customer's flow to the sewer can be less than their intake because of water loss in manufacturing processes or inclusion of water in their final product. Applications are received, reviewed, modified and approved by the unit.

The Industrial Waste Unit's responsibilities also include administration of a polychlorinated-biphenyl pollutant minimization plan (PCB-PMP). The plan was created to address the concerns of the Delaware River Basin Commission (DRBC), and is designed to identify sources of PCBs discharged to the City's WPCPs. Recent activities under this plan included assessing sites in the tributary area that are potential PCB sources and performing analysis in the Southeast drainage district sewer system to identify these sources. Future identification efforts for the Northeast and Southwest drainage districts are planned. This is the third year of a five year program.

The Industrial Waste Unit also responds to all spill incidents, including 203 incidents in 2008. The unit has computerized the data base for spill response and remediation information for more efficient retrieval.

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V. Capital Improvement Program

A. Overview

The City of Philadelphia has for many years used a formal capital programming and budgeting process in which the Water Department participates along with all other elements of City government. Under this process, capital programs are projected forward over a six-year period and a detailed budget is adopted for the first year of the period. Both program and budget commitments are reviewed each year and modified as necessary.

The Water Department projects included in the six-year program proposed for fiscal years 2010 through 2015 involve total expenditures of $1,031,002,000 at projected fiscal year 2010 cost levels. These capital expenditures will be used to pay for the Water Department's design, construction and administrative personnel who work on the capital programs, and for improvements related to the renewal or replacement of wastewater treatment and collection facilities, stormwater flood relief programs, water treatment plant and pumping station improvements, water main rehabilitation, and other projects.

Beginning in the mid-1970s, the capital improvement program concentrated heavily on the upgrade and expansion of the City's three wastewater treatment plants, and the Biosolids Recycling Center. Tremendous progress has been made in these areas, and all major capital improvements mandated by consent decrees have been completed. Accordingly, in recent years the Water Department has refocused its energies in the areas of potable water treatment, distribution system rehabilitation, wastewater collection system rehabilitation, the combined sewer overflow Long Term Control Plan (LTCP) implementation and storm flood relief projects. Emphasis is also being placed on addressing the issues and complying with the requirements of the rules associated with the Safe Drinking Water Act Amendments, including the Public Health Security and Bioterrorism Preparedness and Response Act of 2002. The capital improvement program is managed under the Project Controls section of the Planning and Engineering Division.

B. Fiscal Years 2010-2015 Capital Improvement Program

The Water Department has initiated a comprehensive review and update of its six-year, Capital Improvement Program (CIP) for fiscal years 2010 through 2015. The goal is to encourage an organized partnership that promotes an open exchange of knowledge and ideas and engenders a "team" approach to coordination of capital projects. Additionally, the existing CIP Information Management System is being modified to provide flexibility, communication, and accountability. Finally, an improved multi-year capital budgeting process is being developed based on facility inspections, planning, and priority setting.

In Table V-1 key capital programming areas are summarized. In the sections that follow a brief discussion of each is presented.

Table V-1 Capital Improvement Program for Fiscal Years 2010-2015

Engineering and Administration[1]	$ 134,922,000
Improvements to Treatment Plants	288,000,000
Improvements to Conveyance System	131,760,000
Improvements to Collector System	136,820,000
Storm Flood Relief/ CSO	325,000,000
Vehicles	14,500,000
	$1,031,002,000

Note:
1. Engineering and Administration costs adjusted to exclude allowance for inflation.

1. Engineering and Administration

This program provides for the funding of all Engineering and Administrative personnel within the Department who are involved with the Capital Improvement Program. Fringe benefits are included in the cost projection.

2. Improvements to Treatment Plants

Upcoming improvements to water and wastewater treatment facilities, pumping stations and finished water reservoirs are included in this category. The various improvement projects and rehabilitation/replacement projects are identified in the Water Department's planning documents. Several of the projects which are included have been identified in other chapters of this report.

3. Improvements to the Conveyance System

This category encompasses the replacement of existing water mains throughout the City. It is an ongoing project that replaces aged mains and therefore reduces the likelihood of water main breaks. The preventive nature of this program puts the City in a proactive situation; the City is not left simply to react to the normal consequences of age and use. The Water Department has a goal of replacing approximately 22 miles of water mains (0.8% of all distribution mains) each year.

4. *Improvements to the Collector System*

The Collector System replacement program is an ongoing project, the purpose of which is to replace old and worn out sewers and entails the construction of new sanitary sewers to serve new or previously un-sewered developments and to relieve existing unsanitary conditions. The benefits of this program include improved hydraulics by eliminating old lines with blockages, and reductions in the likelihood of street collapse. It is also preventive in nature, and generates the same type of benefits as its counterpart in water conveyance. Lastly, this category covers the conversion of old septic tank systems to public sewers, particularly in the northwestern sections of the City.

5. *Storm Flood Relief/CSO*

These projects, which are ongoing, entail the construction of new storm flood relief sewers or storage tanks in flood-prone areas as well as projects falling under the Combined Sewer Overflow (CSO) Program and Stormwater permitting effort. The CSO Program projects are part of the multi-phase LTCP, aimed at eliminating dry weather overflows and reducing total overflows. Current projects are discussed in Chapters II and IV of this report. The benefits of these programs include controlling excessive erosion, managing the watersheds by capturing and infiltrating or conveying stormwater, reducing combined sewer overflows, reducing unplanned sewer maintenance activity, and minimizing citizen complaints related to chronic flooding. The LTCP is specifically aimed at protecting the overall water environment in the Philadelphia area and fulfilling the City's obligations under the Clean Water Act and the Pennsylvania Clean Streams Act.

6. *Vehicles*

Included in this line item are expenditures for the purchase of replacement vehicles utilized by the various units throughout the Water Department's operations. This excludes maintenance of vehicles, which is covered under a separate contract with Fleet Management and charged to expenses.

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VI. Financial Requirements

A. Overview

An evaluation of the adequacy of revenues to meet projected revenue requirements has been made for the fiscal years ending June 30, 2009, through June 30, 2015. Revenue projections for retail service customers are based on the schedules of rates for water and wastewater service, which became effective November 1, 2008. The Water Department is currently in the final stages of the second phase of the rate hearings related to retail service stormwater rates. Based upon the first phase of the rate hearings, an overall revenue increase of approximately 5.8 percent was placed into effect on November 1, 2008. Projected additional revenues from this recent increase are reflected in Table V1-8.

The rate hearings are now focused on the stormwater cost reallocation proposed for fiscal years 2011 through 2012, which is a proposed revision to the stormwater fee structure to shift from a meter based fee to a parcel area based fee for non-residential customers. The stormwater rates applicable to retail customers were transitioned to a parcel area basis during the three year period of fiscal years 2002 through 2004 based on rate hearings held in 2002. There are now adequate technological resources and an adequate billing system to accommodate this basis of charge for stormwater service to the non-residential customers on an individualized basis and to new stormwater only customers in the City. The proposed revision to the stormwater fee structure is designed to be revenue neutral and is not intended to impact the projected revenues.

Beyond fiscal year 2012, additional annual operating revenue increases are projected to be necessary to meet the Water Department's projected expenses and to comply with the rate covenant of the General Ordinance. A projected statement of revenues and expenses for the seven-year study period covering fiscal years 2009 through 2015 ("Study Period") is presented in Table VI-8 which provides an indication of the adequacy of revenues and the feasibility of issuing the Bonds and future indicated revenue bond issues and Pennvest loans under the stipulations of the General Ordinance.

The financial data used in the analyses presented herein were obtained from the Water Department's historical audited financial statements through fiscal year 2008, the approved operating and capital budgets for fiscal year 2009, year to date revenue and expense for fiscal year 2009, and the preliminary operating and capital budgets for fiscal year 2010.

The Water Department operates on a modified accrual basis of accounting. Revenues are recorded upon receipt, except revenues from other governments which are accrued as billed, and interest which is accrued as earned. Expenditures are recorded as expenses on an encumbrance basis, except debt service and lease payments which are recorded when paid.

B. Existing Rates and Rate Methodology

Under the Philadelphia Home Rule Charter, in accordance with standards ordained by City Council from time to time, the Water Department is empowered and required to establish rates for water, wastewater and stormwater service, without further authorization of the City Council, at levels which provide sufficient revenue to meet all operating expenses of the water, wastewater, and stormwater systems, including interdepartmental charges for services provided to the Water Department, and debt service requirements on all obligations issued for the Water Department, as well as other specific bond ordinance covenants.

The Water Department retained Black & Veatch in September of 2007 to assist in the development of cost of service based rates for the period of fiscal years 2009 through 2012. Rates for wholesale water and wastewater service became effective July 1, 2008, and additional increases have been noticed to the wholesale customers, becoming effective at the beginning of each of the fiscal years 2010 through 2012. The initial increase in water and wastewater rates applicable to retail customers, including residential, commercial, industrial, charities and schools, the Philadelphia Housing Authority, and municipal service became effective beginning November 1, 2008, and were based in large part on the Black & Veatch studies and the results of the first phase of the rate hearing process related to retail service. Subsequent increases for retail service customers are scheduled to become effective at the beginning of fiscal years 2010 through 2012. These rates were also a result of the findings and recommendations identified during the first phase of the rate hearing process. The overall increase in revenues projected from the wholesale and retail rate increases for these three years amounts to between 5.5 percent and 5.8 percent annually.

As indicated above, the first phase of the ongoing rate hearing process related to rates for fiscal years 2009 through 2012, has resulted in an overall revenue increase of approximately 5.8 percent which, for retail customers, became effective November 1, 2008. The increase was comprised of an overall increase of 8.4 percent in water revenues and an increase of 4.3 percent for wastewater revenues. The schedules of retail rates shown in Table VI-1 are those that were in effect as of July 1, 2007 and those which became effective as of November 1, 2008, since both sets of rates are applicable in the projection of billings and receipts in fiscal year 2009. The rates in effect as of November 1, 2008 are the basis for the "base" level of revenue projections used in this report.

TABLE VI-1

GENERAL SERVICE
WATER AND WASTEWATER RATES

Monthly Service Charges

	Water Rates		Wastewater Rates	
Meter Size	Existing Effective July 1, 2007	Adopted Effective Nov 1, 2008	Existing Effective July 1, 2007	Adopted Effective Nov 1, 2008
Inches	$/month	$/month	$/month	$/month
5/8 (a)	5.10	5.15	16.59	16.74
3/4	5.91	5.95	86.24	78.54
1	7.88	7.91	140.01	127.86
1-1/4	10.34	10.34	209.69	191.79
1-1/2	12.29	12.27	273.41	250.31
2	18.22	18.14	434.70	398.23
3	31.33	31.14	809.69	742.29
4	54.53	54.27	1,353.88	1,240.76
6	105.58	104.98	2,701.17	2,476.13
8	164.76	163.71	4,313.96	3,955.34
10	239.01	237.54	6,205.43	5,689.17
12	418.94	415.56	11,548.42	10,592.89

Quantity Charges

Water Rates		
Monthly Water Usage	Existing Effective July 1, 2007	Adopted Effective Nov 1, 2008
	$/Mcf	$/Mcf
First 2 Mcf	21.80	24.49
Next 98 Mcf	17.27	19.72
Next 1,900 Mcf	15.36	18.13
Over 2,000 Mcf	11.50	13.79

Wastewater Rates			
	Units	Existing Effective July 1, 2007	Adopted Effective Nov 1, 2008
All Billable Water Usage	$/Mcf	17.72	19.73
Wastewater Surcharge			
BOD in excess of 250 mg/l	$/lb	0.270	0.291
SS in excess of 350 mg/l	$/lb	0.247	0.306

Mcf = 1,000 Cubic Feet = 7,480 Gallons
mg/l = milligrams per liter
BOD = Biochemical Oxygen Demand
SS = Suspended Solids

(a) Approximately 96 percent of all retail customers have 5/8-inch meters.

In addition to the existing General Service rates presented in Table VI-1, special reduced rates (currently 75 percent of the General Service rates) are applicable to certain properties or customer groups such as charitable institutions, schools, and eligible senior citizens as prescribed by ordinance. Reduced rates are also applicable to the Philadelphia Housing Authority equal to 95 percent of the General Service rates. Charges are also established for municipal fire protection and private fire protection and for dischargers of high strength wastewater service.

Service to customers located outside the City is on a wholesale basis through contracts with various municipalities, authorities, and townships. The present bases of charges to the wholesale customers are set out in respective contracts for service to each customer. There are currently 10 wholesale wastewater customers and two wholesale water customers. The existing rates for the wholesale customers are based upon the cost of service study which Black & Veatch prepared for the Water Department in conjunction with the development of the retail rates which were the subject of the rate hearings discussed previously. The existing rates for wholesale customers became effective July 1, 2008, with additional increases approved for these customers effective July 1, 2009, July 1, 2010, and July 1, 2011. For purposes of revenue projections from wholesale customers beyond fiscal year 2012, the overall revenue increases shown in Table VI-8 of this report are assumed to equally apply to both wholesale and retail customers.

C. Projected Revenues under Existing Rates

Projected operating and nonoperating revenues of the Water Department are shown in Table VI-2 for fiscal years 2009 through 2015 under rate schedules for water and wastewater service for General Service customers and Contract Service customers that became effective July 1, 2008 and November 1, 2008, respectively. Operating revenues of the Water Department consist of several components, which are projected separately for the water and wastewater utilities.

Operating revenues for the water and wastewater utilities include charges for water and wastewater service to several customer classes. The General Customer group, shown on Lines 1 and 9 of Table VI-2, consists of residential, commercial, industrial, public utility accounts, senior citizens, charitable institutions, schools, and the Philadelphia Housing Authority. Projected gross billings have been developed by applying the approved schedules of rates to normalized projections of water sales and number of customers for respective classes based upon an analysis of historical trends. The projection of customer accounts reflects an annual decrease of approximately 800 accounts, equivalent to less than a 0.2 percent annual decrease of total system accounts. The projection of water sales reflects an annual decrease of approximately 1.3 percent, which includes a 1 percent annual reduction to the sales per account associated with 5/8” meter General Customers. Both the decrease in number of customers and the decrease in the use per customer for smaller accounts have been a trend which has been fairly consistent over the past several years. Revenues under existing rate levels from General Customers, which are comprised of the above mentioned accounts, reflect an adjustment to the projections of gross billings to anticipated cash receipts based on an analysis of historical annual billings and receipts.

TABLE VI-2

PROJECTED REVENUE
UNDER RATES EFFECTIVE NOVEMBER 1, 2008
(in thousands of dollars)

Line		Fiscal Year Ending June 30,						
No.	Description	2009	2010	2011	2012	2013	2014	2015
	Operating Revenue							
	Water Operations							
1	Metered Sales to General Customers	154,354	160,191	159,660	158,451	156,337	154,237	152,137
2	Municipal Service	8,221	8,668	8,668	8,668	8,668	8,668	8,668
3	Private Fire Protection	1,695	1,695	1,695	1,695	1,695	1,695	1,695
4	Public Fire Protection	5,427	5,427	5,427	5,427	5,427	5,427	5,427
5	Contract Service	7,557	7,558	7,558	7,558	7,558	7,558	7,558
6	Subtotal Water Service Revenue	177,254	183,539	183,008	181,799	179,685	177,585	175,485
7	Other Operating Revenue	11,299	12,397	12,342	11,788	11,236	10,684	10,132
8	Total Water Operations	188,553	195,936	195,350	193,587	190,921	188,269	185,617
	Wastewater Operations							
9	Metered Sales to General Customers	253,331	257,546	257,354	256,828	254,962	253,111	251,253
10	Municipal Service	14,440	14,539	14,539	14,539	14,539	14,539	14,539
11	Contract Service	28,771	28,799	28,799	27,516	27,516	27,516	27,516
12	Excess Strength Service Charge	4,893	4,978	4,864	4,751	4,637	4,524	4,410
13	Subtotal Wastewater Service Revenue	301,435	305,862	305,556	303,634	301,654	299,690	297,718
14	Other Operating Revenue	10,902	10,936	10,888	10,840	10,794	10,749	10,703
15	Total Wastewater Operations	312,337	316,798	316,444	314,474	312,448	310,439	308,421
16	Total Operating Revenue	500,890	512,734	511,794	508,061	503,369	498,708	494,038
	Nonoperating Income							
17	Interest Income - Capital Funds (a)	4,050	2,543	4,672	5,137	3,108	2,279	5,580
18	Interest Income - Operating Funds (b)	5,964	3,177	2,378	1,976	1,577	1,721	2,021
19	Total Nonoperating Income	10,014	5,720	7,050	7,113	4,685	4,000	7,601
20	Total Water Department Revenue	510,904	518,454	518,844	515,174	508,054	502,708	501,639

(a) Includes interest income on the Construction Fund and Debt Service Reserve Account. Excludes up to $4,994,000 annually in interest income on the Debt Service Reserve Account which is transferred to the City General Fund.

(b) Includes interest income on Revenue and Rate Stabilization Funds.

The historical relationship of billings to collections for the Department has been relatively stable for the past several years, amounting to an average accumulative collection factor of 97.0 percent, with 87.5 percent of billings in a given current year being collected in that same year, 9.0 percent in the subsequent fiscal year, and approximately 2.5 percent being collected in the second subsequent fiscal year. In recognition of the overall economic downturn that has impacted most of the country over the past several months, the collection factor in fiscal year 2009 (for current year collections) has been adjusted downward from recent history by 1.5 percent and is projected to return to previous levels in fiscal year 2012.

Revenues from Municipal Service, shown on Lines 2 and 10 of Table VI-2, are derived solely from water and wastewater service to various municipal entities within the City of Philadelphia and the provision of system facilities for public fire protection, shown on Line 4 of Table VI-2. The City of Philadelphia is the largest customer of the Water Department. The fiscal year 2009 revenues from the City are expected to amount to approximately $28,088,000. This includes $5,427,000 in public fire protection charges. In January 2005 the Water Department decommissioned the high pressure fire system which provided non-potable fire service to the Center City area. The high pressure system has been fully replaced by the standard pressure fire system, which has been the system actually used for fire protection in the Center City area for the past several years. The charges previously recovered from the City for the high pressure fire system were phased out during the period of fiscal years 2005 through 2008. The full costs of the high pressure system amounted to approximately $1,700,000 per year. Existing schedules of charges also include a charge for private fire protection connections to the water system, the revenue from which is shown on Line 3 of Table VI-2.

Contract water service, Line 5 of Table VI-2, consists of water sales to the Bucks County Water and Sewer Authority and to Aqua Pennsylvania (formerly the Philadelphia Suburban Water Company) on a wholesale basis. Current charges for water service provided to Bucks County are assessed on a monthly basis and include an annual fixed charge to recover allocated capital costs, a commodity charge applicable to metered usage, and a demand charge per unit of measured maximum demand. The term of this contract covers a period of 45 years and expires in 2011. Bucks County has contested the proposed water rates for the period covering fiscal year 2009 to fiscal year 2012. The parties have filed for arbitration on this issue as provided in the service agreement. At the same time, both parties have continued discussions in an attempt to resolve the related issues. At this time, the Water Department is billing Bucks County at the proposed water rates and the revenue associated with the proposed water rate increase is being accumulated in an escrow account. For this analysis, revenue projections conservatively reflect the rate levels effective as of July 1, 2007.

The charges to Aqua Pennsylvania, which commenced taking service from Philadelphia in fiscal year 2002, includes a commodity charge applicable to metered water usage for the recovery of power and chemical costs, and a fixed charge to recover all other allocable operation and maintenance expenses and capital related costs. The contract with Aqua Pennsylvania is for up to 9.5 million gallons per day (mgd) of maximum day capacity and covers a term of 25 years, through 2026.

Other operating revenue from the water operations shown on Line 7 of Table VI-2 consists largely of penalties on overdue bills for retail water service customers and miscellaneous other revenue.

Wholesale wastewater service is provided to 10 suburban customers on a contractual basis. In the 1980s, six of the largest contract customers entered into new long-term contracts with the Water Department. These contracts have terms of 30 to 35 years and require that five of the six customers make front-end capital contributions to the Water Department for the allocated share of investment in treatment and collection system facilities used in providing wastewater service to the particular customer. Contract rates for wastewater service generally consist of charges for operation and maintenance expense and certain capital costs associated with the collection and treatment facilities used in providing the service, and are now applied on a monthly basis for all customers except for Delaware County Regional Sewer Authority (DELCORA). The Water Department is in the process of discussing the terms of a new contract with DELCORA, as the current contract is scheduled to expire in fiscal year 2011. Assumptions included in the study are that service will be continued to DELCORA with annual revenues being projected at the current levels. Projected revenue from wholesale wastewater customers is shown on Line 11 of Table VI-2.

Bucks County has contested the proposed wastewater rates for the period covering fiscal year 2009 to fiscal year 2012 for both service to Bucks County and to Bensalem Township, which is now managed by Bucks County. The parties have filed for arbitration on this issue as provided in the service agreement. At the same time, both parties have continued discussions in an attempt to resolve the related issues. At this time, the Water Department is billing Bucks County at the proposed wastewater rates and the revenue associated with the proposed wastewater rate increase is being accumulated in an escrow account. For this analysis, revenue projections conservatively reflect the rate levels effective as of July 1, 2007.

Retail customers which contribute high strength wastewater are presently assessed an extra strength surcharge based upon monitored strength. Revenue from these customers is shown on Line 12 of Table VI-2.

Other operating revenues for the wastewater utility, shown on Line 14 of Table VI-2, includes penalties on overdue bills and income from permits and licenses, and other miscellaneous sources.

Non-operating revenue of the Water Department consists of interest and other income. Interest income recognizes the requirements set forth in the General Ordinance which provides for the transfer of all interest earnings from investment of the Construction Fund, the Rate Stabilization Fund, and the Debt Service Reserve Account (in excess of $4,994,000) to the Revenue Fund, in addition to the interest income earned on the Revenue Fund itself. Projections of interest income are based on the projected average balances in these funds and are considered to be available to meet the Water Department's revenue requirements throughout the Study Period. Interest rates of 3.0 percent for fiscal year 2009, 2.0 percent for fiscal years 2010 and 2011, and 2.5 percent for fiscal years 2012 to 2015 have been assumed in estimating interest income on the various operating funds and accounts, the Debt Service Reserve Account, and the Construction Fund. The projected FY 2009 estimated interest income on the Debt Service Reserve Account of $6.0 million reflects actual interest earnings through the first three quarters of the fiscal year. Total non-operating interest income available to the Revenue Fund is shown on Line 19 of Table VI-2.

D. Capital Improvements Financing

Table VI-3 summarizes the Water Department's Capital Improvement Program for fiscal years 2009 through 2015 on an encumbrance basis, that is, the total cost of each project is shown in the year that design of the project is scheduled to commence.

TABLE VI-3

CAPITAL IMPROVEMENT PROGRAM
(in thousands of dollars)

Line		Fiscal Year Ending June 30,						
No.	Description	2009	2010	2011	2012	2013	2014	2015
	WATERWORKS IMPROVEMENTS							
1	Engineering and Administration (a)	9,996	10,344	10,344	10,344	10,344	10,344	10,344
2	Water Treatment Plant Improvements	18,480	21,120	21,120	21,120	21,120	21,120	21,120
3	Distribution System Rehabilitation	21,980	21,960	21,960	21,960	21,960	21,960	21,960
4	Vehicles	1,500	1,000	1,250	1,250	1,250	1,250	1,250
5	Subtotal	51,956	54,424	54,674	54,674	54,674	54,674	54,674
	WASTEWATER COLLECTION AND TREATMENT							
6	Engineering and Administration	11,734	12,143	12,143	12,143	12,143	12,143	12,143
7	Water Pollution Control Plant Improvements	23,520	26,880	26,880	26,880	26,880	26,880	26,880
8	Storm Flood Relief	30,000	40,000	50,000	55,000	60,000	60,000	60,000
9	Reconstruction of Old Sewers	26,540	23,020	22,760	22,760	22,760	22,760	22,760
10	Vehicles	1,500	1,000	1,250	1,250	1,250	1,250	1,250
11	Subtotal	93,294	103,043	113,033	118,033	123,033	123,033	123,033
12	Total Improvements (Line 5 + Line 11)	145,250	157,467	167,707	172,707	177,707	177,707	177,707
13	Inflation Adjustment (b)	0	0	6,708	14,092	22,189	30,185	38,500
14	Inflated Total	145,250	157,467	174,415	186,799	199,896	207,892	216,207

(a) Excludes allowance for inflaction, which is included on Line 14.
(b) Cost estimates for fiscal years 2011 to 2015 are in terms of fiscal year 2010 cost levels. Allowance for inflation of 4.0 percent per year after 2010.

Costs shown in Table VI-3 reflect the estimated total costs of the various projects, a portion of which will be financed from Capital Account Deposits, transfers from the Residual Fund, and other non-bond sources such as assessments. Projected fiscal year 2010 through 2015 costs for the capital improvement program are stated at estimated fiscal year 2010 cost levels, in keeping with the manner in which the Department's six year capital program is developed. An annual inflation allowance of 4 percent has been recognized on Line 13 of Table VI-3 beginning with fiscal year 2011.

Table VI-4 shows the total projected capital improvement costs, a net cash flow adjustment, and the annual net cash financing requirements associated with the Capital Improvement Program. The cash flow adjustment indicated in Table VI-4 represents the net result of carrying forward costs which are encumbered in one year, but which do not become a cash expenditure until a subsequent year. Estimated Engineering and Administration costs are anticipated to be incurred fully during the fiscal year in which the costs are budgeted.

TABLE VI-4

ANNUAL CASH CAPITAL IMPROVEMENT FINANCING REQUIREMENT (in thousands of dollars)

Fiscal Year Ending June 30	Total Capital Improvements	Net Cash Flow Adjustment	Net Cash Financing Required
2009	145,250	(45,250)	100,000
2010	157,467	(27,467)	130,000
2011	174,415	(29,415)	145,000
2012	186,800	(24,800)	162,000
2013	199,896	(23,896)	176,000
2014	207,892	(27,892)	180,000
2015	216,208	(36,208)	180,000

Net cash financing requirements indicated in Table VI-4 are assumed to be primarily met from future revenue bond issues, Pennvest loans, Capital Account Deposits, and transfers to the Construction Fund from the Residual Fund. Projected revenue bonds and Pennvest loans are assumed to be issued to finance a major portion of the Water Department's share of costs as the encumbrances mature into actual cash payments to contractors. The annual net cash financing required for capital improvements through fiscal year 2015 is expected to be met by issuance of additional water and wastewater revenue bonds and Pennvest loans, including $140,945,000 from proposed Series 2009A Bonds (the "2009A Bonds") anticipated to be issued May 2009; $214,913,000 from proposed Series

2009B Bonds (the "2009 Pennvest Loans") anticipated to be received in equal monthly increments over the three year period covering November 2009 to October 2012; $180,000,000 of revenue bonds anticipated to be issued in August 2010; $135,000,000 of revenue bonds anticipated to be issued in the first half of fiscal year 2014; and $350,000,000 of revenue bonds anticipated to be issued in the first half of fiscal year 2015.

Table VI-5 presents an estimate of the flow of funds in the Construction Fund of the Water Department for fiscal years 2009 through 2015. Line 1 of the table shows the total amount of the proposed revenue bond issues that are to be used to finance a portion of the Water Department's capital improvement program. Lines 2 through 4 show the disposition of the proceeds of these revenue bond issues. Lines 6 through 17 of Table VI-5 show the estimated receipts and disposition of funds in the Construction Fund and the Debt Service Reserve Account. Line 8 of Table VI-5 shows the projected proceeds from the anticipated $214.9 million of 2009 Pennvest Loans. The projected proceeds from the proposed 2009 Pennvest Loans are estimated assuming equal monthly deposits during the three year period covering November 2009 to October 2012. Line 9 of Table VI-5 shows the annual Capital Account Deposit into the Construction Fund. The amount of this deposit is projected to be equal to 1 percent of the net plant investment in water and wastewater facilities. Lines 10 and 15 of Table VI-5 show transfers from the Residual Fund into the Construction Fund and Debt Reserve Account, respectively. As monies begin to flow into the Residual Fund, it is assumed that one of the most prudent uses of those balances would be to finance a portion of the Water Department's capital improvement program. Other prudent uses of Residual Fund balances could include prepayment or redemption of a portion of outstanding revenue bonds. For purposes of this report, we have shown the use of Residual Fund balances to be used as an additional source of cash financing of the Water Department's capital improvement program and the debt service reserve requirement associated with the proposed 2009 Pennvest Loans.

Lines 18 and 19 of Table VI-5 show the estimated interest earnings from the investment of the Construction Fund and the Debt Reserve Account based on respective average annual balances. As previously indicated, interest earnings rates of 3.0 percent for fiscal year 2009, 2.0 percent for fiscal years 2010 and 2011, and 2.5 percent for fiscal years 2012 through 2015 have been assumed for the Debt Service Reserve Account and the Construction Fund. The projected fiscal year 2009 estimated interest income on the Debt Service Reserve Account of $6.0 million reflects actual interest earnings through the first three quarters of the fiscal year. These interest earnings are considered as nonoperating income and are transferred to the Revenue Fund except as described below, and are used to meet annual revenue requirements of the Water Department under the General Ordinance.

Only the interest earnings in excess of $4,994,000 in the Debt Service Reserve Account are transferred to the Revenue Fund, with $4,994,000 being transferred to the Residual Fund in accordance with the General Ordinance.

TABLE VI-5

PROJECTED FLOW OF FUNDS - CONSTRUCTION FUND
WATER DEPARTMENT
(in thousands of dollars)

Line No.	Description	Fiscal Year Ending June 30, 2009	2010	2011	2012	2013	2014	2015
	Disposition of Bond Proceeds							
1	Proceeds From Sale of Bonds	140,945		180,000			135,000	350,000
	Transfers:							
2	Debt Reserve Account (a)	7,240		11,323			10,070	25,753
3	Cost of Bond Issuance (b)	4,385		5,400			4,050	10,500
4	Construction Fund (c)	129,320		163,277			120,880	313,747
5	Total Issue	140,945		180,000			135,000	350,000
	Construction Fund							
6	Beginning Balance	89,123	152,622	98,950	227,826	177,816	67,438	52,452
7	Transfer From Bond Proceeds	129,320	0	163,277	0	0	120,880	313,747
8	PENNVEST Loan Proceeds	0	47,758	71,638	71,638	23,879	0	0
9	Capital Account Deposit	18,179	18,570	18,961	19,352	19,743	20,134	20,525
10	Transfer from Residual Account	16,000	10,000	20,000	21,000	22,000	24,000	26,000
11	Total Available	252,622	228,950	372,826	339,816	243,438	232,452	412,724
12	Net Cash Financing Required	100,000	130,000	145,000	162,000	176,000	180,000	180,000
13	Ending Balance	152,622	98,950	227,826	177,816	67,438	52,452	232,724
	Debt Service Reserve							
14	Beginning Balance	115,201	122,441	134,525	145,848	145,848	145,848	155,918
15	Transfer From Residual Fund	0	12,084	0	0	0	0	0
16	Transfer From Bond Proceeds	7,240		11,323			10,070	25,753
17	Ending Balance	122,441	134,525	145,848	145,848	145,848	155,918	181,671
	Interest Income							
18	Construction Fund (d)	3,015	2,543	4,672	5,137	3,108	2,279	5,580
19	Debt Reserve Account (e)	6,029	2,718	2,927	3,692	3,692	3,883	4,435
20	Total Interest Income	9,044	5,261	7,599	8,829	6,800	6,162	10,015

(a) Amount of Debt Service Reserve Account deposit estimated based on maximum annual future debt service payment.
(b) Cost of bond issuance assumed at 3.0 percent of issue amount. Issuance cost of 2009 Bonds includes $0.95 million Original Issue Discount.
(c) Deposits equal proceeds from sale of bonds less transfers to the Debt Reserve Account and Costs of Issuance.
(d) Interest income is transferred to the Revenue Fund.
(e) Interest income is transferred to the Residual Fund in the lesser amount of $4,994,000 and actual interest earned with the balance being transferred to the Revenue Fund.

E. Projected Revenue Requirements

The annual revenue requirements of the Water Department consist of operating expenses for existing and proposed water and wastewater system facilities, including interdepartmental charges for services provided to the Water Department by other departments of the City, debt service on all obligations issued by the Water Department, projected Capital Account Deposits, and a payment to the City General Fund. In addition, revenues must be adequate to meet applicable rate covenants, as set forth in the General Ordinance.

1. *Operating Expenses*

Operating expenses, including interdepartmental charges, consist of all costs of the Water Department necessary and appropriate for the operation, maintenance, and administration of the water and wastewater systems during each year. Projections of operating expenses for the water and wastewater utilities for the fiscal years 2009 through 2015 are shown in Table VI-6. Projections of operating expenses include expenses such as personal services, purchased services including power, materials and supplies, equipment, fringe benefits, and indemnities.

TABLE VI-6

PROJECTED OPERATION AND MAINTENANCE EXPENSE
(in thousands of dollars)

Line No.	Description	Fiscal Year Ending June 30, 2009	2010	2011	2012	2013	2014	2015
	Water Operations							
1	Personal Services and Fringe Benefits	63,176	64,910	66,281	68,360	71,203	74,174	77,295
2	Purchase of Services	29,796	32,915	35,988	38,497	40,161	41,869	43,714
3	Materials and Supplies	25,582	28,993	31,112	33,403	35,887	38,577	41,497
4	Equipment	1,575	1,722	1,776	1,826	1,883	1,937	1,996
5	Contributions, Indemnities, Refunds and Taxes	1,765	2,285	2,353	2,424	2,497	2,572	2,649
6	Interdepartmental Charges	19,813	19,778	20,163	20,706	21,417	22,154	22,918
7	Subtotal Operating Expenses	141,707	150,603	157,673	165,216	173,048	181,283	190,069
8	Less: Liquidated Encumbrances	(6,800)	(6,800)	(6,000)	(6,000)	(6,000)	(6,000)	(6,000)
9	Operating Expenses - Water	134,907	143,803	151,673	159,216	167,048	175,283	184,069
	Wastewater Operations							
10	Personal Services and Fringe Benefits	93,789	96,476	98,511	101,600	105,832	110,259	114,875
11	Purchase of Services	59,428	67,955	73,202	77,427	80,474	83,712	87,059
12	Materials and Supplies	16,097	17,161	18,024	18,950	19,935	20,990	22,111
13	Equipment	2,300	2,532	2,606	2,687	2,766	2,851	2,936
14	Contributions, Indemnities, Refunds and Taxes	3,005	3,890	4,007	4,127	4,251	4,379	4,510
15	Interdepartmental Charges	35,997	35,955	36,660	37,650	38,944	40,286	41,678
16	Subtotal Operating Expenses	210,616	223,970	233,010	242,441	252,202	262,477	273,168
17	Less: Liquidated Encumbrances	(10,200)	(10,200)	(9,000)	(9,000)	(9,000)	(9,000)	(9,000)
18	Operating Expenses - Wastewater	200,416	213,770	224,010	233,441	243,202	253,477	264,168
19	Total Operating Expenses	335,323	357,573	375,683	392,657	410,250	428,760	448,237

Direct operating expense projections shown in Table VI-6 include recognition of the potential impact of anticipated escalation in costs due to inflation during the seven-year Study Period. Fiscal years 2009 and 2010 expense projections are based on the Water Department's adopted budgeted and proposed budgeted expenditures for that year, respectively. An analysis of previous years' budgets and actual expenditures by functional division and by budgetary object class within each division has been used to adjust the adopted and proposed budgeted expenditures downward slightly to reflect recent actual expenditure experience.

Projections of labor intensive items of expense reflect stipulations of the current one-year labor agreement, in which a bonus of $1,100 per employee is applicable for fiscal year 2009. Beyond fiscal year 2009, labor costs are assumed to increase 1.0 percent in fiscal year 2011, 2.0 percent in fiscal year 2012, and 3.0 percent annually in fiscal years 2013 to 2015.

Electric power costs are expected to increase 2.5 percent annually for the first half of fiscal year 2011. The City's current contract agreements with PECO for electrical service expire on December 31, 2010. The projected power costs for fiscal year 2011 reflect an increase in anticipated power costs upon expiration of the current contract agreements, due to the loss of the negotiated favorable rate provided in those agreements. The loss in this negotiated rate is expected to result in an annualized power cost on the order of $25 million during fiscal year 2011, as compared to the projected annualized amount under the negotiated rate of $21 million. Power costs during the period fiscal year 2012 to fiscal year 2014 are projected to increase 7.5 percent annually.

Chemical costs are expected to increase 9.0 percent annually through the Study Period. All other purchased services, materials and supplies, and equipment expenditures are projected to increase at 3.0 percent annually from the adjusted 2010 proposed budgeted expenditures level throughout the Study Period.

Interdepartmental charges for service provided to the Water Department by other City departments and agencies anticipated through the seven year Study Period are also included in Table VI-6. These charges represent the Water Department's proportionate charge for services provided directly by other City departments and agencies, including the Water Revenue Bureau, which has responsibility for the collection of revenue for water and wastewater service provided by the Water Department. Accomplishment of this responsibility requires reading of meters, maintenance of customer accounts, billing, collection of payments, enforcements of payments, and customer relations. Projections of interdepartmental expenses are also based on the adopted fiscal year 2009 budget and proposed fiscal year 2010 budget. Cost escalation factors used to project expenditures for the Study Period are the same as those used to project direct Water Department operating expenditures mentioned above.

2. Debt Service Requirements

Projected debt service on outstanding revenue bonds is shown on Line 1 of Table VI-7 for the Study Period. The projection of debt service on outstanding revenue bonds reflects projected debt service schedules provided by the Water Department. The projected debt service payments on the outstanding variable rate bonds reflect the following assumptions based on discussions with and guidance from Water Department staff:

- Series 1997B. The projected interest cost for the Study Period is estimated based on an interest rate of 3.0 percent. The projected interest costs take into consideration the interest cost experience since the recent remarketing of these bonds in September 2008 to replace the insurance and liquidity provider.
- Series 2003. The projected interest cost for the Study Period reflects an overall average interest rate of 7.9 percent over the Study Period (including a fixed interest rate of 4.52 percent and a variable rate component of approximately 3.50 percent).
- Series 2005B. The projected interest cost for the Study Period reflects an overall average interest rate of 4.9 percent over the Study Period (including a fixed interest rate of 4.53 percent during the Study Period and a variable rate component of approximately 2.7 percent in fiscal year 2009). The projected annual interest costs reflect the Water Department's plan to remarket these bonds to replace the current insurance and liquidity provider.

The proposed $140,945,000 2009A Bonds are anticipated to be issued May 2009. Debt service on this issue reflects the underwriter's debt structure analysis which assumes interest only payments during the Study Period based on a 5.14 percent interest rate. The Water Department's projected debt service on currently outstanding bonds decreases significantly in fiscal year 2017 (decreasing from approximately $175 million per year to $90 million per year), and it is assumed that the proposed bonds in fiscal years 2009, 2014, and 2015 will be structured to wrap around the existing debt service schedule and levelize the projected debt service requirements beyond fiscal year 2017. The first debt service payment on the 2009A Bonds is projected to occur in fiscal year 2010.

A second bond issue during the Study Period of $180,000,000 is projected to be issued in August 2010. Debt service on this issue reflects the principal payments and a 4.52

percent interest rate per the negotiated rate lock agreements, with the first semi-annual debt service payment for this second bond issue projected to occur in fiscal year 2011. This debt issuance in August 2010 is actually two separate bond issues of $90,000,000 each, and the rate lock provided in the negotiated forward swap is established at the 4.52 percent rate.

Debt service on the subsequent proposed $135,000,000 and $350,000,000 bond issues in fiscal years 2014 and 2015, respectively, assumes a 30-year amortization schedule, a 6.0 percent interest rate, and interest only payments during the Study Period. Table VI-7 summarizes the total revenue bond debt service projected for the Study Period.

TABLE VI-7

FUTURE DEBT SERVICE REQUIREMENTS
(in thousands of dollars)

Line		Fiscal Year Ending June 30,						
No.	Description	2009	2010	2011	2012	2013	2014	2015
	Revenue Bonds							
1	Existing (a)	183,211	183,740	183,714	183,410	185,111	184,108	182,835
	Proposed							
2	Fiscal Year 2009 (b)		4,465	7,239	7,239	7,239	7,239	7,239
3	Fiscal Year 2010							
4	Fiscal Year 2011 (c)			9,707	11,255	11,272	11,285	11,306
5	Fiscal Year 2012							
6	Fiscal Year 2013							
7	Fiscal Year 2014 (d)						4,050	8,100
8	Fiscal Year 2015 (d)							10,500
9	Total Proposed	0	4,465	16,946	18,494	18,511	22,574	37,145
10	Total Revenue Bonds	183,211	188,205	200,660	201,904	203,622	206,682	219,980
	Pennvest Loans							
11	Pennvest Parity Loans	463	191	572	986	4,227	5,722	5,722
12	Pennvest Subordinate Loans	1,227	1,228	1,227	1,022	0	0	0
13	Total Debt Service	184,901	189,623	202,459	203,913	207,849	212,404	225,702

(a) Assumes the average interest rates of 3.0% for the Variable Rate Series 1997B Bonds, 7.9% for the Variable Rate Series 2003 Bonds, and 4.9% for the Variable Rate Series 2005B Bonds.
(b) Assumes interest only payments during the planning period based on 5.14% interest.
(c) Reflects principal payment schedule and interest rate of 4.52% per negotiated rate lock agreements.
(d) Assumes interest only payments during the planning period based on 6.0% interest.

Lines 11 and 12 of Table VI-7 show the debt service payments on the outstanding and proposed Pennvest loans. Line 11 shows the annual debt service which is related to parity revenue bonds issued through Pennvest, including the proposed $214.9 million of 2009 Pennvest Loans. Projected debt service on the proposed 2009 Pennvest Loans reflects the following terms of the funding offers provided by Pennvest: (i) three years of monthly interest only payments during the period covering November 2009 to October 2012 (based on an interest rate of 1.193%), (ii) monthly principal and interest payments of $1,007,000 for the five year period covering November 2012 to October 2017, (based on an interest rate of 1.193%), and (iii) monthly principal and interest payments of $1,076,000 for the fifteen year period covering November 2017 to October 2032 (based on an interest rate of 2.107%). Line 12 shows the annual debt service which is a subordinate loan issued through Pennvest dated June 15, 1993.

3. Capital Account Deposit

The General Ordinance establishes a Capital Account as an account within the Construction Fund. The Water Department covenants to make deposits to the Capital Account in each fiscal year, subject to the availability of funds, in an amount not less than one percent of the total net plant investment in water and wastewater facilities. Such deposits will be required June 20 of each fiscal year to fund annual renewals, replacements, and improvements to maintain adequate water and wastewater service to the areas served by the system. The projected level of the annual Capital Account Deposit reflects the current level of net plant investment in water and wastewater facilities and the historical rate of growth in net plant investment value. The projected fiscal year 2009 requirement amounts to $18,179,000 and increases during the Study Period to $20,525,000 in fiscal year 2015.

4. City General Fund Deposit

Under the General Ordinance, annual payments to the City General Fund are required from the Residual Fund in an amount not to exceed the lower of $4,994,000 or annual interest earnings on the Debt Service Reserve Account. Applicable interest earnings are transferred to the Residual Fund to meet this obligation.

F. Adequacy of Projected Revenues to Meet Projected Revenue Requirements under General Ordinance Requirements

Table VI-8 presents a statement of projected revenues and revenue and rate covenant requirements for water and wastewater operations for fiscal year 2009 through fiscal year 2015 under the stipulations of the General Ordinance. The table provides an indication of the adequacy of the Water Department's revenues and the feasibility of the issuance of the Bonds and future anticipated revenue bond sales during the Study Period.

Projections of annual operating revenue for water and wastewater service shown on Lines 1 and 2 of Table VI-8 include revenue from retail customers under the rate levels in effect as of July 1, 2007 and subsequently adjusted as of November 1, 2008, for Bucks County and Bensalem the rates in effect as of July, 1 2007, and for the remainder of the wholesale customers the rates which have been put in place for fiscal years 2009 through 2012 as previously presented in Table VI-2. Lines 4 through 9 indicate additional service revenue required in each fiscal year to meet revenue requirements and rate covenant compliance during the Study Period. As mentioned earlier in this section of the report, an overall revenue increase of approximately 5.8 percent became effective on November 1, 2008 and is included in the revenues shown on Line 3. The annual revenue increases of 5.75 percent in fiscal year 2010 and 5.45 percent in fiscal years 2011 and 2012, reflected in Lines 4 through 6, were reviewed and adopted as a part of the current ongoing rate hearing process.

As indicated by the positive year-end balances shown on Line 36 of Table VI-8, these adopted revenue increases and proposed future revenue increases beyond fiscal year 2012 are projected to be adequate to satisfy the basic Charter requirement that the Water Department provide sufficient revenues to meet all operating expenses of the water and wastewater systems, debt service requirements on all obligations issued for the Water Department, and certain payments to the City General Fund, as well as other specific bond ordinance covenants.

In addition to meeting the requirements listed above, pursuant to the authorizing General Ordinance, the Department covenants that during any given fiscal year the it will, at a minimum, impose, charge, and collect in each fiscal year such water and wastewater rents, rates, fees, and charges as shall yield net revenues which shall be equal to at least 1.20 times the debt service requirements for such fiscal year (recalculated to exclude therefrom principal and interest payments in respect of Subordinated Bonds); provided that such water and wastewater rents, rates, fees, and charges shall yield net revenues which shall be at least equal to 1.00 times (i) the debt service requirements for such fiscal year (including debt service requirements in respect of Subordinated Bonds); (ii) amounts required to be deposited into the Debt Reserve Account during such fiscal year; (iii) the principal or redemption price of and interest on General Obligation Bonds payable during such fiscal year; (iv) debt service requirements on interim debt payable during such fiscal year; and (v) the Capital Account Deposit amount for such fiscal year (less any amounts transferred from the Residual Fund to the Capital Account during such fiscal year).

TABLE VI-8
PROJECTED REVENUE AND REVENUE REQUIREMENTS
(in thousands of dollars)

Line No.	Description			Fiscal Year Ending June 30, 2009	2010	2011	2012	2013	2014	2015
	OPERATING REVENUE									
1	Water Service - Existing Rates			177,254	183,539	183,008	181,799	179,685	177,585	175,485
2	Wastewater Service - Existing Rates			301,435	305,862	305,556	303,634	301,654	299,690	297,718
3	Total Service Revenue - Existing Rates			478,689	489,401	488,564	485,433	481,339	477,275	473,203
	Additional Service Revenue Required									
	Year	Percent Increase	Months Effective							
4	FY 2010	5.75%	12		28,141	28,092	27,912	27,677	27,443	27,209
5	FY 2011	5.45%	12			28,158	27,977	27,741	27,507	27,272
6	FY 2012	5.45%	12				29,502	29,253	29,006	28,759
7	FY 2013	12.9%	12					73,015	72,399	71,781
8	FY 2014	6.6%	12						41,820	41,463
9	FY 2015	6.6%	12							44,199
10	Total Additional Service Revenue Required			0	28,141	56,250	85,391	157,686	198,175	240,683
11	Total Water & Wastewater Service Revenue			478,689	517,542	544,814	570,824	639,025	675,450	713,886
12	Transfer From/(To) Rate Stabilization Fund			44,835	37,195	42,730	36,775	(380)	(9,490)	(15,495)
	Other Income (a)									
13	Other Operating Revenue			22,201	23,333	23,230	22,628	22,030	21,433	20,835
14	Construction Fund Interest Income			3,015	2,543	4,672	5,137	3,108	2,279	5,580
15	Debt Reserve Fund Interest Income			1,035	0	0	0	0	0	0
16	Operating Fund Interest Income			1,092	774	782	983	1,044	1,064	1,047
17	Rate Stabilization Interest Income			4,872	2,403	1,596	993	533	657	974
18	Total Revenues			555,739	583,790	617,824	637,340	665,360	691,393	726,827
	OPERATING EXPENSES									
19	Water & Wastewater Operations			279,513	301,840	318,859	334,300	349,889	366,317	383,641
20	Direct Interdepartmental Charges			55,810	55,733	56,823	58,356	60,361	62,440	64,596
21	Total Operating Expenses			335,323	357,573	375,682	392,656	410,250	428,757	448,237
22	**NET REVENUES AFTER OPERATIONS**			220,416	226,217	242,142	244,684	255,110	262,636	278,590
	DEBT SERVICE									
	Senior Debt Service									
	Revenue Bonds									
23	Outstanding Bonds			183,211	183,740	183,714	183,410	185,111	184,108	182,835
24	Pennvest Parity Bonds			463	305	1,123	1,994	8,966	12,175	12,175
25	Projected Future Bonds			0	4,465	16,946	18,494	18,511	22,574	37,145
26	Total Senior Debt Service			183,674	188,510	201,783	203,898	212,588	218,857	232,155
27	**TOTAL SENIOR DEBT SERVICE COVERAGE (L22/L26)**			1.20 x	1.20 x	1.20 x	1.20 x	1.20 x	1.20 x	1.20 x
	Subordinate Debt Service									
28	Outstanding General Obligation Bonds			0	0	0	0	0	0	0
29	Pennvest Subordinate Bonds			1,227	1,228	1,227	1,022	0	0	0
30	Total Subordinate Debt Service			1,227	1,228	1,227	1,022	0	0	0
31	Total Debt Service on Bonds			184,901	189,738	203,010	204,921	212,588	218,857	232,155
32	**CAPITAL ACCOUNT DEPOSIT**			18,179	18,570	18,961	19,352	19,743	20,134	20,525
33	**TOTAL COVERAGE (L22/(L31+L32))**			1.08 x	1.08 x	1.09 x	1.09 x	1.09 x	1.09 x	1.10 x
	RESIDUAL FUND									
34	Beginning of Year Balance			11,706	14,115	10,444	10,624	10,039	10,819	10,464
35	Interest Income (b)			1,073	504	9	4	0	0	0
	Plus:									
36	End of Year Revenue Fund Balance			17,336	17,909	20,171	20,411	22,779	23,645	25,910
37	Deposit for Transfer to City General Fund (c)			4,994	2,718	2,927	3,692	3,692	3,883	4,435
	Less:									
38	Transfer to Construction Fund			16,000	10,000	20,000	21,000	22,000	24,000	26,000
39	Transfer to City General Fund			4,994	2,718	2,927	3,692	3,692	3,883	4,435
40	Transfer to Debt Service Reserve Fund			0	12,084	0	0	0	0	0
41	End of Year Balance			14,115	10,444	10,624	10,039	10,819	10,464	10,374
	RATE STABILIZATION FUND									
42	Beginning of Year Balance			182,380	137,545	100,350	57,620	20,845	21,225	30,715
43	Deposit From/(To) Revenue Fund			(44,835)	(37,195)	(42,730)	(36,775)	380	9,490	15,495
44	End of Year Balance			137,545	100,350	57,620	20,845	21,225	30,715	46,210

Notes: (a) Includes other operating and nonoperating income, including interest income on funds and accounts transferable to the Revenue Fund.
(b) Includes interest earnings on Debt Service Reserve substitution funds deposited in the Special Water Infrastructure Account.
(c) Transfer of interest earnings from the Bond Reserve Account must first go to the Residual Fund as shown in Line 37 to satisfy the requirements for the Transfer to the City General Fund, with the balance (if any) included in Line 15 going to the Revenue Fund.

In addition to the rate covenant of the General Ordinance described above, for each fiscal year ending on or after June 30, 2000, the City has agreed with Financial Guaranty Insurance Company (Finance Guaranty), for so long as the Series 1993 Bonds insured by Financial Guaranty are outstanding, to establish rates and charges for use by the Water and Wastewater Systems sufficient to yield Net Revenues (excluding amounts transferred from the Rate Stabilization Fund into the Revenue Fund during, or as of the end of, such fiscal year) at least equal to 90 percent of the Debt Service Requirements (excluding debt service due on any Subordinated Bonds) in such fiscal year. Further, any calculation by a consulting engineer of projected rate covenant compliance in connection with the proposed issuance of additional Bonds for each fiscal year ending on or after June 30, 2000, must state that Net Revenues (excluding amounts transferred from the Rate Stabilization Fund into the Revenue Fund during, or as of the end of, such fiscal year) in each fiscal year included in the Study Period are projected to be at least 90 percent of the Debt Service Requirements (excluding debt service due on any Subordinated Bonds) in such fiscal year.

With the issuance of the Series 2003 Bonds, Financial Security Assurance, Inc. (FSA) also entered into an agreement with the Water Department to apply this “90 percent” rule so long as the Series 2003 Bonds insured by FSA are outstanding.

To comply with the General Ordinance covenants discussed above, as well as the requirements set forth in the City's agreements with Financial Guaranty and FSA, additional water and wastewater service revenue, above the increase in rates which took effect on November 1, 2008, is necessary during the Study Period, and such requirements are reflected in the revenue projections shown on Lines 4 through 9 of Table VI-8. The increases shown for fiscal years 2010 through 2012, as indicated previously, have already been approved through the rate hearing process. As shown on Lines 27 and 33, the levels of additional service revenue projected for the Study Period is indicated to be adequate to provide for the debt service coverage and requirements of the Financial Guaranty and FSA agreements as described above, and as mentioned previously the positive year-end balances shown on Line 36 indicate that Charter requirements are also projected to be satisfied. It is important to note that under the General Ordinance, which provides for the various rate covenants discussed above, the Water Department utilizes the Rate Stabilization Fund, along with necessary increases in revenue, to manage its debt service coverage on its senior lien Bonds to the required 1.20 level each year.

Flow of funds in the Residual Fund (Lines 34-41) and the Rate Stabilization Fund (Lines 42-44) are also presented in Table VI-8 for the Study Period through fiscal year 2015.

As indicated on Line 41 of Table VI-8, a balance of between approximately $10,000,000 and $15,000,000 is maintained in the Residual Fund at the end of each fiscal year. In accordance with the General Ordinance, funds in the Residual Fund may be used for the following purposes: (1) to pay operating expenses; (2) to fund transfers to any fund or account other than the Revenue Account and the Rate Stabilization Fund; (3) to pay principal and interest on any revenue bonds and general obligation debt; (4) for the payment of amounts due under capitalized leases or similar obligations; and (5) to fund required transfers to the City's General Fund. One of the most prudent uses of such funds is that they be used for capital program financing in future years. Accordingly, for purposes of this report, we have indicated the annual transfers of available Residual Fund balances to the Construction Fund and Debt Service Reserve Account in the amounts shown on Lines 38 and 40 of Table VI-8.

The current projections of fiscal year 2009 revenues and revenue requirements indicate that a $44,835,000 transfer from the Rate Stabilization Fund is anticipated to maintain coverage requirements. The projected maximum allowable Rate Stabilization Fund transfer in fiscal year 2009 is $55,102,000 based on the "90 percent" rule. Accordingly, Water Department staff continues to monitor revenues and expenses to manage the level of the Rate Stabilization Fund transfer required for debt service coverage to maintain compliance with the terms of both the General Ordinance and the Financial Guaranty and FSA agreements.

The balance of funds projected in the Rate Stabilization Fund at the end of fiscal year 2012 amounts to $20,845,000. During the recent rate hearing process, the Water Department indicated the need to maintain a balance of approximately $45,000,000 in the Rate Stabilization Fund to provide for working capital needs. Due to the financial conditions experienced over the past several months across the country, in both the credit markets and the overall downturn in the economy, the Water Department has incurred increased costs in terms of remarketing and liquidity fees and interest rates on its variable rate bonds that were not known nor anticipated during the rate hearing process. Accordingly, the projected balance in the Rate Stabilization Fund is expected to fall below the target level of $45,000,000 by the end of fiscal year 2012. The projected revenue increases beyond fiscal year 2012, are projected to reestablish the $45,000,000 level by the end of the Study Period. In addition, Water Department staff continues to track the projected revenues, expenses, and fund balances to determine the potential need to initiate a rate hearing process to supplement the current adopted rate increases.

In conclusion, based upon the assumptions recognized in this report regarding the estimated future annual financial operations of the Water and Wastewater Systems, it is our opinion that the Water and Wastewater Systems will yield pledged Project Revenues (including projected revenue increases indicated in this report resulting from rate increases which may be imposed after an administrative process without further legislation) over the amortization period of the Bonds sufficient to meet the payment or deposit requirements of: all expenses of operation, maintenance, repair and replacement of the Water and Wastewater Systems; all reserve funds required to be established out of such Project Revenues; the principal or redemption price and interest on all Bonds, as the same become due and payable, for which such Project Revenues are pledged; and, the Rate Covenant set forth in Section 5.01 of the General Ordinance. In addition, the Net Revenues are currently sufficient to comply with the Rate Covenant and are projected to be sufficient (including projected revenue increases indicated in the report resulting from rate increases which may be imposed after an administrative process without further legislation) to comply with the Rate Covenant for each of the two fiscal years following the fiscal year in which the Bonds are issued.

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