District of Columbia
Water and Sewer Authority

Submitted October 26, 2006

Glenn S. Gerstell, *Chairman*
Jerry N. Johnson, *General Manager*

Proposed FY 2006–2015 Capital Improvement Program

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The Office of Budget and Finance would like to extend its appreciation to all the departmental staff members whose hard work and dedication helped make this document possible.

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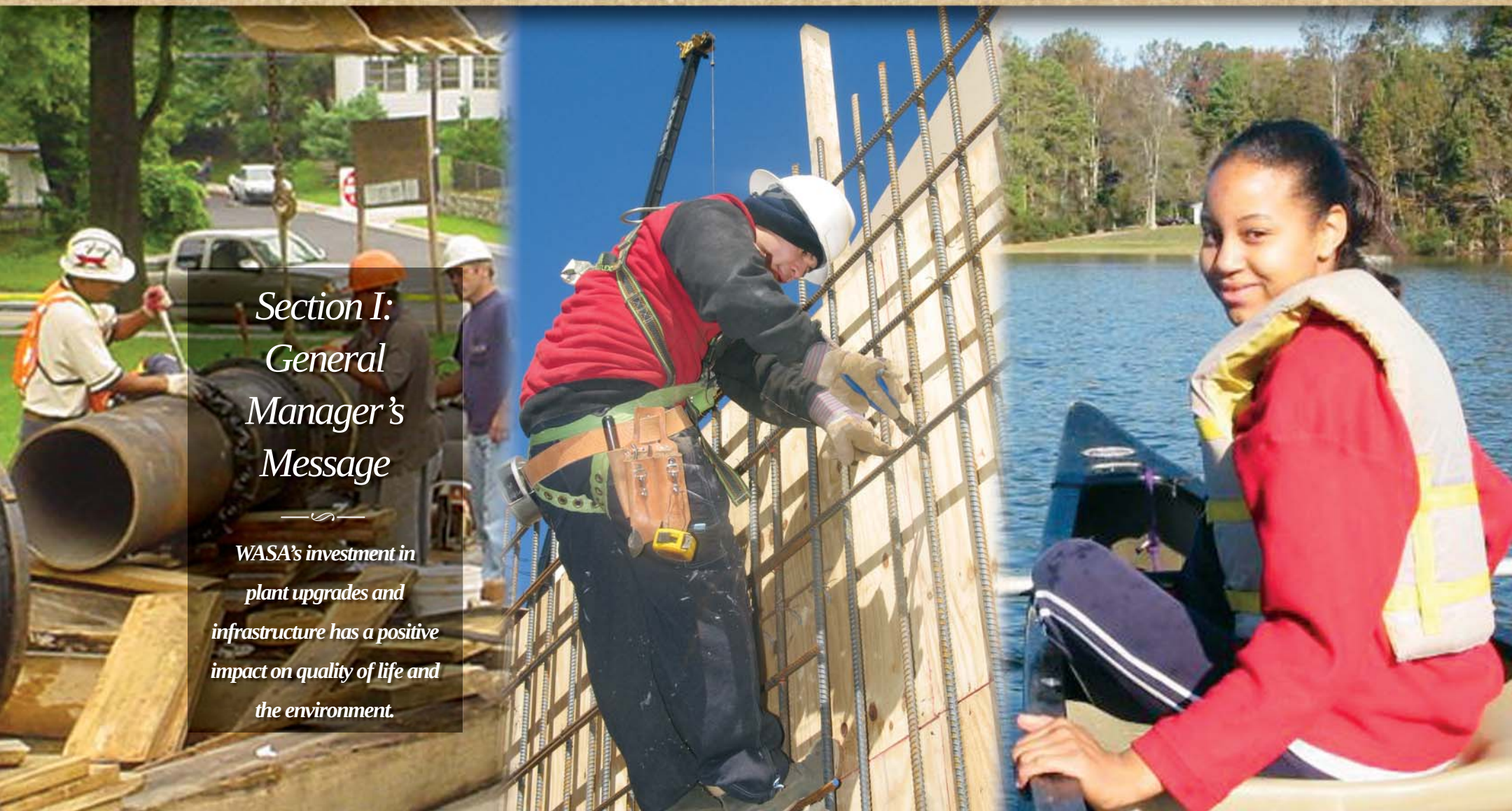
Proposed FY 2006–2015 Capital Improvement Program



Section I: General Manager's Message

WASA's investment in plant upgrades and infrastructure has a positive impact on quality of life and the environment.

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY
5000 OVERLOOK AVENUE, S.W., WASHINGTON, D.C. 20032

Mr. Glenn S. Gerstell
Chairman
Board of Directors
District of Columbia Water and Sewer Authority
5000 Overlook Avenue, S.W.
Washington, D.C. 20032

October 26, 2006

Dear Chairman Gerstell and WASA Board Members:

I am pleased to submit for your review and consideration the FY 2006 – FY 2015 Capital Improvement Program (CIP). This document sets forth a 10-year, $2.2 billion capital program (on a cash disbursements basis). We believe this book provides an enhanced framework for monitoring budgets and the progress of capital project completion, and also serves as a valuable tool for evaluating our performance by the financial markets and other stakeholders.

This year's CIP is $22 million less than last year's plan, due primarily to reductions in the wastewater treatment area where plant upgrade completions will result in less funding for Blue Plains Plant-related projects after 2010; and the Water Service area, with conclusion of the lead service replacement program in 2014.

SIGNIFICANT ISSUES AND INITIATIVES

Projects in WASA's CIP are broken down into seven service areas, including Wastewater Treatment, Combined Sewer Overflow, Stormwater, Sanitary Sewer, Water, Washington Aqueduct, and Capital Equipment.

Wastewater Treatment Service Area: The capital program at Blue Plains is well underway, and has a total lifetime budget of $1.4 billion. Eleven large projects are currently under construction, totaling over $362.8 million in lifetime budgets. These projects include the additional dewatering facility upgrade, primary and secondary treatment facility upgrades, additional chemical systems, rehabilitation of the influent grit and screening facility, biological nutrient removal, gravity thickening facilities, process computer control system, filtration and disinfection facilities, and biological sludge thickening facilities.

Egg-Shaped Digesters Project – After an extensive and rigorous evaluation, the WASA Board announced their decision to reject the single bid received on the construction phase of the Egg-Shaped Digester project. The bid received for that phase of the project was approximately 70 percent over WASA's FY 2006 construction budget for that contract. The total project cost has, in fact, continued to escalate from the originally budgeted $148 million in FY 2000 to $350 million in FY 2006, to an estimated $600 million in FY 2007.

The use of egg-shaped digesters is a progressive and effective technology for handling biosolids (treated residue from the wastewater treatment process) generated at WASA's Blue Plains Advanced Wastewater Treatment Plant. Currently, more than 1,300 wet tons of biosolids are hauled each day from the 150-acre site for reuse as fertilizer.

The eight, 108-foot-tall egg-shaped digesters, at 4.5 million gallons each, represented the largest single installation of its type in the world. The technology would reduce biosolids volume by 50 percent and cut in half the 70 trucks a day used to haul biosolids to agricultural sites in surrounding areas. The first contract was scheduled to begin mid-2006 with the second contract to begin nine months later. The decision by the WASA Board of Directors to defer the project until market conditions improve was based on an independently conducted economic analysis and an internal cost-benefit evaluation. Both assessments concluded that the unusually tight construction market, an abnormal spike in material costs and the project length were major factors in limiting bids and doubling the cost. Moreover, an evaluation of bids on other heavy wastewater-related construction projects in the area show similar cost increases that are well above estimates.

As part of our ongoing biosolids management program, we will monitor the construction market, regulatory initiatives and evolving wastewater treatment technologies. With this and other information collected over the next three years, a revised strategy for long-term biosolids management will be developed, which may or may not include the digesters.

WASA's award-winning Biosolids Management Program has been recognized by the U.S. Environmental Protection Agency which gave its highest national award for biosolids management for our outstanding operations, technological advances, and promotion of the beneficial uses of municipal wastewater biosolids.

Land Application of Biosolids – Currently, biosolids generated at Blue Plains are land applied at farms, mine reclamation sites, forest land, and a tree farm. The majority of the sites are in Virginia, with a small percentage (~10 percent) in Maryland. In late FY 2003, the Commonwealth of Virginia adopted legislation allowing Virginia counties to impose a fee for biosolids land applied in the State. The annual cost of this fee, if fully implemented by all eligible Virginia counties, is projected at $300,000. Maryland biosolids user fees amount to approximately $100,000 annually. In addition, we continue to monitor other pending regulatory changes in Virginia that could limit our ability to land apply this product. In line with the Board's strategic goal of developing a state-of-the-art biosolids management program, we are pursuing a number of other alternative recycling solutions including geographical diversification to West Virginia and Pennsylvania, expanded use of biosolids in silviculture, mine reclamation and site restoration. We are also supporting research efforts that could help spur the use of biosolids as a product.

Sanitary Sewer Overflows & CMOM – The EPA is developing a sanitary sewer overflow (SSO) policy to regulate overflows of the sanitary sewer system, including dry weather overflows. A component of this policy is the development of minimum capacity, management, operation, and maintenance standards (CMOM) that potentially could be incorporated into NPDES permits. We are currently evaluating the proposed policy and potential impacts on WASA as part of our overall sewer system assessment.

Capital Improvement Program Inflationary Increases – Recently, several factors have arisen that impact the costs of our capital improvement program. These factors include extreme fluctuations in prices for certain commodities used predominantly in WASA capital projects such as steel, copper, aluminum, and cement. Additionally, there is a non-competitive contractor environment in which contractors are more fully employed and bid on fewer select projects. An additional contributing factor is high inflation in energy prices and petroleum based products such as plastics, roofing products, and asphalt.

Another factor affecting project planning estimates is the more active role by the surety industry in risk assessment on the type of projects for which they will issue performance bonds resulting in placing more stringent conditions on project owners. We will continue to monitor these inflationary increases, and the bidding environment and assess their impact on our capital improvement program budget planning. There is also the possibility that following consultation with the Board, we may seek a legislative cure to the surety issues.

Chesapeake Bay Initiative & New NPDES Permit – The 1987 Chesapeake Bay Agreement called for a 40 percent voluntary nitrogen reduction by its signatories by 2000. The District of Columbia was the first signatory in the region to meet this voluntary commitment due to significant improvements by WASA at Blue Plains. The EPA Chesapeake Bay Program is currently in the process of setting new nutrient limits for all jurisdictions, and making these limits mandatory instead of voluntary by including these requirements in NPDES permits. The existing Blue Plains NPDES Permit expires in FY 2008 and has been reopened to include mandatory nutrient limits for the EPA Chesapeake Bay Program. The fact sheet issued from EPA with the new proposed permit identifies the final Blue Plains nitrogen allocation of 4,689,000 lbs. per year. This is equivalent to 4.2 mg/L at the design flow of 370 MGD. The draft permit also contains a schedule requiring WASA to develop a facility plan to achieve this final allocation. If implemented, WASA may be required to invest an estimated $0.6 billion to $1.2 billion in capital improvements at Blue Plains to meet the new targets.

IMA Negotiations – In 1985, the District signed the Blue Plains Intermunicipal Agreement (the IMA) with the "Users" of the Blue Plains Wastewater Treatment Plant facilities. The User group consists of District of Columbia, Fairfax County in Virginia, and Montgomery and Prince George's Counties in Maryland. The IMA outlines terms relating to facility location, sizing, capacity allocations and funding, long-term management of the wastewater treatment and disposal process; the Agreement also establishes a uniform payment basis for facilities and future improvements. IMA signatories share the cost of operations, maintenance and the capital program at the Blue Plains facility; the three surrounding counties comprise approximately 60 percent of the Blue Plains capacity.

Some of the terms in the 1985 IMA expire in 2010. For example, the IMA states that capacity allocations at 370 mgd (peak capacity) remain in effect until 2010. In order to allow ample time to renegotiate any User issues, the Users began negotiations during FY 2006 and will continue discussions until all parties reach a new agreement.

TMDLs and Impact on CSO LTCP – We are implementing our Combined Sewer Overflow Long Term Control Plan (CSO LTCP) consistent with the Total Maximum Daily Pollutant Loads (TMDL) developed by EPA for the Anacostia River. A recent U.S. Court of Appeals decision ruled that TMDLs should be implemented on a daily basis, not over a longer period; this contradicts the prior court decision which allows more flexible implementation of TMDLs. As a result of this decision WASA applied for a writ to the U.S. Supreme Court regarding this matter. The short-term impact of this decision is possible delay in implementation of the CSO LTCP. WASA is actively seeking resolution of this issue to ensure that Anacostia water quality objectives will be met.

Stormwater Service Area: The lifetime budget for stormwater totals $44.3 million, a $1.3 million increase from last year. We have been engaged in extensive discussions with the District over the last two years regarding how responsibilities for a variety of stormwater-related functions are divided among District agencies. Our most significant role in stormwater management is serving as Administrator of the District's Stormwater Compliance Enterprise Fund. Although WASA is not responsible, it does work to help coordinate work among the District's Departments of Environment (formerly, part of the Department of Health), Transportation and Public Works to ensure compliance with the District's stormwater permit. The Administration and the Enterprise Fund were created by the District Council after the issuance of the first municipal separate storm sewer system (MS4) National Pollutant Elimination Discharge System (NPDES) permit by EPA Region III in 2000.

The agencies are moving ahead with implementation of the second MS4 NPDES permit, issued by the EPA in August 2004, but the permit is being challenged by environmental groups. In 2005, implementation plans for the Anacostia and Rock Creek watersheds were completed. These implementation plans include a variety of new tasks that are intended to directly reduce pollution, including additional stormwater facilities, deployment of a new generation of street sweepers, construction of a salt-truck washing facility and a pilot project for intensive catch basin cleaning. The addition of these new tasks has a direct impact on the stormwater enterprise fund budget, which increases from $3.7 million in FY 2005 to $6.7 million in FY 2006 and $7 million in FY 2007.

The increased implementation costs will require a corresponding increase in the District's stormwater rate, which is set by Council but appears on WASA's water and sewer bill as a separate line item. This rate will need to approximately double by FY 2007 to cover total costs; because District agencies have underspent their budgets in prior years, the fund has sufficient balances to fund increased permit compliance costs in to FY 2007. Over the next year, we will work closely with the Council and participating District agencies in their efforts to increase this fee, building upon our work over the past three years. In July 2003, as required by the District's stormwater legislation, we completed an initial evaluation of potential impervious-surface based rate structures for stormwater cost recovery and forwarded this study to the Council in July 2003. As part of our work on the CSO LTCP rate structure, we have been evaluating a number of options that are relevant to the District's stormwater rate, and will use this analysis to develop rate increase proposals for the District's consideration. It is anticipated that any incremental requirements of WASA due to the new permit will be fully paid from proceeds of the stormwater fee or other outside sources, consistent with the provisions of the MOU with the District.

WASA already performs a number of stormwater management activities that are not funded by the stormwater fee, including catch basin cleaning in areas served by separate sewers, cleaning lateral drainage channels, and maintaining stormwater pumping stations, amounting

to approximately $3 to $4 million annually. Over the last year, we have been discussing two specific issues with the District: 1) transferring the maintenance of stormwater pumping stations back to the District and 2) assigning responsibility for catch basin maintenance along federal thoroughfares, which previously had been performed by a District / federal contractor. While no change in existing responsibilities occurred in FY 2006, we will continue discussions with the District for changes in FY 2007 or FY 2008. We project that the incremental cost of taking on catch basin maintenance on federal roads ranges from $0.1 million to $0.2 million annually, plus $0.4 million in one-time new equipment costs.

In December 2006, the District created the "District Department of Environment (DOE) Establishment Act". Section 103 E (2) of the Act provides for the transfer of the MS4 Administration from WASA to the District's DOE within one year. WASA will continue to contribute towards storm water pollution control as the MS4 Administrator during this time and will remain engaged consistent with our responsibility after the transfer. WASA's General Manager has already offered to assist DOE with the transition, and has received a communication from the City Administrator requesting that the transition begin immediately. After the transfer, WASA is expected to remain active in the Stormwater Task Force composed of the relevant agencies to ensure compliance with the MS4 NPDES permit. The legislation does not address the management of the Enterprise Fund, thus WASA will work with the District to determine how to address the transfer of this responsibility.

Our capital improvement program includes $18 million (disbursements basis) for improvements to the separate stormwater collection system. Our CIP does not include stormwater pumping station rehabilitation costs, assuming that these facilities are taken over by the District or ultimately funded from the Stormwater Enterprise Fund.

Sanitary Sewer Service Area: We also have several significant initiatives that will improve our sewer system. The lifetime budget for this area totals $281.5 million and initiatives include:

- **Sewer System Assessment –** In FY 2003, we initiated our first comprehensive assessment of the sewer system. The purpose of the assessment is to inspect approximately 4 percent of the sewer system and 80 percent of all high priority sewers. The results of this study, projected to be complete in FY 2007, will allow us to identify specific projects and priorities as well as develop a spending plan for improvements to the sewer system. Based on the study to date, we have programmed a major rehabilitation of the outfall sewers (major sewers that convey wastewater from the major pumping stations to Blue Plains). Our budget includes $30 million for these improvements; we will also identify and correct several other deficiencies to ensure that we will meet the 1,076 million gallons a day compliance requirement.

- **Sewer System Improvements –** This year's CIP budget includes funds for major system improvements. For example, we will replace a 70-year old sanitary sewer - the Upper Anacostia Main Interceptor (UAMI) Relief Sewer. UAMI is a sewer that serves many of our customers in the Northeast quadrant of the District of Columbia. Our budget includes over $2 million for installation of this sewer, which is necessary for system reliability and to provide service growth capacity through FY 2030. In addition to this

project, we will be replacing sewer laterals as needed, performing major cleaning, repairs and other improvements identified in the sewer system assessment; these improvements will affect a variety of neighborhoods.

***Water Service Area*:** While recent focus has been on lead, WASA has long been and will continue to remain focused on water quality. As evidence, we have budgeted over $663 million (cash disbursements basis) for water distribution system improvements (including lead) in the ten year plan, a substantial portion of which are for water quality-related initiatives. Since our creation in 1996, we have completed the following projects:

WATER SYSTEM INITIATIVES

Although there has been a recent focus on lead, WASA has long been and will continue to focus on water quality. As evidence of that commitment, we have budgeted over $663 million (cash disbursements basis) for water distribution system improvements (including lead) in the ten year plan, a substantial portion of which are for water quality-related initiatives. Following are some of the major investments we are making in the water system.

Improvements East of the Anacostia River

We are investing over $70 million in water system improvements east of the Anacostia River to improve water pressures, replace old cast iron water mains with new ductile iron pipe, replace an old water pumping station originally constructed in 1913, construct a new elevated water storage facility and replace lead water services with new copper pipe. The end result will be improved water reliability and quality. Some of this work has already been completed including:

- Rehabilitation of the two existing Anacostia elevated water tanks;
- Replacement of a 12-inch main along Livingston Road;
- Improvements to the two Ft. Stanton underground reservoirs; and
- Replacement of a twenty-inch water main along Martin Luther King Boulevard.

Two major elements to improve the water pressure and reliability are the replacement of Anacostia Pumping Station and construction of an elevated water storage facility. The existing 1913 vintage Anacostia Pumping Station will be replaced with a new fully automated pumping station at the same site. Detailed design documents for the pumping station replacement were prepared and the construction contract was bid in late FY 2006 with construction scheduled to be completed in FY 2008. The new elevated water storage facility at St. Elizabeth's Hospital Campus will improve water line pressure and reliability in the southern portion of the service area. We are continuing to work with District authorities to obtain zoning approvals, and construction is scheduled to be completed in FY 2010.

In addition, a major transmission main project with nearly 15,000 feet of 20, 24 and 30-inch main replacements / installations is scheduled to start construction in early FY 2007. These major mains provide additional transmission capacity and redundancy. In addition, we will replace

mains that cannot withstand the increased pressure created by the other improvements. Also, a project that includes over 30,000 feet of small diameter main replacements is scheduled to start construction in early FY 2007. These new mains replace local distribution mains that cannot withstand the increased pressure created by the new pressure zone. Another project includes small diameter main replacements in the Anacostia Gateway corridor that will be performed under the same contract as the CSO sewer separation in that area. While we are making these improvements in Anacostia, we will also complete lead service line replacements so that neighborhood disruption will only occur once.

As part of this project, we are making special outreach efforts to our customers to keep them informed of project progress and the impact the project has on their daily water service.

Holistic Approach

Starting in FY 2005, Lead Service Replacement (LSR) contracts included the replacement of broken or defective hydrants, valves and sewer laterals. This approach results in the replacement of critical components of the water and sewer system. In 2005, planning commenced for small diameter main replacements for construction to begin in FY 2007. Starting in FY 2007, we will coordinate replacement of these small diameter water mains with the LSR work, utilizing a more holistic approach to water infrastructure work.

Lead Program

This year's ten-year CIP includes $360.8 million (cash disbursements basis) to continue the lead service replacement program. WASA has committed to replace all of the known lead service line pipes that are in public space. On February 1, 2006, the Board approved Resolution 06-27, which reaffirms its original goal of replacing approximately 23,000 lead water service lines by FY 2010 and committed to replacing any additional lead water service lines above its original goal of 23,000 as soon as practical and by no later than FY 2016. The following is additional information related to the lead program:

- In FY 2006, WASA achieved its annual goal and replaced over 4,000 lead service lines in public space. Through FY 2006, WASA has replaced approximately 10,500 lead service lines in public space, as a result of expediting its efforts in implementing the policy adopted by the Board in FY 2004.

- WASA has improved service while minimizing costs to ratepayers and disruption to neighborhoods by developing and implementing comprehensive programs. These programs combine replacement of lead service lines in public space with other needed repairs and replacement of the water supply infrastructure, such as addressing deteriorated mains, valves, and fire hydrants.

- As a result of the test pitting program, strong statistical inference indicates that the final number of lead service lines identified in the District may be between 33,000 and 35,000 once all the unknown services are identified through test pitting.

- To ensure a well-coordinated project, WASA hired a dedicated manager and staff for the lead service replacement work.

The portion of the water service pipe on private property is the responsibility of the property owner, and we continue to encourage our customers to replace their lead pipes while WASA continues to replace all lead pipes in public space throughout the District. It is disappointing that to date only about 3,700 customers have signed up to replace their portion of the service line. However, WASA will continue its partnerships with Wachovia Bank and the District's Department of Housing and Community Development in their programs to assist low-income property owners in financing the lead service line replacement work. We will also continue to aggressively encourage property owners to replace the private portion of the service lines.

Last year we began staffing-up our Water Quality unit and added technical resources. In FY 2007 and 2008 we will continue to work closely with the Washington Aqueduct to monitor any planned changes to the water supply. We will also continue our ongoing relationship with the District's Department of Health and with expert public health advisors from the George Washington University School of Public Health.

Water Quality Efforts

WASA's continuing and strong focus on water quality is demonstrated in the following updates on three major programs related to improving water quality:

- *Elimination of Dead Ends* **–** In FY 2005, we accelerated our efforts to eliminate dead ends, and expect to complete this work by FY 2007 (total cost of $16 million since we began this work in FY 1998).

- *Cleaning & Lining & Replacement of Water Mains* **–** As many of the unlined cast iron mains may be reaching the end of their useful lives, it will be determined if replacement is more economical than cleaning and lining.

- *Valve Replacement* **–** Broken valves can create unknown dead ends as well as delay critical capital and repair projects that improve water quality. Since 2001, almost $33 million has been programmed for large valve replacement. During the same period, approximately $4 million has been allocated for small valve replacements.

Washington Aqueduct – Currently, solids that settle out from the water treatment process at the Dalecarlia Treatment Plant and Georgetown Reservoir are periodically discharged to the Potomac River during high river flow conditions. Under the Aqueduct's NPDES permit and a related Federal Facilities Compliance Agreement, the Aqueduct is required to remove 85 percent of incoming sediments and not return them to the Potomac River. The Aqueduct has developed a proposed plan to build new dewatering facilities on site at its Dalecarlia treatment plant, and truck the dewatered sediments to land application sites. This project is currently under design. Construction is scheduled to start in FY 2008, with completion in FY 2009.

The projected cost of these facilities is significant, with current estimates ranging from $90 million to $117 million (all wholesale customers' cost). Due to increasing steel and concrete prices, we have included in our CIP WASA's share of $95 million, a $13 million increase over the prior year budget. WASA and its partners in Northern Virginia have been actively involved in reviewing this budget and will participate in the review of design and construction bid documents and contractor selection.

OTHER CONSIDERATIONS

We closely monitor emerging issues, including regulatory and development-related issues, to gauge their impact on our operations, our Capital Improvement Program and our ratepayers. We also look beyond our current ten-year plan for projects or operational changes that may be necessary to ensure reliable service to our customers.

Anacostia Waterfront Development & New Baseball Stadium –- The new Washington National's Baseball Stadium is under construction, and the "baseball district" encompasses critical portions of WASA's infrastructure, including a major pumping station, the Authority's Sewer and Fleet Operations and related facilities located at Main and O Street. WASA's sewer service and fleet operations, with over 150 employees and contractors and a significant portion of our 570-piece vehicle fleet, are headquartered at Main and O Streets, directly across from the location of the new stadium. Over the next few months, we will be evaluating the potential relocation of these facilities to other sites across the District and have included $32.5 million in this year's budget to cover the estimated costs of at least a temporary relocation and the development of a new site. We expect full reimbursement for all related costs by the District, and expect no impact on WASA ratepayers.

The Authority has taken appropriate steps to protect these critical assets that are essential to the provision of public services. These steps include identifying alternative sites of operations, as well as securing and ensuring WASA access to physical assets that cannot be relocated. We have established a framework for discussions, and negotiations are well underway with relevant parties, including the Anacostia Waterfront Corporation and the Office of the Attorney General, and we routinely communicate with other stakeholders, including the Sports and Entertainment Commission, the Executive Office of the Mayor and the District Council. As we evaluate these options, we will work to ensure to the extent possible, the highest and best use of this property and that our ratepayers appropriately share in the revenue benefits. Additionally, we are exploring the option of constructing an office building, with a joint parking arrangement, at the O Street location to house several of our offices including our customer service staff currently located at 810 First Street.

ACKNOWLEDGEMENTS

I would like to extend a special thanks to the WASA employees who have prepared the CIP. Special thanks go to staff in the Departments of Engineering and Technical Services, Information Technology, Public Affairs, and Office of the Chief Financial Officer for their hard work and dedication that made this document possible.

Sincerely,

Jerry N. Johnson
General Manager

District of Columbia
Water and Sewer Authority

Submitted October 26, 2006

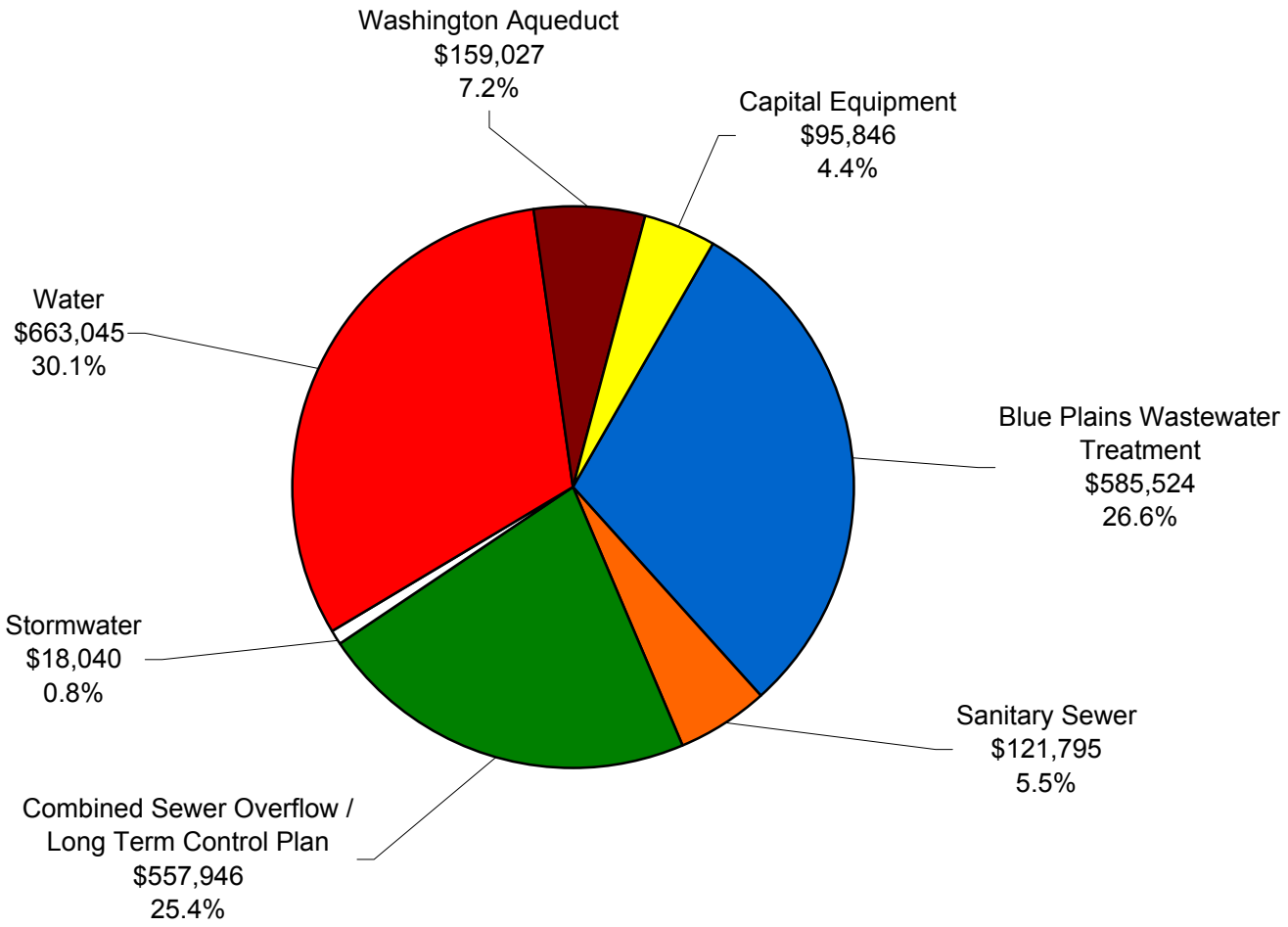
Glenn S. Gerstell, *Chairman*
Jerry N. Johnson, *General Manager*

Proposed FY 2006–2015 Capital Improvement Program

Section II: Capital Improvement Program (CIP) Overview & Summary

The Capital Improvement Program (CIP) includes repair and replacement of water and sewer lines throughout the District.

FY 2006 - FY 2015 Capital Improvement Program
($ in 000's)



Total $2.2 billion (Cash Disbursements)

FY 2006 – 2015
CAPITAL IMPROVEMENT PROGRAM OVERVIEW

WASA's ten-year capital improvement program (CIP) totals $2.2 billion (cash disbursements basis), approximately $22.2 million less than last year's plan. As discussed in Section I and in more detail throughout this document, the decrease is due, in part, to:

- reduction in disbursements in the Wastewater service area towards the tail-end of the 10 year plan, reflective of the completion of most of the major upgrade projects at the Blue Plains plant

- reduction in disbursements in the Water service area with the planned completion of lead service line replacements in FY 2014

The following sections summarize major projects and changes in each service area, with additional details for each project included in each service area section. Please note that all dollar amounts are presented on a project lifetime basis, except where noted otherwise.

WASTEWATER TREATMENT

The lifetime budget for the Wastewater Treatment Service Area is $1.4 billion dollars, reflecting a $36.2 million net increase over the last year's budget, due primarily to increased construction contract bid prices that WASA and other utilities have experienced in 2006. The increased bid prices reflect a major escalation in the prices of treatment equipment and construction materials, as well as a shortage of construction labor in the mid Atlantic region. Capital projects in the Wastewater Treatment Service Area are required to rehabilitate, upgrade or provide new facilities at Blue Plains to ensure that it can reliably meet its NPDES permit requirements and produce a consistent, high-quality dewatered solids product for land application. In addition to meeting permit requirements, WASA strives to reduce biosolids odors, both onsite and in the final product leaving Blue Plains.

We have reached a major milestone in our planned upgrade projects to the Blue Plains, as several of these projects are now complete (or substantially complete), and have been placed in service - the list includes: the screens and grit chambers, the primary and (most of) the secondary treatment facilities, the additional dewatering facilities, and the additional chemical systems for metal salts, polymers, and sodium hypochlorite. In tandem with the placing of these facilities in service, the process control system has also been implemented to enable monitoring and control of the upgraded equipment and systems, thus allowing WASA to achieve greater process control and treatment efficiency and also yielding operating cost control. The emphasis of the construction program for the liquid treatment processes will now shift to projects that enhance our advanced treatment processes of nitrification / de-nitrification and effluent filtration.

In FY 2006, WASA Board of Directors decided, after an extensive and rigorous evaluation, to reject the single bid received on the construction phase of the Egg-Shaped Digester project. The bid for that phase of the project was approximately 70 percent over WASA's FY 2006 construction budget for that contract. The total project cost has, in fact, continued to escalate from the originally budgeted $148 million in FY 2000 to $350 million in FY 2006 to an estimated $600 million in FY 2007 (if construction is initiated in FY 2007). This decision to defer the project until market conditions improve was based on an independently conducted economic analysis and an internal cost-benefit evaluation. Both assessments concluded that the unusually tight construction market, an abnormal spike in material costs and the project length were major factors in limiting bids and doubling the cost. Moreover, an evaluation of bids on other heavy wastewater-related construction projects in the D.C. metro area show similar cost increases that are well above estimates.

As part of its ongoing biosolids management program, WASA will continue to monitor the construction market, regulatory initiatives and evolving wastewater treatment technologies. With this and other information collected over the next three years, a revised strategy for long-term biosolids management, which may or may not include the digesters, will be presented to the WASA Board. The Digester Project is included in our CIP at a budget amount of $355.6 million.

Long-term upgrade projects now under construction include:

- Filtration and Disinfection Facility, Phase 1 - replacement of filter underdrains, media, and wash-water troughs to prepare filters for conversion to air-water wash system. The design of the Filtration and Disinfection Facility, Phase 1 contract is complete and the construction contract has been bid. The designs for upgrade of the Nitrification/Denitrification facilities and Raw Wastewater Pump Station 1 are complete and these two contracts have been advertised for bidding. These three projects will be under construction in FY 2007. Also, more than half of the effluent filters have been rebuilt and placed in operation. The remaining filters are expected to be completed in FY 2007
- Process Control Computer System – system will provide automated monitoring and control for processes throughout the plant, improve treatment, control and optimize chemical and power costs, and increase reliability of the facilities
- Switchgear Replacement – Main Substation – replacement of switchgear with new, larger units and supporting equipment and structure

COMBINED SEWER

The lifetime budget for the Combined Sewer Service Area is $2.1 billion, which includes the twenty-year CSO LTCP. The benefits of this plan are significant. When fully implemented, combined sewer overflows will be reduced by a projected 96 percent (98 percent on the Anacostia River), resulting in improved water quality.

We made great progress on our plan over the last two years. We are well underway with completion of approximately $140 million of projects that were included in the settlement of a lawsuit against WASA regarding implementation of the federal CSO Nine Minimum Controls program. These projects, which were budgeted and planned by WASA prior to the lawsuit, are projected to reduce combined sewer overflows by 40 percent. Of these projects, the rehabilitation, in FY 2004, of twelve inflatable dams, other system improvements and the recent completion of the Eastside Pump Station is expected to result in up to a 30 percent reduction in overflows. In addition, we have experienced over 40 percent reduction in floatable debris discharged into the Anacostia and Potomac rivers. Additional projects (Outfall Sewer rehabilitation-Project D2) have been identified under the current sewer assessment program and funded for $30 million in the CIP in order to meet the 1076 mgd plant flow requirement (see project sheet for additional details)

We have undertaken the rehabilitation of our major pumping stations to increase their capacity: three of these stations are in the construction phase, while the fourth (Poplar Point Pumping Station) is still in the design phase, with construction for all scheduled to be completed by calendar year 2009. We are also underway with engineering to separate additional combined sewer areas in Anacostia and Rock Creek. Additionally, we are completing studies to add Low Impact Development (LID) at several WASA facilities.

We are at the mid-point in the development of a Facility Plan for the Anacostia River CSO control projects. Alternative tunnel alignments have been developed and are being evaluated. Geotechnical investigations and soil borings are underway and the results will be used for the selection of an alignment and design of the tunnels. Hydraulic studies are also being made and coordination underway with other projects such as the South Capitol and 11th Street Bridges and future development of on Poplar Point. Our Facility Plan includes a strategy for public outreach to the appropriate parties on right of way and permitting requirements, water front development efforts, and neighborhood issues. An initial draft of the Facility Plan is scheduled to be submitted in December 2007 and the final Facility Plan is due for submission to EPA in September 2008. However, a recent Court decision from an environmental group's lawsuit involving the interpretation of Total Maximum Daily Pollutant Load (TMDL) measurement may have a potential impact on the LTCP implementation schedule, as we ensure that the Plan we undertake can achieve the goals and requirements of the Anacostia water quality objectives which are the basis of the LTCP. WASA is currently working with the Courts and EPA to clarify and resolve this issue.

STORMWATER

The lifetime budget for the Stormwater Service Area is $44.3 million, a slight increase from last year. This year's budget includes increased funding for a variety of projects to replace undersized, aged or deteriorated sewers. This increase is offset by reductions in DDOT stormwater projects done on behalf of WASA. There have been on-going discussions between WASA and DDOT regarding the responsibility for the storm water infrastructure, including the maintenance and cleaning of the catch basins. These infrastructures are integral components of roads and highways in the District, whose sole purpose is to drain out the city to avoid street and basement flooding. As such these are seen by WASA as responsibilities of DDOT.

Stormwater in the District of Columbia remains a challenge for District policymakers and for the agencies with the responsibility for managing the array of program activities as well as maintaining and improving the infrastructure (catch basins, underground facilities, pump stations, etc.). The District recently created the Department of the Environment, and continues to negotiate with the Environmental Protection Agency to address some of these matters. We are also continuing to evaluate stormwater issues independently while we work with the Executive Office of the Mayor, the Council and relevant government agencies to develop reasonable and workable solutions.

SANITARY SEWER

Lifetime budgets in the Sanitary Sewer Service Area total $281.5 million, an increase of $85.5 million over last year's CIP. Increases in the Sanitary Sewer Program Management and Planning (which covers the design and construction of replacement and/or rehabilitation of 3 small sanitary sewer pumping stations); addition of $16 million ($2 million per year) for assessing 90 miles of sewer per year through 2015; and Increases in Sanitary Interceptor/Trunk Force Sewer projects resulting from the current sewer assessment. In addition, the rehabilitation of Watts Branch Sewer is planned to begin in FY 2007, as WASA participates with the District in the Anacostia Waterfront restoration project.

The lifetime budget for the Potomac Interceptor increased by $3.2 million, to $44.4 million, in order to fund a complete inspection of the 50 mile pipeline over the next 10 years. In October 2000, WASA completed interim improvements to the Potomac Interceptor to address odor complaints and has been maintaining it pending permanent odor control improvements which will begin in FY 2007 and is scheduled to be completed in FY 2011. In addition to the odor control improvements, we have almost completed designing significant structural improvements to two large pipe segments of the Potomac Interceptor in Fairfax and Loudoun Counties, with construction scheduled to begin in FY 2007.

WATER

The lifetime budget for the Water Service Area is almost $1 billion, an increase of $41.1 million from last year’s CIP. Major water projects include lead service replacements, rehabilitation / construction of pumping stations such as Anacostia and Bryant Street; elimination of dead ends; water main replacement, rehabilitation and extension; fire hydrant replacement and valve replacement.

Projects in the Water Service Area are designed to maintain an adequate and reliable potable water supply to customers, and fire protection. Categories of projects include the rehabilitation and replacement of water mains, storage facilities, and pumping stations. This area also includes water service line and meter replacement.

The water distribution system includes appurtenances necessary for proper system operation, inspection, and repair. WASA’s system includes approximately 1,300 miles of pipe and over 36,000 valves of various sizes. A variety of valve types allow flow

control, prevent air entrapment, allow water main draining, permit flow in only one direction, and allow water transfer between service areas during emergencies. The system also includes approximately 9,000 hydrants.

WASHINGTON AQUEDUCT

The Washington Aqueduct, managed by the U.S. Army Corps of Engineers, provides wholesale water treatment services to WASA and its partners in Northern Virginia, Arlington County and Falls Church. WASA purchases approximately 76 percent of the water produced by the Aqueduct's two treatment facilities, the Dalecarlia and McMillan treatment plants, and thus is responsible for 76 percent of the Aqueduct's operating and capital costs. Under federal legislation and a memorandum of understanding enacted in 1997, WASA and its Northern Virginia partners have a much greater role in oversight of the Aqueduct's operations and its capital improvement program.

The proposed lifetime budget for WASA's share of Washington Aqueduct projects totals $175.5 million or $5.2 million less than last year's 10-year plan of $180.7 million. This change is due primarily to projects being completed and closed.

CAPITAL EQUIPMENT

The lifetime capital equipment budget (disbursements and commitments basis) totals approximately $95.8 million for FY 2006 – FY 2015 plan, approximately $5.8 million more than the last ten-year plan's $90 million. Over fifty percent of spending in the capital equipment area continues to be on major information technology projects, including the document management system (lifetime budget of $4.5 million) and the asset management system (lifetime budget of $9.8 million). WASA continues its commitment to scheduled replacement of its vehicle fleet, with a lifetime budget of $11.9 million, representing twelve percent of the ten-year plan. Finally, maintenance of large equipment at Blue Plains and in the major water and sewer pumping stations totals $12.8 million, or thirteen percent of the ten-year plan**.**

CIP DEVELOPMENT AND APPROVAL PROCESS

WASA's capital budget review process begins each year in the spring, as part of both our capital and operating budget review process. This process includes a review of major accomplishments, priorities, status of major projects and emerging regulatory and related issues impacting the capital program. Projections of changes in project lifetime budgets are also included. The review process involves the WASA departments with responsibility for managing the capital projects as well as finance and budget staff and executive management. The CIP is integrated into WASA's ten-year financial plan; because of its size, it is the primary driver of WASA's projected rate increases over the next ten years.

This review process lasts over several months and culminates with the presentation of the updated CIP to WASA's Board of Directors' Environmental Quality & Operations and Finance & Budget Committees in October. The Committees complete their

review from October through December. The operating budgets, capital improvement program, and ten-year financial plan are then forwarded to the full Board for its consideration in January.

After adoption by the Board of Directors, WASA is required to submit its annual operating and capital budgets to the Mayor and the District of Columbia Council for its review and comment; however, neither has power to change WASA's annual budgets. Final operating and capital budget numbers, along with the capital authority request will be forwarded to the District for inclusion in the District of Columbia's budget submission to Congress. WASA's request for capital authority is ultimately made to and approved by the U.S. Congress.

FACILITIES MASTER PLAN AND OTHER FACILITIES PLANNING TOOLS

The Water and Sewer Facilities Master Plan provides a twenty-year framework for developing, analyzing and evaluating changes to the CIP and includes projects currently in the ten-year CIP as well as proposed projects projected to begin after completion of the current ten-year planning period. It describes current conditions and presents a vision of the needs for the water and sewer systems and the actions planned to meet those needs.

WASA has also developed more detailed facilities plans for specific areas including; a Biosolids Management Plan for dealing specifically with biosolids issues, and Water Systems and Liquid Processing Facilities Plans for use as project planning tools in those areas.

DISBURSEMENTS AND PROJECT LIFETIME BUDGETS

As in the past, we have presented the CIP on both a project lifetime basis and cash disbursement basis. During the CIP review process, we perform an extensive review of the total project, or "lifetime" budgets, which also reflect historical spending prior to the current ten-year period, projected spending beyond the current ten-year period and project contingencies. Project lifetime budgets are our primary area of focus in budget development and day-to-day monitoring. In addition to lifetime budgets, we also develop cash disbursements forecast. Actual cash disbursements are critical to forecasting the anticipated level of rate increases and the amount and timing of capital financings. While cash disbursements are a function of project lifetime budgets, they reflect a more realistic projection of actual "cash out the door" excluding contingencies and taking into account historical and projected completion rates.

As in prior years, the budget document includes a comparison of this year's vs. last year's lifetime project budgets by program area for the Board's review. Changes have been made to some of the project lifetime budgets approved from last year due to a change in project scope, engineering cost estimates, site changes and other related issues. In addition, some projects are either closed or dropped from the CIP. In general, projects are closed or dropped from the CIP in the fiscal year following the end of project activity.

CAPITAL AUTHORITY

As part of WASA's enabling legislation, Congressional appropriations authority is required before any capital design or construction contract can be entered into. The FY 2008 request totals $446.6 million, and reflects the following:

- Remaining authority from prior years' appropriations;
- Projected commitments in FY 2007 and FY 2008;
- Planned FY 2009 (and first half of FY 2010) commitments to ensure adequate authority exists, in the event that any projects are accelerated.

Due to the timing of the Congressional appropriations process, authority requests must be made well in advance of commitment execution. Including projected FY 2008 and FY 2009 commitments allows us adequate flexibility to continue with contract commitments in the event that the U.S Congress delays budget approval and allows us to quickly accelerate or reprioritize projects into earlier years as approved by the Board. While this gives us flexibility to reprioritize projects, it should be noted that such changes and execution of any contract still require General Manager approval, with major projects and contracts requiring Board approval.

MAJOR ASSUMPTIONS

Inflation: All project costs are typically inflated at three percent annually to the mid-point of construction. However due to the exceptional increases in construction costs experienced in the recent past, some near term projects have been inflated in the range of five to eight percent per annum.

Contingency: WASA capital projects include project contingencies ranging from five to fifteen percent, based on the size of the project.

PROJECT PAGES

This document contains individual sections for each of WASA's seven service areas. Each service area is made up of specific projects. Within each service area section in this document, there are individual project sheets for each current capital project in that section. The capital project sheets contain general information for each project. The following information is included:

Service Area Title – currently, there are seven defined project service areas in WASA's CIP. The seven areas are: Wastewater Treatment, Combined Sewer Overflow / LTCP, Stormwater, Sanitary Sewer, Water, Washington Aqueduct and

Capital Equipment. The service area categorization groups together similar projects based on facility location and type of work being done in the project. Congressional capital authority is requested at this level.

Program Title – is a further categorization within the Service Area and groups projects by type of process. For example, in the Wastewater Treatment Service Area, there are three programs: Liquid Processing, Plantwide projects and Solids Processing.

Activity Group/Project Title – The activity group is the level at which WASA manages and monitors projects, including in the financial system and project management system. The project title reflects the descriptive name given to the project.

Service Area Manager – lists which department or organization manages the project. The majority of the projects in WASA's CIP are managed by an internal WASA operating department. WASA's CIP also includes some projects which are managed by outside organizations. It is advantageous for WASA to coordinate some of its capital work on the water and sewer infrastructure with the District's Department of Transportation (DDOT). The funding required for WASA's work is included in the CIP, but those projects are managed by DDOT. Approximately 75 percent of the Washington Aqueduct's capital program is funded by WASA, but the U.S. Army Corps of Engineers actually manages those projects.

Priority – WASA engages in and prioritizes capital projects based on specific criteria. The following is a list of definitions of the priorities shown on the individual project sheets:

National Pollutant Discharge Elimination (NPDES) Permit – The Blue Plains Wastewater Treatment Plant operates under the guidelines and restrictions of its NPDES permit issued by the EPA. This permit also includes provisions relating to the operation and improvement of the combined sewer system. It is anticipated that implementation of any approved CSO plan will be addressed in the NPDES permit and other legally enforceable agreements.

Administrative Order and Stipulated Agreement – WASA is under an administrative order that started in 2004 requiring lead service line replacements. Pursuant to Board Policy all lead service line replacements will be completed by 2016.

Consent Decree – This 1995 Consent Decree required a variety of operational reviews as well as implementation of pilot Biological Nitrogen Removal (BNR) and Return Sludge Chlorination projects at Blue Plains. Both of these projects have been completed. Although WASA is planning additional BNR Improvements that are still budgeted in this CIP, we are currently awaiting action by the federal government to terminate the agreement which related to the already completed projects.

Stipulated Agreement & Order – Wastewater Treatment Plant **–** This 1996 agreement required various operational activities and completion of upgrades to the Secondary Metal Salts facilities. This project was completed in FY 2002, and we are awaiting action by the federal government to terminate this agreement.

Good Engineering Practices – This category includes projects that are needed for rehabilitation and upgrading of facilities and pipelines required in order for WASA to fulfill its mission, as well as projects needed to resolve operational issues and inefficiencies (for example, the Process Computer Control System). Such projects utilize state of the art technology, will improve operations, and in some cases, will reduce operating costs.

Public Health and Safety – these are projects that are required to eliminate or mitigate a threat to human health or safety. These projects are also required to ensure that there is no failure to comply with WASA's NPDES permit requirements.

Federal Facilities Compliance Agreement (FFCA) – these are projects that are required to comply with FFCA, which is the Federal Agency equivalent of an Administrative Order.

District of Columbia Department of Transportation (Highway Projects) – projects managed by the D.C. Department of Transportation.

Project Description – general description of the work to be done within the project.

Impact on Operations – describes the anticipated impact on WASA's operations when the project is completed.

Design / Construction / Project Completion Dates– anticipated dates are shown.

Funding by User – lists the anticipated project funding, by source and is based on the current Intermunicipal Agreement (IMA) and anticipates EPA funding where grants have been previously approved or in anticipation of that approval.

Life Budget – the full project budget is approved and reviewed each year by WASA's Board of Directors. Proposed increases or decreases to the total project life budget are shown, if applicable. Lifetime budgets for program management

have been reduced, and project budgets increased, to reflect the allocation of costs for program management services at the conclusion of the prior fiscal year.

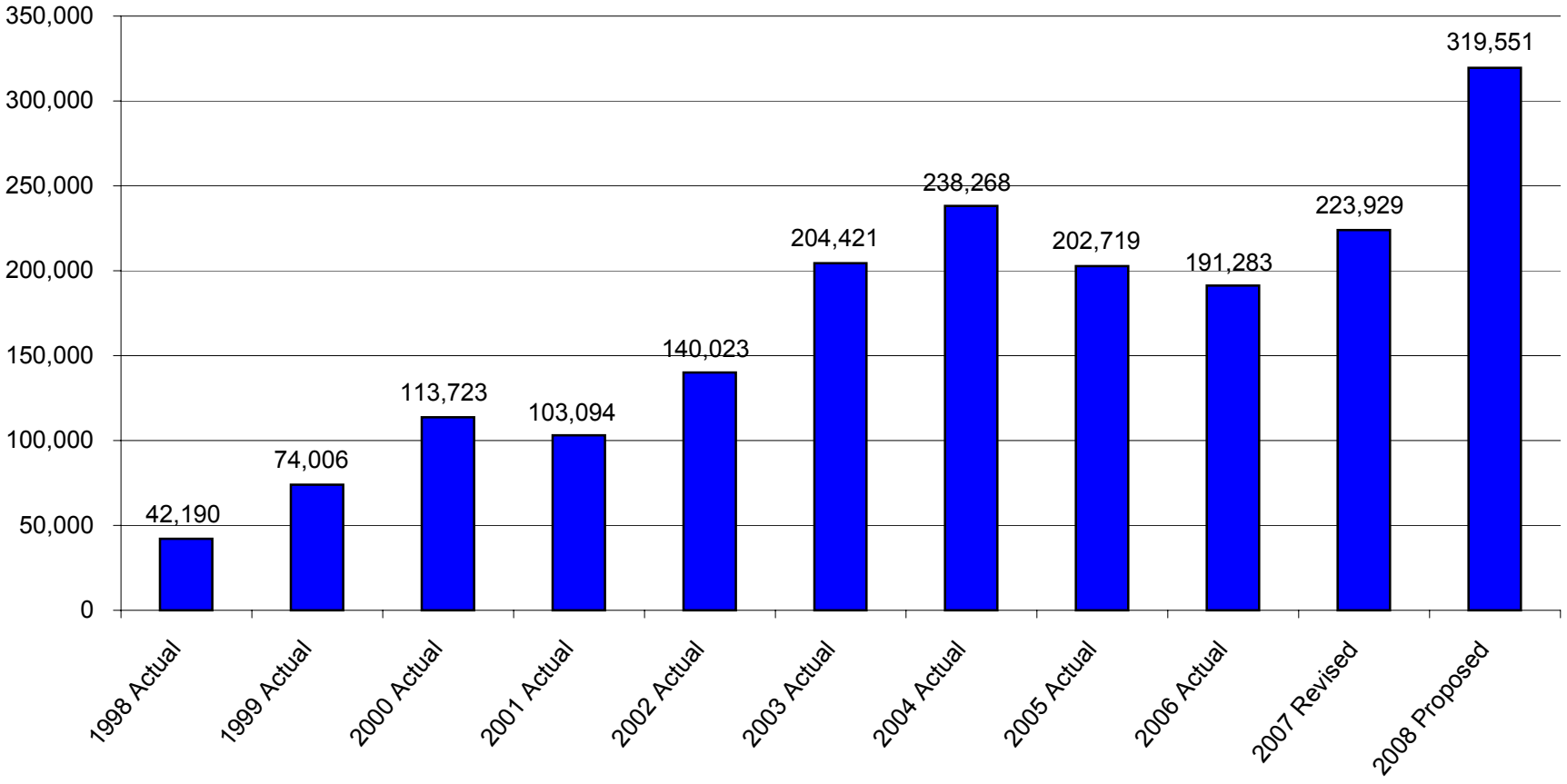
Disbursements / Commitments Budgets – projected disbursements and commitments for various projects are shown by fiscal year in which they are anticipated. Commitments budgets are based on total project budgets, which reflect the fully loaded, anticipated costs of a project, including project contingencies. Contingencies are not included when calculating disbursement budgets.

CAPITALIZATION POLICY

WASA's capitalization policy determines how expenditures will be recognized and accounted for. Because we also match the financing to the projected useful life of the item, it also determines how projects will be financed. The following guidelines are used to categorize items as capital, capital equipment or operating (maintenance):

- Maintenance related items – are routine, cost under $5,000, and do not extend the life of the item more than 3 years.
- Capital Equipment – has a life of at least 3 years, a cost exceeding $5,000 and is financed with short-term debt or cash.
- Capital Project – has a long life (average of 30 years), a minimum cost of $500,000, and is financed with 30 year bonds.

Historical and Projected Capital Spending
FY 1998 - FY 2008
($ in 000's)



FY 2006 - FY 2015 PROJECTED CAPITAL IMPROVEMENT PLAN - DISBURSEMENTS BASIS ($ in 000's)

	FY 2006 Actuals	FY 2007 Revised	FY 2008 Proposed	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	Total FY '06 -'15
Wastewater Treatment											
Liquid Processing Projects	41,254	28,028	39,221	41,981	26,318	10,748	1,579	1,860	2,816	5,686	199,491
Plantwide Projects	12,440	13,189	17,949	11,585	16,567	6,442	1,095	681	1,801	1,878	83,627
Solids Processing Projects	11,083	9,761	6,702	13,748	17,508	35,352	61,426	69,631	45,869	31,326	302,406
Sub-total	**64,777**	**50,978**	**63,872**	**67,314**	**60,393**	**52,542**	**64,100**	**72,172**	**50,486**	**38,890**	**585,524**
Sanitary Sewer											
Sanitary Collection Sewers	391	561	629	-	-	-	-	-	-	-	1,581
Sanitary On-Going Projects	3,123	4,073	3,527	3,155	3,155	3,896	3,500	3,796	4,059	4,193	36,477
Sanitary Pumping Facilities	1,436	1,081	3,948	2,099	-	-	-	-	-	-	8,564
Sanitary Sewer Projects Program Managemen	2,607	2,142	2,668	3,078	3,427	3,050	2,668	1,458	1,454	1,449	24,001
Sanitary Interceptor/Trunk Force Sewers	2,703	3,180	11,163	18,286	7,215	2,588	1,623	1,612	1,608	1,194	51,172
Sub-total	**10,260**	**11,037**	**21,935**	**26,618**	**13,797**	**9,534**	**7,791**	**6,866**	**7,121**	**6,836**	**121,795**
Combined Sewer Overflow / Long Term Control Plan											
CSO Program Management	1,257	779	113	139	93	89	-	-	-	-	2,470
Combined Sewer Projects	29,808	22,524	28,458	34,414	6,467	27	-	-	-	-	121,698
Long-Term Control Plan-											
Blue Plains	316	324	414	570	982	1,021	2,080	6,894	12,192	7,098	31,891
Anacostia Tunnel	2,864	16,611	16,147	12,733	20,705	21,125	39,099	54,577	89,566	126,396	399,823
Potomac Tunnel	-	-	-	-	-	-	-	-	-	2,064	2,064
Rock Creek Tunnel	-	-	-	-	-	-	-	-	-	-	-
	34,245	**40,238**	**45,132**	**47,856**	**28,247**	**22,262**	**41,179**	**61,471**	**101,758**	**135,558**	**557,946**
Stormwater											
Stormwater Extensions/Local Drainage	532	80	172	-	-	-	-	-	-	-	784
Stormwater On-Going Program	606	286	311	224	248	281	287	291	302	312	3,148
Stormwater Pumping Facilities	52	5	-	-	-	-	-	-	-		57
DDOT Stormwater Program	17	23	11	83	87	90	92	94	96	99	692
Stormwater Projects Program Management	499	548	713	729	808	653	455	113	-	-	4,518
Stormwater Trunk/Force Sewers	281	2,335	3,333	17	-	-	1,082	908	880	5	8,841
Sub-total	**1,987**	**3,277**	**4,540**	**1,053**	**1,143**	**1,024**	**1,916**	**1,406**	**1,278**	**416**	**18,040**
Water											
Water Distribution Systems	12,152	15,508	25,339	23,728	10,983	13,334	17,737	11,361	11,632	10,316	152,090
Water On-Going Projects	4,431	6,364	6,218	3,661	3,375	3,268	3,336	3,555	3,606	3,719	41,533
Water Pumping Facilities	7,219	13,440	16,499	4,696	-	-	-	-	-	-	41,854
DDOT Water Projects	698	1,571	1,772	1,041	1,012	1,208	1,228	1,220	1,267	1,308	12,325
Water Storage Facilities	11	45	155	272	2,810	1,778	939	6,563	2,519	675	15,767
Water Projects Program Management	2,325	2,343	2,322	2,320	2,349	2,423	2,522	2,499	2,493	2,499	24,095
Water Lead Program	28,378	32,537	37,619	34,571	39,775	42,604	44,132	45,454	42,908	12,371	360,349
Meter Replacement /AMR Installation	2,666	3,423	3,223	1,914	423	573	423	423	1,007	957	15,032
Sub-total	**57,880**	**75,231**	**93,147**	**72,203**	**60,727**	**65,188**	**70,317**	**71,075**	**65,432**	**31,845**	**663,045**
Washington Aqueduct	**11,096**	**24,509**	**76,762**	**6,557**	**5,265**	**6,953**	**7,635**	**7,020**	**6,683**	**6,548**	**159,027**
Capital Equipment	**11,038**	**18,659**	**14,163**	**10,751**	**7,913**	**6,348**	**6,378**	**6,240**	**8,168**	**6,188**	**95,846**
Total FY 2008 WASA Capital Improvement Program	**191,283**	**223,929**	**319,551**	**232,352**	**177,485**	**163,851**	**199,316**	**226,250**	**240,926**	**226,281**	**2,201,222**

FY 2006 - FY 2015 Capital Improvement Plan

Project Lifetime Budgets by Program Area ($ 000's)

	FY 2007 Approved	FY 2007 Revised / FY 2008 Proposed	Variance
Wastewater Treatment			
Liquid Processing Projects	507,289	541,207	33,918
Plantwide Projects	293,617	295,594	1,977
Solids Processing Projects	562,414	562,747	333
Sub-total	**1,363,320**	**1,399,548**	**36,228**
Sanitary Sewer			
Sanitary Collection Sewers	12,824	10,966	(1,858)
Sanitary On-Going Projects	63,540	65,827	2,287
Sanitary Pumping Facilities	22,577	22,882	305
Sanitary Sewer Projects Program Management	14,930	38,530	23,600
Sanitary Interceptor/Trunk Force Sewers	82,225	110,791	28,566
Sub-total	**196,096**	**248,996**	**52,900**
Combined Sewer Overflow			
CSO Program Management	17,254	17,754	500
Combined Sewer Projects	159,034	222,959	63,925
Long-Term Control Plan- Total			
Blue Plains	36,846	36,846	-
Anacostia Tunnel	1,372,545	1,372,545	-
Potomac Tunnel	418,700	418,700	-
Rock Creek Tunnel	70,342	70,342	-
Sub-total	**2,074,721**	**2,139,146**	**64,425**
Stormwater			
Stormwater Extensions/Local Drainage	2,488	2,333	(155)
Stormwater On-Going Program	6,840	7,125	285
Stormwater Pumping Facilities	1,173	1,173	0
DDOT Stormwater Program	4,739	4,230	(509)
Stormwater Projects Program Management	5,830	9,630	3,800
Stormwater Trunk/Force Sewers	22,048	19,850	(2,198)
Sub-total	**43,118**	**44,341**	**1,223**

FY 2006 - FY 2015 Capital Improvement Plan

Project Lifetime Budgets by Program Area ($ 000's)

	FY 2007 Approved	FY 2007 Revised / FY 2008 Proposed	Variance
Water			
Water Distribution Systems	257,955	289,447	31,492
Water Lead Program	438,486	438,486	0
Water On-Going Projects	63,776	71,090	7,314
Water Pumping Facilities	90,003	100,263	10,260
DDOT Water Projects	33,360	33,691	331
Water Storage Facilities	36,970	32,112	(4,858)
Water Projects Program Management	31,603	28,179	(3,424)
Meter Replacement /AMR Installation	47,336	47,336	-
Sub-total	**999,489**	**1,040,604**	**41,115**
Washington Aqueduct	**180,693**	175,475	**(5,218)**
Capital Equipment	**90,037**	95,845	**5,808**
Total WASA CIP Lifetime (see notes)	**4,947,474**	**5,143,955**	**196,481**

Notes:

1 Lifetime budgets shown here represent total budgets for projects that are active during the current 10-year CIP. Lifetime budgets include historical spending prior to the beginning of the current 10-year plan, spending during the 10-year plan, and projected spending beyond the current 10-year plan. Projects completed in FY 2006 will be dropped from the CIP next year

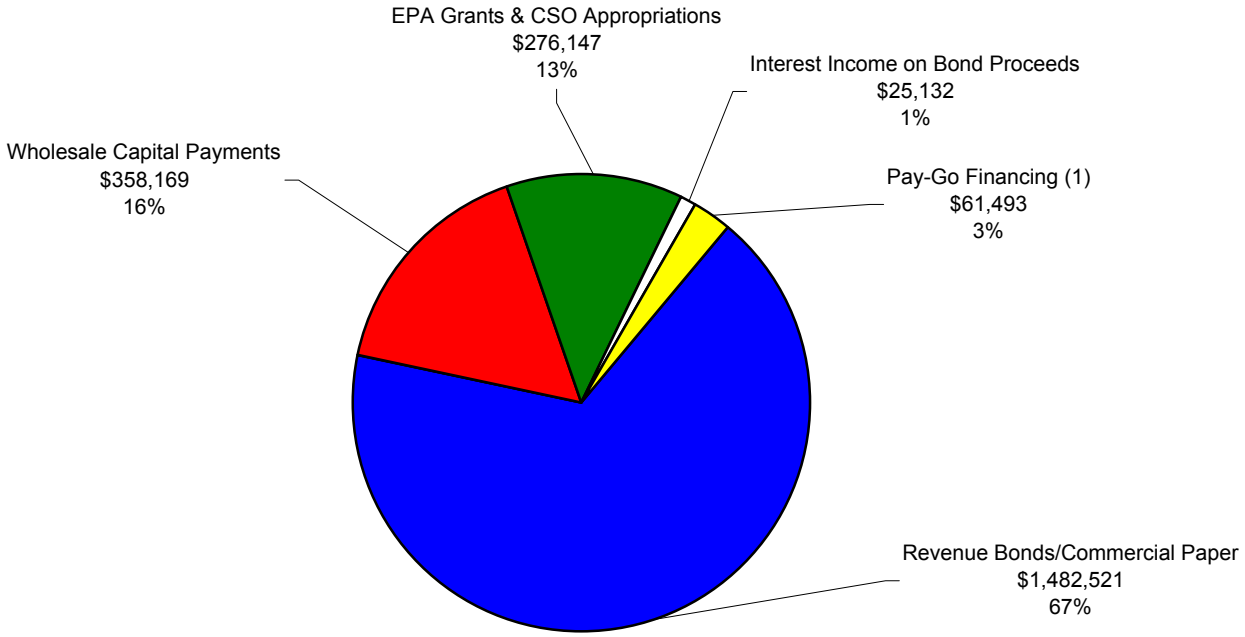
2 These budgets do not include inhouse labor costs, which historically have averaged $7 to $8 million annually and are applicable to, primarily, the time charged to capital projects by employees in the Departments of Engineering, Sewer Services, and Water Services.

Fiscal Year 2008 Capital Authority Request
($000's)

Service Areas	Fiscal Year 2008 Capital Authority Request
Blue Plains Wastewater Treatment	13,781
Sanitary Sewer System	110,503
Combined Sewer Projects	78,675
Stormwater [1]	0
Water System	193,782
Washington Aqueduct (WASA share)	19,175
Capital Equipment	30,668
Total	446,584

[1] The Stormwater projects' authority request is zero, as, existing (currently available) capital authority in this service area is in excess of projected commitments in FY 2007, FY 2008, FY 2009 and first half of FY 2010.

FY 2006 - 2015 CAPITAL IMPROVEMENT PROGRAM
Sources of Funds
(In $000's)



(1) Pay-go financing is any funds available after funding the 180 day operating and maintenance reserve, approximately $111.3 million in FY 2007. These transfers reduce the amount of new debt issuance.

Capital Improvement Program
Dropped or Closed Project Listing

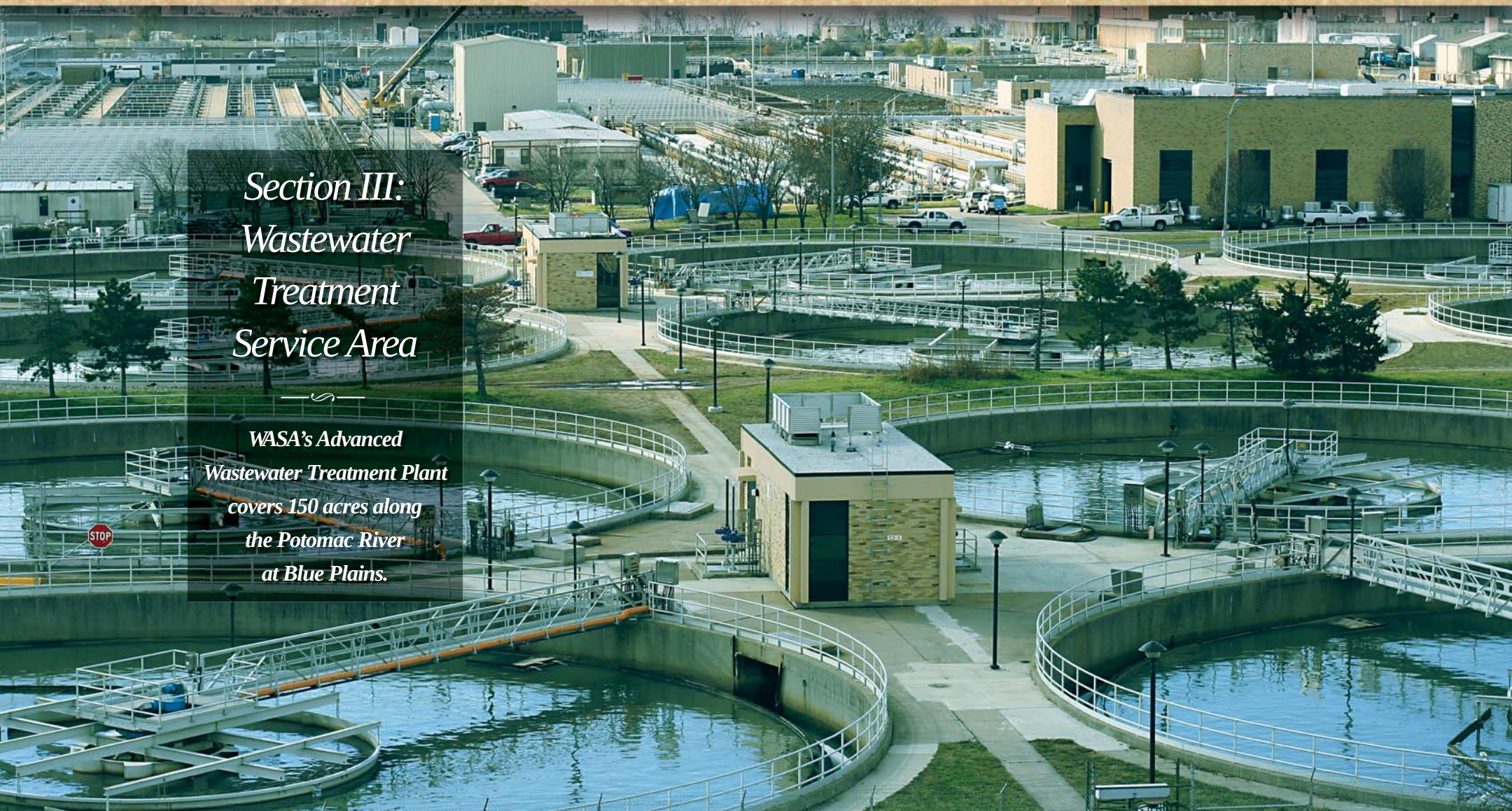
Activity Group	Project Title	Service Area	Cost at Completion
Closed Projects:			
TT	504H6 - OUTFALL PH ADJUSTMENT FAC	Wastewater Treatment	$2,270,856
YR	700F3 - BP-SITE, MECH, ELEC. PROJECT	Wastewater Treatment	2,709,327
TE	504C2 - ELECTRICAL POWER SYSTEM 69KV	Wastewater Treatment	3,252,560
TG	504D1 - DSLF ODOR CONTROL SYSTEM	Wastewater Treatment	24,567,615
P7	FY2006 - DDOT STORMWATER PROJECTS	Stormwater	0
A1	Capitol Hill Relief Sewer	Stormwater	1,445,240
S2	WDSC3 -Lg. Valve Replace-Contract 2	Water	2,330,828
E1	FY2001 - DWS Water Projects	Water	5,103,133
E5	FY2005 - DWS Water Projects	Water	3,339,469
PQ	Bryant Street Pump Station Paving	Water	2,258,619
			$47,277,647
Dropped Projects:			
TI	504F8 - AREA SUBSTATION NO. 5	Wastewater Treatment	$9,349,388
D3	Oregon Ave Drainage Complaint	Stormwater	16,720
F3	Storm Sewer Lawrence Ave NE	Stormwater	10,120
F4	3rd Street SE Storm Sewer	Stormwater	23,540
C3	FY2003 - DSS Storm Sewer Project	Stormwater	416,000
E7	Northeast Boundary Drainage Areas	Stormwater	2,197,264
J5	Repair Of Slash Run Sewer	Sanitary	83,982
OU	Wtrmain Replace Livingston Rd SE	Water	1,272,245
S1	WDSC2 -Lg. Valve Replace.-Contract 1	Water	871,688
S4	WDSC5 - 48"(3rd High)/42"(2nd High) Internal Jt.	Water	2,409,708
NN	873BM - Fort Reno Rehab.	Water	4,582,697
NP	873BS - Rehab. Blvd. Elev'd Tk. Phase I	Water	359,957
			$21,593,309

District of Columbia
Water and Sewer Authority

Submitted October 26, 2006

Glenn S. Gerstell, *Chairman*
Jerry N. Johnson, *General Manager*

Proposed FY 2006–2015 Capital Improvement Program



Section III: Wastewater Treatment Service Area

WASA's Advanced Wastewater Treatment Plant covers 150 acres along the Potomac River at Blue Plains.

WASTEWATER TREATMENT

WASA operates the Blue Plains Advanced Wastewater Treatment Plant, the world's largest advanced wastewater treatment facility. At Blue Plains, WASA provides wastewater treatment services to over 1.7 million people in our service area, including residents of the District of Columbia and significant portions of Montgomery and Prince George's Counties in Maryland and Fairfax and Loudoun Counties in Virginia. Wastewater treatment includes liquid process facilities that provide treatment for both sanitary wastewater flows and peak storm flows originating in the sanitary and combined sewer systems respectively, along with solids processing facilities that treat the residual solids removed by the liquid process facilities. Blue Plains is rated for an average flow of 370 million gallons per day (MGD), and is required by its National Pollutant Discharge Elimination System (NPDES) permit to treat a peak flow rate of 740 MGD through the complete treatment process for up to four hours, and continuous peak complete treatment flows of 511 MGD thereafter. The plant treats these flows to a level that meets one of the most stringent NPDES discharge permits in the United States. Additionally, up to 336 MGD storm water flow must receive partial treatment, resulting in a total plant capacity of 1,076 MGD. WASA has been removing nitrogen in its Biological Nutrient Removal (BNR) process and meeting the NPDES permit goal of 7.5 mg/l of total nitrogen. However, the US EPA has initiated a permit modification process that will add a total nitrogen permit limitation to WASA's NPDES permit for Blue Plains. The interim limit is expected to be 8.6 million pounds per year, which is equivalent to 7.6 mg/l at 370 mgd. This interim permit limit is the first step towards the final permit limit of 4.2 mg/l, which is the level that EPA has determined to be required for Blue Plains under the Chesapeake Bay Program. Although the capital projects required for Blue Plains to achieve the final permit limit are not included in the current Capital Improvement Program (CIP), the cost of implementing these projects is estimated to be in the $600 million to $1 billion range: major construction activity for these projects will need to be underway in FY 2012.

Overview of the Wastewater Treatment Process

The first wastewater treatment phase begins as debris and grit are removed by screens and grit chambers and trucked to a landfill. The sewage then flows into primary sedimentation tanks that separate about half of the suspended solids from the liquid. The liquid flows to the secondary treatment process where oxygen is provided to allow bacteria to break down the organic matter. In the next stages of treatment, bacteria convert ammonia into other forms of nitrogen and then into harmless nitrogen gas. Residual solids are settled out in each biological process. The water is percolated down through dual-media effluent filters, removing most of the remaining suspended solids. The water is disinfected and then treated to remove residual chlorine and discharged into the Potomac river. The solids from primary sedimentation tanks go to gravity thickening process units where the dense sludge settles to the bottom and thickens. Biological solids from the secondary and nitrification processes are thickened separately using flotation thickeners. All thickened sludge is dewatered, lime is added to reduce pathogens, and the organic biosolids are applied to agricultural land in Maryland and Virginia.

The lifetime budget for the Wastewater Treatment Service Area is $1.4 billion dollars, reflecting a $37 million net increase over last year's budget, due primarily to increased construction contract bid prices that WASA and other utilities have experienced in 2006. The increased bid prices reflect a major escalation in the prices of treatment equipment and construction materials, as well as a shortage of construction labor in the mid Atlantic region. As described in more detail below, capital projects in the Wastewater

Treatment Service Area are required to rehabilitate, upgrade or provide new facilities at Blue Plains to ensure that it can reliably meet its NPDES permit requirements and produce a consistent, high-quality dewatered solids product for land application. In addition to meeting permit requirements, WASA strives to reduce biosolids odors, both onsite and in the final product leaving Blue Plains.

We have reached a major milestone in progress on the major upgrade projects at Blue Plains that have been under construction over the past several years. All of these projects are now substantially complete and have been placed in service - the list includes: the screens and grit chambers, the primary and (most of) the secondary treatment facilities, the additional dewatering facilities, and the additional chemical systems for metal salts, polymers, and sodium hypochlorite. In tandem with the placing of these facilities in service, the process control system has also been implemented to enable monitoring and control of the upgraded equipment and systems, thus allowing WASA to achieve greater process control and treatment efficiency and also yielding operating cost control. The emphasis of the construction program for the liquid treatment processes will now shift to projects that enhance our advanced treatment processes of nitrification / de-nitrification and effluent filtration.

In FY 2006 five long-term upgrade construction projects were placed in service. These are:

- Grit and Screen Facilities – The grit collection bridges in the West Process grit chamber building and all of the influent fine screens have been placed in service. The screenings conveyors in Raw Wastewater Pump Station 2 are expected to be operational in November 2006.
- East Grit Facilities - The East Process grit collection bridges and grit conveyance systems have been placed in service.
- Secondary Treatment Facilities, Phases 2 – The West Process secondary treatment facilities including the concrete sedimentation building structures, sludge and scum collection equipment and aeration blowers and motors have been rebuilt. The six odd-side sedimentation basins are in service and the six even-side basins will be placed in operation in October.
- Additional Dewatering Facilities – Seven new centrifuges and two new sludge storage vessels are in service.
- Process Computer Control System (PCCS) – has been completed in stages that are tied to each of the major long-term upgrade projects. The ability to monitor and control process systems and equipment is provided as the facilities are upgraded.

Long-term upgrade projects now under construction include:

- Filtration and Disinfection Facility, Phase 1 - replacement of filter underdrains, media, and washwater troughs to prepare filters for conversion to air-water wash system. Over half of the effluent filters have been rebuilt and placed in operation. The remaining filters are expected to be completed in FY 2007.
- Process Control Computer System – will provide automated monitoring and control for processes throughout the plant, improve treatment, control and optimize chemical and power costs, and increase reliability of the facilities.
- Switchgear Replacement – Main Substation – replacement of switchgear with new, larger units and supporting equipment and structure.

The design of the Filtration and Disinfection Facility, Phase 1 contract is complete and the construction contract has been bid. The designs for upgrade of the Nitrification/Denitrification facilities and Raw Wastewater Pump Station 1 are complete and these two contracts have been advertised for bidding. These three projects will be under construction in FY 2007.

Liquid Processing Program – $541.2 million *(project pages III-9 to III-27)*

Projects in this program area encompass upgrading and rehabilitating facilities involved in handling flows from the sanitary and combined sewer systems. These flows progress sequentially through the plant processes to ultimate discharge of the treated effluent into the Potomac River. Liquid treatment systems include headworks facilities that screen and pump the wastewater flows, grit facilities that remove sand and grit particles, primary treatment facilities that remove solids by sedimentation, secondary treatment facilities that remove organic pollutants using a biological process, nitrification/denitrification facilities that remove nitrogen using a biological process, and effluent filtration, disinfection, and dechlorination facilities.

Specific major projects under this program that are now underway include:

- *Raw Wastewater Pumping Station 1 Upgrade (Project UD) $12.1 million* – This project will rehabilitate pumping equipment and appurtenances in one of the two stations that pump incoming wastewater into the plant. Final design was started in FY 2005 and completed in FY 2006. Construction is expected to begin in FY 2007.
- *Influent Screening Facilities Upgrade (Project TM) $38.8 million* – This project has installed fine screens to replace existing coarse screens at the head of the plant, as well as screenings conveyance, storage and outloading facilities. All screens are now in service, which greatly reduces clogging of sludge pumps in downstream processes. While the West Process screenings conveyor system is in service, the East Process screenings conveyor system will be operational during FY 2007.
- *Grit Chamber Facilities Upgrade (Project TF) $69.6 million* **–** This project has provided for the construction of an automated, continuous grit removal system in all sixteen chambers. Impacts on operations include the elimination of current manual cleaning of each grit tank and lowered maintenance costs of tanks and pumps. While all of the grit collection bridges and grit conveyance systems are in operation, a new heating system, for Grit Chamber Building No.1, that meets the current low emissions regulations will be constructed.
- *Biological Nutrient Removal (Project TK) $64.3 million* **–** This project funds multiple construction contracts to demonstrate and implement Biological Nutrient (Nitrogen and Phosphorus) Removal capability in order to meet the goals of the Chesapeake Bay Agreement. Final design is complete for the major upgrade of the BNR reactors and the project has been advertised for construction bids. This project is combined with Project TQ in a single construction contract. Construction is expected to start in FY 2007. This upgrade will provide for better flow distribution to the reactors, better process control within the reactors, and methanol feed control – all of which will enable the plant to meet its anticipated interim total nitrogen permit limit.

- *Secondary Treatment Facilities Upgrade (Project TO) $70.5 million (Phases I and II)*
  - *Phase II*- This project includes the rehabilitation of the West Secondary Sedimentation Basins (basins number 1-12) and the West Secondary Reactors. This will result in improved process efficiency, lowered chemical usage and lower maintenance costs. Construction started in FY 2003 and is scheduled to be complete in FY 2007. Six of the twelve sedimentation basins are back in service and the remaining six basins will be returned to service in October.
- *Nitrification/Denitrification Facilities Upgrade (Projects TQ & BR) $96.5 million* – This project is comprised of two liquid processing projects, one for rehabilitation and upgrade of nitrification sedimentation basins and the other for improvement of denitrification-related process components primarily in the reactors. This project will result in lowered maintenance and energy costs due to improved efficiency. Final design is complete and the project has been advertised for construction bids. Construction is expected to start in FY 2007.
- *Filtration and Disinfection Facilities Upgrade (Project UC) $64 million* – Replacement of existing filter media and the addition of an air/water backwash system and improvements to pump operation will result in reduced power usage and treatment costs due to reduced backwash water usage. This project was split into two contracts in order to expedite the full rehabilitation of the facility, which has experienced filter failures. The first contract will result in all of the filters being restored to operability with new filter underdrains and media. The second contract will provide a new air-water wash system and improve backwashing controls and instrumentation. Design started in FY 2002, the first construction contract was bid in FY 2004, and construction is expected to be completed mid way through FY 2007. Design for the second contract is complete; this contract has been bid and is expected to be underway early in FY 2007.

Other Liquid Processing Program projects included in the CIP but not scheduled to start until later, include:

- *Dual Purpose Sedimentation Basin Rehabilitation (Project BG) $20.0 million* – Replacement of sludge collection equipment, sludge and scum pumps, and support process equipment with design starting in FY2011.
- *Filtration/Disinfection Facility Phase II (Project BT) $14.6 million* – Replaces motors and variable speed drives on selected pumping units with design starting in FY 2011.
- *Nitrification / Denitrification Facilities Phase II upgrades (Project BR) $50.3 million* - Rehabilitation of lower priority items identified in concept in the Facility upgrade, such as major electrical rehabilitation of entire facility, major HVAC and plumbing upgrade for all building and galleries, and architectural rehabilitation for the Nitrification Blower Building, Control Buildings, and Electrical Buildings. This project will also be used to make process improvements to existing facilities to enable WASA to meet the final total nitrogen permit limit.
- *Primary Treatment Facilities Phase II (Project BQ) $14.8 million* – Structural repairs to the primary sedimentation tanks.
- *Grit Chamber Facilities Phase II (Project BP) $5.5 million* – Upgrade the grit chamber building structures and facilities including structural, architectural and building system renovation of office and storage spaces in each building.

Solids Processing Program – $562.8 million *(project pages III-45 to III-53)*

Biosolids processing involves reductions in volume along with treatment to meet federal or state and local requirements, as applicable, for the ultimate disposal method. Treatment is provided by a system of processing facilities that include gravity thickening

of primary sludge, floatation thickening of the biological waste sludges produced by the secondary and nitrification/denitrification processes, digestion of all biosolids streams, dewatering by centrifuge and lime stabilization. Dewatered biosolids are conveyed to the Dewatered Sludge Loading Facility for outloading to tractor-trailers for hauling to offsite land application sites, silviculture, and land reclamation sites. Solids processing facilities are required to produce a biosolids product that can be reused or disposed of in an economical and environmentally acceptable manner.

We are continuing implementation of our Biosolids Management Program, originally adopted by the Board in 1999. This plan, which included input from our neighbors, environmental groups, and other stakeholders, evaluated a number of options for long-term biosolids processing and disposal, and identified full biosolids digestion as a common element of all long-term approaches and continuing land application as long as financially advantageous. The total cost of this plan, in the present CIP, is close to $540 million, including the new egg-shaped digesters as well as a variety of ancillary projects (including portions of the process computer control system, additional dewatering facilities, etc.)

The digester project is the single largest project undertaken by WASA to date. Design of the digester project is complete and the first construction contract had been bid. However, WASA-Board has decided, after an extensive and rigorous evaluation, to reject the single bid received on the construction phase of the Egg-Shaped Digester project. The bid received for that phase of the project was approximately 70 percent over WASA's FY 2006 construction budget for that contract. The total project cost has, in fact, continued to escalate from the originally budgeted $148 million in FY 2000 to $350 million in FY 2006 to an estimated $600 million in FY 2007.

The decision by the WASA Board of Directors to defer the project until market conditions improve was based on an independently conducted economic analysis and an internal cost-benefit evaluation. Both assessments concluded that the unusually tight construction market, an abnormal spike in material costs and the project length were major factors in limiting bids and doubling the cost. Moreover, an evaluation of bids on other heavy wastewater-related construction projects in the D.C. metro area show similar cost increases that are well above estimates.

As part of its ongoing biosolids management program, WASA will continue to monitor the construction market, regulatory initiatives and evolving wastewater treatment technologies. With this and other information collected over the next three years, a revised strategy for long-term biosolids management, which may or may not include the digesters, will be presented to the WASA Board.

WASA's award-winning Biosolids Management Program has been recognized by the U.S. Environmental Protection Agency for its outstanding operations, technological advances, and promotion of the beneficial uses of municipal wastewater biosolids.

We also continue our outreach efforts to the end user communities of our biosolids product, primarily farms, forest land, and mine reclamation projects in Virginia. We have undertaken an innovative project at the Stafford County Airport for utilization of biosolids in generating ground cover in a previously non-productive area, and are applying biosolids to titanium mine sites in Dinwiddie County. We are also working to encourage the District government to utilize biosolids for fertilization of trees. We received a general permit for land application of biosolids from the Pennsylvania Department of Environmental Protection and are working with the State of West Virginia at a mine site, providing additional opportunities for cost-effective reuse of biosolids. We have also participated in a number of research projects related to biosolids utilization and odor control, which are described in more detail later in this document.

We are closely monitoring the status of legislation in Virginia relating to land application for biosolids, as well as actively participating in the work of national organizations addressing technical issues related to beneficial reuse of biosolids. For example, through our research, we are helping provide information to Virginia, which is considering regulations that may limit nitrogen applications during winter months. Additionally, DCWASA has gained certification from the National Biosolids Partnership (WEF, EPA, AMSA) recognizing a program that goes beyond mere regulatory compliance. DCWASA was the third organization certified nationally, and the first on the east coast. In addition, WASA received an EPA award for large operating systems operations excellence (first place), in November 2005, for its biosolids reuse program. The award recognizes excellence in operations, diversity, research, and outreach.

Other major projects under this program include:

- *Additional Dewatering Facilities (Project XC) $80.6 million* – This project has provided additional centrifuge dewatering equipment and modification of existing centrifuges to reduce dewatered solids generation. Impact on operational costs include reduction in hauling and contract dewatering costs. It also includes first-in/first-out silos for biosolids cake storage to minimize odors that occur from biosolids being stored for extended periods. Construction commenced in December 2001 and the new facilities and equipment are now in operation.
- *Biological Sludge Thickening Facilities (Project XB - formerly Centrifuge Thickener Facility) $47.4 million* - This project will upgrade the existing dissolved air floatation thickening units and provide mechanical thickening equipment. Improvements are expected to reduce sludge processing and chemical costs through improved efficiency. A design study commenced in late FY 2003. Final design began in FY 2005 and is expected to be completed in FY 2007.
  - *Gravity Thickening Facility Upgrade (Project BX) $14.8 million* -- This project includes the rehabilitation of gravity thickeners 1-4 and all sludge and scum pumping systems, as well as rehabilitation of equipment in the degritting and grinding facility and the addition of a system to add chemicals to the influent flow for odor control. Construction is complete and all facilities are in operation.

Plantwide Facilities Program – $295.6 million *(project pages III-28 to III-44)*

This program provides for upgrading, rehabilitating, or installing support systems and facilities that are required for both the liquid processing and solids processing programs. Systems include a Process control and Computer System (PCCS) for monitoring and control of all processes and facilities, upgrades to city and plant water systems, chemical systems, electrical power and distribution systems upgrade, telephone service, and data highway infrastructure for process, safety, security and information needs. Facilities comprise chemical receiving, storage, transmission and feed systems for chemicals used throughout the liquid and solids processes, including metal salts, polymers, sodium hypochlorite, and sodium bisulfite. Support facilities projects include the rehabilitation of the Central Operations Facility and the Central Maintenance Facility. Specific projects under this program include:

- *Process Control and Computer System - Phases 1, 2 and 3 (Project TA) $61 million* – This system allows for automation of a significant number of plant processes at Blue Plains, and better management of processes that are currently manually

monitored. Operating savings are anticipated from lowered chemical usage and electricity consumption, by minimizing peak demand, as well as lower staffing levels. This project is critical to achieving the goals presented in the Blue Plains Internal Improvement Plan. The new system is being implemented in three phases – phase I which began with the screens, grit chambers, primary and secondary treatment facilities, and dewatering processes, is substantially complete. Phase II will include nitrification, filtration, disinfection facilities, and Phase III will add the solids processing facilities. Construction on the project began in August 2002 and will continue through FY 2010. The new system is being constructed in conjunction with the major upgrade projects and will be placed in service in tandem with the upgrade-projects becoming operational.

- *Plantwide Fine Bubble Aeration System* - (*Project BI*) $60.3 million – The fine bubble diffuser conversion will provide the capability to transfer more oxygen to the process while saving overall energy consumption. This project has been divided into two Jobs: the first job is the one that replaces the coarse bubble diffusers in the Secondary Treatment process with fine bubble diffusers, and the second job will expands Secondary Reactors – 5 & 6 –: thus providing other improvements required to meet the long term total nitrogen limit of 4.2 mg/l. These improvements will provide improved treatment levels in the Secondary process, which will reduce the capital cost of other projects that will be required to provide added nitrogen removal. Procurement for the design of the first job is now underway. The second Job is currently scheduled to start in FY 2013, but may need to be accelerated to meet the future total nitrogen limit.

District of Columbia
Water and Sewer Authority

Submitted October 26, 2006

Glenn S. Gerstell, *Chairman*
Jerry N. Johnson, *General Manager*

Proposed FY 2006–2015 Capital Improvement Program

Section IV: Sanitary Sewer Service Area

Artist's rendering of the East Side Sewage Pumping Station completed in FY 2006.

SANITARY SEWER

WASA is responsible for wastewater collection and transmission in the District of Columbia, including operation and maintenance of the sanitary sewer system. WASA's sanitary sewer system includes approximately 600 miles of large interceptor sewers and smaller gravity collection sewers. WASA is also responsible for sewer lateral connections from the sewer mains to the property lines of residential, government, and commercial properties. In addition, WASA is responsible for the 50 mile long Potomac Interceptor System, which provides conveyance of wastewater from areas in Virginia and Maryland to Blue Plains. The existing sanitary sewer system in the District of Columbia dates back to 1810, and includes a variety of materials such as brick and concrete, vitrified clay, reinforced concrete, ductile iron, plastic, steel, brick, cast iron, cast in place concrete, and even fiberglass.

During FY 2007, WASA will continue the evaluation of the sewer system to determine its condition, verify adequate capacity, and develop new capital projects, as appropriate. A five-year contract (EPMC-IIIA, which will end in FY 2007), is providing the first stage of recommended projects to be included in the CIP, based on inspections performed on approximately 80 miles of the District's most critical sewer segments. The criticalities of these sewers were developed based on several factors including size, age, known problems, and locations such as under buildings. A second contract (EPMC-IIIB) will then be brought on board to continue the inspections and assessments.

An average of approximately $3 million in annual funding is included in the CIP for capital projects that will be recommended by the comprehensive assessment. Projects that have been identified in previous fiscal years that will continue to be addressed includes the Rehabilitation of Georgetown Sanitary Sewers, which entails the replacement of existing sewers found to have numerous structural defects, and the Watts Branch Sewer Rehabilitation, which is being developed as a cooperative effort with several District agencies. In general, projects in the existing sanitary sewer service area program provide for replacement or rehabilitation of the system as well as needed extensions to this system for development and growth.

The current CIP includes the following projects:

Sanitary Sewer Service Area - Management – $39 million (*project pages IV-29 to IV-30*)

During FY 2007, WASA will continue the comprehensive evaluation of the sanitary and combined sewer systems, as well as design management for sewer pumping station rehabilitations, as described in more detail below.

- Sanitary Sewer Program Management & Planning (EPMC-IIIA) – Project 'AU' - This Project allows WASA to assess the sewer system to determine if it is in an adequate structural condition, and has sufficient capacity to meet current service demands and planned growth. The planning effort is also required to comply with the current National Pollutant Discharge Elimination System (NPDES) permit, the Nine Minimum Controls consent decree, and pending federal regulations addressing sanitary sewer overflows.

- Design Management for Sanitary Sewer Pumping Stations - This ongoing project began in FY 2001, and provides for the management of the design and construction of three small sanitary sewage pumping stations requiring major rehabilitation or replacement. The third pumping station design will be completed in early FY07 (Project 'L4' – Upper Anacostia). Project 'L3' (Rock Creek) design is complete and construction procurement is underway. Project 'L5' (Earl Place) is under construction and will be completed in mid - to late FY07.

- Sewer Inspection Program – Project 'DN' – This program, scheduled to begin in early FY07, provides an on-going effort to further inspect the Authority's existing sewer system at a rate of approximately 90 miles of sewer lines per year beginning in FY 2008. The resultant information will assist in the scheduling and prioritization of sewer main line and lateral repair work.

Collection Sewer Projects – $11 million (*project pages IV-8 to IV-10*)

This program includes studies and projects to effectively eliminate stormwater, groundwater, and other infiltration and inflow to the sewer system, to separate stormwater flows, and to reduce other extraneous flows to Blue Plains. This category also includes projects to rehabilitate collection system sewers as well as projects that serve existing properties and new development. Noteworthy projects are:

- East Side Interceptor Rehabilitation – Project 'J3' - The portion of the sewer that traverses the National Arboretum has significant structural distress. Design is underway for the rehabilitation of the sewer with construction scheduled to start in 2007.

- Infiltration/Inflow City Wide (excluding National Park Service areas) Project 'I1' – This project corrects infiltration/inflow problems throughout the City that have been identified as cost effective. Construction of this project is underway and is expected to be completed in FY 2006.

- Sewer Rehabilitation on 10th & 12th, N.W. – Project 'I9' - This project consists of rehabilitation of deteriorated 36" and 30" diameter sewers on 10th Street, N.W. and on 12th Street, N.W.

Interceptor/Trunk Sewer/Force Sewers – $111 million (*project pages IV-31 to IV-36*)

This program includes large diameter sewers that may be required to serve new development, replace undersized sewers, or replace or rehabilitate large diameter sewers that have reached their useful life or are in need of major repair. In addition, this category includes approximately $1 million in FY 2007 for capital project design (A4) that may be identified as part of the comprehensive assessment of the sewer system.

The current CIP contains several projects in this service area, including:

- Potomac Interceptor Rehabilitation – Project 'N7' - The Potomac Interceptor Sewer System is a 50-mile long sewer that provides conveyance of wastewater from areas in Virginia, Maryland and the District to Blue Plains. WASA has been working with its wholesale customers on a variety of capital projects to address odor control issues related to the Potomac Interceptor and to ensure the long-term structural integrity of this major sewer. Costs have increased significantly on this project due to larger equipment needed to control odors, high architectural costs related in part to historical preservation requirements of the National Park Service, and difficult construction locations, including:

  - Potomac Interceptor Rehabilitation in Fairfax and Loudon Counties – This capital improvement Project includes funding to design and reconstruct portions of the interceptor in Fairfax and Loudoun Counties. The design is almost complete and construction bidding will take place in early FY 2007; construction is expected to begin in FY 2007.

  - General Potomac Interceptor Rehabilitation Projects – Funding is included to repair appurtenances of the Potomac Interceptor as determined by a study that was completed to assess the condition of the pipeline. This includes manhole replacement and rehabilitation of miscellaneous structures along the length of the line. Construction is underway, and is expected to be completed in FY 2007.

  - Additional Inspections and Access Road Improvements – Three projects are included in the CIP to further assess over 20 miles of the pipeline, improve deteriorated access roads for operations and maintenance needs, and to evaluate soil erosion along the pipeline at stream crossings and along the banks of the C&O Canal.

- Odor Control Projects – Project 'N7'

  - Interim Odor Controls – As an interim step, WASA installed odor-absorbing chemicals and passive carbon filters in manholes at selected locations where problems have been experienced. This interim project cost approximately $0.4 million and was completed in October 2000. These interim controls have been continually maintained, pending the implementation of the permanent odor controls, currently scheduled to begin in FY 2007.

- Permanent Odor Controls – WASA plans to install a permanent odor control system that includes a forced air/activated carbon filter system. This project will cost approximately $13 million. The conceptual design was completed in FY 2003. During the past three years, WASA has been seeking the requisite National Park Service permit, performing associated environmental assessments, and coordinating with the community. The National Park Service has issued a Finding of No Significant Impact in 2004 and permits are expected in the near future. Design of the project is ongoing, and the schedule calls for construction to begin in FY 2007 and to be completed in FY 2011.

- Upper Potomac Interceptor Rehabilitation – Project 'G4' - This project involves the repair of a major portion of the trunk sewer. This project was initially delayed due to inadequate capacity in the Upper Potomac Interceptor Relief Sewer, which is now available. The design will be completed in FY2007, and construction is anticipated to start in early 2007.

- Future Sewer System Upgrades – Project A4

  - Tide Gate Replacements - Design is underway, with construction to start in mid FY 2007 with completion in mid FY 2008. This project is for the replacement of the structures at various outfalls to prevent the river from flowing into the combined sewer system during high tides. It is estimated that approximately 40,000 gallons per day of river water that is currently being treated at Blue Plains WWTP can be prevented from entering the combined sewer system upon completion of the project.

  - Anacostia Main Interceptor (AMI) - Cleaning and inspection of AMI is underway with completion in late FY 2007. This project is for the cleaning and subsequent inspection of approximately 20,000 feet of 30 inch diameter to 66 inch diameter sanitary sewer that was determined to be approximately 50% blocked with grease and debris.

  - Georgetown Sewer Rehabilitation - Design is underway, with construction scheduled for mid FY 2007 and completion in mid FY 2008. Combined sewer inspections performed throughout the Georgetown neighborhood of the District found severe structural defects in the existing sewer system. This project is for the design and construction for rehabilitation of approximately 2,600 feet of the existing sanitary system. This project will utilize trenchless technologies to limit the impact to the existing neighborhood.

- Watts Branch Sewer Rehabilitation - Design is scheduled to start in early FY 2007, with construction scheduled to start in late FY 2007 and completion in mid FY 2009. This project is for the rehabilitation and relocation of several sanitary sewers that currently are exposed to the stream waters of Watts Branch, a tributary to the Anacostia River. Currently, Watts Branch and portions of the surrounding Marvin Gaye Park are to be restored under a separate project with US Fish & Wildlife & the DC Department of the Environment (DDOE). This project is for the design and construction of necessary sanitary infrastructure improvements to be accomplished prior to the anticipated stream and park restoration. Approximately, 2800 feet of sanitary sewer to be rehabilitated or relocated from stream waters. With anticipated costs of $5.6 million, DCWASA has budgeted $2.9 million to address our infrastructure concerns. The difference ($2.7 Million) will need to be funded by the Anacostia Waterfront Corporation (AWC).

- In addition to the above mentioned projects, approx $16.6 million is allocated for future projects in FY 2008 & FY 2009 and approximately $2 million a year thereafter until FY 2015. These funds are for projects being developed from the sewer assessment master plan scheduled for delivery in FY 2007 as well as for other currently undefined projects as inspection results are analyzed.

New Projects to this area in FY 2007 include:

- B St/New Jersey Ave Trunk Sewer Rehab – Project 'J0' – Make repairs to the numerous defects noted in this early 1900's brick sewer, as noted in the condition assessment study completed in the 2004 inspection program.

- Upper Anacostia Main Interceptor (UAMI) Relief Sewer – Project 'DM' – This project involves the replacement of approximately 2000 LF of 18-inch separate sanitary sewer installed 70 years ago with a 30-inch relief sewer. This will relieve the UAMI from surcharging during high flow periods minimizing flooding and back-ups, and was moved forward from FY 2013. This will also provide capacity for the high level of development that is revitalizing Anacostia Gardens, Liliy Pond and Kenwilworth Terrace neighborhoods.

- Oxon Run Sewer Leakage Correction – Project 'J1' – This project assesses the condition and develops needed repairs for a segment of sewer that crosses Oxon Run. Project scope includes additional sewer rehabilitiation (7,700 linear feet of 12 inch to 36 inch diameter sanitary sewer) and pilot study to eliminate infiltration (450,000 gpd estimate).

Pumping Facilities – $22.9 million (*project pages IV-25 to IV-28*)

This program includes projects required for the rehabilitation or replacement of existing wastewater pumping stations as well as projects for the engineering and construction of new wastewater pumping facilities, as needed to enhance reliability and integrity of WASA's sanitary sewer system. In addition, a Security Upgrade (Project 'CX') is scheduled to begin in mid-FY 2007, which will place interior and exterior cameras throughout WASA's Sewer Services Facilities, install traffic control devices, and install perimeter fencing. Additionally, this program includes costs for activities related to the Authority's planned relocation of certain facilities located at the Main and 'O' Pumping station, as described in more detail below.

The current program includes projects to rehabilitate three existing wastewater pumping stations:

- Upper Anacostia – Project 'L4' - The pumping station design will be completed in early FY07.
- Rock Creek – Project 'L3' – The design is complete and construction procurement is underway.
- Earl Place - Project 'L5' – The facility is under construction and will be completed in mid - to late FY 2007.

Ongoing Sanitary Sewer Projects – $66 million *(project pages IV-11 to IV-24)*

This area includes capital projects managed by the Department of Sewer Services including the replacement of sewer laterals and related capital improvements. The program also includes funding for the District of Columbia Department of Transportation (DDOT) road projects, which often require the relocation of sewers. Budget requirements are projected based on the best available information from DDOT. Other projects include:

- Pope Branch 12 inch Sewer Replacement – Project Q3 - This involves the complete rehabilitation of the existing sanitary sewer that runs along Pope Branch as part of an intergovernmental project to restore the park.

District of Columbia
Water and Sewer Authority

Proposed FY 2006–2015 Capital Improvement Program

Submitted October 26, 2006

Glenn S. Gerstell, *Chairman*
Jerry N. Johnson, *General Manager*

Section V: Combined Sewer Overflow Service Area

Truck-mounted drilling rigs will take soil borings in the District to determine the CSO tunnel alignments.

COMBINED SEWER AREA (*project pages V-5 to V-23*)

Similar to many older communities in the Mid-Atlantic, Northeast, and Midwest portions of the country, a portion of the District of Columbia is served by a combined sewer system. Approximately one-third of the system is combined, mostly in the downtown and older parts of the city. In dry weather, the system delivers wastewater to the Blue Plains Wastewater Treatment Plant. In wet weather, storm water also enters the system, and if the conveyance capacity of the system is exceeded, the excess flow spills into the waterways of the District of Columbia. This discharge is called Combined Sewer Overflow (CSO). There are 53 permitted CSO outfalls in the District.

In December 2004, WASA reached agreement with the environmental plaintiffs, the U.S. Environmental Protection Agency, and the U.S. Department of Justice on the CSO Long-Term Control Plan (LTCP), a major milestone in WASA and the District's history. This agreement has been formalized in a judicial consent decree entered by the U.S. District Court in March 2005. The agreement calls for WASA to complete the LTCP over a twenty-year period. The judicial consent decree includes provisions to modify the selected CSO controls and schedules included in the decree. Modifications may be requested because of changes in the technical, regulatory, financial and institutional bases used to develop the LTCP. Currently, WASA is in the process of evaluating a modification request for the Blue Plains Excess Flow Treatment Facilities that are part of the selected CSO controls included in the decree. This modification may be required to accommodate a potentially new total nitrogen effluent limit of 4.2 mg/l that EPA may include in the Blue Plains NPDES Permit.

Additionally, we recently initiated our Anacostia River CSO projects facility planning efforts. This planning will include advancing the conceptual designs developed in the LTCP to the preliminary design stage. The outcome of the facility planning may identify the need for additional modifications to the selected CSO controls and schedules included in the decree. An initial draft of the Facility Plan is scheduled to be submitted in December 2007 and the Final facility Plan is due for submission to EPA in September 2008.

A recent Court decision from an environmental group's lawsuit involving the interpretation of Total Maximum Daily Pollutant Load (TMDL) measurement may have a potential impact on the LTCP implementation schedule, as we ensure that the Plan we undertake can achieve the goals and requirements of the Anacostia water quality objectives which are the basis of the LTCP. WASA is currently working with the Courts and EPA to clarify and resolve this issue.

The benefits of our twenty-year plan are significant - when fully implemented, combined sewer overflows will be reduced by a projected 96 percent (98 percent on the Anacostia River), resulting in improved water quality and a significant reduction in debris on our national capital's waterways. In addition, WASA's clean-up efforts on the Anacostia River are a key cornerstone of the District's plan to redevelop both sides of the river, including the new baseball stadium, retail development and affordable housing among other projects.

The $1.9 billion plan includes a variety of improvements throughout the District:

- $37 million (Project BL) to increase excess flow treatment capacity at Blue Plains: facility planning began in FY 2005 with project completion in FY 2016.
- $1.4 billion (Project CY) to construct an eight-mile tunnel system to control Anacostia River overflows, two side tunnels for flood control, a lift station and an interceptor, with project completion in FY 2025.
- $419 million (Project CZ) to construct a three-mile tunnel system to control Potomac River overflows and a lift station, with facility planning to begin in 2015 and project completion in FY 2025.
- $70 million (Project DZ) to construct a mile long tunnel system to control Piney Branch/Rock Creek overflows, with facility planning to begin in 2016 and project completion in FY 2025.

Construction is well underway with completion of approximately $170 million of projects ($140 million that were included in the settlement of a lawsuit against WASA regarding implementation of the federal CSO Nine Minimum Controls program, plus $30 million added this year, see 'D2' below). These projects, which were previously budgeted and planned by WASA prior to the lawsuit, are projected to reduce combined sewer overflows by 40 percent. Of these projects, the rehabilitation, in FY 2004, of twelve inflatable dams, other system improvements and the recent completion of the Eastside Pump Station is expected to result in up to a 30 percent reduction in overflows. We are also underway with engineering to separate additional combined sewer areas in Anacostia and Rock Creek. Additionally, we are completing studies to add Low Impact Development (LID) at several WASA facilities. We have undertaken the rehabilitation of our major pumping stations to increase their capacity: three of these stations are in the construction phase, while the fourth (Poplar Point Pumping Station) is still in the design phase, with construction for all scheduled to be completed by calendar year 2009:

- Potomac Pumping Station rehabilitation (Project BB), with a lifetime budget of $17.5 million, includes replacing pump motors, motor controls, adding variable speed drives, upgrading the electrical system and electrical feeders, and modifying the existing wet-wells and influent channels. Completion of this station is expected in FY 2008.

- Main & "O" Street Pumping Stations rehabilitation (Project K1) has a project lifetime budget of $75.7 million, and includes rebuilding and upgrading sanitary pumps, upgrading electrical and ventilation systems, replacing screens and, installing a screening handling system, and installing odor control systems. Completion of this station is expected in FY 2008.

- East Side Pumping Station rehabilitation (Project K3), with a lifetime budget totaling $18.5 million, provides for a new, above-grade pumping station. The new station is operational and efforts at this location are over 90% complete.

- Poplar Point Pumping Station rehabilitation (Project K4) has a lifetime budget of $6.5 million, and provides for improvements that include structural and architectural repairs, HVAC upgrades, the addition of an odor control system, and electrical and lighting upgrades. Design of the station is currently 50% complete.

Additional projects added during this years' budget cycle include:

- Outfall Sewer Rehabilitation – Project 'D2' – $30 Million - The Three-Party Consent decree requires WASA to assure that it can convey 1076 mgd to Blue Plains after September 2008. The Decree allows extension of this deadline if conditions, that were unknown at the time the Decree was signed, are found in the collection system and require corrective action. In anticipation of this deadline, WASA inspected the large diameter sewers which convey wastewater from the pumping stations to Blue Plains. The sewers are called the "Outfall Sewers" and all of the flow to Blue Plains is carried by these pipes. The inspections revealed significant corrosion and exposed reinforcing steel in portions of the pipes. Engineering analyses determined that the conduits could not carry 1076 mgd due to their condition. As a result, this project will rehabilitate approximately 4 miles of the Outfall Sewers. In accordance with the decree, WASA has requested approximately a 4 year extension of the requirement to convey 1076 mgd until the rehabilitation project is complete.

- Main & 'O' Pump Station Area Development Effort – Project 'DD' – In FY 2006 the DC Council approved DC Mayor's plan to build a $ 700 million baseball stadium for the new DC baseball team at the Anacostia Waterfront, where a part of WASA's current facilities is located. The District, through Anacostia Waterfront Development Corporation (AWDC), has agreed to pay for relocation of the said WASA facilities to a new site. We have included $ 32.5 million in this year's budget to cover the estimated costs of at least a temporary relocation and development of the new site. We expect to be fully reimbursed for all related costs by the District, and expect no impact on WASA rate-payers.

District of Columbia
Water and Sewer Authority

Submitted October 26, 2006

Glenn S. Gerstell, *Chairman*
Jerry N. Johnson, *General Manager*

Proposed FY 2006–2015 Capital Improvement Program

Section VI: Stormwater Service Area

There are approximately 600 miles of storm sewer pipes in the District that convey storm runoff to Blue Plains for treatment.

STORMWATER

WASA is responsible for the design, construction and maintenance of certain public facilities that convey stormwater runoff to the Anacostia and Potomac Rivers, Rock Creek, and other receiving streams. The stormwater system includes approximately 600 miles of storm sewer pipes, catch basins, inlets, special structures and related facilities. Some components of the existing storm sewer system are over 100 years old. The system is constructed of a variety of materials such as ductile iron, plastic, steel, brick, cast iron, cast-in place concrete, brick and concrete, vitrified clay, and concrete. Projects include extensions to the system, relief of certain storm sewers, as well as projects to rehabilitate or replace storm sewer systems that have experienced structural deterioration.

The lifetime budget for the Stormwater Service Area is $44.3 million, a slight increase from last year. As in last year's budget, we have not included funding for stormwater pumping rehabilitation projects. This year's budget includes increased funding for a variety of projects to replace undersized, aged or deteriorated sewers. This increase is offset by reductions in DDOT stormwater projects done on behalf of WASA. There have been on-going discussions between WASA and DDOT regarding the responsibility for the storm water infrastructure, including the maintenance and cleaning of the catch basins. These infrastructures are integral components of roads and highways in the District, whose sole purpose is to drain out the city to avoid street and basement flooding. As such these are seen by WASA as responsibilities of DDOT.

Stormwater in the District of Columbia remains a challenge for District policymakers and for the agencies with the responsibility for managing the array of program activities as well as maintaining and improving the infrastructure (catch basins, underground facilities, pump stations, etc.). The District recently created the Department of the Environment, and continues to negotiate with the Environmental Protection Agency to address some of these matters. We are also continuing to evaluate stormwater issues independently while we work with the Executive Office of the Mayor, the Council and relevant government agencies to develop reasonable and workable solutions.

District of Columbia Stormwater Permit and Enterprise Fund

Under the District of Columbia Storm Water permit Compliance Act (DC law 13-311), DCWASA was designated as the Administrator of the District's MS4 Administration. It was also charged with the responsibility to collect and dispense the Storm Water Enterprise Funds. WASA's primary function is to coordinate the activities of the storm water Task Force Agencies (DPW, DOT & the Environmental Health Administration within the DOH – now called the Department of Environment, or DOE) to ensure that the District is in compliance with the requirements of the MS4 NPDES permit issued to the District of Columbia government.

Fees collected in the MS4 Enterprise Funds have been approximately $3 million per year; except DCWASA and DPW, the other Task Force agencies (DOT and DOE) have not been fully utilizing the funds. However, all of the reporting requirements of the permits have been met. There have been deficiencies in storm water monitoring to be undertaken by DOE, and in some cases WASA had to step in and undertake some of the monitoring. More importantly, there has not been any significant reduction in storm

water pollution control during the first permit period (2000-2004). Under the new permit issued in August 2004, DC is expected to undertake specific projects that would move the city towards compliance with the Total Maximum Daily Load (TMDL) requirements set for stormwater effluents by the DOE. The MS4 Administration has provided to EPA Region III the Anacostia TMDL Compliance Plan and the Rock Creek TMDL Compliance Plan, as required by the permit. It is estimated that approximately $7 million per year will be required to meet all the requirements of the permit. Efforts are underway by the highest level of the government and WASA to identify specific projects, systems, management tools and funds that would be required to make significant progress in reducing storm water pollution.

EarthJustice (EJ) has contested the 2004 MS4 NPDES permit on behalf of several environmental groups alleging that the permit does not require the district to meet the water quality standards. Negotiations are underway between EJ, DC government (WASA also participates) and EPA to resolve the issues. This may require the District to undertake additional projects, costing more than the estimated $7 million needed to meet the permit.

In December 2005 D.C. City Council enacted, and the Mayor approved, the “District Department of Environment Establishment Act”. Section 103 E (2) of the Act provides for the transfer of the MS4 Administration from WASA to the District’s DOE within one year. WASA will continue to contribute towards storm water pollution control as the MS4 Administrator during this time and will remain engaged after the transfer. WASA’s General Manager has already offered to assist DOE with the transition.

Stormwater Program Management - $9.6 million *(project pages VI-37 to VI-37)*

This area provides for design management and construction management of all storm sewage pumping stations requiring major rehabilitation or replacement, as well as long term planning. It also provides for funding for the sewer system program management consultant for work associated with the storm sewer system.

Trunk/Force Sewers – $19.9 million *(project pages VI-38 to VI-39)*

This program includes large diameter storm sewers and pumping station force sewers that replace undersized sewers, or replace or rehabilitate storm sewers that have reached their useful life or have experienced structural deterioration. In 2005, WASA completed construction on improvements to the Northeast Boundary sewer in Northeast Washington, which helped relieve localized flooding in this area. We will be starting three significant projects to address drainage problems in 2006, one near Broad Branch Road, another near Macomb Street, and one near the Henson Ridge development in the southeast quadrant of the District. Additional projects will be developed based on the results of comprehensive sewer system evaluation, which is being performed by the engineering project management consultant over the next several years.

Pumping Facilities - $1.2 million *(project pages VI-21 to VI-21)*

As in last year's budget, we have not included funding for stormwater pumping rehabilitation projects. We have been engaged in extensive discussions with the District over the last few years regarding how responsibilities for a variety of stormwater-related functions are divided among District agencies, including responsibility for stormwater pumping stations, and all work had been deferred pending resolution of this issue.

Extension/Local Drainage Projects - $2.3 million *(project pages VI-5 to VI-7)*

This category includes several projects to relieve local flooding and to address short term needs for improvements to storm sewers located in the separate and combined sewer areas. A significant project to highlight is the sewer lining at 22nd & P Streets, NW, which will correct a drainage and flooding problem. The design will be completed during FY 2006, and construction is scheduled to begin later this year.

On-Going Stormwater Projects – $7.1 million *(project pages VI-8 to VI-20)*

These include projects carried out by WASA's Department of Sewer Services, including storm sewer rehabilitation and extensions to serve new development.

DDOT Storm Projects – $4.2 million *(project pages VI-22 to VI-36)*

This program funds projects associated with DDOT road projects, which often require relocation of storm sewers, inlets or other structures. We have reduced the lifetime budgets in this area based on an analysis of actual spending and work completed over the last three to five years, which has been significantly less than budgeted.

District of Columbia
Water and Sewer Authority

Submitted October 26, 2006

Glenn S. Gerstell, *Chairman*
Jerry N. Johnson, *General Manager*

Proposed FY 2006–2015 Capital Improvement Program

Section VII: Water System Service Area

Large valve replacement is essential to the control and reliability of the water distribution system.

WATER

Projects in the Water Service Area are designed to maintain an adequate and reliable potable water supply to customers, and fire protection. Categories of projects include the rehabilitation and replacement of water mains, storage facilities, and pumping stations. This area also includes water service line and meter replacement.

The water distribution system includes appurtenances necessary for proper system operation, inspection, and repair. WASA's system includes approximately 1,300 miles of pipe and over 36,000 valves of various sizes. A variety of valve types allow flow control, prevent air entrapment, allow watermain draining, permit flow in only one direction, and allow water transfer between service areas during emergencies. The system also includes approximately 9,000 hydrants.

The lifetime budget for the Water Service Area is almost $1 billion, which is similar to last year's CIP. Major water projects include lead service replacements, rehabilitation and / construction of pumping stations such as Anacostia and Bryant Street; elimination of dead ends; water main replacement, rehabilitation and extension; fire hydrant replacement and valve replacement.

Lead Service Replacement Program – $438 million *(project pages VII-80 to VII-80)*

In FY2006, WASA achieved its goal and replaced over 4,000 lead services lines in public space. Through FY2006, WASA has replaced approximately 10,000 lead service lines in public space, well on the way to the boards FY2004 goal of replacing the original inventory of 23,000 lines by FY2010. While we are not yet certain about the exact number of lead lines in the system, given the results of ongoing test pitting, the current budget provides funding for an additional 12,000 lines during the later years of the CIP beginning in FY2011. In addition to the physical replacement of the service lines, a comprehensive approach to construction, public relations, and customer service has been developed.

Water Service Area - Management – $28 million *(project pages VII-79 to VII-79)*

This program area provides engineering program management services for the water system capital improvements program, including assessing system needs, developing facilities plans and conceptual designs, and managing design consultants through the development of scope of work, cost estimates, task orders or agreements, and design document review.

Water Pumping Facilities – $100 million *(project pages VII-53 to VII-57)*

This program includes several projects to rehabilitate or replace water-pumping stations in the system.

- A major rehabilitation of the Bryant Street Pumping Station (Project M6) was implemented to meet current code requirements and maintain the reliability of the water distribution system. Work includes replacing 11 high lift pumps, architectural improvements to the building, replacing heating, cooling and ventilating system, site improvements, replacing water mains, cathodic protection of a 48-inch steel water main, rehabilitating the warehouse and shop buildings, and an electronic security system. Also, upgrading SCADA for the water distribution system is included. Major rehabilitation of the Bryant Street Pumping Station will be completed in FY2006 at a total cost of $64.2 million; $2.2 million represents paving (Project PQ- Bryant Street Pump Station Paving) for Bryant Street.
- The Fort Reno Pumping Station (Project AY) will be upgraded to improve pressure in the fourth high service area in the northwest quadrant of the District. The addition of twenty (20) water distribution pressure sensors was added to this construction contract to better monitor the system. Construction is currently scheduled to commence in FY2007 at a total project cost of $2.7 million.
- The Anacostia Pumping Station (Project M7) will be replaced on the same site it presently occupies, and will include multiple sets of booster pumps and a 30-inch transmission main to increase pressure in the southern portion of the Anacostia first high service area. Final design has been completed and construction is schedule to start in FY2007 at a total project cost of $33 million.

Water Storage Facilities – $32 million *(project pages VII-74 to VII-78)*

Studies have identified the need for several new storage facilities to support changing development patterns, to provide additional water pressure to certain areas of the District, and to provide emergency backup service. The most immediate need is for two million gallons of elevated storage tank in the southern portion of the Anacostia first high service area. Necessary approvals and permits are being pursued, with construction expected to start in FY2009. In addition, two storage projects are included in the latter years of the CIP, which consist of a 5 million gallon reservoir in the 2nd high service area, expected to commence in FY2008, and a 2 million gallon elevated storage tank in the 4th high service area, expected to start in FY2014.

Water Distribution System – $289 million *(project pages VII-7 to VII-36)*

This program provides for rehabilitation, replacement or extension of the water distribution system through several project categories. This year's water distribution system budget includes increases for a variety of water quality-related work, primarily in the small main area. Highlights of the work under this program by project category includes:

- *Valve Replacements* - This involves replacing defective valves throughout the water distribution system. Operable valves are necessary to complete the annual flushing program, for routine and emergency system repairs, and for support of capital projects that require valve operation to isolate portions of the system. Five contracts replacing 79 large valves (16-inch and larger) are either completed or under construction, and four additional contracts to replace approximately 120 large valves are planned for construction in FY2007 through FY2012. Construction was completed and included replacing small diameter (12-inch and smaller) defective single and multi-stem valves at 177 sites throughout the District. Additionally, a contract that includes replacing small diameter valves at approximately 40 sites throughout the District is scheduled to commence design in FY2007 with construction starting in FY2008.

- *Water Main Dead End Elimination* – This project will eliminate the potential for stagnant water accumulating at the end of water mains and will assist in maintaining water quality in the distribution system. Eliminating dead end water mains is accomplished by looping to other water mains or by providing a fire hydrant to flush the line. The three projects in the capital program to perform this work were accelerated to commence construction in FY2005 as part of our overall focus on water quality projects and will be completed in FY2007.

- *Large Diameter Water Main Rehabilitation* - This project consists of performing internal joint repairs on large diameter (16-inch diameter and larger) water mains exhibiting a high frequency of joint leaks. It also includes cleaning and lining water mains, if necessary, and replacing or rehabilitating smaller segments of water mains. Work also includes the relocation of water mains from underneath private property when necessary. Several jobs were completed and two contracts for internal joint repairs are scheduled to commence in FY2011 and FY2013 respectively.

- *Water Distribution/Transmission Mains* - These projects include replacing and constructing distribution and transmission mains in the system. In FY2006, design has been being completed for replacing 6,100 linear feet of 20-inch water main in Minnesota Avenue S.E. with a 30-inch water main, and for installing approximately 5,300 linear feet of 24-inch water main to reinforce the supply to the Fort Stanton Reservoirs. Construction is underway to install approximately 5,100 linear feet of 16-inch PVC water main in Michigan Avenue N.E.to reinforce the supply to the McMillan Water Treatment Plant.

- *Small Diameter Water Main Rehabilitation* - Work includes rehabilitating small diameter (12-inch diameter and smaller) water mains to improve system reliability as well as improve water pressure, maintain water quality and ensure adequate flows in the system. Design will be completed for a contract to replace small diameter mains in the new pressure zone east of the Anacostia River with construction commencing in FY2007. Higher pressures combined with older mains in this area makes replacement necessary. Additionally, a holistic approach combining the lead service replacement program and the water main rehabilitation program was implemented. The concept for this approach is, for a given block where lead service replacement is required WASA

will also assess the condition of the small diameter main in the street. If the condition warrants replacement, the main will be replaced. In addition, replacement of all valves and hydrants will be accomplished at the same time as required. Finally, through coordination with the District Department of Transportation, all required road and sidewalk reconstruction or road resurfacing will be accomplished at the same time. The concept is to complete all needed improvements to a block at one time to minimize disruption and costs. Design of the first contract commenced in FY2006 with construction planned for FY2008.

- *Cleaning & Lining Large Diameter Water Mains* – WASA is re-evaluating the rehabilitation program for large diameter water mains and alternative rehabilitation or replacement methods may be proposed in the future.

Fire Hydrant Program- $ 26.5 million *(project pages VII-37 to VII-37)*

This project will provide funding for the replacement/maintenance of approximately 9,000 fire hydrants in the District and is one of our most critical water distribution system functions. Since FY1997, DCWASA has continued to succeed in improving the number of hydrants in operation. It is expected that 3,600 additional fire hydrants will be replaced over the next five years under this project.

On-Going Water Projects – $71 million *(project pages VII-38 to VII-52)*

WASA's Department of Water Services manages projects in this program area. The ongoing program includes small projects for extension of water mains to service new development in the District of Columbia, repairing water main breaks, replacing valves and fire hydrants, replacing water service connections, and other minor water main rehabilitation work. Budgeted projects reflect the substantial costs of street repaving due to the street repair and restoration regulations required of WASA and other area utilities.

DDOT Water Program – $33.6 million *(project pages VII-58 to VII-73)*

This program includes projects for relocation, rehabilitation, replacement and extension of water mains, for which the work is completed under District Department of Transportation (DDOT) construction contracts for street paving or reconstruction.

Metering – $47 million *(project pages VII-81 to VII-83)*

The meter installation / Automated Meter Reading program is 96 percent complete, representing approximately 120,000 customer locations under the original contract. In FY2006, we hired a contractor to complete the remaining installations that were turned back because of access issues. The current contract calls for the replacement of approximately 3,800 small meters (two inches in diameter) and about 480 large meters (three inches in diameter.) This work should be completed in FY2007. This year's CIP also included out-year funding for ongoing meter replacement and AMR system upgrades.

District of Columbia
Water and Sewer Authority

Submitted October 26, 2006

Glenn S. Gerstell, *Chairman*
Jerry N. Johnson, *General Manager*

Proposed FY 2006–2015 Capital Improvement Program

Section VIII: Washington Aqueduct

The Washington Aqueduct treats water from the Potomac River for sale to water distributors like WASA.

WATER

Projects in the Water Service Area are designed to maintain an adequate and reliable potable water supply to customers, and fire protection. Categories of projects include the rehabilitation and replacement of water mains, storage facilities, and pumping stations. This area also includes water service line and meter replacement.

The water distribution system includes appurtenances necessary for proper system operation, inspection, and repair. WASA's system includes approximately 1,300 miles of pipe and over 36,000 valves of various sizes. A variety of valve types allow flow control, prevent air entrapment, allow watermain draining, permit flow in only one direction, and allow water transfer between service areas during emergencies. The system also includes approximately 9,000 hydrants.

The lifetime budget for the Water Service Area is almost $1 billion, which is similar to last year's CIP. Major water projects include lead service replacements, rehabilitation and / construction of pumping stations such as Anacostia and Bryant Street; elimination of dead ends; water main replacement, rehabilitation and extension; fire hydrant replacement and valve replacement.

Lead Service Replacement Program – $438 million *(project pages VII-80 to VII-80)*

In FY2006, WASA achieved its goal and replaced over 4,000 lead services lines in public space. Through FY2006, WASA has replaced approximately 10,000 lead service lines in public space, well on the way to the boards FY2004 goal of replacing the original inventory of 23,000 lines by FY2010. While we are not yet certain about the exact number of lead lines in the system, given the results of ongoing test pitting, the current budget provides funding for an additional 12,000 lines during the later years of the CIP beginning in FY2011. In addition to the physical replacement of the service lines, a comprehensive approach to construction, public relations, and customer service has been developed.

Water Service Area - Management – $28 million *(project pages VII-79 to VII-79)*

This program area provides engineering program management services for the water system capital improvements program, including assessing system needs, developing facilities plans and conceptual designs, and managing design consultants through the development of scope of work, cost estimates, task orders or agreements, and design document review.

Water Pumping Facilities – $100 million *(project pages VII-53 to VII-57)*

This program includes several projects to rehabilitate or replace water-pumping stations in the system.

- A major rehabilitation of the Bryant Street Pumping Station (Project M6) was implemented to meet current code requirements and maintain the reliability of the water distribution system. Work includes replacing 11 high lift pumps, architectural improvements to the building, replacing heating, cooling and ventilating system, site improvements, replacing water mains, cathodic protection of a 48-inch steel water main, rehabilitating the warehouse and shop buildings, and an electronic security system. Also, upgrading SCADA for the water distribution system is included. Major rehabilitation of the Bryant Street Pumping Station will be completed in FY2006 at a total cost of $64.2 million; $2.2 million represents paving (Project PQ- Bryant Street Pump Station Paving) for Bryant Street.
- The Fort Reno Pumping Station (Project AY) will be upgraded to improve pressure in the fourth high service area in the northwest quadrant of the District. The addition of twenty (20) water distribution pressure sensors was added to this construction contract to better monitor the system. Construction is currently scheduled to commence in FY2007 at a total project cost of $2.7 million.
- The Anacostia Pumping Station (Project M7) will be replaced on the same site it presently occupies, and will include multiple sets of booster pumps and a 30-inch transmission main to increase pressure in the southern portion of the Anacostia first high service area. Final design has been completed and construction is schedule to start in FY2007 at a total project cost of $33 million.

Water Storage Facilities – $32 million *(project pages VII-74 to VII-78)*

Studies have identified the need for several new storage facilities to support changing development patterns, to provide additional water pressure to certain areas of the District, and to provide emergency backup service. The most immediate need is for two million gallons of elevated storage tank in the southern portion of the Anacostia first high service area. Necessary approvals and permits are being pursued, with construction expected to start in FY2009. In addition, two storage projects are included in the latter years of the CIP, which consist of a 5 million gallon reservoir in the 2nd high service area, expected to commence in FY2008, and a 2 million gallon elevated storage tank in the 4th high service area, expected to start in FY2014.

Water Distribution System – $289 million *(project pages VII-7 to VII-36)*

This program provides for rehabilitation, replacement or extension of the water distribution system through several project categories. This year's water distribution system budget includes increases for a variety of water quality-related work, primarily in the small main area. Highlights of the work under this program by project category includes:

- *Valve Replacements* - This involves replacing defective valves throughout the water distribution system. Operable valves are necessary to complete the annual flushing program, for routine and emergency system repairs, and for support of capital projects that require valve operation to isolate portions of the system. Five contracts replacing 79 large valves (16-inch and larger) are either completed or under construction, and four additional contracts to replace approximately 120 large valves are planned for construction in FY2007 through FY2012. Construction was completed and included replacing small diameter (12-inch and smaller) defective single and multi-stem valves at 177 sites throughout the District. Additionally, a contract that includes replacing small diameter valves at approximately 40 sites throughout the District is scheduled to commence design in FY2007 with construction starting in FY2008.

- *Water Main Dead End Elimination* – This project will eliminate the potential for stagnant water accumulating at the end of water mains and will assist in maintaining water quality in the distribution system. Eliminating dead end water mains is accomplished by looping to other water mains or by providing a fire hydrant to flush the line. The three projects in the capital program to perform this work were accelerated to commence construction in FY2005 as part of our overall focus on water quality projects and will be completed in FY2007.

- *Large Diameter Water Main Rehabilitation* - This project consists of performing internal joint repairs on large diameter (16-inch diameter and larger) water mains exhibiting a high frequency of joint leaks. It also includes cleaning and lining water mains, if necessary, and replacing or rehabilitating smaller segments of water mains. Work also includes the relocation of water mains from underneath private property when necessary. Several jobs were completed and two contracts for internal joint repairs are scheduled to commence in FY2011 and FY2013 respectively.

- *Water Distribution/Transmission Mains* - These projects include replacing and constructing distribution and transmission mains in the system. In FY2006, design has been being completed for replacing 6,100 linear feet of 20-inch water main in Minnesota Avenue S.E. with a 30-inch water main, and for installing approximately 5,300 linear feet of 24-inch water main to reinforce the supply to the Fort Stanton Reservoirs. Construction is underway to install approximately 5,100 linear feet of 16-inch PVC water main in Michigan Avenue N.E.to reinforce the supply to the McMillan Water Treatment Plant.

- *Small Diameter Water Main Rehabilitation* - Work includes rehabilitating small diameter (12-inch diameter and smaller) water mains to improve system reliability as well as improve water pressure, maintain water quality and ensure adequate flows in the system. Design will be completed for a contract to replace small diameter mains in the new pressure zone east of the Anacostia River with construction commencing in FY2007. Higher pressures combined with older mains in this area makes replacement necessary. Additionally, a holistic approach combining the lead service replacement program and the water main rehabilitation program was implemented. The concept for this approach is, for a given block where lead service replacement is required WASA

will also assess the condition of the small diameter main in the street. If the condition warrants replacement, the main will be replaced. In addition, replacement of all valves and hydrants will be accomplished at the same time as required. Finally, through coordination with the District Department of Transportation, all required road and sidewalk reconstruction or road resurfacing will be accomplished at the same time. The concept is to complete all needed improvements to a block at one time to minimize disruption and costs. Design of the first contract commenced in FY2006 with construction planned for FY2008.

- *Cleaning & Lining Large Diameter Water Mains* – WASA is re-evaluating the rehabilitation program for large diameter water mains and alternative rehabilitation or replacement methods may be proposed in the future.

Fire Hydrant Program- $ 26.5 million *(project pages VII-37 to VII-37)*

This project will provide funding for the replacement/maintenance of approximately 9,000 fire hydrants in the District and is one of our most critical water distribution system functions. Since FY1997, DCWASA has continued to succeed in improving the number of hydrants in operation. It is expected that 3,600 additional fire hydrants will be replaced over the next five years under this project.

On-Going Water Projects – $71 million *(project pages VII-38 to VII-52)*

WASA's Department of Water Services manages projects in this program area. The ongoing program includes small projects for extension of water mains to service new development in the District of Columbia, repairing water main breaks, replacing valves and fire hydrants, replacing water service connections, and other minor water main rehabilitation work. Budgeted projects reflect the substantial costs of street repaving due to the street repair and restoration regulations required of WASA and other area utilities.

DDOT Water Program – $33.6 million *(project pages VII-58 to VII-73)*

This program includes projects for relocation, rehabilitation, replacement and extension of water mains, for which the work is completed under District Department of Transportation (DDOT) construction contracts for street paving or reconstruction.

Metering – $47 million *(project pages VII-81 to VII-83)*

The meter installation / Automated Meter Reading program is 96 percent complete, representing approximately 120,000 customer locations under the original contract. In FY2006, we hired a contractor to complete the remaining installations that were turned back because of access issues. The current contract calls for the replacement of approximately 3,800 small meters (two inches in diameter) and about 480 large meters (three inches in diameter.) This work should be completed in FY2007. This year's CIP also included out-year funding for ongoing meter replacement and AMR system upgrades.

District of Columbia
Water and Sewer Authority

Proposed FY 2006–2015 Capital Improvement Program

Submitted October 26, 2006

Glenn S. Gerstell, *Chairman*
Jerry N. Johnson, *General Manager*

Section IX: Capital Equipment

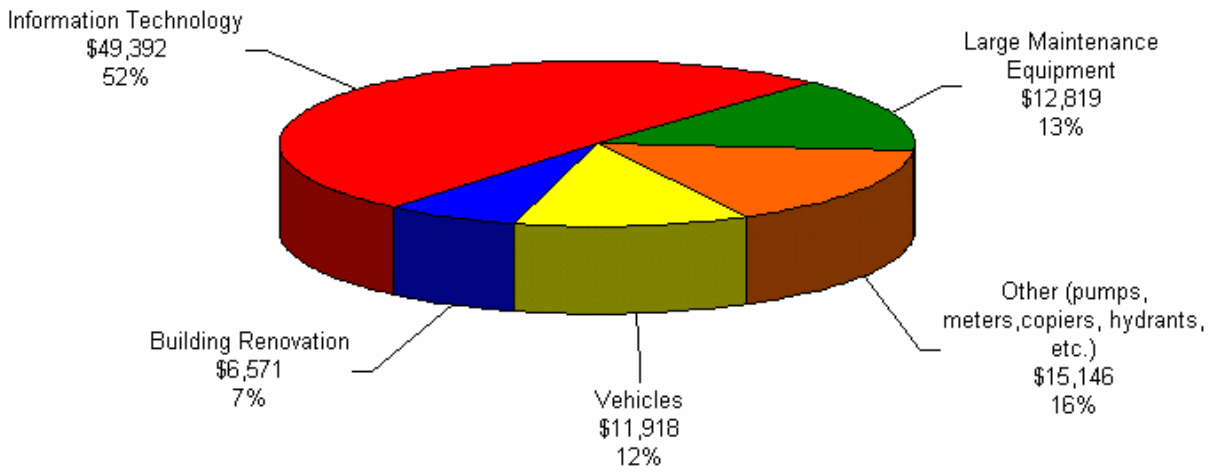
Operations at the wastewater treatment plant at Blue Plains are rated at a capacity of 370 million gallons a day (MGD).

CAPITAL EQUIPMENT

WASA's lifetime capital equipment budget (disbursements and commitments basis) totals approximately $95.8 million for FY 2006 – FY 2015 plan, an increase of $5.8 million more than the last ten-year plan's $90 million. Over fifty percent of spending in the capital equipment area continues to be on major information technology projects, including the document management system (lifetime budget of $4.5 million) and the asset management system (lifetime budget of $9.8 million). WASA continues its commitment to scheduled replacement of its vehicle fleet with a lifetime budget of $11.9 million, representing twelve percent of the ten-year plan. Finally, maintenance of large equipment at Blue Plains and in the major water and sewer pumping stations totals $12.8 million, or thirteen percent of the ten-year plan.

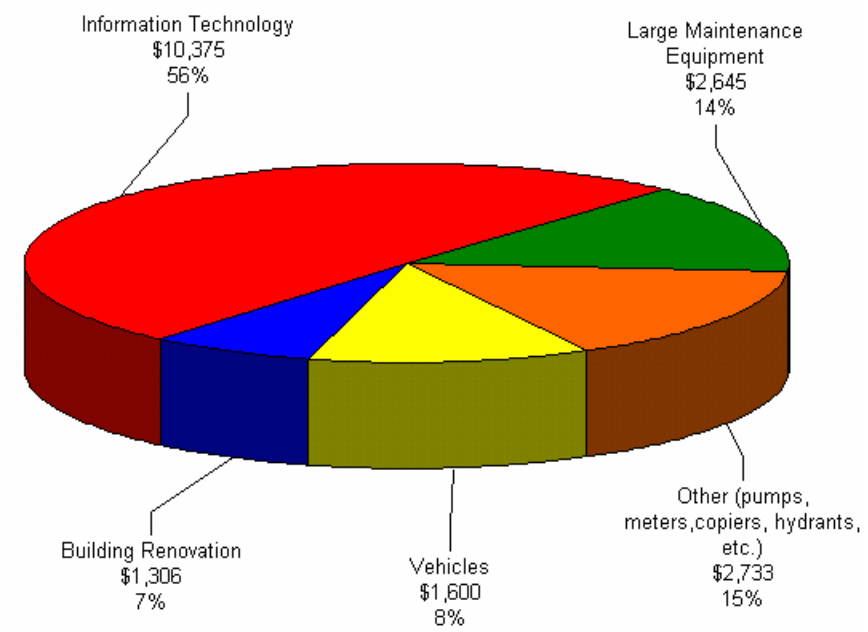
The revised FY 2007 disbursement budget at $18.7 million is $5.6 million higher than the FY 2007 approved budget. This variance is primarily attributable to the budget increases in: the Fleet Management department to comply with the policy of replacing aging vehicles; Information Technology (IT) managed programs - Telephone System renewal / replacement, Network System renewal, Asset Management System and the Document Management System; addition of new programs – Security System Cameras for the Facilities department and Technical Information Center Upgrade effort for the Department of Engineering and Technical Services.

CAPITAL EQUIPMENT DISBURSEMENTS BY MAJOR EXPENDITURE CATEGORIES
FY 2006 – FY 2015
($ in 000's)

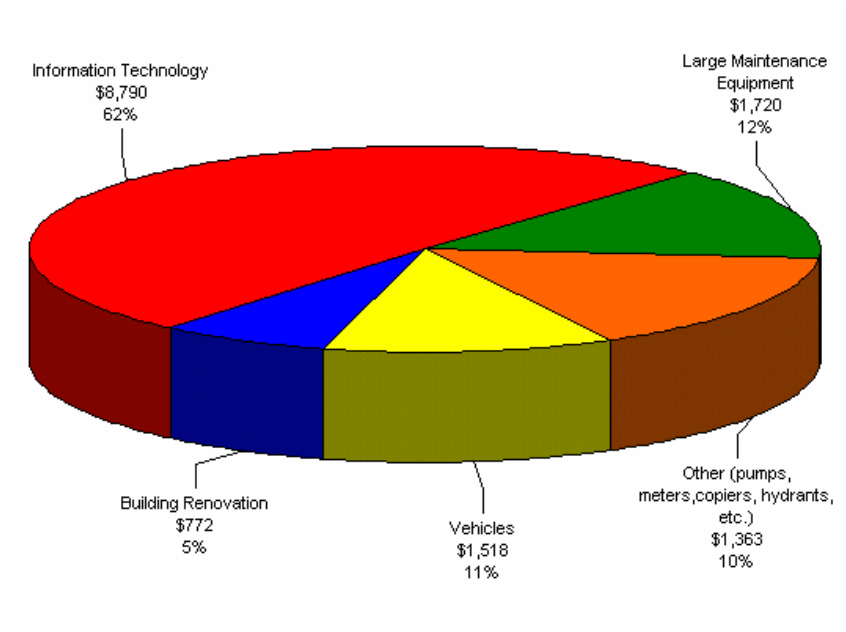


CAPITAL DISBURSEMENTS BY MAJOR EXPENDITURE CATEGORIES
FY 2007 Revised vs. FY 2008 Proposed
($ in 000's)

FY 2007 Revised



FY 2008 Proposed



FY 2007 Revised	= $18,659
FY 2008 Proposed	= $14,163

Equipment Purchases

Equipment purchases are made by the Departments of Wastewater Treatment, Water Services, Sewer Services, Customer Service, Fleet Management, Facilities and Security, Information Technology, and Maintenance Services. Amounts shown below are 10-year disbursement totals.

Department of Wastewater Treatment - $0.4 million

Capital equipment expenditures for this department are for laboratory equipment purchases to maintain a certified laboratory.

Department of Water Services - $7.9 million

The Department of Water Services is responsible for replacing deteriorated or damaged fire hydrants, water system valves, and system appurtenances. These purchases are separate from Capital Improvement Program activities for the systematic replacement of valves; rather they are for interim replacement of these items as individual needs are encountered by field crews. Activities in the FY 2007 revised and FY 2008 proposed budgets largely remain the same as those carried out by the department in previous years for fire hydrant and water service replacements.

Department of Sewer Services - $2.8 million

This department is responsible for replacing catch basins, manhole covers and frames, and rehabilitating regulators and outfall gates. This budget reflects $500,000 in FY 2006 & FY 2007 for Homeland Security grant-funded projects for vulnerability analysis and SCADA improvements to remote sewer facilities.

Department of Fleet Management - $11.9 million

A major emphasis is placed on coordinating equipment purchases with the realigned needs of the Authority as Internal Improvement Plans implemented in prior years continue to be carried out over the next few years. In addition to the replacements planned by the Fleet Department, additional Fire Hydrant trucks are being acquired to support Water Services' $25 Million Fire Hydrant program, and the first of a new style of all-in-one Valve Operator truck is being purchased.

Department of Facilities and Security - $9.9 million

Capital equipment activities for this department include HVAC system upgrades at various locations, fencing and rollup door replacements. Additionally, the organization has established a five year reassessment and replacement schedule for its photocopier requirements. FY 2014 being within the 10-year disbursement schedule, funding of $2.8 million for this iteration of copier purchases is the primary item affecting the increase in this department's 10 year disbursement budget. This capital program also includes funding for major projects at the Central Operations Facility (COF) and other key facilities, including renovation of elevators.

Department of Information Technology - $ 49.4 million

In addition to managing WASA-wide technology projects, the Department of Information Technology is responsible for computer, printer, and other hardware purchases. The department has additional responsibilities for installing telecommunications equipment throughout the Authority, and for replacing copper cabling with fiber cabling. The 10-year spending plan for the Information Technology Department includes budget increases for existing projects: Telephone System renewal / replacement, Network System renewal, Asset Management System which supports GIS throughout the organization's operational infrastructure and the Document Management System; and new projects - PCCS-SCADA Lab , Succession Planning and E-procurement projects for the Human Resources and the Procurement department respectively.

Department of Maintenance Service - $12.8 million

This department is responsible for rehabilitating and replacing large process equipment throughout the Authority, including pumps, screens, variable frequency drives, and large motors. A major emphasis has been placed on the High Priority Rehab Program over the past several years, which ensures that large equipment will function properly until its scheduled replacement in the Capital Improvement Program. FY07's High Priority Rehab will include work on the Return Sludge Pumps and Secondary Return Sludge Pumps.

Capital Equipment Technology Projects

In addition to carrying out its own technology projects, such as Web Development and Network Renewal, the Department of Information Technology supports technology projects that are managed by departments throughout the Authority. In FY 2008 the CIS Contract will expire, so FY2007 will see a review of the Authority's business processes in support of a recommendation for on-going

CIS software. Similarly, FY2007 will see enhancements in Interactive Voice Response (IVR) to include outage alerts, permit automation, work order automation, and speech recognition tuning.

A recap of the most significant efforts underway within the Technology Projects area follows.

Asset Management System - $9.8 million

The Asset Management System is a major WASA-wide undertaking, which began in FY 2004. This project was originally planned to be a water and sewer infrastructure asset management system that would complement the recently implemented maintenance management system. After a full year of assessment in FY 2003, this system is now planned to encompass the entire organization and integrate technology already in place at WASA (customer information and billing, maintenance management, financial management systems), as well as technology planned for the future, such as geographic information, electronic maps, and process control computer systems. Implementation and integration will span four years. The first operational phase of this system went live in October 2005.

EMAP Phases I and II - $0.3 million

In order to prepare for integration into the asset management system, WASA's as-built maps and drawings need to be brought up to date and totally incorporated into an electronic environment. Phase I addresses 'as-builts' for all of WASA's infrastructure outside of Blue Plains, and Phase II encompasses 'as-builts' at the treatment plant.

Audio Visual, Video Conferencing, and TV Camera Equipment - $0.7 million

In a continued effort to bring beneficial technology advancements to the way we work, the Department of Information Technology has upgraded the Audio Visual equipment in the Board room, redeploying the current monitors as event calendars in the second and third floor reception areas, and acquiring TV camera and Video Conferencing Equipment. This equipment is scheduled to be replaced every three years.

Radios - $0.4 million

At the end of FY 2003, WASA deployed new radios for use with the District's 800 MHz system, replacing a 20-year old system. This system has increased geographic coverage, and allows departments to communicate with each other across the Authority. The budget is intended to maintain the operability of the system

Document Management System - $4.5 million

In 2004 WASA completed an assessment of its document management needs, and has developed a comprehensive plan for a new system that is be implemented over the next 2-3 years.

Financial Management System - $.1.4 million

This project is managed by the Office of the Chief Financial Officer, with the support of the Information Technology Department. A system upgrade was conducted in FY 2005, with additional functionality such as Microsoft Add-ins, implementation of a Contract Module, and additional reporting functionality planned over the span covered by the 10 year disbursement schedule.

Payroll/Human Resources System - $0.5 million

This project is also managed by the Office of the Chief Financial Officer, with the support of the Information Technology Department. During FY 2007 re-engineering of the on-line forms used by employees to access payroll and benefit information in the Payroll/HR system is scheduled to take place. Ongoing updates and enhancements are budgeted through the 10-year program, now that the major implementation activities have been completed.

Customer Information and Billing System - $2.2 million

The Customer Service Department manages the customer information and billing system project, supported by the Information Technology Department. The system went into service in June 2001, and continued updates to the system are scheduled throughout the life of the 10 year disbursement plan.

Redundant Data Center - $2.1 million

In keeping with the Information Technology Strategic Plan, WASA has been creating a Redundant Data Center. This facility, complete with uninterrupted power supply and system backup capability, when completed, will provide the ability to seamlessly switch from the computers and servers located within the COF building to the Redundant Data Center without data loss and with minimal down time.

Web Development - $1.1 million

In keeping with the Information Technology Strategic Plan, WASA's website will be completely updated every 18 months. The first update since the site's 2003 unveiling was completed early in FY 2005, with continued enhancements and functionality deployments over the next 10 years.

Field Services Management System – 2.3 million

The FY 2007 budget submission includes a new effort being undertaken which will place computers in the Field Services vehicles to streamline call dispatch and job completion reporting. .

Notes:

Capital equipment is defined by a purchase price greater than $5,000 and an item that has a useful life of more than three years, or will extend the life of an asset by more than three years. Capital equipment expenditures fall into two broad categories: equipment purchases and ongoing projects. Purchases include items such as fire hydrants, catch basin components, water meters, vehicles, and computers. Budgets for equipment purchases are closed out at the end of each fiscal year. Ongoing projects extend over multiple years and are largely technology-related

On the project pages that follow, lifetime budgets prior to FY 2007 reflect only FY 2006 actual disbursements, for projects of an 'on-going' nature, such as Desktop Replacements, High Priority Rehab, and vehicle purchases. On 'One-time' projects such as Asset Management, Document Management, and the Redundant Data Center, the lifetime budget prior to FY2007 reflects the all Actuals spent on the effort since it began. Additionally, out year budgets show only through FY 2016 expected spending. This is due to the generally annual nature of purchases and projects occurring in the Capital Equipment service area of WASA's capital program.

FY 2006 - FY 2015 Capital Equipment Disbursements

($ in 000's)

Department	Equipment Type	FY 2006 Actuals	FY 2007 Revised	FY 2008 Proposed	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY '06 - FY '15 Total	*Project Sheet Ref.*	*Project Sheet Budget*
Wastewater Treatment														
	Plant Model	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	EA3	**$0**
	Lab Equipment		$30	23	35	35	35	35	35	35	35	$297	EB5	
	Safety Equipment		10	5	0	0	0	0	0	0	0	15	EB5	
	General Equipment		41	35	0	0	0	0	0	0	0	77	EB5	
	Metering & Recording Devices		14	9	0	0	0	0	0	0	0	22	EB5	**$411**
Total		**$0**	**$95**	**$72**	**$35**	**$35**	**$35**	**$35**	**$35**	**$35**	**$35**	**$412**		
Water Services														
	Water Service Replacement	$232	$340	$340	$260	$260	$260	$260	$260	$260	$260	$2,732	EX8	
	System Valve Replacements	17	270	225	225	225	225	225	225	225	225	2,087	EX8	
	Lab Equipment & Flow Monitors	0	50	20	20	20	20	0	0	0	0	130	EX8	
	Fire Hydrant Replacements	241	300	388	300	300	300	300	300	300	300	3,029	EX8	**$7,978**
Total		**$490**	**$960**	**$973**	**$805**	**$805**	**$805**	**$785**	**$785**	**$785**	**$785**	**$7,978**		
Sewer Services														
	Sewer Pipes/Fittings	$189	$30	$30	$30	$30	$30	$30	$30	$30	$30	$459	EA4	
	Sewer Inspection Equipment		0	40	0	0	0	0	0	0	0	40	EA4	
	Regulator and Gate Rehabilitation		10	10	10	10	10	10	10	10	10	90	EA4	
	Sewer Cleaning and Repair Equipment		55	55	55	55	55	55	55	55	55	495	EA4	
	Portable Pumps		75	15	15	15	15	15	15	15	15	195	EA4	
	Flow Meters/Sensor Replacements		25	25	25	25	25	25	25	25	25	225	EA4	
	Manhole Covers/Frames		33	33	33	33	33	33	33	33	33	297	EA4	
	Catch Basin Tops/Frames/Covers		60	60	60	60	60	60	60	60	60	540	EA4	
	Portable 4 Type Gas Meter [Safety Equipment		10	0	0	0	10	0	0	10	0	30	EA4	**$2,371**
	SCADA Upgrade at Remote Stations		250	0	0	0	0	0	0	0	0	250	ER2	**$250**
	Outfall Gates	55	0	0	0	0	0	0	0	0		55	ES1	**$55**
	Sewer System Vulnerability Study		200	0	0	0	0	0	0	0	0	200	ES3	**$200**
Total		**$244**	**$748**	**$268**	**$228**	**$228**	**$238**	**$228**	**$228**	**$238**	**$228**	**$2,876**		
Fleet Management														
	Vehicles	$1,100	$1,600	$1,518	$1,100	$1,100	$1,100	$1,100	$1,100	$1,100	$1,100	$11,918	EB6	**$11,918**
Total		**$1,100**	**$1,600**	**$1,518**	**$1,100**	**$1,100**	**$1,100**	**$1,100**	**$1,100**	**$1,100**	**$1,100**	**$11,918**		
Facilities and Security														
	Water System Security		$0	$50	$50	$50	$0	$0	$0	$0	$0	$150	EF1	**$150**
	Security System- Camera & allied		400	$0	$0							400	EF9	**$400**
	Facilities Management System	42	0									42	EF4	**$42**
	Photocopier Purchase		30	0	1,300	0	0	0	0	1,500	0	2,830	EF5	**$2,830**
	WASA-wide fire suppress/detectic	104	250	100	50	50	0	0	0	0	0	554	EF7	**$554**
	Plumbing at Various Locations	293	150	50	50	25	25	25	25	25	25	693	EX6	
	Furniture and Fixtures		150	150	150	150	150	150	150	150	150	1,350	EX6	
	Facilities Improvements		200	200	200	200	200	200	200	200	200	1,800	EX6	
	Rollup Doors		40	81	20	20	0	0	0	0	0	161	EX6	
	WASA-wide Fencing		41	41	25	25	0	0	0	0	0	132	EX6	
	HVAC at Various Locations	164	225	150	150	150	150	150	150	150	150	1,589	EX6	
	Elevator Repairs	0	250	0	0	0	0	0	0	0	0	250	EX6	**$5,975**
Total		**$603**	**$1,736**	**$822**	**$1,995**	**$670**	**$525**	**$525**	**$525**	**$2,025**	**$525**	**$9,951**		

FY 2006 - FY 2015 Capital Equipment Disbursements

($ in 000's)

Department	Equipment Type	FY 2006 Actuals	FY 2007 Revised	FY 2008 Proposed	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY '06 - FY '15 Total	*Project Sheet Ref.*	*Project Sheet Budget*
Information Technology														
	Desktop Replacements	$519	$550	$550	$672	$550	$550	$550	$672	$550	$550	$5,713	EA6	**$5,713**
	Cable Renewal	91	200	200	175	175	175	175	175	175	175	1,716	EA7	**$1,716**
	Telephone System Renewal/Repl	96	1,400	600	400	100	100	100	100	100	100	3,096	EA8	**$3,096**
	Software Applications/Licenses	152	225	150	150	200	150	150	150	200	150	1,677	EB1	**$1,677**
	Messaging Services	173	145	10	10	150	10	10	10	150	10	678	EB2	**$678**
	Windows 2003 Migration	61	30	15	15	150	15	15	15	150	15	481	EB3	**$481**
	Radios	24	65	100	30	30	30	30	30	30	30	399	EB4	**$399**
	Redundant Data Center	262	240	500	200	60	60	500	200	60	60	2,142	EB8	**$2,142**
	Network System Renewal	383	510	765	750	700	865	700	700	700	865	6,938	EC4	**$6,938**
	Audio Visual System - IT	5	10	100	50	70	100	50	70	100	50	605	EC6	**$605**
	Interactive Voice Response	189	200	100	20	20	100	20	20	100	20	789	EC7	**$789**
	EMAP Phases I and II	59	210	0	0	0	0	0	0	0	0	269	ED1	**$269**
	Engineering MIS Modifications	16	0	0	0	0	0	0	0	0	0	16	ED5	**$16**
	HR on-line forms-Re-engineer		50	10	0	0	0	0	0	0	0	60	EH1	**$60**
	TV Camera Equipment		0	0	130	0	0	0	0	0	0	130	ES2	**$130**
	Succession Planning		100	20	10	0	0	0	0	0	0	130	EH2	**$130**
	E Contract		40	0	0	0	0	0	0	0	0	40	EP3	**$40**
	PCCS-SCADA Lab		90									90	EW4	**$90**
	Network Systems Security	29	80	30	50	30	50	30	50	30	50	429	ET1	**$429**
	Intranet		75	50	10	10	75	10	10	10	75	325	ET2	**$325**
	Handheld Inventory	136	350	100	50	50	50	50	50	50	50	936	ET5	**$936**
	Wireless Technology Survey	15	0	0	0	0	0	0	0	0	0	15	ET6	**$15**
	Enterprise Backup Solution		130	0	0	400	0	0	0	0	0	530	ET7	**$530**
	Video Conferencing		10	10	10	150	10	10	10	150	10	370	ET8	**$370**
	Field Services Mgmt System (Automated Dispa		400	1,050	550	50	50	50	50	50	50	2,300	ET9	**$2,300**
	Web-Site Development		200	75	75	200	75	75	75	200	75	1,050	EX7	**$1,050**
	Financial Management System	20	150	100	100	500	100	100	100	100	100	1,370	EZ1	**$1,370**
	Customer Information & Billing Sy	406	350	700	100	100	100	100	100	100	100	2,156	EZ2	**$2,156**
	Dispatch System	50	0									50	EZ3	**$50**
	Payroll/HR System	72	125	30	30	30	30	30	30	30	30	437	EZ4	**$437**
	Maintenance Management Syster	12	50	50	0	0	0	0	0	0	0	112	EZ5	**$112**
	Document Management System	306	1,930	1,475	500	50	50	50	50	50	50	4,511	EZ8	**$4,511**
	Asset Management System	3,521	2,460	2,000	1,051	300	100	100	100	100	$100	9,832	EZ9	**$9,832**
Total		**$6,597**	**$10,375**	**$8,790**	**$5,138**	**$4,075**	**$2,845**	**$2,905**	**$2,767**	**$3,185**	**$2,715**	**$49,392**		

FY 2006 - FY 2015 Capital Equipment Disbursements

($ in 000's)

Department	Equipment Type	FY 2006 Actuals	FY 2007 Revised	FY 2008 Proposed	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY '06 - FY '15 Total	*Project Sheet Ref.*	*Project Sheet Budget*
Maintenance Services														
	Major Pump Repair/Replacement	$717	$700	$500	$400	$300	$200	$200	$200	$200	$200	$3,617	EC1	
	Large Electric Motors	711	500	500	400	300	200	200	200	200	200	3,411	EC1	
	High Priority Rehab Program	281	1,000	300	300	100	100	100	100	100	100	2,481	EC1	
	Shop Equipment and Plant Lightir	50	145	120	50	0	0	0	0	0	0	365	EC1	
	Centrifuge Repair/Replace	245	300	300	300	300	300	300	300	300	300	2,945	EC1	**$12,819**
Total		**$2,004**	**$2,645**	**$1,720**	**$1,450**	**$1,000**	**$800**	**$800**	**$800**	**$800**	**$800**	**$12,819**		
DETS														
	Technical Information Center Upgrade		$500									$500	ED7	**$500**
Total		**$0**	**$500**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$500**		
Total Capital Equipment		**$11,038**	**$18,659**	**$14,163**	**$10,751**	**$7,913**	**$6,348**	**$6,378**	**$6,240**	**$8,168**	**$6,188**	**$95,845**		