1 PURPOSE AND NEED

1.1 Introduction

This Environmental Assessment (EA) was prepared to identify and evaluate the potential environmental effects of the proposed Anacostia River Projects (ARPs). The ARPs are intended to control combined sewer overflows (CSOs) to the Anacostia River, and are located entirely within Washington, D.C. The District of Columbia Water and Sewer Authority (DC WASA) is responsible for the construction of the ARPs; however, a large portion of the project facilities would be housed on or beneath National Park Service (NPS) lands. Therefore, the NPS and DC WASA are co-lead agencies in the development of this EA. In addition, the United States Navy and the United States Air Force serve as cooperating agencies for this EA, due to the amount of facilities and potential impact to land under their jurisdiction at Bolling Air Force Base (BAFB), Naval Support Facility Anacostia, and the Naval Research Lab.

The DC WASA is responsible for the existing water supply, sanitary sewer, and stormwater sewer systems serving the District of Columbia (District) and parts of Maryland and Virginia (**see Figure 1.1-1**). Like many older cities in the Northeast, the District's sewer system was designed and constructed in the early 1900's when combining sanitary wastewater and stormwater into a single pipe was normal practice, and periodic overflows were expected. DC WASA's sewer system periodically overflows to the Potomac and Anacostia rivers when combined stormwater and sanitary sewer flows exceed the capacity of the sewer system during rain and melting snow events. The excess combined sewer system (CSS) flow is called CSO. These overflows were later identified as a source of water quality degradation and a system deficiency requiring correction. In response to these existing deficiencies, DC WASA is planning a system of tunnels, diversion sewers, and overflow facilities to divert, temporarily store, and convey CSO to the Blue Plains Advanced Wastewater Treatment Plant (BPAWWTP). The planned project would also correct chronic surface flooding and basement backups associated with the CSS in the northeast area of the District. The components of the tunnel system are referred to collectively as the ARPs.

Potential impacts to resources and services are anticipated as a result of the construction of the proposed project. The scope and complexity required to implement the proposed project would necessitate the need for multiple permits from a variety of entities including:

- Utility companies
- District Agencies
- Regional Agencies
- Federal Agencies

DC WASA is in the process of coordinating with potentially affected entities (see **Section 5.2**). Permitting coordination would be ongoing throughout the design and construction phases.

DC WASA conducted environmental reviews throughout development of the ARPs and has documented its findings in this EA. This EA evaluates the potential environmental effects of the ARPs and proposes mitigation for unavoidable impacts. DC WASA has prepared this EA in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321 and 4331-4335) and implementing regulations, 40 Code of Federal Regulations (CFR) 1500-1508. Because a considerable portion of the ARPs would cross NPS property, this EA was prepared using NPS standards and addresses several NPS Director's Orders (DOs) including *NPS Director's Order 12 and Handbook, Conservation Planning, Environmental Impact Analysis, and Decision-making* (NPS 2001). Compliance with Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470) has occurred in conjunction with the NEPA process.

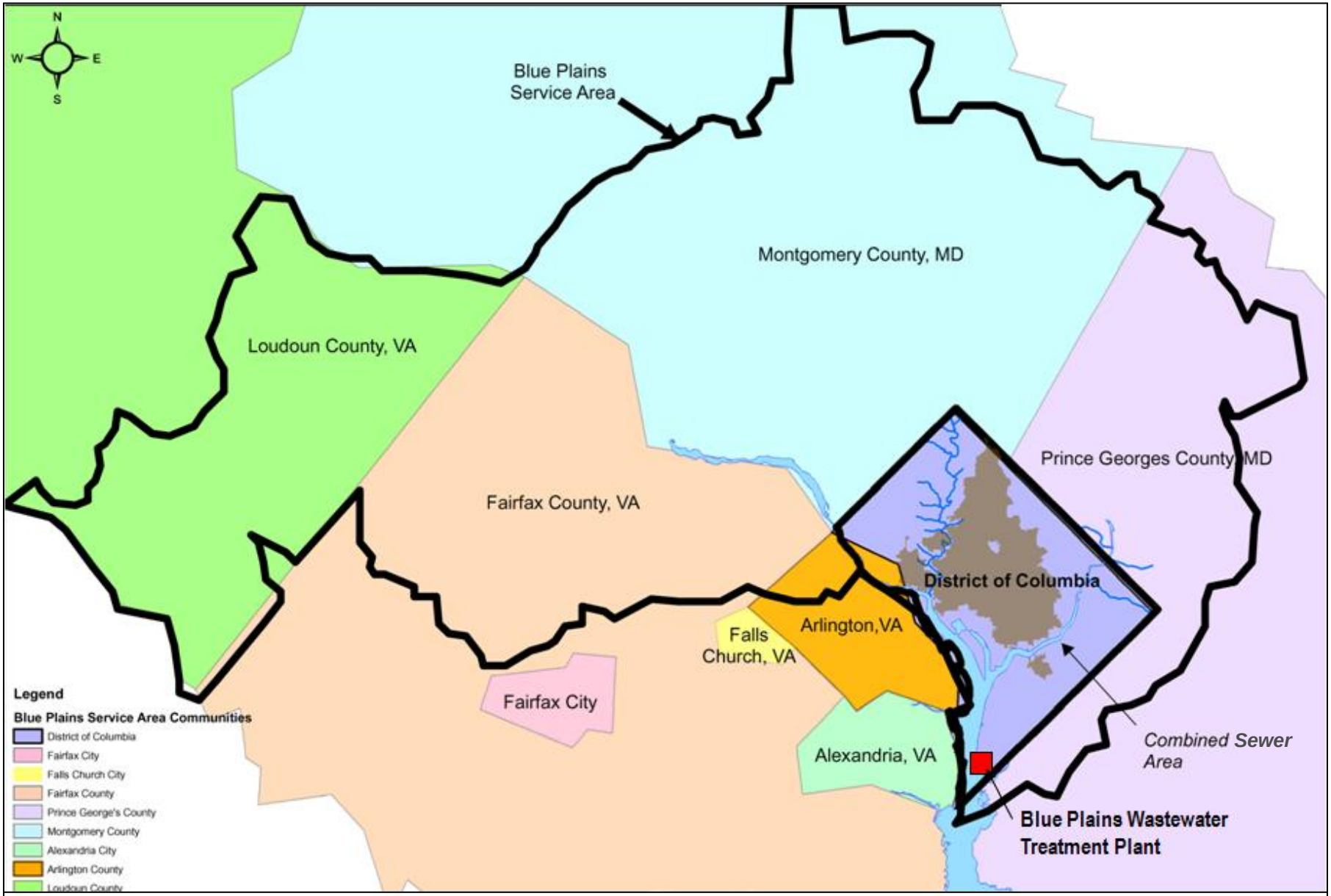

Figure 1.1-1:
BPAWWTP Service Area Map

Anacostia River Projects, Long-term CSO Control Plan
Washington, D.C.

DCWASA

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Not to Scale

1.2 Purpose of and Need for Action

The purposes of the ARPs are:

- To help meet District water quality standards in the Anacostia River by reducing CSOs;
- To reduce flooding and sewer backups in the northeast portion of the District; and
- To comply with the requirements of the Consent Decree entered into by DC WASA, the District, and the United States, as represented by the Environmental Protection Agency (EPA).

This project is needed in order to comply with the provisions of the Consent Decree (see **Appendix A**). An estimated 1.485 million gallons of CSO reach the Anacostia River annually. These contribute to EPA's listing of the water quality of both the Potomac and Anacostia Rivers as impaired under Section 303(d) of the Clean Water Act (CWA). Impaired waters are defined as waters that do not meet state-designated water quality standards. Additionally, deficiencies in the current sewer system have contributed to a history of flooding and sewer backups in sections of the northeast portion of the District.

1.3 Project Background

In the District, the wastewater sewer system is comprised of both combined sewers and separate sanitary sewers. A combined sewer carries both sewage and runoff from storms. Modern practice is to build separate sewers for sewage and stormwater, and no new combined sewers have been built in the District since about 1910. The areas served by combined and separate sanitary sewers are shown on **Figure 1.3-1**. Approximately one-third of the District (12,478 acres) is served by the CSS. The majority of the area served by combined sewers is in the older central section of the District.

In the combined sewer system, during dry weather conditions and small storm events, sewage from homes and businesses is conveyed to the BPAWWTP. The plant is located in the southwestern part of the District on the east bank of the Potomac River at Blue Plains. The wastewater is treated to remove pollutants before being discharged to the Potomac River. When the capacity of the CSS is exceeded during heavy storm events, the excess flow is discharged to the Anacostia and Potomac rivers and Rock Creek. The excess flow is referred to as CSO and is a mixture of sewage and stormwater runoff. There are a total of 53 permitted CSO outfalls in the CSS. The CWA authorizes EPA and states (when approved by EPA) to regulate point sources that discharge pollutants into waters of the United States, through the National Pollutant Discharge Elimination System (NPDES) permit program. DC WASA operates under the authority of a permit issued under the NPDES permit program. These 53 CSO outfalls are listed in DC WASA's NPDES permit.

Discharges of CSOs are partially responsible for the EPA's listing of water quality in both the Anacostia and Potomac Rivers as impaired under Section 303(d) of the CWA. Currently, the designated use of the both rivers specified by the District Water Quality Standards is Class A, or suitable for primary contact recreation activities, such as swimming, without risk of adverse impacts to human health from waterborne diseases. However, the actual use of the rivers is Class B, or suitable for secondary contact recreation and aquatic enjoyment, such as boating, without risk of adverse human health impacts. This is because the water quality often does not meet the Class A standards, due in large part to low dissolved oxygen concentrations and high bacteria concentrations. The Anacostia River does not currently meet the District's Water Quality Standards, the terms of DC WASA's NPDES Permit, or Total Maximum Daily Load (TMDL) allocations, which is the amount of a particular pollutant that a particular stream, lake, estuary or other water body can 'handle' without violating state water quality standards. On December 16, 2004, EPA reissued the

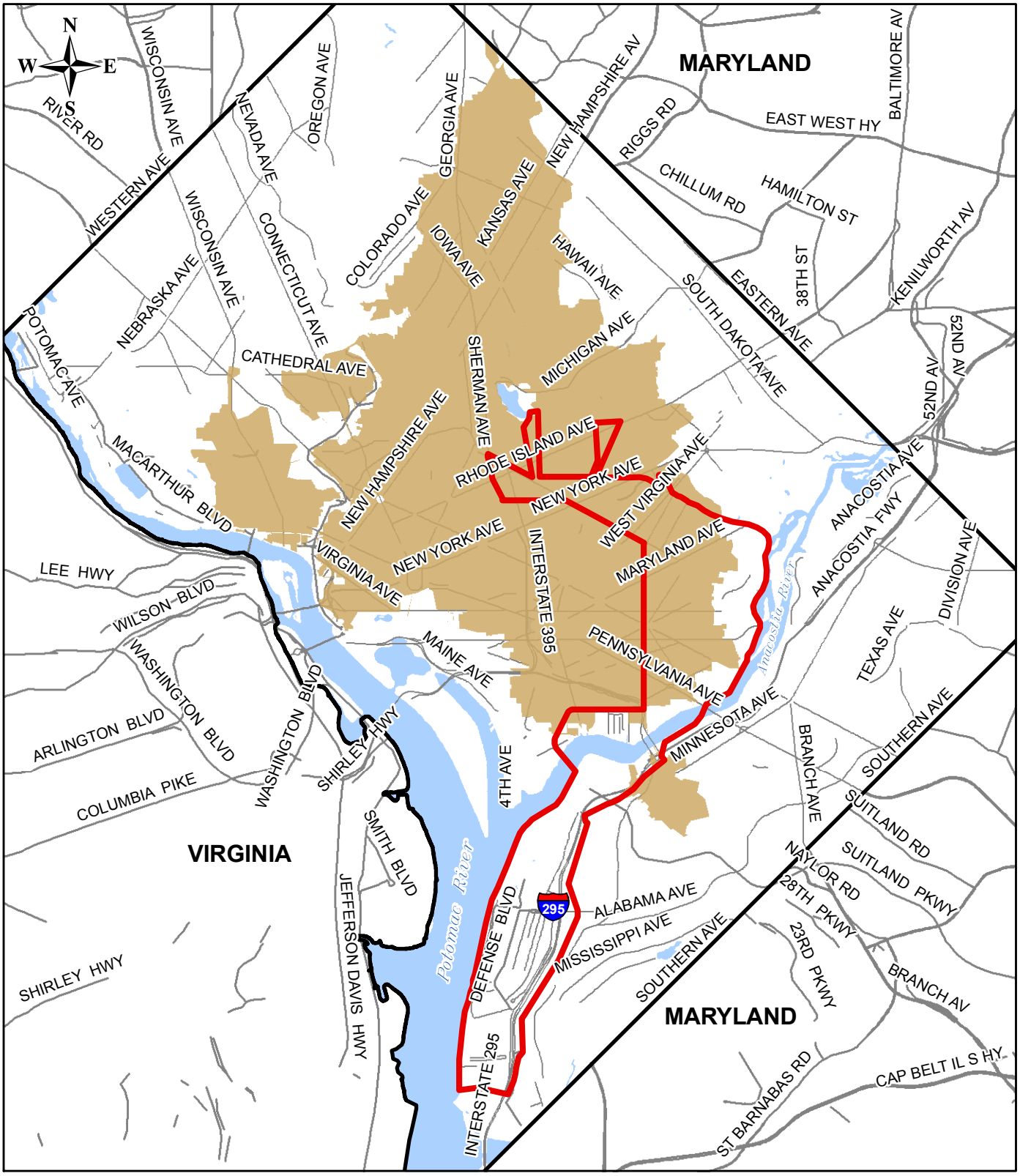

Figure 1.3-1:
Combined Sewer Area Map

Anacostia River Projects
Long-term CSO Control Plan
Washington, D.C.

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Legend:
- Study Area
- Combined Sewer Area
- DC Boundary
- Water
- Road

Scale: 1 inch = 8,000 feet

Feet
0 4,000 8,000 16,000

Source: DC GIS. 2006. Road Ply. Washington, DC.
District Department of the Environment. 2006. Storm Sewer System Ply. Washington, DC.

Blue Plains NPDES permit to include conditions for the CSOs based on the Long Term Control Plan (LTCP).

Under the national CSO Policy at Section 402(q) of the CWA, communities such as the District are required to prepare LTCPs to bring all CSO discharges into compliance with the technology-based and water quality-based requirements of the CWA. DC WASA prepared the LTCP for the District's CSS, and the plan was approved by the District Department of Health (DOH) on August 23, 2003 (see **Appendix B**). Subsequently, as a result of an enforcement action by the EPA, DC WASA, the District, and the United States entered into a Consent Decree to implement the LTCP. The Consent Decree includes the defined scope and schedule for the facilities included in the LTCP and was entered into the Federal Court on March 23, 2005 (see **Appendix A**). The Final LTCP evaluated options to control CSOs and flooding within the area shown on **Figure 1.3-2** and included the following elements:

- System characterization, monitoring, and predictive modeling tailored to the complexity of the CSO system;
- Public participation;
- Consideration of sensitive areas;
- Evaluation of alternatives;
- Cost/performance consideration;
- Operational plan;
- Maximization of treatment at the BPAWWTP;
- Implementation schedule;
- Post-construction compliance monitoring program; and
- Coordination with state water quality standards.

Projects to control CSOs to the Anacostia River are first on the schedule. The LTCP and Consent Decree recommend implementing a system of tunnels, diversion sewers, and overflow facilities to capture, divert, and convey excess CSS flows to reduce CSOs to the Anacostia River by 98 percent annually. DC WASA assessed the impact of CSOs on the Anacostia River by developing computer models of the CSS calibrated with historical data and 9 to 12 months of monitoring data obtained from the river, the CSS, CSOs, and the separate stormwater system. DC WASA used the CSS model, CSO volumes, and CSO frequencies to predict existing overflow conditions for an average year and determined that an average of 75 CSO discharge events occur per year, totaling approximately 1.5 billion gallons of CSO. DC WASA used the same computer model to calculate the CSO reductions needed to meet the Anacostia River's TMDL target of a 98 percent CSO discharge reduction as required by the Consent Decree.

In addition to combined stormwater and sewage overflows in the Anacostia River, there are recurring street floods and basement sewer backups along the Northeast Branch (NEB) Sewer, its branch sewer system, and other parts of the northeast area of the District. DC WASA conducted several engineering studies to understand the causes of these problems and develop solutions. The conclusions are as follows:

- The NEB Sewer and portions of its branch sewers have inadequate capacities to carry stormwater flows generated by moderate storms.
- Surcharge, or overflows, of the trunk and branch sewers that occur during short, intense storms and can cause basement backups in certain areas.
- Certain collection sewers that drain the area have adequate capacity but operate ineffectively due to backwater conditions in the NEB Sewer. Backwater conditions occur due to a rise in surface elevation of flowing water upstream from, and as a result of, an obstruction to flow.

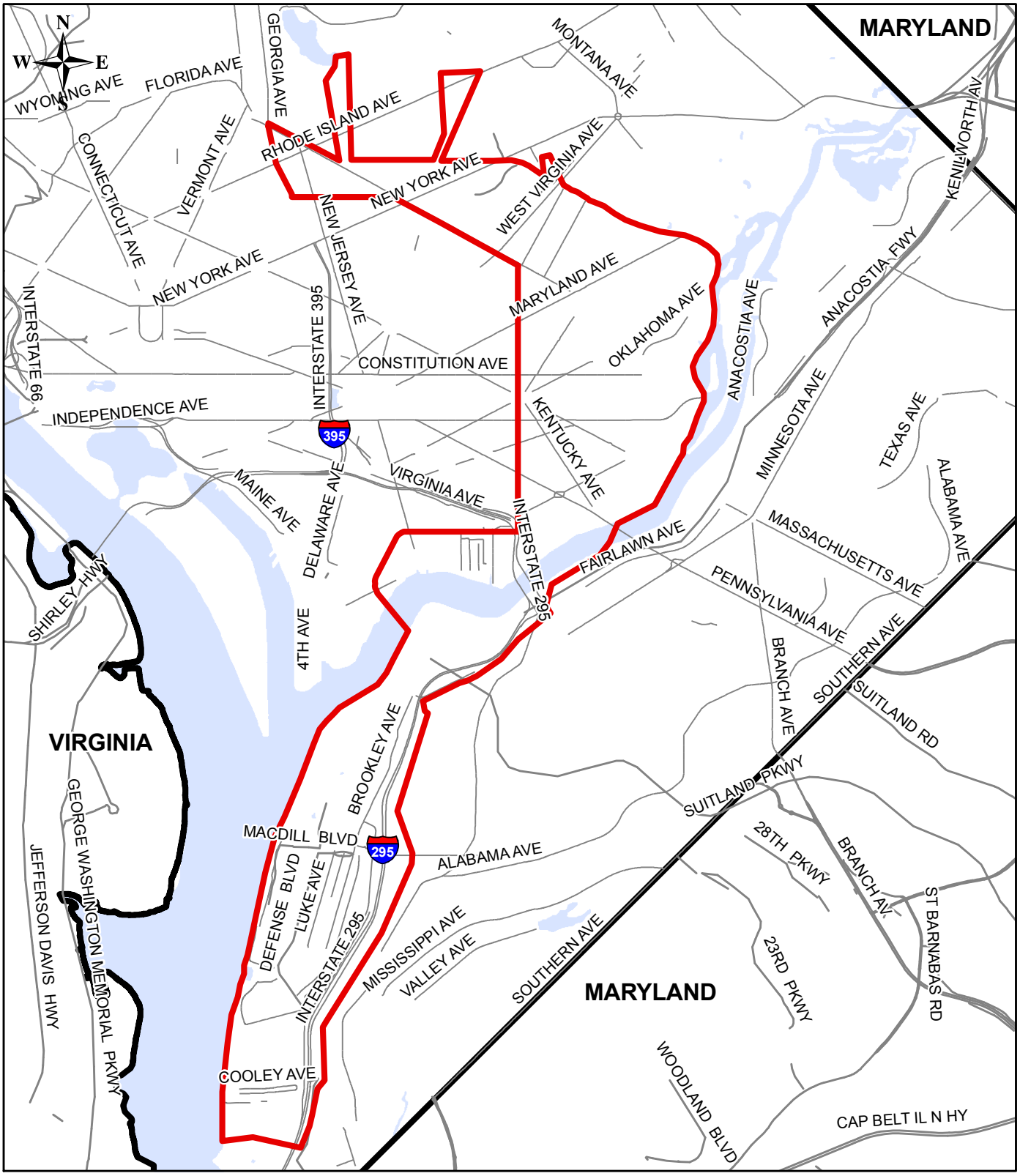

Figure 1.3-2:
Study Area Map

Anacostia River Projects
Long-term CSO Control Plan
Washington, D.C.

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Legend:
- Study Area
- DC Boundary
- Water
- Road

Scale: 1 inch = 5,000 feet

0 2,500 5,000 10,000 Feet

Source: DC GIS. 2006. Road Ply. Washington, DC.

Certain areas served by branch sewers are at lower elevations than the crown of the NEB Sewer at the point of connection, preventing gravity flow of sewage from these areas into the NEB Sewer and causing backups.

1.3.1 Design Criteria

Operational Plan and Hydraulic Design Criteria: In order to substantially reduce CSOs to the Anacostia, as well as flooding and basement backups in the Northeast Boundary Area, DC WASA examined a number of criteria for the operational plan and hydraulic design of the ARPs and selected the following criteria:

- Comply with the LTCP Consent Decree.
- Reduce CSO discharges to the Anacostia River to the level identified in the approved LTCP: two CSOs and an average of 54 million gallons of overflow per year.
- Provide flood relief to the NEB Drainage Area for up to a six-hour, 15-year storm event.
- Provide solids and floatables control for remaining overflows.
- Consolidate CSOs 016, 017, and 018 in the Anacostia Marina area such that all overflows are either stored in the tunnel or conveyed by the tunnel for overflow at another location.
- Configure the system to operate passively by gravity, to the extent possible, without the use of active operation gates or other controls.
- Configure the system to prevent flooding of basements and surface flooding. Where existing conditions in the collection system cause these conditions, arrange the tunnel system to improve hydraulic performance where possible.

Functional Performance Criteria: In accordance with the Consent Decree, DC WASA also developed a Facility Plan (see **Appendix C**) for the ARPs. The Facility Plan was completed in April 2009 and provided an expanded description of the recommended ARP facilities to be designed, constructed, and placed into operation to satisfy the requirements of the Consent Decree. The functional performance criteria of the recommended facilities for the ARPs were based upon hydraulic analyses that incorporated the following data requirements:

- Diversion of flow requirements from the existing combined sewer system under various storm event scenarios;
- Discharge limitations of CSOs as required by the Consent Decree;
- Dynamics of the tunnel system filling relative to deaeration of inflows, surge, and air management;
- Minimum volume requirement of 126 million gallons of tunnel and shaft system storage, as specified in the Consent Decree;
- Tunnel system dewatering requirements of 59 hours after a storm event, as specified in the Consent Decree;
- Tunnel system overflows at two locations to enable hydraulic relief of the filled tunnel system at maximum capacity, as well as an additional 31 million gallons of storage volume; and
- Connections to other DC WASA sewer infrastructure downstream of Poplar Point to integrate the ARPs with DC WASA's other facilities and processes.

Technological and Coordination, Program Interest, and Funding Criteria: Along with the above hydraulic operational requirements, the Facility Plan considered technological and coordination considerations for construction, interest in completing the program in accordance with budgets that are reasonable and prudent relative to the work to be performed, and the funding that can be obtained for the program. The ARP facilities described in the Facility Plan include:

- Approximately 12.9 miles of tunnels up to 23 feet in diameter for the storage and conveyance of captured combined sewer and flood relief stormwater flows to the BPAWWTP for treatment and discharge;
- Drop shaft facilities for the conveyance of captured flows into the tunnel system;
- Tunnel system overflow facilities at two locations for hydraulic relief of the tunnel system upon reaching storage capacity;
- Diversion chambers and diversion sewers to capture excess combined sewer flow from the existing sewer system infrastructure and convey the flow to the drop shaft facilities; and
- A Tunnel Dewatering Pumping Station (TDPS) at BPAWWTP designed to dewater the flows stored in the tunnel system within 59 hours after termination of a storm event and convey the stored flows to treatment facilities.

These facilities would satisfy the purpose and need of the proposed project. Potential environmental impacts of the construction and operation of the proposed ARP facilities are addressed in this EA. In order to construct the ARPs, DC WASA would have to purchase private property or obtain short-term or long-term easements for properties on which the proposed project is planned, including the properties that lie directly above and adjacent to the tunnel alignments. Easements would also be needed for construction staging areas and other areas needed for project construction and long-term access.

1.4 Relevant Laws, Executive Orders (EOs), Policies, and Other Plans

DC WASA evaluated the potential environmental impacts of the proposed project in accordance with the goals and objectives of the following laws, policies, and EOs.

1.4.1 Applicable State and Federal Laws and Regulations

National Environmental Policy Act (NEPA) (42 U.S.C. 4321 and 4331-4335): Requires federal agencies to integrate environmental values into their decision making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions.

Council of Environmental Quality (CEQ) Regulations 40 CFR Parts 1500-1508: Governs the implementation of NEPA and the development and issuance of environmental policy and procedure for federal actions by public agencies. The regulations contain definitions, spell out applicability and responsibilities, and mandate certain processes and procedures for state agencies with programs that utilize federal aid funds.

National Historic Preservation Act, as amended through 2006 (16 U.S.C. 470): Established federal policy to foster productive harmony between modern society and historic resources; provide preservation leadership; administer historic resources in a spirit of stewardship; and assist preservation efforts of State and local governments, tribes, Native Hawaiian organizations, and the private sector. It also establishes federal agency accountability for effects of Federal undertakings on historic properties and creation of comprehensive Federal agency historic preservation programs.

Archaeological and Historic Preservation Act of 1974 (AHPA) (16 U.S. Code 469-469 c-2): Requires that all Federal agencies provide for "...the preservation of historical and archaeological data (including relics and specimens) which might otherwise be irreparably lost or destroyed as the result of...any alteration of the terrain caused as a result of any Federal construction project or federally licensed activity or program." The Act authorizes Federal agencies to fund archaeological investigations, reports, and other kinds of activities to mitigate the impacts of their projects on important archaeological sites.

National Park Service (NPS) Organic Act of 1916 (16 U.S.C. 1) : States that NPS "shall promote and regulate the use of the Federal areas known as national parks, monuments, and reservations hereinafter specified … by such means and measures as conform to the fundamental purpose of the said parks, monuments, and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

National Parks Omnibus Management Act of 1998 (16 U.S.C. 79, §5951): States that "it is the policy of the Congress that the development of public accommodations, facilities, and services in units of the National Park System shall be limited to those accommodations, facilities, and services that (1) are necessary and appropriate for public use and enjoyment of the unit of the National Park System in which they are located; and(2) are consistent to the highest practicable degree with the preservation and conservation of the resources and values of the unit."

Archaeological Resources Protection Act of 1979 (ARPA) (16 U.S. Code 470aa-mm): Prohibits unauthorized excavation on federal or American Indian lands, establishes standards for permissible excavation on these lands, prescribes civil and criminal penalties, requires agencies to identify archaeological sites, and encourages cooperation between federal agencies and private individuals.

Clean Water Act (CWA): Forms the foundation for the federal government's authority to regulate use of water resources through multiple permitting programs administered by EPA and United States Army Corps of Engineers (USACE).

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): Authorizes the EPA to:

- Establish and maintain a National Priorities List (NPL) of the most serious uncontrolled or abandoned places that contain hazardous waste;
- Seek out those parties responsible for any release and assure their cooperation in cleanup; and
- Clean up "orphan sites" when potentially responsible parties cannot be located. CERCLA provides a Superfund to clean up sites listed on the NPL.

Endangered Species Act of 1973: Requires each federal agency to ensure: "any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary, after consultation as appropriate with the affected States, to be critical, unless such agency has been granted an exemption for such action by the Committee."

Generally, the United States Fish and Wildlife Service (USFWS) manages land and freshwater species, while the National Marine Fisheries Service (NMFS) manages marine and anadromous species. NMFS has jurisdiction over 68 listed species. The Endangered Species Act requires NMFS to designate critical habitat and to develop and implement recovery plans for threatened and endangered species.

If listed species or their habitat may be impacted, formal consultation must be undertaken with the USFWS or NMFS, as appropriate. If the consultation reveals that the activity may jeopardize a listed species or habitat, mitigation measures should be considered.

Section 10 of the Rivers and Harbors Appropriation Act of 1899 (33 U.S.C. 403. Construction of bridges, causeways, dams or dikes generally; exemptions) Prohibits the creation of any obstruction not affirmatively authorized by Congress, to the navigable capacity of any of the waters of the United States. Makes it unlawful to build or commence the building of any wharf, pier, dolphin, boom, weir, breakwater, bulkhead, jetty, or other structures in any port, roadstead, haven, harbor, canal, navigable river, or other water of the United States, outside established harbor lines, or where no harbor lines have been established, except on plans recommended by the Chief of Engineers and authorized by the Secretary of War; and makes it unlawful to excavate or fill, or in any manner to alter or modify the course, location, condition, or capacity of, any port, roadstead, haven, harbor, canal, lake, harbor of refuge, or enclosure within the limits of any breakwater, or of the channel of any navigable water of the United States, unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of War prior to beginning the same.

Noise Control Act of 1972: Authorizes EPA to identify noise exposure standards and coordinate activities of other federal agencies to achieve these standards.

Section 106 of the National Historic Preservation Act of 1966: Requires federal agencies to identify historic resources that are potentially eligible for the National Register of Historic Places (NRHP) and consider the effects of all of federally funded or licensed undertakings on known historic properties that are listed or determined eligible for the NRHP.

Resource Conservation and Recovery Act (RCRA) (42 U.S.C. §6901 et seq.): Grants EPA authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The Federal Hazardous and Solid Waste Amendments, adopted in 1984, focus on waste minimization and phasing out land disposal of hazardous waste as well as corrective action for releases. Some of the other mandates of these amendments include increased enforcement authority for EPA, more stringent hazardous waste management standards, and a comprehensive underground storage tank program. The 1986 amendments to RCRA enable EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances.

EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations: Requires federal agencies, to the greatest extent practicable and permitted by law, to make achieving environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects on minority populations and low-income populations. EPA defines environmental justice as the "fair treatment for people of all races, cultures, and incomes, regarding the development of environmental laws, regulations, and policies."

Clean Air Act Amendments of 1990 (CAA) (P.L. 101-549): Authorizes the EPA to set limits on emissions of air pollutants coming from sources like chemical plants, utilities, and steel mills, including limits on how much pollution can be in the air anywhere in the United States. Individual states or tribes may have stronger air pollution laws, but they may not have weaker pollution limits than those set by EPA. EPA delegates many responsibilities to states, tribes and local governments to meet the Act's requirements; however, EPA must approve state, tribal, and local agency plans for reducing air pollution. If a plan does not meet the necessary requirements, EPA can issue sanctions against the state and, if necessary, take over enforcing the Clean Air Act in that area.

Redwood National Park Act of 1978, as Amended: Establishes protection, management and administration of all National Park System lands. It also states that "the authorization of activities … shall not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress."

Flood Hazard Area Rules (Title 20 DCMR Chapter 31): Requires that all new or replacement water and sanitary facilities and systems be located , designed, and constructed to minimize or eliminate flood damage and the infiltration of flow waters; that sanitary sewer facilities and systems be designed to prevent the discharge of untreated sewage into flood water; and that no part of any on-site sewage system be located within any Special Flood Hazard Area (SFHA) except in strict compliance with all locations for such systems. If any systems are permitted, the system shall be located so as to avoid impairment to is, or contamination from it, during a flood.

1.4.2 Executive Orders (EO)

EO 11988, *Floodplain Management*: Requires federal agencies to evaluate the potential effects of actions they may take in a floodplain to avoid, to the extent possible, adverse effects associated with direct and indirect development of a floodplain. EPA's Statement of Procedures on Floodplain Management and Wetlands Protection requires EPA programs to determine whether an action would be located in or would otherwise affect a floodplain. If so, the responsible official must prepare floodplain/wetlands assessments and include them with any NEPA document. The project shall either avoid adverse impacts or minimize them if no practicable alternative exists.

EO 11990, *Protection of Wetlands*: Requires federal agencies conducting certain activities to avoid, to the extent possible, the adverse impacts associated with the destruction or loss of wetlands and to avoid support of new construction in wetlands if a practicable alternative exists. EPA's Statement of Procedures on Floodplain Management and Wetlands Protection requires EPA programs to determine if proposed actions would be in or would otherwise affect wetlands and to prepare floodplains/wetlands assessments, which would be part of any NEPA document.

1.4.3 NPS Policies and Director's Orders

NPS Director's Order 12, *Conservation Planning, Environmental Impact Analysis, and Decision-making*: Sets forth the policy and procedures by which the NPS carries out its responsibilities under NEPA.

NPS Director's Order 77-1, *Wetland Protection*: Lays out NPS responsibilities under EO 11990 to protect wetlands and details procedures by which the NPS will implement wetland protection.

NPS Director's Order 77-2, *Floodplain Management*: Establishes NPS procedures for implementing floodplain protection and management actions in units of the National Park System as required by EO 11988, *Floodplain Management*.

NPS Director's Order 28*: Cultural Resource Management*: Elaborates on the NPS basic principles governing the management of cultural resources in the national park system.

NPS Management Policies 2006: Sets the framework and provides direction for the management of the National Park System

1.5 Public Involvement and Scoping Process

Public involvement in the development of the proposed project has been on-going for more than a decade. The LTCP and Facility Plan have served as the scoping and preliminary planning documents

for the proposed project, leading to the design described and analyzed in this EA (see **Appendix B** and **Appendix C**). This section describes the public participation program followed during the development of the proposed project, including soliciting input on alternatives and impacts from the public and providing public updates on the project's purpose and design.

1.5.1 Public Participation Program

DC WASA has conducted an ongoing Public Participation Program as part of the development of the LTCP and Facility Plan. The goals of the program are to foster public awareness and to facilitate public involvement in the decision-making process to help develop the ARPs. DC WASA and the project consultant team developed a series of public participation materials that included:

- Informational fact sheet discussing work in the field (e.g., wetland investigations, soil borings);
- Comment cards that could be distributed at meetings and mailed back to the project team for response;
- Responses to frequently asked questions;
- Information on the history of the program and CSS;
- Detailed listing and descriptions of the project components;
- Testimonials from representatives of other key agencies supporting the project; and
- The project's cost and financial impacts to area ratepayers.

DC WASA has also used meetings as a format for public participation. The following sections describe the Public Participation Program that has been implemented throughout the LTCP and Facility Plan development processes. Public participation materials are located in **Appendix D**.

1.5.2 Public Involvement for Development of Draft LTCP

Public meetings have been held since the beginning of the development of the LTCP, with the first meeting occurring on June 7, 1999. A total of three public meetings were held before the release of the Draft LTCP.

At the request of the public during the first public meeting, a Stakeholder Advisory Panel was formed. The panel consisted of representatives from government agencies, regulatory agencies, citizens' groups, and environmental advocacy groups concerned about water quality issues within the District. Ten panel meetings were held to provide more frequent opportunities for input and consultation on the LTCP development process than general public meetings could provide.

During advisory panel meetings, stakeholders provided feedback suggesting that DC WASA consider the experience of other CSO cities when evaluating controls, consider low impact development retrofit as a CSO control, consider expanding the pumping capacity at the Main and O Street Pumping Stations, and avoid considerable rate increases to fund CSO controls. A more detailed listing of Stakeholder Feedback is provided in **Appendix D**.

In addition to meetings, information on CSOs and the LTCP development process were disseminated in a variety of ways. The following are examples of DC WASA's concerted effort to involve and inform the public:

- **Educational Mailers in Water and Sewer Bills:** Periodic mailers were sent to DC WASA customers starting in autumn of 1999.
- **CSO Website:** DC WASA created a special section of its website devoted exclusively to CSO issues.
- **Public Information Depositories:** Copies of informational documents were available throughout the duration of the study at eight public libraries in each District Ward.

- **CSO Newsletters:** Two newsletters were sent to 500 parties associated with the Stakeholder Advisory Panel.
- **Handouts:** Handouts were prepared and available for each public meeting, public hearing, and Stakeholder Advisory Panel meeting.
- **Literature and Documentation:** Responsiveness summaries were prepared for each stakeholders meeting.
- **Presentations:** Presentations were made to citizen, government, and environmental groups.

1.5.3 Public Involvement after Draft LTCP

The Draft LTCP was officially released on June 29, 2001. The Draft LTCP was distributed to more than 150 individuals associated with local government agencies, regulatory agencies, environmental interest groups, citizens groups, DC WASA, and consultants. Copies of the Draft LTCP were also available at nine public libraries in the District and on DC WASA's website.

Many forums and opportunities were made available for public comment on the Draft LTCP. Comments on the LTCP were accepted until November 21, 2001. Opportunities to comment on the LTCP included:

- A public meeting held on July 24, 2001;
- Two Stakeholder Advisory Panel meetings;
- Eight neighborhood meetings;
- District Council Public Hearings on October 4 and October 22, 2001;
- A briefing at the National Building Museum;
- DC WASA Public Hearing on LTCP (after meeting on July 24, 2001);
- Citizens Forum on November 7, 2001 (sponsored by the DC Federation of Civic Associations, the DC Citizens Association, and the Consumer Utility Board); and
- Direct input via letters, faxes, and e-mails.

DC WASA received a total of 2,365 comments on the LTCP. Because of overlap and common themes in many of the comments, DC WASA grouped and addressed the comments by the following topics:

- Nine Minimum Controls;
- Alternatives Evaluation;
- Sewer Separation;
- Low Impact Development Source Control;
- Pollution Prevention;
- Blue Plains Wastewater Treatment Plant;
- CSO Locations;
- Flooding;
- Implementability;
- Tunneling;
- Regulatory Compliance;
- Public Participation;
- Financial Capability;
- Schedule;
- Water Quality Standards Revisions; and
- Miscellaneous Comments.

The comments and responses were addressed as part of the LTCP and are also located in **Appendix D** of this EA.

1.5.4 Public Involvement for Facility Plan

DC WASA prepared the Facility Plan for the ARPs in order to refine the locations and alignments of proposed project facilities. As DC WASA developed and implemented the Facility Plan-level geotechnical exploration program, a public outreach plan was implemented to more directly inform interested and impacted citizens about the overall project. DC WASA conducted outreach efforts to ensure that residents and elected officials were aware of exploratory drilling prior to its commencement in their communities. DC WASA developed the following materials:

- Frequently Asked Questions responses;
- Informational Sheet Discussing Work in the Field;
- Comment Card; and
- Door Hanger Package, which included an informational letter and all of the materials above. This package was delivered to all residents within two blocks of each boring location.

These materials provided background on the work being conducted and helped to update the community on the ARPs. DC WASA mailed informational letters and project materials to District elected officials and notified each impacted local Advisory Neighborhood Commission (ANC) of DC WASA's plans to complete the soil boring effort prior to initiating further work in each respective community. Additionally, DC WASA provided an informational presentation at regular ANC meetings to ensure that residents understood the overall project and the rationale for conducting the soil borings.

DC WASA hosted or appeared at numerous meetings to discuss the evolving status of the LTCP and the ARPs. Meetings were held with community groups, ANCs, and the general public.

DC WASA also created a project-specific phone number and e-mail address to record and respond to community comments or questions. DC WASA included the phone number and e-mail address on all project materials distributed to the public. DC WASA has expanded, updated and reorganized its website content to include information on the CSOs and the ARPs, including:

- Third-party Consent Decree Status Reports (2005-2009);
- LTCP Consent Decree Status Reports (2005-2009);
- CSO Update Biannual Reports (2003-2009);
- CSO Community Presentations (2005-2008); and
- News Releases.

DC WASA plans to develop a website specific to the ARPs that would provide access to the above information and would also include the project schedule, project mapping, news and publications, and contact information.

During the development of the Facility Plan, DC WASA modified the alignments and components described in the LTCP as the planning effort progressed. One of the modifications was to address and incorporate elements of DC WASA's Total Nitrogen/Wet Weather (TN/WW) Plan. The TN/WW Plan modification to the LTCP included the addition of the Blue Plains Tunnel (BPT) from Poplar Point to the BPAWWTP and the relocation of the TDPS from Poplar Point to Blue Plains.

DC WASA conducted additional public outreach activities to address the proposed modifications, including an informational public meeting held on August 2, 2007. Prior to the meeting, DC WASA mailed relevant explanatory and background documents to various District and federal agencies, interested parties, and ANCs. DC WASA received no comments from members of the public or agencies during the 90-day public comment period following the meeting.

1.5.5 Continued Public Involvement through the EA process

DCWASA has attended numerous meetings held by ANCs and local organizations following the completion of the Facility Plan in July 2008. The meetings discussed CSOs, sewer separation and the project schedule. DC WASA held a public meeting on September 17, 2009, at Washington Highlands Library to inform the public of the design status and construction schedule for the proposed ARP project. DC WASA also presented the preliminary environmental effects of the proposed project and the preliminary EA schedule. To encourage meeting attendance and provide opportunities for the public to submit comments, DC WASA:

- Advertised the meeting on its website, on local television (Channels 13 and 16), and in six area newspapers: the *Washington Post*, *Washington Informer*, *El Progonero News*, *East of the River*, *Hill Rag*, and *DC North*;
- Placed project information packets consisting of summaries from the LTCP and Facility Plan, the Consent Decree, Public Meeting fliers, and a Public Meeting informational brochure at eight District libraries;
- Contacted District ANC leaders to inform them about the meeting and ask them to inform their constituents;
- E-mailed public meeting fliers to District and regional agencies and organizations prior to the meeting; and
- Accepted comments via mail, e-mail, phone, or in person at the public meeting.

Public meeting attendees submitted five comments at the meeting, which are included in **Appendix D**. Subsequent meetings have been held with ANCs on November 24, December 1, 3, and 8, 2009, and January 28, 2010. DC WASA will also host a Community Event on April 27, 2010 at the Anacostia Community Museum to discuss the Long Term CSOs as well as planned work for Fort Stanton Park and the proposed St. Elizabeths Water Tower.

Project Mailing

DC WASA produced a CSO Control Facilities Update flier in April 2010. The update gave a summary of how DC WASA's Long Term Control Plan Addresses CSOs. It also announced the upcoming Draft EA Public Meeting. The one page flier was included in the bills April bill for DC WASA customers.

Draft EA Comment Period

The Draft EA is tentatively scheduled for release on May 12, 2010. The Draft EA Public Comment Period will last 30 days. The Draft EA will be available on-line for public review on the DC WASA (www.dcwasa.com) and National Park Service (www.nps.gov) websites. Hard copies will also be available at 8 libraries in Washington, DC. The comment period will be open until June 11, 2010.

DC WASA will also hold a Draft EA Public Meeting midway through the commenting period. The meeting, scheduled for May 27, 2010, will be held at Watkins Elementary School from 6-8pm. Attendees will be able to hear information about and give comments on the project in person. Comments on the document can be submitted online at the DC WASA website. Comments can also be mailed to DC WASA by the end of the comment period.

1.6 Issues and Impact Topics Analyzed in this EA

Issues are the problems or concerns associated with impacts from current environmental conditions or operations, as well as problems that may arise from the implementation of any of the

ARPs. During internal and external scoping, DC WASA identified the following potential issues associated with the construction or implementation of the LTCP and Facility Plan:

- Effects on land use above the tunnel alignments;
- Effects of land settlement due to tunnel excavation;
- Impacts to vegetation, wetlands, wildlife, and wildlife habitat along the Anacostia River;
- Hazardous contaminants in soil and groundwater that could be encountered during construction;
- Traffic detours and other aspects of construction management; and
- Net benefits to water quality.

Potential environmental issues and concerns identified during scoping were grouped into impact topics that are discussed in **Chapter 3, Affected Environment** and analyzed in **Chapter 4, Environmental Consequences**. This section lists the environmental impact topics that are assessed in this EA and briefly identifies the relevant regulations or findings that led to inclusion in the EA. Detailed analysis of each category, including its affected environment and environmental consequences, is provided later in this document.

1.6.1 Soils

Creating new, underground tunnels to store and convey CSO, would require that many tons of soil be displaced during construction. Due to the extent of excavation associated with the proposed project and the ground disturbances in several areas, both short-term and long-term impacts on soils are assessed in this EA. This includes a discussion of the development and implementation of an approved Sediment and Erosion Control Plan during construction (see **Sections 3.1** and **4.3**).

1.6.2 Water Quality

The CWA forms the foundation for the federal government's authority to regulate the use of and impacts to water resources, through multiple permitting programs administered by EPA and USACE. The NPS *Management Policies* state that the Park Service will "take all necessary actions to maintain or restore the quality of surface waters and ground waters within the parks consistent with the CWA and all other applicable federal, state, and local laws and regulations." Because the proposed project would change the frequency of CSOs to the Anacostia River and include the construction of the two overflow facilities, potential impacts to water quality are assessed in this EA (see **Section 3.2** and **4.4**).

1.6.3 Wetlands

Wetlands are resources protected under Section 404 of the CWA and Section 10 of the Rivers and Harbors Appropriation Act of 1899, which requires the issuance of a permit from USACE for activities that result in the discharge of dredge or fill material into wetlands and waterways or excavation within navigable waterways. The NPS *Management Policies* state that NPS will manage wetlands in compliance with NPS mandates and the requirements of EO 11990, *Protection of Wetlands*; the CWA; the Rivers and Harbors Appropriation Act of 1899; and the procedures described in Director's Order 77-1, *Wetland Protection*. The proposed project has the potential to impact wetlands or waterways. Therefore, potential impacts to Wetlands are assessed in this EA and would be mitigated as necessary (see **Section 3.3** and **4.5**).

1.6.4 Vegetation

According to the NPS *Management Policies*, the management and restoration of native vegetative species is a high priority. Impacts to vegetative communities must be mitigated by either replacing

the vegetation "in-kind" or, in some cases, restoring the area with native vegetation. The study area for the proposed project is highly urbanized; however, portions of the proposed project could impact street trees as well as vegetated areas along the Anacostia River. Therefore, potential impacts to vegetation are assessed in this EA, and impacts would be mitigated as necessary (see **Section 3.4** and **4.6**).

1.6.5 Wildlife and Wildlife Habitat

Wildlife and wildlife habitat management goals described in NPS *Management Policies* include maintaining components and processes of naturally-evolving park ecosystems. Portions of the proposed project would be located in natural areas along the Anacostia River, potentially resulting in disruptions to wildlife and wildlife habitat. Therefore, potential impacts to wildlife and wildlife habitat are assessed in this EA, and impacts would be mitigated as necessary (see **Section 3.5** and **4.7**).

1.6.6 Cultural Resources

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties that are listed on or eligible for listing on the NRHP. The Act's implementing regulations (36 CFR 800) mandate a consultation process between the agency, the State Historic Preservation Office (SHPO), and other interested parties (such as community and preservation organizations). Additional regulations that NPS and DC WASA must follow during project development include:

- NPS Organic Act;
- Antiquities Act;
- Native American Graves Protection and Repatriation Act;
- American Indian Religious Freedom Act;
- Archaeological Resources Protection Act;
- EO 13007; and
- Historic Landmark and Historic District Protection Act of 1978 (D.C. Law 2-144), the District's preservation ordinance.

As specified in Chapter 5 of the NPS *Management Policies*, NPS is committed to identifying, documenting, and protecting cultural resources. NPS NEPA guidance requires the consideration of five types of cultural resources:

- **Archaeology:** Material remains or physical evidence of past human life or activities which are of archaeological interest.
- **Historic Structures or Districts:** Historic properties significant in the history of American architecture, culture, engineering, or politics at the national, state, or local level.
- **Cultural Landscapes:** A geographic area, including both cultural and natural resources and the wildlife and wildlife habitat or domestic animals therein, associated with a historic event, activity, or person, or exhibiting other cultural or aesthetic values.
- **Museum Collections:** Prehistoric and historic objects, artifacts, works of art, archival documents, and natural history specimens. Prevention of damage and minimization of potential for deterioration are NPS management goals.
- **Ethnography:** Cultural and natural features of a park that are of traditional significance to traditionally associated peoples, which include contemporary park neighbors and ethnic or occupational communities that have been associated with a park for at least two or more

generations (40 years), and whose interests in the park's resources began before the park's establishment.

The project area contains and has the potential to impact the first three types of cultural resources identified above: archaeology, historic structures or districts, and cultural landscapes. The adverse impacts that could occur to archaeology and historic structures and districts range from minor to moderate and therefore the EA includes assessment of potential impacts to these resources (see **Section 3.6** and **4.8**). There would be negligible adverse impacts to cultural landscapes and no impacts to museum collections, or ethnography as a result of implementing either the no action or action alternative and will not be analyzed in the EA. See **Section 1.7** for the reasons why these were dismissed from further analysis.

1.6.7 Aesthetic Resources

The District has views and vistas that have cultural, historical, and local significance. The proposed project has the potential to change the existing view along the Anacostia River and Potomac River and their associated natural areas. The proposed project may also contribute or detract from the aesthetics of Anacostia Park and the Poplar Point area of the District. Therefore, potential impacts to aesthetic resources are assessed in this EA, and impacts would be mitigated as necessary (see **Section 3.7** and **4.9**).

1.6.8 Land Use

The proposed project would be located primarily within Anacostia Park or on or below land currently being used for military, recreation, parkland, and transportation uses. The ARPs have the potential to impact the future land use of some areas. Therefore, potential impacts on land use are assessed in this EA, and impacts would be mitigated as necessary (see **Section 3.8** and **4.10**).

1.6.9 Human Health and Safety

Protecting human health and safety is one of the primary goals of environmental regulations, including the CWA and NEPA. The overall project is expected to have a beneficial impact on human health and safety by decreasing CSOs into the river. However, the project could adversely impact human health and safety due to construction-related hazards, including human exposure to hazardous materials. Therefore, human health and safety issues are assessed in this EA (see **Section 3.9** and **4.11**).

1.6.10 Visitor/Resident Use and Experience

The NPS *Management Policies* state that the enjoyment of park resources and values by the people of the U.S. is part of the fundamental purpose of all parks and that the NPS is committed to providing appropriate, high-quality opportunities for visitors to enjoy the parks. Unless mandated by statute, NPS would not allow visitors to conduct activities that:

- Would impair park resources or values;
- Would create an unsafe or unhealthful environment for other visitors or employees;
- Are contrary to the purposes for which the park was established; or
- Would unreasonably interfere with the atmosphere of peace and tranquility, or the natural soundscape maintained in wilderness and natural, historic, or commemorative locations within the park; NPS interpretive, visitor service, administrative, or other activities; NPS concessionaire or contractor operations or services; or other existing, appropriate park uses.

Beyond the park property, residents and visitor experience site-specific attributes. The proposed project would not result in any long-term changes to park environments or visitor experiences, nor would it have long-term impacts of residents or visitors beyond the park property. However, there would be short-term impacts on visitor/resident use and experience. For example, portions of the Anacostia Riverwalk would be rerouted during construction. Therefore, visitor/resident use and experience is assessed in this EA (see **Section 3.10** and **4.12**).

1.7 Impact Topics Dismissed from Further Analysis

1.7.1 Wild and Scenic Rivers

The Federal Wild and Scenic Rivers Act identifies the rivers of the U.S., or portions of them and their related land areas, that possess outstanding scenic, geologic, ecological, historic, recreational, agricultural, fish, wildlife, wildlife habitat, cultural, and other similar resource values. There are no federally-designated Wild and Scenic Rivers in the District; therefore, potential impacts to this resource were not evaluated in this EA.

1.7.2 Coastal Zones and Barriers

Section 307 of the Coastal Zone Management Act of 1972, as amended, requires that proposed federal activities affecting a state's coastal zone be consistent, to the maximum extent practicable, with a state's federally approved Coastal Zone Management Plan. No components of the proposed project are within a designated Coastal Zone, and no Coastal Barriers are present within the study area; therefore, impacts to these resources were not evaluated in this EA.

1.7.3 Physiographic Resources

Topography

The proposed project would have no long-term impact on topography. However, topography would be temporarily altered by excavation and grading that would be required for project construction. These impacts are expected to be local and are not anticipated to cause substantive changes in topography. Because construction would not require any cut and fill slope activities, local topography would be generally restored. To prevent erosion, during and after construction, proper slope and soil stabilization techniques would be used in compliance with District Department of the Environment (DDOE) regulations, which require the development and implementation of an erosion and sediment control plan.

Along the tunnel alignment, tunneling-induced ground settlement may occur due to deformation and ground loss. However, the maximum expected ground losses are anticipated to be up to 0.87 inches vertical settlement and up to 0.43 inches horizontal displacement. DC WASA determined that a ground volume loss of one percent represents the likely maximum expected ground loss for the tunnel excavations. The vast majority of settlement would occur within approximately 24 hours of the associated construction activity. The prediction of long-term surface settlements and subsurface movements is less certain; however, after 24 hours, any remaining settlement is expected to be negligible. Tunnel induced ground settlement could impact overlying buildings and infrastructure near the surface. Therefore, during construction, DC WASA would monitor ground movements and settlement on existing structures, foundations, and utilities as engineering design progresses and throughout the construction of the tunnels, and would identify and respond to any settlement issues. If necessary, DC WASA would stop construction to evaluate and correct any impacts associated with ground settlement.

The potential for ground movement of less than one inch within one day is considered negligible. Additionally, DC WASA would mitigate any impacts; therefore, impacts to topography are not further analyzed in this EA.

Geology

During construction, local topography would be altered by excavation and grading. These impacts are expected to be local and are not anticipated to cause substantive changes associated with geology. DC WASA performed a subsurface investigation to characterize the project's soils physical and engineering properties. The investigation included performing numerous soil borings to characterize the geology and lab and field testing to determine the engineering properties of the soils. All geotechnical data collected provides a basis for understanding the subsurface conditions, and the geotechnical parameters for the final design and construction of the project facilities. The results of the investigation have been summarized in a Geotechnical Data Report, which will be provided to designers and contractors for the project. The proposed project would not cause any abrupt changes to geological processes. Therefore, impacts to geology were not further analyzed in this EA.

Groundwater

United States Geologic Survey (USGS) reports (Miller and Klohe, 2003 and Tenbus, 2003) attempted to provide baseline groundwater quality and hydrogeologic conditions for the Lower Anacostia Tidal Watershed. Those reports indicate that human influences to the Anacostia River and nearby land areas, as well as tidal fluctuations in the river, make it difficult to determine the volume of groundwater flow to the river and whether groundwater flow is an important component of the contaminant load to the river. The proposed project would not result in any measurable impacts to the groundwater of the region; therefore, impacts on groundwater are not evaluated in this EA. Therefore, the potential for exposure and mobilization of hazardous materials into groundwater are assessed in the human health and safety section of this EA (see **Section 3.9** and **4.10**).

1.7.4 Rare, Threatened, and Endangered (RTE) Species

Wildlife species listed as RTE are those that are at risk of extinction due to low populations, lack of habitat, scarcity of food and water, or other risk factors. Further disturbance of RTE species habitat could place the species as a whole at further risk. RTE species are regulated by the Endangered Species Act of 1973, as amended. The purpose of the Act is to assist in the preservation and recovery of listed species. The law is administered by USFWS and the National Marines Fisheries Service (NMFS). The USFWS is responsible for terrestrial and freshwater species, while NMFS is responsible for marine and anadromous species.

Section 7 of the Endangered Species Act requires federal agencies to ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species, or result in the destruction or adverse modification of critical habitat of such species, unless granted an exemption. If listed species or their habitat may be affected, formal consultation must be undertaken with the USFWS, as appropriate. If the consultation reveals that the activity may jeopardize a listed species or habitat, mitigation measures should be considered.

DC WASA contacted USFWS, NMFS, and the DOH Fisheries and Wildlife Division to determine if any existing District- or federally-listed RTE species occur within the study area and is awaiting responses. Coordination letters and responses are located in **Appendix H**.

USFWS has determined that with the exception of occasional transient individuals, no proposed or federally listed endangered or threatened species are known to exist within the project area. No

further section 7(C) coordination with USFWS is required. However, the bald eagle, which is historically found within the boundary of the Potomac and Anacostia River's, is protected by the Bald and Golden Eagle Protection Act, Lacey Act, and the Migratory Bird Treaty Act. If the proposed project has the potential to cause "disturbance" to the bald eagle, DC WASA has been advised by USFWS to consult the "National Bald Eagle Management Guidelines" dated May 2007. These guidelines can be found in **Appendix H**. DC WASA has determined that the proposed project would not violate these Acts.

In accordance with the congressionally mandated *District Wildlife Action Plan*, the District's Fisheries and Wildlife Division is responsible for conserving species of greatest conservational need within the District. The District's Fisheries and Wildlife Division has determined that, due to the primarily underground nature of the proposed project, no impacts to these species are anticipated to occur. Therefore, no further coordination is needed with the District's Fisheries and Wildlife Division.

In accordance with the Magnuson-Stevens Fishery Conservation & Management Act, DC WASA has coordinated with the NMFS to determine whether any federally listed rare, threatened, and endangered species are present within the rivers in the study area. NMFS has determined that the proposed project would not directly affect EFH; therefore, an EFH assessment will not be necessary. However, NMFS has determined that the endangered shortnose sturgeon (*Acipenser brevirostrum*) has been documented as being present in the Potomac River. The shortnose sturgeon have not been documented as present within the Anacostia River; however, based on new information on the use of the river system by this species, NMFS has determined that transient individual shortnose sturgeons have the potential to enter the Anacostia River on a transient basis. The probability of shortnose sturgeon entering the Anacostia River is considered by NMFS to be low, due to the nature of the degraded habitat that presently exists. Nevertheless, the Protected Resource Division of NMFS is not able to rule out the occasional presence of shortnose sturgeon individuals in the lower part of the Anacostia River. Therefore, DC WASA has been advised to consult with the Protected Resources Division of NMFS regarding the need to conduct a Biological Assessment for that species.

DC WASA contacted the NMFS Office of Protected Resources regarding its determinations and recommendations for further consultation. NMFS determined that NPS would not need to do an independent Biological Assessment. Impacts to Potomac and Anacostia rivers would require a Section 404 CWA permit from USACE, and NMFS has recommended to USACE that an informal Endangered Species Act Section 7 consultation be completed. This would involve USACE sending NMFS a letter outlining the proposed action and making a determination of effects of the action on NMFS listed species and providing justification for this determination. USACE would also seek NMFS concurrence with their determination. This request for consultation from USACE would be coordinated with NPS and DC WASA.

DC WASA has committed to implementing conservation measures to protect the shortnose species during construction, such as cordoning off work areas prior to, and following, the time-or-year restrictions. As a result of the agency consultations, the mitigation and conservation measures that would be outlined in the Section 404 permit, and the beneficial impacts to water quality and associated aquatic habitat, DC WASA has determined that Alternative B will have no adverse impacts to RTE species, and has eliminated this topic from further analysis.

1.7.5 Farmlands

In 1981, Congress passed the Agriculture and Food Act, which contains the Farmland Protection Policy Act (FPPA). The FPPA is intended to minimize the unnecessary and irreversible conversion of farmland to nonagricultural uses. As defined in the FPPA, farmland includes Prime Farmland,

Unique Farmland, and Land of Statewide Importance. This can include forest land, pastureland, and cropland.

There are no active farms within the study area; nor do future land use and development plans for the area include farming activities. Thus, there is no potential for the proposed project to cause impacts to any farmland soils inventoried by the National Resources Conservation Service (NRCS) as being Prime or Conditionally Prime, Unique, or of Statewide or Local Importance. Therefore, impacts on farmland are not evaluated in this EA.

1.7.6 Socioeconomics

A socioeconomic inventory and analysis is an important aspect of the NEPA process, helping decision makers identify and address any undesirable changes to neighborhood character, community facilities, or businesses that may result from a federal action. DC WASA referred to data from NeighborhoodInfo DC, the 2000 U.S. Census, and existing mapping to identify the demographics, communities, community facilities, and economic characteristics within the study area.

The proposed project is not associated with residential or commercial development and is intended only to address existing needs for CSO control. Residential or commercial displacement is not expected as a result of the proposed plan, and very minor private right-of-way acquisitions are anticipated. The proposed project would have no long-term impacts on population patterns, community facilities, employment patterns, commercial centers, major roadways, local/regional economy, community access, community aesthetics, community cohesion, or safety.

During construction of portions of the project, short-term impacts to vehicle and pedestrian access, noise, and air quality may be encountered in communities adjacent to surface disturbance areas. These short-term construction impacts would be mitigated with the following measures:

- Traffic Control Plans (TCPs) would be developed to define detours and changes in traffic patterns before construction begins.
- Rerouting of routes for hiker/biker trails that could potentially be impacted, including the Anacostia Riverwalk, would be developed before construction begins.
- Near-surface construction would only be performed between the hours of 7 a.m. and 7 p.m., to limit potential noise impacts.
- Short-term shielding of construction to reduce noise impacts would potentially be used, as appropriate.
- Trucks that haul materials from construction sites would be covered, and all vehicles and equipment would be hosed down to limit air quality impacts.
- Maintenance of emission controls on all construction equipment would be maintained, and exposed soils would be covered and/or wetted to reduce fugitive dust.
- Odor control measures such as a carbon absorption system, intake dampers, and adjustable exhaust dampers would be implemented, where applicable.

Because there would be neither long-term nor adverse short-term impacts on socioeconomic resources, impacts to the socioeconomic environment were not further analyzed in this EA.

1.7.7 Environmental Justice

Presidential Executive Order 12898, *General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing the disproportionately high and/or adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. According to the EPA, environmental justice is the

> …fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the adverse environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.

The goal of "fair treatment" is not to shift risks among populations, but to identify potentially disproportionately high and adverse effects and then identify alternatives that may mitigate these impacts.

The District contains both minority and low-income populations; however, environmental justice is dismissed as an impact topic for the following reasons:

- DC WASA actively solicited public participation as part of the planning process and gave equal consideration to all input from persons regardless of age, race, income status, or other socioeconomic or demographic factors.
- Implementation of the proposed project would not result in any identifiable adverse human health effects; therefore, there would be no direct or indirect adverse effects on any minority or low-income population.
- The impacts associated with implementation of the preferred alternative would not disproportionately impact any minority or low-income population or community.
- Implementation of the preferred alternative would not result in any identifiable effects that would be specific to any minority or low-income community.

1.7.8 Cultural Resources

As discussed in Section 1.6.6, several categories of cultural resources impacts are not evaluated in this EA.

Museum Collections

Museum collections include prehistoric and historic objects, artifacts, works of art, archival documents and natural history specimens. Prevention of damage and minimization of potential for deterioration are NPS management goals. The proposed project does not have any potential to damage or deteriorate designated museum collections.

Ethnography

Ethnographic resources are the cultural and natural features of a park that are of traditional significance to traditionally associated peoples, which include contemporary park neighbors and ethnic or occupational communities that have been associated with a park for at least two or more generations (40 years), and whose interests in the park's resources began before the parks establishment. The proposed project does not have potential to impact ethnographic resources associated with Anacostia Park.

Cultural Landscapes

Anacostia Park has been identified as a cultural landscape and the proposed activities that would directly impact (proposed location of CSO 019) or indirectly impact the park as a result of visual intrusions (proposed CSO 019, Poplar Point Pumping Station, and CSO 005 and 007 Diversion Facilities). These adverse impacts to the Anacostia Park, however, would be negligible. The proposed work at CSO 019 would require replacing the current CSO with a new CSO structure. The design of this proposed new structure and subsequent landscaping would be sympathetic to its current appearance and configuration, and is being completed in coordination with CFA, NCPC, NPS, and the District HPO. As a result there would be negligible adverse direct impacts to this portion of Anacostia Park and negligible visual adverse impacts from the opposite shoreline.

The proposed Poplar Point Pumping Station would be built within an island between various roadways, off of lands administered by the NPS. It would be built 1,000 feet south of existing pumping station, and would therefore be farther from the Anacostia Park boundary than the existing pumping station. The proposed facility is not likely to be visible because of structures along Howard Road, topography, and existing vegetation that would obscure the view. Additionally, the new structure would be designed to integrate with the proposed South Capitol Street bridge landscape, minimizing the visual intrusion from the surrounding park, resulting in negligible adverse impacts.

There would be little if any visual impacts to the park from these proposed facilities since they would be constructed at grade or located underground. The only visible elements would be manholes in the vicinity of the shaft and diversion facilities. Because the overall direct and indirect adverse impacts to the eligibility of the Anacostia Park cultural landscape would be negligible, cultural landscapes was dismissed from further analysis.

1.7.9 American Indian Traditional Cultural Properties

American Indian Traditional Cultural Properties are properties associated with cultural practices, beliefs, the sense of purpose, or existence of a living community that is rooted in that community's history or is important in maintaining its cultural identity and development as ethnically distinctive people. The study area does not contain any resources identified as American Indian Traditional Cultural properties; therefore impacts to American Indian Traditional Cultural Properties are not evaluated in this EA.

1.7.10 Soundscapes and Noise

The Noise Control Act of 1972 set the noise exposure standards for federal projects. Section 4.9 of the *NPS Management Policies* requires preserving natural soundscapes in parks, which includes protecting park areas from unacceptable impacts from noise (unnatural and undesired sounds). Natural soundscapes include all natural sounds in the park, as well as the physical capacity for transmitting these sounds. Natural sounds are associated with natural biological and physical resources such as birdcalls, falling water, thunder, and wind. Activities that may obscure or interfere with these soundscapes through the introduction of noise or the elimination of natural sound sources would require measures to prevent or minimize these impacts.

The District is a highly urbanized environment with numerous noise sources. The entire study area is in proximity to densely-developed areas and major roads and is therefore subject to constant urban noise under existing conditions. Noise in the study area results primarily from aircraft, automobile, and rail transportation sources, including public roadways and BAFB. Noise-sensitive land uses include residences, schools, libraries, recording studios, and parks.

There would be no long-term impacts on soundscapes and noise. Most proposed project components would generate little sound during operation. The proposed conveyance facilities would rely largely on gravity flow for operation, which reduces the need for noise-generating equipment. The proposed pumping stations may generate audible noise, but would not be located in noise sensitive areas.

During construction, impacts in the form of noise generated by the temporary use of heavy equipment, would occur. It is not anticipated that blasting would be needed for construction at the proposed depth of the facility storage/conveyance tunnels. Noise would predominately be expected to occur during construction at interim locations along the tunnel alignments, where heavy machinery and ventilation fans may be used during excavation and construction. Ventilation fans would need to operate continuously during the tunnel construction period, to ensure a safe working atmosphere for underground workers. Construction noise from these sources would be short-term and would be mitigated when feasible. Construction noise would conform to the requirements and enforcements of Chapter 27-Noise Control of the District of Columbia Municipal Regulations.

With no long-term noise increases associated with the proposed project and no alterations of the existing park soundscapes proposed, impacts to soundscapes and noise are not detailed in this EA.

1.7.11 Transportation

There would be no long-term impacts on transportation resources. Construction areas for the proposed project would require short-term road detours, road closures, lane restrictions, and other disruptions to surface traffic. The proposed project would require coordination with the District Department of Transportation (DDOT), CSX, and the Washington Metropolitan Area Transit Authority (WMATA), due to excavation and tunneling beneath their properties. The proposed project would not directly impact the use or operations of their facilities, including the Metro. However, surface bus operations may be impacted during construction.

DC WASA performed thorough site evaluations when developing the proposed project and identified site-specific transportation impacts and mitigation, as follows.

- The development and implementation of TCPs would be needed for M Street SE, N Street SE, 9th Street SE, 12th Street SE, and Water Street SE to close specific travel lanes and reroute vehicular, WMATA bus, and pedestrian traffic around the construction area. Water Street SE also provides substantial parking for local workers and visitors, which would be disrupted during any closures affecting Water Street SE. A pedestrian routing plan would also be required to redirect foot traffic affected by Anacostia Riverwalk closings and sidewalk closings on M Street SE and 9th Street SE.
- RFK Access Road would require short-term closure. There would be no construction during stadium events, in order to prevent impacts to existing operations at RFK Stadium. A TCP would be required to provide a detour plan and to reroute the Anacostia Riverwalk around the construction area. The TCP would also need to address hauling routes and construction access for large vehicles and equipment from Barney Circle and Independence Avenue SE.
- There would be a need for the development and implementation of TCPs to address construction access and to mitigate congestion and delays on South Capitol Street SE/SW.
- A TCP would be required to address the construction within M Street SE, which would result in short-term road closures and traffic management. Construction access to the median between the Southeast Freeway and the onramp from Pennsylvania Avenue SE would also require a TCP to address truck queuing and encroachments into the travel lane.

- Site access would be required for large vehicles from Anacostia Drive SE between the 11th Street bridges. Also, existing parking near the existing ballfield would be eliminated during construction. A TCP and a pedestrian re-routing plan would be required to manage traffic on the roadways near or leading to the construction site and to maintain functionality of the Anacostia Riverwalk.
- Parts of Tingey Street SE would need to be closed temporarily to construct the Main Pumping Station Diversion Facilities and Tingey Street Diversion Facilities, and congestion and delays would be expected on Tingey Street SE throughout construction. TCPs would be required to reroute traffic (including WMATA bus routes) around the street closures, to manage access to the site for construction vehicles, and to provide detours to reduce congestion and delays. A pedestrian re-routing plan would be required to maintain pedestrian access during sidewalk closures. A truck hauling route would be established in order to minimize any traffic disruptions from trucks and equipment moving in and out of the site.
- A pedestrian path along the shoreline on BAFB would be detoured during construction. Prior to construction, DC WASA would pave a new path around the construction limits so that use of the path is not disturbed during construction. Additionally, a fence would separate the pedestrians from construction activity.
- A TCP would be required to manage hauling routes and truck access to the sites on BPAWWTP and BAFB. This plan would be closely coordinated with the BAFB to ensure that there are no impacts to military missions.

The proposed project would not require any new roads or any permanent changes to intersections, signals, or traffic flow. It would not serve as an attractor for visitors or residents, nor would it increase traffic in the study area. With the appropriate traffic management and mitigation techniques specified in the TCPs, the proposed project would maintain access to all paths, businesses, and residences throughout construction. Because there would only be short-term impacts on transportation resources, it was not further analyzed in this EA.

1.7.12 Hazardous Materials

The RCRA and the District's Hazardous Wastes Management Act govern the generation, transportation, treatment, storage, and disposal of hazardous materials. NEPA requires federal agencies to integrate environmental values into their decision making processes, including consideration of existing hazardous contamination. Numerous active and inactive hazardous material sites are known to exist near the proposed project, as is common in urban areas. Additionally, former and existing underground storage tank sites are located in proximity to the proposed project, some of which have leaked and contaminated the soil or groundwater with petroleum products. No new hazardous materials would be introduced as a result of this project; however, due to the excavation and construction required for the proposed project, there is potential for hazardous materials to be exposed and mobilized. Therefore, the potential for exposure and mobilization of hazardous materials are assessed in the human health and safety section of this EA (see **Section 3.9** and **4.11**).

1.7.13 Floodplains

EO 11988, *Floodplain Management*, requires federal agencies to evaluate the potential effects of actions they may take in a floodplain to avoid, to the extent possible, adverse impacts associated with direct and indirect development of a floodplain. Portions of the proposed project would be constructed within the 100-year floodplain of the Anacostia and Potomac rivers. However, there

would be negligible impacts to floodplains; therefore, impacts on floodplains were not analyzed in this EA.

1.7.14 Air Quality

In accordance with guidelines set forth by 23 CFR Part 771, 49 CFR Part 622, CAA), and NEPA, potential impacts to air quality as the result of the proposed project were analyzed. DC WASA referred to the National Ambient Air Quality Standards (NAAQS) and the EPA Aerometric Information Retrieval System (AIRS) database to identify the relevant standards and to identify whether the study area is meeting these standards under existing conditions. Under the authority of the CAA, the EPA has developed NAAQS for certain air pollutants (criteria pollutants) deemed harmful to public health and the environment. These criteria pollutants include: nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO), ozone (O_3), particulate matter less than 2.5 micrometers in diameter ($PM_{2.5}$), particulate matter less than 10 micrometers in diameter (PM_{10}), and lead (Pb). The Metropolitan Washington Region does not meet all of the NAAQS promulgated by EPA. The CAA designates areas where ambient concentrations of $PM_{2.5}$ and O_3 are below the NAAQS as being in "attainment" and designates areas where a criteria pollutant level exceeds the NAAQS as being in "nonattainment." The project area is in nonattainment for $PM_{2.5.}$ and eight-hour O_3. The Metropolitan Washington Council of Governments (MWCOG), which includes representation from District, Maryland, and Virginia local and state governments, has produced a State Implementation Plan (SIP) to guide efforts to reduce emissions of these pollutants.

There would be no long-term impact on air quality in the study area. Because this project would not permanently change traffic patterns, there would be no potential for long-term increases in localized CO, $PM_{2.5}$, or PM_{10} emissions. Also, the proposed project facilities would not change or introduce any new emission sources. Therefore, air quality modeling is not required for this project. There is little potential that the proposed project would cause the ambient air quality standards to be exceeded.

Short-term air quality impacts would be associated with mobile-source emissions and fugitive dust during construction. Emissions from construction equipment, including earth moving equipment, demolition equipment, and paving equipment would generate combustion-related pollutants such as particulate matter (PM) and CO. Emissions related to construction activities would be limited to the duration of the proposed project and would be below the *de minimis* level. The SIP includes an allowance for regional construction emissions. As a result, air quality impacts from the operation of construction equipment are not assessed in this EA.

Fugitive dust would be generated during site grading and construction, from wind erosion, and from vehicular activities. Fugitive dust would be mitigated by following state and local regulations regarding dust control and other air quality emission reduction controls, such as watering construction areas during dry periods to prevent fugitive dust from entering the air. In addition, trucks used to haul excavated materials would be covered to the maximum extent practicable, in accordance with all applicable federal, and District regulations. Additionally, there is potential for odor associated with the storage and conveyance of CSOs. Potential odor impacts are evaluated in the Visitor/Resident Use and Experience sections (see **Chapter 3.10** and **4.11**).

1.7.15 Park Operations and Management

NPS must consider the potential impacts of any proposed action within parklands on the operation and management of the park, including ensuring the continued health and integrity of the park environment and preserving the values of the park resource. The proposed project would not require modifications to existing park operations and would not contribute to the impairment or

degradation of the park environment. Instead, the proposed project would help preserve and restore the existing natural environment by improving water quality in the Anacostia River, thereby potentially enhancing the long-term health of the park areas and the local ecosystem. Thus, impacts to park operations and management are not evaluated in this EA.