National Park Service
U.S. Department of the Interior

Rock Creek Park
Washington, DC

DC Clean Rivers Project
Piney Branch Tunnel Project

Environmental Assessment

October 2024

Prepared in cooperation with DC Water

As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under US administration.

Note to Reviewers

Comments on this Piney Branch Tunnel Project EA may be submitted electronically by 11:59 pm Eastern Standard Time (EST) on December 6, 2024, at:

Park Planning Piney Branch Tunnel EA (nps.gov)

You may also mail written comments postmarked by December 6, 2024, to:

Superintendent
Rock Creek Park
RE: Piney Branch Tunnel EA
3545 Williamsburg Lane NW
Washington, DC 20008

Before including personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

On the Cover

View looking east towards the CSO 049 outfall structure on Piney Branch in Rock Creek Park.

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ACRONYMS AND ABBREVIATIONS

AADT	Annual Average Daily Traffic
APE	Area of Potential Effects
BG	Block Groups
Blue Plains	Blue Plains Advanced Wastewater Treatment Plant
BMPs	Best Management Practices
CFR	Code of Federal Regulations
CSA	Construction Staging Area
CSO	Combined Sewer Overflow
CEQ	Council on Environmental Quality
CT	Census Tract
DBH	diameter at breast height
DCCR	DC Clean Rivers
DCMR	District of Columbia Municipal Regulations
DC Inventory	DC Inventory of Historic Sites
DDOT	District Department of Transportation
DOEE	District Department of Energy and Environment
DC SHPO	District of Columbia State Historic Preservation Office
DC Water	District of Columbia Water and Sewer Authority
EA	Environmental Assessment
EEA	Equity Emphasis Area
ERCDS	East Rock Creek Diversion Sewer
ESC	Erosion and Sediment Control
FEMA	Federal Emergency Management Agency
ft	feet
IPaC	Information for Planning and Consultation
LOS	Level of Service
LTCP	Long Term Control Plan
MOA	Memorandum of Agreement
MWCOG	Metropolitan Washington Council of Governments
NEPA	National Environmental Policy Act
NPS	National Park Service
NPDES	National Pollutant Discharge Elimination System
National Register	National Register of Historic Places
PEPC	Planning, Environment and Public Comment

PFO	Palustrine Forested Wetland
TBM	Tunnel Boring Machine
TMDL	Total Maximum Daily Load
TOYR	Time of Year Restriction
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
VdB	Vibration Decibels

1. PURPOSE AND NEED

1.1 INTRODUCTION

The National Park Service (NPS), in cooperation with the District of Columbia Water and Sewer Authority (DC Water) and the National Capital Planning Commission (NCPC), is proposing to authorize construction of the Piney Branch Tunnel Project, a component of DC Water's Long Term Control Plan (LTCP), also known as the DC Clean Rivers (DCCR) Project. The Piney Branch Tunnel Project would be constructed in the general vicinity of combined sewer overflow (CSO) 049, a combined sewer outfall within Rock Creek Park, a unit of the national park system administered by the NPS in northwest Washington, DC (**Figure 1-1**).

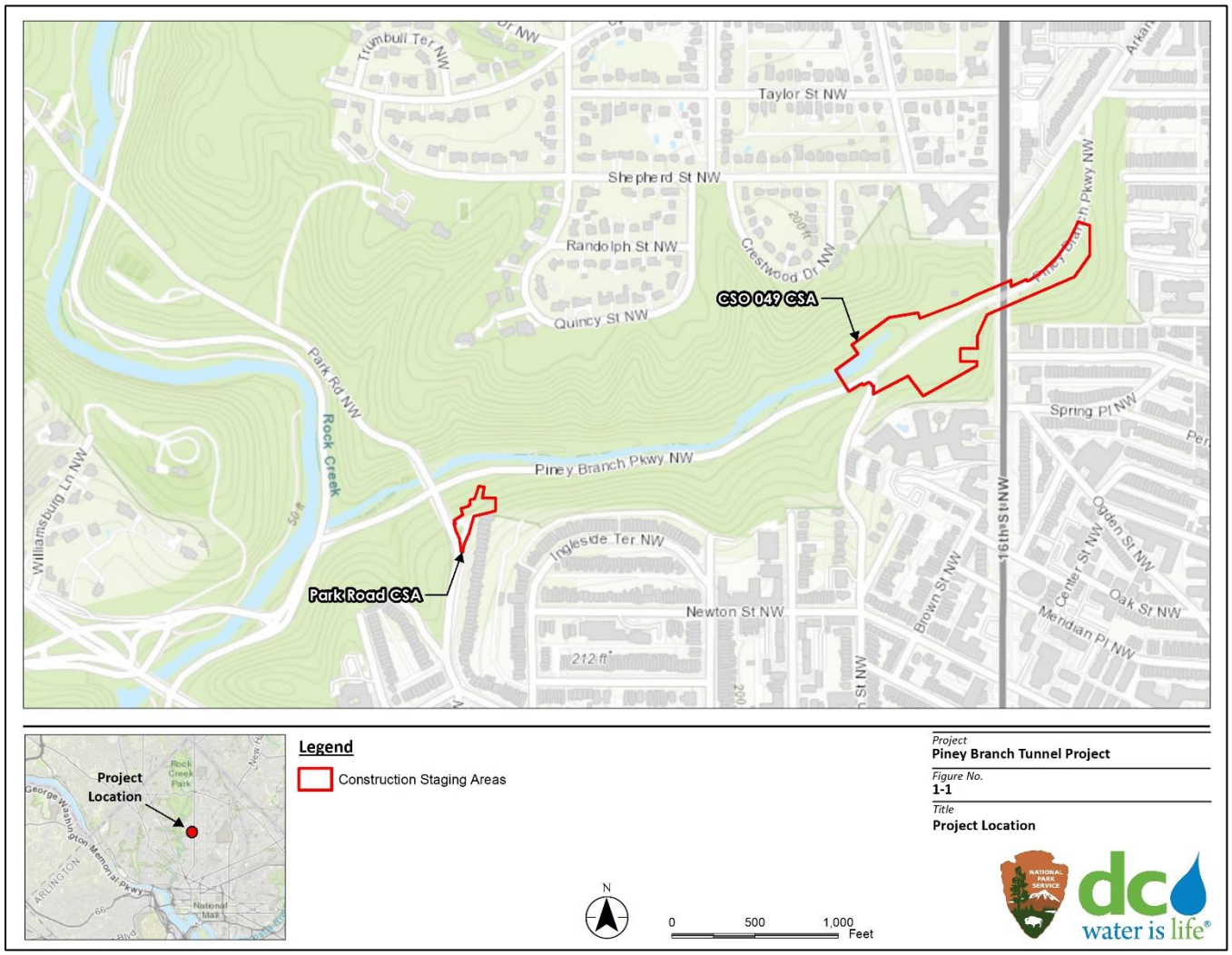

Figure 1-1. Location of the Piney Branch Tunnel Project

The nearly 1,800-acre Rock Creek Park is one of the oldest and largest natural urban parks of the national park system. It came about because of the 19th century conservation movement to preserve natural scenic areas. Established by Congress on September 27, 1890 (26 Stat 492), Rock Creek Park's location makes it highly accessible for city residents and visitors to experience a tranquil natural setting or pursue many recreational activities. Stretching from the Maryland state line to the National Zoo, Rock Creek Park exists as a green oasis amidst the dense urban development of the Washington, DC, metropolitan area. As stated in the enabling legislation, Rock Creek Park is "perpetually dedicated and set apart as a public park or pleasure ground for the benefit and enjoyment of the people of the United States," which included the construction of driving roads and

trails for horses and pedestrians, while preserving the park's "timber, animals, and curiosities . . . in their natural condition, as nearly as possible."

Like many older cities in the United States, the sewer system in the District of Columbia (the District) is comprised of both combined sewers and separate sanitary sewers (**Figure 1-2**). 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 the early 1900s. Approximately one-third of the District (12,478 acres) is served by combined sewers (**Figure 1-3**), mostly in the older developed sections.

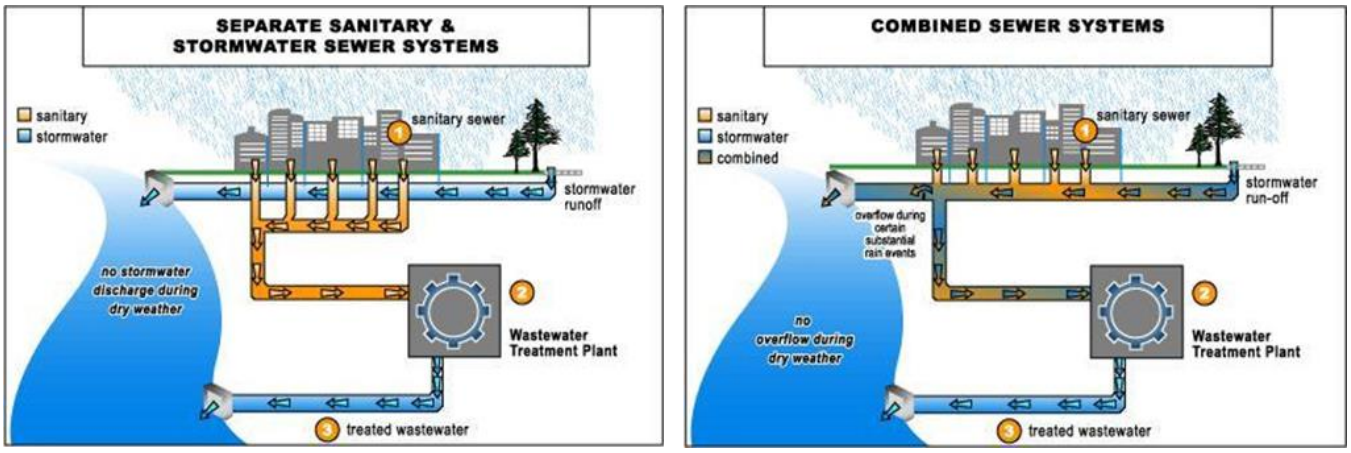

Figure 1-2. Separate and Combined Sewer Systems Diagrams

During dry weather conditions, the combined sewer system conveys sewage from homes and businesses to Blue Plains, located in southwest Washington, DC, on the east bank of the Potomac River. There, DC Water treats wastewater to remove pollutants before it is discharged to the Potomac River. When the capacity of the combined sewer system is exceeded during storm events, the excess flow, which is a mixture of sewage and stormwater runoff, discharges directly to the Potomac River, Anacostia River, Rock Creek, and their tributaries at numerous outfalls. These discharges during storm events are called combined sewer overflows, or CSOs. DC Water's National Pollutant Discharge Elimination System (NPDES) permit issued by the US Environmental Protection Agency (USEPA) lists a total of 48 potentially active CSO outfalls for the combined sewer system.

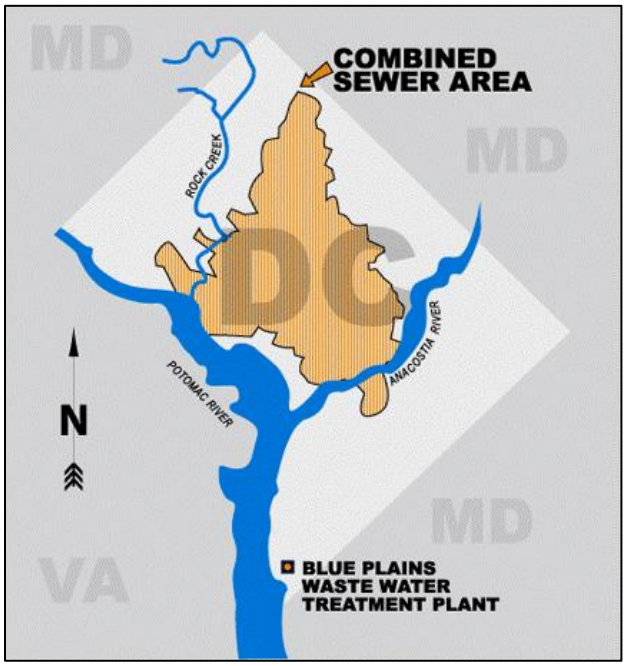

Figure 1-3. Combined Sewer Area of the District

1.2 PROPOSED ACTION

DC Water proposes to construct an underground tunnel to capture and store a minimum of 4.2-million gallons of sewage, combined with stormwater, that would otherwise overflow into Piney Branch, a perennial tributary that drains to Rock Creek, when the capacity of the existing combined sewer system is exceed during storms. A diversion structure proposed at the Piney Branch CSO outfall, known as CSO 049, would redirect CSOs to the storage tunnel. The combined sewage captured and temporarily stored by the tunnel would slowly discharge into the East Rock Creek Diversion Sewer (ERCDS) and flow by gravity to DC Water's Blue Plains Advanced Wastewater Treatment Plant (Blue Plains) for treatment when the existing sewer system has capacity to handle the volume. DC Water would construct other supporting infrastructure, including an upstream drop shaft, ventilation control vault, and terminal shaft as part of the Piney Branch Tunnel Project. The below grade ventilation control vault would be constructed to allow air to enter and exit the tunnel during filling and emptying, with equipment provided to mitigate fugitive emissions. Upon completion of construction, the site would be restored substantially to existing conditions, with manholes, hatches, and other structure access points visible at grade. CSO warning lights would be located above grade.

The study area for the Piney Branch Tunnel Project primarily consists of two construction staging areas (CSA), the corridor within which the proposed tunnel may be constructed, adjacent residences that may be affected by construction, and communities within which traffic detours and haul routes are proposed. Since the CSO 049 outfall is in Rock Creek Park, DC Water will require Special Use and Right-of-Way permits from the NPS for the use of federal parkland to construct, operate, and maintain the infrastructure necessary to meet its Consent Decree obligations. As such, DC Water, in cooperation with the NPS and NCPC, has prepared this Environmental Assessment (EA) to assess the potential environmental impacts of the Piney Branch Tunnel Project in accordance with the National Environmental Policy Act (NEPA) of 1969; the Council on Environmental Quality (CEQ) "Regulations for Implementing the Procedural Provisions of NEPA" (40 Code of Federal Regulations [CFR] 1500-1508); NPS Director's Order #12: *Conservation Planning, Environmental Impact Analysis, and Decision-Making*; and the NPS NEPA Handbook (NPS 2015). Furthermore, NCPC has approval authority over the project under the National Capital Planning Act (40 U.S.C. § 8722(b)(1) and (d)) and has therefore been granted Cooperating Agency status for the purposes of satisfying their NEPA obligations.

DC Water and NPS are also preparing an Assessment of Effects Report concurrent with this EA to document the effects the proposed undertaking would have on historic properties in accordance with Section 106 of the National Historic Preservation Act.

1.3 PROJECT AREA LOCATION AND DESCRIPTION

The proposed project would be constructed from two CSAs within the Piney Branch stream valley between Park Road NW and Arkansas Avenue NW (**Figure 1-1**). The CSO 049 outfall is within the CSO 049 CSA and is a primary source of water in Piney Branch, in addition to groundwater seeps downstream of the outfall. Piney Branch is adjacent to Piney Branch Parkway NW and flows in a southwest direction to where it drains into Rock Creek near the intersection of Piney Branch Parkway NW and Beach Drive NW. Piney Branch is a first order stream with a surface length of 0.75 miles (1.21 kilometers). It is generally about 12 feet (3.7 meters) wide and 4 inches (10 centimeters) deep. It is the largest tributary located entirely within the Washington, DC city limits. Within the CSO 049 CSA, the Piney Branch streambed consists of a concrete apron immediately downstream of the outfall and retaining walls have been installed to stabilize the streambanks.

The CSO 049 CSA is bisected by Piney Branch Parkway NW, which was constructed in 1935-1936 by the Works Progress Administration on the southeast side of Rock Creek Park. Piney Branch Parkway NW is an approximately one-mile roadway that was meant to serve as a new access road to Rock Creek Park and to improve traffic flow to and from Beach Drive NW and the Rock Creek and Potomac Parkway. The CSO 049 CSA also includes natural areas consisting of forest, forested open space, wetlands, and maintained turf areas, while the Park Road CSA consists of the jughandle just south of the Park Road NW Bridge, the Piney Branch Parkway foot trail, and steeply sloped forest area.

Figure 1-4 shows the configuration of the existing sewer system pipelines that converge at CSO 049. The system consists of a network of pipes from four major subdrainage areas constructed by the federal government in various phases since the late 1800s. During dry conditions or light rainfall, a weir within the outfall diverts flow to the ERCDS, which conveys the flow to Blue Plains for treatment. However, during more substantial storms, the sewer system reaches capacity, causing untreated combined sewage flow to overtop the weir and discharge into Piney Branch.

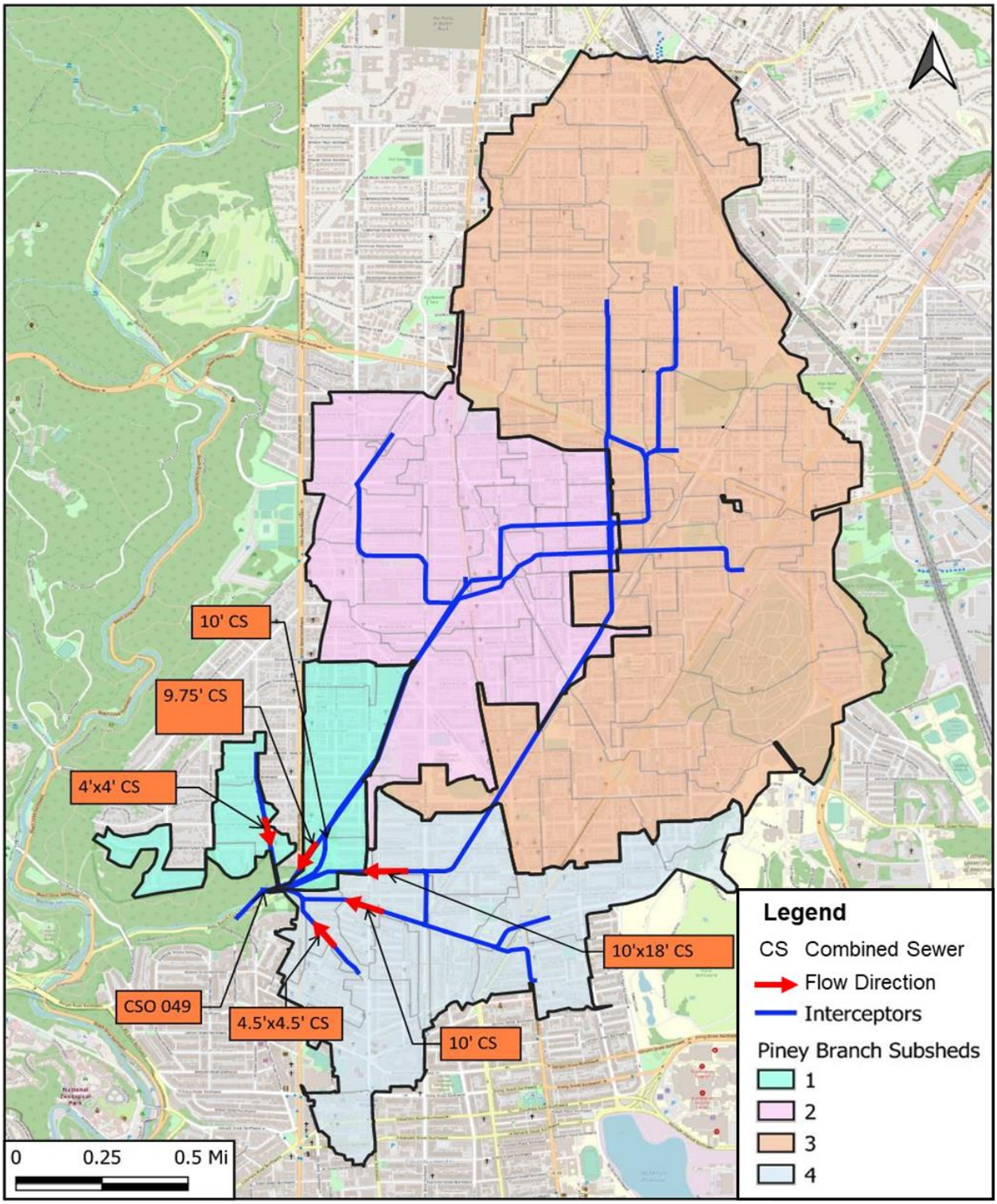

Figure 1-4. CSO 049 Subdrainage Areas and Sewer System Layout

1.4 PURPOSE OF AND NEED FOR ACTION

The purpose of the project is to reduce untreated discharges from the combined sewer system to Piney Branch by increasing CSO storage and conveyance capacity. The Piney Branch Tunnel Project is needed to reduce CSOs that degrade the water quality of Piney Branch, Rock Creek, the Potomac River, and ultimately the Chesapeake Bay. The project is also needed to comply with the 2005 Federal Consent Decree entered into by DC Water, the District, the USEPA, and the US Department of Justice, as amended January 2016, and modified December 2020.

CSO 049 is the largest of the 23 combined sewer system outfalls that may discharge to Rock Creek if rainfall exceeds the capacity of the system. In a year of average rainfall, an estimated 40 million gallons of untreated sewage and stormwater enter Piney Branch during approximately 25 CSO events. These CSOs contribute to the USEPA's listing of Piney Branch as an impaired waterbody under Section 303(d) of the Clean Water Act. The USEPA considers waterbodies or waterbody segments impaired when they do not meet local water quality standards. CSOs impair water quality by increasing water bacteria levels, contributing to low dissolved oxygen in water, increasing the potential for fish stress or fish kills and impacts to other aquatic life, and increasing the amount of trash in waterways.

1.5 HISTORY OF THE DC CLEAN RIVERS PROJECT

In 2004, the District and the USEPA approved a LTCP developed by DC Water in accordance with the USEPA's 1994 CSO Control Policy, Section 402(q) of the Clean Water Act, and NPDES permit requirements. Regulatory agencies determined that CSOs remaining after implementation of the plan would not cause or contribute to the exceedance of water quality standards, subject to post construction monitoring. Regulatory agencies also determined that the CSOs remaining after implementation of the plan would comply with total maximum daily loads (TMDLs) established for the receiving waters. The LTCP outlined CSO control measures to meet local and federal water quality standards and included a system of storage / conveyance tunnels along the Potomac River, Anacostia River, and Rock Creek; pumping station rehabilitation; targeted sewer separation; and Low Impact Development. In 2005, DC Water entered into a Federal Consent Decree that established a judicially enforceable schedule to implement the CSO control measures outlined in the LTCP.

In 2007, DC Water prepared a first revision to the LTCP titled *Blue Plains Total Nitrogen Removal / Wet Weather Plan* to address modifications to DC Water's NPDES permit that were approved by the USEPA later that year. A second revision to the LTCP was finalized in 2015 that modified CSO controls for Rock Creek to manage 365 acres of impervious surface area in the CSO 049 Sewershed using Green Infrastructure. The revision to the LTCP stipulated that the first Green Infrastructure project would be constructed and evaluated to determine its practicability. If it was determined impracticable, construction of 9.5 million gallons of storage at CS0 049 would be required. In June 2020, DC Water completed the assessment and determined that the implementation of only Green Infrastructure to control the 365 acres in the CSO 049 Sewershed was not practicable. DC Water therefore submitted a non-material modification to the Consent Decree in December 2020, determining that a hybrid approach of green and gray infrastructure projects would achieve control equivalent of 9.5 million gallons in the CSO 049 Sewershed by March 23, 2030. This hybrid approach included construction of a storage facility for at least 4.2 million gallons and Green Infrastructure to control 92 impervious acres in the CSO 049 Sewershed.

The Consent Decree stipulates placing the Piney Branch Tunnel Project in operation by November 23, 2029, and for the 92 acres of Green Infrastructure to be constructed and in operation by March 23, 2030. To date, DC Water has completed construction of Green Infrastructure facilities to treat 42 acres of Piney Branch sewershed impervious area. The remaining 50 acres will be constructed prior to the 2030 deadline. DC Water anticipates that once all the DC Clean Rivers Projects are implemented within the CSO 049 Sewershed, CSO frequency will be reduced to one event per year on average at CSO 049 and four events per year on average at the remaining CSO outfalls along Rock Creek.

1.6 ISSUES AND IMPACT TOPICS RETAINED FOR DETAILED ANALYSIS

The NPS and DC Water determined that the following issues and associated impact topics identified during scoping warranted detailed analysis in this EA.

1.6.1 Water Quality

If DC Water does not construct the Piney Branch Tunnel Project, CSOs would continue to degrade water quality through the release of untreated discharges into Piney Branch containing nutrients, fecal coliform bacteria (*Escherichia coli*), and other pollutants (e.g., pathogens, solids, toxics, and floatable matter). However, if DC Water implements the project, ground disturbance during construction of supporting tunnel infrastructure, including the diversion structure, drop shafts, and the connection to the existing ERCDS could result in the temporary transport of sediment-laden water into Piney Branch. Over the long-term, substantial improvements to water quality would occur once the proposed Piney Branch Tunnel is constructed. These issues are analyzed under the *Water Quality* impact topic.

1.6.2 Wetlands

Construction of the supporting near surface structures for the Piney Branch Tunnel Project would require permanent impacts to Piney Branch to construct the diversion structure, and temporary disturbance to Piney Branch immediately downstream of the outfall to repair, as needed, the existing concrete apron. Additionally, the relocation of an existing 48-inch storm sewer immediately north of the outfall would result in temporary impacts to a small perennial tributary of Piney Branch and adjacent palustrine forested (PFO) wetlands, as well as permanent impacts from the placement of manholes in the wetland. These wetlands and waterways are subject to NPS wetland protection procedures outlined in Director's Order 77-1: *Wetland Protection* and NPS Procedural Manual 77-1, and the US Army Corps of Engineers (USACE) regulates these resources as waters of the United States under Section 404 of the Clean Water Act. These issues are analyzed under the *Wetlands* impact topic.

1.6.3 Vegetation

The project would require tree removal to accommodate construction of the proposed structures, including the diversion structure, drop shafts, ventilation control vaults, and the connection to the ERCDS. DC Water conducted a tree survey to determine the extent of tree removal and identify tree replacement requirements to comply with NPS permit conditions. Furthermore, tree removal and other land disturbance during construction could facilitate invasive plant species establishment. These issues are analyzed under the *Vegetation* impact topic.

1.6.4 Historic Structures and Districts

The CSO 049 outfall structure was determined not eligible for listing in the National Register of Historic Places (National Register) or the DC Inventory of Historic Sites (DC Inventory), either as an individual resource, or a contributing element of the Rock Creek Park Historic District, based on a Determination of Eligibility signed by the District of Columbia State Historic Preservation Office (DC SHPO) on March 20, 2023. However, DC Water would construct the Piney Branch Tunnel Project within the Rock Creek Park Historic District and Mount Pleasant Historic District. Additionally, the proposed project is within the viewshed of the Woodner Apartment Building, which was determined eligible for listing in the National Register in January 2022. These issues are analyzed under the *Historic Structures and Districts* impact topic.

1.6.5 Visitor / Community Use and Experience

Construction of the Piney Branch Tunnel Project would disrupt visitors and surrounding communities due to temporary closures or detours of Piney Branch Parkway NW, trails, and open space, and by removing vegetation to accommodate construction activities. Also, construction could generate temporary air emissions, noise, and vibration near residential areas. Upon completion of construction, the site would be restored substantially to existing conditions, with manholes, hatches, and other structure access points visible at grade. CSO warning lights would be located above grade. These issues are analyzed under the *Visitor / Community Use and Experience* impact topic.

1.6.6 Environmental Justice and Underserved Communities

There are several US Census Bureau Census Block Groups (BG) within a 0.5-mile radius of the proposed tunnel corridor containing higher than average minority and low-income populations, according to 2021 American Community Survey 5-year estimates. Additionally, there are two Census Tracts (CT) immediately east of the CSO 049 CSA in Columbia Heights and Petworth designated as Equity Emphasis Areas (EEA) by the Metropolitan Washington Council of Governments (MWCOG), CT 25.04 and 28.01. The CEQ Climate and Economic Justice Screening Tool also identifies CT 28.01 as disadvantaged, a census tract that is above the threshold for socioeconomic and environmental burdens. Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* requires the NPS to evaluate if the proposed project could result in disproportionately high and adverse human health or environmental effects on minority or low-income populations. These issues are analyzed under the *Environmental Justice and Underserved Communities* impact topic.

1.7 ISSUES DISMISSED FROM DETAILED ANALYSIS

The following issues have been dismissed from detailed analysis for the reasons provided.

1.7.1 Floodplains

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map panels 1100010008C and 1100010016C show that the regulated 100-year floodplain of Piney Branch is primarily confined to the stream channel between Rock Creek and the CSO 049 outfall. Although construction of the CSO 049 diversion structure would result in disturbance within the channel, the project would ultimately reduce flood risk by capturing and storing CSOs during significant storm events. The proposed project would not result in an adverse impact to human health, capital investment, or natural and beneficial floodplain values. Therefore, the NPS has dismissed issues related to *Floodplains* from further analysis and a Floodplain Statement of Findings is not necessary.

1.7.2 Migratory Birds including Bald Eagles

Many of the birds found in the Piney Branch Tunnel Project area are year-round inhabitants, while others are neotropical migratory birds traveling through Rock Creek Park from South and Central America, the Caribbean, and southern US to North American nesting habitats. **Table 1-1** provides a list of the 12 migratory bird species of concern that may occur within the vicinity of the proposed Piney Branch Tunnel Project according to the US Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) database.

Table 1-1. Migratory Birds with Potential to Occur in the Project Area according to USFWS

Species Common Name	Species Scientific Name
bald eagle	*Haliaeetus leucocephalus*
black-billed cuckoo	*Coccyzus erythropthalmus*
bobolink	*Dolichonyx oryzivorus*
Canada warbler	*Cardellina canadensis*
chimney swift	*Chaetura pelagica*
eastern whip-poor-will	*Antrostomus vociferus*
lesser yellowlegs*	*Tringa flavipes*
prothonotary warbler	*Protonotaria citrea*
red-headed woodpecker	*Melanerpes erythrocephalus*
rusty blackbird*	*Euphagus carolinus*
scarlet tanager	*Piranga olivacea*
wood thrush	*Hylocichla mustelina*

**Breeding occurs elsewhere*

The NPS evaluated the probability of presence data provided by IPaC to determine when the migratory bird species listed in **Table 1-1** are most likely to occur at the Piney Branch Tunnel Project area and if potential occurrences are within their respective breeding seasons. Two of the 12 migratory bird species identified by IPaC do not breed within the vicinity of the project area. Of the remaining 10 species, the chimney swift, scarlet tanager, and wood thrush have the highest likelihood of breeding at the Piney Branch Tunnel Project area of the migratory birds listed. The other migratory bird species identified by IPaC are likely to occur on a transient basis.

Protection measures for migratory birds would be developed during detailed design based upon consultation with NPS and the USFWS. These measures would involve time of year restrictions (TOYR) for tree removal, among other potential mitigations. Depending on the extent of TOYRs, tree removal in advance of full-scale mobilization may be necessary to meet Consent Decree deadlines.

There are no active bald eagle nests in the vicinity of the Piney Branch Tunnel Project based on surveys completed in March 2024. The closest active nest occurs along the Potomac River approximately three miles southwest, and there is an active nest at the National Arboretum, approximately four miles southeast near the Anacostia River. As such, the proposed Piney Branch Tunnel Project would not disturb bald eagles, or their nests, and no conservation measures specific to bald eagles are anticipated to be required. The NPS has therefore dismissed *Migratory Birds including Bald Eagles* from further analysis in this EA.

1.7.3 Threatened and Endangered Species

In accordance with Section 7 of the Endangered Species Act, the NPS obtained an official species list from the USFWS that identified the federally listed endangered northern long-eared bat (*Myotis septentrionalis*), the proposed endangered tricolored bat (*Perimyotis subflavus*), and Hay's spring amphipod (*Stygobromus hayi*), as potentially occurring in the Piney Branch Tunnel Project area.

NPS asked for technical assistance from the USFWS regarding these species for the Piney Branch Tunnel Project on April 3, 2024, which continues informal Section 7 consultation. NPS will continue discussions as the project design progresses. Section 7 of the Endangered Species Act requires that NPS re-engage consultations with USFWS if the project changes from what was initially described, as well as when the status of a species changes or there is designation of critical habitat for a species (Rock Creek Park currently has no designated critical habitat for federally listed species). Through this process, NPS will work with USFWS on conservation measures to reduce any impacts to threatened and endangered species that arise from the Piney Branch Tunnel Project. The NPS has therefore dismissed *Endangered Species* from further analysis in this EA.

1.7.4 Air Quality and Greenhouse Gas Emissions

Construction activities would generate emissions of volatile organic compounds and greenhouse gases such as nitrogen oxides from engine use associated with the operation of vehicles and equipment. Generators needed to power tunnel mining equipment would produce emissions and construction activities would also result in emissions of particulate matter (dust). To minimize greenhouse gas emissions and impacts to air quality during construction, DC Water would require the construction contractor to limit equipment idling times and to employ fugitive dust controls. DC Water would also require the construction contractor to obtain coverage for the generators under a DOEE Source Category Permit.

Once the proposed facilities are operational, ambient air quality would return to pre-construction conditions. Operation of the tunnel infrastructure and visitor use of Piney Branch Parkway NW and 17th Street NW would not generate sufficient greenhouse gas emissions to have a measurable contribution to climate change. Overall, emissions generated by the proposed project would be minimal and temporary construction emissions would be the primary cause of any air quality impacts. Therefore, the NPS has dismissed *Air Quality including Greenhouse Gas Emissions* from further analysis.

1.7.5 Archeological Resources

Archeologists under contract with DC Water conducted Phase I archeological investigations to evaluate the potential for the Piney Branch Tunnel Project area to contain archeological resources. The archeological assessment was conducted in accordance with the Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation* and the *Guidelines for Archaeological Investigations in the District of*

Columbia. Initial research determined that past investigations documented a significant Precontact archeological site 51NW001, Piney Branch Quarry, in the vicinity of the CSO 049 outfall and identified other areas with high potential for archeological resources within the Area of Potential Effects (APE). Archeologists conducted a surface survey supplemented by shovel test pit excavations in these areas in March 2023.

During the investigations, archeologists identified a multi-component archaeological site. The Precontact component consists of lithic debitage and represents a small lithic workshop area. The Historic period component represents a late nineteenth- and early twentieth-century domestic site. Through consultation, the NPS and DC SHPO agreed to expand the boundaries of Site 51NW001 to encompass the newly discovered multi-component site and the quarries on the south side of Piney Branch that have since been destroyed by construction of the Mount Pleasant neighborhood. The multi-component site would not be impacted by construction of the Piney Branch Tunnel Project.

The core of Site 51NW001 is located upslope from the CSO 049 CSA and would not be affected by construction. There is an approximately 1.2-acre area of overlap between the expanded boundary of Site 51NW001 and the CSO 049 CSA; however, much of this area was disturbed in the past during construction of various storm sewers, particularly CSO 049 and the Piney Branch trunk sewer. Additionally, shovel tests were negative within this area where previous disturbance could not be confirmed from background research. As such, additional investigations in the area were not recommended.

Archeologists conducted a walkover survey of the Park Road CSA but due to the steep topography and past disturbance, shovel tests were not conducted. No archeological resources were identified in the Park Road CSA and no additional investigations were recommended. Furthermore, no additional archaeological investigations were recommended in the proposed paths of the PEPCO electrical connections, which are primarily within existing utility corridors.

The DC SHPO concurred that the Piney Branch Tunnel Project would have *No Adverse Effect* on archeological resources in an email on April 26, 2024, with conditions that reporting is completed per *DC Guidelines*, copies of all data are submitted to the SHPO, and additional consultation with the SHPO should project plans change. Also, a meeting with SHPO occurred on August 7, 2024, to review design changes that would cause additional disturbance within Site 51NW001. The agencies reviewed the design changes in detail and agreed that there remains *No Adverse Effect*. Therefore, the NPS has dismissed *Archeological Resources* from further analysis. Emails pertaining to archeological resources are in **Appendix B: Agency Correspondence**.

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2. ALTERNATIVES

This section of the EA describes the no action alternative and the proposed action to control CSO discharge to Piney Branch. CEQ regulations for implementation of the NEPA process call for the alternatives considered in a document to include a no action alternative. The description and evaluation of this alternative provides a baseline to which action alternatives can be compared.

DC Water evaluated numerous strategies for CSO control in the development of its Combined Sewer System LTCP (DC Water 2002), which was modified in 2015 and 2020. The alternatives described in this section represent the outcome of preliminary engineering design and analysis, as well as extensive collaboration between NPS and DC Water for reasonable control strategies for CSO 049 and include Alternative A, the no action alternative; and Alternative B, the proposed action and NPS preferred alternative; intended to comply with the Amended Federal Consent Decree. Impacts associated with the alternatives are described in **Section 3: Affected Environment and Environmental Consequences**.

Alternatives that DC Water and NPS previously considered but dismissed from detailed analysis because they would result in unacceptable budget / cost increases or schedule extensions, constructability issues, and other engineering or environmental constraints, are presented in **Appendix D: Alternatives Considered But Dismissed**.

2.1 ALTERNATIVE A: NO ACTION

Alternative A, the no action alternative, represents continued operation and maintenance of the existing combined sewer system that discharges CSOs to Rock Creek. Alternative A includes previously completed improvements to the Piney Branch combined sewer system implemented by DC Water, which include sewer separation (5 outfalls), CSO diversion structure improvements (5 outfalls), and managing impervious acres in the watershed using Green Infrastructure practices. However, the system would continue to discharge untreated combined sewage to Piney Branch at the CSO 049 outfall during rain events on a regular basis at a magnitude and frequency that would prevent attainment of water quality standards in Rock Creek under the no action alternative.

CSO frequency and magnitude are highly dependent on weather conditions, occurring at higher levels in wetter years and lower levels in drier years. DC Water estimates that approximately 25 overflows discharge to Piney Branch in a year of average rainfall, resulting in a total discharge of approximately 40 million gallons annually.

The no action alternative would also result in failure to meet DC Water's obligations under its Amended Federal Consent Decree and NPDES permit, subjecting the District to significant stipulated penalties and other regulatory enforcement actions.

2.2 ALTERNATIVE B: CONSTRUCT PINEY BRANCH TUNNEL PROJECT TO COMPLY WITH AMENDED CONSENT DECREE (PROPOSED ACTION AND NPS PREFERRED ALTERNATIVE)

Alternative B, which is the proposed action and NPS preferred alternative, would involve the construction of the Piney Branch Tunnel Project to provide overflow control for CSO 049, located upstream of Rock Creek and adjacent to Piney Branch Parkway NW. As specified on page 7 in Appendix F of the First Amended Consent Decree, the location of the facility, "…will be between CSO 049 and Rock Creek…" DC Water estimates the proposed control would reduce CSOs into Piney Branch by 96 percent by volume and limit their frequency from 25 to one in a year of average rainfall. Instead of discharge flowing directly into Rock Creek via Piney Branch, the proposed tunnel would temporarily store captured combined sewage and then slowly release the overflows into the ERCDS so they can be conveyed by gravity to Blue Plains for treatment when the existing system can handle the flow volume. The proposed action would comply with DC Water's Amended Federal Consent Decree and NPDES Permit. The Amended Federal Consent Decree requires that DC Water award a contract for construction of the Piney Branch Tunnel by May 23, 2026, and be operational by November 23, 2029.

Figure 2-1 provides a conceptual layout of the tunnel and associated infrastructure, as well as the approximate limits of the CSAs where construction and / or materials and equipment stocking and staging would occur at the ground surface. DC Water has developed the proposed facilities to a preliminary level for the purposes of this EA. Figures provided in the following sections represent the general scope of proposed facilities and anticipated area needed for staging and construction. Structure layouts and construction limits are subject to change due to collection of additional site data, such as geotechnical borings, and / or coordination with NPS, NCPC, and other stakeholders during design review and coordination for permits and easements. The following sections further describe the components of the proposed action.

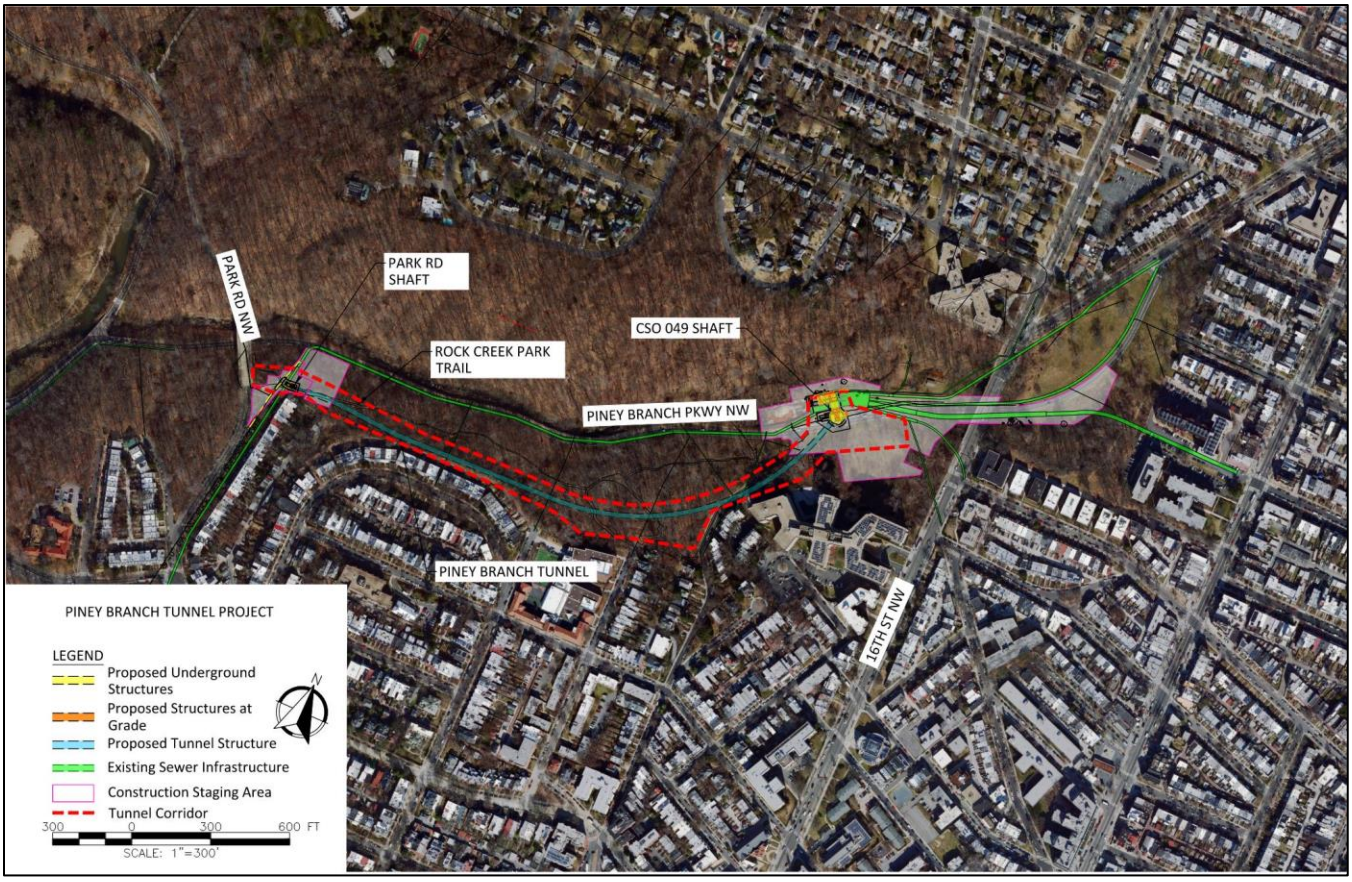

Figure 2-1. Piney Branch Tunnel Project Overview Map

2.2.1 Tunnel Corridor

Under the proposed action, DC Water would construct a deep underground sewer tunnel to capture and store combined sewage that would otherwise discharge to Rock Creek via Piney Branch at CSO 049. The tunnel would be approximately 2,200 feet (ft) long based on the preliminary design, providing capacity to store a minimum of 4.2-million-gallons of combined sewage. The diameter of the tunnel would be determined during detailed project design. DC Water would construct the tunnel approximately 30 - 100 ft below the ground surface in geologic stratigraphy consisting of alluvium, clays, silts, sands, decomposed bedrock, and bedrock. The upstream end of the tunnel would connect to a diversion structure and drop shaft that DC Water would construct at the outfall of the CSO 049 structure (see **Section 2.2.2: CSO 049 Construction Staging Area**). At the downstream end, the tunnel would connect to a dewatering structure that would include a drop shaft and tunnel connection to the ERCDS (see **Section 2.2.3: Park Road Construction Staging Area**). **Figure 2-1** provides a preliminary project layout, including a corridor within which DC Water would ultimately construct the proposed tunnel.

Mining of the proposed tunnel would take place from the drop shaft to be constructed adjacent to the proposed diversion structure immediately downstream of the CSO 049 outfall. Tunnel construction would consist of either

drill and shoot excavation, tunnel boring machine (TBM), or other mechanized methods. Drill and shoot excavation generally consists of the controlled use of explosives to break up the rock for excavation and disposal. Tunnel boring consists of deploying a telescoping cylindrical steel TBM that simultaneously excavates and supports the ground with a permanent concrete tunnel lining. A rotating cutterhead at the front of the TBM excavates the soil and rock as hydraulic cylinders jack the machine forward. Openings in the cutterhead control the rate of material excavation conveyed to the surface for disposal. Other mechanized methods include the use of equipment such as road headers.

All tunnel construction methods would result in minimal surface disruption between the upstream drop shaft and dewatering structure. Along the tunnel alignment, surface activities may include installation of wells, tiebacks, ground monitoring arrays, seismographs, and other nonintrusive instrumentation to monitor the tunneling operations. If conditions are encountered where ground improvements are required, the improvements would likely be performed underground from the tunnel. Improvements from the surface are very unlikely. However, if subsurface conditions are encountered during tunneling operations that require ground improvements from the surface, DC Water may require short-term access at certain points along the alignment to perform ground improvement such as jet grouting, dewatering, and ground freezing to facilitate mining operations or maintenance and / or repair of a TBM. These ground improvement techniques would require a drill rig located over the zone where the improvements are required, as well as support equipment located at adjacent roadways. This equipment would be similar to the rigs used to perform geotechnical borings along the tunnel alignment.

For the drill and shoot method, DC Water would use explosives specially designed not to exceed predetermined vibration limits for nearby structures and would continuously monitor nearby structures during tunnel construction using similar techniques as was done during construction of the CSO 021 diversion structure at the Kennedy Center for the Performing Arts. DC Water would also perform pre- and post-construction surveys on properties and structures within the zone of influence to accurately determine any impacts related to construction.

2.2.2 CSO 049 Construction Staging Area

DC Water would construct a diversion structure, drop shaft, ventilation control vault, electrical / instrumentation vault, and CSO warning light and appurtenances within the CSO 049 CSA at the existing CSO 49 outfall northeast of the intersection of Piney Branch Parkway NW and 17th Street NW. Discharge from the CSO 049 structure that would otherwise flow into Piney Branch when the capacity of the ERCDS is exceeded would be captured by the diversion structure and flow into a drop shaft that would send the flow down to the storage tunnel. In addition to the diversion structure and drop shaft, DC Water would construct a below grade ventilation control vault to allow air to enter and exit the tunnel during filling and emptying, with equipment provided to mitigate fugitive emissions. The site would also include a below grade vault to place the required electrical / instrumentation equipment. Construction of the proposed diversion structure would include rerouting an existing 48-inch storm pipe to flow outside of the new structure and directly into Piney Branch to maintain baseflow.

There is a concrete apron forming a discharge channel at the end of the existing outfall that is in variable condition and appearance with substantial cracking. At the request of NPS, DC Water would extend the outfall face of the two northern bays to match the most southern bay to create a uniform face and construct a grouted stone channel where the existing concrete apron is located to improve the overall aesthetics of the outfall within the landscape. DC Water may replace the existing apron or construct a new apron on top of existing, pending detailed design. Stone selection and layout for the outfall face would be similar to the ashlar pattern of the adjacent retaining wall. Atop the extended outfall, soil would be spread and turfgrass established that would increase the green area in the park by 3,462 square feet.

DC Water would remove graffiti between the outfall and the end of the existing concrete apron, maintain it as free of graffiti as practicable during and following project construction, coat the walls of the outfall structure with material to make future graffiti easier to remove, and install new fence / railing between the outfall and the end of the existing concrete pad, meeting current code. The fence would be screened by border tree plantings around the outfall, with evergreen species such as American holly, Eastern red cedar or other species to be determined based on consultation with NPS.

DC Water would temporarily relocate a section of Piney Branch Parkway NW and the adjacent multi-use path within the CSO 049 CSA at the beginning of construction to maintain vehicle, pedestrian, and bicycle access. DC Water would then install temporary entrances for construction vehicles and equipment access to the staging areas on both sides of the roadway. For safety reasons due to the existing ground geology at the CSA, DC Water would temporarily close Piney Branch Parkway NW to vehicle traffic and implement detours during construction of the tunnel crossing under the roadway. Short, temporary closures would also be required to move materials and equipment from one side of the roadway to the other within the CSA. DC Water would install chain-link fencing or similar barrier around the staging area to secure the site.

Figure 2-2 provides a preliminary layout of the CSO 049 CSA of approximately 5.5 acres required for construction. The CSO 049 CSA would be where tunnel mining operations take place. The site would be utilized to remove excavated materials and lower / launch a TBM, if needed. DC Water selected the location because it is a relatively flat area where construction staging and equipment storage can occur and provides a convenient area for construction access and hauling, as well as sufficient space to assemble and launch a TBM, if needed. DC Water would dismantle the TBM, if one is used to construct the storage tunnel, and remove it up through the drop shaft constructed at the CSO 049 CSA after completion of the tunnel.

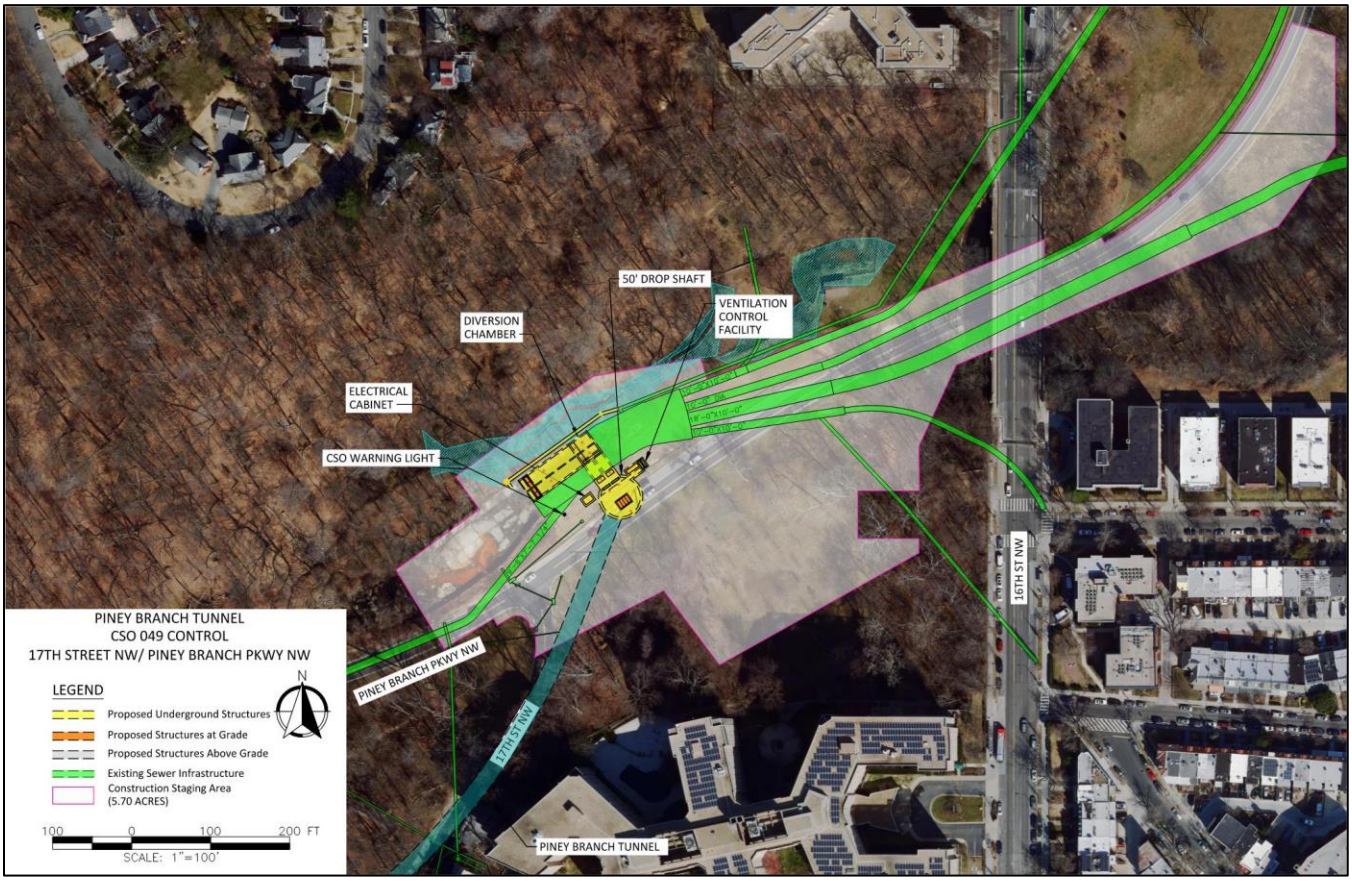

Figure 2-2. CSO 049 Construction Staging Area

After construction is complete, DC Water would restore the CSO 49 CSA substantially to pre-construction conditions. Due to access requirements for maintenance and operation, ventilation grating, access hatches, manholes, and other structure access points would be visible. A CSO warning light would also be visible at this site. The final site layout and restoration would be coordinated with the NPS, DC SHPO, NCPC, CFA and other stakeholders during design review and permitting.

The following is a summary of above grade, at grade, and below grade tunnel infrastructure on NPS property at the CSO 049 CSA:

Above Grade: A CSO warning light would serve as a visual notification system of active CSO discharges. The NPS would provide paint colors that are compatible with the park environment for the warning light(s) on NPS property and for any above-ground equipment adjacent to Rock Creek Park.

At grade: Structure access points (manholes / hatches) and ventilation grating would be visible.

Below grade: Diversion structure, drop shaft, ventilation control vault, and electrical / instrumentation cabinets.

Prior to the construction of the proposed tunnel, DC Water and the Potomac Electric Power Company (PEPCO) would extend high voltage electricity distribution lines to the CSO 049 CSA to deliver power needed for mining and construction operations. The power source would also provide electricity for permanent instrumentation features needed to monitor flow levels once the tunnel system is in operation. Based on preliminary coordination with PEPCO, a potential location from which the power lines could be extended is at the intersection of Newton Street NW and 16th Street NW. The power lines would be installed by trenching within the roadway of 16th Street NW as shown on **Figure 2-3**.

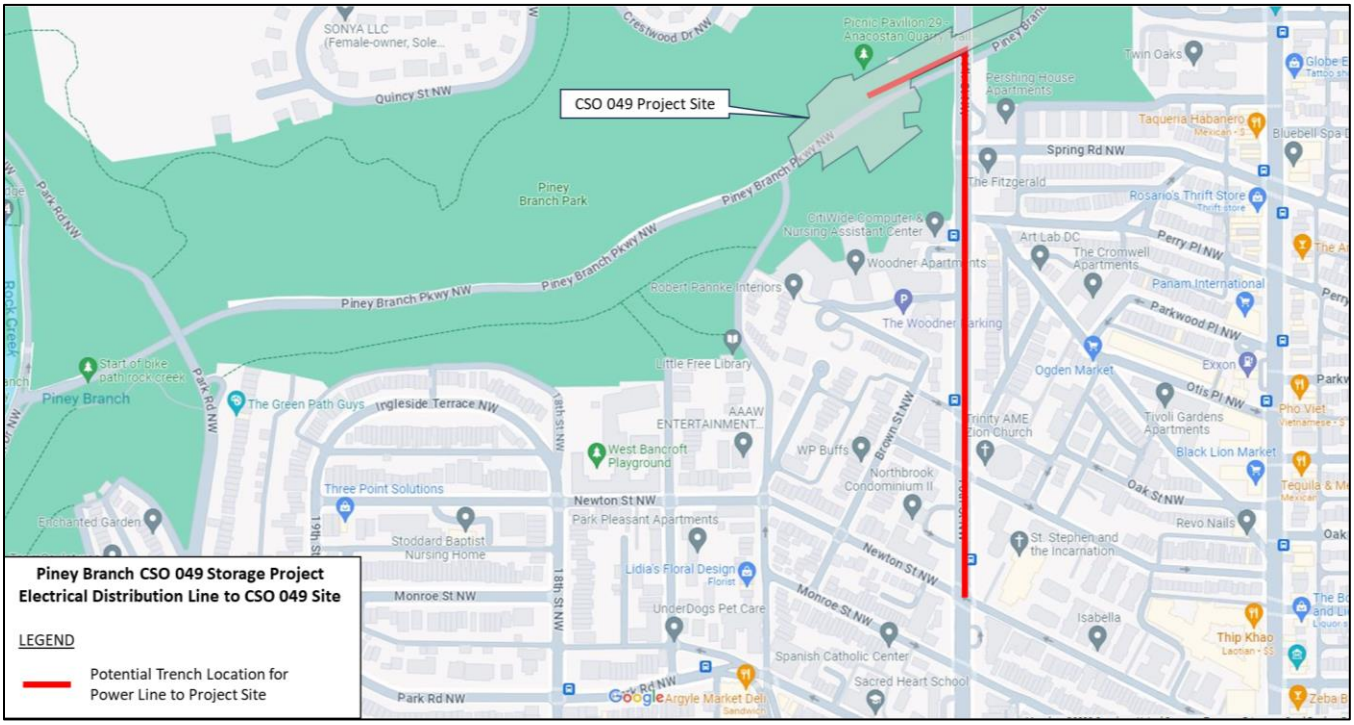

Figure 2-3. Potential Trench Location for Electrical Distribution to CSO 049 CSA

2.2.3 Park Road Construction Staging Area

DC Water would construct a drop shaft, ventilation control vault, dewatering structure, and electrical / instrumentation cabinet at the downstream end of the proposed storage tunnel within the Park Road CSA on the southern slope east of the Park Road NW Bridge. See **Figure 2-4** for a conceptual layout of the Park Road CSA. The dewatering structure consists of a chamber with an orifice that would discharge flow from the drop shaft to an opening over the existing ERCDS that would ultimately convey the flow to Blue Plains.

DC Water would require approximately 0.47 acres at the Park Road CSA to construct the dewatering structure, which would be excavated from the surface to reach the depth of the discharge end of the storage tunnel. DC Water would need to close the section of the Piney Branch Parkway foot trail within the Park Road CSA during construction of the dewatering structure and to install a temporary stabilized entrance off Park Road NW for

construction vehicles and equipment access to the CSA. Relocation of the foot trail adjacent to the Park Road CSA would be coordinated with NPS, if requested. DC Water would also install chain-link fencing or similar barrier around the staging area to secure the site.

Figure 2-4. Park Road Construction Staging Area

After DC Water completes construction of the drop shaft and dewatering structure the Park Road CSA would be restored substantially to pre-construction conditions. Due to access requirements for maintenance and operation, manholes, access hatches, ventilation grating, and electrical / instrumentation cabinets would be visible at or above grade. DC Water would coordinate the final site layout and restoration, including, but not limited to, tree replacement and ground stabilization measures, with the NPS, DC SHPO, NCPC, CFA, and other stakeholders during design review and permitting.

The following is a summary of above grade, at grade, and below grade tunnel infrastructure on NPS property, as well as property owned by others, at the Park Road CSA:

Above grade: There would be no permanent above grade infrastructure on NPS property at the Park Road CSA. Electrical / instrumentation equipment would be located above grade within property owned by others. The NPS would provide paint colors that are compatible with the park environment for any above-ground equipment adjacent to Rock Creek Park.

At grade: Structure access points (manholes / hatches) and ventilation grating would be visible.

Below grade: Drop shaft, dewatering structure, ventilation control vault.

Prior to start of construction, DC Water and PEPCO would extend high voltage electricity distribution lines to the Park Road CSA to deliver power needed for construction, as well as permanent instrumentation features needed to monitor flow levels once the tunnel system is in operation. Based on preliminary coordination with PEPCO, a potential location from which the power lines could be extended is at the intersection of Mount Pleasant Street

NW and Park Road NW. The power lines would be installed by trenching within the roadway of Park Road NW as shown on **Figure 2-5**.

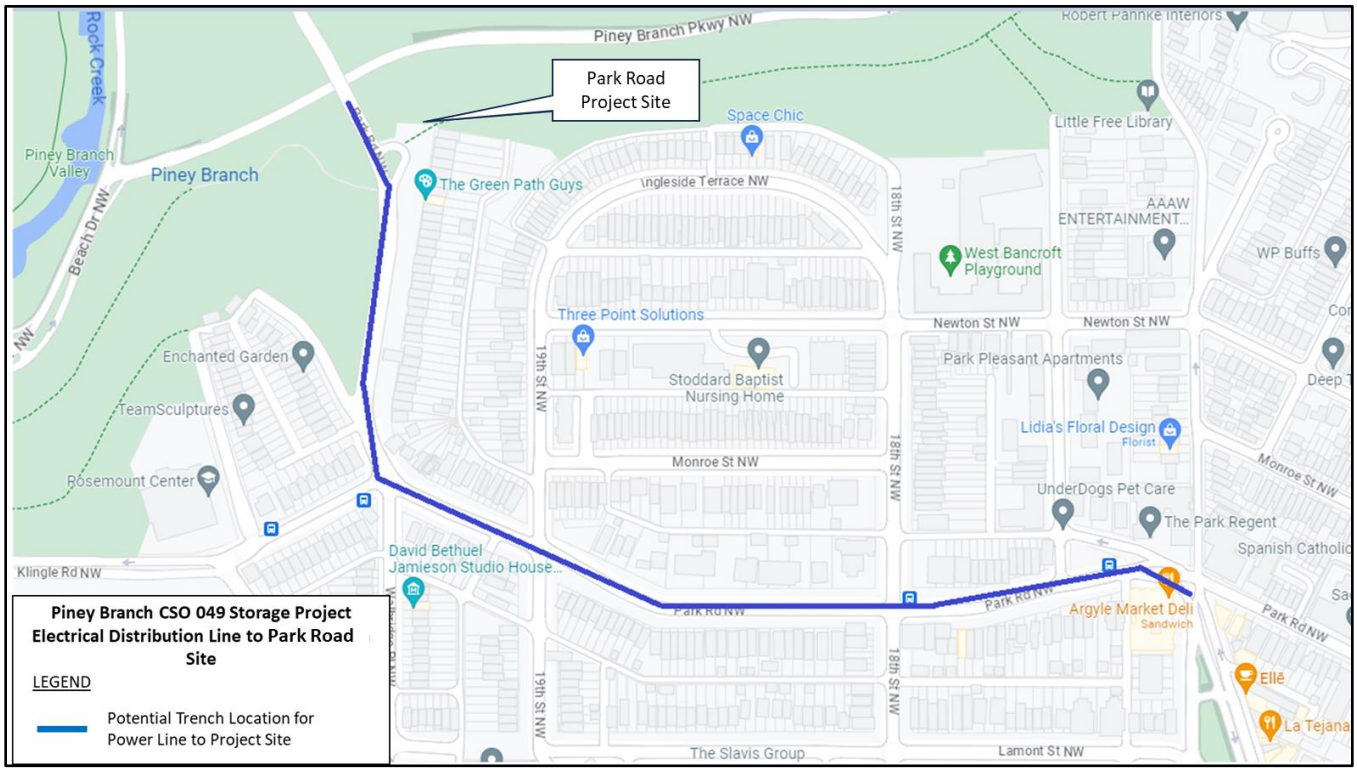

Figure 2-5. Potential Trench Location for Electrical Distribution to Park Road CSA

2.3 COMBINED SEWER OVERFLOW PUBLIC NOTIFICATION SYSTEM

As part of the requirements for the Consent Decree, a public notification system would be installed as part of the Piney Branch Tunnel Project. The purpose of the system would be to notify the public of the occurrence of overflows not captured by the tunnel by using a visual system at four access locations to maximize visibility for users of Piney Branch and Rock Creek streams. Rock Creek is free flowing with no CSOs upstream of Piney Branch Parkway NW. The public notification system would turn on when flow is detected from the CSO 049 outfall through flow monitoring devices. The notification system would include red- and yellow-colored lights with signage describing the system's function. In addition to these DC Water would also maintain a web site where a description and explanation of the notification system is available.

Figure 2-6 and **Figure 2-7** present the proposed locations where the notification system would be installed throughout public access areas. At these sites, the CSO warning lights and supporting electrical / instrumentation equipment would be located above grade. DC Water has developed a standard detail for the CSO warning lights being deployed as part of the DC Clean Rivers Project on the Anacostia River, Potomac River, and Rock Creek for consistency of visual and verbal messaging. The CSO warning lights stand nine feet minimum above grade but may be taller depending on the selected location for the light. **Figure 2-8** shows a representative CSO warning light deployed by DC Water at CSO 022 along the Potomac River.

Figure 2-6. Rock Creek Notification System Location North of Calvert St NW Bridge

Figure 2-7. Rock Creek Notification System Location South of Calvert St NW Bridge

Figure 2-8. CSO Warning Light (background left) at CSO 022

2.4 CONSTRUCTION HAUL ROUTES

To support construction activities at the two sites, haul routes have been identified for construction traffic. Final selection of haul routes would be coordinated with District Department of Transportation (DDOT) and NPS and would take into consideration traffic conditions and truck route restrictions.

2.4.1 CSO 049 CSA Haul Routes

The CSO 049 CSA is located northeast of the intersection of Piney Branch Parkway NW and 17th Street NW. The inbound and outbound haul route to and from the project site would use Piney Branch Parkway NW and Arkansas Avenue NW or 16th Street NW. The haul routes for the CSO 049 CSA are shown on **Figure 2-9**.

2.4.2 Park Road CSA Haul Routes

The Park Road CSA is located along the Piney Branch Parkway foot trail, southeast of the Park Road Bridge over Piney Branch Parkway NW. The inbound and outbound haul route to and from the Park Road CSA would use Park Road NW and Klingle Road NW or 16th Street NW. The haul routes for the Park Road CSA are shown on **Figure 2-10**.

Figure 2-9. Haul Routes for CSO 049 CSA

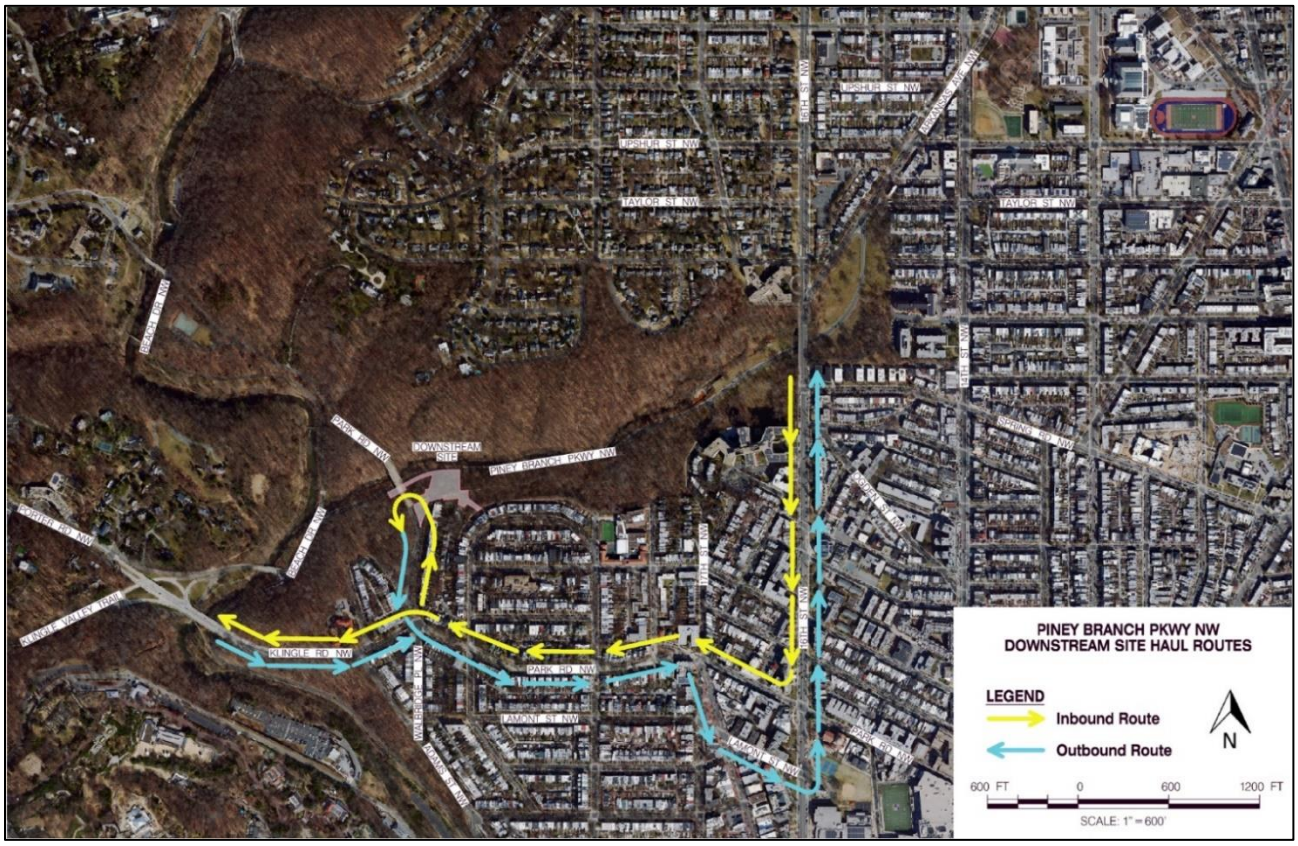

Figure 2-10. Haul Routes for Park Road CSA

2.5 MITIGATION MEASURES OF THE PROPOSED ACTION

The NPS places a strong emphasis on avoiding, minimizing, and mitigating potentially adverse impacts to affected resources, whether under the jurisdiction of the NPS or as a result of a NPS decision. DC Water would implement mitigation measures, whenever feasible, for the protection of natural and cultural resources, quality of the local communities, and visitor experience in Rock Creek Park. This will allow NPS to meet conservation mandates as required by the Organic Act (16 USC 1 et seq.) and as further detailed in NPS Management Policies 2006, the National Historic Preservation Act (NHPA), and the Endangered Species Act (16 USC 1531 et seq.). The NPS would also monitor protective measures throughout the construction process, in accordance with the conditions of permits and other agency approvals or agreements, to ensure they are being properly implemented and are achieving their intended results.

DC Water proposes the mitigation measures described in **Section 3: Affected Environment and Environmental Consequences** and summarized in **Appendix E: Mitigation Measures of the Proposed Piney Branch Tunnel Project** to reduce project impacts. The exact mitigation measures would depend upon the final design and plan approvals by relevant agencies.

2.6 ALTERNATIVES CONSIDERED BUT DISMISSED

DC Water and NPS considered other alternatives during project planning of the Piney Branch Tunnel Project that were dismissed from further consideration. These alternatives and the rationale for their dismissal are provided in **Appendix D: Piney Branch Tunnel Project Alternatives Considered but Dismissed**.

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3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section of the EA describes the Affected Environment, which is the current environmental conditions in and around the Piney Branch Tunnel Project study area. These conditions serve as a baseline for understanding the resources that could be impacted by implementing the project. The Affected Environment description is followed by an analysis of potential Environmental Consequences for each impact topic. The impact topics correspond to the planning issues and concerns described in **Section 1: Purpose and Need**.

3.1 METHODOLOGY FOR ANALYZING IMPACTS

In accordance with the CEQ regulations for implementation of NEPA, direct, indirect, and cumulative impacts are described under each impact topic (40 CFR 1502.16 and 40 CFR 1508.1). Direct impacts are caused by the action and occur at the same time and place. Indirect impacts are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable (40 CFR 1508.1[g]). Cumulative impacts are defined as the "effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (federal or non-federal) or person undertakes such other actions." (40 CFR 1508.1[g]). Cumulative impacts were determined for each impact topic by combining the impacts of the alternative being analyzed and other past, present, and reasonably foreseeable future actions that would also result in beneficial or adverse impacts.

In considering whether the effects of the proposed action are significant, the potentially affected environment and degree of the effects of the action were analyzed (40 CFR 1501.3(b)). Where appropriate, mitigating measures for adverse impacts are also described and incorporated into the evaluation of impacts. The specific methods used to assess impacts for each resource may vary; therefore, these methodologies are described under each impact topic.

3.2 WATER QUALITY

3.2.1 Affected Environment

Under Section 303(d) of the Clean Water Act, the USEPA requires states (including the District and Tribal governments) to prepare a list of waterbodies or waterbody segments that do not meet USEPA-mandated water quality standards. The Section 303(d) listing requirement applies to waters impaired by point and nonpoint sources of pollution discharge. DOEE has included Piney Branch between the CSO 049 outfall and Rock Creek on the District's draft 2022 Section 303(d) list for exceeding water quality standards for *E. coli* and for impaired habitat. For listed waters, the District is required to develop TMDLs that specify the maximum amount of a pollutant that a water body can receive while still meeting federal and District water quality standards. A TMDL for *E. coli* has not been established for Piney Branch. However, a TMDL for *E. coli* is in place for Rock Creek. DOEE cites weather and subwatershed activities and conditions, including failing sewer pipes and illicit discharges, as some of the factors contributing to chronic *E. coli* percent exceedances in the majority of the District's waterbodies (DOEE 2022).

Twenty-three of the 48 potentially active CSO outfalls in the District discharge to Rock Creek. DC Water predicted that 30 CSO discharges occur at the 23 outfalls, resulting in 49 million gallons of untreated discharges to Rock Creek during a normal year of rainfall (DC Water 2002). The majority of these CSO discharges occur at the CSO 049 outfall, which accounts for approximately 25 overflow events and 40 million gallons of untreated discharges to Rock Creek annually.

CSOs contribute to water quality degradation because they contain pollutants such as *E. coli*, suspended solids, oil and grease, organics, and metals. CSOs may contain sediment that enters the combined sewer system through natural processes or from human use and disturbance that contributes to reduced water clarity and increased turbidity levels. CSO discharges also contribute to low dissolved oxygen levels that can have detrimental effects on the ability of a waterbody to support aquatic life, and constituents of CSOs can accumulate in the tissues of fish and shellfish. Additionally, contact with CSO-polluted waters or consumption of polluted fish and shellfish

can cause human health concerns. At a minimum, CSO discharges reduce the aesthetic appearance of surface waters and can result in unpleasant odors.

3.2.2 Impact Assessment Methodology

Water quality impacts were evaluated taking into consideration temporary construction-related disturbances; common practices to prevent soils, sediment-laden water, and pollutant constituents from being transported from construction areas into nearby waterbodies; as well as professional judgement. Long-term impacts to water quality were analyzed using estimated CSO reduction as determined during completion of the LTCP.

3.2.3 Impacts of Alternative A: No Action

DC Water estimates approximately 40 million gallons of untreated discharges would continue to occur at the CSO 049 outfall during approximately 25 overflow events in a year of average rainfall under the no action alternative. These CSOs would continue to contribute to water quality impairment of Piney Branch and Rock Creek. As such, the no action alternative would have no new impacts to water quality in the short-term; however, long-term effects include the continued degradation and impacts to Rock Creek from CSO discharges. The no action alternative does not support the interagency goal of achieving District water quality standards or attainment of designated uses. DC Water would also fail to satisfy its court mandated obligations of the Amended Federal Consent Decree.

3.2.4 Impacts of Alternative B: Construct Piney Branch Tunnel Project to Comply with Amended Consent Decree

Construction activities within the CSO 049 and Park Road CSAs would require ground disturbance from vegetation removal, excavation, and grading. DC Water also anticipates temporary stockpiling of loose soil and dewatering practices to recover sediment-laden water from underground work areas. To limit sediment transport to District waters, DOEE requires an approved Erosion and Sediment Control Plan for all projects with 50 square feet or more of land disturbance (DCMR Title 21, Chapter 5). As such, strict erosion and sediment controls would be employed where ground disturbing activities occur to mitigate construction-related water quality degradation. BMPs to retain erodible materials and other byproducts within the limits of construction may include temporary stream diversion, silt fencing, sediment bags, hay bales, coir logs, diversion channels and berms, temporary stormwater basins, temporary inlet protection, stabilized construction entrances, and vegetation stabilization to protect District waterbodies from sedimentation. DC Water would frequently inspect and maintain implemented BMPs throughout the duration of construction to ensure they remain effective. In addition, as part of the site restoration, DC Water would reestablish vegetation as quickly as possible to stabilize exposed soils and minimize the potential for future erosion.

DC Water would obtain required Clean Water Act permits and authorizations prior to construction, including, but not limited to, Section 401 Water Quality Certification, Section 404 authorization for the discharge of dredged or fill material into waters of the United States, and NPDES permit coverage for stormwater discharges under the USEPA Construction General Permit in accordance with Section 402. DC Water would conduct post-construction monitoring to collect data to determine the extent of water quality improvements and would implement a public notification system for CSOs that includes operating lights at CSO 049 and along Rock Creek at public access locations to notify users of CSO events in accordance with its NPDES permit issued by USEPA. The lights would operate by signals from representative CSO outfalls. A light (color A) illuminates during a CSO occurrence, and a second light (color B) illuminates for 24 hours after a CSO has stopped.

Based on the implementation of a DOEE-approved Erosion and Sediment Control Plan, site restoration efforts to minimize erosion over the long-term, and adherence to all applicable permit conditions, adverse impacts to water quality from construction of the Piney Branch Tunnel Project are anticipated to be minimal. Over the long-term, implementation of the proposed action would reduce overflows to Piney Branch from the CSO 049 outfall by 96 percent by volume from 40 million gallons to approximately 1.5 million gallons during just one CSO event in a year of average rainfall. Reducing CSO discharges would significantly decrease pollutant loads of bacteria, suspended solids, oil and grease, organics, metals, and other pollutants associated with sanitary waste, resulting in substantial long-term benefits to water quality in Piney Branch and Rock Creek, as well as water quality benefits

to the Potomac River and the Chesapeake Bay. The proposed action would also be expected to improve the quality of habitat for aquatic life, support healthier fish and benthic populations, and reduce human health concerns on Piney Branch and downstream segments of Rock Creek. As determined by DC Water, DOEE, and the USEPA, the proposed project would reduce CSOs to a level that would not cause or contribute to the exceedance of water quality standards, subject to post-construction monitoring. Additionally, as determined by various regulatory agencies, the proposed project, along with other actions, would support efforts to obtain compliance with TMDLs for Rock Creek.

3.2.5 Cumulative Impacts

Current and future projects and actions identified for the cumulative impacts analysis, including the reconstruction of Piney Branch Parkway NW by FHWA, rehabilitation of the Rock Creek Park Golf Course, DC Water's Piney Branch Tunnel Project, and many other sewer and green infrastructure improvements being implemented as part of the DC Clean Rivers Project throughout the District, would require ground disturbance during construction that may result in the transport of sediments to district waterbodies. However, strict erosion and sediment controls would be employed during construction of all these projects, resulting in minimal short-term adverse cumulative water quality impacts. Over the long-term, implementation of stormwater management best practices along Piney Branch Parkway NW would minimize water quality impacts from roadway runoff. Additionally, improvements to the combined sewer system implemented by DC Water as part of the DC Clean Rivers Project have reduced CSOs to the Anacostia River by approximately 98 percent. CSOs to the Potomac River are expected to be reduced by 93 percent upon future completion of DC Water's Potomac River Tunnel. These projects will result in substantial short- and long-term benefits to water quality. The Piney Branch Tunnel Project is predicted to accomplish a 96 percent CSO reduction to Rock Creek, therefore contributing a substantial beneficial incremental impact to the long-term benefits that would be expected after the projects in the cumulative impacts scenario are fully implemented.

There would be no new impacts to water quality under the no action alternative; therefore, there would be no cumulative impacts. However, CSOs would continue to discharge to Rock Creek at their current frequency and magnitude.

3.3 WETLANDS

3.3.1 Affected Environment

An investigation was conducted for the Piney Branch Tunnel Project in 2022 to determine the presence, extent, and classification of waters of the United States in support of the project design and environmental compliance process. Piney Branch, a perennial tributary to Rock Creek that NPS classifies as a riverine wetland, was delineated within the western portion of the CSO 049 CSA. Additionally, two small unnamed perennial tributaries to Piney Branch, also classified by NPS as riverine wetlands, were delineated along the northern boundary of the CSA that includes adjacent PFO wetlands (**Figure 3-1**). There are no wetlands or waterways in the Park Road CSA.

Pursuant to Section 404 of the Clean Water Act, the USACE regulates activities that result in the discharge of dredged or fill material into waters of the United States, which includes wetlands. In the District, DOEE is responsible for issuing water quality certifications in accordance with Section 401 of the Clean Water Act. DOEE also regulates federally non-jurisdictional waters (e.g., isolated wetlands) under Title 21, Chapters 25 (Critical Area – General Rules) and 26 (Critical Area – Wetlands and Streams) of the District of Columbia Municipal Regulations (DCMR).

Federal agencies are responsible for wetland protection practices under Executive Order 11990 *Wetland Protection*. The NPS meets this requirement through implementation of Director's Order 77-1: *Wetland Protection* and adherence to Procedural Manual 77-1: *Wetland Protection*, which require the preparation of a Statement of Findings for projects with wetland impacts, with some exceptions, and mitigation to compensate for conversion, degradation, or loss of wetland area and / or function greater than 0.1 acre (NPS 2016). The USACE and / or DOEE may also stipulate mitigation through the Clean Water Act Section 404 and / or Section 401

permitting processes, typically requiring mitigation when permanent impacts to nontidal wetlands are greater than 0.1 acre.

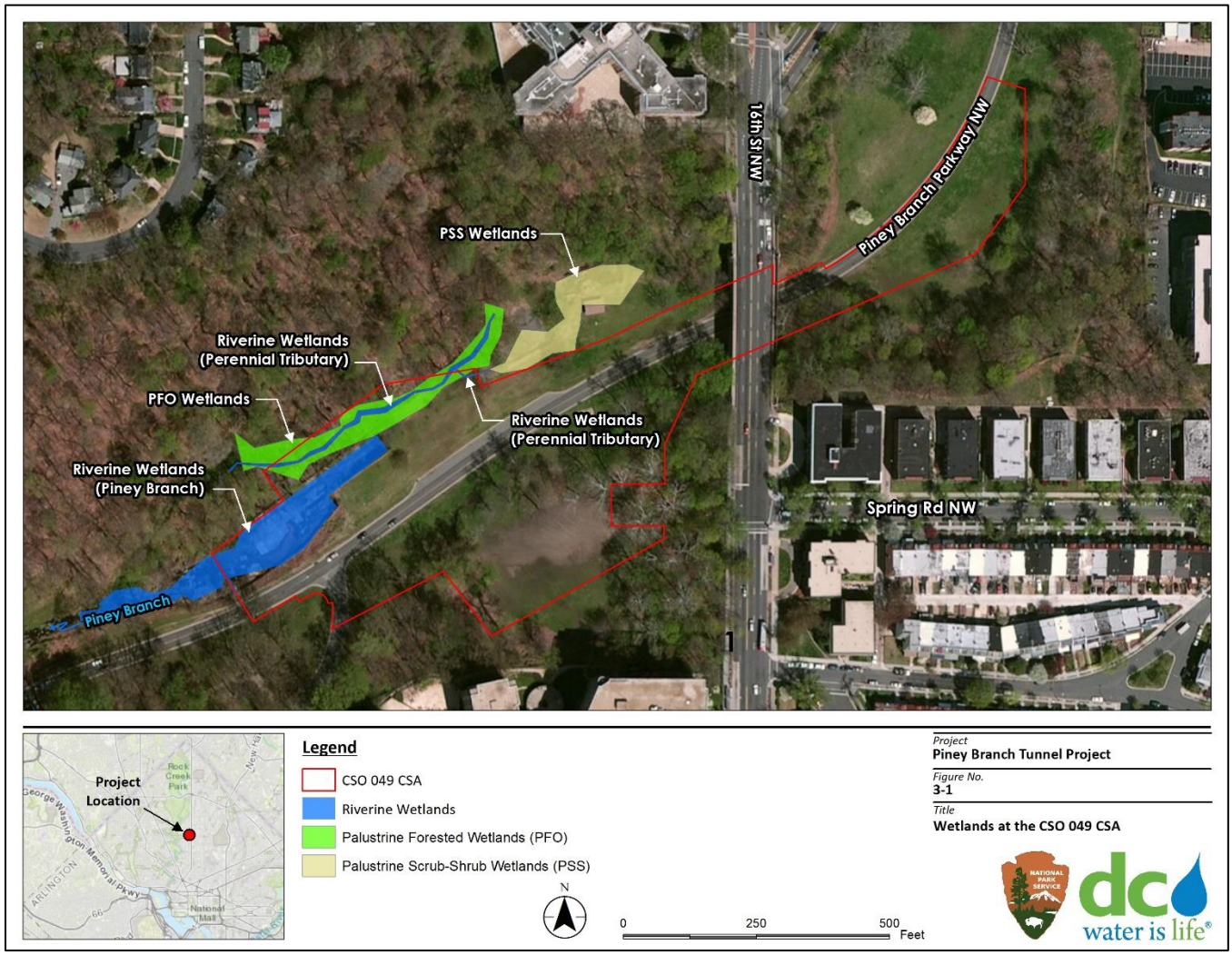

Figure 3-1. Wetlands at the CSO 049 CSA

The NPS evaluated the functions and values of each wetland using the USACE New England District's "Descriptive Approach" (USACE 1999). PFO wetlands potentially affected by the project provide groundwater discharge, flood flow alteration, sediment / toxicant retention, nutrient removal, production export, and wildlife habitat functions, as well as uniqueness / heritage values. The riverine wetlands within the CSO 049 CSA provide limited functions. Piney Branch primarily functions to provide flood storage during CSO overflow events. Since the streambed consists of concrete within the CSA, and because of the lack of consistent base flow, Piney Branch has limited capabilities to provide freshwater habitat for fish, macroinvertebrates, and other wildlife. Additionally, due to the small size and shallow depths of the perennial tributaries to Piney Branch, functions provided by these riverine wetlands are also limited but may include supporting macroinvertebrates and providing groundwater discharge.

A large percentage of the historical wetlands in the District have been drained, filled, or impacted as urbanization occurred over the past two hundred years. From the 1800's to the mid 1900's, wetlands in the District were lost to colonial agriculture practices, use as dumpsites, filling, draining, dredging, and land reclamation. Today, DOEE has mapped 296 acres of wetlands in the District (DOEE 2023a). Historic trends have shown a substantial decline in wetlands in the District. However, current and future trends suggest a no net loss of wetlands due to federal and

District-level protections afforded to wetlands and requirements for avoidance and minimization, as well as compensatory mitigation for unavoidable impacts.

3.3.2 Impact Assessment Methodology

The NPS quantified wetland impacts based on current schematic-level design locations of proposed structures and material and equipment stockpiling / staging as seen on **Figure 2-2** and **Figure 2-3** in **Section 2: Alternatives** of this EA and evaluated qualitatively impacts to wetland functions and values.

3.3.3 Impacts of Alternative A: No Action

There would be no loss of wetlands or temporary construction-related disturbances under the no action alternative. Untreated CSO discharges would continue to occur causing water quality degradation to wetlands downstream of the CSO 049 outfall.

3.3.4 Impacts of Alternative B: Construct Piney Branch Tunnel Project to Comply with Amended Consent Decree

Implementation of the Piney Branch Tunnel Project would require approximately 3,666 square feet (0.06 acres) of permanent impacts to Piney Branch to construct the diversion structure and extend the outfall face of the two northern bays to match the most southern bay to create a uniform face, and 9,274 square feet (0.21 acres) of temporary disturbance to Piney Branch immediately downstream of the outfall to replace or repair the existing concrete apron. Additionally, replacing the northern retaining wall, relocating the existing 48-inch storm sewer immediately north of the outfall, and stream diversion activities would result in 1,677 square feet (0.04 acres) of temporary impacts to the small perennial tributaries to Piney Branch, 8,731 square feet (0.20 acres) of temporary impacts to the adjacent PFO wetlands, and 28 square feet (0.001 acres) of permanent impacts from the placement of manholes in the wetland.

Prior to construction, DC Water would obtain authorization from the USACE for unavoidable wetland impacts in accordance with Section 404 of the Clean Water Act through the Nationwide Permit Program, as well as Section 401 Water Quality Certification from DOEE. Additionally, DC Water would develop an Erosion and Sediment Control Plan to contain sediment in the CSAs during construction. The Erosion and Sediment Control Plan would include a variety of control measures, such as stabilized construction entrances, silt fence, and other common practices, to prevent sediment transport offsite and potentially into wetlands. The Erosion and Sediment Control Plan would also stipulate stream diversion practices to maintain unobstructed flow around active construction areas. Temporary stream diversions are anticipated to be needed while constructing the diversion structure at the outfall, restoring the concrete apron, and while relocating the existing 48-inch sewer pipe.

To comply with Nationwide Permit conditions, the native soil or substrate from each affected wetland area would be carefully removed, stockpiled / stored, protected, and maintained for future restoration efforts. At the conclusion of construction, the stockpiled / stored native soil or substrate would be used to reestablish pre-construction contours within the temporarily impacted wetlands, sources of hydrology would be restored, and a native wetland seed mix approved by NPS would be applied to establish an herbaceous plant layer. Trees removed during construction would be replaced within the construction staging / disturbed areas with native plantings up to 2.5-inch caliper size per tree, and the quantity of replacement trees would be determined by NPS resource managers in accordance with NCPC Tree Preservation and Replacement Policy. DC Water would provide a 5-year warranty for new trees, shrubs and other plantings that are placed as part of restoration and five-year maintenance of the restored landscape including conducting invasive, non-native plant maintenance. Grass and turf maintenance would be the responsibility of NPS.

The NPS anticipates short-term adverse impacts to wetlands within the CSO 049 CSA would be minimal because DC Water would restore temporarily impacted wetland areas, permanent impacts to Piney Branch would not further degrade its already low functional quality, and the permanent placement of manholes in the PFO wetland would not cause a noticeable change to the functions provided or the quality of the provided functions. The Piney Branch Tunnel Project would result in long-term benefits by greatly reducing untreated CSO discharges into downstream wetlands.

The NPS has prepared a Wetland Statement of Findings for Alternative B that is in **Appendix A: Wetland Statement of Findings**. The Statement of Findings documents compliance with NPS Director's Order 77-1: *Wetland Protection* and accompanying Procedural Manual.

3.3.5 Cumulative Impacts

Current and future projects and actions identified for the cumulative impacts analysis, including the reconstruction of Piney Branch Parkway NW by FHWA, rehabilitation of the Rock Creek Park Golf Course, DC Water's Piney Branch Tunnel Project, and many other sewer and green infrastructure improvements being implemented as part of the DC Clean Rivers Project, are likely to cause temporary wetland disturbances during construction that would result in short-term adverse cumulative impacts. However, sewer / stormwater infrastructure improvement projects being implemented in the District by DC Water and DOEE have, and will continue to have, long-term beneficial cumulative impacts to wetlands. The Piney Branch Tunnel Project would contribute a long-term beneficial increment to these cumulative impacts through the substantial reduction of untreated CSOs that degrade water quality of wetlands downstream from the outfall. The Clean Water Act Section 404 and 401 Programs, federal agency compliance with Executive Order 11990 *Wetland Protection*, and DOEE's regulation of federally non-jurisdictional waters would support national and local initiatives to ensure a no net loss of wetlands.

There would be no loss of wetlands and no new impacts under the no action alternative; therefore, there would be no cumulative impacts.

3.4 VEGETATION

3.4.1 Affected Environment

A forest stand characterization and tree survey were conducted for the Piney Branch Tunnel Project during the summer of 2023 in support of the project design and environmental compliance process. The survey was completed within expanded areas that encompass the CSO 049 and Park Road CSAs to account for potential design changes or future siting adjustments. The survey report is included in **Appendix C: Tree Survey and Anticipated Impacts**.

Three distinct forest stands were delineated within the CSAs. The Park Road CSA includes one forest stand, Forest Stand A, which consists of American beech (*Fagus grandifolia*), tulip poplar (*Liriodendron tulipifera*), and northern white oak (*Quercus alba*). Co-dominant species include Norway maple (*Acer platanoides*) and American elm (*Ulmus americana*). The understory contains saplings of the dominant and co-dominant canopy trees in addition to American hornbeam (*Carpinus caroliniana*), eastern poison ivy (*Toxicodendron radicans*), Virginia creeper (*Parthenocissus quinquefolia*), wine raspberry (*Rubus phoenicolasius*), grape (*Vitis* sp.), and English ivy (*Hedera helix*). Overall, Stand A is in fair condition, as many of the trees in the forest are impacted by vines and invasive species are present throughout the stand.

The CSO 049 CSA includes three forest stands. Forest Stand A occurs along the north streambank of Piney Branch and in the forested areas east and west of 17th Street NW. Forest Stand B consists of the open space south of Piney Branch Parkway NW and includes planted trees, as well as a few larger trees, with a maintained understory. The canopy is dominated by American sycamore (*Platanus occidentalis*), river birch (*Betula nigra*), pin oak (*Quercus palustris*), and eastern redbud (*Cercis canadensis*). The understory is open and regularly mowed. Overall, Stand B is in good condition, as the trees are healthy and invasives are confined to the herbaceous layer. Forest Stand C occurs on both sides of Piney Branch Parkway NW near the 16th Street NW Bridge. The canopy of this early to mid-successional forest is dominated by American sycamore and tulip poplar. Co-dominant species include Norway maple and American elm. The understory contains saplings of the dominant and co-dominant canopy trees in addition to Japanese honeysuckle (*Lonicera japonica*), wine raspberry, and English ivy. Additional invasive species present in this stand include garlic mustard (*Alliaria petiolate).* Overall, Stand C is in poor condition, as there are extensive vines and invasive species, and most trees are stressed or otherwise in poor condition.

All trees with a DBH of 3-inch and greater within the forest stands and / or whose critical root zones are partially within the survey areas were GPS-located. Additionally, all individual trees one-inch DBH or greater located

outside of forest stands but within the CSAs and / or whose critical root zones are within the survey areas were GPS-located. A total of 1,153 trees were GPS-located within the survey areas, and the size, species, and condition of each tree was recorded. Each tree was given a condition rating of good, fair, or poor. The condition was determined by qualitatively assessing factors such as structure, wounds, decay, and damage from storms, insects, or diseases.

According to the DDOT Urban Forestry Division, the District contained 14,670 acres of Urban Tree Canopy in 2020 (37 percent tree cover) (DDOT 2023). This value represents a one percent decline in Urban Tree Canopy since the 2015 survey. However, this is still a 1% increase from the 2006 survey, which suggests that actions taken to protect, preserve, and enhance forests and individual trees have led to a positive trend in Urban Tree Canopy. Urban Tree Canopy in Advisory Neighborhood Commissions 4A and 1D where the project is located have increased by 2.3 and 5.9 percent since 2006, respectively. Partners across the District, such as NPS, which protects a substantial portion of the District's forests, as well as DOEE, DDOT, Casey Trees, and other community organizations, plant thousands of trees per year across the District with the goal to achieve a 40 percent Urban Tree Canopy by 2032 (DOEE 2023b)

3.4.2 Impact Assessment Methodology

To analyze potential impacts to vegetation, a site visit was conducted during which forest stands were characterized and individual trees were surveyed. Tree removal was estimated for each alternative by conducting a tree impact assessment within the CSO 049 and Park Road CSAs that was based on current preliminary design locations of proposed structures and material and equipment stockpiling / staging as seen on **Figure 2-2** and **Figure 2-3** in **Section 2: Alternatives**. Invasive plant species management within the CSAs was also considered.

3.4.3 Impacts of Alternative A: No Action

Under the no action alternative, the NPS would continue passive management of natural forested areas along Piney Branch Parkway NW, and forested open space would continue to be maintained for use by park visitors and the surrounding communities. Over the long-term, invasive plants that have proliferated at the site may continue to damage the native vegetation.

3.4.4 Impacts of Alternative B: Construct Piney Branch Tunnel Project to Comply with Amended Consent Decree

The Piney Branch Tunnel Project would result in disturbance to vegetation primarily from tree clearing during construction. Approximately 1.75 acres of forest would be cleared within the CSO 049 CSA. DC Water anticipates that 242 of the 465 individual trees surveyed at the CSO 049 CSA would be removed during construction to construct the diversion structure and drop shaft, relocate a 48-inch sewer line north of the outfall, and to accommodate material and equipment staging associated with tunnel mining operations. These trees range in DBH from 3-35.5 inches with an average DBH of 9.5 inches. Of the 242 trees, 183 are between 3 and 10.9 inches DBH. The most common species of this size class are boxelder (*Acer negundo*), American beech, red maple, river birch, green ash (*Fraxinus pennsylvanica*), American sycamore, and American elm. Thirty-three trees to be removed are between 11 and 19.9 inches DBH. The most common species of this size class include red maple, Norway maple, American elm, northern red oak (*Quercus rubra*), and northern white oak. Eighteen trees to be removed are between 20 and 29.9 inches DBH. The most common species of this size class include red maple and tulip poplar (*Liriodendron tulipifera*). Eight trees with a DBH of 30 inches or greater DBH may be removed. These trees include chestnut oak (*Quercus montana),* eastern cottonwood (*Populus deltoides*), American sycamore, northern white oak, and pin oak. Twenty-one of the 242 trees are considered non-native / invasive species. Additionally, 16 dead trees would be removed within the CSO 049 CSA. These trees are not included in the total tree removal estimate.

The critical root zone of 95 trees at the CSO 049 CSA may be impacted by construction activities. These trees range from 3 inches to 47.5 inches DBH, with an average DBH of 16 inches. The common species of the impacted trees include American sycamore, American beech, American elm, and tulip poplar. Ten trees are shown for potential removal due to significant grading within the critical root zone. The remaining 85 trees could be saved; however, tree survivability would depend on the type of construction activity performed adjacent to

trees, extent of root zone within work area, and success of tree protection measures applied to tree, such as root pruning.

See **Appendix C: Tree Survey and Anticipated Impacts** for summary tables and location plans of the anticipated tree impacts at the CSO 049 CSA. Additional trees may grow between the time the tree survey was performed and construction. Prior to construction, if new trees grow within the areas coordinated for tree removal, DC Water would remove the trees that would impact construction of the proposed facilities.

Within the Park Road CSA, approximately 0.23 acres of forest would be cleared during construction. DC Water anticipates that 51 of the 120 individual trees surveyed at the Park Road CSA would be removed to construct the terminal connection to the ERCDS. These trees range in DBH from 3 to 35.5 inches with an average DBH of 10.5 inches. Of the 51 trees to be removed, 34 are between 3 and 10.9 inches DBH. The most common species of this size class are American beech, American elm, and red maple. Eight of the trees to be removed at the Park Road CSA are between 11 and 19.9 inches. The most common species of this class are American elm and northern red oak. Six of the trees to be removed at the Park Road CSA are between 20 and 29.9 inches. The most common species of this class is northern white oak. Three of the trees to be removed are between 30 inches and 35.5 inches. These species include tulip poplar and northern white oak. Four of the 51 trees to be removed are considered non-native / invasive species. Additionally, four dead trees would be removed within the Park Road CSA. These trees are not included in the total tree removal estimate.

The critical root zone of 31 trees at the Park Road CSA may be impacted by the project. These trees range in size from 3 to 36.5 inches with an average DBH of 16 inches. The common species of the impacted trees include American beech, American elm, tulip poplar, and Norway maple. Nine trees are shown for potential removal due to significant grading within the critical root zone. While the remaining 22 trees could be saved, tree survivability would depend on the type of construction activity performed adjacent to trees, extent of root zone within work area, and success of tree protection measures applied to tree, such as root pruning.

See **Appendix C: Tree Survey and Anticipated Impacts** for summary tables and location plans of the anticipated tree removals at the CSO 049 and Park Road CSAs. Additional trees may grow between the time the tree survey was performed and construction. Prior to construction, if new trees grow within the areas coordinated for tree removal, DC Water would remove the trees that would impact construction of the proposed facilities.

During detailed design, DC Water would carefully consider opportunities to site permanent and temporary structures, construction vehicle access, vehicle staging areas, and material stockpiles to minimize the removal of trees within the CSAs, with efforts focused primarily on avoiding impacts to large trees. DC Water would make efforts to minimize damage to trees that are to remain post-construction by implementing measures that may include, but are not limited to, installing tree protection fencing; mulching, matting, or other measures to protect critical root zones from soil compaction; and root pruning. It is anticipated that the number of trees that would ultimately be removed and / or impacted by construction may be reduced compared to the preliminary assessment included in this EA. DC Water would develop detailed landscape restoration plans that include replacement trees, shrubs, and herbaceous vegetation. Tree species would be replaced with those species identified by NPS resource managers. Replacement trees would be planted within the construction staging area and will be up to 2.5-inch caliper size per tree, and the quantity of replacement trees would be determined by NPS resource managers in accordance with NCPC Tree Preservation and Replacement Policy. Replacement trees would not be planted outside of the CSA, unless trees outside the CSA are damaged and then removed during construction. DC Water would provide a 5-year warranty for new trees, shrubs and other plantings that are placed as part of restoration and five-year maintenance of the restored landscape including conducting invasive, non-native plant maintenance. Maintenance of grass and turf would be responsibility of NPS.

DC Water would prepare and implement an invasive species management plan during and post-construction that includes, but is not limited to, monitoring and removing invasives within the CSAs until native vegetation is established, using clean fill material free of invasive plant seeds or propagules, and cleaning wheeled machinery prior to start of construction as well as upon completion of construction to reduce the risk of seed cross contamination and spread of non-native invasive species. Invasive vines covering the existing chain-link fence would be cleared to install a new fence around the Piney Branch outfall for safety. Turfgrass would be established, or an NPS-approved native herbaceous seed mix would be applied following construction to reduce

potential non-native invasive species establishment in disturbed areas where soils are exposed according to the approved landscape plans. Within the 5-year warranty, DC Water would perform annual post-construction monitoring of remaining trees and new plantings would be conducted to assess survival, as necessary.

It is expected that the Piney Branch Tunnel Project would have noticeable adverse impacts to vegetation; however, implementation of a site restoration plan coordinated with NPS, as well as the removal of invasive plants within the CSAs, would minimize these effects over the long-term. The project would not undermine local efforts by the NPS, the District, and community organizations to increase the urban tree canopy and preserve, protect, and enhance natural forest communities within the District.

3.4.5 Cumulative Impacts

Current and future projects and actions identified for the cumulative impacts analysis, including the reconstruction of Piney Branch Parkway NW by FHWA, rehabilitation of the Rock Creek Park Golf Course, DC Water's Piney Branch Tunnel Project, and many other sewer and green infrastructure improvements being implemented as part of the DC Clean Rivers Project throughout the District, require varying levels of disturbance to vegetation during construction. Tree removal required to implement these projects, such as the selective removal of a maximum of 501 healthy native trees as part of Phase 1 of the Rock Creek Park Golf Course rehabilitation, and as much as 223 trees in Phase 2, would result in noticeable short-term adverse cumulative effects to vegetation. The Piney Branch Tunnel Project would contribute a small, but noticeable short-term adverse incremental impact to the cumulative impacts of other projects and actions. However, planting at least 1,500 native trees to replace native trees removed for Phase 1 and between 1,503 and 2,175 tree plantings for Phase 2 of the golf course rehabilitation, tree replacement anticipated under the Piney Branch Tunnel Project, and other site restoration and landscape planting efforts under the various other projects, would result in minimal long-term adverse cumulative effects to vegetation after the projects in the cumulative impacts scenario are fully implemented.

There would be no new loss of vegetation under the no action alternative; therefore, there would be no cumulative impacts.

3.5 HISTORIC STRUCTURES AND DISTRICTS

3.5.1 Affected Environment

To identify potentially impacted historic properties for the NEPA analysis, the NPS used the Area of Potential Effects (APE) that has been developed in accordance with Section 106 of the National Historic Preservation Act as part of a separate but parallel regulatory process. The APE is defined as "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking" (36 CFR 800.16[d]). The APE, which is depicted on **Figure 3-2**, has been refined since it was originally presented in draft form to the DC SHPO and Native American Tribes in the Section 106 consultation initiation letter sent on July 21, 2022. The revisions were made because of changes to the CSA boundaries, as well as confirmation through geotechnical field investigations that the tunnel can be constructed south of Piney Branch Parkway NW. The APE is smaller, concentrated where work would be executed. No additional historic structures and districts were identified, and none were removed.

The NPS identified several historic properties within the APE. DC Water would construct the Piney Branch Tunnel Project within the Rock Creek Park Historic District, Mount Pleasant Historic District, and within view of the Woodner Apartment Building, which was determined eligible for listing in the National Register in January 2022.

Rock Creek Park Historic District

The Rock Creek Park Historic District lies north of the Smithsonian National Zoo and contains nine contributing buildings and 22 structures and objects. The period of significance stretches from 1791 to 1941. The Historic District was listed in the DC Inventory of Historic Sites (DC Inventory) in 1964 and was listed in the National Register on October 23, 1991 (NR# 91001524) with national significance under criteria A, B, and C. Three

contributing resources fall within the APE including the 16th Street Bridge, constructed between 1907 and 1910; Piney Branch Parkway NW, constructed in 1935; and the Piney Branch Parkway retaining walls, erected in 1936.

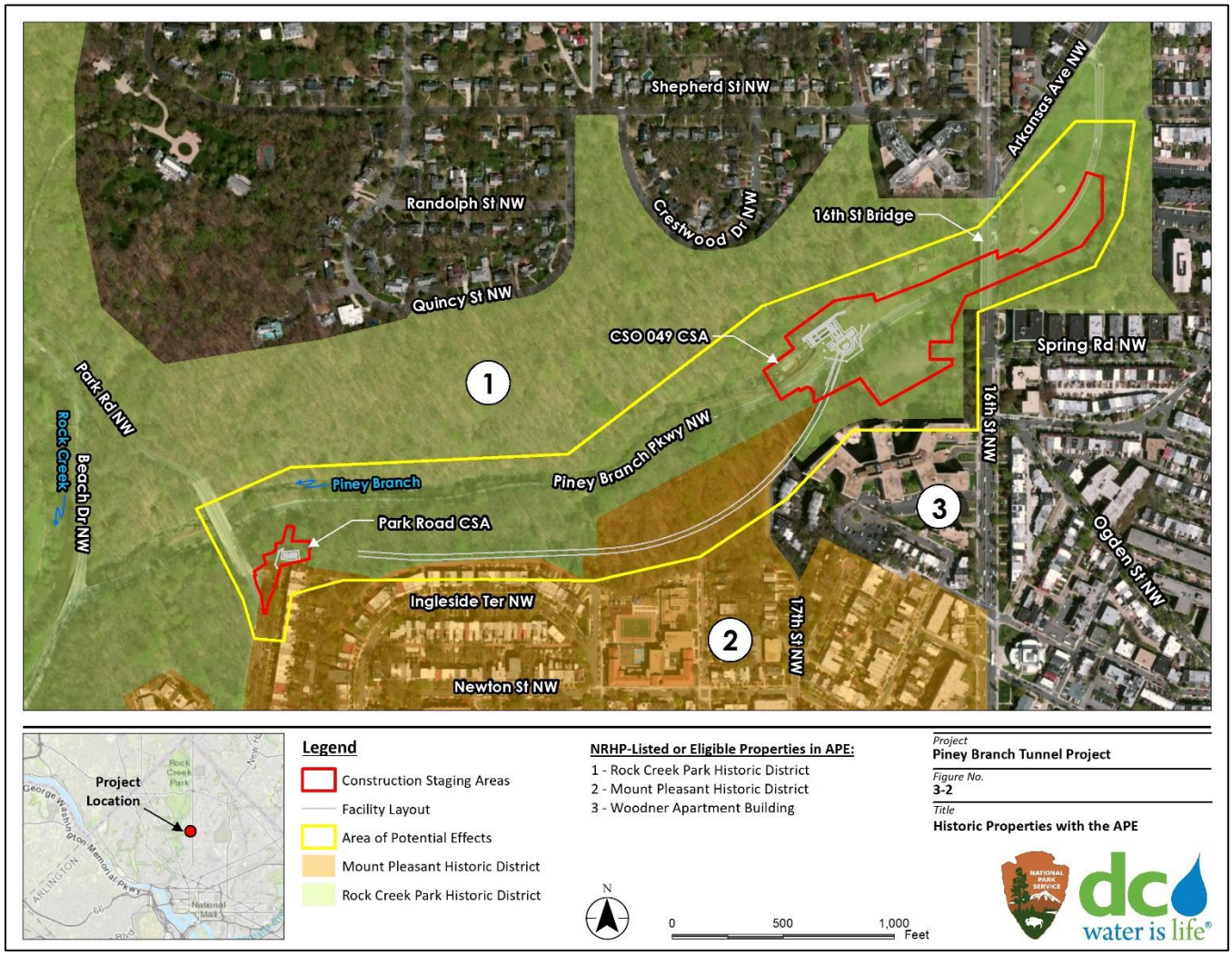

Figure 3-2. Historic Properties within the APE

Several features within the APE are not contributing to the historic district, including the Piney Branch Parkway foot trail between 17th Street NW, and Park Road NW, the recently installed multi-use path adjacent to Piney Branch Parkway NW between Beach Drive NW and Arkansas Avenue NW, as well as the picnic structure and seating directly east of the outfall. The CSO 049 outfall structure itself was heavily altered outside the period of significance and was determined not eligible for listing in the National Register or the DC Inventory, either as an individual resource, or a contributing element of the Rock Creek Park Historic District, based on a Determination of Eligibility signed by the DC SHPO on March 20, 2023.

The Park Road NW Bridge, constructed in 1958, is the only other major infrastructure within the Rock Creek Park Historic District in the APE. The bridge does not contribute to the significance of the historic district.

Mount Pleasant Historic District

The Mount Pleasant Historic District is bounded roughly by 16th Street NW, to the east, Harvard Street NW, to the south, and the Rock Creek Park Historic District to the north and west. The district was listed in the National Register on October 5, 1987 (NR# 87001726) with approximately 1,100 contributing structures constructed between 1870 and 1949, which is also the identified period of significance. Mount Pleasant is a significant

planned historic neighborhood in Washington, DC, listed under Criterion C for architecture and community planning.

The northern boundary of the Mount Pleasant Historic District aligns directly with the Rock Creek Park Historic District boundary, and a small portion of the Park Road CSA along the Park Road NW Bridge (1958) falls within the boundaries. Contributing resources within the APE include the northernmost houses along Park Road NW (2071 – 2063 Park Road NW) and their associated stairs and retaining walls, as well as houses on Ingleside Terrace NW. The jughandle just south of the Park Road NW Bridge does not contribute to either the Mount Pleasant or Rock Creek Park historic districts as it was added after the Park Road NW Bridge was constructed in 1958.

Woodner Apartment Building

Built between 1950 and 1952, the Woodner Apartments were developed by the Jonathan Woodner Company, designed by Washington architect Wallace F. Holliday, Sr., in collaboration with owner-architect Ian Woodner. The architects choose the distinct International Style featuring a flat roof, ribbon windows, exterior balconies, and sophisticated mid-century interior spaces and landscape elements. Designed and constructed during the early postwar period in the district, the expansive, luxury apartment complex embodies the International Style and the newly cultivated, modern, cosmopolitan image of the national capital of the time. It was determined eligible for listing in the National Register on January 11, 2022. Specific design elements of the landscape that are contributing and within the viewshed of the project include the northeast and northwest courtyards, which overlook the CSO 049 CSA.

3.5.2 Impact Assessment Methodology

Potential impacts to National Register-listed or eligible resources were analyzed in consideration of regulations implementing Section 106 of the National Historic Preservation Act and guidelines stated within the Secretary of Interior's *Standards for the Treatment of Historic Properties* (NPS 1995). The analysis of the potential impacts of the project on historic structures and districts focused on whether the proposed undertaking would "…alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association" (36 CFR 800.5(a)(1)).

3.5.3 Impacts of Alternative A: No Action

There would be no construction under the no action alternative; therefore, there would be no impacts to DC Inventory or National Register-listed or eligible resources because character-defining features of historic structures or districts would not be altered, and the overall integrity of these resources would not be compromised.

3.5.4 Impacts of Alternative B: Construct Piney Branch Tunnel Project to Comply with Amended Consent Decree

Construction of the Piney Branch Tunnel Project is expected to occur for approximately four years. During this time, construction within the CSO 049 CSA would require Piney Branch Parkway NW to be temporarily relocated south of its existing alignment, as presented on **Figure 2-2** in **Section 2: Alternatives**. Since Piney Branch Parkway NW is a contributing resource to the Rock Creek Park Historic District, this modification to the roadways historic alignment would result in a temporary adverse impact. The historic retaining walls along Piney Branch Parkway NW, west of the end of the concrete outfall channel, would not be impacted during or after construction. Trees would be removed within the Rock Creek Park Historic District within the CSO 049 and Park Road CSAs to accommodate construction activities, as discussed in **Section 3.4: Vegetation**, and construction would also create temporary viewshed impacts within the historic district. As such, temporary impacts from shifting the roadway alignment, tree removal, and disruptions to viewsheds, would result in short-term adverse impacts to the Rock Creek Park Historic District.

Construction activities within the Mount Pleasant Historic District would be limited to underground mining of the proposed storage tunnel and vehicle and equipment stockpiling / staging within the southwest portion of the Park Road CSA. However, due to the proximity of the Park Road CSA to residential structures along Park Road NW,

including their associated retaining walls and stairs, which contribute to the significance of the Mount Pleasant Historic District, there would be temporary impacts to the viewshed, as well as temporary impacts caused by construction-related noise. DC Water would implement mitigation measures to minimize construction noise, and would conduct pre-construction surveys, implement a thorough vibration monitoring plan, implement structural protections (if needed), and identify alternative construction means and methods that avoid or minimize the potential effects of vibration on adjacent structures on Park Road NW and Ingleside Terrace NW.

Although there would be temporary viewshed impacts to and from the Woodner Apartments and the 16th Street Bridge, these historic structures would not be physically altered, and both viewsheds would be restored after construction avoiding adverse impacts. DC Water would ensure the 16th Street Bridge is protected during construction to prevent accidental damage.

Once construction is completed, the CSO 049 and Park Road CSAs would be restored substantially to pre-construction conditions. DC Water would implement site restoration plans coordinated closely with NPS, DC SHPO, NCPC, and other stakeholders. Within the CSO 049 CSA, Piney Branch Parkway NW would be returned to its historic alignment to avoid long-term adverse impacts to the contributing resource. As part of the project, DC Water would extend the outfall face of the two northern bays to match the most southern bay and create uniform face, construct a grouted stone channel where the existing concrete apron is located, and remove graffiti from the retaining walls to improve the overall aesthetics of the outfall within the landscape. Stone selection and layout of the outfall face would be similar to the ashlar pattern of the adjacent retaining wall. Atop the extended outfall, soil and grass would increase the green area in the park by 3,462 square feet. DC Water would also replace the fence and railing to meet current code and would screen the fence with border tree plantings around the outfall with species determined based on consultation with NPS.

DC Water would develop detailed landscape restoration plans that include replacement trees, shrubs, and herbaceous vegetation. Tree species would be replaced with those species identified by NPS resource managers. Replacement trees would be planted within the construction staging area and would be up to 2.5-inch caliper size per tree, and the quantity of replacement trees would be determined by NPS resource managers in accordance with NCPC Tree Preservation and Replacement Policy. To the extent possible, trees would be planted in locations to restore the tree canopy of the cultural landscape and maintain open spaces that were an intentional design of the park to avoid adverse visual effects. DC Water would provide a five-year warranty for new trees, shrubs and other plantings that are placed as part of restoration and five-year maintenance of the restored landscape including conducting invasive, non-native plant maintenance. Maintenance of grass and turf would be responsibility of NPS.

DC Water would need to maintain a clear pathway for vehicles and equipment to access the facilities post-construction within the Park Road CSA for maintenance inspections to ensure performance standards are being achieved. However, this clear area would be negligibly noticeable from the adjacent residential structures that contribute to the significance of the Mount Pleasant Historic District. The cleared area would still have the thick backdrop of the extant tree canopy, retaining the feel and setting of both historic districts. Additionally, manholes, access hatches, and ventilation grating would be visible at grade after the project is completed. The addition of these permanent, at-grade features would result in permanent, but minimal, visual impacts on the Rock Creek Park Historic District, including the 16th Street Bridge, Mount Pleasant Historic District, and the Woodner Apartments due to their limited height and size within the larger landscape. DC Water would coordinate post-construction site restoration with NPS, DC SHPO, NCPC, CFA and other stakeholders during design review and permitting to ensure no permanent adverse effects to historic structures and districts.

Although the CSO 049 outfall is not a contributing resource, restoring the concrete apron with grouted stone, and removing graffiti from the retaining walls, would improve the visual quality within the Rock Creek Park Historic District. As such, site restoration efforts and aesthetic improvements made at the CSO 049 outfall are expected to benefit the Rock Creek Park Historic District after construction is complete and not adversely impact historic structures and districts.

As described in **Section 2.3: Combined Sewer Overflow Public Notification System**, a public notification system would be installed as part of the Piney Branch Tunnel Project that includes the installation of lights and signage at Piney Branch and three additional publicly visible locations along Rock Creek. Although the exact

locations of the lights have not been determined, all four would be within areas administered by Rock Creek Park. The final locations of the lights would be coordinated between DC Water, NPS, and other stakeholders, and DC Water would use standard warning lights used elsewhere in the District, to ensure no permanent physical or visual adverse impacts to the Rock Creek Park Historic District. Additionally, connections to PEPCOs electrical system for power during construction and operation of the tunnel system, as described in **Section 2.2.2: CSO 049 Construction Staging Area** and **Section 2.2.3: Park Road Construction Staging Area**, would occur within existing utility corridors and would not be expected to have adverse effects to historic properties, including the Rock Creek Park Historic District.

If necessary, DC Water and NPS would pursue the negotiation and execution of a Memorandum of Agreement (MOA) with NCPC and the DC SHPO in accordance with 36 CFR 800.6(c). The MOA would include stipulations for design reviews by the Signatories and specify avoidance, minimization, and mitigation measures agreed upon by the Signatories that would be incorporated into the final design of the Piney Branch Tunnel Project to resolve adverse effects to National Register-listed or eligible historic properties.

3.5.5 Cumulative Impacts

Current and future projects and actions identified for the cumulative impacts analysis, including the reconstruction of Piney Branch Parkway NW by FHWA, rehabilitation of the Rock Creek Park Golf Course, DC Water's Piney Branch Tunnel Project, and many other sewer and green infrastructure improvements being implemented as part of the DC Clean Rivers Project, are likely to cause construction-related impacts by temporarily altering or displacing character-defining features of historic properties, as well as temporarily affecting views to and from these and other nearby resources. Reconstructing Piney Branch Parkway NW may have potential temporary impacts to the Rock Creek Historic District, but no long-term adverse impacts are anticipated. Rehabilitation of the Rock Creek Golf Course will have adverse impacts to the Rock Creek Park Historic District by changing the original course design, altering and obstructing historic views, and from demolishing the clubhouse, a resource that contributes to the historic district's significance. While these projects will or may potentially impact historic structures or districts, the responsible agencies have been consulting with the DC SHPO to mitigate adverse effects in accordance with Section 106 of the National Historic Preservation Act or Section 9B of the Historic Landmark and Historic District Protection Act, as appropriate, resulting in minimal short-term adverse cumulative impacts to historic structures or districts. DC Water would ensure that adverse impacts to historic structures and districts are avoided or minimized under the Piney Branch Tunnel Project through design and consultation with the NPS, DC SHPO, and appropriate stakeholders. Constructing a grouted stone channel where the existing concrete apron of the outfall channel is located, removing graffiti from the retaining walls, and other aesthetic improvements made at the CSO 049 outfall, would be expected to have visual benefits to the Rock Creek Park Historic District. Therefore, the Piney Branch Tunnel Project would add a small beneficial increment to the overall long-term adverse cumulative impacts to historic structures and districts once the projects in the cumulative impacts scenario are implemented.

There would be no impacts to historic structures and districts under the no action alternative; therefore, there would be no cumulative impacts.

3.6 VISITOR / COMMUNITY USE AND EXPERIENCE

3.6.1 Affected Environment

CSO 049 is located along Piney Branch within Rock Creek Park. Rock Creek Park is nearly 1,800 acres of forest, waterways, recreational areas, and historic sites surrounded by the otherwise urban environment of Washington, DC. Rock Creek Park offers numerous recreation activities, including paved multi-use trails, picnic areas, unpaved hiking and horseback riding trails, a golf course, tennis courts, a facility for horse boarding, various sports fields, community gardens, interpretive programs, and an amphitheater. Kayaking, canoeing, and fishing are also available, but the NPS limits these activities to specific areas along Rock Creek. The NPS prohibits swimming, bathing, and wading in all Rock Creek Park areas (NPS 2023a). Visitors to Rock Creek Park are also provided with the opportunity to reflect on over 5,000 years of human history. Cultural resources that visitors can explore within the park include memorials, monuments, civil war fortifications, and a historic mill (NPS 2010).

Rock Creek Park saw 1,817,868 recreational visitors and over 12 million nonrecreational visits in 2023, as the roadways within the park provide important transportation connections throughout Washington, DC (NPS 2024).

Piney Branch Parkway NW is an east-west route that runs alongside Piney Branch and is managed by NPS. The parkway provides one 11-foot-side travel lane in each direction, connecting Arkansas Avenue NW and Beach Drive NW, and intersecting with 17th Street NW. Additionally, bridges convey 16th Street NW and Park Road NW over the parkway. Piney Branch Parkway NW serves as an important connection between neighborhoods to the north and east, and the greater transportation network of Washington, DC that is accessible from Beach Drive NW. Traffic-related information about the parkway is provided below in **Section 3.6.1.2: Traffic**.

In addition to the parkway, the study area includes forest and maintained forested open space. There are also two official NPS trails. Recently completed by DDOT in 2022, a new 0.8-mile, 8-foot-wide asphalt multi-use trail follows along the north side of Piney Branch Parkway NW, establishing a formal pedestrian and bicycle connection between Arkansas Avenue NW and Beach Drive NW, and providing both visitors and residents with additional opportunities for recreation, as well as access to the greater Rock Creek Park trail system. According to DDOT, the new trail saw 7,903 users in January 2023. There is also a 0.35-mile earthen foot trail that traverses the southern slope of the Piney Branch stream valley that provides a connection between 17th Street NW and Park Road NW. Numerous unofficial or "social" trails have developed within the study area over time that the NPS does not maintain. Social trails have established informal connections to the Piney Branch Parkway foot trail at Mt. Pleasant Street NW and 18th Street NW. Social trails also exist along the northern slope of the stream valley that connect the neighborhoods north of Shepherd Street NW to Rock Creek Park and the larger trail network.

Picnic Grove 29 is situated just a few hundred feet east of the CSO 049 outfall, north of Piney Branch Parkway NW and west of 16th Street NW. The picnic area is limited to 25 visitors and does not require a reservation. The picnic area includes a covered pavilion with two tables and a grill. Parking is available via a small roadside pullout and the nearest restroom facilities are located at Picnic Grove 1 on Tilden Street or behind Pierce Barn (National Park Planner 2022; NPS 2023b).

During the public scoping period, several comments from the public expressed dissatisfaction with the current conditions within the study area. Trash is frequently found along the trails and at the picnic area, invasive vines are overtaking the Piney Branch Parkway foot trail and the natural vegetation in the area, and graffiti on the CSO 049 outfall flood gates and downstream retaining wall, as well as beneath the Park Road NW Bridge, is an eyesore for many visitors. In addition, in part due to the poor water quality of Piney Branch, the NPS does not permit water recreation, such as fishing, boating, or swimming within the study area.

Local volunteer organizations, such as Rock Creek Songbirds and the Rock Creek Conservancy, have conducted various site restoration efforts within the Piney Branch section of Rock Creek Park. These efforts included planting hundreds of native trees, wildflowers, and grasses to promote habitat for migratory songbirds. The Rock Creek Songbirds established native plant species within the expanded wetland behind Picnic Grove 029 in 2019 (DC Audubon Society 2023).

3.6.1.1 Noise, Dust, Vibration, and Light

Noise generated within the study area occurs almost exclusively from vehicle traffic on Piney Branch Parkway NW, 16th Street NW, 17th Street NW, and Park Road NW. The study area is surrounded by an urban setting consisting primarily of high-density residential communities with a scattering of small commercial businesses and community facilities. These urban areas experience higher than typical background noise generated by vehicle traffic, construction, emergency vehicles and buses, and other noise generating activities.

The general provisions of noise control regulation in DC "promote public health, safety, welfare, and the peace and quiet of the inhabitants of the District," and "facilitate the enjoyment of the natural attractions of the District" (20 DCMR 2700.1). Section 20-2802 of the DCMR limits weekday daytime (7:00 am to 7:00 pm) construction activities to not exceed an hourly Leq of 80 dBA at a residential property. For most other activities, with exceptions, Section 20-2701 of the DCMR provides the maximum permissible noise levels in residential, special purpose, and waterfront areas to be 60 dBA daytime (7:00 am to 10:00 pm) and 55 dBA nighttime (10:00 pm to 7:00 am).

There are no sources of dust at the project site outside of construction activities that may occur along the parkway. There are also no fixed sources of artificial lighting along the parkway. Headlights from vehicles and, to a lesser extent, lights from adjacent neighborhoods, the 16th Street NW and Park Road NW bridges, as well as from 17th Street NW and Arkansas Avenue NW, are noticeable sources of artificial lighting.

Within the study area, sources of ground-borne vibration are limited to personally operated vehicles travelling on Piney Branch Parkway NW, and other roadways in the vicinity. Ground-borne vibration is measured in vibration decibels (VdB). The perceptible level of ground-borne vibration for human is around 65 VdB; generally, humans experience annoyance at a vibration level of approximately 75 VdB. Typically, buses and trucks generate around 65 VdB, though it can rise to 75 VdB if road conditions are rough with bumps or potholes (Federal Transit Administration 2006; Federal Transit Administration 2018). However, Piney Branch Parkway NW does not permit commercial vehicles, so buses and trucks are unlikely to be a source of ground-borne vibration. As such, nearby residences and park visitors are not likely to experience perceptible levels of vibration.

3.6.1.2 Traffic

Piney Branch Parkway NW had an annual average daily traffic (AADT) volume of approximately 4,919 vehicles in 2022 according to the latest data available from DDOT. Other major roads in the vicinity include 16th Street NW, Arkansas Avenue NW, Beach Drive NW, and Park Road NW. Park Road NW experienced an AADT of 6,527 vehicles, while the 2022 AADT for Arkansas Avenue NW at its intersection with Piney Branch Parkway NW was approximately 9,802 vehicles. 16th Street NW experiences substantially higher levels of traffic with an AADT of 27,190 (DC GIS 2024). DDOT does not have 2022 AADT data for Beach Drive NW; however, 2020 data shows that the AADT was 4,224 vehicles.

A traffic analysis was conducted in August 2023 to document levels of service (LOS) and average vehicle delay times for 14 intersections surrounding the CSO 049 and Park Road CSAs. LOS analysis is used to assess the overall operating conditions of intersections and characterize the intersections based on travel times, vehicle densities, and delays. LOS designations range from A, a free-flowing condition, to F, a failing condition. **Table 3-1** provides definitions for each LOS designation.

Under current conditions, only the unsignalized intersection of Beach Drive NW at Piney Branch Parkway NW during the AM peak period experiences a LOS F. **Table 3-2** provides the existing LOS and delay times for the 14 analyzed intersections.

Table 3-1. Level of Service (LOS) Designations and Definitions

Level of Service	Definition
LOS A	This is a condition of free flow, accompanied by low volumes and high speeds. Traffic density will be low, with uninterrupted flow speeds controlled by driver desires, speed limits, and physical roadway conditions. There is little or no restriction in maneuverability due to the presence of other vehicles, and drivers can maintain their desired speeds with little or no delay.
LOS B	This occurs in the zone of stable flow, with operating speeds beginning to be restricted somewhat by traffic conditions. Drivers still have reasonable freedom to select their speed and lane of operation. Reductions in speed are not unreasonable, with a low probability of traffic flow being restricted. The lower limit (lowest speed, highest volume) of this level of service has been used in the design of rural roadways.
LOS C	This is still in the zone of stable flow, but speeds and maneuverability are more closely controlled by the higher volumes. Most of the drivers are restricted in their freedom to select their own speed, change lanes, or pass. A relatively satisfactory operating speed is still obtained, with service volumes suitable for urban design practice.
LOS D	This level of service approaches unstable flow, with tolerable operating speeds being maintained, through considerably affected by changes in operating conditions. Fluctuations in volume and temporary restrictions to flow may cause substantial drops in operating speeds. Drivers have little freedom to maneuver, and comfort and convenience are low. These conditions can be tolerated, however, for short periods of time.
LOS E	This cannot be described by speed alone, but represents operations at lower operating speeds, typically, but not always, about 30 miles per hour, with volumes at or near capacity of the highway. Flow is unstable, and there may be stoppages of momentary duration. This level of service is associated with operation of a facility at capacity flows
LOS F	This describes a forced-flow operation at low speeds, where volumes are below capacity; in the extreme, both speed and volume can drop to zero. Their conditions usually result from queues of vehicles backing up for a restriction downstream. The section under study will be serving as a storage area during parts or all the peak hour. Speeds are reduced substantially, and stoppages may occur for short or long periods of time because of the downstream congestion.

3.6.2 Impact Assessment Methodology

The NPS and DC Water identified important functions and amenities along Piney Branch Parkway NW, to analyze the impacts of each alternative on visitor use and experience. Disruptions to the park setting and the surrounding communities were evaluated, including construction-related noise, vibration, and traffic. The analysis of potential impacts was performed using data provided by technical experts, professional judgment, information provided by park staff, public comments, and experience with similar past projects.

3.6.3 Impacts of Alternative A: No Action

There would be no new impacts to visitor / community use and experience under the no action alternative. However, untreated discharges into Piney Branch would continue to occur at the CSO 049 outfall at their current frequency and magnitude. Although water-based recreation is largely prohibited at Piney Branch, untreated CSOs would continue to discharge to Rock Creek, which has some allowances for water-based recreation. Additionally, the presence of combined sewage and odors from CSO events would negatively affect the visitor experience, particularly for visitors on the multi-use trail and at the picnic pavilion.

3.6.4 Impacts of Alternative B: Construct Piney Branch Tunnel Project to Comply with Amended Consent Decree

Construction of the Piney Branch Tunnel Project is expected to occur for approximately 4 years. During this time, tunnel mining operations would be conducted 24-hours a day for the duration of construction, while construction of the diversion structure and drop shaft at the CSO 049 CSA, and the dewatering structure and drop shaft at the Park Road CSA, would be completed between 7:00 am and 7:00 pm. The approximate limits of the construction areas are presented on **Figure 2-2** and **Figure 2-3** in **Section 2: Alternatives**. These boundaries represent the anticipated total area needed for construction at each site, including ground disturbance to install the structures, in addition to area for vehicle, equipment, and material staging. The limits of construction presented on the figures also represent the area that would be off limits to the public while the work is being completed. DC Water would coordinate with NPS, DDOT, and other stakeholders to determine an approach to construction phasing that would allow for the structures to be constructed efficiently while attempting to reduce impacts to traffic and other park uses, as well as coordinating with other potential projects in the vicinity.

DC Water would use the jughandle in front of the residences at 2059 – 2071 Park Road NW, for construction access, a site office, and as a muck loading area within the Park Road CSA. Residential parking would be temporarily removed at the jughandle for the duration of construction; however, it is expected that sufficient parking capacity is available on Park Road NW south of the Park Road CSA. In addition to eliminating parking, large vehicles and equipment, including the placement of a large crane at the site, would cause noise, vibration, air emissions, and would be visibly obtrusive, particularly to the residences closest to the Park Road CSA. Once construction is complete, the jughandle and parking availability would be restored to pre-construction conditions. Over the long-term, DC Water would be required to access the tunnel infrastructure from Park Road NW for maintenance inspections to ensure performance standards are being achieved. DC Water anticipates tunnel access from Park Road NW would occur approximately monthly. DC Water would coordinate temporary road, parking, or trail closures with NPS and adjacent residences, as needed, prior to any planned maintenance inspections.

A section of the Piney Branch Parkway foot trail would also be closed to pedestrian traffic while the dewatering structure and drop shaft are constructed within the Park Road CSA. The foot trail would be restored to pre-construction conditions after construction with the Park Road CSA is complete.

At the CSO 049 CSA, forested open space across Piney Branch Parkway NW from the CSO 049 outfall would be used for material and equipment staging and would be off-limits to visitors for the duration of construction. Construction activities at the CSO 049 CSA would be visible primarily from the north facing Woodner Apartments. Construction activities may become more visible from other locations during the winter months. 24-hour mining operations would require lighting at night to illuminate the workspace. DC Water would require the construction contractor to use lights with shielding, downward facing lighting, or other possible techniques to minimize light pollution for the north facing Woodner Apartments.

Furthermore, Picnic Grove 29, which is adjacent to the CSO 049 CSA, would remain open during construction; however, construction activities may disrupt visitors due to the picnic pavilion's proximity to the project. Also, the existing vehicle pull-off on Piney Branch Parkway NW, would not be available for visitors to park to use the pavilion. Visitors would need to park their vehicles along Arkansas Avenue NW, or along other roadways nearby, and walk to the pavilion. The wetland and native habitat plantings located behind the pavilion would not be impacted by the project.

Air emissions would likely be noticeable during construction at the CSO 049 and Park Road CSAs but would not be expected to cause human health concerns. DC Water would require the construction contractor to limit equipment idling times and employ fugitive dust controls to minimize greenhouse gas emissions and air quality impacts during construction. Likewise, DC Water would ensure there are no environmental risks from hazardous substances through on-site soil and groundwater sampling and proper handling, disposal, and cleanup efforts if hazardous substances are inadvertently uncovered. A Spill Prevention, Control and Countermeasure Plan would be established to address any accidental spills or releases of hazardous materials during construction that could cause a risk to human health and / or safety.

DC Water would coordinate post-construction site restoration with NPS and other stakeholders, and obtain approval of site restoration plans from NCPC, which has approval authority over the project. As part of the project, DC Water would extend the outfall face of the two northern bays to match the most southern bay and create a uniform face. Stone selection and layout of the outfall face would be similar to the ashlar pattern of the adjacent retaining wall. Extending the northern bays would allow for 3,462 square feet of additional green space in the park, and along with constructing a grouted stone channel where the existing concrete apron is located, and removing graffiti from the retaining walls, and installing a new fence that meets current code, would improve the overall aesthetics of the outfall within the landscape.

Manholes, access hatches, and ventilation grating would be visible at the ground surface after the project is completed. Additionally, DC Water would need to maintain a clear pathway for vehicles and equipment to access the facilities post-construction at the Park Road CSA, which means that trees cannot be replanted within a portion of the site. This clear area would be noticeable from the residences adjacent to the CSA, but would not be noticeable from Piney Branch Parkway NW.

The NPS and DC Water expect that Alternative B would result in noticeable short-term adverse impacts to park visitors and neighboring communities that would be minimized to the extent possible through implementation of measures to reduce construction-related disruptions, and through public outreach and coordination. Once completed, the Piney Branch Tunnel Project would substantially reduce CSOs, resulting in water quality improvements for Piney Branch and Rock Creek and associated improvements to public health. While water-based recreation is limited on Piney Branch, improvements to Rock Creek's water quality would improve water-based recreation downstream. Furthermore, the new structure would be ventilated to limit odors generated by CSOs that may detract from the visitor experience. These improvements would result in beneficial long-term impacts to visitor / community use and experience under Alternative B.

The CSO warning lights that would be deployed as part of the Piney Branch Tunnel Project would only be visible to residences at a distance, particularly during winter when trees are bare of leaves, and the lights would only operate during and 24 hours following a CSO event. As such, the CSO warning lights would not be disruptive to surrounding communities. The CSO warning lights would benefit surrounding communities and park visitors by making the public aware of active CSO events in real-time to minimize public health concerns related to CSOs.

3.6.4.1 Noise, Dust, Vibration, and Light

Construction of the Piney Branch Tunnel Project would result in temporary elevation of noise levels from heavy equipment operation, site preparation, and other construction-related activities. Typical noise levels generated by construction equipment generally range from 75 to 100 dBA at a distance of 50 feet from the source of the noise (Federal Transit Administration 2006). When multiple pieces of equipment are operated concurrently, noise levels can be relatively high within several hundred feet of active construction sites. Using reference noise levels, and assuming a crane, a truck, and generator are operating 50 feet from a noise-sensitive location, a sound pressure level of greater than 90 dBA can be expected at the closest noise-sensitive locations to the construction activities,

which would exceed the DCMR limits described in **Section 3.6.1.1: Noise, Dust, Vibration, and Light**. However, any activities more than 150 feet from noise-sensitive locations would comply with the DCMR weekday daytime 80 dBA Leq limit, based on acoustical properties.

Within the majority of the Park Road CSA, and at the CSO 049 CSA nearest to the Woodner Apartments, compliance with the DCMR limits would be possible for weekday daytime operations by limiting the timing of equipment operations within 150 feet from noise-sensitive locations. Although tunnel mining operations at the CSO 049 CSA would be conducted 24 hours a day and seven days a week, to minimize noise impacts, hauling operations would be limited to 7:00 am to 7:00 pm Monday through Friday and 9:00 am to 5:00 pm Saturdays and Sundays. Temporary noise barriers could be installed around construction areas to provide noise reductions of up to 10 dBA for equipment less than 15 feet in height. However, for equipment greater than 15 feet in height, such as cranes, noise barriers would not be effective. Additional mitigation measures that may be used to reduce noise levels during construction include monitoring noise levels for the duration of the project, specifying the use of quiet equipment models, maintaining equipment mufflers, lubricating equipment to prevent unnecessary noise, limiting the number and duration of idling equipment, and positioning loud equipment and activities as far as possible from noise-sensitive locations. It is anticipated that with the use of noise barriers and / or other mitigation measures, construction noise would be reduced to permissible levels. DC Water would remain in regular contact with park neighbors most affected by construction, particularly the residents adjacent to the Park Road CSA, to ensure that their concerns or complaints are addressed in a timely manner.

At the CSO 049 CSA, 24-hour mining operations would require nighttime workspace lighting to ensure safe completion of the work while not being objectionable to neighboring properties. DC Water would require the construction contractor to use lights with shielding, downward facing lighting, or other possible techniques to minimize light pollution and avoid creating nuisance conditions for adjacent residents, particularly for the north facing Woodner Apartments. DC Water would also require the construction contractor to implement fugitive dust controls, such as water application, covering or enclosing stockpiles of excavated materials, stabilizing haul roads, street sweeping, and covering open-bodied trucks when the truck is carrying materials.

Construction of the proposed tunnel would consist of drill and shoot excavation, tunnel boring methods, or mechanical excavation, which have the potential to result in vibrations that may impact residential neighborhoods. Also, construction at the Park Road CSA may generate vibration that could be perceptible to the adjacent residences. DC Water would conduct pre-construction surveys, implement a vibration monitoring plan, implement structural protections (if needed), and identify alternative construction means and methods that minimize the potential effects of vibration on adjacent structures.

Once construction is complete, none of the permanent tunnel infrastructure would generate noise above ambient background noise levels and there would be no new, permanent sources of dust, vibration, or lighting; therefore, there would be no long-term impacts.

3.6.4.2 Traffic

Construction of the Piney Branch Tunnel Project would include temporary relocation of Piney Branch Parkway NW to the south to allow DC Water to construct the drop shaft near the outfall. Although this road relocation would help to minimize the duration of road closures, temporary full and partial closures would be required throughout construction.

Partial closure would involve maintaining one lane of traffic in the northbound direction while closing Piney Branch Parkway NW to southbound traffic. Southbound traffic from 16th Street NW and Arkansas Avenue NW would be detoured south on 16th Street NW to the right turn onto Park Road NW with options to access Beach Drive NW from Porter Street NW, via Klingle Road NW, or Park Road NW to the north.

Full closure would involve completely closing Piney Branch Parkway NW to traffic in the northbound and southbound directions. The southbound detour described for the partial closure would be used for any full closures in that direction. For the northbound detour, northbound traffic on Beach Drive NW would travel past Piney Branch Parkway NW to the right turn onto Park Road NW. Vehicles would then make a right onto Mt. Pleasant Street NW, and a left turn onto Lamont Street NW before making a left turn onto 16th Street NW and a right turn onto Arkansas Avenue NW. Vehicles traveling southbound on Beach Drive NW would turn right onto

Porter Street NW, and then immediately left onto Klingle Road NW. From there, the detour would follow the same roadways as the northbound Beach Drive NW detour to Arkansas Avenue NW. Figures depicting the proposed detour routes are available as **Figure 3-3** and **Figure 3-4**.

Figure 3-3. Proposed Detour Route for Partial Closure of Piney Branch Parkway NW

Figure 3-4. Proposed Detour Routes for Full Closure of Piney Branch Parkway NW

To determine the potential impact of the proposed maintenance of traffic scenarios, the LOS and approximate travel delays were analyzed at 14 intersections along the proposed detour routes. A comparison of the delay and LOS experienced at these intersections under the various traffic maintenance scenarios is provided in **Table 3-2** and **Table 3-3** for both the AM and PM peak hours, respectively. While the relocated parkway is open to two-way traffic, LOS and vehicle delays would be the same as existing roadway conditions. The only intersection that would operate at LOS F is Beach Drive NW at Piney Branch Parkway NW in the AM peak hour.

Table 3-2. Projected LOS and Travel Delays During AM Peak Hour

Intersection	Existing and Proposed Two-Way Traffic LOS (Delay[sec/vehicle])	Proposed Partial Closure LOS (Delay[sec/vehicle])	Proposed Partial Closure with Improvements LOS (Delay[sec/vehicle])	Proposed Full Closure LOS (Delay[sec/vehicle])	Proposed Full Closure with Improvements LOS (Delay[sec/vehicle])
Beach Drive NW at Park Road NW	D (38)	E (66)	E (66)	E (69)	E (69)
Beach Drive NW at Piney Branch Parkway NW	F (>180)	E (40)	E (40)	E (48)	E (48)
Klingle Road NW at Rosemount Avenue NW / Adams Mill Road NW	B (15)	F (135)	D (41)	F (130)	D (40)
Park Road NW at Klingle Road NW / Walbridge Place NW	D (47)	F (>180)	F (84)	F (>180)	F (93)
Park Road NW at 18th Street NW	B (15)	F (>180)	F (100)	F (>180)	F (98)
Park Road NW at 17th Street NW / Mount Pleasant Street NW	C (23)	F (161)	E (77)	F (148)	E (73)
16th Street NW at Lamont Street NW	B (18)	B (18)	A (10)	C (26)	C (28)
16th Street NW at Park Road NW	B (18)	F (120)	F (112)	F (1114)	F (108)
16th Street NW at Monroe Street NW	A (9)	F (100)	E (66)	F (95)	E (62)
16th Street NW at Newton Street NW	B (13)	F (101)	E (75)	F (98)	E (72)
16th Street NW at Oak Street NW	A (10)	F (91)	D (52)	F (87)	D (54)
16th Street NW at Spring Road NW	C (28)	F (101)	F (85)	F (94)	E (79)
16th Street NW at Arkansas Avenue NW	B (17)	F (156)	C (33)	F	C
Arkansas Avenue NW at Piney Branch Parkway NW	B (16)	B (12)	B (12)	A (8)	A (7)

There were 10 failing intersections for the partial closure scenario in the AM peak hour but only one in the PM peak hour. With the inclusion of proposed intersection improvements, which may include longer cycle lengths and adjustments to the intersection lane configurations, the number of failing intersections under the partial closure in the AM peak hour would be reduced to four, with no failing intersections in the evening. The full closure scenario would result in 10 failing intersections in the AM peak hour and nine in the PM peak hour. With intersection improvements, the number of failing intersections under the full closure would be reduced to three failing intersections in the AM peak hour and six in the PM peak hour.

Table 3-3. Projected LOS and Travel Delays During PM Peak Hour

Intersection	Existing and Proposed Two-Way Traffic LOS (Delay[sec/vehicle])	Proposed Partial Closure LOS (Delay[sec/vehicle])	Proposed Partial Closure with Improvements LOS (Delay[sec/vehicle])	Proposed Full Closure LOS (Delay[sec/vehicle])	Proposed Full Closure with Improvements LOS (Delay[sec/vehicle])
Beach Drive NW at Park Road NW	D (39)	D (44)	D (44)	F (122)	F (122)
Beach Drive NW at Piney Branch Parkway NW	D (28)	C (19)	C (19)	F (>180)	F (>180)
Klingle Road NW at Rosemount Avenue NW/Adams Mill Road NW	C (20)	B (18)	B (18)	B (19)	C (25)
Park Road NW at Klingle Road NW/Walbridge Place NW	D (54)	F (99)	E (57)	F (>180)	F (113)
Park Road NW at 18th Street NW	B (12)	B (12)	A (10)	F (122)	E (65)
Park Road NW at 17th Street NW/Mount Pleasant Street NW	C (20)	C (34)	C (25)	F (>180)	F (>180)
16th Street NW at Lamont Street NW	A (9)	A (8)	B (11)	F (>180)	F (179)
16th Street NW at Park Road NW	D (41)	D (49)	C (31)	F (178)	F (90)
16th Street NW at Monroe Street NW	A (8)	A (8)	A (9)	E (75)	D (51)
16th Street NW at Newton Street NW	B (11)	B (13)	A (9)	F (93)	E (61)
16th Street NW at Oak Street NW	A (9)	A (9)	A (6)	E (56)	C (25)
16th Street NW at Spring Road NW	B (15)	B (16)	C (22)	E (72)	E (57)
16th Street NW at Arkansas Avenue NW	B (15)	C (30)	B (13)	F (135)	E (70)
Arkansas Avenue NW at Piney Branch Parkway NW	C (27)	C (27)	C (29)	A (4)	B (11)

DC Water would also temporarily relocate the existing multi-use path along southbound Piney Branch Parkway NW to maintain pedestrian and bicycle access between Beach Drive NW and Arkansas Avenue NW. However, trail closures would be needed on a frequent basis throughout construction. While the trail is closed, bicyclists would be able to follow the same detour routes developed for vehicle traffic or use other District roadways to reach their desired destinations.

Although intersection improvements would generally reduce traffic delays during the full and partial closure scenarios, maintenance of traffic during construction would increase intersection LOS and delay times that would have noticeable adverse impacts to traffic for the duration of construction. DC Water would coordinate closely with NPS and DDOT prior to construction to ensure that the most effective maintenance of traffic plans are developed and implemented. DC Water and NPS would also provide advance notification of road and trail closures and associated detours through avenues such as news releases, social media postings, email distribution, and electronic changeable message signs. Once construction is complete, two-way vehicular travel along Piney Branch Parkway NW would be restored as would pedestrian and bicycle use along the Piney Branch Parkway multi-use trail.

3.6.5 Cumulative Impacts

Current and future projects and actions identified for the cumulative impacts analysis, including the reconstruction of Piney Branch Parkway NW by FHWA, rehabilitation of the Rock Creek Park Golf Course, DC Water's Piney

Branch Tunnel Project, and many other sewer and green infrastructure improvements being implemented as part of the DC Clean Rivers Project, would cause temporary disruptions to visitor / community use and experience within Rock Creek Park and other NPS units within the District. Most of these projects are spread throughout the District and would not result in a noticeable cumulative effect. However, DC Water, NPS, and FHWA have been coordinating how the proposed Piney Branch Parkway NW reconstruction and Piney Branch Tunnel Project could be implemented to avoid schedule conflicts. Since the Piney Branch Parkway NW reconstruction is scheduled to begin in 2025, prior to the Piney Branch Tunnel Project, the agencies agreed that FHWA would not implement the reconstruction within the areas that DC Water would disturb for its project. Once construction of the Piney Branch Tunnel Project is complete, DC Water would implement FHWA design plans for the parkway reconstruction as part of their required site restoration efforts. Since the Piney Branch projects cannot be completed concurrently, construction would result in noticeable short-term adverse cumulative impacts to visitor / community use and experience because the duration of construction would extend an additional 4 – 5 months to accommodate both projects. Over the long-term, completion of the Piney Branch Parkway NW reconstruction and site restoration activities planned as part of the Piney Branch Tunnel Project would result in cumulative benefits to visitor / community use and experience. In addition, substantial reductions in CSOs throughout the District, including locally within Rock Creek Park, would have cumulative benefits by improving water quality and potentially allowing for the increased possibility for water-based recreation.

There would be no new impacts to visitor / community use and experience under the no action alternative; therefore, there would be no cumulative impacts.

3.7 ENVIRONMENTAL JUSTICE AND UNDERSERVED COMMUNITIES

3.7.1 Affected Environment

As established by Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, federal agencies must identify and address disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority or low-income populations. According to US Census Bureau Census BG data from the 2021 American Community Survey 5-year estimates, the CSAs are within portions of four BGs: CT 26.00 BG 1, CT 27.04 BG 1, CT 27.04 BG 2, and CT 25.04 BG 2. There are 22 additional BGs within 0.5 mile of the CSAs. Seven of the BGs have a significantly higher total minority population when compared to the District and the rest of the nation. There are 15 BGs near the CSAs that have greater Hispanic or Latino populations when compared to the District and national averages. Hispanic or Latino individuals comprise most of the population of CT 27.04 BG 1 and CT 26.00 BG 2 (US Census Bureau 2021a). Many of these BGs are located within the nearby neighborhoods of Crestwood, Mount Pleasant, 16th Street Heights, and Columbia Heights, which have well established Hispanic and Latino communities. Census BGs that contain minority or low-income populations are depicted on **Figure 3-5**.

There are only three BGs within 0.5 mile of the CSAs that have higher than average low-income populations, including CT 25.04 BG 1, CT 28.01 BG 1, and CT 28.01 BG 2. BGs that contain portions of the study area all have lower populations of low-income families when compared to the District and the US (US Census Bureau 2021b).

Table 3-4 provides the population percentages for the 26 BGs within 0.5 mile of the CSAs, as well as those of the District and the nation; BGs with comparatively higher Environmental Justice population percentages are highlighted in the table (US Census Bureau 2021a).

The EPA's Environmental Justice Screening and Mapping Tool (EJSCREEN) was used to compare the potential for or exposure to environmental risks within a 0.5-mile radius of the project to that of the District and the nation. EJSCREEN determines the percentile of the District and the country that have a lower or equal potential for risk for certain environmental indicators. According to EJSCREEN, there is a higher percentile for several environmental indices within 0.5 mile of the project when compared to the District and national averages. The area surrounding the project is in at least the 90th percentile in the District for air toxics cancer risk, air toxics respiratory hazard index, and limited English-speaking households, as well as the 90th percentile in the US for

diesel particular matter, air toxics cancer risk, respiratory hazard index, traffic proximity, and hazardous waste proximity (EPA 2023).

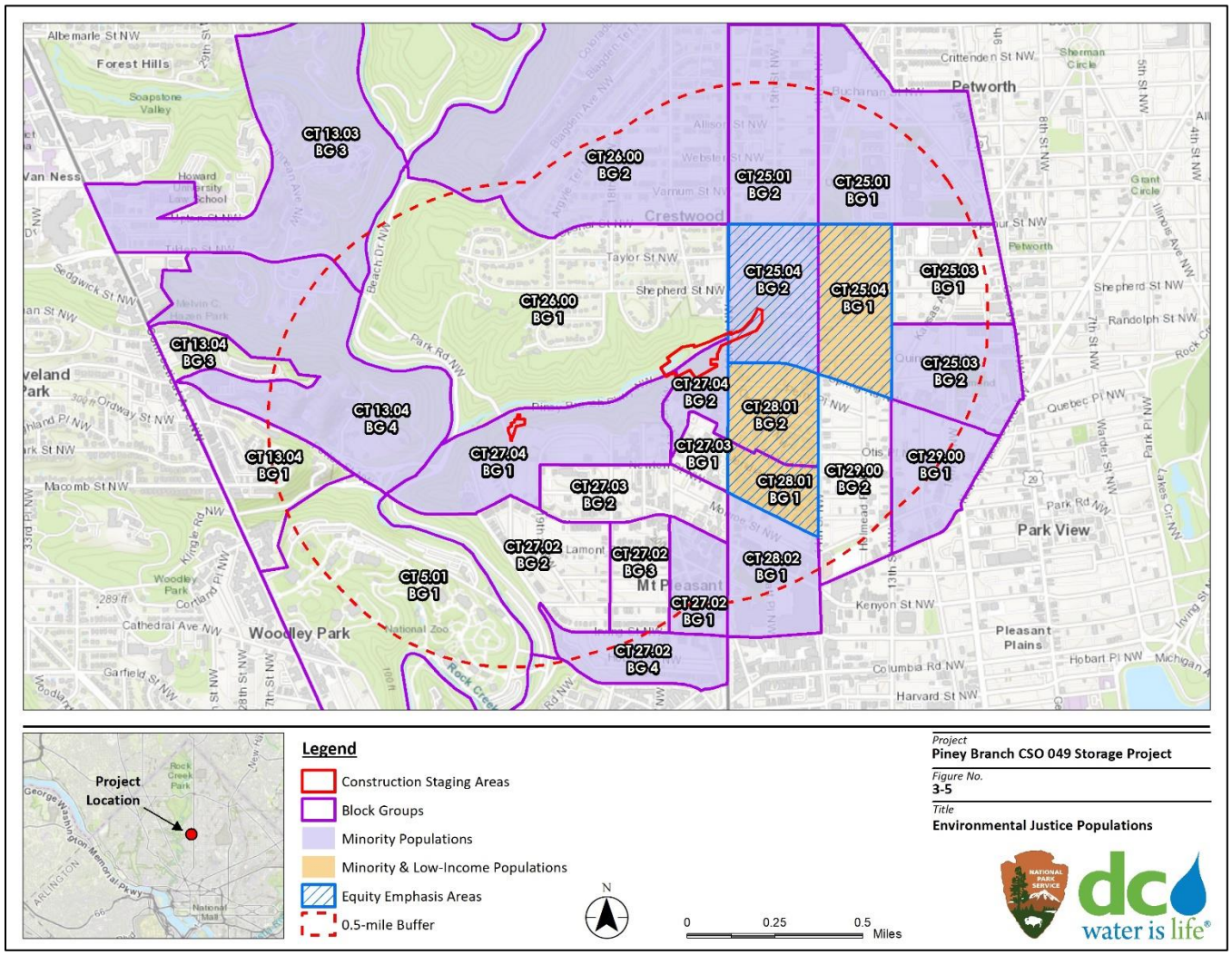

Figure 3-5. Census BGs containing Environmental Justice Populations

Table 3-4. Environmental Justice Populations with 0.5 Mile of the CSAs

Geographic Unit	Total Population	Low Income [b] (% of Population)	Hispanic or Latino (% of Population)	Minority, not Hispanic or Latino (% of Population)	Total Minority (% of Population)
United States	331,893,745	12.8	18.8	23.1	41.9
Washington, DC	670,050	16.5	11.5	52.1	63.6
CT 5.01, BG 1	1,132	3.8	0	32.5	32.5
CT 13.03, BG 3	730	1.3	24.5	10.7	35.2
CT 13.04, BG 1	1,341	7.6	10.2	4.4	14.6
CT 13.04, BG 3	925	4.7	0	23.2	23.2
CT 13.04, BG 4	1,138	7.3	39.8	43.7	83.5
CT 25.01, BG 1	1,548	3.4	13.9	64.9	78.8
CT 25.01, BG 2	1,328	10.5	23.3	55.8	79.1
CT 25.03, BG 1	1,255	8.5	14.8	43.4	58.2
CT 25.03, BG 2	1,670	6.1	44.1	23.0	67.1
CT 25.04, BG 1[c]	1,541	24.8	36.0	47.2	83.2
CT 25.04, BG 2[ac]	1,918	9.5	33.6	29.6	63.3
CT 26.00, BG 1[a]	1,211	1.5	6.0	59.4	65.4

Geographic Unit	Total Population	Low Income [b] (% of Population)	Hispanic or Latino (% of Population)	Minority, not Hispanic or Latino (% of Population)	Total Minority (% of Population)
CT 26.00, BG 2	1,324	4.0	53.3	25.0	78.3
CT 27.02, BG 1	1,533	0	21.3	10.3	31.6
CT 27.02, BG 2	1,407	2.5	8.3	31.4	39.7
CT 27.02, BG 3	1,129	7.4	7.2	34.8	42.0
CT 27.02, BG 4	1,571	6.9	28.1	28.3	56.4
CT 27.03, BG 1	569	5.6	12.3	21.6	33.9
CT 27.03, BG 2	1,720	6.0	9.7	14.2	23.8
CT 27.04, BG 1[a]	1,229	10.5	51.9	36.8	88.7
CT 27.04, BG 2[a]	2,357	12.3	26.1	36.8	62.9
CT 28.01, BG 1[c]	1,743	23.8	39.3	35.8	75.1
CT 28.01, BG 2[c]	2,344	29.2	25.9	34.1	60.0
CT 28.02, BG 1	1,982	13.3	21.1	36.4	57.5
CT 29.00, BG 1	2,046	4.5	29.5	27.3	56.8
CT 29.00, BG 2	2,451	3.8	0	32.5	32.5

Note: BGs with significantly higher Environmental Justice populations are shaded in yellow.
a: BG that contains portions of the study area.
b: The percentage for low-income population is a percent of the total population for whom poverty status is determined.
c: BGs within MWCOG-designated EEAs.
Sources: US Census Bureau 2021a; US Census Bureau 2021b

MWCOG designated CTs within the region that have higher populations of low-income individuals as well as traditionally disadvantaged racial and ethnic populations as EEAs to improve equity and inform future development. Of the approximately 1,300 CTs within the region, MWCOG identified 364 as EEAs, including CT 25.04 and CT 28.01, which are located immediately east of the CSO 049 CSA in Columbia Heights and Petworth (MWCOG 2022). The CSO 049 CSA extends into the EEA associated with CT 25.04. EEAs within 0.5 mile of the CSAs are depicted on **Figure 3-5**.

To be designated an EEA, CTs must have high concentrations of two or more minority population groups or high concentrations of one or more minority populations as well as low-income populations that are in concentrations above the regional average. An index code is assigned to each CT based on the ratio of concentration of low-income or minority groups, which is the number of times the regional average for each population group. An index score of 4.00 or higher is used to designate EEAs; CT 25.04 has an index score of 4.12 while CT 28.01 has a score of 8.44 (National Capital Region Transportation Planning Board 2018; MWCOG 2022).

CT 25.04 was designated as an EEA as it has a low-income population and Hispanic or Latino population is 1.41 and 2.71 times the regional average, respectively. Similarly, CT 28.01 has a low-income population that is 2.24 the regional average with a Hispanic or Latino population that is 1.72 times the regional average (MWCOG 2022). The CEQ Climate and Economic Justice Screening Tool also identifies portions of CT 25.04 and CT 28.01 as disadvantaged, census tracts that are above the threshold for socioeconomic and environmental burdens (CEQ 2024).

3.7.2 Impact Assessment Methodology

Impacts associated with the alternatives were assessed to determine if there would be disproportionate impacts to Environmental Justice communities, including low-income and minority populations, when compared to the overall population.

3.7.3 Impacts of Alternative A: No Action

There would be no new impacts to Environmental Justice populations under the no action alternative. However, untreated discharges into Piney Branch would continue to occur at the CSO 049 outfall that would continue to degrade water quality. CSO events would not have disproportionate adverse effects on Environmental Justice populations because the presence of combined sewage and odors in the vicinity of the outfall, and the detrimental effects to water quality and water-based recreation downstream in Rock Creek, would be felt by park visitors equally.

3.7.4 Impacts of Alternative B: Construct Piney Branch Tunnel Project to Comply with Amended Consent Decree

Potential visitor / community impacts from construction of the Piney Branch Tunnel Project are documented in detail in **Section 3.6: Visitor / Community Experience**. As such, to reduce redundancy, this section focuses on specific Environmental Justice-related concerns that may result in disproportionate impacts.

At the CSO 049 CSA, 24-hour mining operations within CT 27.04 BG 2, which consists of above-average percentages of Hispanic or Latino populations, would have disproportionate adverse visual effects to the north facing residences of Woodner Apartments from active construction, including tree removal, large vehicles and equipment, fencing, and earthwork. Additionally, 24-hour mining operations at the CSA would require nighttime workspace lighting. DC Water would require the construction contractor to use lights with shielding, downward facing lighting, or other possible techniques to minimize light pollution for the north facing Woodner Apartments. In addition, because the apartment building is upslope from the CSO 049 CSA, noise mitigation practices, such as noise barriers, would not be effective. DC Water would require the construction contractor to stage vehicles within the CSA, limit idling, and implement additional measures described in **Section 3.6: Visitor / Community Experience** to minimize noise, particularly at night. Air emissions, including fugitive dust, would likely be noticeable during construction at the CSO 049 CSA but would not be expected to cause human health concerns.

Residents adjacent to the Park Road CSA within CT 27.04 BG 1, which consists of both above-average total minority and Historic or Latino populations, would be disproportionately impacted by construction-related noise, vibration, air emissions, including fugitive dust, visual intrusions, and temporarily eliminated residential parking availability. DC Water would require the construction contractor to minimize noise by maintaining equipment and minimizing idling time, scheduling activities at the Park Road CSA to occur between 7:00 am and 7:00 pm, and monitoring noise levels for the duration of the project. DC Water would also evaluate the potential effectiveness of noise barriers at the Park Road CSA. In addition, DC Water would conduct pre-construction vibration surveys, implement a thorough monitoring plan, implement structural protections (if needed), and identify other construction means and methods to minimize the potential effects of vibration on adjacent structures. Visual intrusions from construction equipment, particularly a large crane that would be required at the CSA, would be unavoidable but would be removed when construction is complete, and residential parking would be reestablished within the jughandle once construction is complete.

Air emissions would likely be noticeable during construction at the CSO 049 and Park Road CSAs but would not be expected to cause human health concerns. DC Water would require the construction contractor to limit equipment idling times and employ fugitive dust controls to minimize greenhouse gas emissions and air quality impacts during construction. Likewise, DC Water would ensure there are no environmental risks from hazardous substances through on-site soil and groundwater sampling and the proper handling, disposal, and cleanup efforts if hazardous substances are inadvertently uncovered. A Spill Prevention, Control and Countermeasure Plan would also be established to address any accidental spills or releases of hazardous materials during construction.

Environmental Justice populations would also likely notice increased personal vehicle and construction-related traffic on temporary detour routes and haul routes, as Piney Branch Parkway NW provides an important commuter connection for northwest DC. Road closures would have a noticeable effect on accessibility and travel time. Furthermore, detours and proposed haul routes may divert traffic through Environmental Justice communities, including the EEAs to the east, increasing congestion that would be felt primarily by neighborhoods in the vicinity of Piney Branch Parkway NW.

DC Water would conduct extensive outreach before and during construction to minimize the disproportionate impact to Environmental Justice populations. DC Water would distribute public awareness / engagement materials, such as newsletters, brochures, and / or notices to the affected communities in English and Spanish. Spanish language versions of all communication would be made available to ensure outreach to Hispanic and Latino populations. Regularly scheduled meetings would be held with Councilmembers, Advisory Neighborhood Commissions, adjacent landowners and other residents, businesses, and community organizations that provide Spanish translation. DC Water would employ bilingual staff fluent in Spanish to be available to discuss project questions or concerns with non-English speaking members of the public. As such, NPS and DC Water expect that Alternative B would result in noticeable short-term adverse disproportionate impacts to Environmental Justice

populations that would be minimized to the extent possible through implementation of measures to reduce construction-related impacts, and through coordination and outreach throughout the duration of construction.

DC Water would need to maintain a clear pathway for vehicles and equipment to access the facilities post-construction, which means that trees cannot be replanted within a portion of the Park Road CSA. This clear area would be noticeable from the residences adjacent to the CSA and may be noticeable from Piney Branch Parkway NW. Otherwise, over the long-term, Environmental Justice populations would benefit from the substantial reductions in CSOs that would result in water quality improvements for Piney Branch and Rock Creek, improvements to public health, and improvements to downstream water-based recreational opportunities.

3.7.5 Cumulative Impacts

Current and future projects and actions identified for the cumulative impacts analysis, including the reconstruction of Piney Branch Parkway NW by FHWA, rehabilitation of the Rock Creek Park Golf Course, DC Water's Piney Branch Tunnel Project, and many other sewer and green infrastructure improvements being implemented throughout the District, would cause temporary disruptions to minority and low-income populations. But most of these projects are spread throughout the District and would not result in a noticeable cumulative disproportionate effect. However, locally, the Piney Branch Parkway NW reconstruction by FHWA and the Piney Branch Tunnel Project would result in temporary disruptions during construction, including road closures and detours in communities with Environmental Justice populations. Since the Piney Branch projects cannot be completed concurrently, construction would result in noticeable short-term adverse cumulative impacts to Environmental Justice populations because the duration of construction would extend an additional 4 – 5 months to accommodate both projects. Over the long-term, completion of the Piney Branch Parkway NW reconstruction and substantial reductions in CSOs throughout the District, including locally within Rock Creek Park, would result in cumulative benefits for Environmental Justice populations by improving water quality and potentially allowing for the increased possibility for water-based recreation.

There would be no new impacts to minority and low-income populations under the no action alternative; therefore, there would be no cumulative impacts.

4. CONSULTATION AND COORDINATION

DC Water and NPS conducted public involvement during the NEPA process to provide an opportunity for the public to comment on the proposed action. The NPS also conducted consultation and coordination with federal and District agencies, Native American tribes, and other interested parties to identify issues and / or concerns related to natural and cultural resources. This section provides a summary of the public involvement and agency consultation and coordination that occurred during the preparation of the EA.

4.1 PUBLIC INVOLVEMENT

The NPS and DC Water involved the public in project planning by holding a 30-day public scoping period from January 18 to February 16, 2023. The NPS and DC Water used the following outreach strategies to provide advanced notice of the scoping period and virtual meeting:

Email Blast. DC Water and the NPS announced the public scoping period on January 5, 2023, by sending an email blast to an established list of approximately 200 federal and District agencies, Native American tribes, and community stakeholders, including nearby schools, churches, and other potentially interested individuals and organizations. The email included a public scoping flyer that DC Water prepared with NPS feedback to provide information about the project and how to participate in public scoping. DC Water also sent an email reminder on January 18, 2023. DC Water sent both emails using a custom email address set up for the project (dcpineybranch@dcwater.com).

Mailer. DC Water distributed a physical mailer on January 5, 2023, to approximately 625 residential and commercial addresses within a predetermined distribution area surrounding the project area.

Newspaper Notices. DC Water and NPS prepared a newspaper notice announcing the public scoping period that DC Water published in the Washington Post on January 5, 2023. DC Water published the same notice as a sponsored article on the Washington City Paper website on January 6, 2023.

Press Release. DC Water distributed a press release on January 6, 2023, to more than 100 media outlets and over 3,000 dcwater.com site users signed up to receive news and notices. DC Water also posted the press release on the "News" page (https://www.dcwater.com/whats-going-on/news) of their website.

Social Media. DC Water posted a public scoping notice on Twitter and NextDoor on January 6, 2023. DC Water also posted a reminder on these sites on January 17, 2023.

DC Water Project Webpage. DC Water established a website (https://www.dcwater.com/projects/piney-branch-storage) for the project that included project information and public scoping content.

NPS PEPC Project Page. The NPS established a project-specific page on the Planning, Environment and Public Comment (PEPC) website (Park Planning Piney Branch Tunnel EA (nps.gov)). The NPS published the page a few days prior to the start of public scoping and attached a 508-compliant version of the public scoping presentation to the site. DC Water and the NPS used the PEPC page to gather electronic comments from the public during the scoping period, although the agencies also accepted written comments mailed to Rock Creek Park.

The notifications included an invitation to attend a virtual public scoping meeting that DC Water and NPS held from 7:30 to 8:30 p.m. on January 18, 2023, to provide an opportunity for interested members of the public to learn more about the project. DC Water facilitated the meeting using the GoToWebinar virtual meeting platform and presented the project using a PowerPoint slide deck similar to the agency scoping meeting. Participates were provided the opportunity to join via computer or mobile device, which included both video and audio capabilities, or participants could attend using a toll-free phone number, which provided audio-only capabilities. The presentation lasted approximately 30 minutes, allowing about 30 minutes for questions and answers. Participants were able to submit questions through a chat feature provided by GoToWebinar. A total of 32 individuals attended the meeting. The NPS posted a recording of the virtual public scoping meeting that included closed captioning for the hearing impaired to the PEPC project page following the meeting.

DC Water and the NPS received a total of 17 separate correspondences during the public scoping period. DC Water and the NPS used public, agency, and stakeholder feedback to refine the proposed action and to support the analysis of potential environmental impacts in this EA.

4.2 AGENCY AND TRIBAL CONSULTATION AND COORDINATION

4.2.1 Agency Scoping Meeting

DC Water facilitated a virtual agency scoping meeting at 10:00 a.m. on December 16, 2022, in advance of public scoping. DC Water used Microsoft Teams to hold the meeting, which lasted approximately one hour. DC Water staff presented the project using a PowerPoint slide deck and then a question-and-answer session followed. A total of 36 individuals attended the meeting representing the following federal and District agencies:

- Commission of Fine Arts
- National Capital Planning Commission
- National Park Service
- US Environmental Protection Agency
- US Fish and Wildlife Service
- Metropolitan Washington Council of Governments
- District of Columbia Council
- DC Water
- District Department of Energy and Environment
- District Department of Transportation
- District Office of Planning, Historic Preservation Office

DC Water and NPS asked the agencies to submit formal comments on the project by February 16, 2023, which coincided with the end of the public scoping period.

4.2.2 Section 106 of the National Historic Preservation Act

Pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations (36 CFR Part 800), NPS initiated consultation with the DC SHPO in a letter dated July 21, 2022. Based on Phase I archeological investigations and through close consultation, the DC SHPO concurred that Piney Branch Tunnel Project would have *No Adverse Effect* to archeological resources with conditions that reporting is completed per *DC Guidelines*, copies of all data are submitted to the SHPO, and additional consultation with the SHPO should project plans change.

As of this EA, NPS has re-engaged with the DC SHPO and consulting parties to assess the effects of the Piney Branch Tunnel Project on the historic structures and districts described in **Section 3.5: Historic Structures and Districts**. Based on the outcome of this consultation, the NPS and DC Water would pursue the negotiation and execution of an MOA if the project is determined to have adverse effects. Correspondence between NPS and the DC SHPO is in **Appendix B: Agency Correspondence**.

4.2.3 Tribal Consultation

The NPS sent consultation initiation letters on July 21, 2022, to the following Native American tribes:

- Delaware Nation
- Pamunkey Indian Tribe
- Catawba Indian Nation
- Delaware Tribe of Indians
- Eastern Shawnee Tribe of Oklahoma
- Upper Mattaponi Indian Tribe

- Rappahannock Tribe
- Nansemond Indian Nation
- Chickahominy Indian Tribe
- Chickahominy Tribe Eastern Division
- Monacan Indian Nation
- Absentee Shawnee Tribe of Indians of Oklahoma
- Shawnee Tribe

The Catawba Indian Nation responded that they had no immediate concerns with regards to traditional cultural properties, sacred sites, or Native American archaeological sites within the boundaries of the proposed project areas. Additionally, the Shawnee Tribe and Delaware Tribe responded that the proposed project is outside their area of interest. The NPS has not received responses from the other tribes contacted during project planning. Tribal consultation correspondence is in **Appendix B: Agency Correspondence**.

4.2.4 Section 7 of the Endangered Species Act

In accordance with Section 7 of the Endangered Species Act, the NPS obtained an official species list from the USFWS that identified the federally listed endangered northern long-eared bat, the proposed endangered tricolored bat, and Hay's spring amphipod, as potentially occurring in the Project study area.

NPS asked for technical assistance from the USFWS regarding these species for the Piney Branch Tunnel Project on April 3, 2024, which continues informal Section 7 consultation. NPS will continue discussions as the project design progresses. Section 7 of the Endangered Species Act requires that NPS re-engage consultations with USFWS if the project changes from what was initially described, as well as when the status of a species changes or there is designation of critical habitat for a species (Rock Creek Park currently has no designated critical habitat for federally listed species). Through this process, NPS will work with USFWS on conservation measures to reduce any impacts to threatened and endangered species that arise from the Piney Branch Tunnel Project.

4.2.5 List of Agencies and Stakeholders

Table 4-1 lists the agencies, elected officials, Native American tribes, and other stakeholders that DC Water and the NPS contacted during planning to request input on the project. DC Water and NPS also consulted individuals without affiliation, but their names are excluded for privacy.

Table 4-1. Agencies, Tribes, and Stakeholders

Agencies, Tribes, and Stakeholders		
16th Street Heights Civic Association	District Department of Transportation	Russian Orthodox Cathedral of St. John the Baptist of Washington DC
16th Street Neighborhood Association	District of Columbia Council Chairman, Ward 1, Ward 3, and Ward 4 Councilmembers	Sacred Heart School
16th Street Neighbors	Eastern Shawnee Tribe of Oklahoma	Shawnee Tribe
Absentee Shawnee Tribe of Indians of Oklahoma	First Church of Christ Scientist	Shrine of the Sacred Heart
Advisory Council on Historic Preservation	Friends of Rock Creek	Sierra Club
All Souls Church Unitarian	Grace Lutheran Church	Spanish Catholic Center
ANC 1A, ANC 1D, ANC 3C01, ANC 3C04, ANC 3F07, ANC 4A08, ANC 4C, ANC 4E05, ANC 4E06	Historic Mount Pleasant	St. Stephen and the Incarnation Episcopal Church
Audubon Natural Society	Historical Society of Washington, DC	Stoddard Baptist Nursing Home
Bancroft Elementary School	Little Flower Montessori School	The District Church
Capital Trails Coalition	Metropolitan Washington Council of Governments	The Fitzgerald Apartments
Catawba Indian Nation	Monacan Indian Nation	The Greater First Baptist Church
		The Table Church - CoHi Parish

Agencies, Tribes, and Stakeholders		
Central American Resource Center	Mount Pleasant Village	Trinity AME Zion Church
Chickahominy Indian Tribe	Nansemond Indian Nation	Trout Unlimited
Chickahominy Tribe Eastern Division	National Baptist Memorial Church	Tubman Elementary School
Church of the Advent- Columbia Heights	National Capital Planning Commission	Upper Mattaponi Indian Tribe
Columbia Heights Community Center	National Parks Conservation Association	US Army Corps of Engineers
Columbia Heights Educational Campus	National Trust for Historic Preservation	US Department of Agriculture
Commission of Fine Arts	New Bethel Baptist Church	US Environmental Protection Agency
Committee of 100 on the Federal City	Next Step Public Charter School	US Federal Highway Administration
Crestwood Citizens Association	Office of the Mayor	US Fish and Wildlife Service
DC Office of Planning	Pamunkey Indian Tribe	Washington Area Bicyclist Association
DC Preservation League	Powell Recreation Center	Washington Latin Public Charter School
Delaware Nation	Rappahannock Tribe	Woodner Apartments
Delaware Tribe of Indians	Rock Creek Conservancy	YouthBuild Public Charter School
District Department of Energy and Environment	Rock Creek Paddlers	
District Department of Parks and Recreation	Rock Creek Songbirds	

4.2.6 EA Public Review

The EA is being released for formal public and agency review for 45 days beginning October 15, 2024, and concluding December 6, 2024. The EA is on the internet at Park Planning Piney Branch Tunnel EA (nps.gov), and a variety of interested individuals, agencies, and organizations have been notified of its availability for review and comment. Hard copies of the EA are available by request.

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DC Clean Rivers Project
Piney Branch Tunnel Project

Environmental Assessment

October 2024

Appendix A. Wetland Statement of Findings

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WETLAND STATEMENT OF FINDINGS

District of Columbia Water and Sewer Authority
Piney Branch Tunnel Project

Rock Creek Park

Washington, DC

Recommended: _____ _____

Superintendent — Date
Rock Creek Park

Certification of
Technical Adequacy and
Servicewide Consistency: _____ _____

Water Resources Division — Date

Approved: _____ _____

Regional Director — Date
National Capital Region

1.0 INTRODUCTION

Pursuant to the National Environmental Policy Act of 1969 (NEPA), the District of Columbia Water and Sewer Authority (DC Water), in cooperation with the National Park Service (NPS), is preparing an Environmental Assessment (EA) for the proposed construction of the Piney Branch Tunnel Project, a component of DC Water's Long Term Control Plan (LTCP), also known as the DC Clean Rivers (DCCR) Project, within Rock Creek Park in northwest Washington, DC. The purpose of the Project is to reduce untreated discharges from the combined sewer system to Piney Branch by increasing CSO storage and conveyance capacity. The Project is needed to reduce CSOs that contribute to water quality impairment of Piney Branch and ultimately the Potomac River and the Chesapeake Bay; and to comply with the 2005 Federal Consent Decree entered into by DC Water, the District of Columbia, the US Environmental Protection Agency (USEPA), and the US Department of Justice, as amended January 2016, and modified December 2020.

Executive Order 11990 *Protection of Wetlands* (published in 1977) requires the NPS and other federal agencies to evaluate the likely impacts of actions in wetlands. Director's Order 77-1: *Wetland Protection* (effective October 2002), and Procedural Manual 77-1: *Wetland Protection* (reissued June 2016), provide NPS procedures for complying with Executive Order 11990. This Statement of Findings was prepared per Director's Order 77-1: *Wetland Protection* for the proposed Piney Branch Tunnel Project and documents compliance with the NPS wetland protection procedures. The NPS has completed a Statement of Findings because the proposed Project would result in both temporary and permanent impacts to riverine and palustrine forested (PFO) wetland systems on NPS property in Rock Creek Park.

2.0 PROPOSED ACTION

Under Alternative B (the Proposed Action and Preferred Alternative), DC Water would construct the Piney Branch Tunnel Project to provide overflow control for CSO 049, located upstream of Rock Creek and adjacent to Piney Branch Parkway NW. DC Water estimates the proposed control would reduce CSOs into Piney Branch by 96 percent by volume and limit their frequency from 25 to one in a year of average rainfall. Instead of discharge flowing directly into Rock Creek via Piney Branch, the proposed tunnel would temporarily store captured combined sewage and then slowly release the overflows into the East Rock Creek Diversion Sewer (ERCDS) so they can be conveyed by gravity to Blue Plains Wastewater Treatment Plant for treatment when the existing system can handle the flow volume. The proposed action would comply with DC Water's Amended Federal Consent Decree and NPDES Permit. The Amended Federal Consent Decree requires that DC Water award a contract for construction of the Piney Branch Tunnel by May 23, 2026, and be operational by November 23, 2029.

2.1 Tunnel Corridor

Under the Proposed Action, DC Water would construct a deep underground sewer tunnel to store captured combined sewage that would otherwise discharge to Rock Creek via Piney Branch at CSO 049. The tunnel would be approximately 2,200 feet (ft) long based on the preliminary design, providing capacity to store a minimum of 4.2-million-gallons of combined sewage. The diameter of the tunnel would be determined during detailed project design. DC Water would construct the proposed tunnel approximately 30 - 100 ft below the ground surface in geologic stratigraphy consisting of alluvium, clays, silts, sands, decomposed bedrock, and bedrock. The upstream end of the tunnel would connect to the proposed diversion structure and drop shaft that DC Water would construct at the outfall of the CSO 049 structure. At the downstream end, the tunnel would connect to a dewatering structure that would include a drop shaft and tunnel connection to the ERCDS.

2.2 CSO 049 Construction Staging Area

DC Water would construct a diversion structure, drop shaft, ventilation control vault, electrical / instrumentation vault, and CSO warning light and appurtenances within the CSO 049 Construction Staging Area (CSA) at the existing CSO 49 outfall northeast of the intersection of Piney Branch Parkway NW with 17th Street NW. CSO 049 CSA is approximately 5.5 acres and would also be where tunnel mining operations take place. Discharge from the CSO 049 structure that would otherwise flow into Piney Branch when the capacity of the ERCDS is exceeded would be captured by the diversion structure and flow into a drop shaft that would send the flow down

to the storage tunnel. In addition to the diversion structure and drop shaft, DC Water would construct a below grade ventilation control vault to allow air to enter and exit the tunnel during filling and emptying, with equipment provided to mitigate fugitive emissions. The site would also include a below grade vault to place the required electrical / instrumentation equipment. Construction of the proposed diversion structure would include rerouting an existing 48-inch storm pipe to flow outside of the new structure and directly into Piney Branch to maintain baseflow.

There is a concrete apron forming a discharge channel at the end of the existing outfall that is in variable condition and appearance with substantial cracking. At the request of NPS, DC Water would extend the outfall face of the two northern bays to match the most southern bay to create a uniform face and construct a grouted stone channel where the existing concrete apron is located to improve the overall aesthetics of the outfall within the landscape. DC Water may replace the existing apron or construct a new apron on top of existing, pending detailed design. Stone selection and layout would be similar to the ashlar pattern of the adjacent retaining wall. Atop the extended outfall, soil would be spread and turfgrass established that would increase the green area in the park by 3,462 square feet.

DC Water would also remove graffiti between the outfall and the end of the existing concrete apron, maintain it as free of graffiti as practicable during and following project construction, coat the walls of the outfall structure with material to make future graffiti easier to remove, and install new fence / railing between the outfall and end of the existing concrete pad, meeting current code. The fence would be screened by border tree plantings around the outfall, with evergreen species such as American holly, Eastern red cedar or other species to be determined based on consultation with NPS.

DC Water would temporarily relocate a section of Piney Branch Parkway NW and the adjacent multi-use path within the CSO 049 CSA at the beginning of construction to maintain vehicle, pedestrian, and bicycle access. DC Water would then install temporary entrances for construction vehicles and equipment access to the staging areas on both sides of the roadway. For safety reasons due to the existing ground geology at the CSA, DC Water would temporarily close Piney Branch Parkway NW to vehicle traffic and implement detours during construction of the tunnel crossing under the roadway. Short, temporary closures would also be required to move materials and equipment from one side of the roadway to the other within the CSA. DC Water would install chain-link fencing or similar barrier around the staging area to secure the site.

Prior to the construction of the proposed tunnel, DC Water and the Potomac Electric Power Company (PEPCO) would extend high voltage electricity distribution lines to the CSO 049 CSA to deliver power needed for the mining and construction operations. The power source would also provide electricity for permanent instrumentation features needed to monitor flow levels once the tunnel system is in operation. A potential location from which the power lines could be extended is at the intersection of Newton Street NW and 16th Street NW. The power lines would be installed via trenching within the roadway of 16th Street NW.

After construction is complete, DC Water would restore the CSO 049 CSA substantially to pre-construction conditions. Due to access requirements for maintenance and operation, ventilation grating, access hatches, manholes, and other structure access points would be visible. A CSO warning light would also be visible at this site. The final site layout and restoration would be coordinated with the NPS, DC SHPO, NCPC, CFA and other stakeholders during final design review and permitting.

2.3 Park Road Construction Staging Area

DC Water would construct a drop shaft, ventilation control vault, dewatering structure, and electrical / instrumentation cabinet at the downstream end of the proposed storage tunnel within the Park Road CSA on the southern slope east of the Park Road NW Bridge. The dewatering structure consists of a chamber with an orifice that would discharge flow from the drop shaft to an opening over the existing ERCDS that would ultimately convey the flow to Blue Plains.

DC Water would require approximately 0.47 acres at the Park Road CSA to construct the dewatering structure, which would be excavated from the surface to reach the depth of the discharge end of the storage tunnel. DC Water would need to close the section of the Piney Branch Parkway foot trail within the Park Road CSA during

construction of the dewatering structure and to install a temporary stabilized construction entrance off Park Road NW for construction vehicles and equipment access to the CSA. Relocation of foot trail adjacent to the Park Road CSA, if requested, would be coordinated with NPS. DC Water would also install chain-link fencing or similar barrier around the staging area to secure the site.

Prior to start of construction, DC Water and PEPCO would extend electricity distribution lines to the Park Road CSA to deliver power needed for construction operations as well as permanent instrumentation features needed to monitor flow levels once the system is in operation. A potential location from which the power lines could be extend is at the intersection of Mount Pleasant Street NW and Park Road NW. The power lines would be installed via trenching within the roadway of Park Road NW.

After DC Water completes construction of the drop shaft and dewatering structure the site would be restored substantially to pre-construction conditions. Due to access requirements for maintenance and operation, manholes, access hatches, and ventilation grating would be visible at grade. DC Water would coordinate the final site layout and restoration, including, but not limited to, tree replacement and ground stabilization measures, with the NPS, DC SHPO, NCPC, CFA, and other stakeholders during design review and permitting.

2.4 Combined Sewer Overflow Public Notification System

As part of the requirements for the Consent Decree, a public notification system would be installed as part of the Piney Branch Tunnel Project. The purpose of the system would be to notify the public of the occurrence of overflows not captured by the tunnel by using a visual system at four access locations to maximize visibility for users of Piney Branch and Rock Creek streams. Rock Creek is free flowing with no CSOs upstream of Piney Branch Parkway NW. The public notification system would turn on when flow is detected from the CSO 049 outfall through flow monitoring devices. The notification system would include red- and yellow-colored lights with signage describing the system's function. In addition to these measures, DC Water would also maintain a web site where a description and explanation of the notification system is available. DC Water has developed a standard detail for the CSO warning lights being deployed as part of the DC Clean Rivers Project on the Anacostia River, Potomac River, and Rock Creek for consistency of visual and verbal messaging.

3.0 OTHER ALTERNATIVES CONSIDERED

The NPS evaluated one additional alternative (the no action alternative) that the NPS did not select as the Preferred Alternative. Numerous other alternatives considered but dismissed from further evaluation can be found in Appendix D of the EA.

4.0 SITE DESCRIPTION

An investigation was conducted for the Piney Branch Tunnel Project in 2022 to determine the presence, extent, and classification of waters of the United States in support of the project design and environmental compliance process (Coastal Resources, Inc. 2022). Piney Branch is a perennial tributary to Rock Creek classified as a riverine wetland by NPS that was delineated within the western portion of the CSO 049 CSA. Additionally, two small unnamed perennial tributaries to Piney Branch classified as riverine wetlands by NPS were delineated along the northern boundary of the CSA that includes adjacent PFO and palustrine scrub-shrub (PSS) wetlands. There are no wetlands at the Park Road CSA. Detailed descriptions of the wetlands that would be permanently and / or temporarily impacted during construction of the Preferred Alternative are below. **Figure 1** attached to this Statement of Findings displays the locations of the wetlands delineated at the CSO 049 CSA.

4.1 Riverine Wetlands

Watercourse 4 (WC4), named Piney Branch, is conveyed through the existing combined sewer system during low flow conditions. However, during CSO events, Piney Branch, as well as stormwater and untreated sewage, discharge from the CSO 049 outfall and flow west ultimately draining into Rock Creek outside of the study area. Piney Branch is classified as a riverine, upper perennial wetland system, with a bedrock, cobble, gravel, boulder, and concrete substrate (R3UB1). Most of the streambed within the limits of the CSO 049 CSA is lined in concrete. Streambank erosion is minor downstream of the outfall due to retaining walls that have provided protection.

Watercourse 6 (WC6) is a small, unnamed tributary that flows west along the northern boundary of the CSO 049 CSA, eventually flowing into Piney Branch outside of the study area. WC6 is classified as a riverine, upper perennial wetland system with sand, mud, organic, and vegetated substrate (R3UB2/3/4). Bank erosion throughout the reach is minor and the channel is relatively stable throughout.

Watercourse 7 (WC7) is another small, unnamed tributary that drains a palustrine scrub-shrub (PSS) wetland outside the CSO 049 CSA into WC6 to the east of the outfall. WC7 is classified as a perennial stream with a cobble, gravel, and mud substrate (R3UB1/3). Bank erosion is minor with a relatively stable channel throughout. Overall, the stream is lacking suitable habitat. Significant pollutants are present from roadway and residential runoff.

4.2 Palustrine Wetlands

Wetland 3 (WL3) is a hillslope seep/swale wetland on the eastern portion of the study area adjacent to WC6. WL3 is classified as a PFO wetland with a saturated water regime (PFO1B). Hydrologic indicators observed during the site visit included surface water, high water table, saturation, water marks, water-stained leaves, drainage patterns, saturation visible on aerial imagery, FAC-neutral test, and geomorphic position of the wetland. Hydrophytic vegetation dominated WL3, including red maple (*Acer rubrum*) American hornbeam (*Carpinus caroliniana*), American elm (*Ulmus americana*), green ash (*Fraxinus pennsylvanica*), boxelder (*A. negundo*), watercress (*Nasturtium officinale*), rice cutgrass (*Leersia oryzoides*), English ivy (*Hedera helix*), and amur peppervine (*Ampelopsis brevipedunculata*). Soils are mapped as Joppa gravelly sandy loam at the location of WL3, which are not considered hydric by the Natural Resources Conservation Service (NRCS). However, soil samples met the Redox Dark Surface (F6) hydric soil indicator.

4.3 Functions and Values Assessment

The NPS evaluated the functions and values of each wetland using the USACE New England District's "Descriptive Approach" (USACE 1999). PFO wetlands potentially affected by the project, including WL3, provide groundwater discharge, flood flow alteration, sediment / toxicant retention, nutrient removal, production export, and wildlife habitat functions, as well as uniqueness / heritage values. The riverine wetlands within the CSO 049 CSA provide limited functions. Piney Branch (WC4) primarily functions to provide flood storage during CSO overflow events. Since the streambed consists of concrete within the CSA, and because of the lack of consistent base flow, Piney Branch has limited capabilities to provide freshwater habitat for fish, macroinvertebrates, and other wildlife. Additionally, due to the small size and shallow depths of perennial tributaries WC6 and WC7, functions provided by these riverine wetlands are also very limited.

4.4 Functional Quality Rating

Although WL3 provides a variety of functions and is forested, this wetland was given a "moderate" functional quality rating due to the presence of invasive species and potential pollutants in the watershed. Piney Branch (WC4), a riverine wetland, was given an overall functional quality rating of "low" due to alteration of the stream, pollution from CSOs, abundant trash, and lack of habitat, as most of the stream within the study area is lined in concrete. The functional quality of perennial tributaries WC6 and WC7 is considered "moderate" due to the presence of relatively stable banks; natural channels; groundwater discharge in adjacent wetlands; and high shading; however, habitat suitability is minimal due to the small size and shallow depths of the tributaries.

5.0 IMPACTS TO WETLANDS

Implementation of the Piney Branch Tunnel Project would require approximately 3,666 square feet (0.08 acres) of permanent impacts to Piney Branch to construct the diversion structure and extend the outfall face of the two northern bays to match the most southern bay to create a uniform face, and 9,274 square feet (0.21 acres) of temporary disturbance to Piney Branch immediately downstream of the outfall to replace or repair the existing concrete apron. Additionally, replacing the northern retaining wall, relocating an existing 48-inch storm sewer immediately north of the outfall, and stream diversion activities would result in 1,597 square feet (0.04 acres) of temporary impacts to WC6, 80 square feet (0.002 acres) of impacts to WC7, 8,731 square feet (0.20 acres) of temporary impacts to the adjacent PFO wetlands (WL3), as well as 28 square feet (0.001 acres) of permanent impacts from the placement of manholes in the wetland. **Figure 2** attached to this Statement of Findings presents

the site-specific wetland impacts that DC Water anticipates would occur. **Table 1** provides a summary of the anticipated wetland impacts and the assigned functional quality rating.

6.0 JUSTIFICATION FOR USE OF WETLANDS

DC Water evaluated numerous strategies for CSO control in the development of its Combined Sewer System LTCP in 2002, which was amended in 2015, and modified in 2020. The Preferred Alternative described in the EA for the Piney Branch Tunnel Project represents the outcome of preliminary engineering design and analysis, as well as extensive collaboration between NPS and DC Water for a reasonable control strategy for CSO 049. This strategy is intended to comply with the Amended Federal Consent Decree, which stipulates the construction of a 4.2-million-gallon minimum capacity CSO storage facility at the CSO 049 outfall on Piney Branch. As such, temporary and permanent impacts to Piney Branch, classified as a riverine wetland by NPS, are unavoidable since Piney Branch discharges from the CSO 049 outfall.

Table 1. Summary of Construction-Related Wetland Impacts for the Preferred Alternative

Wetland	Wetland Type	Permanent Impact	Temporary Impact	Functional Quality Rating
WC4 (Piney Branch)	R3	3,666 square feet (0.08 acres)	9,274 square feet (0.21 acres)	Low
WC6	R3	None anticipated	1,597 square feet (0.04 acres)	Moderate
WC7	R3	None anticipated	80 square feet (0.002 acres)	Moderate
WL3	PFO	28 square feet (0.001acres)	8,731 square feet (0.20 acres)	Moderate
Total R3 Impact		3,666 square feet (0.08 acres)	10,951 square feet (0.25 acres)	
Total PFO Impact		28 square feet (0.001 acres)	8,731 square feet (0.20 acres)	
Total Wetland Impact		3,694 square feet (0.08 acres)	19,682 square feet (0.25 acres)	

Additionally, the temporary impacts to WC6 and WC7 – the small perennial tributaries to Piney Branch – and the temporary and permanent impacts to the adjacent PFO wetlands (WL3), are necessary to relocate an existing 48-inch storm sewer pipe behind the CSO 049 outfall. This pipe relocation would separate the storm sewer from the combined sewer system, allowing stormwater from the pipe to discharge into Piney Branch during storms instead of flowing into the proposed storage tunnel, maintaining base flow to the stream channel during storms that are free of untreated wastewater.

Over the long-term, implementation of the Preferred Alternative would reduce overflows to Piney Branch from the CSO 049 outfall by 96 percent by volume from 40 million gallons to approximately 1.5 million gallons during just one CSO event in a year of average rainfall. Reducing CSO discharges would significantly decrease pollutant loads of bacteria, suspended solids, oil and grease, organics, metals, and other pollutants associated with sanitary waste, resulting in substantial long-term benefits to water quality in Piney Branch and Rock Creek, as well as water quality benefits to the Potomac River and the Chesapeake Bay. The Preferred Alternative would also be expected to improve the quality of habitat for aquatic life, support healthier fish and benthic populations, and reduce human health concerns on Piney Branch and downstream segments of Rock Creek. As determined by DC Water, DOEE, and the USEPA, the proposed project would reduce CSOs to a level that would not cause or contribute to the exceedance of water quality standards, subject to post-construction monitoring. Additionally, as determined by various regulatory agencies, the proposed project, along with other actions, would support efforts to obtain compliance with Total Maximum Daily Load's (TMDLs) for Rock Creek.

7.0 MITIGATION

DC Water would implement the following measures to minimize wetland impacts associated with the Preferred Alternative:

1) Implementing the project would reduce overflows to Piney Branch by 96 percent by volume, thereby significantly decreasing pollutant loads that would result in substantial water quality benefits, improving

the quality of aquatic habitat, and reducing human health concerns on Piney Branch and downstream segments of Rock Creek.

2) DC Water would obtain required authorizations and certifications for unavoidable wetland impacts in accordance with Sections 404 and 401 of the Clean Water Act from the US Army Corps of Engineers and District Department of Energy and Environment.
3) DC Water would develop an Erosion and Sediment Control Plan to contain sediment in the construction area. The ESC Plan would include a variety of Best Management Practices (BMP), such as stabilized construction entrances, silt fence, and other common practices, to prevent sediment transport offsite and potentially into wetlands.
4) To comply with Nationwide Permit conditions, the native soil or substrate from each affected wetland area would be carefully removed, stockpiled / stored, protected, and maintained for future restoration efforts. At the conclusion of construction, the stockpiled / stored native soil or substrate would be used to reestablish pre-construction contours within the temporarily impacted wetlands, sources of hydrology would be restored, a native wetland seed mix would be applied to establish an herbaceous plant layer, and trees would be planted within the construction staging area. The trees would be up to 2.5-inch caliper size per tree, and the quantity of replacement trees would be determined by NPS resource managers in accordance with NCPC Tree Preservation and Replacement Policy. The survival of tree plantings would be monitored per applicable permit conditions.

8.0 CONCLUSION

The Preferred Alternative would permanently impact 3,694 square feet (0.08 acres) of wetlands and temporarily impact 19,682 square feet (0.25 acres). This includes 3,666 square feet (0.08 acres) of permanent impacts and 10,951 square feet (0.25 acres) of temporary impacts to riverine wetlands, and 28 square feet (0.001 acres) of permanent impacts and 8,731 square feet (0.20 acres) of temporary impacts to PFO wetlands, based on schematic-level designs developed for the Piney Branch Tunnel Project.

The significant CSO reductions and associated water quality, aquatic habitat, and public health benefits would compensate for the temporary and permanent impacts to Piney Branch that are required to construct the diversion structures and replace or repair the concrete apron. Additionally, since the small perennial tributaries and adjacent PFO wetlands would be restored to pre-construction conditions, there would be no loss of wetland function over the long-term. The addition of manholes within the PFO wetland would not a have a noticeable effect on the functions of the wetland system. As such, the NPS Water Resources Division has waived the requirement to provide compensatory mitigation to comply with NPS Director's Order 77-1: *Wetland Protection*.

The NPS finds that this proposed action is consistent with the policies and procedures of Director's Order 77-1: *Wetland Protection*.

9.0 REFERENCES

National Park Service

2016 *Procedural Manual 77-1: Wetland Protection*. Online at https://www.nps.gov/policy/DOrders/Procedural_Manual_77-1_6-21-2016.pdf. Accessed February 6, 2023.

US Army Corps of Engineers

1999 *Wetland Functions and Values, A Descriptive Approach*. The Highway Methodology Workbook Supplement. Online at https://www.nae.usace.army.mil/Portals/74/docs/regulatory/Forms/HighwaySupplement6Apr2015.pdf. Accessed February 6, 2023.

Coastal Resources, Inc.

2022 *Waters of the U.S. (Including Wetlands) Delineation Report.* Piney Branch CSO 049 Storage Project. Washington, D.C. Prepared for DC Water. August 2022.

ATTACHMENTS

Figure 1. Wetlands at the CSO 049 CSA

Figure 2. Preferred Alternative Wetland Impacts

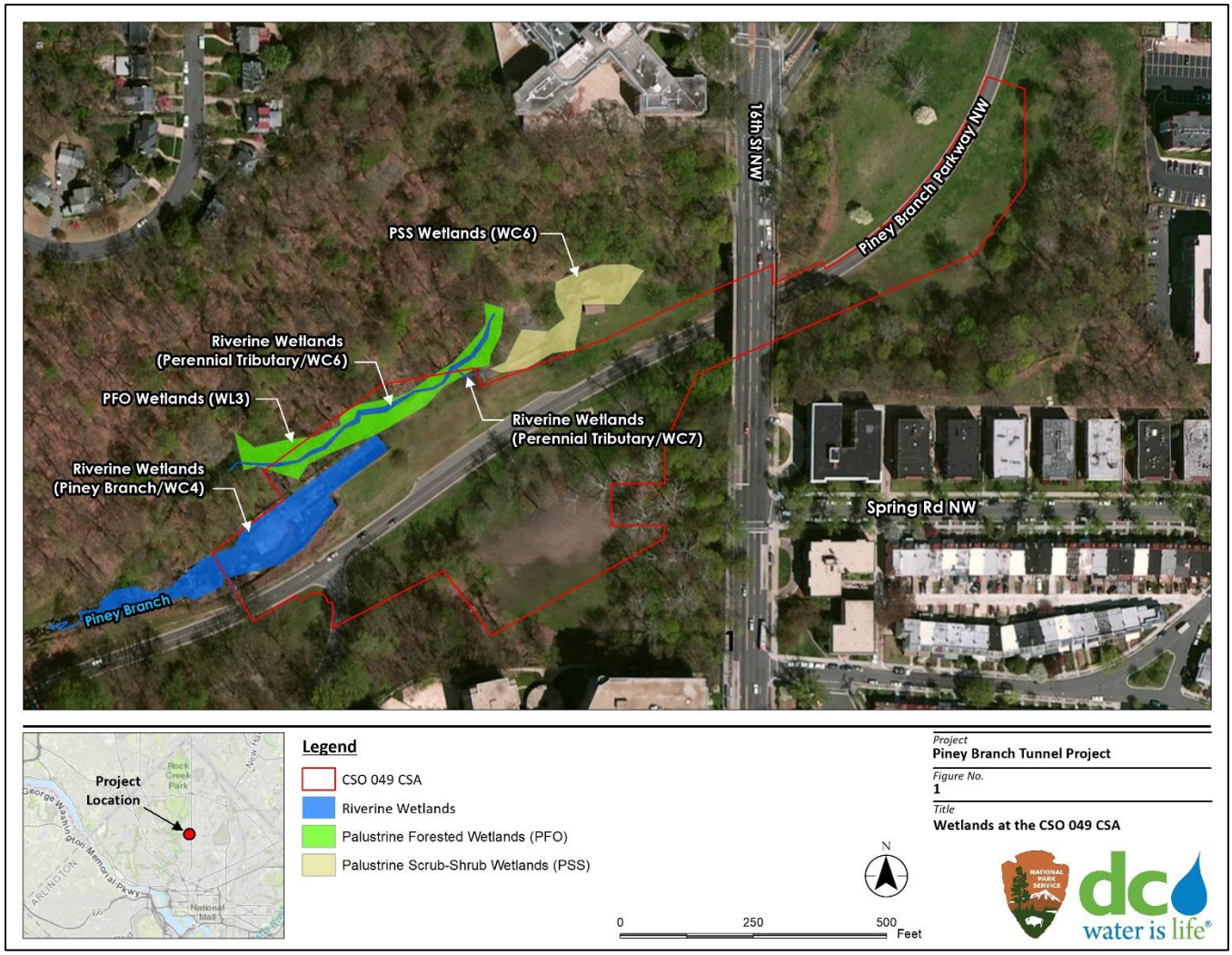

Figure 1. Wetlands at the CSO 049 CSA

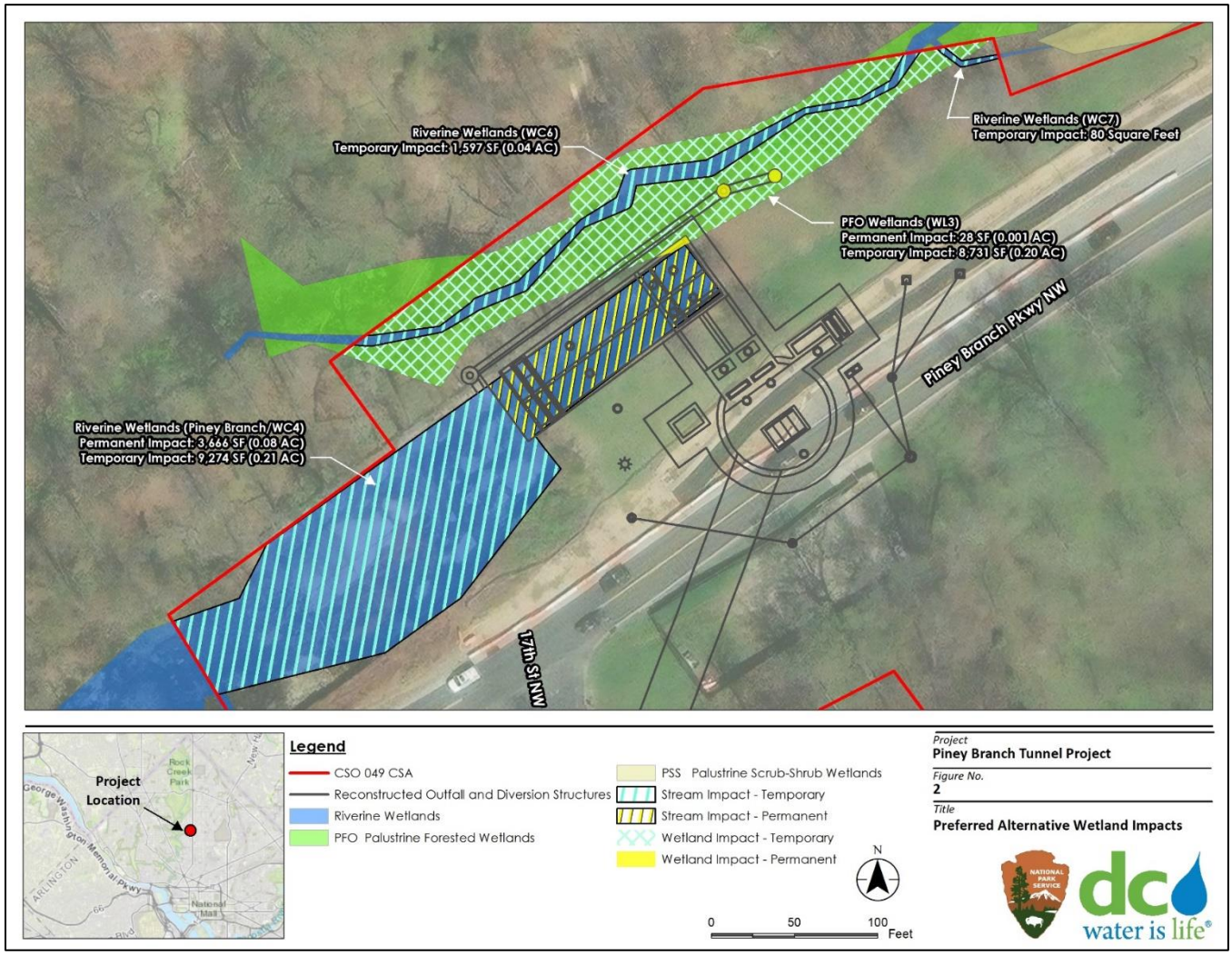

Figure 2. Preferred Alternative Wetland Impacts

DC Clean Rivers Project
Piney Branch Tunnel Project

Environmental Assessment

October 2024

Appendix B. Agency Correspondence

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United States Department of the Interior

NATIONAL PARK SERVICE
National Capital Region
Rock Creek Park
3545 Williamsburg Lane, NW
Washington, DC 20008-1207

July 21, 2022

Mr. David Maloney
DC Historic Preservation Officer
Attn: Andrew Lewis, DC SHPO, Dr. Ruth Trocolli,
1100 4th Street SW, Suite E650
Washington, DC 20024
Sent by email to andrew.lewis@dc.gov, ruth.trocolli@dc.gov

Re: Initiation of Section 106 Consultation, Piney Branch CSO 049 Control Project

Dear Mr. Maloney:

The District of Columbia Water and Sewer Authority (DC Water), in cooperation with the National Park Service (NPS), proposes to construct a 4.2-million-gallon underground storage and conveyance tunnel to provide control for Combined Sewer Overflow (CSO) 049 along Piney Branch in Rock Creek Park. NPS is writing to formally initiate consultation with the District of Columbia State Historic Preservation Office (DC SHPO) in compliance with Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108) and its implementing regulations (36 CFR § 800).

In addition to the tunnel, the project would also include construction of new diversion structures to redirect CSOs from Piney Branch into the tunnel when the capacity of the existing sewer system is exceeded during storms. Other supporting infrastructure would include ventilation control, drop shafts, and access shafts. Once diverted to the tunnel, excess flows would be conveyed by gravity to DC Water's Blue Plains Advanced Wastewater Treatment Plant by the East Rock Creek Diversion Sewer for treatment before being discharged to the Potomac River. The proposed tunnel is a component of DC Water's Long Term Control Plan, also known as the DC Clean River Project. The project would reduce untreated discharges from the combined sewer system to Piney Branch by an estimated 96%, as well as reduce existing CSO frequency from 25 to one per average rainfall year.

Purpose and Need

The purpose of the project is to reduce untreated discharges from the combined sewer system to Piney Branch by increasing CSO storage and conveyance capacity. The project is needed to reduce CSOs that contribute to water quality impairment of Rock Creek, the Potomac River, and ultimately the Chesapeake Bay; and to comply with the 2005 Federal Consent Decree entered into by DC Water, the District of Columbia, the Environmental Protection Agency, and the US Department of Justice, as amended January 2016.

Section 106 and Historic Properties

To prepare for the Section 106 consultation process, the project team has developed a graphic illustration of the draft Area of Potential Effects (APE), (see attached), that is subject to modification through the consultation process. The draft APE for indirect effects encompasses the tunnel corridor (i.e., the area within which the tunnel could be constructed underground), while the APE for direct effects includes potential areas of direct surface disturbance at construction staging areas, as well as locations within the tunnel corridor that may be selected for geotechnical drilling operations. The specific drilling locations, while currently unknown, are anticipated to be within the APE south of Piney Branch Parkway.

NPS and DC Water will work with the District of Columbia State Historic Preservation Office (DC SHPO) and other consulting parties to finalize a formal determination of effect through the Section 106 consultation process. A list of potential consulting parties can be found attached this this letter. We welcome the opportunity to identify and evaluate modifications to the proposed project that will avoid, minimize, or mitigate potential adverse effects on historic properties within the APE.

A preliminary list of historic resources within the draft APE includes Rock Creek Park Historic District and Mount Pleasant Historic District, both listed in the National Register of Historic Places (NRHP), and the Woodner Apartment Building (3636 16th Street, NW), which was determined eligible for listing in the NRHP through a Historic Preservation Certification Application Part 1 submittal in 2022 (NPS Project #44327).

Rock Creek Park Historic District

Also referred to as US Reservation 339, Rock Creek Park Historic District lies north of the Smithsonian National Zoo and contains nine contributing buildings and 22 structures and objects. The period of significance stretches from 1791 to 1941. The Historic District was listed in the DC Inventory of Historic Sites (DC Inventory) in 1964 and was listed in the NRHP in 1991. Three contributing resources fall within the APE including the 16th Street Bridge, constructed between 1907 and 1910, Piney Branch Parkway, constructed in 1935, and the Piney Branch Parkway retaining walls erected in 1936.

Within the Rock Creek Park Historic District, CSO 049 was constructed circa 1936 (Photo 1); however, the culvert was heavily altered and expanded from a one-gate outfall to a three-gate outfall circa 1957. The original one-gate outfall was expanded to two gates (Photo 2) and a third gate was added west of the original (Photo 3). The stonework and design between the 1936 culvert and the 1957 culvert are markedly different, including height, cap design, mortar joints, and ashlar pattern of the stone. CSO 049 is not specifically mentioned in the Rock Creek Historic District NRHP nomination, though the nomination does state that culverts and retaining walls are contributing if they were constructed prior to 1941. No formal Determination of Eligibility has been executed on CSO 049 documenting integrity of the 1936 design. DC Water or their contractor plans to prepare a Determination of Eligibility for the outfall structure and requests your comments or feedback prior to commencing the work.

Note, the only other major infrastructure within the APE is the Park Road Bridge constructed in 1958; it is not a contributing resource to the historic district.

Photo 1: 1936 photograph of the original CSO 049 outfall (DC Water, 1936).

Photo 2: Former single-gate outfall was converted to a double-gate outfall in 1957 (Traceries, 2022).

Photo 3: The third gate of CSO 049, which lies west of the double-gate outfall (Traceries, 2022).

Mount Pleasant Historic District

Mount Pleasant Historic District is bounded roughly by 16th Street, NW, to the east, Harvard Street, NW, to the south, Rock Creek Park Historic District to the west, and Piney Branch Park (a section of Rock Creek Park Historic District), to the north. Containing approximately 1,100 contributing buildings constructed between 1870 and 1949, which is also the identified period of significance, Mount Pleasant is a significant planned historic neighborhood in Washington, DC. The district was listed in the DC Inventory in 1987, and in the NRHP, that same year, under Criterion C for architecture and community planning.

Woodner Apartment Building

Completed in 1952, the Woodner Apartment Building was designed by architect Wallace F. Holladay, Sr., in collaboration with owner-architect Ian Woodner for the Jonathan Woodner Company. Designed and constructed during the early postwar period, the Wooder became the preferred home base for many prominent political figures during this time of economic and demographic expansion of Washington, DC. The luxury building was executed in the International Style, with an expansive lobby, high end restaurants, and lounges with views overlooking Rock Creek Park. The building was determined eligible for listing in the NRHP under Criteria A and C in January 2022 for its association with Washington's postwar culture and history and its luxurious mid-century international design.

Archeological Resources

In addition, Stantec Consulting Services Inc. (Stantec), on behalf of NPS and DC Water, is in the process of developing a Phase 1A Archeological Work Plan to assess the potential for archaeological resources

within the APE. Upon confirmation of initiation of Section 106 review by the DC SHPO, Stantec, on behalf of NPS and DC Water, will submit a formal request for an Archaeological Resources ID, which will be needed to complete a Phase IA Archeological Work Plan. The resources ID will summarize previous archaeological studies, and any resources found within this project's proposed APE, and within a designated buffer. The work plan will describe soil conditions within the APE where direct effects (i.e., ground surface disturbance) is anticipated, including elevation change, and proposed investigations to assess the archaeological potential within the direct effects APE.

Section 106 and NEPA Coordination

In accordance with the National Environmental Policy Act (NEPA), and in partnership with DC Water, the NPS will prepare an Environmental Assessment (EA) to document the analysis of potential impacts of the proposed CSO control project. NPS plans to coordinate the Section 106 and NEPA processes per the implementing regulations (36 CFR § 800.8) of the NHPA. The NPS will also develop an Assessment of Effect for this project as a separate, but parallel, process to the EA.

We look forward to beginning the Section 106 consultation process for this project. If you have any questions or preliminary feedback related to the project, draft APE, historic properties, or regarding the preparation of a formal Determination of Eligibility for CSO 049, please contact Nick Bartolomeo, Resource Manager for Rock Creek Park, at nick_bartolomeo@nps.gov or call (202) 895-6010.

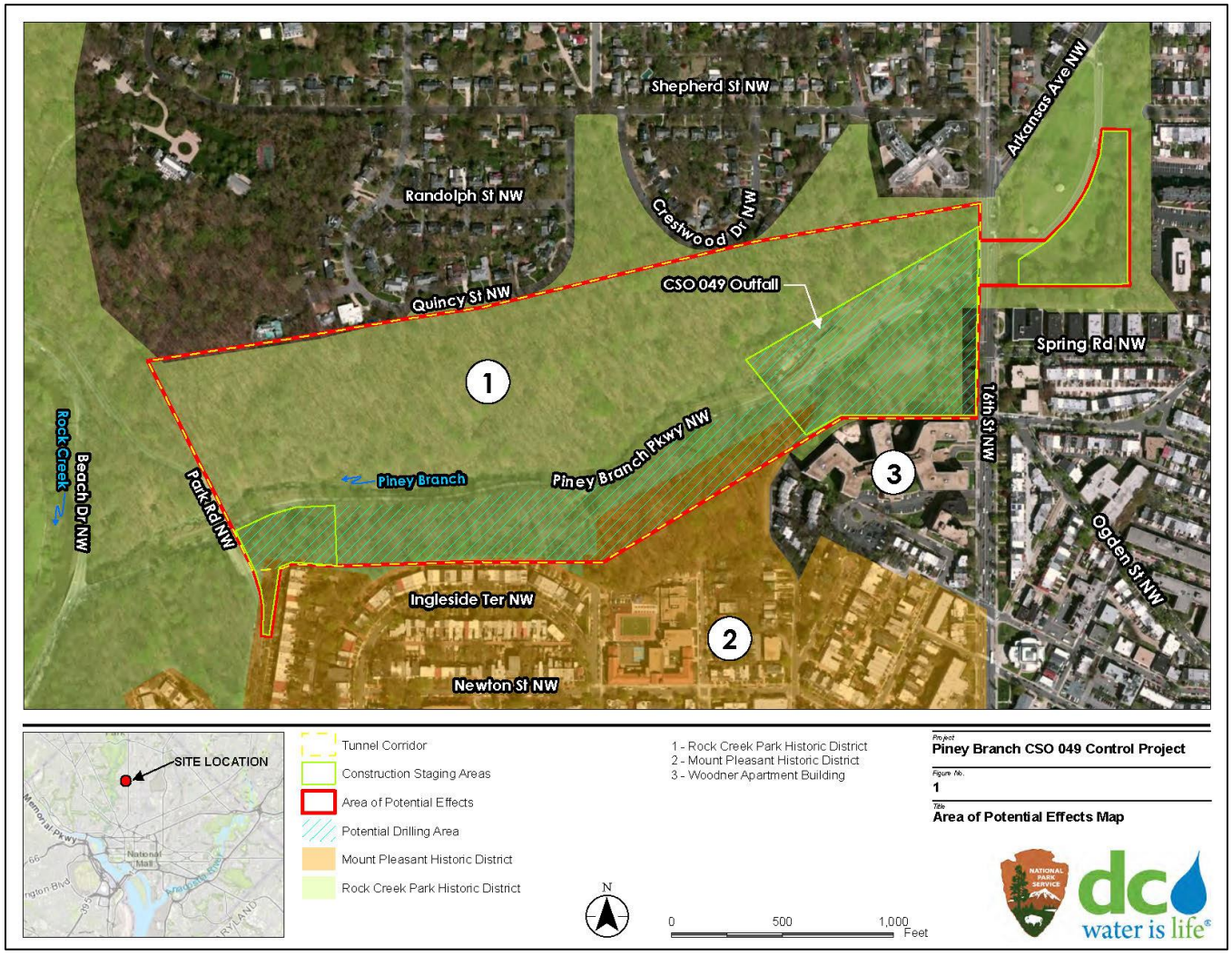
Sincerely,

Brian D. Joyner

Brian Joyner
Acting Superintendent

Attachments: Draft Area of Potential Effects Map
List of Potential Consulting Parties

cc: Chrissy Ames, DC SHPO



Note: The Area of Potential Effects Map above and the list of potential consulting parties that follows were sent with the tribal consultation letters in this appendix as attachments. They have been excluded from the appendix to reduce the file size of the document.

	PINEY BRANCH CSO 049 CONTROL PROJECT POTENTIAL CONSULTING PARTIES			
	NAME	TITLE	AFFILIATION	EMAIL
Tribes	Erin Paden	Historic Preservation Director	Delaware Nation	epaden@delawarenation-nsn.gov
	Deborah Dotson	President	Delaware Nation	ec@delawarenation-nsn.gov
	Robert Gray	Chief	Pamunkey Indian Tribe	robert.gray@pamunkey.org
	William "Bill" Harris	Chief	Catawba Indian Nation	bill.harris@catawbaindian.net
	Dr. Wenonah Haire	Tribal Historic Preservation Officer	Catawba Indian Nation	wenonah.haire@catawba.com
	Caitlin Rogers	Tribal Historic Preservation Officer Assistant	Catawba Indian Nation	Attn: THPO 1536 Tom Steven Road Rock Hill, SC, 29730
	Brad KillsCrow	Chief	Delaware Tribe of Indians	bkillscrow@delawaretribe.org
	Susan Bachor	East Coast Preservation Representative	Delaware Tribe of Indians	sbachor@delawaretribe.org
	Glenna Wallace	Chief	Eastern Shawnee Tribe of Oklahoma	gjwallace@estoo.net
	Paul Barton	THPO/Cultural Preservation Director	Eastern Shawnee Tribe of Oklahoma	pbarton@estoo.net
	Frank Adams	Chief	Upper Mattaponi Indian Tribe	wfrankadams@verizon.net
	Reggie Tupponce	Tribal Administrator	Upper Mattaponi Indian Tribe	admin@umitribe.org
	Anne Richardson	Chief	Rappahannock Tribe	chiefannerich@aol.com
	Earl Bass	Chief	Nansemond Indian Nation	chief@nansemond.org
	Megan Bass	Administrator	Nansemond Indian Nation	administrator@nansemond.org
	Stephen Adkins	Chief	Chickahominy Indian Tribe	chiefstephenadkins@gmail.com
	Dana Adkins	Tribal Environmental Director	Chickahominy Indian Tribe	dana.adkins@chickahominytribe.org
	Gerald Stewart	Chief	Chickahominy Tribe Eastern Division	wasandson@cox.net
	Kenneth Branham	Chief	Monacan Indian Nation	tribaloffice@monacannation.com
	Rufus Elliot	Tribal Administrator	Monacan Indian Nation	tribaladmin@monacannation.com
	John Johnson	Governor	Absentee Shawnee Tribe of Indians of Oklahoma	jjohnson@astribe.com

Tribes continued	Benjamin Barnes	Chief	Shawnee Tribe	chief@shawnee-tribe.com
	Tonya Tipton	Tribal Historic Preservation Officer	Shawnee Tribe	tonya@shawnee-tribe.com
Agencies	Thomas Luebke	Secretary	US Commission of Fine Arts	tluebke@cfa.gov
	Sarah Batcheler	Shipstead-Luce Act Reviewer	US Commission of Fine Arts	flindstrom@cfa.gov
	Lee Webb	Historic Preservation Specialist	National Capital Planning Commission	lee.webb@ncpc.gov
	David Maloney	State Historic Preservation Officer	DC Historic Preservation Office	david.maloney@dc.gov
	Andrew Lewis	Senior Historic Preservation Specialist	DC Historic Preservation Office	andrew.lewis@dc.gov
	Jonathan Greene	Community Planner	Wards 1 and 4	jonathan.greene@dc.gov
ANCs	Robin Sandenburgh	Chair	ANC 1D	1D@anc.dc.gov
	Patience Singleton	Chair	ANC 4A	4A04@anc.dc.gov
	Namatie Sia Mansaray	Chair	ANC 4C	4C06@anc.dc.gov
Neighborhood Associations	Alberto Rivera	Chair	16th Street Neighborhood Association	SSNADC@gmail.com
	Nadine Parker	President	16th Street Heights Civic Association	njdspd@aol.com
Preservation Advocacy Groups	Rebecca Miller	Executive Director	DC Preservation League	rebecca@dcpreservation.org
	Jeanna Braha	Executive Director	Rock Creek Conservancy	jbraha@rockcreekconservancy.org
	John Suau	Executive Director	Historical Society of Washington DC	jsuau@dchistory.org
	Fay Armstrong	President	Historic Mount Pleasant	info@historicmountpleasant.org
	Kirby Vining	Chair	Committee of 100 on the Federal City	info@committeeof100.net

District of Columbia Office of Planning

August 31, 2022

Mr. Brian Joyner
Acting Superintendent
National Park Service
Rock Creek Park
3545 Williamsburg Lane, NW
Washington, DC 20407-0001

RE: Initiation of Section 106 Consultation for Piney Branch CSO 049 Control Project

Dear Mr. Joyner:

Thank you for initiating consultation with the District of Columbia State Historic Preservation Officer (DC SHPO) regarding the above-referenced undertaking. We have reviewed the project submittal and are writing to provide our initial comments regarding potential effects on historic properties in accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800.

We understand that the National Park Service (NPS) and the DC Water and Sewer Authority (DC Water) are working together to plan and construct a 4.2 million-gallon underground storage and conveyance tunnel along Piney Branch in Rock Creek Park. This tunnel, which is another component of DC Water's Clean Rivers Project, would collect, store and convey stormwater from Combined Sewer Overflow (CSO) 049 to DC Water's facility at Blue Plains where it would be treated prior to being discharged into the Potomac River. A range of related infrastructure (e.g. diversion structures, vents, drop shaft, access hatches) will also be constructed as part of the overall project. Once complete, combined storm/sewer overflows into Piney Branch would be reduced by as much as 96%.

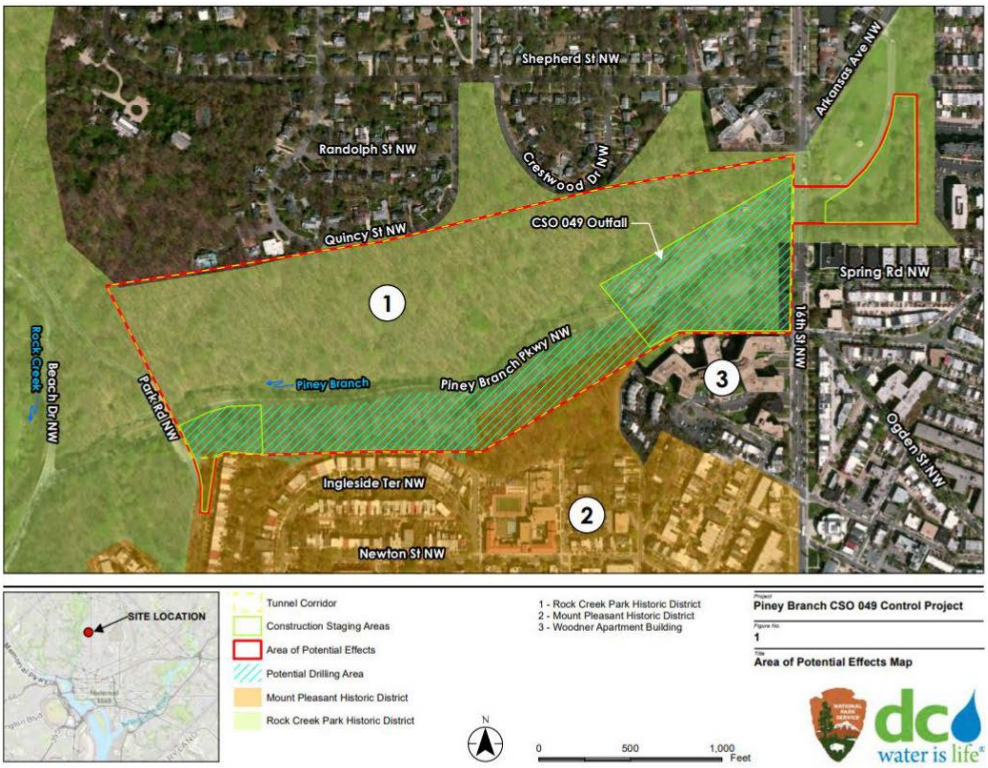
Historic Built Environment:

The project submittal indicates that CSO 049 was constructed in 1936 and modified in 1957. The National Register nomination for Rock Creek Park states that culverts and retaining walls are considered contributing if constructed within the period of significance (i.e. prior to 1941), but CSO 049 is not expressly addressed in the nomination. Therefore, DC Water plans to prepare a Determination of Eligibility (DOE) Form to evaluate the structure's potential historic significance. We look forward to reviewing the draft DOE when it becomes available.

While we generally concur with the proposed Area of Potential Effect (APE), we question whether it takes indirect effects such as noise and vibration into account. The "rigid" tunnel boundaries indicated by the dashed yellow lines in the map below suggest that the APE may not sufficiently account for these types of effects. If not, other potentially eligible properties such as the Crestwood Apartments at 3900 16th St, NW on the north side of the APE may need to be evaluated with DOE Forms. Further consultation about the APE will help to determine whether additional evaluation is warranted.

1100 4th Street, SW, Suite E650, Washington, D.C. 20024 Phone: 202-442-7600, Fax: 202-442-7638

DRAFT AREA OF POTENTIAL EFFECT



The project information also indicates that the Woodner Apartment Building at 3636 16th St, NW was determined eligible in January 2022. We do not doubt the building is historically significant but we do not appear to have a record of any DOE prepared for that property. Please provide a copy at your earliest convenience.

Although the 16th Street Bridge is a contributing element of the Rock Creek Park Historic District, we recommend that it be individually identified on the APE map because construction is proposed immediately adjacent to and below the structure. If so, this historically significant bridge should be carefully monitored for effects that result from the construction project. DDOT should also be added to the consulting parties list since that agency maintains the bridge.

Archaeology:

With regard to archaeology, we concur with NPS that the project area requires phased archaeological investigations prior to determining effects. We have already provided the archaeological consultants with the Archaeological Resources ID outlining previously identified sites and surveys near the project area and we look forward to continued consultation on this important project in an archaeologically sensitive area.

1100 4th Street, SW, Suite E650, Washington, D.C. 20024 Phone: 202-442-7600, Fax: 202-442-7638

If you should have any questions or comments regarding the historic built environment, please contact me at andrew.lewis@dc.gov or 202-442-8841. Questions or comments related to archaeology should be directed to Ruth Trocolli at ruth.trocolli@dc.gov or 202-442-8836. We look forward to consulting further with NPS, DC Water and all other parties to continue the Section 106 review of this undertaking.

Sincerely,

C. Andrew Lewis
Senior Historic Preservation Officer
DC State Historic Preservation Office

22-0744

1100 4th Street, SW, Suite E650, Washington, D.C. 20024 Phone: 202-442-7600, Fax: 202-442-7638

Schrader, Brett

From: Tatiana Proctor (CTR) <Tatiana.Proctor@dcwater.com>
Sent: Saturday, April 27, 2024 9:53 AM
To: Schrader, Brett; Koziarski, Ralph
Subject: FW: Piney Branch Phase I Management Summary - Review Status
Attachments: MGMTSUM 898 SHPO Comment Table.pdf

Tatiana K Proctor, PE | Project Manager, DC Clean Rivers Project | District of Columbia Water and Sewer Authority | 5000 Overlook Avenue, SW | Washington, DC 20032 | (202) 787-4450 | tatiana.proctor@dcwater.com

From: Ames, Christine (OP) <christine.ames@dc.gov>
Sent: Friday, April 26, 2024 6:44 PM
To: Seth Charde <Seth.Charde@dcwater.com>; Tatiana Proctor (CTR) <Tatiana.Proctor@dcwater.com>
Cc: Joshua Torres <joshua_torres@nps.gov>; Theuer, Jason <Jason_Theuer@nps.gov>; Gjesfjeld, Cortney C <Cortney_C_Gjesfjeld@nps.gov>; Bartolomeo, Nick <nick_bartolomeo@nps.gov>; Ralph Ferrara <Rcferrara1@gmail.com>; Lewis, Andrew (OP) <andrew.lewis@dc.gov>; Trocolli, Ruth (OP) <Ruth.Trocolli@dc.gov>
Subject: RE: Piney Branch Phase I Management Summary - Review Status

Afternoon all,

Thank you for your patience as we addressed the archaeological site boundary update for 51NW001, Piney Branch Quarry.

NPS & SHPO have come to a consensus on the updated site boundary & we (SHPO) have completed our review of the Phase IB archaeological report (*DC SHPO Archaeological Report # 898*). Given the results of Stantec's investigations, the updated site definition, and the current project plans, we agree with Stantec's recommendations that no additional archaeological investigations are needed prior to construction. We are ready to make a *conditional* No Adverse Effect finding for archaeology.

Conditions include 1) submission of draft and revised comprehensive technical report & updated site form for 51NW001 to DC SHPO for review/comment and per *DC Guidelines*; 2) submission to SHPO copies of all data generated (digital and paper) of all field notes, associated records, artifacts, artifact inventory and GIS data for curation, all prepared following *Guidelines* and the existing Collections Agreement for project; 3) Additional consultation with the SHPO should project plans change. Should any unanticipated discoveries be made during construction please immediately contact NPS & SHPO archaeologists and defer to NPS on how to proceed.

Ralph, I provided the updated site boundary shapefile via geodatabase (see Box.com) & included an exported graphic (jpg) with a legend detailing the polygons. Please defer to this when updating reporting & site form. Download only link- https://app.box.com/s/a59se93xj4z1ikyjyr1fvyvsgv8pl0q3

Also, in the folder are copies of SHPO's 1982 NRHP files for the site (so you don't have search email again) and the Word doc version of 51NW001 site form for you all to update ("51NW001_2024update"). This is summarized in our attached comment table. Let us know if any access issues or questions.

1

Talk soon,
Chrissy
HPO 22-0744

Christine Ames, RPA
Assistant District Archaeologist • DC Office of Planning
Pronouns: she/her/hers • Why Pronouns Matter?
1100 4th Street SW, Suite E650 • Washington, DC 20024
202.741.5246
christine.ames@dc.gov
planning.dc.gov

Telework Days: Tuesday & Wednesday. I can still be reached via email and phone during these days.
Sign up here for OP's newsletter and announcements

From: Trocolli, Ruth (OP) <Ruth.Trocolli@dc.gov>
Sent: Friday, April 12, 2024 11:01 AM
To: Seth Charde <Seth.Charde@dcwater.com>
Cc: Tatiana Proctor <Tatiana.Proctor@dcwater.com>; Ames, Christine (OP) <christine.ames@dc.gov>; Lewis, Andrew (OP) <andrew.lewis@dc.gov>; Joshua_torres@nps.gov; Theuer, Jason <Jason_Theuer@nps.gov>; Gjesfjeld, Cortney C <Cortney_C_Gjesfjeld@nps.gov>
Subject: RE: Piney Branch Phase I Management Summary - Review Status

Hi Seth-
Following up on this. We are still working out the site boundaries on this with NPS. Once we are all in accord we'll all get you what you need.
Cheers-
Ruth
re: HPO 22-0744

Ruth Trocolli, Ph.D.
District Archaeologist • DC Office of Planning
Historic Preservation Office
She/Her • Why Pronouns Matter?
1100 4th Street SW, Suite E650 • Washington, DC 20024
202.442.8836
ruth.trocolli@dc.gov
planning.dc.gov/page/archaeology-district-columbia

Telework Day: Tuesday. I can still be reached via email and phone during this day.

Sign up here for OP's newsletter and announcements.

From: Seth Charde <Seth.Charde@dcwater.com>
Sent: Wednesday, March 27, 2024 5:05 PM
To: Trocolli, Ruth (OP) <Ruth.Trocolli@dc.gov>
Cc: Tatiana Proctor <Tatiana.Proctor@dcwater.com>; Ames, Christine (OP) <christine.ames@dc.gov>; Lewis, Andrew (OP) <andrew.lewis@dc.gov>; Joshua_torres@nps.gov
Subject: RE: Piney Branch Phase I Management Summary - Review Status

Hi Ruth,

Checking in on the status of formal comments from DCHPO on the Piney Branch Phase I Management Summary. After our meeting with DCHPO and NPS on February 8, it was our understanding that all open questions had been clarified/addressed. We were therefore expecting formal comments back from DCHPO shortly after that meeting. It's now been more than a month since that meeting and five months since the original submittal to DCHPO.

Please advise on when we can expect to receive the formal comments.

Thank you,

Seth

Seth Charde, PLA, LEED AP | Senior Manager, Green Infrastructure, DC Clean Rivers Project | District of Columbia Water and Sewer Authority | 5000 Overlook Avenue, SW | Washington, DC 20032 | (202) 787-4730 | seth.charde@dcwater.com

From: Trocolli, Ruth (OP) <Ruth.Trocolli@dc.gov>
Sent: Thursday, January 11, 2024 8:02 PM
To: Seth Charde <Seth.Charde@dcwater.com>
Cc: Tatiana Proctor <Tatiana.Proctor@dcwater.com>; Ames, Christine (OP) <christine.ames@dc.gov>; Lewis, Andrew (OP) <andrew.lewis@dc.gov>
Subject: RE: Piney Branch Phase I Management Summary - Review Status

HI Seth-
We're still coordinating with NPS on the archaeological site data and recommendations. We'll get back to you as soon as we wind that up.
Cheers-
Ruth
re: HPO 22-0744

Ruth Trocolli, Ph.D.
District Archaeologist • DC Office of Planning
Historic Preservation Office
She/Her • Why Pronouns Matter?
1100 4th Street SW, Suite E650 • Washington, DC 20024
202.442.8836
ruth.trocolli@dc.gov
planning.dc.gov/page/archaeology-district-columbia

Telework Days: Monday & Thursday. I can still be reached via email and phone during these days.
Sign up here for OP's newsletter and announcements.

From: Seth Charde <Seth.Charde@dcwater.com>
Sent: Wednesday, January 10, 2024 3:22 PM
To: Lewis, Andrew (OP) <andrew.lewis@dc.gov>; Trocolli, Ruth (OP) <Ruth.Trocolli@dc.gov>
Cc: Tatiana Proctor <Tatiana.Proctor@dcwater.com>
Subject: Piney Branch Phase I Management Summary - Review Status

Good Afternoon Andrew and Ruth –

On behalf of DC Water, Stantec submitted the Piney Branch Tunnel Phase I Management Summary on October 31, 2023. It has been well over the 30 – 45 day review period and we have yet to receive a response on DC SHPO's review of the reports.

Would you please let us know what the status of the review is by Friday January 12.

Thank you in advance and please let me know if you have any questions.

Regards,

Seth

Seth Charde, PLA, LEED AP | **Senior Manager, Green Infrastructure, DC Clean Rivers Project** | District of Columbia Water and Sewer Authority | 5000 Overlook Avenue, SW | Washington, DC 20032 | (202) 787-4730 | seth.charde@dcwater.com

Schrader, Brett

From: Gjesfjeld, Cortney C <Cortney_C_Gjesfjeld@nps.gov>
Sent: Thursday, August 8, 2024 11:47 AM
To: Tatiana Proctor (CTR); Trocolli, Ruth (OP); Bartolomeo, Nick; Ames, Christine (OP)
Cc: Koziarski, Ralph; Schrader, Brett; Seth Charde; John Cassidy (CTR)
Subject: RE: [EXTERNAL] RE: Piney Branch CSO Design Change Discussion

Hi Tatiana,

Many thanks to everyone for their time yesterday. It was helpful to collectively discuss the proposed revisions to the project and I am happy that we were able to come to a consensus on no adverse effect to archeology. We look forward to continuing to work with you on this project.

All the best,

Cortney

From: Tatiana Proctor (CTR) <Tatiana.Proctor@dcwater.com>
Sent: Thursday, August 8, 2024 10:16 AM
To: Gjesfjeld, Cortney C <Cortney_C_Gjesfjeld@nps.gov>; Trocolli, Ruth (OP) <Ruth.Trocolli@dc.gov>; Bartolomeo, Nick <Nick_Bartolomeo@nps.gov>; Ames, Christine (OP) <christine.ames@dc.gov>
Cc: Koziarski, Ralph <Ralph.Koziarski@stantec.com>; Schrader, Brett <brett.schrader@stantec.com>; Seth Charde <Seth.Charde@dcwater.com>; John Cassidy (CTR) <John.Cassidy@dcwater.com>
Subject: [EXTERNAL] RE: Piney Branch CSO Design Change Discussion

Good Afternoon Everyone –

Thank you again for meeting with us to discuss the updates and revisions of the project and the project boundary.

Based on the outcome of our meeting yesterday where we confirmed the project will have no adverse on archaeology, our team will move forward with coordinating next steps with DC HPO.

Thank you again,
Tatiana

Tatiana K Proctor, PE | Project Manager, DC Clean Rivers Project | District of Columbia Water and Sewer Authority | 5000 Overlook Avenue, SW | Washington, DC 20032 | (202) 787-4450 | tatiana.proctor@dcwater.com

United States Department of the Interior

NATIONAL PARK SERVICE
National Capital Region
Rock Creek Park
3545 Williamsburg Lane, NW
Washington, DC 20008-1207

July 21, 2022

Governor John Johnson
Absentee Shawnee Tribe of Indians of Oklahoma
Sent by email to jjohnson@astribe.com

Re: Initiation of Section 106 Consultation, Piney Branch CSO 049 Control Project

Dear Governor Johnson:

The District of Columbia Water and Sewer Authority (DC Water), in cooperation with the National Park Service (NPS), proposes to construct a 4.2-million-gallon underground storage and conveyance tunnel to provide control for Combined Sewer Overflow (CSO) 049 along Piney Branch in Rock Creek Park. NPS is writing to formally initiate consultation with the Absentee Shawnee Tribe of Indians of Oklahoma in compliance with Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108) and its implementing regulations (36 CFR § 800).

In addition to the tunnel, the project would also include construction of new diversion structures to redirect CSOs from Piney Branch into the tunnel when the capacity of the existing sewer system is exceeded during storms. Other supporting infrastructure would include ventilation control, drop shafts, and access shafts. Once diverted to the tunnel, excess flows would be conveyed by gravity to DC Water's Blue Plains Advanced Wastewater Treatment Plant by the East Rock Creek Diversion Sewer for treatment before being discharged to the Potomac River. The proposed tunnel is a component of DC Water's Long Term Control Plan, also known as the DC Clean River Project. The project would reduce untreated discharges from the combined sewer system to Piney Branch by an estimated 96%, as well as reduce existing CSO frequency from 25 to one per average rainfall year.

Purpose and Need

The purpose of the project is to reduce untreated discharges from the combined sewer system to Piney Branch by increasing CSO storage and conveyance capacity. The project is needed to reduce CSOs that contribute to water quality impairment of Rock Creek, the Potomac River, and ultimately the Chesapeake Bay; and to comply with the 2005 Federal Consent Decree entered into by DC Water, the District of Columbia, the Environmental Protection Agency, and the US Department of Justice, as amended January 2016.

Section 106 and Historic Properties

To prepare for the Section 106 consultation process, the project team has developed a graphic illustration of the draft Area of Potential Effects (APE), (see attached), that is subject to modification through the consultation process. The draft APE for indirect effects encompasses the tunnel corridor (i.e., the area within which the tunnel could be constructed underground), while the APE for direct effects includes potential areas of direct surface disturbance at construction staging areas, as well as locations within the tunnel corridor that may be selected for geotechnical drilling operations. The specific drilling locations, while currently unknown, are anticipated to be within the APE south of Piney Branch Parkway.

NPS and DC Water will work with the District of Columbia State Historic Preservation Office (DC SHPO) and other consulting parties to finalize a formal determination of effect through the Section 106 consultation process. A list of potential consulting parties can be found attached this this letter. We welcome the opportunity to identify and evaluate modifications to the proposed project that will avoid, minimize, or mitigate potential adverse effects on historic properties within the APE.

A preliminary list of historic resources within the draft APE includes Rock Creek Park Historic District and Mount Pleasant Historic District, both listed in the National Register of Historic Places (NRHP), and the Woodner Apartment Building (3636 16th Street, NW), which was determined eligible for listing in the NRHP through a Historic Preservation Certification Application Part 1 submittal in 2022 (NPS Project #44327).

Rock Creek Park Historic District

Also referred to as US Reservation 339, Rock Creek Park Historic District lies north of the Smithsonian National Zoo and contains nine contributing buildings and 22 structures and objects. The period of significance stretches from 1791 to 1941. The Historic District was listed in the DC Inventory of Historic Sites (DC Inventory) in 1964 and was listed in the NRHP in 1991. Three contributing resources fall within the APE including the 16th Street Bridge, constructed between 1907 and 1910, Piney Branch Parkway, constructed in 1935, and the Piney Branch Parkway retaining walls erected in 1936.

Within the Rock Creek Park Historic District, CSO 049 was constructed circa 1936 (Photo 1); however, the culvert was heavily altered and expanded from a one-gate outfall to a three-gate outfall circa 1957. The original one-gate outfall was expanded to two gates (Photo 2) and a third gate was added west of the original (Photo 3). The stonework and design between the 1936 culvert and the 1957 culvert are markedly different, including height, cap design, mortar joints, and ashlar pattern of the stone. CSO 049 is not specifically mentioned in the Rock Creek Historic District NRHP nomination, though the nomination does state that culverts and retaining walls are contributing if they were constructed prior to 1941. No formal Determination of Eligibility has been executed on CSO 049 documenting integrity of the 1936 design. DC Water or their contractor plans to prepare a Determination of Eligibility for the outfall structure and requests your comments or feedback prior to commencing the work.

Note, the only other major infrastructure within the APE is the Park Road Bridge constructed in 1958; it is not a contributing resource to the historic district.

Photo 1: 1936 photograph of the original CSO 049 outfall (DC Water, 1936).

Photo 2: Former single-gate outfall was converted to a double-gate outfall in 1957 (Traceries, 2022).

Photo 3: The third gate of CSO 049, which lies west of the double-gate outfall (Traceries, 2022).

Mount Pleasant Historic District

Mount Pleasant Historic District is bounded roughly by 16th Street, NW, to the east, Harvard Street, NW, to the south, Rock Creek Park Historic District to the west, and Piney Branch Park (a section of Rock Creek Park Historic District), to the north. Containing approximately 1,100 contributing buildings constructed between 1870 and 1949, which is also the identified period of significance, Mount Pleasant is a significant planned historic neighborhood in Washington, DC. The district was listed in the DC Inventory in 1987, and in the NRHP, that same year, under Criterion C for architecture and community planning.

Woodner Apartment Building

Completed in 1952, the Woodner Apartment Building was designed by architect Wallace F. Holladay, Sr., in collaboration with owner-architect Ian Woodner for the Jonathan Woodner Company. Designed and constructed during the early postwar period, the Wooder became the preferred home base for many prominent political figures during this time of economic and demographic expansion of Washington, DC. The luxury building was executed in the International Style, with an expansive lobby, high end restaurants, and lounges with views overlooking Rock Creek Park. The building was determined eligible for listing in the NRHP under Criteria A and C in January 2022 for its association with Washington's postwar culture and history and its luxurious mid-century international design.

Archeological Resources

In addition, Stantec Consulting Services Inc. (Stantec), on behalf of NPS and DC Water, is in the process of developing a Phase 1A Archeological Work Plan to assess the potential for archaeological resources

within the APE. Upon confirmation of initiation of Section 106 review by the DC SHPO, Stantec, on behalf of NPS and DC Water, will submit a formal request for an Archaeological Resources ID, which will be needed to complete a Phase IA Archeological Work Plan. The resources ID will summarize previous archaeological studies, and any resources found within this project's proposed APE, and within a designated buffer. The work plan will describe soil conditions within the APE where direct effects (i.e., ground surface disturbance) is anticipated, including elevation change, and proposed investigations to assess the archaeological potential within the direct effects APE.

Section 106 and NEPA Coordination

In accordance with the National Environmental Policy Act (NEPA), and in partnership with DC Water, the NPS will prepare an Environmental Assessment (EA) to document the analysis of potential impacts of the proposed CSO control project. NPS plans to coordinate the Section 106 and NEPA processes per the implementing regulations (36 CFR § 800.8) of the NHPA. The NPS will also develop an Assessment of Effect for this project as a separate, but parallel, process to the EA.

We look forward to beginning the Section 106 consultation process for this project. If you have any questions or preliminary feedback related to the project, draft APE, historic properties, or regarding the preparation of a formal Determination of Eligibility for CSO 049, please contact Nick Bartolomeo, Resource Manager for Rock Creek Park, at nick_bartolomeo@nps.gov or call (202) 895-6010.

Sincerely,

Brian D. Joyner

Brian Joyner
Acting Superintendent

Attachments: Draft Area of Potential Effects Map
List of Potential Consulting Parties

United States Department of the Interior

NATIONAL PARK SERVICE
National Capital Region
Rock Creek Park
3545 Williamsburg Lane, NW
Washington, DC 20008-1207

July 21, 2022

Wenonah Haire, DMD
Catawba Indian Nation
Sent by email to wenonah.haire@catawba.com

Re: Initiation of Section 106 Consultation, Piney Branch CSO 049 Control Project

Dear Dr. Haire:

The District of Columbia Water and Sewer Authority (DC Water), in cooperation with the National Park Service (NPS), proposes to construct a 4.2-million-gallon underground storage and conveyance tunnel to provide control for Combined Sewer Overflow (CSO) 049 along Piney Branch in Rock Creek Park. NPS is writing to formally initiate consultation with the Catawba Indian Nation in compliance with Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108) and its implementing regulations (36 CFR § 800).

In addition to the tunnel, the project would also include construction of new diversion structures to redirect CSOs from Piney Branch into the tunnel when the capacity of the existing sewer system is exceeded during storms. Other supporting infrastructure would include ventilation control, drop shafts, and access shafts. Once diverted to the tunnel, excess flows would be conveyed by gravity to DC Water's Blue Plains Advanced Wastewater Treatment Plant by the East Rock Creek Diversion Sewer for treatment before being discharged to the Potomac River. The proposed tunnel is a component of DC Water's Long Term Control Plan, also known as the DC Clean River Project. The project would reduce untreated discharges from the combined sewer system to Piney Branch by an estimated 96%, as well as reduce existing CSO frequency from 25 to one per average rainfall year.

Purpose and Need

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Section 106 and Historic Properties

To prepare for the Section 106 consultation process, the project team has developed a graphic illustration of the draft Area of Potential Effects (APE), (see attached), that is subject to modification through the consultation process. The draft APE for indirect effects encompasses the tunnel corridor (i.e., the area within which the tunnel could be constructed underground), while the APE for direct effects includes potential areas of direct surface disturbance at construction staging areas, as well as locations within the tunnel corridor that may be selected for geotechnical drilling operations. The specific drilling locations, while currently unknown, are anticipated to be within the APE south of Piney Branch Parkway.

NPS and DC Water will work with the District of Columbia State Historic Preservation Office (DC SHPO) and other consulting parties to finalize a formal determination of effect through the Section 106 consultation process. A list of potential consulting parties can be found attached this this letter. We welcome the opportunity to identify and evaluate modifications to the proposed project that will avoid, minimize, or mitigate potential adverse effects on historic properties within the APE.

A preliminary list of historic resources within the draft APE includes Rock Creek Park Historic District and Mount Pleasant Historic District, both listed in the National Register of Historic Places (NRHP), and the Woodner Apartment Building (3636 16th Street, NW), which was determined eligible for listing in the NRHP through a Historic Preservation Certification Application Part 1 submittal in 2022 (NPS Project #44327).

Rock Creek Park Historic District

Also referred to as US Reservation 339, Rock Creek Park Historic District lies north of the Smithsonian National Zoo and contains nine contributing buildings and 22 structures and objects. The period of significance stretches from 1791 to 1941. The Historic District was listed in the DC Inventory of Historic Sites (DC Inventory) in 1964 and was listed in the NRHP in 1991. Three contributing resources fall within the APE including the 16th Street Bridge, constructed between 1907 and 1910, Piney Branch Parkway, constructed in 1935, and the Piney Branch Parkway retaining walls erected in 1936.

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Note, the only other major infrastructure within the APE is the Park Road Bridge constructed in 1958; it is not a contributing resource to the historic district.

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Photo 2: Former single-gate outfall was converted to a double-gate outfall in 1957 (Traceries, 2022).

Photo 3: The third gate of CSO 049, which lies west of the double-gate outfall (Traceries, 2022).

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Mount Pleasant Historic District is bounded roughly by 16th Street, NW, to the east, Harvard Street, NW, to the south, Rock Creek Park Historic District to the west, and Piney Branch Park (a section of Rock Creek Park Historic District), to the north. Containing approximately 1,100 contributing buildings constructed between 1870 and 1949, which is also the identified period of significance, Mount Pleasant is a significant planned historic neighborhood in Washington, DC. The district was listed in the DC Inventory in 1987, and in the NRHP, that same year, under Criterion C for architecture and community planning.

Woodner Apartment Building

Completed in 1952, the Woodner Apartment Building was designed by architect Wallace F. Holladay, Sr., in collaboration with owner-architect Ian Woodner for the Jonathan Woodner Company. Designed and constructed during the early postwar period, the Wooder became the preferred home base for many prominent political figures during this time of economic and demographic expansion of Washington, DC. The luxury building was executed in the International Style, with an expansive lobby, high end restaurants, and lounges with views overlooking Rock Creek Park. The building was determined eligible for listing in the NRHP under Criteria A and C in January 2022 for its association with Washington's postwar culture and history and its luxurious mid-century international design.

Archeological Resources

In addition, Stantec Consulting Services Inc. (Stantec), on behalf of NPS and DC Water, is in the process of developing a Phase 1A Archeological Work Plan to assess the potential for archaeological resources

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Section 106 and NEPA Coordination

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We look forward to beginning the Section 106 consultation process for this project. If you have any questions or preliminary feedback related to the project, draft APE, historic properties, or regarding the preparation of a formal Determination of Eligibility for CSO 049, please contact Nick Bartolomeo, Resource Manager for Rock Creek Park, at nick_bartolomeo@nps.gov or call (202) 895-6010.

Sincerely,

Brian D. Joyner

Brian Joyner
Acting Superintendent

Attachments: Draft Area of Potential Effects Map
List of Potential Consulting Parties

cc: Chief Bill Harris, Catawba Indian Nation
Caitlin Rogers, Catawba Indian Nation

United States Department of the Interior

NATIONAL PARK SERVICE
National Capital Region
Rock Creek Park
3545 Williamsburg Lane, NW
Washington, DC 20008-1207

July 21, 2022

Chief Bill Harris
Catawba Indian Nation
Sent by email to bill.harris@catawbaindian.net

Re: Initiation of Section 106 Consultation, Piney Branch CSO 049 Control Project

Dear Chief Harris:

The District of Columbia Water and Sewer Authority (DC Water), in cooperation with the National Park Service (NPS), proposes to construct a 4.2-million-gallon underground storage and conveyance tunnel to provide control for Combined Sewer Overflow (CSO) 049 along Piney Branch in Rock Creek Park. NPS is writing to formally initiate consultation with the Catawba Indian Nation in compliance with Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108) and its implementing regulations (36 CFR § 800).

In addition to the tunnel, the project would also include construction of new diversion structures to redirect CSOs from Piney Branch into the tunnel when the capacity of the existing sewer system is exceeded during storms. Other supporting infrastructure would include ventilation control, drop shafts, and access shafts. Once diverted to the tunnel, excess flows would be conveyed by gravity to DC Water's Blue Plains Advanced Wastewater Treatment Plant by the East Rock Creek Diversion Sewer for treatment before being discharged to the Potomac River. The proposed tunnel is a component of DC Water's Long Term Control Plan, also known as the DC Clean River Project. The project would reduce untreated discharges from the combined sewer system to Piney Branch by an estimated 96%, as well as reduce existing CSO frequency from 25 to one per average rainfall year.

Purpose and Need

The purpose of the project is to reduce untreated discharges from the combined sewer system to Piney Branch by increasing CSO storage and conveyance capacity. The project is needed to reduce CSOs that contribute to water quality impairment of Rock Creek, the Potomac River, and ultimately the Chesapeake Bay; and to comply with the 2005 Federal Consent Decree entered into by DC Water, the District of Columbia, the Environmental Protection Agency, and the US Department of Justice, as amended January 2016.

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NPS and DC Water will work with the District of Columbia State Historic Preservation Office (DC SHPO) and other consulting parties to finalize a formal determination of effect through the Section 106 consultation process. A list of potential consulting parties can be found attached this this letter. We welcome the opportunity to identify and evaluate modifications to the proposed project that will avoid, minimize, or mitigate potential adverse effects on historic properties within the APE.

A preliminary list of historic resources within the draft APE includes Rock Creek Park Historic District and Mount Pleasant Historic District, both listed in the National Register of Historic Places (NRHP), and the Woodner Apartment Building (3636 16th Street, NW), which was determined eligible for listing in the NRHP through a Historic Preservation Certification Application Part 1 submittal in 2022 (NPS Project #44327).

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We look forward to beginning the Section 106 consultation process for this project. If you have any questions or preliminary feedback related to the project, draft APE, historic properties, or regarding the preparation of a formal Determination of Eligibility for CSO 049, please contact Nick Bartolomeo, Resource Manager for Rock Creek Park, at nick_bartolomeo@nps.gov or call (202) 895-6010.

Sincerely,

Brian D. Joyner

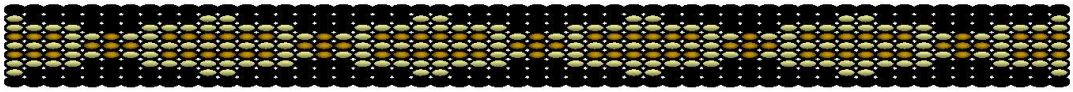
Brian Joyner
Acting Superintendent

Attachments: Draft Area of Potential Effects Map
List of Potential Consulting Parties

cc: Caitlin Rogers, Catawba Indian Nation
Wenonah Haire, DMD, Catawba Indian Nation

Catawba Indian Nation
Tribal Historic Preservation Office
1536 Tom Steven Road
Rock Hill, South Carolina 29730

Office 803-328-2427



September 9, 2022

Attention: Nick Bartolomeo
USDI NPS
3545 Williamsburg Lane, NW
Washington, DC 20008-1207

Re. THPO #	TCNS #	Project Description
2022-384-79		Piney Branch CSO 049 Control Project

Dear Mr. Bartolomeo,

The Catawba have no immediate concerns with regard to traditional cultural properties, sacred sites or Native American archaeological sites within the boundaries of the proposed project areas. **However, the Catawba are to be notified if Native American artifacts and / or human remains are located during the ground disturbance phase of this project.**

If you have questions please contact Caitlin Rogers at 803-328-2427 ext. 226, or e-mail Caitlin.Rogers@catawba.com.

Sincerely,

Caitlin Rogers for

Wenonah G. Haire
Tribal Historic Preservation Officer

United States Department of the Interior

NATIONAL PARK SERVICE
National Capital Region
Rock Creek Park
3545 Williamsburg Lane, NW
Washington, DC 20008-1207

July 21, 2022

Chief Stephen Adkins
Chickahominy Indian Tribe
Sent by email to chiefstephenadkins@gmail.com

Re: Initiation of Section 106 Consultation, Piney Branch CSO 049 Control Project

Dear Chief Adkins:

The District of Columbia Water and Sewer Authority (DC Water), in cooperation with the National Park Service (NPS), proposes to construct a 4.2-million-gallon underground storage and conveyance tunnel to provide control for Combined Sewer Overflow (CSO) 049 along Piney Branch in Rock Creek Park. NPS is writing to formally initiate consultation with the Chickahominy Indian Tribe in compliance with Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108) and its implementing regulations (36 CFR § 800).

In addition to the tunnel, the project would also include construction of new diversion structures to redirect CSOs from Piney Branch into the tunnel when the capacity of the existing sewer system is exceeded during storms. Other supporting infrastructure would include ventilation control, drop shafts, and access shafts. Once diverted to the tunnel, excess flows would be conveyed by gravity to DC Water's Blue Plains Advanced Wastewater Treatment Plant by the East Rock Creek Diversion Sewer for treatment before being discharged to the Potomac River. The proposed tunnel is a component of DC Water's Long Term Control Plan, also known as the DC Clean River Project. The project would reduce untreated discharges from the combined sewer system to Piney Branch by an estimated 96%, as well as reduce existing CSO frequency from 25 to one per average rainfall year.

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Sincerely,

Brian D. Joyner

Brian Joyner
Acting Superintendent

Attachments: Draft Area of Potential Effects Map
List of Potential Consulting Parties

cc: Dana Adkins, Chickahominy Indian Tribe

United States Department of the Interior

NATIONAL PARK SERVICE
National Capital Region
Rock Creek Park
3545 Williamsburg Lane, NW
Washington, DC 20008-1207

July 21, 2022

Dana Adkins, Tribal Environmental Director
Chickahominy Indian Tribe
Sent by email to dana.adkins@chickahominytribe.org

Re: Initiation of Section 106 Consultation, Piney Branch CSO 049 Control Project

Dear Ms. Adkins:

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Sincerely,

Brian D. Joyner

Brian Joyner
Acting Superintendent

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cc: Chief Stephen Adkins, Chickahominy Indian Tribe

United States Department of the Interior

NATIONAL PARK SERVICE
National Capital Region
Rock Creek Park
3545 Williamsburg Lane, NW
Washington, DC 20008-1207

July 21, 2022

Chief Gerald Stewart
Chickahominy Tribe Eastern Division
Sent by email to wasandson@cox.net

Re: Initiation of Section 106 Consultation, Piney Branch CSO 049 Control Project

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Section 106 and Historic Properties

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Within the Rock Creek Park Historic District, CSO 049 was constructed circa 1936 (Photo 1); however, the culvert was heavily altered and expanded from a one-gate outfall to a three-gate outfall circa 1957. The original one-gate outfall was expanded to two gates (Photo 2) and a third gate was added west of the original (Photo 3). The stonework and design between the 1936 culvert and the 1957 culvert are markedly different, including height, cap design, mortar joints, and ashlar pattern of the stone. CSO 049 is not specifically mentioned in the Rock Creek Historic District NRHP nomination, though the nomination does state that culverts and retaining walls are contributing if they were constructed prior to 1941. No formal Determination of Eligibility has been executed on CSO 049 documenting integrity of the 1936 design. DC Water or their contractor plans to prepare a Determination of Eligibility for the outfall structure and requests your comments or feedback prior to commencing the work.

Note, the only other major infrastructure within the APE is the Park Road Bridge constructed in 1958; it is not a contributing resource to the historic district.

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Archeological Resources

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We look forward to beginning the Section 106 consultation process for this project. If you have any questions or preliminary feedback related to the project, draft APE, historic properties, or regarding the preparation of a formal Determination of Eligibility for CSO 049, please contact Nick Bartolomeo, Resource Manager for Rock Creek Park, at nick_bartolomeo@nps.gov or call (202) 895-6010.

Sincerely,

Brian D. Joyner

Brian Joyner
Acting Superintendent

Attachments: Draft Area of Potential Effects Map
List of Potential Consulting Parties

United States Department of the Interior

NATIONAL PARK SERVICE
National Capital Region
Rock Creek Park
3545 Williamsburg Lane, NW
Washington, DC 20008-1207

July 21, 2022

Ms. Erin Paden
Historic Preservation Director
Delaware Nation
Sent by email to epaden@delawarenation-nsn.gov

Re: Initiation of Section 106 Consultation, Piney Branch CSO 049 Control Project

Dear Ms. Paden:

The District of Columbia Water and Sewer Authority (DC Water), in cooperation with the National Park Service (NPS), proposes to construct a 4.2-million-gallon underground storage and conveyance tunnel to provide control for Combined Sewer Overflow (CSO) 049 along Piney Branch in Rock Creek Park. NPS is writing to formally initiate consultation with the Delaware Nation in compliance with Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108) and its implementing regulations (36 CFR § 800).

In addition to the tunnel, the project would also include construction of new diversion structures to redirect CSOs from Piney Branch into the tunnel when the capacity of the existing sewer system is exceeded during storms. Other supporting infrastructure would include ventilation control, drop shafts, and access shafts. Once diverted to the tunnel, excess flows would be conveyed by gravity to DC Water's Blue Plains Advanced Wastewater Treatment Plant by the East Rock Creek Diversion Sewer for treatment before being discharged to the Potomac River. The proposed tunnel is a component of DC Water's Long Term Control Plan, also known as the DC Clean River Project. The project would reduce untreated discharges from the combined sewer system to Piney Branch by an estimated 96%, as well as reduce existing CSO frequency from 25 to one per average rainfall year.

Purpose and Need

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Sincerely,

Brian D. Joyner

Brian Joyner
Acting Superintendent

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cc: Ms. Deborah Dotson, Delaware Nation

United States Department of the Interior

NATIONAL PARK SERVICE
National Capital Region
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3545 Williamsburg Lane, NW
Washington, DC 20008-1207

July 21, 2022

Susan Bachor
Delaware Tribe of Indians
Sent by email to sbachor@delawaretribe.org

Re: Initiation of Section 106 Consultation, Piney Branch CSO 049 Control Project

Dear Ms. Bachor:

The District of Columbia Water and Sewer Authority (DC Water), in cooperation with the National Park Service (NPS), proposes to construct a 4.2-million-gallon underground storage and conveyance tunnel to provide control for Combined Sewer Overflow (CSO) 049 along Piney Branch in Rock Creek Park. NPS is writing to formally initiate consultation with the Delaware Tribe in compliance with Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108) and its implementing regulations (36 CFR § 800).

In addition to the tunnel, the project would also include construction of new diversion structures to redirect CSOs from Piney Branch into the tunnel when the capacity of the existing sewer system is exceeded during storms. Other supporting infrastructure would include ventilation control, drop shafts, and access shafts. Once diverted to the tunnel, excess flows would be conveyed by gravity to DC Water's Blue Plains Advanced Wastewater Treatment Plant by the East Rock Creek Diversion Sewer for treatment before being discharged to the Potomac River. The proposed tunnel is a component of DC Water's Long Term Control Plan, also known as the DC Clean River Project. The project would reduce untreated discharges from the combined sewer system to Piney Branch by an estimated 96%, as well as reduce existing CSO frequency from 25 to one per average rainfall year.

Purpose and Need

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Sincerely,

Brian D. Joyner

Brian Joyner
Acting Superintendent

Attachments: Draft Area of Potential Effects Map
List of Potential Consulting Parties

cc: Chief Brad KillsCrow, Delaware Tribe of Indians

Schrader, Brett

From: Amanda Zander (CTR) <Amanda.Jacob@dcwater.com>
Sent: Tuesday, August 13, 2024 12:37 PM
To: Schrader, Brett
Subject: Fw: Meeting Tonight! DC Water Seeks Public Input on the Piney Branch CSO 049 Storage Project

Amanda Zander, REM| Public Outreach Coordinator & Private Space Implementation Manager, DC Clean Rivers Project | District of Columbia Water and Sewer Authority | 5000 Overlook Avenue, SW | Washington, DC 20032 | (202) 787-4142 |amanda.zander@dcwater.com

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From: DC Piney Branch <dcpineybranch@dcwater.com>
Sent: Tuesday, August 13, 2024 12:34 PM
To: Amanda Zander (CTR) <Amanda.Jacob@dcwater.com>
Subject: Fw: Meeting Tonight! DC Water Seeks Public Input on the Piney Branch CSO 049 Storage Project

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From: Susan Bachor <sbachor@DelawareTribe.onmicrosoft.com>
Sent: Wednesday, January 18, 2023 12:34 PM
To: DC Piney Branch <dcpineybranch@dcwater.com>
Subject: Re: Meeting Tonight! DC Water Seeks Public Input on the Piney Branch CSO 049 Storage Project

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Thank for reaching out to the Delaware Tribe of Indians regarding this project. This Piney Branch project is outside our area of interest. WE have no comment on this project.
Best.

Susan Bachor, M.A.
Deputy THPO & Archaeologist
Delaware Tribe Historic Preservation
126 University Circle
Stroud Hall, Rm. 437
East Stroudsburg PA 18301
NEW ***cell-1.539.529.1671***
sbachor@delawaretribe.org- electronic submissions preferred
Please call for appointment.

United States Department of the Interior

NATIONAL PARK SERVICE
National Capital Region
Rock Creek Park
3545 Williamsburg Lane, NW
Washington, DC 20008-1207

July 21, 2022

Chief Brad KillsCrow
Delaware Tribe of Indians
Sent by email to bkillscrow@delawaretribe.org

Re: Initiation of Section 106 Consultation, Piney Branch CSO 049 Control Project

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Brian D. Joyner

Brian Joyner
Acting Superintendent

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cc: Susan Bachor, Delaware Tribe of Indians

United States Department of the Interior

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July 21, 2022

Ms. Deborah Dotson
President
Delaware Nation
Sent by email to ec@delawarenation-nsn.gov

Re: Initiation of Section 106 Consultation, Piney Branch CSO 049 Control Project

Dear Ms. Dotson:

The District of Columbia Water and Sewer Authority (DC Water), in cooperation with the National Park Service (NPS), proposes to construct a 4.2-million-gallon underground storage and conveyance tunnel to provide control for Combined Sewer Overflow (CSO) 049 along Piney Branch in Rock Creek Park. NPS is writing to formally initiate consultation with the Delaware Nation in compliance with Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108) and its implementing regulations (36 CFR § 800).

In addition to the tunnel, the project would also include construction of new diversion structures to redirect CSOs from Piney Branch into the tunnel when the capacity of the existing sewer system is exceeded during storms. Other supporting infrastructure would include ventilation control, drop shafts, and access shafts. Once diverted to the tunnel, excess flows would be conveyed by gravity to DC Water's Blue Plains Advanced Wastewater Treatment Plant by the East Rock Creek Diversion Sewer for treatment before being discharged to the Potomac River. The proposed tunnel is a component of DC Water's Long Term Control Plan, also known as the DC Clean River Project. The project would reduce untreated discharges from the combined sewer system to Piney Branch by an estimated 96%, as well as reduce existing CSO frequency from 25 to one per average rainfall year.

Purpose and Need

The purpose of the project is to reduce untreated discharges from the combined sewer system to Piney Branch by increasing CSO storage and conveyance capacity. The project is needed to reduce CSOs that contribute to water quality impairment of Rock Creek, the Potomac River, and ultimately the Chesapeake Bay; and to comply with the 2005 Federal Consent Decree entered into by DC Water, the District of Columbia, the Environmental Protection Agency, and the US Department of Justice, as amended January 2016.

Section 106 and Historic Properties

To prepare for the Section 106 consultation process, the project team has developed a graphic illustration of the draft Area of Potential Effects (APE), (see attached), that is subject to modification through the consultation process. The draft APE for indirect effects encompasses the tunnel corridor (i.e., the area within which the tunnel could be constructed underground), while the APE for direct effects includes potential areas of direct surface disturbance at construction staging areas, as well as locations within the tunnel corridor that may be selected for geotechnical drilling operations. The specific drilling locations, while currently unknown, are anticipated to be within the APE south of Piney Branch Parkway.

NPS and DC Water will work with the District of Columbia State Historic Preservation Office (DC SHPO) and other consulting parties to finalize a formal determination of effect through the Section 106 consultation process. A list of potential consulting parties can be found attached this this letter. We welcome the opportunity to identify and evaluate modifications to the proposed project that will avoid, minimize, or mitigate potential adverse effects on historic properties within the APE.

A preliminary list of historic resources within the draft APE includes Rock Creek Park Historic District and Mount Pleasant Historic District, both listed in the National Register of Historic Places (NRHP), and the Woodner Apartment Building (3636 16th Street, NW), which was determined eligible for listing in the NRHP through a Historic Preservation Certification Application Part 1 submittal in 2022 (NPS Project #44327).

Rock Creek Park Historic District

Also referred to as US Reservation 339, Rock Creek Park Historic District lies north of the Smithsonian National Zoo and contains nine contributing buildings and 22 structures and objects. The period of significance stretches from 1791 to 1941. The Historic District was listed in the DC Inventory of Historic Sites (DC Inventory) in 1964 and was listed in the NRHP in 1991. Three contributing resources fall within the APE including the 16th Street Bridge, constructed between 1907 and 1910, Piney Branch Parkway, constructed in 1935, and the Piney Branch Parkway retaining walls erected in 1936.

Within the Rock Creek Park Historic District, CSO 049 was constructed circa 1936 (Photo 1); however, the culvert was heavily altered and expanded from a one-gate outfall to a three-gate outfall circa 1957. The original one-gate outfall was expanded to two gates (Photo 2) and a third gate was added west of the original (Photo 3). The stonework and design between the 1936 culvert and the 1957 culvert are markedly different, including height, cap design, mortar joints, and ashlar pattern of the stone. CSO 049 is not specifically mentioned in the Rock Creek Historic District NRHP nomination, though the nomination does state that culverts and retaining walls are contributing if they were constructed prior to 1941. No formal Determination of Eligibility has been executed on CSO 049 documenting integrity of the 1936 design. DC Water or their contractor plans to prepare a Determination of Eligibility for the outfall structure and requests your comments or feedback prior to commencing the work.

Note, the only other major infrastructure within the APE is the Park Road Bridge constructed in 1958; it is not a contributing resource to the historic district.

Photo 1: 1936 photograph of the original CSO 049 outfall (DC Water, 1936).

Photo 2: Former single-gate outfall was converted to a double-gate outfall in 1957 (Traceries, 2022).

Photo 3: The third gate of CSO 049, which lies west of the double-gate outfall (Traceries, 2022).

Mount Pleasant Historic District

Mount Pleasant Historic District is bounded roughly by 16th Street, NW, to the east, Harvard Street, NW, to the south, Rock Creek Park Historic District to the west, and Piney Branch Park (a section of Rock Creek Park Historic District), to the north. Containing approximately 1,100 contributing buildings constructed between 1870 and 1949, which is also the identified period of significance, Mount Pleasant is a significant planned historic neighborhood in Washington, DC. The district was listed in the DC Inventory in 1987, and in the NRHP, that same year, under Criterion C for architecture and community planning.

Woodner Apartment Building

Completed in 1952, the Woodner Apartment Building was designed by architect Wallace F. Holladay, Sr., in collaboration with owner-architect Ian Woodner for the Jonathan Woodner Company. Designed and constructed during the early postwar period, the Wooder became the preferred home base for many prominent political figures during this time of economic and demographic expansion of Washington, DC. The luxury building was executed in the International Style, with an expansive lobby, high end restaurants, and lounges with views overlooking Rock Creek Park. The building was determined eligible for listing in the NRHP under Criteria A and C in January 2022 for its association with Washington's postwar culture and history and its luxurious mid-century international design.

Archeological Resources

In addition, Stantec Consulting Services Inc. (Stantec), on behalf of NPS and DC Water, is in the process of developing a Phase 1A Archeological Work Plan to assess the potential for archaeological resources

within the APE. Upon confirmation of initiation of Section 106 review by the DC SHPO, Stantec, on behalf of NPS and DC Water, will submit a formal request for an Archaeological Resources ID, which will be needed to complete a Phase IA Archeological Work Plan. The resources ID will summarize previous archaeological studies, and any resources found within this project's proposed APE, and within a designated buffer. The work plan will describe soil conditions within the APE where direct effects (i.e., ground surface disturbance) is anticipated, including elevation change, and proposed investigations to assess the archaeological potential within the direct effects APE.

Section 106 and NEPA Coordination

In accordance with the National Environmental Policy Act (NEPA), and in partnership with DC Water, the NPS will prepare an Environmental Assessment (EA) to document the analysis of potential impacts of the proposed CSO control project. NPS plans to coordinate the Section 106 and NEPA processes per the implementing regulations (36 CFR § 800.8) of the NHPA. The NPS will also develop an Assessment of Effect for this project as a separate, but parallel, process to the EA.

We look forward to beginning the Section 106 consultation process for this project. If you have any questions or preliminary feedback related to the project, draft APE, historic properties, or regarding the preparation of a formal Determination of Eligibility for CSO 049, please contact Nick Bartolomeo, Resource Manager for Rock Creek Park, at nick_bartolomeo@nps.gov or call (202) 895-6010.

Sincerely,

Brian D. Joyner

Brian Joyner
Deputy Superintendent

Attachments: Draft Area of Potential Effects Map
List of Potential Consulting Parties

cc: Ms. Erin Paden, Delaware Nation

United States Department of the Interior

NATIONAL PARK SERVICE
National Capital Region
Rock Creek Park
3545 Williamsburg Lane, NW
Washington, DC 20008-1207

July 21, 2022

Paul Barton
Eastern Shawnee Tribe of Oklahoma
Sent by email to pbarton@estoo.net

Re: Initiation of Section 106 Consultation, Piney Branch CSO 049 Control Project

Dear Mr. Barton:

The District of Columbia Water and Sewer Authority (DC Water), in cooperation with the National Park Service (NPS), proposes to construct a 4.2-million-gallon underground storage and conveyance tunnel to provide control for Combined Sewer Overflow (CSO) 049 along Piney Branch in Rock Creek Park. NPS is writing to formally initiate consultation with the Eastern Shawnee Tribe in compliance with Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108) and its implementing regulations (36 CFR § 800).

In addition to the tunnel, the project would also include construction of new diversion structures to redirect CSOs from Piney Branch into the tunnel when the capacity of the existing sewer system is exceeded during storms. Other supporting infrastructure would include ventilation control, drop shafts, and access shafts. Once diverted to the tunnel, excess flows would be conveyed by gravity to DC Water's Blue Plains Advanced Wastewater Treatment Plant by the East Rock Creek Diversion Sewer for treatment before being discharged to the Potomac River. The proposed tunnel is a component of DC Water's Long Term Control Plan, also known as the DC Clean River Project. The project would reduce untreated discharges from the combined sewer system to Piney Branch by an estimated 96%, as well as reduce existing CSO frequency from 25 to one per average rainfall year.

Purpose and Need

The purpose of the project is to reduce untreated discharges from the combined sewer system to Piney Branch by increasing CSO storage and conveyance capacity. The project is needed to reduce CSOs that contribute to water quality impairment of Rock Creek, the Potomac River, and ultimately the Chesapeake Bay; and to comply with the 2005 Federal Consent Decree entered into by DC Water, the District of Columbia, the Environmental Protection Agency, and the US Department of Justice, as amended January 2016.

Section 106 and Historic Properties

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NPS and DC Water will work with the District of Columbia State Historic Preservation Office (DC SHPO) and other consulting parties to finalize a formal determination of effect through the Section 106 consultation process. A list of potential consulting parties can be found attached this this letter. We welcome the opportunity to identify and evaluate modifications to the proposed project that will avoid, minimize, or mitigate potential adverse effects on historic properties within the APE.

A preliminary list of historic resources within the draft APE includes Rock Creek Park Historic District and Mount Pleasant Historic District, both listed in the National Register of Historic Places (NRHP), and the Woodner Apartment Building (3636 16th Street, NW), which was determined eligible for listing in the NRHP through a Historic Preservation Certification Application Part 1 submittal in 2022 (NPS Project #44327).

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Note, the only other major infrastructure within the APE is the Park Road Bridge constructed in 1958; it is not a contributing resource to the historic district.

Photo 1: 1936 photograph of the original CSO 049 outfall (DC Water, 1936).

Photo 2: Former single-gate outfall was converted to a double-gate outfall in 1957 (Traceries, 2022).

Photo 3: The third gate of CSO 049, which lies west of the double-gate outfall (Traceries, 2022).

Mount Pleasant Historic District

Mount Pleasant Historic District is bounded roughly by 16th Street, NW, to the east, Harvard Street, NW, to the south, Rock Creek Park Historic District to the west, and Piney Branch Park (a section of Rock Creek Park Historic District), to the north. Containing approximately 1,100 contributing buildings constructed between 1870 and 1949, which is also the identified period of significance, Mount Pleasant is a significant planned historic neighborhood in Washington, DC. The district was listed in the DC Inventory in 1987, and in the NRHP, that same year, under Criterion C for architecture and community planning.

Woodner Apartment Building

Completed in 1952, the Woodner Apartment Building was designed by architect Wallace F. Holladay, Sr., in collaboration with owner-architect Ian Woodner for the Jonathan Woodner Company. Designed and constructed during the early postwar period, the Wooder became the preferred home base for many prominent political figures during this time of economic and demographic expansion of Washington, DC. The luxury building was executed in the International Style, with an expansive lobby, high end restaurants, and lounges with views overlooking Rock Creek Park. The building was determined eligible for listing in the NRHP under Criteria A and C in January 2022 for its association with Washington's postwar culture and history and its luxurious mid-century international design.

Archeological Resources

In addition, Stantec Consulting Services Inc. (Stantec), on behalf of NPS and DC Water, is in the process of developing a Phase 1A Archeological Work Plan to assess the potential for archaeological resources

within the APE. Upon confirmation of initiation of Section 106 review by the DC SHPO, Stantec, on behalf of NPS and DC Water, will submit a formal request for an Archaeological Resources ID, which will be needed to complete a Phase IA Archeological Work Plan. The resources ID will summarize previous archaeological studies, and any resources found within this project's proposed APE, and within a designated buffer. The work plan will describe soil conditions within the APE where direct effects (i.e., ground surface disturbance) is anticipated, including elevation change, and proposed investigations to assess the archaeological potential within the direct effects APE.

Section 106 and NEPA Coordination

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We look forward to beginning the Section 106 consultation process for this project. If you have any questions or preliminary feedback related to the project, draft APE, historic properties, or regarding the preparation of a formal Determination of Eligibility for CSO 049, please contact Nick Bartolomeo, Resource Manager for Rock Creek Park, at nick_bartolomeo@nps.gov or call (202) 895-6010.

Sincerely,

Brian D. Joyner

Brian Joyner
Acting Superintendent

Attachments: Draft Area of Potential Effects Map
List of Potential Consulting Parties

cc: Chief Glenna Wallace, Eastern Shawnee Tribe of Oklahoma

United States Department of the Interior

NATIONAL PARK SERVICE
National Capital Region
Rock Creek Park
3545 Williamsburg Lane, NW
Washington, DC 20008-1207

July 21, 2022

Chief Glenna Wallace
Eastern Shawnee Tribe of Oklahoma
Sent by email to gjwallace@estoo.net

Re: Initiation of Section 106 Consultation, Piney Branch CSO 049 Control Project

Dear Chief Wallace:

The District of Columbia Water and Sewer Authority (DC Water), in cooperation with the National Park Service (NPS), proposes to construct a 4.2-million-gallon underground storage and conveyance tunnel to provide control for Combined Sewer Overflow (CSO) 049 along Piney Branch in Rock Creek Park. NPS is writing to formally initiate consultation with the Eastern Shawnee Tribe in compliance with Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108) and its implementing regulations (36 CFR § 800).

In addition to the tunnel, the project would also include construction of new diversion structures to redirect CSOs from Piney Branch into the tunnel when the capacity of the existing sewer system is exceeded during storms. Other supporting infrastructure would include ventilation control, drop shafts, and access shafts. Once diverted to the tunnel, excess flows would be conveyed by gravity to DC Water's Blue Plains Advanced Wastewater Treatment Plant by the East Rock Creek Diversion Sewer for treatment before being discharged to the Potomac River. The proposed tunnel is a component of DC Water's Long Term Control Plan, also known as the DC Clean River Project. The project would reduce untreated discharges from the combined sewer system to Piney Branch by an estimated 96%, as well as reduce existing CSO frequency from 25 to one per average rainfall year.

Purpose and Need

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Note, the only other major infrastructure within the APE is the Park Road Bridge constructed in 1958; it is not a contributing resource to the historic district.

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Woodner Apartment Building

Completed in 1952, the Woodner Apartment Building was designed by architect Wallace F. Holladay, Sr., in collaboration with owner-architect Ian Woodner for the Jonathan Woodner Company. Designed and constructed during the early postwar period, the Wooder became the preferred home base for many prominent political figures during this time of economic and demographic expansion of Washington, DC. The luxury building was executed in the International Style, with an expansive lobby, high end restaurants, and lounges with views overlooking Rock Creek Park. The building was determined eligible for listing in the NRHP under Criteria A and C in January 2022 for its association with Washington's postwar culture and history and its luxurious mid-century international design.

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We look forward to beginning the Section 106 consultation process for this project. If you have any questions or preliminary feedback related to the project, draft APE, historic properties, or regarding the preparation of a formal Determination of Eligibility for CSO 049, please contact Nick Bartolomeo, Resource Manager for Rock Creek Park, at nick_bartolomeo@nps.gov or call (202) 895-6010.

Sincerely,

Brian D. Joyner

Brian Joyner
Acting Superintendent

Attachments: Draft Area of Potential Effects Map
List of Potential Consulting Parties

cc: Paul Barton, Eastern Shawnee Tribe of Oklahoma

United States Department of the Interior

NATIONAL PARK SERVICE
National Capital Region
Rock Creek Park
3545 Williamsburg Lane, NW
Washington, DC 20008-1207

July 21, 2022

Chief Kenneth Branham
Monacan Indian Nation
Sent by email to tribaloffice@monacannation.com

Re: Initiation of Section 106 Consultation, Piney Branch CSO 049 Control Project

Dear Chief Branham:

The District of Columbia Water and Sewer Authority (DC Water), in cooperation with the National Park Service (NPS), proposes to construct a 4.2-million-gallon underground storage and conveyance tunnel to provide control for Combined Sewer Overflow (CSO) 049 along Piney Branch in Rock Creek Park. NPS is writing to formally initiate consultation with the Monacan Indian Nation in compliance with Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108) and its implementing regulations (36 CFR § 800).

In addition to the tunnel, the project would also include construction of new diversion structures to redirect CSOs from Piney Branch into the tunnel when the capacity of the existing sewer system is exceeded during storms. Other supporting infrastructure would include ventilation control, drop shafts, and access shafts. Once diverted to the tunnel, excess flows would be conveyed by gravity to DC Water's Blue Plains Advanced Wastewater Treatment Plant by the East Rock Creek Diversion Sewer for treatment before being discharged to the Potomac River. The proposed tunnel is a component of DC Water's Long Term Control Plan, also known as the DC Clean River Project. The project would reduce untreated discharges from the combined sewer system to Piney Branch by an estimated 96%, as well as reduce existing CSO frequency from 25 to one per average rainfall year.

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Sincerely,

Brian D. Joyner

Brian Joyner
Acting Superintendent

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cc: Rufus Elliot, Monacan Indian Nation

United States Department of the Interior

NATIONAL PARK SERVICE
National Capital Region
Rock Creek Park
3545 Williamsburg Lane, NW
Washington, DC 20008-1207

July 21, 2022

Rufus Elliot, Tribal Administrator
Monacan Indian Nation
Sent by email to tribaladmin@monacannation.com

Re: Initiation of Section 106 Consultation, Piney Branch CSO 049 Control Project

Dear Mr. Elliot:

The District of Columbia Water and Sewer Authority (DC Water), in cooperation with the National Park Service (NPS), proposes to construct a 4.2-million-gallon underground storage and conveyance tunnel to provide control for Combined Sewer Overflow (CSO) 049 along Piney Branch in Rock Creek Park. NPS is writing to formally initiate consultation with the Monacan Indian Nation in compliance with Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108) and its implementing regulations (36 CFR § 800).

In addition to the tunnel, the project would also include construction of new diversion structures to redirect CSOs from Piney Branch into the tunnel when the capacity of the existing sewer system is exceeded during storms. Other supporting infrastructure would include ventilation control, drop shafts, and access shafts. Once diverted to the tunnel, excess flows would be conveyed by gravity to DC Water's Blue Plains Advanced Wastewater Treatment Plant by the East Rock Creek Diversion Sewer for treatment before being discharged to the Potomac River. The proposed tunnel is a component of DC Water's Long Term Control Plan, also known as the DC Clean River Project. The project would reduce untreated discharges from the combined sewer system to Piney Branch by an estimated 96%, as well as reduce existing CSO frequency from 25 to one per average rainfall year.

Purpose and Need

The purpose of the project is to reduce untreated discharges from the combined sewer system to Piney Branch by increasing CSO storage and conveyance capacity. The project is needed to reduce CSOs that contribute to water quality impairment of Rock Creek, the Potomac River, and ultimately the Chesapeake Bay; and to comply with the 2005 Federal Consent Decree entered into by DC Water, the District of Columbia, the Environmental Protection Agency, and the US Department of Justice, as amended January 2016.

Section 106 and Historic Properties

To prepare for the Section 106 consultation process, the project team has developed a graphic illustration of the draft Area of Potential Effects (APE), (see attached), that is subject to modification through the consultation process. The draft APE for indirect effects encompasses the tunnel corridor (i.e., the area within which the tunnel could be constructed underground), while the APE for direct effects includes potential areas of direct surface disturbance at construction staging areas, as well as locations within the tunnel corridor that may be selected for geotechnical drilling operations. The specific drilling locations, while currently unknown, are anticipated to be within the APE south of Piney Branch Parkway.

NPS and DC Water will work with the District of Columbia State Historic Preservation Office (DC SHPO) and other consulting parties to finalize a formal determination of effect through the Section 106 consultation process. A list of potential consulting parties can be found attached this this letter. We welcome the opportunity to identify and evaluate modifications to the proposed project that will avoid, minimize, or mitigate potential adverse effects on historic properties within the APE.

A preliminary list of historic resources within the draft APE includes Rock Creek Park Historic District and Mount Pleasant Historic District, both listed in the National Register of Historic Places (NRHP), and the Woodner Apartment Building (3636 16th Street, NW), which was determined eligible for listing in the NRHP through a Historic Preservation Certification Application Part 1 submittal in 2022 (NPS Project #44327).

Rock Creek Park Historic District

Also referred to as US Reservation 339, Rock Creek Park Historic District lies north of the Smithsonian National Zoo and contains nine contributing buildings and 22 structures and objects. The period of significance stretches from 1791 to 1941. The Historic District was listed in the DC Inventory of Historic Sites (DC Inventory) in 1964 and was listed in the NRHP in 1991. Three contributing resources fall within the APE including the 16th Street Bridge, constructed between 1907 and 1910, Piney Branch Parkway, constructed in 1935, and the Piney Branch Parkway retaining walls erected in 1936.

Within the Rock Creek Park Historic District, CSO 049 was constructed circa 1936 (Photo 1); however, the culvert was heavily altered and expanded from a one-gate outfall to a three-gate outfall circa 1957. The original one-gate outfall was expanded to two gates (Photo 2) and a third gate was added west of the original (Photo 3). The stonework and design between the 1936 culvert and the 1957 culvert are markedly different, including height, cap design, mortar joints, and ashlar pattern of the stone. CSO 049 is not specifically mentioned in the Rock Creek Historic District NRHP nomination, though the nomination does state that culverts and retaining walls are contributing if they were constructed prior to 1941. No formal Determination of Eligibility has been executed on CSO 049 documenting integrity of the 1936 design. DC Water or their contractor plans to prepare a Determination of Eligibility for the outfall structure and requests your comments or feedback prior to commencing the work.

Note, the only other major infrastructure within the APE is the Park Road Bridge constructed in 1958; it is not a contributing resource to the historic district.

Photo 1: 1936 photograph of the original CSO 049 outfall (DC Water, 1936).

Photo 2: Former single-gate outfall was converted to a double-gate outfall in 1957 (Traceries, 2022).

Photo 3: The third gate of CSO 049, which lies west of the double-gate outfall (Traceries, 2022).

Mount Pleasant Historic District

Mount Pleasant Historic District is bounded roughly by 16th Street, NW, to the east, Harvard Street, NW, to the south, Rock Creek Park Historic District to the west, and Piney Branch Park (a section of Rock Creek Park Historic District), to the north. Containing approximately 1,100 contributing buildings constructed between 1870 and 1949, which is also the identified period of significance, Mount Pleasant is a significant planned historic neighborhood in Washington, DC. The district was listed in the DC Inventory in 1987, and in the NRHP, that same year, under Criterion C for architecture and community planning.

Woodner Apartment Building

Completed in 1952, the Woodner Apartment Building was designed by architect Wallace F. Holladay, Sr., in collaboration with owner-architect Ian Woodner for the Jonathan Woodner Company. Designed and constructed during the early postwar period, the Wooder became the preferred home base for many prominent political figures during this time of economic and demographic expansion of Washington, DC. The luxury building was executed in the International Style, with an expansive lobby, high end restaurants, and lounges with views overlooking Rock Creek Park. The building was determined eligible for listing in the NRHP under Criteria A and C in January 2022 for its association with Washington's postwar culture and history and its luxurious mid-century international design.

Archeological Resources

In addition, Stantec Consulting Services Inc. (Stantec), on behalf of NPS and DC Water, is in the process of developing a Phase 1A Archeological Work Plan to assess the potential for archaeological resources

within the APE. Upon confirmation of initiation of Section 106 review by the DC SHPO, Stantec, on behalf of NPS and DC Water, will submit a formal request for an Archaeological Resources ID, which will be needed to complete a Phase IA Archeological Work Plan. The resources ID will summarize previous archaeological studies, and any resources found within this project's proposed APE, and within a designated buffer. The work plan will describe soil conditions within the APE where direct effects (i.e., ground surface disturbance) is anticipated, including elevation change, and proposed investigations to assess the archaeological potential within the direct effects APE.

Section 106 and NEPA Coordination

In accordance with the National Environmental Policy Act (NEPA), and in partnership with DC Water, the NPS will prepare an Environmental Assessment (EA) to document the analysis of potential impacts of the proposed CSO control project. NPS plans to coordinate the Section 106 and NEPA processes per the implementing regulations (36 CFR § 800.8) of the NHPA. The NPS will also develop an Assessment of Effect for this project as a separate, but parallel, process to the EA.

We look forward to beginning the Section 106 consultation process for this project. If you have any questions or preliminary feedback related to the project, draft APE, historic properties, or regarding the preparation of a formal Determination of Eligibility for CSO 049, please contact Nick Bartolomeo, Resource Manager for Rock Creek Park, at nick_bartolomeo@nps.gov or call (202) 895-6010.

Sincerely,

Brian D. Joyner

Brian Joyner
Acting Superintendent

Attachments: Draft Area of Potential Effects Map
List of Potential Consulting Parties

cc: Chief Kenneth Branham, Monacan Indian Nation

United States Department of the Interior

NATIONAL PARK SERVICE
National Capital Region
Rock Creek Park
3545 Williamsburg Lane, NW
Washington, DC 20008-1207

July 21, 2022

Chief Earl Bass
Nansemond Indian Nation
Sent by email to chief@nansemond.org

Re: Initiation of Section 106 Consultation, Piney Branch CSO 049 Control Project

Dear Chief Bass:

The District of Columbia Water and Sewer Authority (DC Water), in cooperation with the National Park Service (NPS), proposes to construct a 4.2-million-gallon underground storage and conveyance tunnel to provide control for Combined Sewer Overflow (CSO) 049 along Piney Branch in Rock Creek Park. NPS is writing to formally initiate consultation with the Nansemond Indian Nation in compliance with Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108) and its implementing regulations (36 CFR § 800).

In addition to the tunnel, the project would also include construction of new diversion structures to redirect CSOs from Piney Branch into the tunnel when the capacity of the existing sewer system is exceeded during storms. Other supporting infrastructure would include ventilation control, drop shafts, and access shafts. Once diverted to the tunnel, excess flows would be conveyed by gravity to DC Water's Blue Plains Advanced Wastewater Treatment Plant by the East Rock Creek Diversion Sewer for treatment before being discharged to the Potomac River. The proposed tunnel is a component of DC Water's Long Term Control Plan, also known as the DC Clean River Project. The project would reduce untreated discharges from the combined sewer system to Piney Branch by an estimated 96%, as well as reduce existing CSO frequency from 25 to one per average rainfall year.

Purpose and Need

The purpose of the project is to reduce untreated discharges from the combined sewer system to Piney Branch by increasing CSO storage and conveyance capacity. The project is needed to reduce CSOs that contribute to water quality impairment of Rock Creek, the Potomac River, and ultimately the Chesapeake Bay; and to comply with the 2005 Federal Consent Decree entered into by DC Water, the District of Columbia, the Environmental Protection Agency, and the US Department of Justice, as amended January 2016.

Section 106 and Historic Properties

To prepare for the Section 106 consultation process, the project team has developed a graphic illustration of the draft Area of Potential Effects (APE), (see attached), that is subject to modification through the consultation process. The draft APE for indirect effects encompasses the tunnel corridor (i.e., the area within which the tunnel could be constructed underground), while the APE for direct effects includes potential areas of direct surface disturbance at construction staging areas, as well as locations within the tunnel corridor that may be selected for geotechnical drilling operations. The specific drilling locations, while currently unknown, are anticipated to be within the APE south of Piney Branch Parkway.

NPS and DC Water will work with the District of Columbia State Historic Preservation Office (DC SHPO) and other consulting parties to finalize a formal determination of effect through the Section 106 consultation process. A list of potential consulting parties can be found attached this this letter. We welcome the opportunity to identify and evaluate modifications to the proposed project that will avoid, minimize, or mitigate potential adverse effects on historic properties within the APE.

A preliminary list of historic resources within the draft APE includes Rock Creek Park Historic District and Mount Pleasant Historic District, both listed in the National Register of Historic Places (NRHP), and the Woodner Apartment Building (3636 16th Street, NW), which was determined eligible for listing in the NRHP through a Historic Preservation Certification Application Part 1 submittal in 2022 (NPS Project #44327).

Rock Creek Park Historic District

Also referred to as US Reservation 339, Rock Creek Park Historic District lies north of the Smithsonian National Zoo and contains nine contributing buildings and 22 structures and objects. The period of significance stretches from 1791 to 1941. The Historic District was listed in the DC Inventory of Historic Sites (DC Inventory) in 1964 and was listed in the NRHP in 1991. Three contributing resources fall within the APE including the 16th Street Bridge, constructed between 1907 and 1910, Piney Branch Parkway, constructed in 1935, and the Piney Branch Parkway retaining walls erected in 1936.

Within the Rock Creek Park Historic District, CSO 049 was constructed circa 1936 (Photo 1); however, the culvert was heavily altered and expanded from a one-gate outfall to a three-gate outfall circa 1957. The original one-gate outfall was expanded to two gates (Photo 2) and a third gate was added west of the original (Photo 3). The stonework and design between the 1936 culvert and the 1957 culvert are markedly different, including height, cap design, mortar joints, and ashlar pattern of the stone. CSO 049 is not specifically mentioned in the Rock Creek Historic District NRHP nomination, though the nomination does state that culverts and retaining walls are contributing if they were constructed prior to 1941. No formal Determination of Eligibility has been executed on CSO 049 documenting integrity of the 1936 design. DC Water or their contractor plans to prepare a Determination of Eligibility for the outfall structure and requests your comments or feedback prior to commencing the work.

Note, the only other major infrastructure within the APE is the Park Road Bridge constructed in 1958; it is not a contributing resource to the historic district.

Photo 1: 1936 photograph of the original CSO 049 outfall (DC Water, 1936).

Photo 2: Former single-gate outfall was converted to a double-gate outfall in 1957 (Traceries, 2022).

Photo 3: The third gate of CSO 049, which lies west of the double-gate outfall (Traceries, 2022).

Mount Pleasant Historic District

Mount Pleasant Historic District is bounded roughly by 16th Street, NW, to the east, Harvard Street, NW, to the south, Rock Creek Park Historic District to the west, and Piney Branch Park (a section of Rock Creek Park Historic District), to the north. Containing approximately 1,100 contributing buildings constructed between 1870 and 1949, which is also the identified period of significance, Mount Pleasant is a significant planned historic neighborhood in Washington, DC. The district was listed in the DC Inventory in 1987, and in the NRHP, that same year, under Criterion C for architecture and community planning.

Woodner Apartment Building

Completed in 1952, the Woodner Apartment Building was designed by architect Wallace F. Holladay, Sr., in collaboration with owner-architect Ian Woodner for the Jonathan Woodner Company. Designed and constructed during the early postwar period, the Wooder became the preferred home base for many prominent political figures during this time of economic and demographic expansion of Washington, DC. The luxury building was executed in the International Style, with an expansive lobby, high end restaurants, and lounges with views overlooking Rock Creek Park. The building was determined eligible for listing in the NRHP under Criteria A and C in January 2022 for its association with Washington's postwar culture and history and its luxurious mid-century international design.

Archeological Resources

In addition, Stantec Consulting Services Inc. (Stantec), on behalf of NPS and DC Water, is in the process of developing a Phase 1A Archeological Work Plan to assess the potential for archaeological resources

within the APE. Upon confirmation of initiation of Section 106 review by the DC SHPO, Stantec, on behalf of NPS and DC Water, will submit a formal request for an Archaeological Resources ID, which will be needed to complete a Phase IA Archeological Work Plan. The resources ID will summarize previous archaeological studies, and any resources found within this project's proposed APE, and within a designated buffer. The work plan will describe soil conditions within the APE where direct effects (i.e., ground surface disturbance) is anticipated, including elevation change, and proposed investigations to assess the archaeological potential within the direct effects APE.

Section 106 and NEPA Coordination

In accordance with the National Environmental Policy Act (NEPA), and in partnership with DC Water, the NPS will prepare an Environmental Assessment (EA) to document the analysis of potential impacts of the proposed CSO control project. NPS plans to coordinate the Section 106 and NEPA processes per the implementing regulations (36 CFR § 800.8) of the NHPA. The NPS will also develop an Assessment of Effect for this project as a separate, but parallel, process to the EA.

We look forward to beginning the Section 106 consultation process for this project. If you have any questions or preliminary feedback related to the project, draft APE, historic properties, or regarding the preparation of a formal Determination of Eligibility for CSO 049, please contact Nick Bartolomeo, Resource Manager for Rock Creek Park, at nick_bartolomeo@nps.gov or call (202) 895-6010.

Sincerely,

Brian D. Joyner

Brian Joyner
Acting Superintendent

Attachments: Draft Area of Potential Effects Map
List of Potential Consulting Parties

cc: Megan Bass, Nansemond Indian Nation

United States Department of the Interior

NATIONAL PARK SERVICE
National Capital Region
Rock Creek Park
3545 Williamsburg Lane, NW
Washington, DC 20008-1207

July 21, 2022

Megan Bass, Administrator
Nansemond Indian Nation
Sent by email to administrator@nansemond.org

Re: Initiation of Section 106 Consultation, Piney Branch CSO 049 Control Project

Dear Ms. Bass:

The District of Columbia Water and Sewer Authority (DC Water), in cooperation with the National Park Service (NPS), proposes to construct a 4.2-million-gallon underground storage and conveyance tunnel to provide control for Combined Sewer Overflow (CSO) 049 along Piney Branch in Rock Creek Park. NPS is writing to formally initiate consultation with the Nansemond Indian Nation in compliance with Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108) and its implementing regulations (36 CFR § 800).

In addition to the tunnel, the project would also include construction of new diversion structures to redirect CSOs from Piney Branch into the tunnel when the capacity of the existing sewer system is exceeded during storms. Other supporting infrastructure would include ventilation control, drop shafts, and access shafts. Once diverted to the tunnel, excess flows would be conveyed by gravity to DC Water's Blue Plains Advanced Wastewater Treatment Plant by the East Rock Creek Diversion Sewer for treatment before being discharged to the Potomac River. The proposed tunnel is a component of DC Water's Long Term Control Plan, also known as the DC Clean River Project. The project would reduce untreated discharges from the combined sewer system to Piney Branch by an estimated 96%, as well as reduce existing CSO frequency from 25 to one per average rainfall year.

Purpose and Need

The purpose of the project is to reduce untreated discharges from the combined sewer system to Piney Branch by increasing CSO storage and conveyance capacity. The project is needed to reduce CSOs that contribute to water quality impairment of Rock Creek, the Potomac River, and ultimately the Chesapeake Bay; and to comply with the 2005 Federal Consent Decree entered into by DC Water, the District of Columbia, the Environmental Protection Agency, and the US Department of Justice, as amended January 2016.

Section 106 and Historic Properties

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NPS and DC Water will work with the District of Columbia State Historic Preservation Office (DC SHPO) and other consulting parties to finalize a formal determination of effect through the Section 106 consultation process. A list of potential consulting parties can be found attached this this letter. We welcome the opportunity to identify and evaluate modifications to the proposed project that will avoid, minimize, or mitigate potential adverse effects on historic properties within the APE.

A preliminary list of historic resources within the draft APE includes Rock Creek Park Historic District and Mount Pleasant Historic District, both listed in the National Register of Historic Places (NRHP), and the Woodner Apartment Building (3636 16th Street, NW), which was determined eligible for listing in the NRHP through a Historic Preservation Certification Application Part 1 submittal in 2022 (NPS Project #44327).

Rock Creek Park Historic District

Also referred to as US Reservation 339, Rock Creek Park Historic District lies north of the Smithsonian National Zoo and contains nine contributing buildings and 22 structures and objects. The period of significance stretches from 1791 to 1941. The Historic District was listed in the DC Inventory of Historic Sites (DC Inventory) in 1964 and was listed in the NRHP in 1991. Three contributing resources fall within the APE including the 16th Street Bridge, constructed between 1907 and 1910, Piney Branch Parkway, constructed in 1935, and the Piney Branch Parkway retaining walls erected in 1936.

Within the Rock Creek Park Historic District, CSO 049 was constructed circa 1936 (Photo 1); however, the culvert was heavily altered and expanded from a one-gate outfall to a three-gate outfall circa 1957. The original one-gate outfall was expanded to two gates (Photo 2) and a third gate was added west of the original (Photo 3). The stonework and design between the 1936 culvert and the 1957 culvert are markedly different, including height, cap design, mortar joints, and ashlar pattern of the stone. CSO 049 is not specifically mentioned in the Rock Creek Historic District NRHP nomination, though the nomination does state that culverts and retaining walls are contributing if they were constructed prior to 1941. No formal Determination of Eligibility has been executed on CSO 049 documenting integrity of the 1936 design. DC Water or their contractor plans to prepare a Determination of Eligibility for the outfall structure and requests your comments or feedback prior to commencing the work.

Note, the only other major infrastructure within the APE is the Park Road Bridge constructed in 1958; it is not a contributing resource to the historic district.

Photo 1: 1936 photograph of the original CSO 049 outfall (DC Water, 1936).

Photo 2: Former single-gate outfall was converted to a double-gate outfall in 1957 (Traceries, 2022).

Photo 3: The third gate of CSO 049, which lies west of the double-gate outfall (Traceries, 2022).

Mount Pleasant Historic District

Mount Pleasant Historic District is bounded roughly by 16th Street, NW, to the east, Harvard Street, NW, to the south, Rock Creek Park Historic District to the west, and Piney Branch Park (a section of Rock Creek Park Historic District), to the north. Containing approximately 1,100 contributing buildings constructed between 1870 and 1949, which is also the identified period of significance, Mount Pleasant is a significant planned historic neighborhood in Washington, DC. The district was listed in the DC Inventory in 1987, and in the NRHP, that same year, under Criterion C for architecture and community planning.

Woodner Apartment Building

Completed in 1952, the Woodner Apartment Building was designed by architect Wallace F. Holladay, Sr., in collaboration with owner-architect Ian Woodner for the Jonathan Woodner Company. Designed and constructed during the early postwar period, the Wooder became the preferred home base for many prominent political figures during this time of economic and demographic expansion of Washington, DC. The luxury building was executed in the International Style, with an expansive lobby, high end restaurants, and lounges with views overlooking Rock Creek Park. The building was determined eligible for listing in the NRHP under Criteria A and C in January 2022 for its association with Washington's postwar culture and history and its luxurious mid-century international design.

Archeological Resources

In addition, Stantec Consulting Services Inc. (Stantec), on behalf of NPS and DC Water, is in the process of developing a Phase 1A Archeological Work Plan to assess the potential for archaeological resources

within the APE. Upon confirmation of initiation of Section 106 review by the DC SHPO, Stantec, on behalf of NPS and DC Water, will submit a formal request for an Archaeological Resources ID, which will be needed to complete a Phase IA Archeological Work Plan. The resources ID will summarize previous archaeological studies, and any resources found within this project's proposed APE, and within a designated buffer. The work plan will describe soil conditions within the APE where direct effects (i.e., ground surface disturbance) is anticipated, including elevation change, and proposed investigations to assess the archaeological potential within the direct effects APE.

Section 106 and NEPA Coordination

In accordance with the National Environmental Policy Act (NEPA), and in partnership with DC Water, the NPS will prepare an Environmental Assessment (EA) to document the analysis of potential impacts of the proposed CSO control project. NPS plans to coordinate the Section 106 and NEPA processes per the implementing regulations (36 CFR § 800.8) of the NHPA. The NPS will also develop an Assessment of Effect for this project as a separate, but parallel, process to the EA.

We look forward to beginning the Section 106 consultation process for this project. If you have any questions or preliminary feedback related to the project, draft APE, historic properties, or regarding the preparation of a formal Determination of Eligibility for CSO 049, please contact Nick Bartolomeo, Resource Manager for Rock Creek Park, at nick_bartolomeo@nps.gov or call (202) 895-6010.

Sincerely,

Brian D. Joyner

Brian Joyner
Acting Superintendent

Attachments: Draft Area of Potential Effects Map
List of Potential Consulting Parties

cc: Chief Earl Bass, Nansemond Indian Nation

United States Department of the Interior

NATIONAL PARK SERVICE
National Capital Region
Rock Creek Park
3545 Williamsburg Lane, NW
Washington, DC 20008-1207

July 21, 2022

Chief Robert Gray
Pamunkey Indian Tribe
Sent by email to robert.gray@pamunkey.org

Re: Initiation of Section 106 Consultation, Piney Branch CSO 049 Control Project

Dear Chief Gray:

The District of Columbia Water and Sewer Authority (DC Water), in cooperation with the National Park Service (NPS), proposes to construct a 4.2-million-gallon underground storage and conveyance tunnel to provide control for Combined Sewer Overflow (CSO) 049 along Piney Branch in Rock Creek Park. NPS is writing to formally initiate consultation with the Pamunkey Indian Tribe in compliance with Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108) and its implementing regulations (36 CFR § 800).

In addition to the tunnel, the project would also include construction of new diversion structures to redirect CSOs from Piney Branch into the tunnel when the capacity of the existing sewer system is exceeded during storms. Other supporting infrastructure would include ventilation control, drop shafts, and access shafts. Once diverted to the tunnel, excess flows would be conveyed by gravity to DC Water's Blue Plains Advanced Wastewater Treatment Plant by the East Rock Creek Diversion Sewer for treatment before being discharged to the Potomac River. The proposed tunnel is a component of DC Water's Long Term Control Plan, also known as the DC Clean River Project. The project would reduce untreated discharges from the combined sewer system to Piney Branch by an estimated 96%, as well as reduce existing CSO frequency from 25 to one per average rainfall year.

Purpose and Need

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We look forward to beginning the Section 106 consultation process for this project. If you have any questions or preliminary feedback related to the project, draft APE, historic properties, or regarding the preparation of a formal Determination of Eligibility for CSO 049, please contact Nick Bartolomeo, Resource Manager for Rock Creek Park, at nick_bartolomeo@nps.gov or call (202) 895-6010.

Sincerely,

Brian D. Joyner

Brian Joyner
Acting Superintendent

Attachments: Draft Area of Potential Effects Map
List of Potential Consulting Parties

United States Department of the Interior

NATIONAL PARK SERVICE
National Capital Region
Rock Creek Park
3545 Williamsburg Lane, NW
Washington, DC 20008-1207

July 21, 2022

Chief Anne Richardson
Rappahannock Tribe
Sent by email to chiefannerich@aol.com

Re: Initiation of Section 106 Consultation, Piney Branch CSO 049 Control Project

Dear Chief Richardson:

The District of Columbia Water and Sewer Authority (DC Water), in cooperation with the National Park Service (NPS), proposes to construct a 4.2-million-gallon underground storage and conveyance tunnel to provide control for Combined Sewer Overflow (CSO) 049 along Piney Branch in Rock Creek Park. NPS is writing to formally initiate consultation with the Rappahannock Tribe in compliance with Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108) and its implementing regulations (36 CFR § 800).

In addition to the tunnel, the project would also include construction of new diversion structures to redirect CSOs from Piney Branch into the tunnel when the capacity of the existing sewer system is exceeded during storms. Other supporting infrastructure would include ventilation control, drop shafts, and access shafts. Once diverted to the tunnel, excess flows would be conveyed by gravity to DC Water's Blue Plains Advanced Wastewater Treatment Plant by the East Rock Creek Diversion Sewer for treatment before being discharged to the Potomac River. The proposed tunnel is a component of DC Water's Long Term Control Plan, also known as the DC Clean River Project. The project would reduce untreated discharges from the combined sewer system to Piney Branch by an estimated 96%, as well as reduce existing CSO frequency from 25 to one per average rainfall year.

Purpose and Need

The purpose of the project is to reduce untreated discharges from the combined sewer system to Piney Branch by increasing CSO storage and conveyance capacity. The project is needed to reduce CSOs that contribute to water quality impairment of Rock Creek, the Potomac River, and ultimately the Chesapeake Bay; and to comply with the 2005 Federal Consent Decree entered into by DC Water, the District of Columbia, the Environmental Protection Agency, and the US Department of Justice, as amended January 2016.

Section 106 and Historic Properties

To prepare for the Section 106 consultation process, the project team has developed a graphic illustration of the draft Area of Potential Effects (APE), (see attached), that is subject to modification through the consultation process. The draft APE for indirect effects encompasses the tunnel corridor (i.e., the area within which the tunnel could be constructed underground), while the APE for direct effects includes potential areas of direct surface disturbance at construction staging areas, as well as locations within the tunnel corridor that may be selected for geotechnical drilling operations. The specific drilling locations, while currently unknown, are anticipated to be within the APE south of Piney Branch Parkway.

NPS and DC Water will work with the District of Columbia State Historic Preservation Office (DC SHPO) and other consulting parties to finalize a formal determination of effect through the Section 106 consultation process. A list of potential consulting parties can be found attached this this letter. We welcome the opportunity to identify and evaluate modifications to the proposed project that will avoid, minimize, or mitigate potential adverse effects on historic properties within the APE.

A preliminary list of historic resources within the draft APE includes Rock Creek Park Historic District and Mount Pleasant Historic District, both listed in the National Register of Historic Places (NRHP), and the Woodner Apartment Building (3636 16th Street, NW), which was determined eligible for listing in the NRHP through a Historic Preservation Certification Application Part 1 submittal in 2022 (NPS Project #44327).

Rock Creek Park Historic District

Also referred to as US Reservation 339, Rock Creek Park Historic District lies north of the Smithsonian National Zoo and contains nine contributing buildings and 22 structures and objects. The period of significance stretches from 1791 to 1941. The Historic District was listed in the DC Inventory of Historic Sites (DC Inventory) in 1964 and was listed in the NRHP in 1991. Three contributing resources fall within the APE including the 16th Street Bridge, constructed between 1907 and 1910, Piney Branch Parkway, constructed in 1935, and the Piney Branch Parkway retaining walls erected in 1936.

Within the Rock Creek Park Historic District, CSO 049 was constructed circa 1936 (Photo 1); however, the culvert was heavily altered and expanded from a one-gate outfall to a three-gate outfall circa 1957. The original one-gate outfall was expanded to two gates (Photo 2) and a third gate was added west of the original (Photo 3). The stonework and design between the 1936 culvert and the 1957 culvert are markedly different, including height, cap design, mortar joints, and ashlar pattern of the stone. CSO 049 is not specifically mentioned in the Rock Creek Historic District NRHP nomination, though the nomination does state that culverts and retaining walls are contributing if they were constructed prior to 1941. No formal Determination of Eligibility has been executed on CSO 049 documenting integrity of the 1936 design. DC Water or their contractor plans to prepare a Determination of Eligibility for the outfall structure and requests your comments or feedback prior to commencing the work.

Note, the only other major infrastructure within the APE is the Park Road Bridge constructed in 1958; it is not a contributing resource to the historic district.

Photo 1: 1936 photograph of the original CSO 049 outfall (DC Water, 1936).

Photo 2: Former single-gate outfall was converted to a double-gate outfall in 1957 (Traceries, 2022).

Photo 3: The third gate of CSO 049, which lies west of the double-gate outfall (Traceries, 2022).

Mount Pleasant Historic District

Mount Pleasant Historic District is bounded roughly by 16th Street, NW, to the east, Harvard Street, NW, to the south, Rock Creek Park Historic District to the west, and Piney Branch Park (a section of Rock Creek Park Historic District), to the north. Containing approximately 1,100 contributing buildings constructed between 1870 and 1949, which is also the identified period of significance, Mount Pleasant is a significant planned historic neighborhood in Washington, DC. The district was listed in the DC Inventory in 1987, and in the NRHP, that same year, under Criterion C for architecture and community planning.

Woodner Apartment Building

Completed in 1952, the Woodner Apartment Building was designed by architect Wallace F. Holladay, Sr., in collaboration with owner-architect Ian Woodner for the Jonathan Woodner Company. Designed and constructed during the early postwar period, the Wooder became the preferred home base for many prominent political figures during this time of economic and demographic expansion of Washington, DC. The luxury building was executed in the International Style, with an expansive lobby, high end restaurants, and lounges with views overlooking Rock Creek Park. The building was determined eligible for listing in the NRHP under Criteria A and C in January 2022 for its association with Washington's postwar culture and history and its luxurious mid-century international design.

Archeological Resources

In addition, Stantec Consulting Services Inc. (Stantec), on behalf of NPS and DC Water, is in the process of developing a Phase 1A Archeological Work Plan to assess the potential for archaeological resources

within the APE. Upon confirmation of initiation of Section 106 review by the DC SHPO, Stantec, on behalf of NPS and DC Water, will submit a formal request for an Archaeological Resources ID, which will be needed to complete a Phase IA Archeological Work Plan. The resources ID will summarize previous archaeological studies, and any resources found within this project's proposed APE, and within a designated buffer. The work plan will describe soil conditions within the APE where direct effects (i.e., ground surface disturbance) is anticipated, including elevation change, and proposed investigations to assess the archaeological potential within the direct effects APE.

Section 106 and NEPA Coordination

In accordance with the National Environmental Policy Act (NEPA), and in partnership with DC Water, the NPS will prepare an Environmental Assessment (EA) to document the analysis of potential impacts of the proposed CSO control project. NPS plans to coordinate the Section 106 and NEPA processes per the implementing regulations (36 CFR § 800.8) of the NHPA. The NPS will also develop an Assessment of Effect for this project as a separate, but parallel, process to the EA.

We look forward to beginning the Section 106 consultation process for this project. If you have any questions or preliminary feedback related to the project, draft APE, historic properties, or regarding the preparation of a formal Determination of Eligibility for CSO 049, please contact Nick Bartolomeo, Resource Manager for Rock Creek Park, at nick_bartolomeo@nps.gov or call (202) 895-6010.

Sincerely,

Brian D. Joyner

Brian Joyner
Acting Superintendent

Attachments: Draft Area of Potential Effects Map
List of Potential Consulting Parties

United States Department of the Interior

NATIONAL PARK SERVICE
National Capital Region
Rock Creek Park
3545 Williamsburg Lane, NW
Washington, DC 20008-1207

July 21, 2022

Chief Benjamin Barnes
Shawnee Tribe
Sent by email to chief@shawnee-tribe.com

Re: Initiation of Section 106 Consultation, Piney Branch CSO 049 Control Project

Dear Chief Barnes:

The District of Columbia Water and Sewer Authority (DC Water), in cooperation with the National Park Service (NPS), proposes to construct a 4.2-million-gallon underground storage and conveyance tunnel to provide control for Combined Sewer Overflow (CSO) 049 along Piney Branch in Rock Creek Park. NPS is writing to formally initiate consultation with the Shawnee Tribe in compliance with Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108) and its implementing regulations (36 CFR § 800).

In addition to the tunnel, the project would also include construction of new diversion structures to redirect CSOs from Piney Branch into the tunnel when the capacity of the existing sewer system is exceeded during storms. Other supporting infrastructure would include ventilation control, drop shafts, and access shafts. Once diverted to the tunnel, excess flows would be conveyed by gravity to DC Water's Blue Plains Advanced Wastewater Treatment Plant by the East Rock Creek Diversion Sewer for treatment before being discharged to the Potomac River. The proposed tunnel is a component of DC Water's Long Term Control Plan, also known as the DC Clean River Project. The project would reduce untreated discharges from the combined sewer system to Piney Branch by an estimated 96%, as well as reduce existing CSO frequency from 25 to one per average rainfall year.

Purpose and Need

The purpose of the project is to reduce untreated discharges from the combined sewer system to Piney Branch by increasing CSO storage and conveyance capacity. The project is needed to reduce CSOs that contribute to water quality impairment of Rock Creek, the Potomac River, and ultimately the Chesapeake Bay; and to comply with the 2005 Federal Consent Decree entered into by DC Water, the District of Columbia, the Environmental Protection Agency, and the US Department of Justice, as amended January 2016.

Section 106 and Historic Properties

To prepare for the Section 106 consultation process, the project team has developed a graphic illustration of the draft Area of Potential Effects (APE), (see attached), that is subject to modification through the consultation process. The draft APE for indirect effects encompasses the tunnel corridor (i.e., the area within which the tunnel could be constructed underground), while the APE for direct effects includes potential areas of direct surface disturbance at construction staging areas, as well as locations within the tunnel corridor that may be selected for geotechnical drilling operations. The specific drilling locations, while currently unknown, are anticipated to be within the APE south of Piney Branch Parkway.

NPS and DC Water will work with the District of Columbia State Historic Preservation Office (DC SHPO) and other consulting parties to finalize a formal determination of effect through the Section 106 consultation process. A list of potential consulting parties can be found attached this this letter. We welcome the opportunity to identify and evaluate modifications to the proposed project that will avoid, minimize, or mitigate potential adverse effects on historic properties within the APE.

A preliminary list of historic resources within the draft APE includes Rock Creek Park Historic District and Mount Pleasant Historic District, both listed in the National Register of Historic Places (NRHP), and the Woodner Apartment Building (3636 16th Street, NW), which was determined eligible for listing in the NRHP through a Historic Preservation Certification Application Part 1 submittal in 2022 (NPS Project #44327).

Rock Creek Park Historic District

Also referred to as US Reservation 339, Rock Creek Park Historic District lies north of the Smithsonian National Zoo and contains nine contributing buildings and 22 structures and objects. The period of significance stretches from 1791 to 1941. The Historic District was listed in the DC Inventory of Historic Sites (DC Inventory) in 1964 and was listed in the NRHP in 1991. Three contributing resources fall within the APE including the 16th Street Bridge, constructed between 1907 and 1910, Piney Branch Parkway, constructed in 1935, and the Piney Branch Parkway retaining walls erected in 1936.

Within the Rock Creek Park Historic District, CSO 049 was constructed circa 1936 (Photo 1); however, the culvert was heavily altered and expanded from a one-gate outfall to a three-gate outfall circa 1957. The original one-gate outfall was expanded to two gates (Photo 2) and a third gate was added west of the original (Photo 3). The stonework and design between the 1936 culvert and the 1957 culvert are markedly different, including height, cap design, mortar joints, and ashlar pattern of the stone. CSO 049 is not specifically mentioned in the Rock Creek Historic District NRHP nomination, though the nomination does state that culverts and retaining walls are contributing if they were constructed prior to 1941. No formal Determination of Eligibility has been executed on CSO 049 documenting integrity of the 1936 design. DC Water or their contractor plans to prepare a Determination of Eligibility for the outfall structure and requests your comments or feedback prior to commencing the work.

Note, the only other major infrastructure within the APE is the Park Road Bridge constructed in 1958; it is not a contributing resource to the historic district.

Photo 1: 1936 photograph of the original CSO 049 outfall (DC Water, 1936).

Photo 2: Former single-gate outfall was converted to a double-gate outfall in 1957 (Traceries, 2022).

Photo 3: The third gate of CSO 049, which lies west of the double-gate outfall (Traceries, 2022).

Mount Pleasant Historic District

Mount Pleasant Historic District is bounded roughly by 16th Street, NW, to the east, Harvard Street, NW, to the south, Rock Creek Park Historic District to the west, and Piney Branch Park (a section of Rock Creek Park Historic District), to the north. Containing approximately 1,100 contributing buildings constructed between 1870 and 1949, which is also the identified period of significance, Mount Pleasant is a significant planned historic neighborhood in Washington, DC. The district was listed in the DC Inventory in 1987, and in the NRHP, that same year, under Criterion C for architecture and community planning.

Woodner Apartment Building

Completed in 1952, the Woodner Apartment Building was designed by architect Wallace F. Holladay, Sr., in collaboration with owner-architect Ian Woodner for the Jonathan Woodner Company. Designed and constructed during the early postwar period, the Wooder became the preferred home base for many prominent political figures during this time of economic and demographic expansion of Washington, DC. The luxury building was executed in the International Style, with an expansive lobby, high end restaurants, and lounges with views overlooking Rock Creek Park. The building was determined eligible for listing in the NRHP under Criteria A and C in January 2022 for its association with Washington's postwar culture and history and its luxurious mid-century international design.

Archeological Resources

In addition, Stantec Consulting Services Inc. (Stantec), on behalf of NPS and DC Water, is in the process of developing a Phase 1A Archeological Work Plan to assess the potential for archaeological resources

within the APE. Upon confirmation of initiation of Section 106 review by the DC SHPO, Stantec, on behalf of NPS and DC Water, will submit a formal request for an Archaeological Resources ID, which will be needed to complete a Phase IA Archeological Work Plan. The resources ID will summarize previous archaeological studies, and any resources found within this project's proposed APE, and within a designated buffer. The work plan will describe soil conditions within the APE where direct effects (i.e., ground surface disturbance) is anticipated, including elevation change, and proposed investigations to assess the archaeological potential within the direct effects APE.

Section 106 and NEPA Coordination

In accordance with the National Environmental Policy Act (NEPA), and in partnership with DC Water, the NPS will prepare an Environmental Assessment (EA) to document the analysis of potential impacts of the proposed CSO control project. NPS plans to coordinate the Section 106 and NEPA processes per the implementing regulations (36 CFR § 800.8) of the NHPA. The NPS will also develop an Assessment of Effect for this project as a separate, but parallel, process to the EA.

We look forward to beginning the Section 106 consultation process for this project. If you have any questions or preliminary feedback related to the project, draft APE, historic properties, or regarding the preparation of a formal Determination of Eligibility for CSO 049, please contact Nick Bartolomeo, Resource Manager for Rock Creek Park, at nick_bartolomeo@nps.gov or call (202) 895-6010.

Sincerely,

Brian D. Joyner

Brian Joyner
Acting Superintendent

Attachments: Draft Area of Potential Effects Map
List of Potential Consulting Parties

cc: Tonya Tipton, Shawnee Tribe

United States Department of the Interior

NATIONAL PARK SERVICE
National Capital Region
Rock Creek Park
3545 Williamsburg Lane, NW
Washington, DC 20008-1207

July 21, 2022

Tonya Tipton, THPO
Shawnee Tribe
Sent by email to tonya@shawnee-tribe.com

Re: Initiation of Section 106 Consultation, Piney Branch CSO 049 Control Project

Dear Ms. Tipton:

The District of Columbia Water and Sewer Authority (DC Water), in cooperation with the National Park Service (NPS), proposes to construct a 4.2-million-gallon underground storage and conveyance tunnel to provide control for Combined Sewer Overflow (CSO) 049 along Piney Branch in Rock Creek Park. NPS is writing to formally initiate consultation with the Shawnee Tribe in compliance with Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108) and its implementing regulations (36 CFR § 800).

In addition to the tunnel, the project would also include construction of new diversion structures to redirect CSOs from Piney Branch into the tunnel when the capacity of the existing sewer system is exceeded during storms. Other supporting infrastructure would include ventilation control, drop shafts, and access shafts. Once diverted to the tunnel, excess flows would be conveyed by gravity to DC Water's Blue Plains Advanced Wastewater Treatment Plant by the East Rock Creek Diversion Sewer for treatment before being discharged to the Potomac River. The proposed tunnel is a component of DC Water's Long Term Control Plan, also known as the DC Clean River Project. The project would reduce untreated discharges from the combined sewer system to Piney Branch by an estimated 96%, as well as reduce existing CSO frequency from 25 to one per average rainfall year.

Purpose and Need

The purpose of the project is to reduce untreated discharges from the combined sewer system to Piney Branch by increasing CSO storage and conveyance capacity. The project is needed to reduce CSOs that contribute to water quality impairment of Rock Creek, the Potomac River, and ultimately the Chesapeake Bay; and to comply with the 2005 Federal Consent Decree entered into by DC Water, the District of Columbia, the Environmental Protection Agency, and the US Department of Justice, as amended January 2016.

Section 106 and Historic Properties

To prepare for the Section 106 consultation process, the project team has developed a graphic illustration of the draft Area of Potential Effects (APE), (see attached), that is subject to modification through the consultation process. The draft APE for indirect effects encompasses the tunnel corridor (i.e., the area within which the tunnel could be constructed underground), while the APE for direct effects includes potential areas of direct surface disturbance at construction staging areas, as well as locations within the tunnel corridor that may be selected for geotechnical drilling operations. The specific drilling locations, while currently unknown, are anticipated to be within the APE south of Piney Branch Parkway.

NPS and DC Water will work with the District of Columbia State Historic Preservation Office (DC SHPO) and other consulting parties to finalize a formal determination of effect through the Section 106 consultation process. A list of potential consulting parties can be found attached this this letter. We welcome the opportunity to identify and evaluate modifications to the proposed project that will avoid, minimize, or mitigate potential adverse effects on historic properties within the APE.

A preliminary list of historic resources within the draft APE includes Rock Creek Park Historic District and Mount Pleasant Historic District, both listed in the National Register of Historic Places (NRHP), and the Woodner Apartment Building (3636 16th Street, NW), which was determined eligible for listing in the NRHP through a Historic Preservation Certification Application Part 1 submittal in 2022 (NPS Project #44327).

Rock Creek Park Historic District

Also referred to as US Reservation 339, Rock Creek Park Historic District lies north of the Smithsonian National Zoo and contains nine contributing buildings and 22 structures and objects. The period of significance stretches from 1791 to 1941. The Historic District was listed in the DC Inventory of Historic Sites (DC Inventory) in 1964 and was listed in the NRHP in 1991. Three contributing resources fall within the APE including the 16th Street Bridge, constructed between 1907 and 1910, Piney Branch Parkway, constructed in 1935, and the Piney Branch Parkway retaining walls erected in 1936.

Within the Rock Creek Park Historic District, CSO 049 was constructed circa 1936 (Photo 1); however, the culvert was heavily altered and expanded from a one-gate outfall to a three-gate outfall circa 1957. The original one-gate outfall was expanded to two gates (Photo 2) and a third gate was added west of the original (Photo 3). The stonework and design between the 1936 culvert and the 1957 culvert are markedly different, including height, cap design, mortar joints, and ashlar pattern of the stone. CSO 049 is not specifically mentioned in the Rock Creek Historic District NRHP nomination, though the nomination does state that culverts and retaining walls are contributing if they were constructed prior to 1941. No formal Determination of Eligibility has been executed on CSO 049 documenting integrity of the 1936 design. DC Water or their contractor plans to prepare a Determination of Eligibility for the outfall structure and requests your comments or feedback prior to commencing the work.

Note, the only other major infrastructure within the APE is the Park Road Bridge constructed in 1958; it is not a contributing resource to the historic district.

Photo 1: 1936 photograph of the original CSO 049 outfall (DC Water, 1936).

Photo 2: Former single-gate outfall was converted to a double-gate outfall in 1957 (Traceries, 2022).

Photo 3: The third gate of CSO 049, which lies west of the double-gate outfall (Traceries, 2022).

Mount Pleasant Historic District

Mount Pleasant Historic District is bounded roughly by 16th Street, NW, to the east, Harvard Street, NW, to the south, Rock Creek Park Historic District to the west, and Piney Branch Park (a section of Rock Creek Park Historic District), to the north. Containing approximately 1,100 contributing buildings constructed between 1870 and 1949, which is also the identified period of significance, Mount Pleasant is a significant planned historic neighborhood in Washington, DC. The district was listed in the DC Inventory in 1987, and in the NRHP, that same year, under Criterion C for architecture and community planning.

Woodner Apartment Building

Completed in 1952, the Woodner Apartment Building was designed by architect Wallace F. Holladay, Sr., in collaboration with owner-architect Ian Woodner for the Jonathan Woodner Company. Designed and constructed during the early postwar period, the Wooder became the preferred home base for many prominent political figures during this time of economic and demographic expansion of Washington, DC. The luxury building was executed in the International Style, with an expansive lobby, high end restaurants, and lounges with views overlooking Rock Creek Park. The building was determined eligible for listing in the NRHP under Criteria A and C in January 2022 for its association with Washington's postwar culture and history and its luxurious mid-century international design.

Archeological Resources

In addition, Stantec Consulting Services Inc. (Stantec), on behalf of NPS and DC Water, is in the process of developing a Phase 1A Archeological Work Plan to assess the potential for archaeological resources

within the APE. Upon confirmation of initiation of Section 106 review by the DC SHPO, Stantec, on behalf of NPS and DC Water, will submit a formal request for an Archaeological Resources ID, which will be needed to complete a Phase IA Archeological Work Plan. The resources ID will summarize previous archaeological studies, and any resources found within this project's proposed APE, and within a designated buffer. The work plan will describe soil conditions within the APE where direct effects (i.e., ground surface disturbance) is anticipated, including elevation change, and proposed investigations to assess the archaeological potential within the direct effects APE.

Section 106 and NEPA Coordination

In accordance with the National Environmental Policy Act (NEPA), and in partnership with DC Water, the NPS will prepare an Environmental Assessment (EA) to document the analysis of potential impacts of the proposed CSO control project. NPS plans to coordinate the Section 106 and NEPA processes per the implementing regulations (36 CFR § 800.8) of the NHPA. The NPS will also develop an Assessment of Effect for this project as a separate, but parallel, process to the EA.

We look forward to beginning the Section 106 consultation process for this project. If you have any questions or preliminary feedback related to the project, draft APE, historic properties, or regarding the preparation of a formal Determination of Eligibility for CSO 049, please contact Nick Bartolomeo, Resource Manager for Rock Creek Park, at nick_bartolomeo@nps.gov or call (202) 895-6010.

Sincerely,

Brian D. Joyner

Brian Joyner
Acting Superintendent

Attachments: Draft Area of Potential Effects Map
List of Potential Consulting Parties

cc: Chief Benjamin Barnes, Shawnee Tribe

Schrader, Brett

From: Amanda Zander <Amanda.Jacob@dcwater.com>
Sent: Friday, March 17, 2023 11:39 AM
To: Michael Gallo; Schrader, Brett
Subject: Fw: Section 106 Consultation - Meeting Tonight! DC Water Seeks Public Input on the Piney Branch CSO 049 Storage Project

FYI, see below.

Amanda

Amanda Zander, REM| Public Outreach Coordinator & Private Space Implementation Manager, DC Clean Rivers Project | District of Columbia Water and Sewer Authority | 5000 Overlook Avenue, SW | Washington, DC 20032 | (202) 787-4142 |amanda.zander@dcwater.com

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From: DC Piney Branch <dcpineybranch@dcwater.com>
Sent: Friday, March 17, 2023 11:37 AM
To: Amanda Zander <Amanda.Jacob@dcwater.com>
Subject: Fw: Section 106 Consultation - Meeting Tonight! DC Water Seeks Public Input on the Piney Branch CSO 049 Storage Project

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From: Laserfiche Notification <donotreply@laserfiche.com>
Sent: Thursday, March 16, 2023 6:28 PM
To: DC Piney Branch <dcpineybranch@dcwater.com>
Subject: Section 106 Consultation - Meeting Tonight! DC Water Seeks Public Input on the Piney Branch CSO 049 Storage Project

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This email is in response to Meeting Tonight! DC Water Seeks Public Input on the Piney Branch CSO 049 Storage Project. The project is out of the Shawnee Tribe's area of interest. If you have any questions, you may contact me via email at Section106@shawnee-tribe.com.
Thank you for giving us the opportunity to comment on this project.
Sincerely,

Erin Paden
TRIBAL HISTORIC PRESERVATION SPECIALIST
Office: (918) 542-2441, x140
Email: epaden@shawnee-tribe.com
29 S Hwy 69A
Miami, OK 74354
shawnee-tribe.com

United States Department of the Interior

NATIONAL PARK SERVICE
National Capital Region
Rock Creek Park
3545 Williamsburg Lane, NW
Washington, DC 20008-1207

July 21, 2022

Chief Frank Adams
Upper Mattaponi Indian Tribe
Sent by email to wfrankadams@verizon.net

Re: Initiation of Section 106 Consultation, Piney Branch CSO 049 Control Project

Dear Chief Adams:

The District of Columbia Water and Sewer Authority (DC Water), in cooperation with the National Park Service (NPS), proposes to construct a 4.2-million-gallon underground storage and conveyance tunnel to provide control for Combined Sewer Overflow (CSO) 049 along Piney Branch in Rock Creek Park. NPS is writing to formally initiate consultation with the Upper Mattaponi Indian Tribe in compliance with Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108) and its implementing regulations (36 CFR § 800).

In addition to the tunnel, the project would also include construction of new diversion structures to redirect CSOs from Piney Branch into the tunnel when the capacity of the existing sewer system is exceeded during storms. Other supporting infrastructure would include ventilation control, drop shafts, and access shafts. Once diverted to the tunnel, excess flows would be conveyed by gravity to DC Water's Blue Plains Advanced Wastewater Treatment Plant by the East Rock Creek Diversion Sewer for treatment before being discharged to the Potomac River. The proposed tunnel is a component of DC Water's Long Term Control Plan, also known as the DC Clean River Project. The project would reduce untreated discharges from the combined sewer system to Piney Branch by an estimated 96%, as well as reduce existing CSO frequency from 25 to one per average rainfall year.

Purpose and Need

The purpose of the project is to reduce untreated discharges from the combined sewer system to Piney Branch by increasing CSO storage and conveyance capacity. The project is needed to reduce CSOs that contribute to water quality impairment of Rock Creek, the Potomac River, and ultimately the Chesapeake Bay; and to comply with the 2005 Federal Consent Decree entered into by DC Water, the District of Columbia, the Environmental Protection Agency, and the US Department of Justice, as amended January 2016.

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NPS and DC Water will work with the District of Columbia State Historic Preservation Office (DC SHPO) and other consulting parties to finalize a formal determination of effect through the Section 106 consultation process. A list of potential consulting parties can be found attached this this letter. We welcome the opportunity to identify and evaluate modifications to the proposed project that will avoid, minimize, or mitigate potential adverse effects on historic properties within the APE.

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Note, the only other major infrastructure within the APE is the Park Road Bridge constructed in 1958; it is not a contributing resource to the historic district.

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Photo 3: The third gate of CSO 049, which lies west of the double-gate outfall (Traceries, 2022).

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Woodner Apartment Building

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In addition, Stantec Consulting Services Inc. (Stantec), on behalf of NPS and DC Water, is in the process of developing a Phase 1A Archeological Work Plan to assess the potential for archaeological resources

within the APE. Upon confirmation of initiation of Section 106 review by the DC SHPO, Stantec, on behalf of NPS and DC Water, will submit a formal request for an Archaeological Resources ID, which will be needed to complete a Phase IA Archeological Work Plan. The resources ID will summarize previous archaeological studies, and any resources found within this project's proposed APE, and within a designated buffer. The work plan will describe soil conditions within the APE where direct effects (i.e., ground surface disturbance) is anticipated, including elevation change, and proposed investigations to assess the archaeological potential within the direct effects APE.

Section 106 and NEPA Coordination

In accordance with the National Environmental Policy Act (NEPA), and in partnership with DC Water, the NPS will prepare an Environmental Assessment (EA) to document the analysis of potential impacts of the proposed CSO control project. NPS plans to coordinate the Section 106 and NEPA processes per the implementing regulations (36 CFR § 800.8) of the NHPA. The NPS will also develop an Assessment of Effect for this project as a separate, but parallel, process to the EA.

We look forward to beginning the Section 106 consultation process for this project. If you have any questions or preliminary feedback related to the project, draft APE, historic properties, or regarding the preparation of a formal Determination of Eligibility for CSO 049, please contact Nick Bartolomeo, Resource Manager for Rock Creek Park, at nick_bartolomeo@nps.gov or call (202) 895-6010.

Sincerely,

Brian D. Joyner

Brian Joyner
Acting Superintendent

Attachments: Draft Area of Potential Effects Map
List of Potential Consulting Parties

cc: Reggie Tupponce, Upper Mattaponi Indian Tribe

United States Department of the Interior

NATIONAL PARK SERVICE
National Capital Region
Rock Creek Park
3545 Williamsburg Lane, NW
Washington, DC 20008-1207

July 21, 2022

Reggie Tupponce, Tribal Administrator
Upper Mattaponi Indian Tribe
Sent by email to admin@umitribe.org

Re: Initiation of Section 106 Consultation, Piney Branch CSO 049 Control Project

Dear Mr. Tupponce:

The District of Columbia Water and Sewer Authority (DC Water), in cooperation with the National Park Service (NPS), proposes to construct a 4.2-million-gallon underground storage and conveyance tunnel to provide control for Combined Sewer Overflow (CSO) 049 along Piney Branch in Rock Creek Park. NPS is writing to formally initiate consultation with the Upper Mattaponi Indian Tribe in compliance with Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108) and its implementing regulations (36 CFR § 800).

In addition to the tunnel, the project would also include construction of new diversion structures to redirect CSOs from Piney Branch into the tunnel when the capacity of the existing sewer system is exceeded during storms. Other supporting infrastructure would include ventilation control, drop shafts, and access shafts. Once diverted to the tunnel, excess flows would be conveyed by gravity to DC Water's Blue Plains Advanced Wastewater Treatment Plant by the East Rock Creek Diversion Sewer for treatment before being discharged to the Potomac River. The proposed tunnel is a component of DC Water's Long Term Control Plan, also known as the DC Clean River Project. The project would reduce untreated discharges from the combined sewer system to Piney Branch by an estimated 96%, as well as reduce existing CSO frequency from 25 to one per average rainfall year.

Purpose and Need

The purpose of the project is to reduce untreated discharges from the combined sewer system to Piney Branch by increasing CSO storage and conveyance capacity. The project is needed to reduce CSOs that contribute to water quality impairment of Rock Creek, the Potomac River, and ultimately the Chesapeake Bay; and to comply with the 2005 Federal Consent Decree entered into by DC Water, the District of Columbia, the Environmental Protection Agency, and the US Department of Justice, as amended January 2016.

Section 106 and Historic Properties

To prepare for the Section 106 consultation process, the project team has developed a graphic illustration of the draft Area of Potential Effects (APE), (see attached), that is subject to modification through the consultation process. The draft APE for indirect effects encompasses the tunnel corridor (i.e., the area within which the tunnel could be constructed underground), while the APE for direct effects includes potential areas of direct surface disturbance at construction staging areas, as well as locations within the tunnel corridor that may be selected for geotechnical drilling operations. The specific drilling locations, while currently unknown, are anticipated to be within the APE south of Piney Branch Parkway.

NPS and DC Water will work with the District of Columbia State Historic Preservation Office (DC SHPO) and other consulting parties to finalize a formal determination of effect through the Section 106 consultation process. A list of potential consulting parties can be found attached this this letter. We welcome the opportunity to identify and evaluate modifications to the proposed project that will avoid, minimize, or mitigate potential adverse effects on historic properties within the APE.

A preliminary list of historic resources within the draft APE includes Rock Creek Park Historic District and Mount Pleasant Historic District, both listed in the National Register of Historic Places (NRHP), and the Woodner Apartment Building (3636 16th Street, NW), which was determined eligible for listing in the NRHP through a Historic Preservation Certification Application Part 1 submittal in 2022 (NPS Project #44327).

Rock Creek Park Historic District

Also referred to as US Reservation 339, Rock Creek Park Historic District lies north of the Smithsonian National Zoo and contains nine contributing buildings and 22 structures and objects. The period of significance stretches from 1791 to 1941. The Historic District was listed in the DC Inventory of Historic Sites (DC Inventory) in 1964 and was listed in the NRHP in 1991. Three contributing resources fall within the APE including the 16th Street Bridge, constructed between 1907 and 1910, Piney Branch Parkway, constructed in 1935, and the Piney Branch Parkway retaining walls erected in 1936.

Within the Rock Creek Park Historic District, CSO 049 was constructed circa 1936 (Photo 1); however, the culvert was heavily altered and expanded from a one-gate outfall to a three-gate outfall circa 1957. The original one-gate outfall was expanded to two gates (Photo 2) and a third gate was added west of the original (Photo 3). The stonework and design between the 1936 culvert and the 1957 culvert are markedly different, including height, cap design, mortar joints, and ashlar pattern of the stone. CSO 049 is not specifically mentioned in the Rock Creek Historic District NRHP nomination, though the nomination does state that culverts and retaining walls are contributing if they were constructed prior to 1941. No formal Determination of Eligibility has been executed on CSO 049 documenting integrity of the 1936 design. DC Water or their contractor plans to prepare a Determination of Eligibility for the outfall structure and requests your comments or feedback prior to commencing the work.

Note, the only other major infrastructure within the APE is the Park Road Bridge constructed in 1958; it is not a contributing resource to the historic district.

Photo 1: 1936 photograph of the original CSO 049 outfall (DC Water, 1936).

Photo 2: Former single-gate outfall was converted to a double-gate outfall in 1957 (Traceries, 2022).

Photo 3: The third gate of CSO 049, which lies west of the double-gate outfall (Traceries, 2022).

Mount Pleasant Historic District

Mount Pleasant Historic District is bounded roughly by 16th Street, NW, to the east, Harvard Street, NW, to the south, Rock Creek Park Historic District to the west, and Piney Branch Park (a section of Rock Creek Park Historic District), to the north. Containing approximately 1,100 contributing buildings constructed between 1870 and 1949, which is also the identified period of significance, Mount Pleasant is a significant planned historic neighborhood in Washington, DC. The district was listed in the DC Inventory in 1987, and in the NRHP, that same year, under Criterion C for architecture and community planning.

Woodner Apartment Building

Completed in 1952, the Woodner Apartment Building was designed by architect Wallace F. Holladay, Sr., in collaboration with owner-architect Ian Woodner for the Jonathan Woodner Company. Designed and constructed during the early postwar period, the Wooder became the preferred home base for many prominent political figures during this time of economic and demographic expansion of Washington, DC. The luxury building was executed in the International Style, with an expansive lobby, high end restaurants, and lounges with views overlooking Rock Creek Park. The building was determined eligible for listing in the NRHP under Criteria A and C in January 2022 for its association with Washington's postwar culture and history and its luxurious mid-century international design.

Archeological Resources

In addition, Stantec Consulting Services Inc. (Stantec), on behalf of NPS and DC Water, is in the process of developing a Phase 1A Archeological Work Plan to assess the potential for archaeological resources

within the APE. Upon confirmation of initiation of Section 106 review by the DC SHPO, Stantec, on behalf of NPS and DC Water, will submit a formal request for an Archaeological Resources ID, which will be needed to complete a Phase IA Archeological Work Plan. The resources ID will summarize previous archaeological studies, and any resources found within this project's proposed APE, and within a designated buffer. The work plan will describe soil conditions within the APE where direct effects (i.e., ground surface disturbance) is anticipated, including elevation change, and proposed investigations to assess the archaeological potential within the direct effects APE.

Section 106 and NEPA Coordination

In accordance with the National Environmental Policy Act (NEPA), and in partnership with DC Water, the NPS will prepare an Environmental Assessment (EA) to document the analysis of potential impacts of the proposed CSO control project. NPS plans to coordinate the Section 106 and NEPA processes per the implementing regulations (36 CFR § 800.8) of the NHPA. The NPS will also develop an Assessment of Effect for this project as a separate, but parallel, process to the EA.

We look forward to beginning the Section 106 consultation process for this project. If you have any questions or preliminary feedback related to the project, draft APE, historic properties, or regarding the preparation of a formal Determination of Eligibility for CSO 049, please contact Nick Bartolomeo, Resource Manager for Rock Creek Park, at nick_bartolomeo@nps.gov, or call (202) 895-6010.

Sincerely,

Brian D. Joyner

Brian Joyner
Acting Superintendent

Attachments: Draft Area of Potential Effects Map
List of Potential Consulting Parties

cc: Chief Frank Adams, Upper Mattaponi Indian Tribe

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DC Clean Rivers Project
Piney Branch Tunnel Project

Environmental Assessment

October 2024

Appendix C. Tree Survey and Anticipated Impacts

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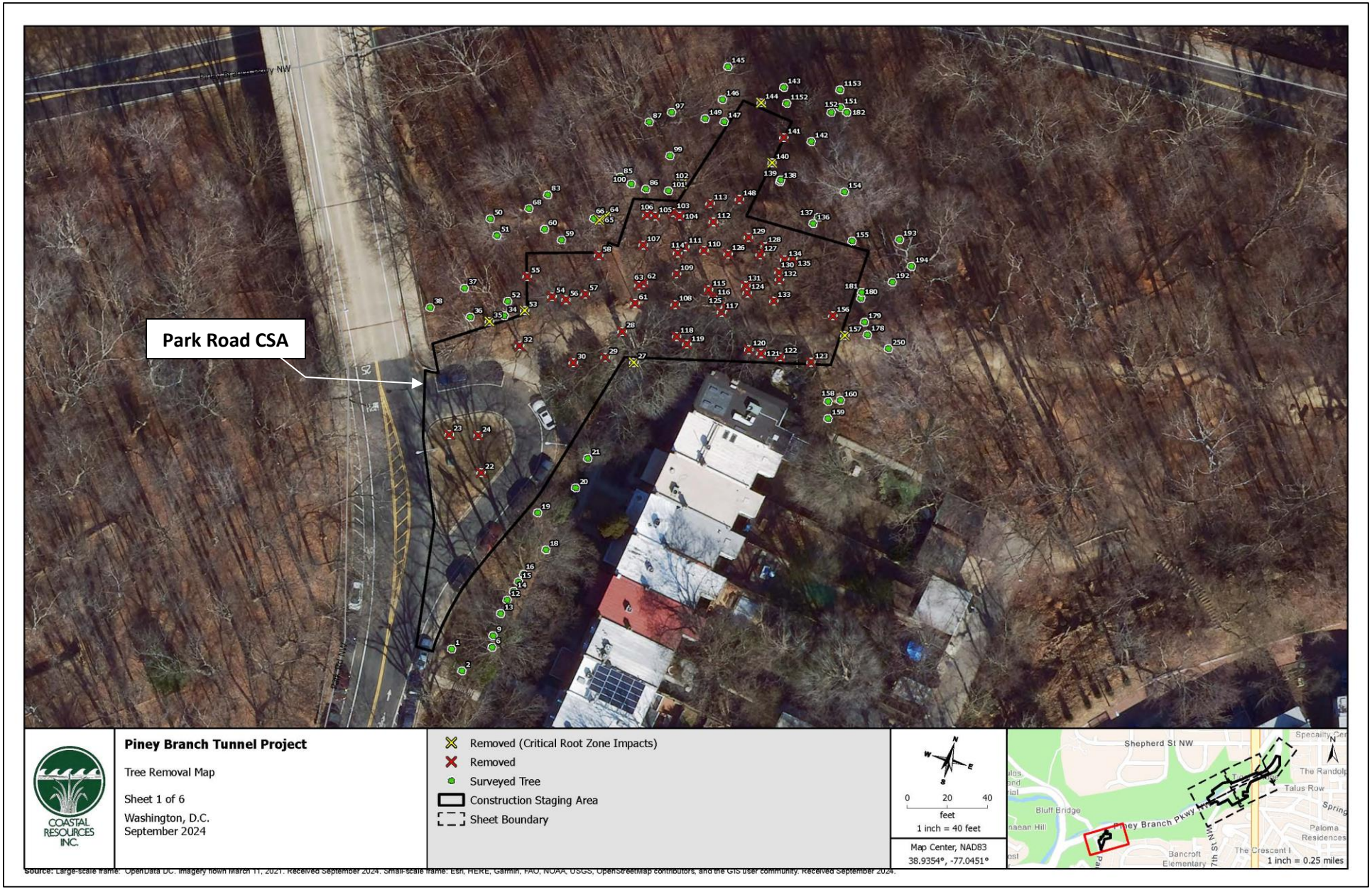
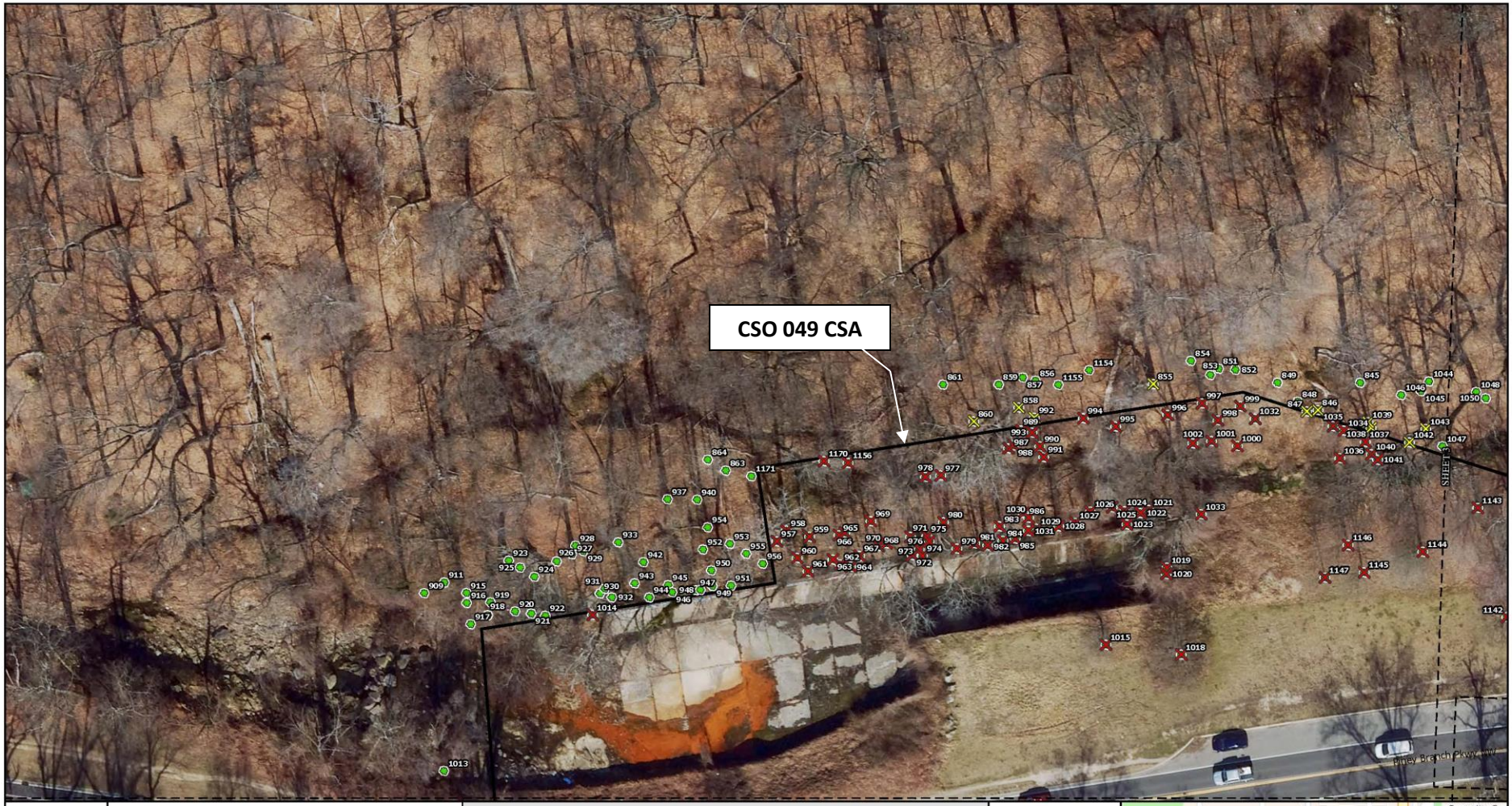

Park Road CSA
Piney Branch Tunnel Project
Tree Removal Map
Sheet 1 of 6
Washington, D.C.
September 2024
COASTAL RESOURCES INC.
Removed (Critical Root Zone Impacts)
Removed
Surveyed Tree
Construction Staging Area
Sheet Boundary
0 20 40
feet
1 inch = 40 feet
Map Center, NAD83
38.9354°, -77.0451°
Shepherd St NW
Piney Branch Pkwy
Talus Row
Paloma Residences
Bancroft Elementary
The Crescent I
1 inch = 0.25 miles
Source: Large-scale frame: OpenData DC. Imagery flown March 11, 2021. Received September 2024. Small-scale frame: Esri, HERE, Garmin, FAO, NOAA, USGS, OpenStreetMap contributors, and the GIS user community. Received September 2024.



COASTAL RESOURCES INC.

Piney Branch Tunnel Project

Tree Removal Map

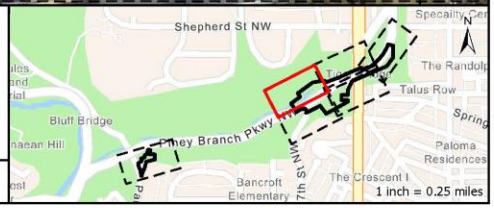
Sheet 2 of 6

Washington, D.C.
September 2024

Removed (Critical Root Zone Impacts)
Removed
Surveyed Tree
Construction Staging Area
Sheet Boundary

0 20 40
feet
1 inch = 40 feet

Map Center, NAD83
38.9377°, -77.039°



Source: Large-scale frame: OpenData DC. Imagery flown March 11, 2021. Received September 2024. Small-scale frame: Esri, HERE, Garmin, FAO, NOAA, USGS, OpenStreetMap contributors, and the GIS user community. Received September 2024.


CSO 049 CSA
Arkansas Ave NW
16th St NW
SHEET 2
SHEET 5
SHEET 6
Piney Branch Pkwy NW
1048
1050
1051
1052
1137
1139
1138
1136
1134
1143
1140
1127
1126
1128
1125
525
1141
1142
1111
1107
1110
1109
1108
1106
1105
1104
1161
1167
1163
1162
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1159
1160
1157
350
Piney Branch Tunnel Project
Tree Removal Map
Sheet 3 of 6
Washington, D.C.
September 2024
COASTAL RESOURCES INC.
Removed (Critical Root Zone Impacts)
Removed
Surveyed Tree
Construction Staging Area
Sheet Boundary
0 20 40
feet
1 inch = 40 feet
Map Center, NAD83
38.9384°, -77.037°
Shepherd St NW
Bluff Bridge
Piney Branch Pkwy
7th St NW
Talus Row
Paloma Residences
Bancroft Elementary
The Crescent I
1 inch = 0.25 miles
Source: Large-scale frame: OpenData DC. Imagery flown March 11, 2021. Received September 2024. Small-scale frame: Esri, HERE, Garmin, FAO, NOAA, USGS, OpenStreetMap contributors, and the GIS user community. Received September 2024.


CSO 049 CSA
Piney Branch Pkwy NW
SHEET 5
Piney Branch Tunnel Project
Tree Removal Map
Sheet 4 of 6
Washington, D.C.
September 2024
COASTAL RESOURCES INC.
Removed (Critical Root Zone Impacts)
Removed
Surveyed Tree
Construction Staging Area
Sheet Boundary
0 20 40
feet
1 inch = 40 feet
Map Center, NAD83
38.9368°, -77.0385°
Shepherd St NW
Piney Branch Pkwy
Talus Row
Bluff Bridge
Paloma Residences
Bancroft Elementary
7th St NW
The Crescent I
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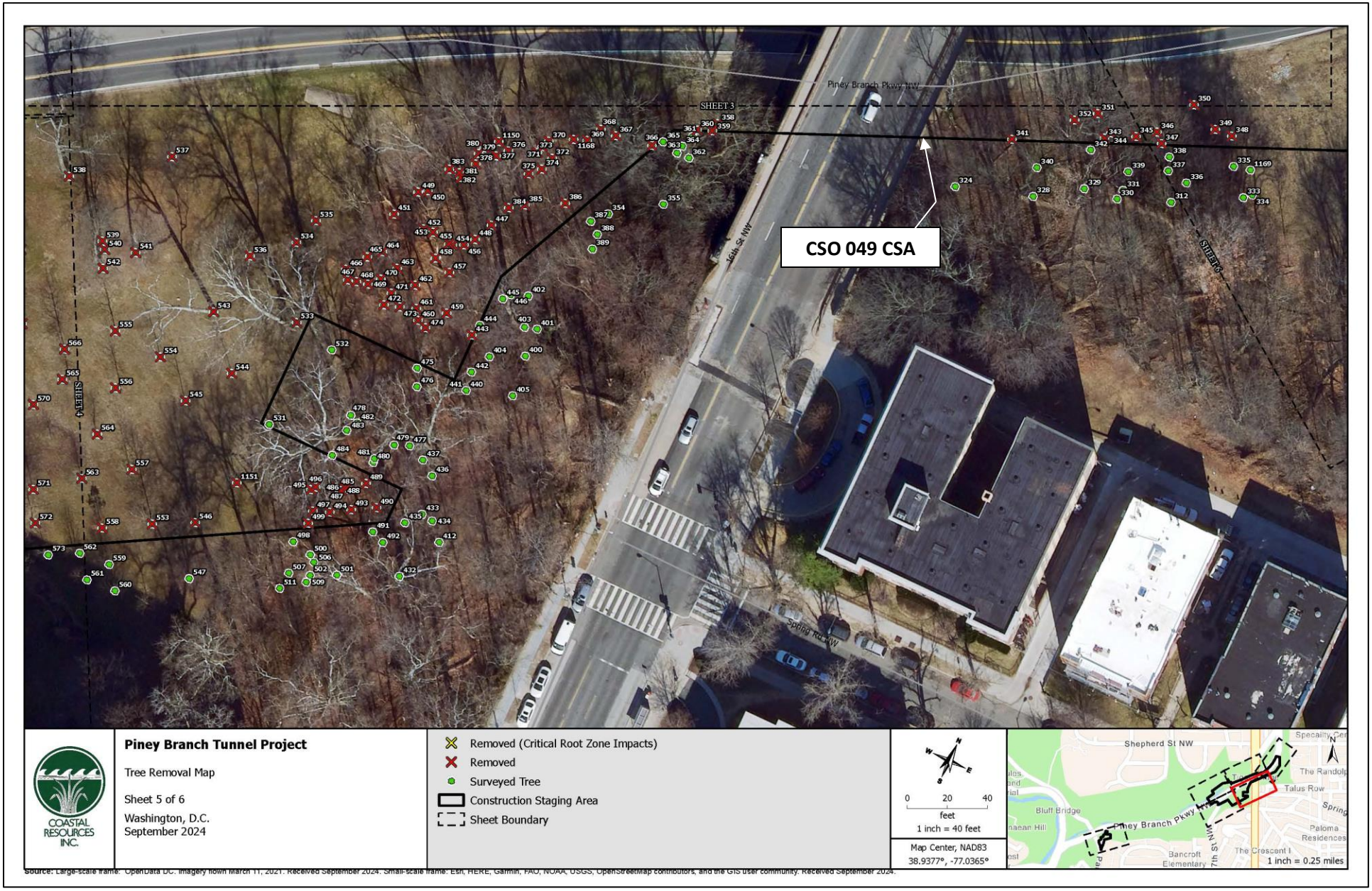
Piney Branch Pkwy NW
SHEET 3
SHEET 4
SHEET 6
14th St NW
CSO 049 CSA
Spring Rd NW
Piney Branch Tunnel Project
Tree Removal Map
Sheet 5 of 6
Washington, D.C.
September 2024
COASTAL RESOURCES INC.
Removed (Critical Root Zone Impacts)
Removed
Surveyed Tree
Construction Staging Area
Sheet Boundary
0 20 40
feet
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Map Center, NAD83
38.9377°, -77.0365°
Shepherd St NW
Piney Branch Pkwy
Talus Row
Bluff Bridge
Bancroft Elementary
Paloma Residences
The Crescent I
7th St NW
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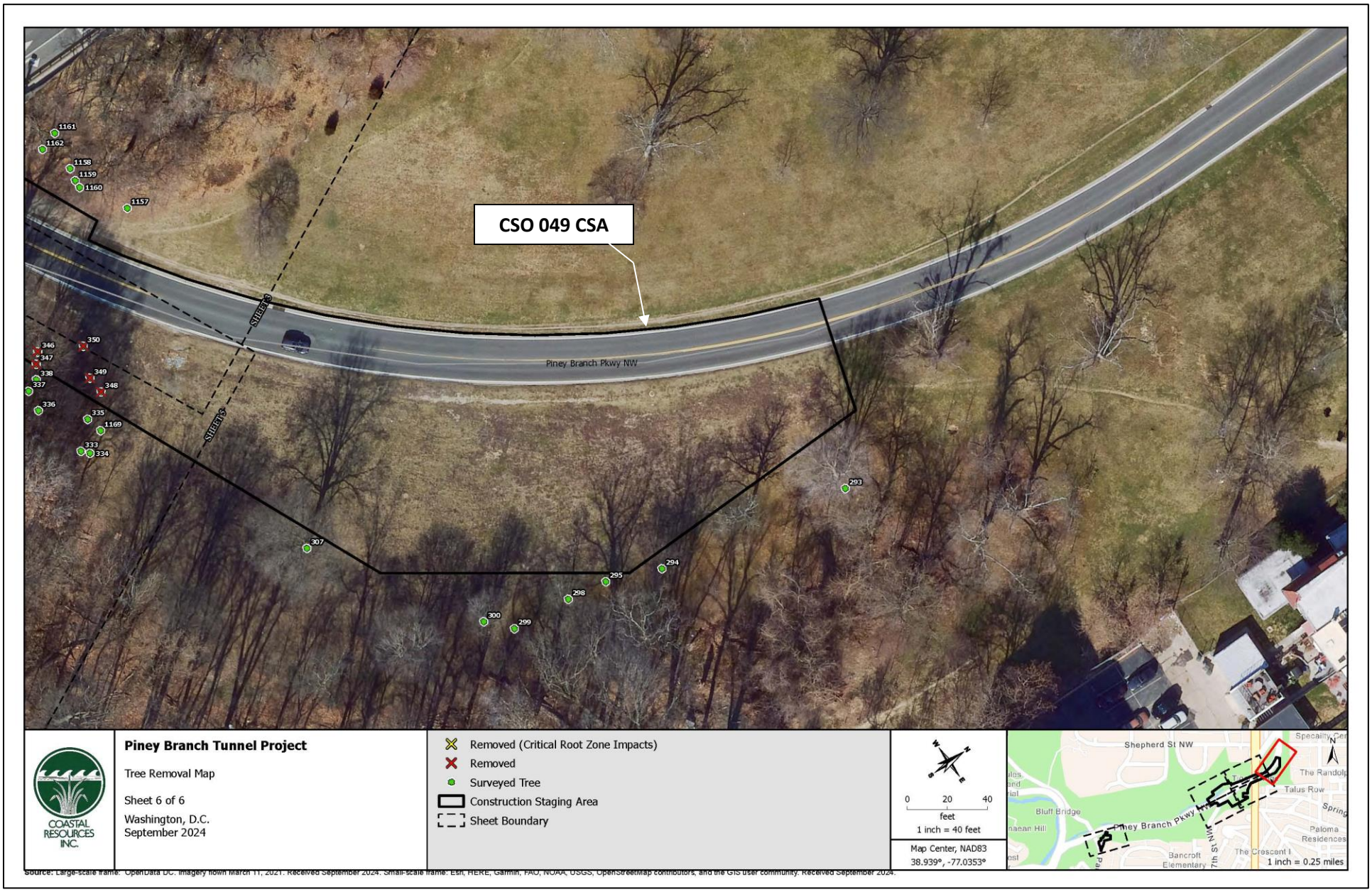
CSO 049 CSA
Piney Branch Pkwy NW
SHEET 5
SHEET 6
1161
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347
338
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348
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1169
333
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299
Piney Branch Tunnel Project
Tree Removal Map
Sheet 6 of 6
Washington, D.C.
September 2024
COASTAL RESOURCES INC.
Removed (Critical Root Zone Impacts)
Removed
Surveyed Tree
Construction Staging Area
Sheet Boundary
0 20 40
feet
1 inch = 40 feet
Map Center, NAD83
38.939°, -77.0353°
Shepherd St NW
Piney Branch Pkwy
Talus Row
Bluff Bridge
Paloma Residences
Bancroft Elementary
7th St NW
1 inch = 0.25 miles
Source: Large-scale frame: OpenData DC. Imagery flown March 11, 2021. Received September 2024. Small-scale frame: Esri, HERE, Garmin, FAO, NOAA, USGS, OpenStreetMap contributors, and the GIS user community. Received September 2024.

CSO 049 CSA Anticipated Tree Removal

Tree ID	Species	DBH	Condition	Status
293	American beech	25	Good	Save
294	American sycamore	12	Good	Save
295	Red maple	5	Good	Save
298	American sycamore	9	Good	Save
299	Red maple	6.5	Good	Save
300	American beech	16.5	Good	Save
307	Pin oak	30	Good	Save
312	Norway maple	12.5	Fair	Save
324	Tree of heaven	10	Good	Save
328	White oak	34	Good	Save
329	Norway maple	8	Good	Save
330	Norway maple	6	Good	Save
331	Norway maple	8.5	Fair	Save
333	American sycamore	3.5	Fair	Save
334	Northern catalpa	3.5	Fair	Save
335	American sycamore	6.5	Good	Save
336	Norway maple	11.5	Fair	Save
337	Norway maple	10	Fair	Save
338	Norway maple	7.5	Fair	Save
339	Norway maple	7	Good	Save
340	Norway maple	8.5	Good	Save
341	Norway maple	11	Good	Removed (Within Construction Staging Area)
342	White oak	24.5	Fair	Save
343	Chestnut oak	33	Good	Removed (Within Construction Staging Area)
344	Norway maple	13	Good	Removed (Within Construction Staging Area)
345	Norway maple	5	Good	Removed (Within Construction Staging Area)
346	Norway maple	8	Good	Removed (Within Construction Staging Area)
347	Norway maple	13	Fair	Removed (Within Construction Staging Area)
348	Red maple	10	Good	Removed (Within Construction Staging Area)
349	Eastern redbud	4	Fair	Removed (Within Construction Staging Area)
350	Eastern redbud	5	Fair	Removed (Within Construction Staging Area)
351	Norway maple	12.5	Good	Removed (Within Construction Staging Area)
352	Norway maple	12.5	Good	Removed (Within Construction Staging Area)
354	Norway maple	9.5	Good	Save
355	Ash-leaf maple	18	Fair	Save
358	Ash-leaf maple	21.5	Fair	Removed (Within Construction Staging Area)
359	Norway maple	8	Fair	Removed (Within Construction Staging Area)
360	American elm	6	Poor	Removed (Within Construction Staging Area)
361	Ash-leaf maple	8.5	Poor	Save
362	Norway maple	6.5	Fair	Save
363	American elm	4.5	Fair	Save

Tree ID	Species	DBH	Condition	Status
364	Norway maple	5.5	Fair	Save
365	Ash-leaf maple	4	Fair	Save
366	Tuliptree	31.5	Fair	Removed (Within Construction Staging Area)
367	Green ash	20.5	Poor	Removed (Within Construction Staging Area)
368	Ash-leaf maple	5,3.5	Good	Removed (Within Construction Staging Area)
369	American elm	7.5	Fair	Removed (Within Construction Staging Area)
370	Ash-leaf maple	4.5	Poor	Removed (Within Construction Staging Area)
371	Green ash	3.5	Fair	Removed (Within Construction Staging Area)
372	Norway maple	7.5	Fair	Removed (Within Construction Staging Area)
373	Tuliptree	21	Fair	Removed (Within Construction Staging Area)
374	Norway maple	6	Poor	Removed (Within Construction Staging Area)
375	Black walnut	21	Poor	Removed (Within Construction Staging Area)
376	Tuliptree	28	Poor	Removed (Within Construction Staging Area)
377	Northern red oak	31	Fair	Removed (Within Construction Staging Area)
378	American elm	5	Poor	Removed (Within Construction Staging Area)
379	American elm	8	Poor	Removed (Within Construction Staging Area)
380	American elm	4.5	Poor	Removed (Within Construction Staging Area)
381	American elm	14	Poor	Removed (Within Construction Staging Area)
382	American sycamore	33.5	Fair	Removed (Within Construction Staging Area)
383	Green ash	3	Poor	Removed (Within Construction Staging Area)
384	Norway maple	4.5	Good	Removed (Within Construction Staging Area)
385	Tuliptree	34.5	Poor	Removed (Within Construction Staging Area)
386	Norway maple	8	Fair	Removed (Within Construction Staging Area)
387	Norway maple	6	Good	Save
388	Norway maple	5	Good	Save
389	Norway maple	4.5	Good	Save
400	Black walnut	11	Fair	Save
401	Norway maple	5.5	Fair	Save
402	Tuliptree	36	Fair	Save
403	Norway maple	11.5	Fair	Save
404	Northern catalpa	3.5	Fair	Save
405	Sugar maple	6	Fair	Save
412	Tuliptree	13.5	Good	Save
432	American sycamore	37	Fair	Save
433	Tuliptree	26.5	Good	Save
434	Norway maple	4	Good	Save
435	Red maple	7.5	Fair	Save
436	Red maple	11.5	Good	Save
437	American sycamore	39.5	Fair	Save
440	Green ash	3.5	Poor	Save
441	Green ash	3	Poor	Save
442	Ash-leaf maple	3	Good	Save

Tree ID	Species	DBH	Condition	Status
443	Ash-leaf maple	3.5	Fair	Removed (Within Construction Staging Area)
444	Tuliptree	25	Fair	Save
445	American hornbeam	4,3	Fair	Save
446	Norway maple	10	Fair	Save
447	Ash-leaf maple	9	Good	Removed (Within Construction Staging Area)
448	Ash-leaf maple	3.5	Good	Removed (Within Construction Staging Area)
449	American elm	8.5	Poor	Removed (Within Construction Staging Area)
450	Ash-leaf maple	4.5	Poor	Removed (Within Construction Staging Area)
451	Ash-leaf maple	5.5	Poor	Removed (Within Construction Staging Area)
452	Ash-leaf maple	5	Fair	Removed (Within Construction Staging Area)
453	American elm	7	Fair	Removed (Within Construction Staging Area)
454	American elm	12	Fair	Removed (Within Construction Staging Area)
455	Ash-leaf maple	7	Poor	Removed (Within Construction Staging Area)
456	Norway maple	8.5	Good	Removed (Within Construction Staging Area)
457	Norway maple	8.5	Fair	Removed (Within Construction Staging Area)
458	Ash-leaf maple	15.5	Poor	Removed (Within Construction Staging Area)
459	Norway maple	13	Good	Removed (Within Construction Staging Area)
460	Sugar maple	8	Good	Removed (Within Construction Staging Area)
461	Ash-leaf maple	4.5	Poor	Removed (Within Construction Staging Area)
462	Ash-leaf maple	3	Poor	Removed (Within Construction Staging Area)
463	Northern red oak	16	Fair	Removed (Within Construction Staging Area)
464	American elm	12	Poor	Removed (Within Construction Staging Area)
465	Sugar maple	4	Fair	Removed (Within Construction Staging Area)
466	Ash-leaf maple	5, 5	Fair	Removed (Within Construction Staging Area)
467	Ash-leaf maple	3.5	Fair	Removed (Within Construction Staging Area)
468	Ash-leaf maple	3	Poor	Removed (Within Construction Staging Area)
469	Ash-leaf maple	4.5	Poor	Removed (Within Construction Staging Area)
470	Ash-leaf maple	4	Fair	Removed (Within Construction Staging Area)
471	Ash-leaf maple	5	Poor	Removed (Within Construction Staging Area)
472	Ash-leaf maple	4.5	Fair	Removed (Within Construction Staging Area)
473	Ash-leaf maple	5	Poor	Removed (Within Construction Staging Area)
474	Ash-leaf maple	3.5,2.5,3.5	Poor	Removed (Within Construction Staging Area)
475	Ash-leaf maple	4.5	Fair	Save
476	Ash-leaf maple	4.5	Fair	Save
477	Ash-leaf maple	5	Poor	Save
478	Norway maple	4.5,3	Fair	Save
479	Norway maple	3	Fair	Save
480	Ash-leaf maple	4	Fair	Save
481	Ash-leaf maple	3	Fair	Save
482	Tuliptree	22.5	Fair	Save
483	American sycamore	47.5	Good	Save
484	Ash-leaf maple	4	Fair	Save

Tree ID	Species	DBH	Condition	Status
485	Ash-leaf maple	4	Fair	Removed (Within Construction Staging Area)
486	Black locust	15.5	Poor	Removed (Within Construction Staging Area)
487	American elm	10	Fair	Removed (Within Construction Staging Area)
488	Ash-leaf maple	5	Poor	Removed (Within Construction Staging Area)
489	Ash-leaf maple	4	Fair	Removed (Within Construction Staging Area)
490	American elm	9.5	Fair	Removed (Within Construction Staging Area)
491	American elm	9	Fair	Save
492	Ash-leaf maple	3	Fair	Save
493	Sugar maple	4.5	Good	Removed (Within Construction Staging Area)
494	Ash-leaf maple	3	Good	Removed (Within Construction Staging Area)
495	Ash-leaf maple	5	Good	Removed (Within Construction Staging Area)
496	Ash-leaf maple	3.5	Good	Removed (Within Construction Staging Area)
497	Green ash	7	Poor	Removed (Within Construction Staging Area)
498	Ash-leaf maple	3.5	Fair	Save
499	Ash-leaf maple	4.5	Poor	Removed (Within Construction Staging Area)
500	Ash-leaf maple	4.5	Fair	Save
501	American sycamore	23	Poor	Save
502	Norway maple	5	Good	Save
506	Ash-leaf maple	4	Fair	Save
507	Ash-leaf maple	4.5	Good	Save
509	American elm	8	Poor	Save
511	American elm	22	Fair	Save
525	Post oak	15	Good	Save
531	American sycamore	3.5	Fair	Save
532	American sycamore	34	Good	Save
533	American sycamore	35.5, 1	Good	Removed (Within Construction Staging Area)
534	White oak	5.5	Good	Removed (Within Construction Staging Area)
535	American sycamore	6	Good	Removed (Within Construction Staging Area)
536	White oak	6.5	Good	Removed (Within Construction Staging Area)
537	Eastern redbud	7.5,4.5,2.5	Good	Removed (Within Construction Staging Area)
538	Pin oak	29	Fair	Removed (Within Construction Staging Area)
539	Pin oak	11.5	Fair	Removed (Within Construction Staging Area)
540	Pin oak	8	Fair	Removed (Within Construction Staging Area)
541	Red maple	15	Good	Removed (Within Construction Staging Area)
542	Pin oak	22	Fair	Removed (Within Construction Staging Area)
543	American sycamore	26	Fair	Removed (Within Construction Staging Area)
544	River birch	5	Good	Removed (Within Construction Staging Area)
545	American sycamore	5	Good	Removed (Within Construction Staging Area)
546	American sycamore	9.5	Good	Removed (Within Construction Staging Area)
547	Red maple	8	Good	Save
553	American sycamore	10.5	Good	Removed (Within Construction Staging Area)
554	River birch	5.5	Good	Removed (Within Construction Staging Area)

Tree ID	Species	DBH	Condition	Status
555	American sycamore	8	Good	Removed (Within Construction Staging Area)
556	American sycamore	6	Good	Removed (Within Construction Staging Area)
557	American sycamore	5.5	Good	Removed (Within Construction Staging Area)
558	White oak	4	Good	Removed (Within Construction Staging Area)
559	Tuliptree	6	Good	Save
560	Eastern redbud	6.5, 5.5, 5	Good	Save
561	Tuliptree	7.5	Good	Save
562	Tuliptree	5	Good	Save
563	Red maple	4.5, 2,1	Good	Removed (Within Construction Staging Area)
564	River birch	4.5	Good	Removed (Within Construction Staging Area)
565	River birch	4.5	Good	Removed (Within Construction Staging Area)
566	American sycamore	8.5	Good	Removed (Within Construction Staging Area)
567	Pin oak	35.5	Fair	Removed (Within Construction Staging Area)
568	River birch	9, 3.5	Good	Removed (Within Construction Staging Area)
569	American sycamore	6	Good	Removed (Within Construction Staging Area)
570	River birch	3.5	Fair	Removed (Within Construction Staging Area)
571	River birch	8	Good	Removed (Within Construction Staging Area)
572	American sycamore	7.5	Fair	Removed (Within Construction Staging Area)
573	Eastern redbud	4	Fair	Save
574	American sycamore	9	Good	Save
575	American sycamore	7.5	Good	Save
580	Ash-leaf maple	9.5	Good	Save
581	Red maple	7	Good	Removed (Within Construction Staging Area)
582	American sycamore	9	Good	Removed (Within Construction Staging Area)
583	Swamp white oak	4	Good	Removed (Within Construction Staging Area)
584	Eastern redbud	5.5,4.5,1	Good	Removed (Within Construction Staging Area)
585	Eastern redbud	3.5,5,3,2,2	Good	Removed (Within Construction Staging Area)
586	Red maple	10.5, 2	Good	Removed (Within Construction Staging Area)
587	Red maple	8	Good	Removed (Within Construction Staging Area)
588	Silver maple	4	Good	Removed (Within Construction Staging Area)
589	Northern red oak	10	Good	Removed (Within Construction Staging Area)
590	River birch	7.5	Good	Removed (Within Construction Staging Area)
591	Swamp white oak	3.5	Fair	Removed (Within Construction Staging Area)
592	Red maple	6	Good	Removed (Within Construction Staging Area)
593	River birch	3.5,3.5	Good	Removed (Within Construction Staging Area)
593	River birch	3.5,3.5	Good	Removed (Within Construction Staging Area)
594	White oak	3	Fair	Removed (Within Construction Staging Area)
595	Red maple	6.5,2,2,2,1,1	Good	Removed (Within Construction Staging Area)
596	Tuliptree	4	Good	Save
597	Tuliptree	3.5	Good	Save
603	Black cherry	3	Poor	Save
604	Tuliptree	33	Good	Save

Tree ID	Species	DBH	Condition	Status
605	Eastern red cedar	4	Good	Removed (Within Construction Staging Area)
606	Eastern redbud	4.5, 3.5, 4.5	Good	Removed (Within Construction Staging Area)
607	River birch	7	Good	Removed (Within Construction Staging Area)
608	River birch	3.5	Good	Removed (Within Construction Staging Area)
609	Common persimmon	3.5	Good	Removed (Within Construction Staging Area)
610	Swamp white oak	4	Good	Removed (Within Construction Staging Area)
611	Red maple	7, 2, 2	Good	Removed (Within Construction Staging Area)
612	Pawpaw	3, 1	Good	Removed (Within Construction Staging Area)
613	Pawpaw	3	Fair	Removed (Within Construction Staging Area)
650	Norway maple	6	Fair	Save
651	American elm	8	Fair	Save
652	American elm	5, 2	Fair	Save
653	Green ash	4.5	Poor	Save
654	Red maple	4	Fair	Save
655	Green ash	3	Poor	Save
656	Green ash	3.5	Poor	Save
657	Norway maple	5	Good	Removed (Within Construction Staging Area)
658	Green ash	3.5	Poor	Removed (Within Construction Staging Area)
659	Black locust	23	Poor	Removed (Within Construction Staging Area)
660	American beech	5	Fair	Save
661	American beech	4	Fair	Save
701	Tuliptree	17	Fair	Save
703	Norway maple	4	Fair	Save
704	Eastern redbud	3	Fair	Save
705	Sugar maple	3	Good	Save
706	Eastern redbud	3.5	Fair	Save
707	Eastern redbud	3.5, 3	Fair	Save
712	Norway maple	11	Fair	Save
720	Princess tree	14	Poor	Save
721	American elm	9	Poor	Save
722	Green ash	5	Fair	Save
723	Green ash	4.5	Fair	Removed (Within Construction Staging Area)
724	American beech	6.5	Fair	Removed (Within Construction Staging Area)
725	American elm	6.5	Poor	Removed (Within Construction Staging Area)
726	American elm	17	Fair	Removed (Within Construction Staging Area)
727	White mulberry	8	Poor	Removed (Within Construction Staging Area)
728	Green ash	4	Poor	Removed (Within Construction Staging Area)
729	American beech	3.5,2.5	Fair	Removed (Within Construction Staging Area)
730	American beech	6.5	Fair	Removed (Within Construction Staging Area)
731	American beech	5.5	Fair	Removed (Within Construction Staging Area)
732	American beech	4.5	Good	Removed (Within Construction Staging Area)
733	American beech	5.5	Fair	Removed (Within Construction Staging Area)

Tree ID	Species	DBH	Condition	Status
734	Red maple	24	Good	Removed (Within Construction Staging Area)
735	American beech	4.5	Fair	Removed (Within Construction Staging Area)
736	American beech	4.5	Fair	Removed (Within Construction Staging Area)
737	Green ash	10	Poor	Removed (Within Construction Staging Area)
738	American beech	8.5	Good	Save
739	Red maple	12.5	Good	Removed (Within Construction Staging Area)
740	American beech	3.5	Good	Save
741	American beech	11.5	Fair	Save
742	American beech	3.5	Poor	Save
743	American beech	5.5	Good	Save
744	Tuliptree	35	Fair	Save
745	American beech	6.5	Good	Save
746	Red maple	25.5	Fair	Removed (Within Construction Staging Area)
747	Red maple	24	Good	Removed (Within Construction Staging Area)
748	American beech	4.5	Fair	Removed (Within Construction Staging Area)
749	American beech	6	Poor	Removed (Within Construction Staging Area)
750	Red maple	17	Poor	Removed (Within Construction Staging Area)
751	American beech	12	Fair	Removed (Within Construction Staging Area)
752	American beech	19.5	Good	Save
753	Green ash	8	Poor	Removed (Within Construction Staging Area)
754	Pin oak	3	Good	Removed (Within Construction Staging Area)
755	American beech	13.5	Fair	Save
756	American beech	12.5	Good	Save
758	American hornbeam	3,1.5	Good	Save
759	American elm	7.5	Fair	Save
760	American hornbeam	5,1.5	Good	Save
761	Sweet cherry	8.5	Fair	Save
762	American beech	16.5	Poor	Save
763	American elm	41.5	Good	Save
845	American beech	6	Fair	Save
846	White sassafras	7.5	Poor	Removed (Critical Root Zone Impacts)*
847	White sassafras	5	Poor	Removed (Critical Root Zone Impacts)*
848	Eastern redbud	3	Poor	Save
849	American beech	6.5	Fair	Save
851	Northern red oak	15	Fair	Save
852	American beech	11	Fair	Save
853	Black gum	7.5	Fair	Save
854	American beech	7.5	Good	Save
855	American beech	25,24	Fair	Removed (Critical Root Zone Impacts)*
856	Black gum	12	Fair	Save
857	American hornbeam	3.5	Fair	Save
858	Eastern cottonwood	29.5	Fair	Removed (Critical Root Zone Impacts)*

Tree ID	Species	DBH	Condition	Status
859	American beech	8	Good	Save
860	American sycamore	18	Poor	Removed (Critical Root Zone Impacts)*
861	Black cherry	16.5	Poor	Save
863	American beech	10.5,4	Good	Save
864	Pignut hickory	7.5	Good	Save
909	White mulberry	5	Poor	Save
911	Tuliptree	6.5	Good	Save
915	American beech	5.5	Good	Save
916	American elm	10	Fair	Save
917	Silk tree	8	Poor	Save
918	American elm	7.5	Poor	Save
919	Black cherry	10.5	Fair	Save
920	American elm	5	Poor	Save
921	American elm	12	Poor	Save
922	American elm	12, 10.5, 3.5	Poor	Save
923	American beech	8.5,5.5	Good	Save
924	American elm	7	Poor	Save
925	American beech	4, 5.5	Good	Save
926	Northern red oak	6	Good	Save
927	Northern red oak	27	Good	Save
928	Tuliptree	5	Fair	Save
929	Black gum	8	Good	Save
930	American elm	10	Poor	Save
931	Green ash	5.5	Poor	Save
932	American elm	6	Fair	Save
933	Tuliptree	16.5	Fair	Save
937	Tuliptree	31.5	Good	Save
940	American beech	8.5	Fair	Save
942	American sycamore	5.5	Fair	Save
943	Black walnut	14	Fair	Save
944	American elm	15, 11	Fair	Save
945	American beech	7	Fair	Save
946	American elm	11	Fair	Save
947	American elm	14	Poor	Save
948	American sycamore	13.5	Poor	Save
949	American elm	11	Fair	Save
950	American beech	4.5	Good	Save
951	American sycamore	6	Poor	Save
952	Northern red oak	13.5	Good	Save
953	Norway maple	6.5	Poor	Save
954	Tuliptree	18.5	Good	Save
955	Northern red oak	4.5	Poor	Save

Tree ID	Species	DBH	Condition	Status
956	American beech	5.5	Fair	Save
957	American beech	8.5	Good	Removed (Within Construction Staging Area)
958	Eastern cottonwood	23	Fair	Removed (Within Construction Staging Area)
959	American elm	3.5	Fair	Removed (Within Construction Staging Area)
960	American beech	6	Fair	Removed (Within Construction Staging Area)
961	Tuliptree	18	Fair	Removed (Within Construction Staging Area)
962	Green ash	3	Poor	Removed (Within Construction Staging Area)
963	American beech	4.5	Good	Removed (Within Construction Staging Area)
964	American beech	7	Good	Removed (Within Construction Staging Area)
965	American beech	4	Fair	Removed (Within Construction Staging Area)
966	Norway maple	4.5	Good	Removed (Within Construction Staging Area)
967	American beech	3	Good	Removed (Within Construction Staging Area)
968	Northern red oak	11	Fair	Removed (Within Construction Staging Area)
969	Norway maple	3.5	Poor	Removed (Within Construction Staging Area)
970	American beech	4.5	Fair	Removed (Within Construction Staging Area)
971	Northern red oak	3.5	Good	Removed (Within Construction Staging Area)
972	Eastern cottonwood	30.5	Good	Removed (Within Construction Staging Area)
973	American beech	4.5	Good	Removed (Within Construction Staging Area)
974	American elm	7.5	Poor	Removed (Within Construction Staging Area)
975	Black gum	4	Poor	Removed (Within Construction Staging Area)
976	Northern red oak	6	Good	Removed (Within Construction Staging Area)
977	Red maple	16	Good	Removed (Within Construction Staging Area)
978	Red maple	11	Fair	Removed (Within Construction Staging Area)
979	Green ash	7.5	Poor	Removed (Within Construction Staging Area)
980	American hornbeam	4	Good	Removed (Within Construction Staging Area)
981	American elm	6	Fair	Removed (Within Construction Staging Area)
982	Eastern cottonwood	16	Poor	Removed (Within Construction Staging Area)
983	Northern red oak	4	Fair	Removed (Within Construction Staging Area)
984	American sycamore	24,14	Poor	Removed (Within Construction Staging Area)
985	American elm	6	Poor	Removed (Within Construction Staging Area)
986	American elm	3.5	Good	Removed (Within Construction Staging Area)
987	Red maple	15	Good	Removed (Within Construction Staging Area)
988	American sycamore	14	Good	Removed (Within Construction Staging Area)
989	Red maple	4.5	Good	Removed (Within Construction Staging Area)
990	Tuliptree	8.5	Fair	Removed (Within Construction Staging Area)
991	American elm	6.5	Fair	Removed (Within Construction Staging Area)
992	Green ash	7	Poor	Removed (Critical Root Zone Impacts)*
993	Green ash	4	Poor	Removed (Within Construction Staging Area)
994	American elm	6.5	Fair	Removed (Within Construction Staging Area)
995	Red maple	6.5	Fair	Removed (Within Construction Staging Area)
996	Tuliptree	22.5	Fair	Removed (Within Construction Staging Area)
997	Bitternut hickory	7.5	Good	Removed (Within Construction Staging Area)

Tree ID	Species	DBH	Condition	Status
998	American beech	12	Good	Removed (Within Construction Staging Area)
999	American beech	4	Good	Removed (Within Construction Staging Area)
1000	American hornbeam	4	Poor	Removed (Within Construction Staging Area)
1001	Tuliptree	27.5	Good	Removed (Within Construction Staging Area)
1002	American sycamore	6.5	Fair	Removed (Within Construction Staging Area)
1013	American elm	14	Poor	Save
1014	Eastern cottonwood	14	Poor	Removed (Within Construction Staging Area)
1015	White oak	10	Good	Removed (Within Construction Staging Area)
1018	American hornbeam	8,7,8,6.5	Good	Removed (Within Construction Staging Area)
1019	White mulberry	9,6.5	Fair	Removed (Within Construction Staging Area)
1020	White mulberry	7,3	Poor	Removed (Within Construction Staging Area)
1021	American elm	7.5	Poor	Removed (Within Construction Staging Area)
1022	American elm	4	Poor	Removed (Within Construction Staging Area)
1023	Green ash	5	Poor	Removed (Within Construction Staging Area)
1024	American elm	3	Fair	Removed (Within Construction Staging Area)
1025	American elm	3.5	Good	Removed (Within Construction Staging Area)
1026	American elm	6	Fair	Removed (Within Construction Staging Area)
1027	Green ash	6.5	Poor	Removed (Within Construction Staging Area)
1028	Green ash	7.5	Poor	Removed (Within Construction Staging Area)
1029	Green ash	3.5	Poor	Removed (Within Construction Staging Area)
1030	Black cherry	5	Poor	Removed (Within Construction Staging Area)
1031	Green ash	3	Poor	Removed (Within Construction Staging Area)
1032	Pignut hickory	3.5	Fair	Removed (Within Construction Staging Area)
1033	Red maple	10,6,5	Good	Removed (Within Construction Staging Area)
1034	American beech	5.5	Fair	Removed (Within Construction Staging Area)
1035	American beech	3	Fair	Removed (Within Construction Staging Area)
1036	American beech	4	Fair	Removed (Within Construction Staging Area)
1037	American beech	4.5	Good	Removed (Within Construction Staging Area)
1038	American beech	6.5	Good	Removed (Critical Root Zone Impacts)*
1039	Bitternut hickory	14	Fair	Removed (Critical Root Zone Impacts)*
1040	Northern red oak	16.5	Fair	Removed (Within Construction Staging Area)
1041	Red maple	9	Fair	Removed (Within Construction Staging Area)
1042	Red maple	9.5	Good	Removed (Critical Root Zone Impacts)*
1043	White oak	34.5	Fair	Removed (Critical Root Zone Impacts)*
1044	Tuliptree	18	Good	Save
1045	American beech	3	Good	Save
1046	American hornbeam	4, 1.5	Poor	Save
1047	Red maple	9.5	Fair	Save
1048	White oak	35.5	Fair	Save
1050	Black gum	4.5	Good	Save
1051	Tuliptree	15.5	Fair	Save
1052	Black gum	5.5	Fair	Save

Tree ID	Species	DBH	Condition	Status
1104	American elm	6.5	Fair	Save
1105	American elm	27.5	Fair	Save
1106	Tuliptree	22.5	Good	Removed (Within Construction Staging Area)
1107	Black locust	9,8	Fair	Save
1108	Black locust	12,5.5	Good	Save
1109	Black locust	11.5	Good	Save
1110	Black locust	12.5	Good	Save
1111	Black locust	11,10,11	Good	Save
1125	Red maple	15.5	Fair	Save
1126	Black willow	5	Good	Save
1127	Black willow	5	Good	Save
1128	Black willow	3.5	Good	Save
1134	American sycamore	30.5	Fair	Save
1136	Tuliptree	32.5	Fair	Save
1137	Red maple	6	Good	Save
1138	American elm	4.5	Poor	Save
1139	American sycamore	30	Fair	Save
1140	Red maple	20.5	Fair	Removed (Within Construction Staging Area)
1141	Willow oak	10.5	Fair	Removed (Within Construction Staging Area)
1142	White oak	13	Fair	Removed (Within Construction Staging Area)
1143	Red maple	17.5	Good	Removed (Within Construction Staging Area)
1144	Willow oak	16	Fair	Removed (Within Construction Staging Area)
1145	White oak	11	Fair	Removed (Within Construction Staging Area)
1146	White oak	14	Fair	Removed (Within Construction Staging Area)
1147	White oak	10	Fair	Removed (Within Construction Staging Area)
1149	Red maple	7.5	Good	Removed (Within Construction Staging Area)
1150	American elm	4.5, 2.5	Fair	Removed (Within Construction Staging Area)
1151	Red maple	5.5	Good	Removed (Within Construction Staging Area)
1154	American hornbeam	3.5, 1	Good	Save
1155	American hornbeam	5.5	Fair	Save
1156	Green ash	5.5	Fair	Removed (Within Construction Staging Area)
1157	Eastern redbud	3.5, 4, 3, 1	Good	Save
1158	American elm	8	Good	Save
1159	American elm	5.5	Good	Save
1160	White mulberry	6.5	Poor	Save
1161	Tree of heaven	14	Fair	Save
1162	Green ash	8	Fair	Save
1163	Ash-leaf maple	11	Good	Save
1164	American beech	5	Good	Save
1165	Black cherry	6	Fair	Save
1166	American elm	5	Fair	Save
1167	White mulberry	5	Fair	Save

Tree ID	Species	DBH	Condition	Status
1168	Ash-leaf maple	3	Fair	Removed (Within Construction Staging Area)
1169	Northern catalpa	3	Fair	Save
1170	American hornbeam	3	Good	Removed (Within Construction Staging Area)
1171	American beech	3	Good	Save

* Note: Impacts to critical root zone are 30% or greater. Shown for potential removal, but all attempts will be made to save these trees.

Park Road CSA Anticipated Tree Removal

Tree ID	Species	DBH	Condition	Status
1	Eastern redbud	4.5	Fair	Save
2	Black walnut	12.5	Good	Save
6	Tuliptree	26	Good	Save
9	American elm	3.5,2,2	Fair	Save
12	Unknown photinia	3,2,2.5,1,1	Good	Save
13	Bitternut hickory	16	Good	Save
14	Tuliptree	22.5	Good	Save
15	Sugarberry	4.5	Fair	Save
16	Tuliptree	27	Good	Save
18	American beech	12.5	Good	Save
19	Mockernut hickory	13	Good	Save
20	Northern red oak	3	Good	Save
21	Siberian elm	11	Good	Save
22	Saucer magnolia	3,2.5,1.5,1.5,2.5,2.5	Good	Removed (Within Construction Staging Area)
23	Saucer magnolia	3	Fair	Removed (Within Construction Staging Area)
24	Red maple	9.5	Good	Removed (Within Construction Staging Area)
27	American elm	35.5	Good	Removed (Critical Root Zone Impacts)*
28	Northern red oak	6	Fair	Removed (Within Construction Staging Area)
29	Northern red oak	28	Fair	Removed (Within Construction Staging Area)
30	Red maple	10.5	Fair	Removed (Within Construction Staging Area)
32	American elm	14	Fair	Removed (Within Construction Staging Area)
34	Black cherry	4.5	Poor	Save
35	Northern red oak	29.5	Good	Removed (Critical Root Zone Impacts)*
36	Green ash	4	Poor	Save
37	American beech	6.5	Good	Save
38	American elm	10.5	Good	Save
50	American beech	12.5	Good	Save
51	American beech	8	Good	Save
52	American beech	5	Good	Save
53	American beech	5.5	Good	Removed (Critical Root Zone Impacts)*
54	Bitternut hickory	20.5	Good	Removed (Within Construction Staging Area)
55	American beech	3	Good	Removed (Within Construction Staging Area)
56	Bitternut hickory	5	Good	Removed (Within Construction Staging Area)
57	Northern red oak	15	Fair	Removed (Within Construction Staging Area)

Tree ID	Species	DBH	Condition	Status
58	American beech	5	Good	Removed (Within Construction Staging Area)
59	Norway maple	13	Fair	Save
60	Unknown linden	3	Good	Save
61	Northern red oak	7.5	Fair	Removed (Within Construction Staging Area)
62	Northern red oak	4	Fair	Removed (Within Construction Staging Area)
63	American beech	5	Fair	Removed (Within Construction Staging Area)
64	Tuliptree	25	Fair	Removed (Critical Root Zone Impacts)*
65	Tuliptree	28	Fair	Removed (Critical Root Zone Impacts)*
66	Sugar maple	5	Good	Save
68	Red maple	28	Poor	Save
83	Sugar maple	6	Good	Save
85	American beech	18	Good	Save
86	American beech	13	Good	Save
87	Northern red oak	36.5	Good	Save
97	Norway maple	9.5	Good	Save
99	American beech	9.5	Fair	Save
100	American beech	13	Good	Save
101	Norway maple	4	Fair	Save
102	Tuliptree	32	Fair	Removed (Critical Root Zone Impacts)*
103	American beech	3.5	Fair	Removed (Within Construction Staging Area)
104	White oak	23.5	Poor	Removed (Within Construction Staging Area)
105	Tuliptree	33.5	Poor	Removed (Within Construction Staging Area)
106	American beech	6	Fair	Removed (Within Construction Staging Area)
107	Northern red oak	17	Good	Removed (Within Construction Staging Area)
108	American beech	3	Good	Removed (Within Construction Staging Area)
109	American elm	4.5	Fair	Removed (Within Construction Staging Area)
110	Sugar maple	3	Fair	Removed (Within Construction Staging Area)
111	American beech	4.5	Fair	Removed (Within Construction Staging Area)
112	White oak	21	Fair	Removed (Within Construction Staging Area)
113	Sugar maple	5.5	Good	Removed (Within Construction Staging Area)
114	Red maple	3.5	Fair	Removed (Within Construction Staging Area)
115	Norway maple	8.5	Good	Removed (Within Construction Staging Area)
116	White oak	35.5	Good	Removed (Within Construction Staging Area)
117	Tuliptree	3.5	Good	Removed (Within Construction Staging Area)
118	American beech	5	Good	Removed (Within Construction Staging Area)
119	White oak	8	Fair	Removed (Within Construction Staging Area)
120	American elm	3	Fair	Removed (Within Construction Staging Area)
121	American elm	11	Fair	Removed (Within Construction Staging Area)
122	Norway maple	6.5	Good	Removed (Within Construction Staging Area)
123	American elm	12.5	Fair	Removed (Within Construction Staging Area)
124	Red maple	8.5	Good	Removed (Within Construction Staging Area)
125	American beech	4.5	Good	Removed (Within Construction Staging Area)

Tree ID	Species	DBH	Condition	Status
126	Norway maple	6	Good	Removed (Within Construction Staging Area)
127	Tuliptree	31.5	Good	Removed (Within Construction Staging Area)
128	Sugar maple	3.5	Fair	Removed (Within Construction Staging Area)
129	American beech	3.5	Good	Removed (Within Construction Staging Area)
130	Tuliptree	19	Fair	Removed (Within Construction Staging Area)
131	American elm	7	Good	Removed (Within Construction Staging Area)
132	American beech	7	Good	Removed (Within Construction Staging Area)
133	American elm	12.5	Poor	Removed (Within Construction Staging Area)
134	American beech	3.5	Good	Removed (Within Construction Staging Area)
135	Tuliptree	22	Good	Removed (Within Construction Staging Area)
136	Norway maple	9	Good	Save
137	Tuliptree	11	Good	Save
138	American elm	5.5	Poor	Save
139	Sugar maple	3.5	Good	Save
140	American elm	5.5	Poor	Removed (Critical Root Zone Impacts)*
141	Tree of heaven	21	Poor	Removed (Within Construction Staging Area)
142	American elm	4, 1	Fair	Save
143	Red maple	3.5	Poor	Save
144	American elm	6	Poor	Removed (Critical Root Zone Impacts)*
145	American elm	3	Poor	Save
146	Norway maple	8	Good	Save
147	American elm	3	Fair	Save
148	American elm	3.5	Fair	Removed (Within Construction Staging Area)
149	Green ash	5.5	Fair	Save
151	Tuliptree	13.5	Fair	Save
152	Black walnut	5.5	Poor	Save
154	American beech	32	Good	Save
155	American beech	5.5	Good	Save
156	American elm	12.5	Poor	Removed (Within Construction Staging Area)
157	American elm	5	Good	Removed (Critical Root Zone Impacts)*
158	American elm	17	Good	Save
159	Unknown sequoia	7,5.5	Good	Save
160	American elm	3	Poor	Save
178	American elm	3.5	Good	Save
179	Tuliptree	9	Fair	Save
180	American beech	3.5	Good	Save
181	Norway maple	4.5	Good	Save
182	Tuliptree	23	Fair	Save
192	American beech	13	Good	Save
193	American beech	6.5	Good	Save
194	Red maple	18.5	Poor	Save
250	Red maple	12.5	Good	Save

Tree ID	Species	DBH	Condition	Status
1152	American elm	3	Poor	Save
1153	American elm	3	Poor	Save

* Note: Impacts to critical root zone are 30% or greater. Shown for potential removal, but all attempts would be made to save these trees.

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DC Clean Rivers Project
Piney Branch Tunnel Project

Environmental Assessment

October 2024

Appendix D. Alternatives Considered but Dismissed

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PINEY BRANCH TUNNEL PROJECT

ALTERNATIVES CONSIDERED BUT DISMISSED

DC Water and NPS considered other alternatives during project planning of the Piney Branch Tunnel Project. However, the agencies dismissed these alternatives due to Consent Decree constraints, engineering design constraints, constructability limitations, unacceptable cost implications, traffic impacts, pedestrian and bicycle safety concerns, and other construction-related disruptions.

CSO 049 Site with Drop Shaft Adjacent to 17th Street NW

This alternative would place the diversion structure downstream of the existing CSO 049 outfall like the preferred alternative; however, the drop shaft and ventilation control vault would be located adjacent to 17th Street NW, south of Piney Branch Parkway NW. This alternative includes two parallel diversion sewers that would convey the flow from the diversion structure to the drop shaft and ultimately to the tunnel as shown in **Figure D-1**. The diversion sewers would be constructed using open trench excavation, which would require one or both lanes travel lanes of Piney Branch Parkway NW to be closed for a significant period during construction. This would also impact pedestrian and bicycle traffic, requiring detours to safely move vehicles, bicycles, and pedestrians around the construction site. This alternative would require the closure of 17th Street NW during the duration of the project to provide the required area to perform mining operations for the tunnel. Due to the location of the drop shaft and the existing topography there would be limited locations where a Contractor could place the equipment required to mine a tunnel, such as a crane and ventilation equipment, dividing the site and restricting access for construction vehicles.

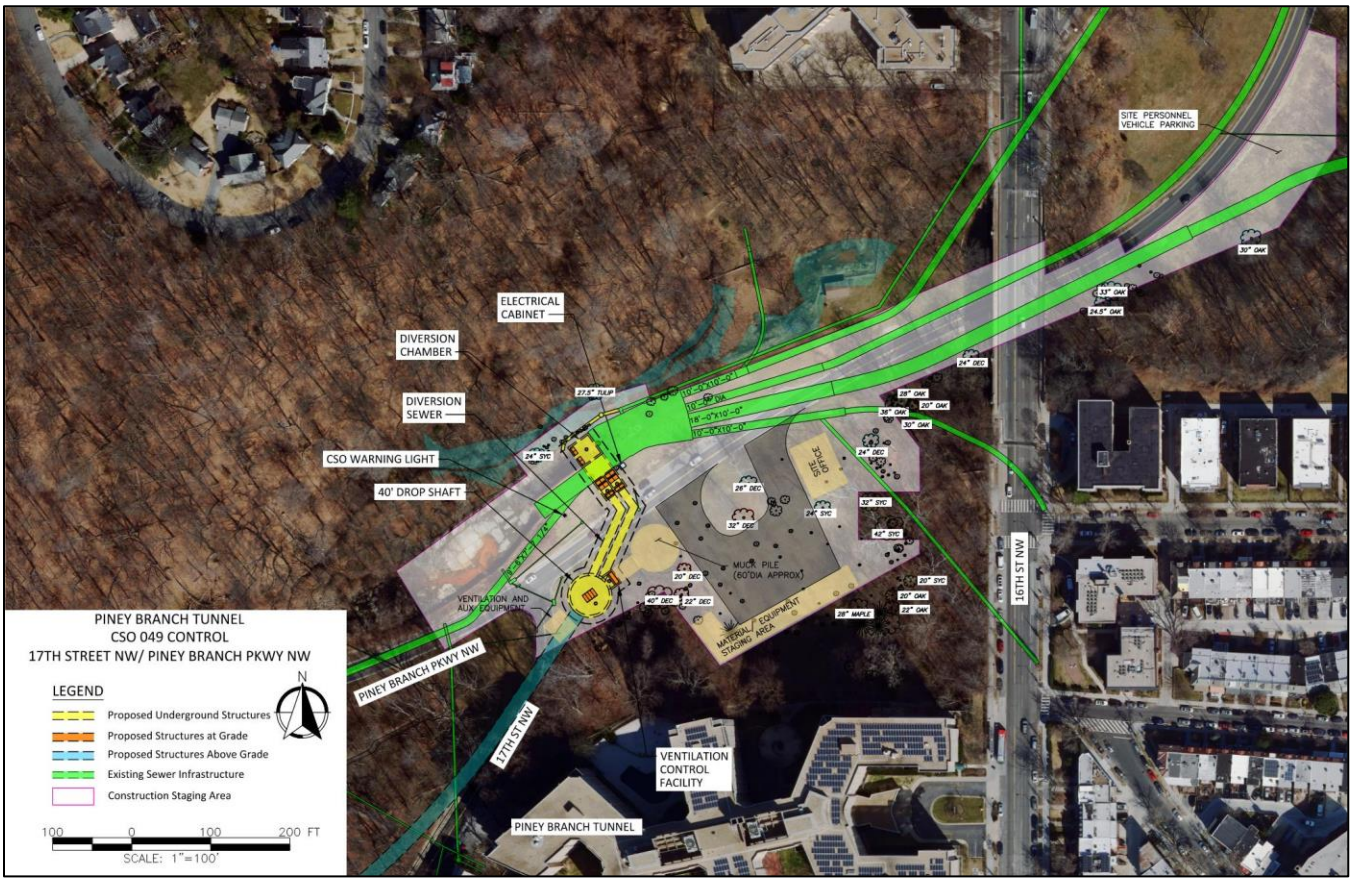

Figure D-1. CSO 049 Site with Drop Shaft Adjacent to 17th Street NW

CSO 049 Site with Drop Shaft South of Piney Branch Parkway NW

This alternative would place the diversion structure downstream of the existing CSO 049 outfall, similar to the preferred alternative; however, the drop shaft and ventilation control vault would be located southeast of the intersection of 17th Street NW with Piney Branch Parkway NW. This alternative includes two parallel diversion sewers that would convey the flow from the diversion structure to the drop shaft and ultimately to the tunnel as shown in **Figure D-2**. The diversion sewers would be constructed using open trench excavation, which would require one or both travel lanes of Piney Branch Parkway NW to be closed for a significant period during construction. This would also impact pedestrian and bicycle traffic, requiring several trail relocations and detours to safely move vehicles, bicycles, and pedestrians around the construction site. This alternative also presents mining and engineering challenges that would result in an alignment that would place the tunnel under private properties to avoid mining constraints and meet tunnel design requirements for reducing hydraulic losses.

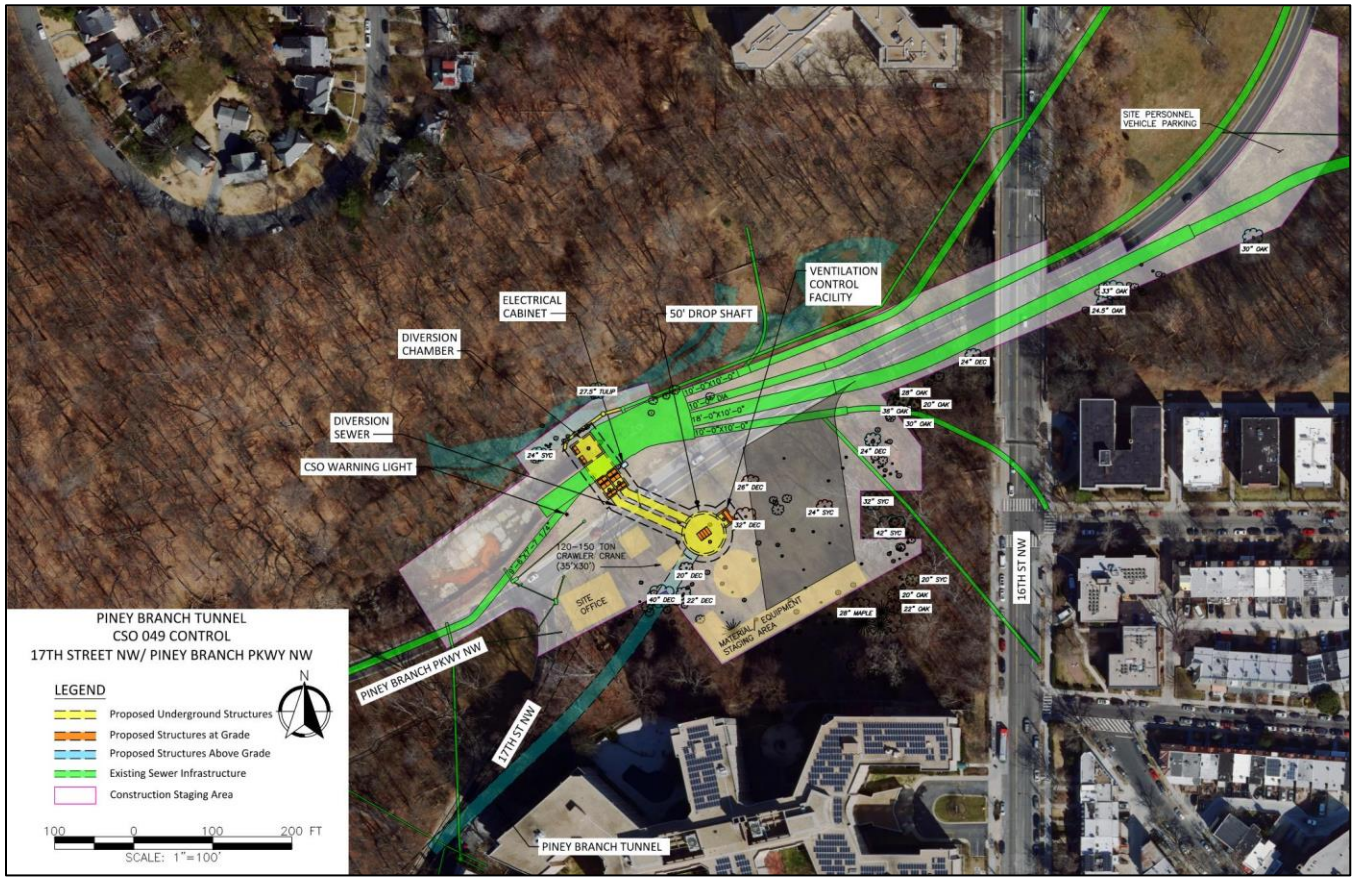

Figure D-2. CSO 049 Site with Drop Shaft South of Piney Branch Parkway NW

Park Road Site with Connection Down the Hill

This alternative would consist of placing the drop shaft, ventilation control vault, and dewatering structure within the slope of the existing hill between Piney Branch Parkway NW and the trail east of the Park Road NW Bridge as shown in **Figure D-3**. The dewatering structure would be located over the existing ERCDS that would ultimately convey the flow to Blue Plains. This alternative would require significant grading during construction and include a large above-grade structure and retaining wall visible from Piney Branch Parkway NW and the existing trail. The visible structure would change the viewshed of the park and impact the historic area.

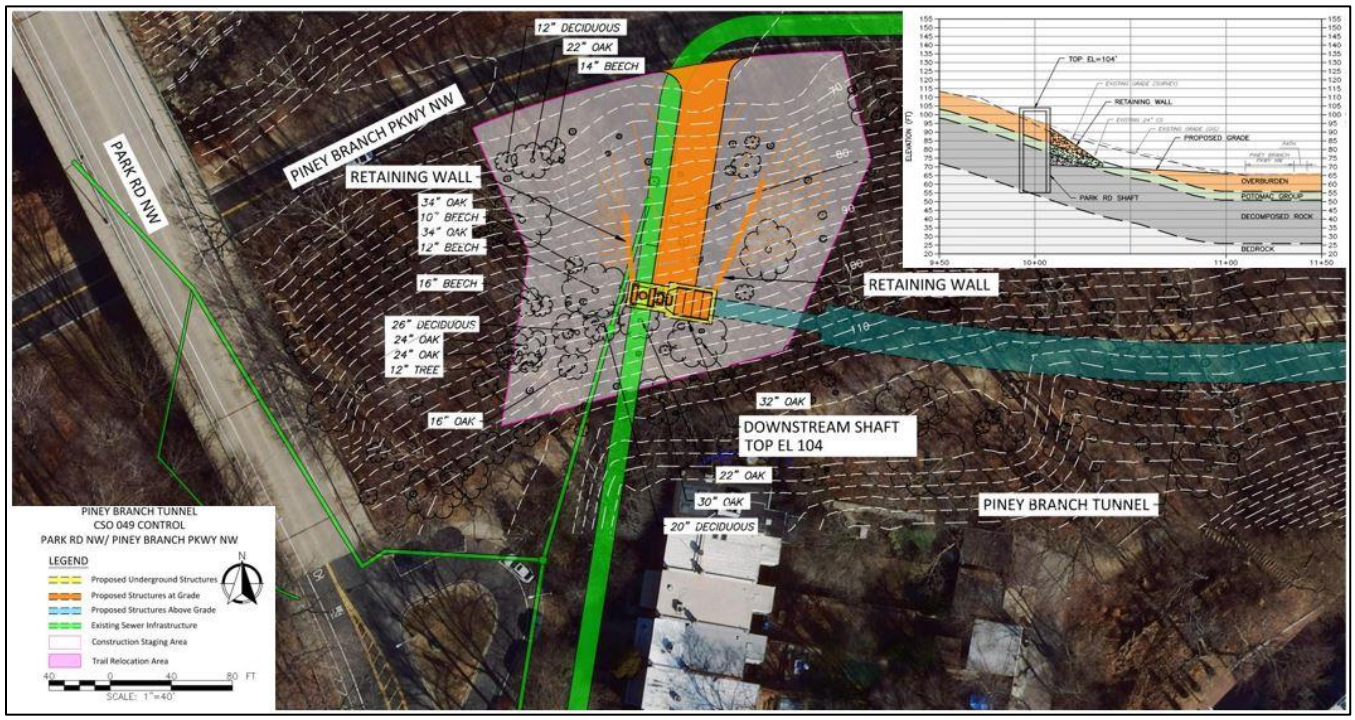

Figure D-3. Park Road Site with Connection Down the Hill

Park Road Site with Connection in Public Right-of-Way

This alternative consists of placing the proposed structures in the public right-of-way, including the drop shaft, ventilation control vault, dewatering structure, and electrical/instrumentation cabinets. A location along the ERCDS was identified where there would be enough space for a staging area to perform construction activities without impacting existing private property. **Figure D-4** show the tunnel alignment with the minimum bend required for mining operations, ending with a downstream connection at the intersection of Park Road NW, Klingle Road NW, and Walbridge Place NW. This alternative would require a significantly longer tunnel alignment that would cross under several private properties. The construction of the proposed structures would also cause considerable disruption to several roadways and the Mount Pleasant neighborhood.

Figure D-4. Park Road Site with Connection in Public Right-of-Way

Storage Tank with Pump Station Adjacent to CSO 049

This alternative consists of constructing a 125 ft x 220 ft x 20 ft deep underground storage tank, diversion structure, connection shaft, force main, and pump station as shown on **Figure D-5**. CSOs would flow by gravity from the outfall to the tank. A pump station would discharge the captured CSO to the ERCDS through a pressurized force main pipe when the system has available capacity. Even though this location is consistent with Consent Decree requirements, DC Water and NPS dismissed this alternative because dewatering the tank would require construction of a pump station on NPS land. The pump station would be much more intrusive to Rock Creek Park, requiring above-ground buildings; extensive electrical and control infrastructure, including a generator set in case of a power outage during severe storms; higher maintenance costs; and higher onsite maintenance demands when compared to the tunnel alternative.

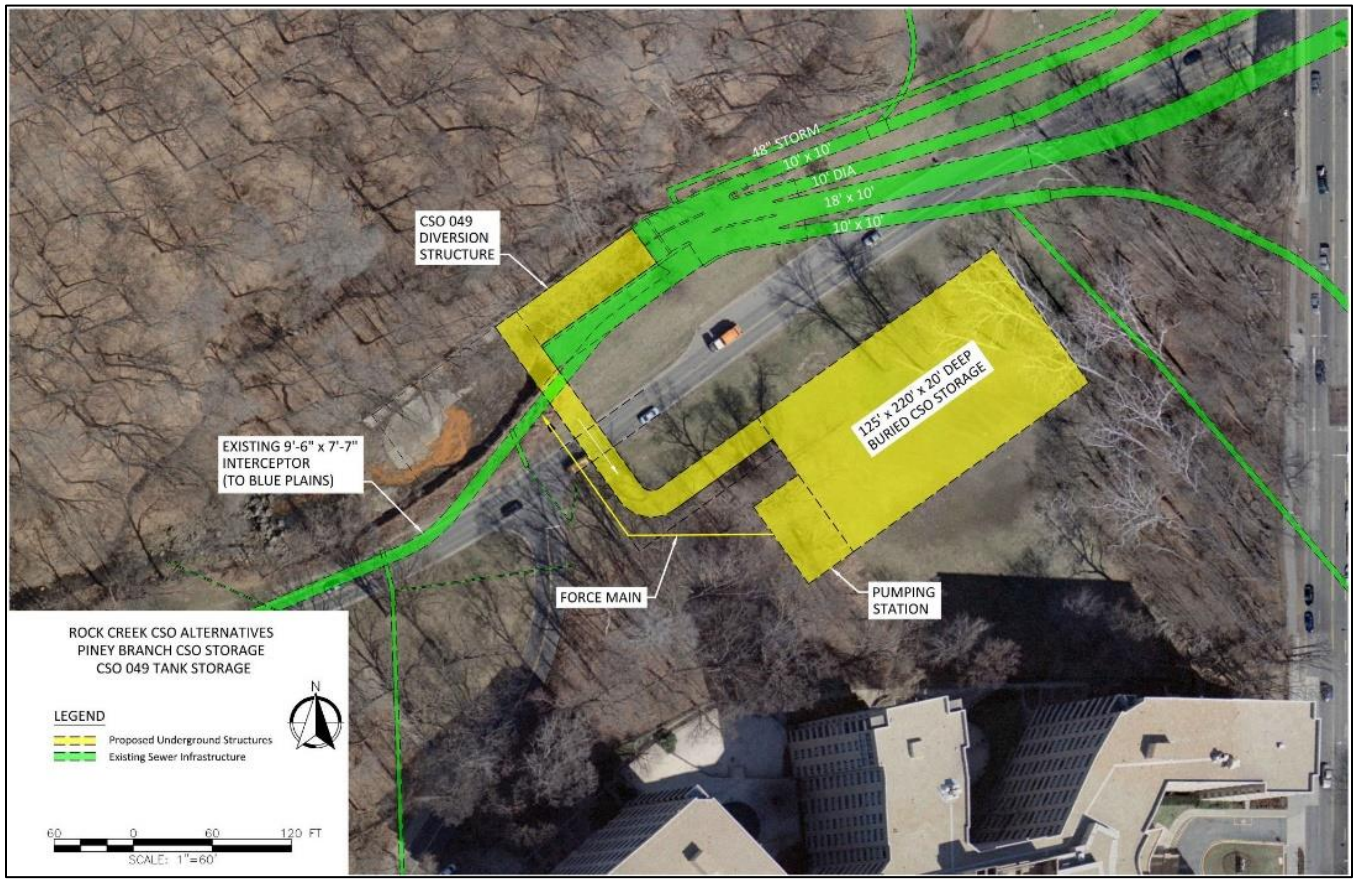

Figure D-5. Storage Tank with Pump Station Adjacent to CSO 049

Upstream Storage Tanks with Pump Stations

This alternative consists of four separate storage facilities located upstream from CSO 049. Three of the four facilities would require pumps and force mains for diversion and dewatering, while one would operate by gravity. The four facilities that combine to make up this alternative are described below. DC Water and NPS dismissed this alternative because of limited availability of open space to construct the facilities; disruptions to vehicular traffic and pedestrian impacts at several major commuter roads in the District during construction and maintenance; pump stations require extensive electrical, control, and above-ground infrastructure, which makes this alternative vulnerable to power outages; inadequate time to meet the Consent Decree schedule deadlines; undefined timelines and costs for utility relocations and less reliable performance due to location and the unpredictable nature of storms and the sewer system; cost; and onsite maintenance demand.

Storage Facility 01. Storage Facility 01 would be located at the intersection of 14th Street NW and Arkansas Avenue NW. This location would intercept two 9.5 ft x 9.5 ft box culverts with a 23 ft deep diversion structure, and stormwater would flow into a 200 ft x 150 ft x 20 ft deep buried detention tank with pumping system as shown on **Figure D-6**. Construction at this location would greatly impact both local traffic patterns and access to Upshur Community Park. In addition, the facility would require regular maintenance that would continue to disrupt local area traffic beyond construction completion.

Storage Facility 02. Storage Facility 02 would be located at the intersection of Kansas Avenue NW and Georgia Avenue NW as shown on **Figure D-7**. The facility would intercept the existing 14.5 ft diameter tunnel with a 77 ft deep diversion structure and divert stormwater into a 150 ft x 100 ft x 20 ft deep buried detention tank with pumps, and discharge via a force main into the existing downstream shaft. Construction at this location would greatly impact local traffic patterns and disrupt the use of Triangle Park. After construction, disruption to local traffic would continue due to regular maintenance requirements.

Storage Facility 03. Storage Facility 03 would be located near the intersection of 16th Street NW and Spring Place NW. This location would consist of two diversion structures, four force mains, and a 35 ft x 140 ft x 20 ft deep buried detention tank with pump system as shown on **Figure D-8**. Construction at this location would greatly impact local traffic patterns. The Pershing House Apartments and the Fitzgerald House Apartments would be within the areas of disturbance during both construction and maintenance activities. Construction and maintenance activities would also disrupt residential traffic into and out of the Pershing/Fitzgerald apartments.

Storage Facility 04. Storage Facility 04 would be located at the intersection of Shepherd Street NW and 17th Street NW as shown on **Figure D-9**. This location would consist of a 21 ft deep diversion structure, which would intercept flow from the existing 39-inch diameter pipe, and a 20 ft x 50 ft x 22 ft deep buried detention tank. This facility would operate by gravity flow and does not require pumps. Construction and maintenance activities would disrupt residential traffic, including into and out of the Crestwood Apartments.

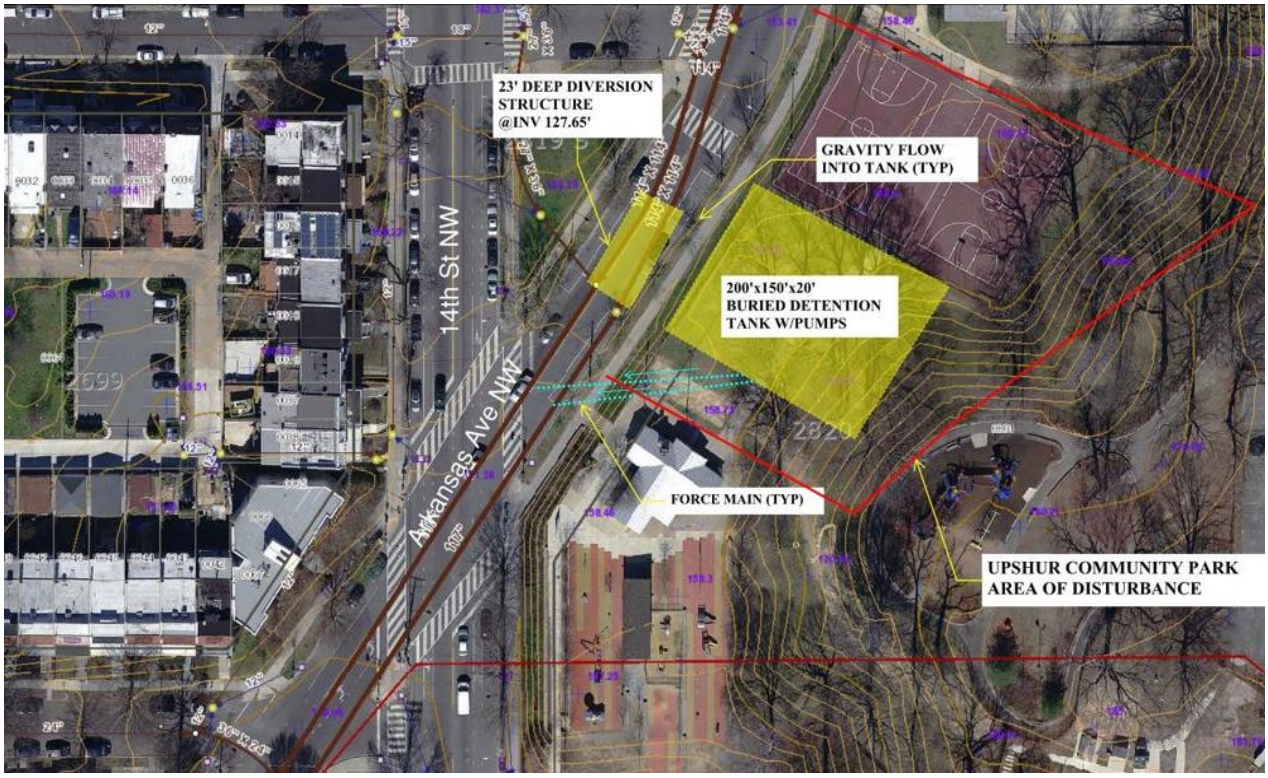

Figure D-6. Upstream Storage Tanks with Pump Station – Storage Facility 01

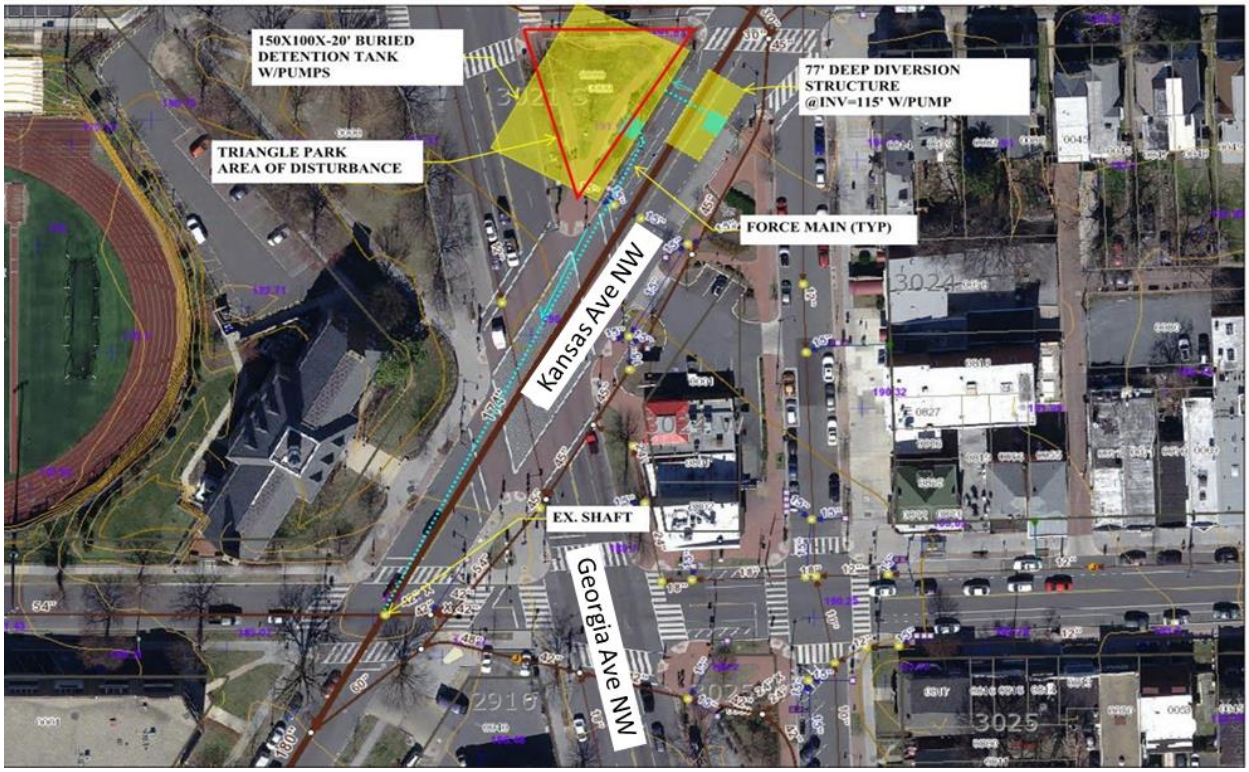

Figure D-7. Upstream Storage Tanks with Pump Station – Storage Facility 02

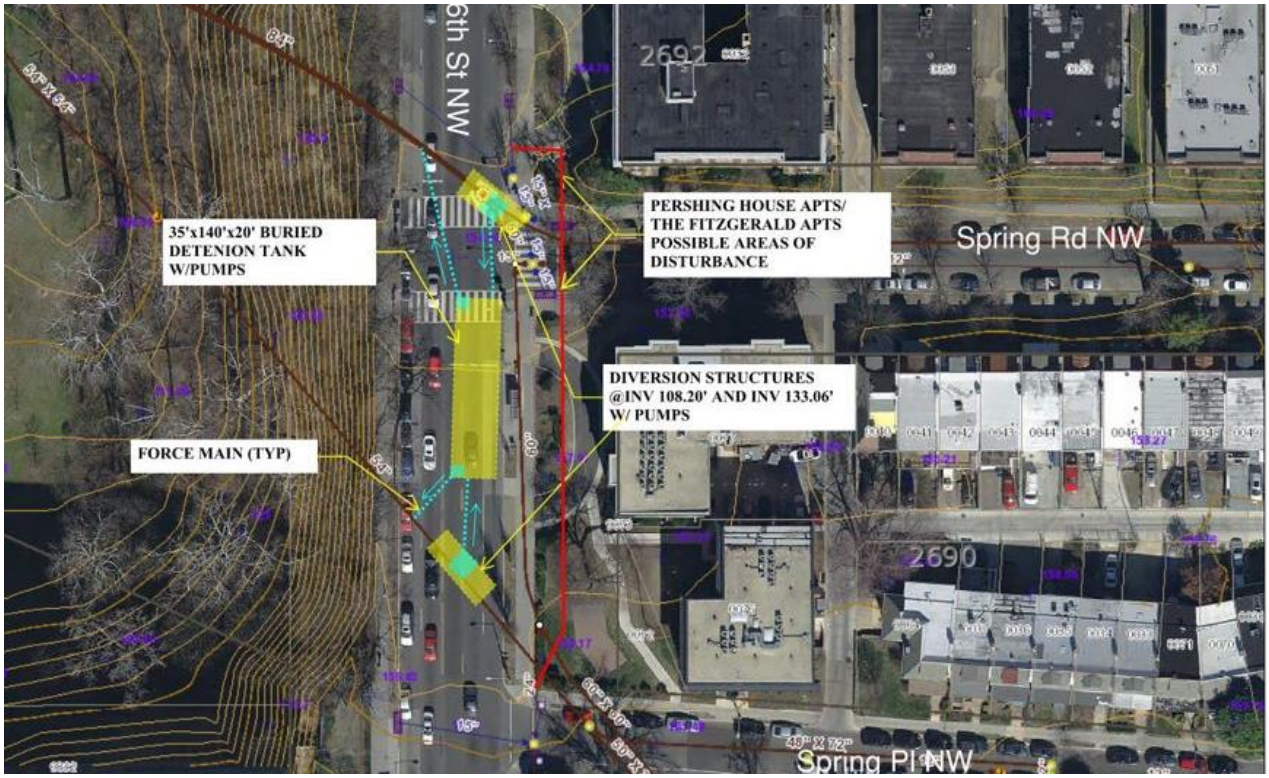

Figure D-8. Upstream Storage Tanks with Pump Station – Storage Facility 03

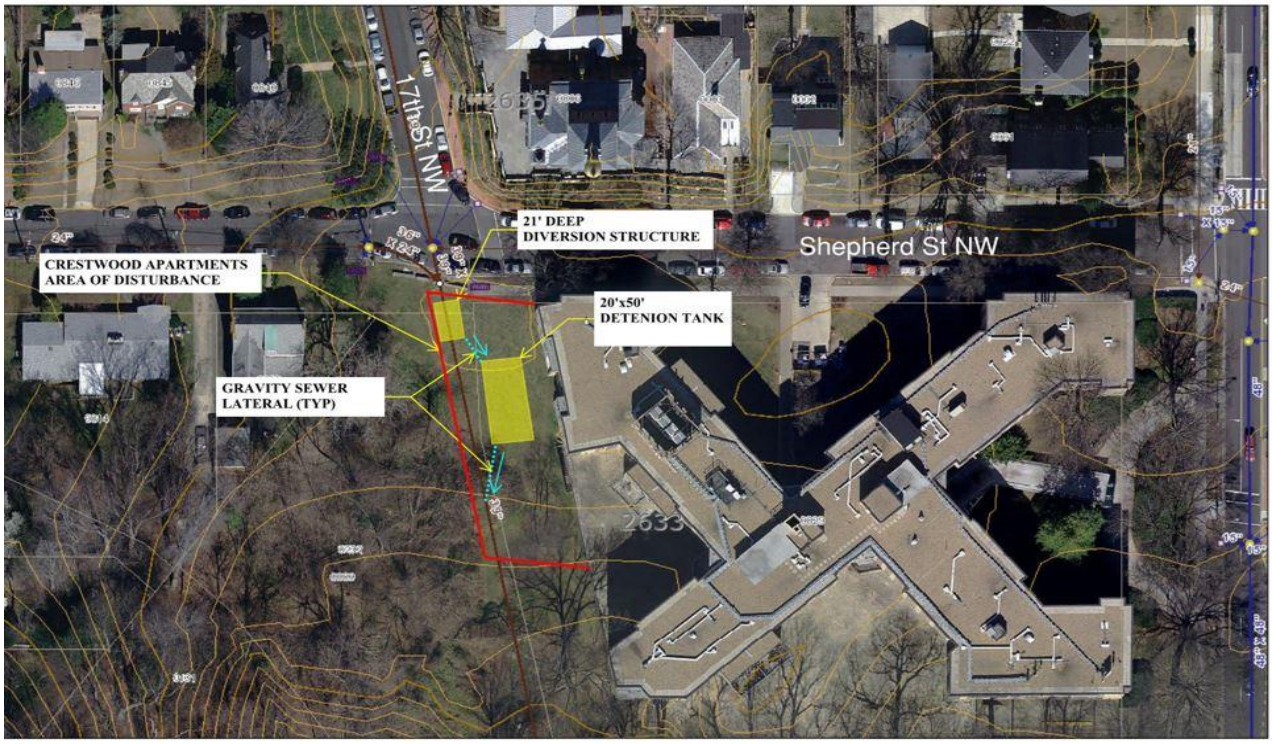

Figure D-9. Upstream Storage Tanks with Pump Station – Storage Facility 04

DC Clean Rivers Project
Piney Branch Tunnel Project

Environmental Assessment

October 2024

Appendix E. Mitigation Measures of the Proposed Piney Branch Tunnel Project

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MITIGATION MEASURES OF THE PROPOSED ACTION

The NPS places a strong emphasis on avoiding, minimizing, and mitigating potentially adverse impacts to affected resources, whether under the jurisdiction of the NPS or as a result of a NPS decision. DC Water would implement mitigation measures, whenever feasible, for the protection of natural and cultural resources, quality of the local communities, and visitor experience in Rock Creek Park. This will allow NPS to meet conservation mandates as required by the Organic Act (16 USC 1 et seq.) and as further detailed in NPS Management Policies 2006, the NHPA, and the Endangered Species Act (16 USC 1531 et seq.). The NPS would also monitor protective measures throughout the construction process, in accordance with the conditions of permits and other agency approvals or agreements, to ensure they are being properly implemented and are achieving their intended results.

DC Water proposes the mitigation measures summarized below to reduce project impacts. The exact mitigation measures would depend upon the final design and plan approvals by relevant agencies.

Water Quality

- Implement DOEE-approved Erosion and Sediment Control Plan to mitigate construction-related water quality degradation.
- Frequently inspect and maintain erosion and sediment control BMPs throughout the duration of construction.
- Reestablish vegetation to stabilize exposed soils and minimize the potential for future erosion.
- Obtain required Clean Water Act permits and authorizations prior to construction, including, but not limited to, Section 401 water quality certification, Section 404 authorization for the discharge of dredged or fill material into waters of the United States, and NPDES permit coverage for stormwater discharges under the USEPA Construction General Permit in accordance with Section 402.
- Conduct post-construction water quality monitoring in accordance with NPDES permit.
- Implement public notification system for CSOs per NPDES permit conditions that includes operating lights along Rock Creek.

Wetlands

- Develop an Erosion and Sediment Control Plan to prevent sediment transport offsite and potentially into wetlands.
- Obtain authorization from the USACE for unavoidable wetland impacts in accordance with Section 404 of the Clean Water Act through the Nationwide Permit Program, as well as Section 401 Water Quality Certification from DOEE.
- Stockpile/store native wetland soil or substrate from temporarily impacted wetland areas to be used to reestablish pre-construction wetland contours.
- Apply native wetland seed mix approved by NPS to establish an herbaceous plant layer.
- Replace trees removed during construction with replacement trees planted within the construction staging area up to 2.5-inch caliper size per tree with a quantity of replacement trees to be determined by NPS resource managers in accordance with NCPC Tree Preservation and Replacement Policy.

Vegetation

- Implement landscape restoration plans that include replacement trees, shrubs, and herbaceous vegetation that is coordinated with NPS and other stakeholders.
- Replace trees removed during construction with replacement trees planted within the construction staging area up to 2.5-inch caliper size per tree with a quantity of replacement trees to be determined by NPS resource managers in accordance with NCPC Tree Preservation and Replacement Policy.
- Implement measures to minimize damage to trees planned for protection, such as installing tree protection fencing; mulching, mulching, matting, or other measures to protect critical root zones from soil compaction; and root pruning.
- Prepare and implement an invasive species management plan that includes, but is not limited to, monitoring and removing invasives until native vegetation is established, using clean fill material free of

invasive plant seeds or propagules, and requires cleaning wheeled machinery pre- and post-construction to reduce the risk of seed cross contamination and spread of non-native invasive species.
- Establish turfgrass or apply an NPS-approved native herbaceous seed mix to reduce potential non-native invasive species establishment where soils are exposed following construction.
- Within the 5-year warranty, DC Water would perform annual post-construction monitoring of remaining trees and new plantings would be conducted to assess survival, as necessary.

Historic Structures and Districts

- Coordinate and implement site restoration plans with NPS, DC SHPO, NCPC, and other stakeholders, including returning Piney Branch Parkway NW to the roadway's historic alignment.
- Develop and execute a MOA between NPS, DC Water, NCPC, and DC SHPO, if needed, that includes stipulations for design reviews and specifies the avoidance, minimization, and mitigation measures agreed upon by the Signatories that will be incorporated into the final design of the Piney Branch Tunnel Project to resolve adverse effects to National Register-listed or eligible historic properties.

Visitor / Community Use and Experience

- Coordinate with NPS, DDOT, and other stakeholders regarding approach to construction phasing that would reduce impacts to traffic and other park uses, and that is coordinated with other potential projects in the vicinity.
- Conduct site restoration activities coordinated with NPS and other stakeholders, including, but not limited to, removing temporary structures; repairing damaged road and trail surfaces; reestablishing drainage and stormwater management features; completing landscape restoration with replacement trees, shrubs, and herbaceous vegetation; replacing / repairing concrete apron downstream of existing outfall with grouted stone; installing a new fence / railing around the outfall to replace the existing; and collecting any trash or debris that has accumulated within the CSAs.
- Limit equipment idling times and employ fugitive dust controls to minimize greenhouse gas emissions and air quality impacts during construction.
- Establish a Spill Prevention, Control and Countermeasure Plan to address any accidental spills or releases of hazardous materials during construction that could cause a risk to human health and/or safety.
- Implement noise reduction measures at construction areas that may include temporary noise barriers, monitoring noise levels for the duration of the project, specifying the use of quiet equipment models, maintaining equipment mufflers, lubricating equipment to prevent unnecessary noise, limiting the number and duration of idling equipment, and positioning loud equipment and activities as far as possible from noise-sensitive locations.
- Require lights with shielding, downward facing lighting, or other techniques during nighttime mining operations to minimize light pollution for adjacent residents.
- Implement fugitive dust controls, such as water application, covering or enclosing stockpiles of excavated materials, stabilizing haul roads, street sweeping, and covering open-bodied trucks when the truck is carrying materials.
- Conduct pre-construction surveys, implement vibration monitoring plan, implement structural protections (if needed), and identify alternative construction means and methods that minimize the potential effects of vibration on adjacent structures.
- Implement maintenance of traffic plans coordinated with DDOT and NPS to maintain vehicle access during full and partial closures of Piney Branch Parkway NW.
- Provide advance notification of road and trail closures and associated detours through avenues such as news releases, social media postings, email distribution, and electronic changeable message signs.
- Coordinate temporary road, parking, or trail closures with NPS and adjacent residences, as needed, prior to any planned maintenance inspections.

- Remain in regular contact with park neighbors most affected by construction, particularly at the Park Road CSA, to ensure that their concerns or complaints are addressed in a timely manner.

Environmental Justice and Underserved Populations

- Implement measures to minimize disruption as described under Visitor / Community Use and Experience.
- Conduct extensive public outreach before and during construction that includes distributing public awareness / engagement materials in English and Spanish.
- Conduct regularly scheduled meetings with Councilmembers, Advisory Neighborhood Commissions, adjacent landowners and other residents, businesses, and community organizations.
- Employ bilingual staff fluent in Spanish to be available to discuss project questions or concerns with non-English speaking members of the public.