

National Park Service
U.S. Department of the Interior



Chesapeake and Ohio Canal National Historical Park
Rock Creek Park

Georgetown Canal Plan

Environmental Assessment

October 2019



This document has been prepared by the National Park Service in partnership with Georgetown Heritage and with the support of the District of Columbia and the Georgetown Business Improvement District.



PROJECT SUMMARY

The National Park Service (NPS), in partnership with Georgetown Heritage, Georgetown Business Improvement District (BID), and the District of Columbia, is preparing the Georgetown Canal Plan (the Plan) to revitalize portions of Chesapeake and Ohio Canal National Historical Park (C&O Canal NHP or the NHP) and Rock Creek Park within the Georgetown neighborhood of the District of Columbia. The Plan proposes enhancements to the one-mile-long segment of the Canal that passes between Lock One (approximately 28th Street NW) and the Potomac Aqueduct Bridge Abutment and Pier (the Potomac Aqueduct) (approximately 36th Street NW) and the one-third-mile-long segment of Rock Creek Park between the Canal and Potomac River known as the Tide Lock (Figure 1).

The Georgetown Canal Plan proposes numerous improvements along the Canal in the project area including, Towpath stabilization, rehabilitation, and widening; improved Canal/Towpath access and accessibility; increased interpretive and educational opportunities; additional park amenities for visitors; and better utilized open spaces.

Under the no-action alternative, current management and maintenance practices of the C&O Canal NHP would continue as part of the NPS's ongoing mission to preserve the country's national parks for future generations. Basic maintenance, rehabilitation, and restoration efforts would be made that may include, but are not limited to, repair of the locks, repair/stabilization of the Towpath, and maintenance/repair of the existing access points to the Canal.

This environmental assessment (EA) has been prepared to assess the alternatives and their potential impacts on the human environment in accordance with the National Environmental Policy Act (NEPA); regulations of the Council on Environmental Quality (40 Code of Federal Regulations [CFR] 1500-1508); the NPS Director's Order #12: *Conservation Planning, Environmental Impact Analysis, and Decision-Making* (NPS 2011); the NPS NEPA Handbook (NPS 2015); and the National Capital Planning Commission's (NCPC) Environmental and Historic Preservation Policies and Procedures (NCPC 2004). In addition, as a separate but concurrent process, the NPS and its partners will also assess the effects the proposed undertaking would have on historic properties in accordance with Section 106 of the National Historic Preservation Act (NHPA).

Note to reviewers and respondents: Comments on this EA may be submitted electronically at the NPS Planning, Environment, and Public Comment (PEPC) website at <http://parkplanning.nps.gov/Georgetowncanalplan> or you may mail written comments by November 15, 2019 to the address listed below.

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.

Superintendent
Attn: Georgetown Canal Plan EA Comments
C&O Canal NHP Headquarters Office
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ACRONYMS AND ABBREVIATIONS

ABAAS	Architectural Barriers Act Accessibility Standard
ADA	Americans with Disabilities Act
APE	Area of Potential Effects
B&O Railroad	Baltimore and Ohio Railroad
BID	Business Improvement District
BMP	Best Management Practice
C&O Canal	Chesapeake and Ohio Canal
CFA	U.S. Commission of Fine Arts
CFR	Code of Federal Regulations
CLF	Cultural Landscape Foundation
DC Inventory	DC Inventory of Historic Places
DCOP	District of Columbia Office of Planning
DC SHPO	District of Columbia State Historic Preservation Office
DDOT	District Department of Transportation
DOE	Determination of Eligibility
DOEE	District Department of Energy and Environment
EA	Environmental Assessment
FEMA	Federal Emergency Management Agency
National Register	National Register of Historic Places
NCPC	National Capital Planning Commission
NEPA	National Environmental Policy Act
NHL	National Historic Landmark
NHP	National Historical Park
NHPA	National Historic Preservation Act
NM	National Monument
NPS	National Park Service
NW	Northwest
PEPC	Planning, Environment, and Public Comment
SF	Square Foot
STEM	Science, Technology, Engineering, and Mathematics
USFWS	U.S. Fish and Wildlife Service
VDHR	Virginia Department of Historic Resources

PURPOSE AND NEED

The National Park Service (NPS), in partnership with Georgetown Heritage, Georgetown Business Improvement District (BID), and the District of Columbia, is preparing the Georgetown Canal Plan (the Plan) to revitalize portions of the Chesapeake and Ohio Canal National Historical Park (C&O Canal NHP or the NHP) and Rock Creek Park within the Georgetown neighborhood of the District of Columbia. The Plan proposes enhancements to the one-mile-long segment of the Canal that passes between Lock One (approximately 28th Street NW) and the Potomac Aqueduct Bridge Abutment and Pier (the Potomac Aqueduct) (approximately 36th Street NW) and the one-third-mile-long segment of Rock Creek Park between the Canal and Potomac River known as the Tide Lock (Figure 1).

This Environmental Assessment (EA) describes two alternatives for the Georgetown Canal Plan: one action alternative, which includes various concept designs for improvements along the C&O Canal, and the no-action alternative. The EA also analyzes the environmental consequences of implementing the alternatives. The National Capital Planning Commission (NCPC), District Department of Transportation (DDOT), and District Department of Planning (DCOP) are acting as cooperating agencies for this EA. This document has been prepared in accordance with the National Environmental Policy Act (NEPA); regulations of the Council on Environmental Quality (40 Code of Federal Regulations [CFR] 1500-1508); the NPS Director's Order #12: *Conservation Planning, Environmental Impact Analysis, and Decision-Making* (NPS 2011); the NPS NEPA Handbook (NPS 2015); and NCPC's Environmental and Historic Preservation Policies and Procedures (NCPC 2004). In addition, as a separate but concurrent process, the NPS and its partners will also assess the effects the proposed undertaking would have on historic properties in accordance with Section 106 of the National Historic Preservation Act (NHPA).

PURPOSE OF AND NEED FOR ACTION

The purpose of the proposed action is to develop a plan to enhance the one-mile portion of the C&O Canal NHP in Georgetown, focusing on an array of repair and rehabilitation projects that address deferred maintenance issues and related safety and accessibility concerns associated with the C&O Canal Towpath; improving connections between Georgetown and the Towpath; enhancing visitor experience through increased signage; and optimizing underutilized areas. The Plan will be developed in a manner that addresses the identified needs while also preserving the historic character, integrity, and cultural significance of the C&O Canal NHP, Rock Creek and Potomac Parkway, and the Georgetown Historic District (DC Landmark, National Register of Historic Places [National Register], National Historic Landmark [NHL]).

The Plan is needed to provide a coordinated approach to address the following concerns:

- Portions of the Towpath are uneven, narrow, and poorly lit, creating potential safety hazards;
- Visitors with limited mobility can only access the Towpath from Grace Street NW (south of the Canal). All other access points are not compliant with the Architectural Barriers Act Accessibility Standards (ABAAS);
- Many access points to the Towpath are not readily visible or are unknown due to lack of signage;
- The NHP desires to expand opportunities for interpretation, education, and cultural programming;
- The NHP has limited amenities and facilities for visitor comfort such as seating, drinking fountains, and rest rooms; and
- Several plazas along the Canal are underutilized and could be developed to provide additional recreational activities.



Figure 1: Georgetown Canal Plan Project Area

C&O CANAL NATIONAL HISTORICAL PARK

The C&O Canal NHP is an administrative unit of the national park system. The C&O Canal extends 184.5 miles from Cumberland, Maryland, to the Potomac River and Rock Creek confluence in Washington, DC. Construction of the C&O Canal began in Georgetown in 1828. The C&O Canal was used mainly for industrial and agricultural purposes from 1831 to approximately 1889 when it experienced a significant decline in usage due to the success of rail transportation. In 1890, the C&O Canal was purchased by the Baltimore and Ohio (B&O) Railroad Company after a devastating flood severely damaged the Canal, putting the C&O Canal Company out of business. The B&O Railroad Company continued to operate the C&O Canal, at a loss, until 1924 when yet another flood damaged major portions of the Canal. The B&O Railroad Company sold the entire C&O Canal to the federal government in 1938 after suffering the effects of the Great Depression. The C&O Canal was placed under the oversight of the NPS and, subsequently, the lower 22 miles of the Canal were restored as part of an unemployment relief project. In 1961, President Eisenhower proclaimed the C&O Canal a National Monument (NM), and, in 1971, additional lands were acquired, and the C&O Canal was dedicated as an NHP. Today, more than 4.8 million visitors use the C&O Canal NHP annually to experience the rich history of the C&O Canal and for a variety of recreational uses (James Corner Field Operations 2017).

ISSUES AND IMPACT TOPICS RETAINED FOR DETAILED ANALYSIS

The NPS determined that the following issues and associated impact topics identified during scoping warranted further consideration and are therefore retained for detailed analysis in this EA.

Visitors are concerned about the condition of existing park facilities and lack of amenities. The first mile of the C&O Canal NHP is in a busy urban, yet residential, area in Georgetown. The NPS must manage this section of the C&O Canal NHP to safely accommodate residents, tourists, and recreational users. During scoping, stakeholders expressed many concerns related to varying park uses that the Plan will attempt to resolve. Visitors of the C&O

Canal mentioned competing uses along the Towpath, which include bicyclists, joggers, and walkers, and expressed a desire for more interpretive opportunities. Residents along the Canal and in Georgetown expressed a desire for a “spruced-up” Canal without inviting more noise, trash, or congestion. These issues are analyzed in detail under the *Community/Visitor Use and Experience* impact topic.

Implementation of the Georgetown Canal Plan has the potential to impact historic structures and districts and cultural landscapes. The C&O Canal is individually listed in the National Register and is located within several historic districts, including the Georgetown National Historic Landmark District. Implementation of the Plan could add new non-contributing elements to the C&O Canal, its character-defining features, and the C&O Canal cultural landscape. Additionally, the Plan could require removal, modification, rehabilitation, and/or restoration to existing character-defining features that contribute to the significance of the C&O Canal. The Plan could also result in visual intrusions that may affect historic viewsheds and vistas. Consequently, components of the Plan and design directives have the potential to directly or indirectly impact the C&O Canal itself, as well as the surrounding historic resources and cultural landscapes. These issues are analyzed in detail under the *Historic Structures and Districts and Cultural Landscapes* impact topics.

Construction could disturb known archeological resources or areas of high archeological potential. There are multiple known archeological sites within the project area that are registered with the DC State Historic Preservation Office (DC SHPO). As such, a Phase IA Archeological Assessment was performed that identifies areas with moderate and high archeological potential within the project area. The proposed action includes several concepts that would result in ground disturbance in these areas. Therefore, this issue is analyzed in detailed under the *Archeological Resources* impact topic.

ISSUES AND IMPACT TOPICS DISMISSED FROM DETAILED ANALYSIS

The following issues and associated impact topics have been dismissed from detailed analysis for the reasons provided.

Construction activities could temporarily contribute to water quality degradation. Implementation of the Plan could result in ground disturbance and the transport of sediment into the C&O Canal, Rock Creek, and the Potomac River. However, construction activities would be limited to small and localized areas along the Canal, resulting in minimal soil disturbance. Additionally, the proposed action would be implemented following a phased approach that would limit the amount of soil disturbance occurring at any given time. During construction, in accordance with the District Department of Energy and Environment’s (DOEE) Rule on Stormwater Management and Soil Erosion and Sediment Control, strict erosion and sediment controls and other Best Management Practices (BMPs) would be employed and disturbed areas would be revegetated immediately following construction to provide soil stabilization and minimize erosion. Therefore, due to the limited ground disturbance that would occur and the deployment of measures to minimize erosion, implementation of the proposed action would not result in measurable impacts to water quality. This issue has been dismissed from further analysis.

Portions of the project area are within the 100-year floodplain. Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map panel 1100010018C shows that portions of the project area are located within the regulated 100- and 500-year floodplains of the Potomac River and Rock Creek (FEMA 2010). The proposed action could result in temporary disturbances during construction and could also add permanent structures within the floodplain. However, the proposed disturbance area and structures would be small in scale relative to the overall area of the floodplain. The NPS and Georgetown Heritage would design

improvements to the C&O Canal to be resilient to the effects of flooding, taking into consideration the potential effects of climate change. Based on these considerations, the Plan would not result in a negative impact to human health, capital investment, or natural and beneficial functions of the floodplain. Therefore, this issue has been dismissed from further analysis.

Construction could disturb wildlife and vegetation, including federally listed species and/or critical habitat. Limited areas of vegetation could be temporarily disturbed or permanently removed to implement the Plan and could result in the displacement of wildlife. However, the Plan includes the planting of trees and gardens, stream bank restoration, and aquatic plantings in selected areas along the Canal, which would result in an overall increase of vegetation and wildlife habitat in the project area. Therefore, this issue has been dismissed from further analysis.

ALTERNATIVES

This EA analyzes a no-action alternative and the proposed action (Georgetown Canal Plan). The elements of these alternatives are described in detail in this section. Impacts associated with each alternative are outlined in the “Affected Environment and Environmental Consequences” section of this EA. In addition, numerous concept designs and Plan elements were dismissed from further consideration, which are described in Appendix D.

NO-ACTION ALTERNATIVE

The no-action alternative represents a continuation of the present management operations and conditions of the C&O Canal and Towpath within Georgetown by the C&O Canal NHP and Rock Creek Park. The no-action alternative provides a basis for comparing the management direction and environmental consequences of the proposed action.

For the purposes of this Plan and for ease of reader comprehension, the project area is divided into four Zones that include seven Key Areas (Figure 4 through Figure 14 and Appendix B). Their locations are identified below by their mile markers and summarized in Table 1. The legend shown in Figure 2 is common to all Zones and Key Area Plan figures throughout the document.

Table 1: Summary of Zones and Key Areas in Project Area

Zones	Key Areas	Mile Marker
A (Mile 0.00 to 0.28)	Mile Marker Zero	0.00 - 0.06
B (Mile 0.28 to 0.59)	Rock Creek Confluence	0.32 - 0.42
	The Locks	0.46 - 0.53
C (Mile 0.59 to 0.85)	The Obelisk Plaza	0.65 - 0.72
	Canal Overlook & Fish Market Square	0.76 - 0.83
D (Mile 0.85 to 1.12)	Gongoozler Platform	0.90 - 0.97
	The Potomac Aqueduct	1.05 - 1.12



Figure 2: Georgetown Canal Plan Zone Key

Under the no-action alternative, current management and maintenance practices of the C&O Canal NHP and Rock Creek Park would continue. Basic maintenance, rehabilitation, and restoration efforts would be made and may include, but are not limited to, repair of the locks, repair/stabilization of the Towpath, and maintenance/repair of the existing access points to the Canal. For the purpose of this planning effort, the project area has been divided into four Zones that include seven Key Areas. The following descriptions represent the baseline conditions which would be maintained or retained under the no-action alternative in each Zone and its corresponding Key Area(s).

Zone A

In Zone A, the alignment and width of Rock Creek Trail on the west side of Rock Creek would be retained. Pedestrian access to Mile Marker Zero, which is currently achieved via the existing pedestrian bridge over Rock Creek (north of Thompson Boat Center) and through the west-side of Thompson Boat Center. The Thompson Boat Center parking area would retain its current size and the 90 parking spaces which currently accommodate only small vehicles. Pedestrians and bicyclists would continue to use K Street NW or the ramp from K Street NW to the Rock Creek and Potomac Parkway NW as a crossing over Rock Creek to enter or exit Georgetown.

- *Mile Marker Zero* - Thompson Boat Center and the open space to the south would be retained in their current condition. The open space is currently a grassy area, with no dedicated seating, where visitors can view the Tide Lock, Waste Gate, Mile Marker Zero, the Potomac River, and Rock Creek. The position of the Mile Marker Zero Obelisk would be retained. The existing 13,000-square feet (SF) outdoor boat storage facility would be retained at its current location.

Zone B

In Zone B, the current Towpath alignment and slope would be retained in its current condition. Small open areas along the Towpath and Canal adjacent to Lock Two would also be retained in their current condition.

- *Rock Creek Confluence* - The current Towpath alignment and slope would be maintained in the vicinity of Lock One on the north side of the Canal. Rock Creek Trail and its crossing over Rock Creek at its confluence with the C&O Canal would be retained. Visitors would use the existing connection between Rock Creek Trail and the Towpath to transition between the two trails. The slope and condition of the stream bank on both the east and west sides of Rock Creek would be retained. The lawn and green space to the north and south of Lock One would also be retained.
- *The Locks* - The area to the north and south of Lock Three, including the existing seating area would be retained. Lock Three would be used as the Georgetown Canal boat launch area and, during day-time interpretive boat operations, two mules would continue to be staged south of Lock Four. The area would include a mule-appropriate pen structure and related operational elements. The lawn, located north of the Towpath at Lock Three, is currently an open, mowed lawn. The existing NPS Visitors Center (now closed to the public), located on Thomas Jefferson Street NW, would continue to serve as administrative offices for NPS staff.

Zone C

In Zone C, the Towpath alignment and slope would be retained in their current condition. The existing staircase on the southern end of 33rd Street NW would also be retained.

- *The Obelisk Plaza* - The existing staircase to the Obelisk Plaza from the Towpath to Wisconsin Avenue NW would be retained, as would the existing approximately 15-foot opening of the retaining wall to the north of the Towpath.
- *The Canal Overlook* - The existing non-accessible access ramp to the Towpath from Potomac Street NW and the Potomac Street Pedestrian Bridge on the north side of the Canal would be retained in their current condition. The existing area above the Georgetown Park Garage, which currently consists of a planted area, would be retained in its current condition. The retaining walls along the Towpath would be retained in their current condition.
- *Fish Market Square* - The existing non-accessible access to the Potomac Street Pedestrian Bridge from Fish Market Square and the Potomac Street Pedestrian Bridge would be retained in their current condition. Fish Market Square, which is currently an open, paved area with some street furniture, would be maintained in its current condition.

Zone D

In Zone D, the current Towpath alignment and slope would be retained. The existing access staircase from the Towpath to the Whitehurst Freeway would be retained. The Hydroelectric Facility, which is in a densely vegetated area between the Francis Scott Key Bridge and Whitehurst Freeway overpasses, would be retained in its current condition.

- *Gongoozler Platform* - The existing pedestrian crossing at 34th Street NW would be retained in its current condition, including the stairs and ramp on the north and south sides of the Canal, and the connections to Francis Scott Key Park and 34th Street NW

would be retained. Open spaces on the north and south side of the Canal in this area, which are currently sparsely vegetated, would be retained.

- *The Potomac Aqueduct* - The Potomac Aqueduct and surrounding vicinity, which is currently a mix of grassy open space and structural remnants, would be retained in its current condition.

GEORGETOWN CANAL PLAN (PROPOSED ACTION AND NPS PREFERRED ALTERNATIVE)

The items listed below represent design concepts that may be chosen to meet the stated goals of the Plan. Detailed design decisions related to construction methodology, exact location, and materials will be determined in the future, prior to Plan implementation. Some concept designs are proposed on, or affect, private property or easements held by the NPS. These that are noted with their descriptions below (property ownership within the project area is show on Figure 15). Any concepts proposed on private or non-NPS property are dependent on obtaining permission and future agreements with the property owners. The project partners would work with private property owners when implementing these concepts to ensure minimal disruption.

Actions occurring in all Zones and Key Areas are described first under *Actions Common to all Zones*. Following this discussion, specific proposals are described and identified by their closest 1/100 mile marker under each Zone and Key Area. Actions include generic titles, as well as a detailed description (example: *mile marker 0.00: Title - Description*). Table 1 and Figure 2 above describe the locations of these Zones and Key Areas.

Actions Common to All Zones

Common actions to all areas are described below and include canal infrastructure repair and rehabilitation, riparian planting and stream bank restoration, Towpath and pathway enhancements, and interpretive and wayfinding signage.

Canal Infrastructure Repairs and Rehabilitation

As part of the Georgetown Canal Plan, various repair, rehabilitation, and reconstruction projects would be phased and completed. Within the project area, 37 canal infrastructure-related repair and rehabilitation projects were identified and are described in detail in Appendix C. These projects are based on information collected from field investigations that were conducted in 2018 and 2019 and are informed by visual observations, measurements, photographs, Ground Penetrating Radar, Seismic Refraction testing, and analysis conducted by structural engineers licensed in the District of Columbia (McMullen & Associates 2019).

In general, the most common causes of deterioration to the Prism and retaining walls were due to vegetation growing in the mortar joints and deterioration of mortar from freeze-thaw cycles, trapped moisture, seepage, earth pressure, and varying levels of mild acidity in the Canal water. Many of the capstones of the Prism walls along the Towpath have been displaced by vegetation and in several areas, vegetation has caused significant displacement of stones. Due to these issues, varying degrees of repair and in places, complete reconstruction, are required within the Canal Prism and along the retaining walls and would be completed as part of the Plan.

The Canal has accumulated sediment and vegetation was observed to be growing within the Prism along much of its length. Plants' root penetration has likely damaged the clay liner, which provides waterproofing of the Prism. Sediment and vegetation removal are required throughout the project area within the Prism and would be completed as part of the Plan.

Additionally, several pieces of Canal-supporting infrastructure require repairs. Rock Creek Piers, the Water Intake, the Hydroelectric Facility, and Potomac Aqueduct are all experiencing

deterioration due to their age and overgrowth of vegetation. Vegetation removal, stabilization, timber and stone replacement, and reconstruction efforts are required and would be completed as part of the Plan.

Riparian Planting and Stream Bank Restoration

As part of the Plan, riparian planting and stream bank restoration efforts would take place to stabilize Rock Creek. From mile 0.00 to mile 0.37, five projects were identified and are described in this EA. These projects described below, and their locations are summarized in Table 2.

Project Types:

Stabilization - Riparian Planting: The existing stream banks have significantly eroded and scoured. Proposed work includes restoring the existing stream bank by filling, regrading, and stabilizing the creek edges with native riparian planting.

Repairs - Timber Sheeting: Significant erosion has led to the further deterioration of the timber sheeting that once lined and armored the stream banks of Rock Creek. Further investigation is needed to determine if stabilizing, replacing, or strengthening of the sheeting is required to limit further stream bank erosion and determine subsequent consequences.

Repairs - Stone Armoring: Several stones along the stream bank of Rock Creek are missing, and their absence has led to the further erosion. Proposed work includes backfilling and compacting the subsurfaces and resetting and grouting stone armoring.

Trees: Some existing trees would be removed, some trees would be relocated, and new trees would be planted within the project area as shown in Table 3.

Table 2: Summary of Proposed Riparian Planting and Stream Bank Restoration Projects

Mile marker(s)	Zone/Key Area	Project Type - Title	Figure Reference
0.00 - 0.21	Zone A	Stabilization - Stream Bank Riparian Planting	4
0.06 - 0.13	Zone A	Repairs - West Stream Bank Timber Sheeting	4
0.21 - 0.23	Zone A	Repairs - East Stream Bank Stone Armoring	4
0.26 - 0.33	Zone A Zone B	Stabilization - East Stream Bank Riparian Planting	4, 6
0.34 - 0.37	Zone B Rock Creek Confluence	Stabilization - Stream Bank Riparian Planting	6, 7

**Some stream bank restoration efforts are proposed on private property and are contingent on future agreements with the property owner.*

Table 3: Summary of Approximate Existing, Relocated, and Proposed New Trees

Mile marker(s)	Zone	Existing Trees	Removed Trees	New Trees (Portion on private property)	Relocated Trees
0.00 - 0.28	Zone A	185	15	200 (140*)	8

Mile marker(s)	Zone	Existing Trees	Removed Trees	New Trees (Portion on private property)	Relocated Trees
0.28 - 0.59	Zone B	75	20	145 (25*)	6
0.59 - 0.85	Zone C	42	22	40 (2*)	0
0.26 - 0.33	Zone D	40	20	50 (20*)	0

*New trees proposed on private property and are contingent on future agreements with the property owner or are contingent on stream bank restoration efforts.

Towpath and Pathway Enhancements

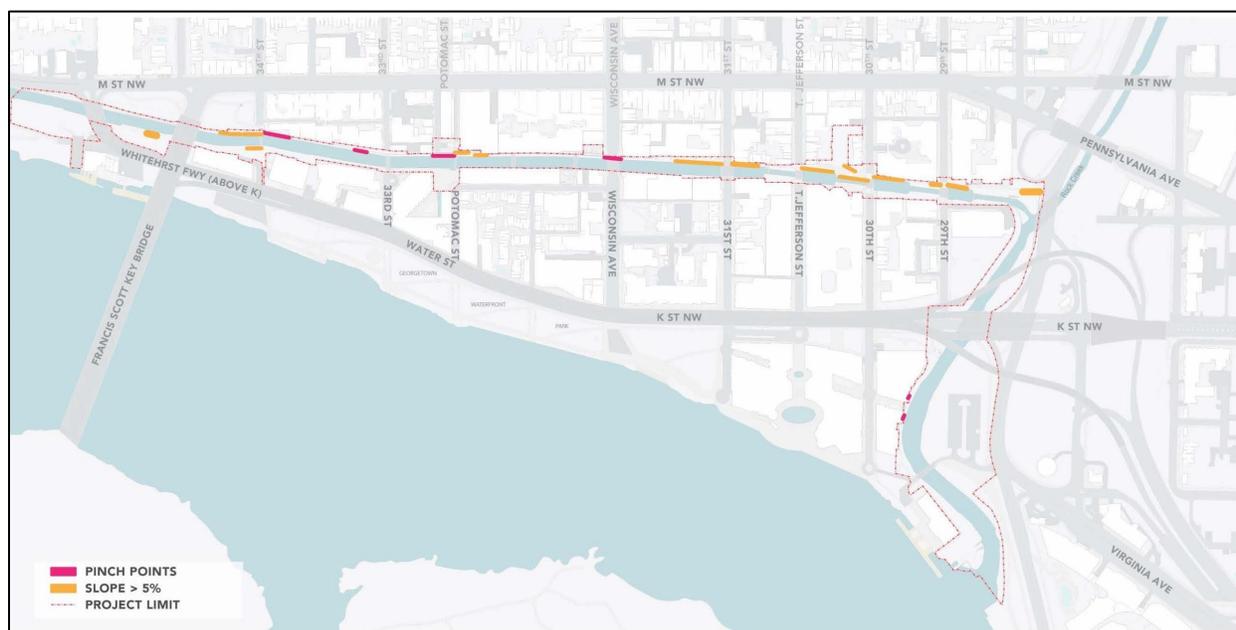


Figure 3: Proposed Towpath and Pathway Widening and Regrading Areas

Within the project area, the Towpath historically existed on the north side of the Prism west of 29th Street NW to 34th Street NW, where it then switches to south side of the Prism and continues west. All other areas not historically considered the Towpath are referred to as “pathways” in this EA.

The Plan proposes rehabilitating the entire Towpath within the project area, which would include regrading and stabilization in addition to a complete resurfacing (Figure 3 and Table 4). The rehabilitation of the Towpath includes:

1. Resurfacing with a natural-looking material that would be chosen following the *Secretary of the Interior’s Standards for the Treatment of Historic Properties (Rehabilitation)* (36 CFR 68) (the *Standards*) and would be compatible in size, scale, color, and texture with the historic material, as well as the surrounding ecology, physically and chemically, that is consistent with the *Standards*.
2. Meeting ABAAS requirements;

3. Providing ease of maintenance and ability to withstand variable weather conditions; and
4. Withstanding long-term wear by mules.

To address the narrowness of the Towpath, where possible the Towpath will be regraded to remove built-up soil and widen the path to take advantage of the available width. In some spots, identified as “pinch-points,” where the available width will not allow mules and pedestrians to pass safely, the path will be widened (areas highlighted in red on Figure 3). In total, approximately 270 feet of 4,120 feet of the existing Towpath would be widened beyond the current width to a maximum of 9 feet in width. In some areas, this may require widening the Towpath over the Canal Prism or relocating retaining walls. The exact amount of widened Towpath, installation methods, and visual aspects of the proposed widened portions are not currently known and would be determined during final design. Other areas of the Towpath and existing pathways with a slope greater than 5 percent (areas highlighted in yellow on Figure 3) would be regraded to provide an ABAAS-compliant surface of a slope no greater than 5 to 8.3 percent.

In addition to the Towpath and other pathways, other hard surface areas within the project area (i.e. brick-paved plazas), referred to as paving areas in this EA, would be constructed or widened as noted below in Table 4.

Project Types:

Pathway and Paving: New hardened pathway and paving areas would be constructed to provide appropriate and ABAAS-compliant surfaces within the project area. Paving areas refer to those surfaces

Towpath Treatment: The existing Towpath would be regraded and resurfaced to fully utilize the existing available width and provide an ABAAS-compliant surface through the project area.

Pathway Treatment: The existing pathway would be regraded and resurfaced to fully utilize the existing available width and provide an ABAAS-compliant surface through the project area.

Street Crossings: The existing street crossings would be change in paving material and/or color of the crosswalks and would match the material and/or color of, and/or would be similar to, the various pathways and Towpath treatments for better wayfinding as well as for pedestrian safety. Crosswalks are under the jurisdiction of DDOT and are contingent on future agreements.

Pathway and Towpath Widened: The pathway or Towpath would be widened to a minimum of 6 feet clear-width from mile marker 0.00 - 0.48, or a maximum of 9 feet clear-width from mile marker 0.48 - 1.12 to provide an ABAAS-compliant route through the area.

Table 4: Summary of Proposed Towpath, Pathway, and Paving Enhancements

Mile marker(s)	Project Type	Zone/Key Areas	Figure Reference
0.00 - 0.12	Pathway and Paving	Zone A Mile Marker Zero	4, 5
0.12 - 0.17	*Pathway and Paving	Zone A	4
0.17	*Pathway Widened to 6 feet for 20 feet	Zone A	4
0.17 - 0.33	*Pathway, Paving, and Street Crossings	Zone A Zone B Rock Creek Confluence	4, 6, 7

Mile marker(s)	Project Type	Zone/Key Areas	Figure Reference
0.35 - 0.42	Pathway Treatment	Zone B Rock Creek Confluence	6, 7
0.42 - 0.47	*Towpath Treatment and Street Crossings	Zone B	6
0.47 - 0.59	*Towpath Treatment and Street Crossings	Zone B	6
0.48 - 0.52	Pathway and Paving	Zone B The Locks	6, 8
0.59 - 0.67	Towpath Treatment	Zone C	9
0.67 - 0.68	Towpath Widened to 9 feet for 60 feet	Zone C The Obelisk Plaza	9, 10
0.68 - 0.69	*Pathway and Paving	Zone C The Obelisk Plaza	9, 10
0.68 - 0.85	Towpath Treatment	Zone C	9
0.79 - 0.81	*Pathway and Paving	Zone C Canal Overlook	9, 10
0.79 - 0.83	*Pathway and Paving	Zone C Fish Market Square	9, 11
0.81 - 0.94	*Pathway Treatment	Zone C Zone D	9, 12
0.85 - 0.86	Towpath Widened to 9 feet for 40 feet	Zone C Zone D	9, 12
0.86 - 0.89	Towpath Treatment	Zone D	12
0.89 - 0.94	Towpath Widened to 9 feet for 170 feet	Zone D	12
0.94 - 1.12	Towpath Treatment	Zone D	12

**Contingent on future agreements with the property owners, or immediately adjacent property owners. Should an agreement not be reached with the immediately adjacent property owner, and alternative ABAAS-compliant route would be provided to the south of Lock Two and Level Two.*

Interpretive and Wayfinding Signage

As part of the Georgetown Canal Plan, interpretive and wayfinding signage would be installed from mile 0.00 to mile 1.12 to reinforce the visitor understanding of the historical use and importance of the area.

Actions Specific to Zones and Key Areas

The follow sections describe site-specific proposed actions that could be implemented as part of the Plan. Proposed actions are described in their respective Zone and Key Areas. Numbered items correspond to numbers on the Figures which are placed in the general location the proposed action would occur.

Zone A

Zone A (Figure 4) includes the area along the Canal from mile 0.00 to 0.28. The Mile Marker Zero (Figure 5) Key Area is located within this Zone.



Figure 4: Proposed Concept Designs from Mile 0.00 to Mile 0.28

1. Mile 0.00 - Mile 0.06: See **Mile Marker Zero** (Figure 5) for specific proposed projects in this Key Area.
2. Mile 0.13 - Mile 0.21: Vehicular Parking - The existing 28,600 SF parking lot would be enlarged to approximately 46,000 SF to better serve Thompson Boat Center. Vehicular parking spaces would remain at 90 spaces, including 22 swing spaces where three new loading and unloading areas would be provided for safer loading and unloading of boats, as well bus staging. Within the footprint of the enlarged parking lot, one mule trailer space would be reserved to support the interpretive Georgetown Canal Boat.
3. Mile 0.23: K Street Pedestrian Bridge - A new approximately 140-foot long by 16-foot wide ABAAS-compliant clear-span pedestrian bridge would be constructed over Rock Creek and under the Whitehurst Freeway overpass. The new pedestrian bridge would connect the K Street Cycle Track to the Rock Creek Trail.

Mile Marker Zero

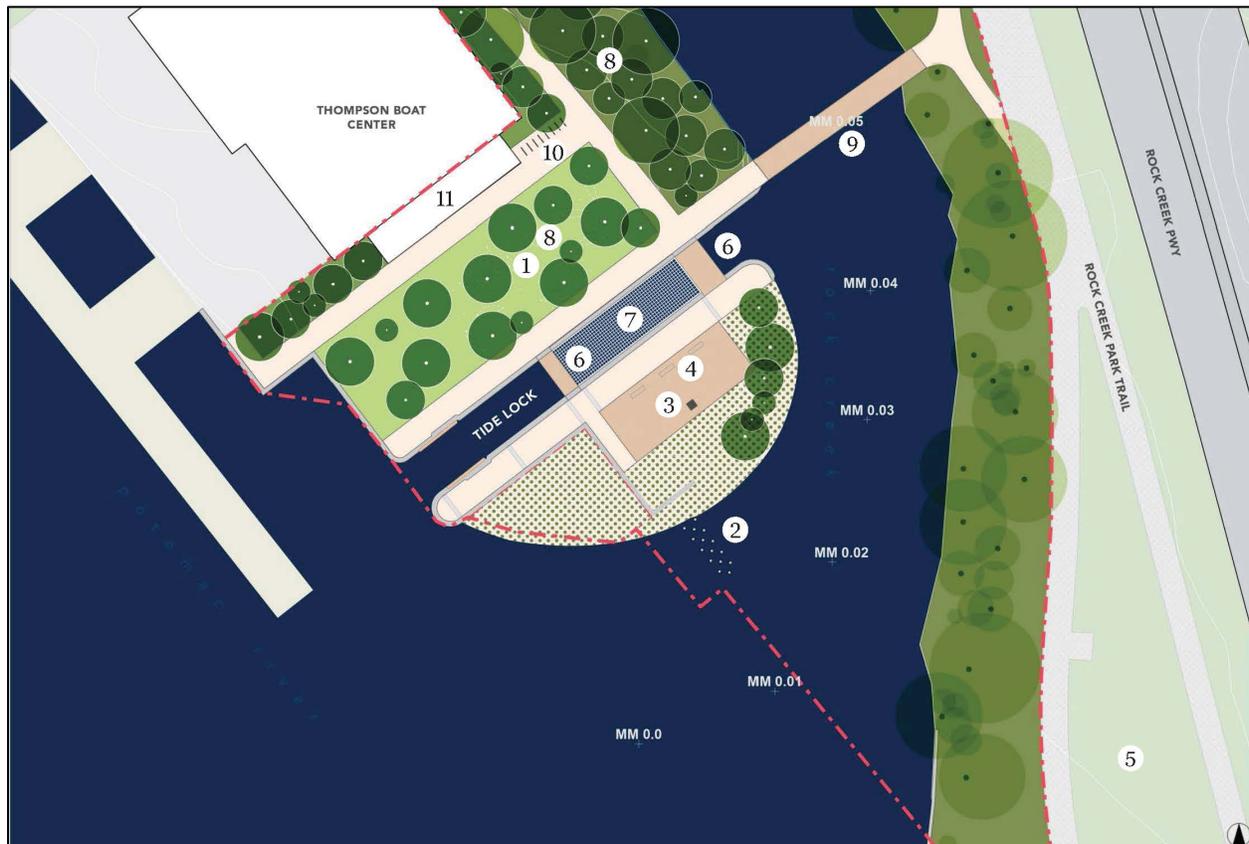


Figure 5: Proposed Concept Designs at Mile Marker Zero (Mile 0.00 - Mile 0.06)

1. Mile 0.00 - Mile 0.05: Potomac Lawn & Lounge Area - The existing 290 SF green space northwest of the Tide Lock would be regraded and enlarged to a 4,800 SF green space. The area would include other plantings and areas for seating.
2. Mile 0.01: Tidal Dam Preservation and Interpretation - The timber and metal hardware of the Tidal Dam have largely deteriorated. Proposed work includes recovering, transporting, and preserving the remains. Interpretative elements are proposed at this location.
3. Mile 0.01 - Mile 0.03: Mile Marker Zero and Platform - The Mile Marker Zero Obelisk would be relocated within a 20-foot radius of the existing location. The immediately adjacent area surrounding the Mile Marker would be hardened with an appropriate surface. Note: The actual Mile Marker Zero survey monument is located at the most southwestern end of the Tide Lock and would not be relocated.
4. Mile 0.01 - Mile 0.03: Seating and Benches - three to five new seating elements would be installed to the southeast of the Tide Lock and near Mile Marker Zero.
5. Mile 0.01 - Mile 0.03: Recreation Area - Within the area west of Rock Creek Park Trail and the Promenade, approximately 6 to 12 pieces of stationary exercise equipment, evocative of rowing and nautical movements, would be installed.
6. Mile 0.01 & Mile 0.04: Pedestrian Bridges over Tide Lock - The existing 200 SF pedestrian bridge over the Tide Lock would be replaced by two new pedestrian bridges. To the southwest of the Tide Lock Nets an approximately 8-foot wide pedestrian bridge

would be installed. To the northeast of the Tide Lock Nets an approximately 12-foot wide pedestrian bridge would be installed. Both bridges would clear-span the Tide Lock.

7. Mile 0.01 - Mile 0.04: Tide Lock Nets - 750 SF of temporary, removable, reversible, and seasonally occupiable lounge-nets would be installed over the Tide Lock. The supportive structure would be constructed adjacent to the Tide Lock and would not require any substantial alterations to the existing historic structures or resources.
8. Mile 0.01 - Mile 0.06: Existing Outdoor Boat Storage - Contingent on the implementation of additional boating facilities along the Potomac River, thereby reducing the current boat storage demands at Thompson Boat Center, the existing approximately 13,000 SF outdoor boat storage to the south and east of the Thompson Boat Center would be either removed and/or relocated. A determination of relocated boat storage would be revisited and re-evaluated at such time.
9. Mile 0.05: Mile Marker Zero Pedestrian Bridge - A new approximately 80-foot long by 16-foot wide ABAAS-compliant clear-span pedestrian bridge would be constructed over Rock Creek. The pedestrian bridge would connect the Mile Marker Zero area to the Rock Creek Trail and would provide a marked route for bicyclists and pedestrians to access the area.
10. Mile 0.06: Bike Rack & Water Station - A new bike rack for up to 20 bikes would be provided to the northeast and adjacent to the Potomac Kiosk as would a potable water station.
11. Mile 0.06: Potomac Kiosk - A new 1,000 SF kiosk would be constructed to the southeast and adjacent to Thompson Boat Center and would include additional restrooms and storage lockers.

Zone B

Zone B (Figure 6) includes the area along the Canal from mile 0.28 to 0.59. Key Areas within this Zone include Rock Creek Confluence (Figure 7) and The Locks (Figure 8).



Figure 6: Proposed Concept Designs from Mile 0.28 to Mile 0.59

1. Mile 0.33 - Mile 0.41: See **Rock Creek Confluence** (Figure 7) for specific proposed projects in this Key Area.
2. Mile 0.42 - Mile 0.47: Me Amo Grove - A sculpture garden would be constructed to further interpret the history of the builders of the C&O Canal.
3. Mile 0.46 - Mile 0.53: See **The Locks** (Figure 8) for specific proposed projects in this Key Area.

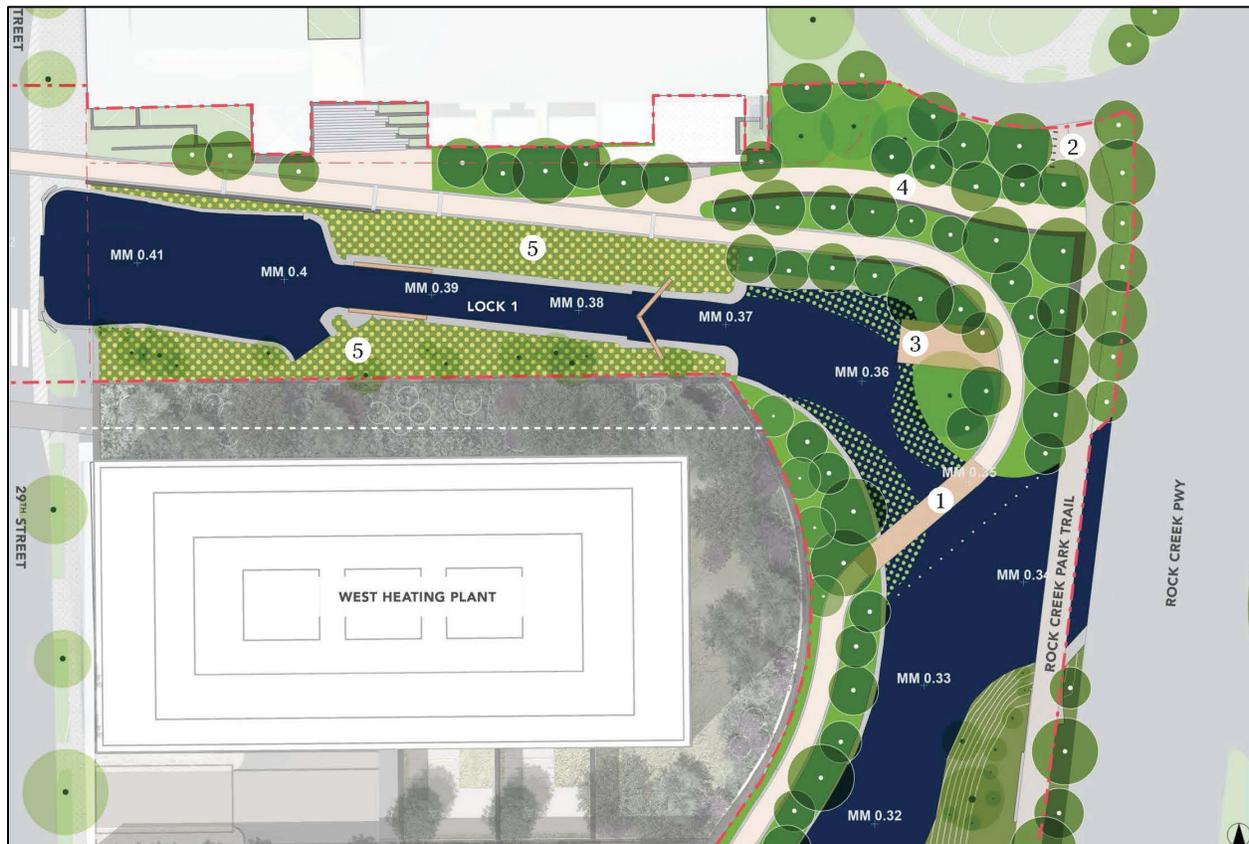
Rock Creek Confluence

Figure 7: Proposed Concept Designs at the Rock Creek Confluence (Mile 0.32 - Mile 0.42)

1. Mile 0.35: Pedestrian Bridge - A new approximately 60-foot long by 8-foot wide ABAAS-compliant pedestrian bridge would be constructed with a clear-span over Rock Creek. The pedestrian bridge would connect the pathway to the West Heating Plant property.
2. Mile 0.36: Bike Rack - A new bike rack for up to 12 bikes would be provided to the northwest of the Rock Creek Trail Connection intersection.
3. Mile 0.36: The Confluence Platform - A new approximate 10-foot by 30-foot viewing platform would be constructed to provide views of the Rock Creek Confluence and up Lock One through Lock Four.
4. Mile 0.36 - Mile 0.38: Rock Creek Trail Connection - A new pathway would be constructed to provide an ABAAS-compliant surface connecting the pathway to the Rock Creek Trail.
5. Mile 0.37 - Mile 0.41: Pollinator Meadows - The existing lawn and green space to the north and south of Lock One and Level One would be regraded and replanted with native vegetation.

The Locks



Figure 8: Proposed Concept Design at The Locks (Mile 0.46 - Mile 0.53)

1. Mile 0.48 - Mile 0.50: Lock Benches - Three to five new interpretive seating elements would be installed evocative of the engineering found in lock gates.
2. Mile 0.48 - Mile 0.50: Lock Terrace Seating Steps - North of Lock Three, seating steps would be constructed parallel to Lock Three to provide better views and access to Lock Three.
3. Mile 0.48 - Mile 0.50: Lock Viewing Plaza - South of Lock Three, an existing paved plaza area would be regraded and constructed to allow for better access to Lock Three.
4. Mile 0.48 - Mile 0.52: Interpretive and Mural Walls - Approximately 300 feet of interpretive mural walls would be constructed on the west and east side of the lawn, abutting the exiting private property fences.
5. Mile 0.49: Visitor and Education Center - A new Visitor and Education Center with an approximate footprint of up to 40 feet by 70 - 120 feet would be constructed that would contain approximately 12,000 to 14,000 SF of program space to support the C&O Canal NHP and visitor needs.
6. Mile 0.49 - Mile 0.51: The Locks Platforms - Five to seven new movable platforms around the perimeter of the lawn, at approximately 150 SF each, would be constructed for interpretive, educational, and social purposes.

7. **Mile 0.50: Justice Douglass Bust** - The Justice Douglass Bust would be relocated within the Grove Terrace to further celebrate and draw attention to the role of Justice William O. Douglas in preserving the C&O Canal.
8. **Mile 0.50: Interactive Lock Model** - A new approximately 60-foot long Science, Technology, Engineering, and Math (STEM) Interactive Lock Model with functional scaled lock gates would be installed for educational purposes.
9. **Mile 0.50: The Lawn and C&O Canal Scaled Map** - The existing approximately 9,000 SF lawn area would be regraded, resurfaced, and re-turfed to include a scaled map of the C&O Canal at grade for educational purposes.
10. **Mile 0.50: Grove Terrace** - A new outdoor terrace area north of the lawn would provide natural shading, seating, and interpretive opportunities.
11. **Mile 0.51: Interpretive Georgetown Canal Boat** - An interpretive Georgetown Canal Boat would be reintroduced to Georgetown and would operate primarily from mile marker 0.50 to mile marker 1.12.
12. **Mile 0.51: Interpretive Georgetown Canal Boat Queuing and Loading Area** - North of Level 3 an approximate 550 SF defined queuing area would be constructed to assist in the loading and unloading of the Georgetown Canal Boat. Removable stanchions would be installed.
13. **Mile 0.52: NPS Offices** - The existing C&O Canal NHP Visitor Center would be renovated to support park administrative and boat operation needs.
14. **Mile 0.54: Existing Mule Pen** - During day-time interpretive boat operations, two mules would continue to be staged south of Lock Four. The area would include a mule-appropriate pen structure and related operational elements.

Zone C

Zone C (Figure 9) includes the area along the Canal from mile 0.28 to 0.59. Key Areas within this Zone include The Obelisk Plaza (Figure 10) and Canal Overlook and Fish Market Square (Figure 11).



Figure 9: Proposed Concept Designs from Mile 0.59 to Mile 0.85

1. Mile 0.65 - Mile 0.72: See **Obelisk Plaza** (Figure 10) for specific proposed projects in this Key Area.
2. Mile 0.76 - Mile 0.83: See **The Canal Overlook and Fish Market Square** (Figure 11) for specific proposed projects in this Key Area.
3. Mile 0.84: 33rd Street NW Ramp - The existing staircase on the southern end of 33rd Street NW would be replaced with an ABAAS-compliant 1:12 rise-to-run single-run ramp. The ramp would be approximately 6 to 8 feet wide and approximately 50 to 60 feet long.

The Obelisk Plaza



Figure 10: Proposed Concept Designs at the Obelisk Plaza (Mile 0.65 - Mile 0.72)

1. Mile 0.68: Commemorative Obelisk - The Commemorative Obelisk celebrating the completion of the C&O Canal construction would be relocated within a 50-foot radius of its existing position and to a more conspicuous position to be further celebrated and interpreted. Note: The Obelisk was placed at the northeast corner of Wisconsin Avenue NW in 1850 and was later found in a basement and placed at the northwest corner in 1900. The proposed new location of the Obelisk would be on property administered by the NPS. The current location of the Obelisk is on property owned by the District of Columbia.
2. Mile 0.68 - Mile 0.69: Towpath to Wisconsin Avenue Staircase - The existing staircase would be removed, and a new staircase would be constructed to connect the Towpath level to the Wisconsin Avenue NW level.

3. Mile 0.69: Enlarged Opening - The existing approximately 15-foot opening of the retaining wall to the north of the Towpath would be enlarged to 30 feet to allow for an ABAAS route and staircase landing.
4. Mile 0.69: Accessible Route to Wisconsin Avenue NW - An accessible route from the Towpath to the Wisconsin Avenue NW level would be provided by utilizing an existing elevator within Georgetown Park. The existing staircase from the Towpath to the Georgetown Park garage level would be removed, and a new pathway and ramp would be constructed to connect the Towpath to the Georgetown Park garage level. The proposed pathway and ramp within Georgetown Park would be on private property and are contingent on future agreements with the property owner.

The Canal Overlook

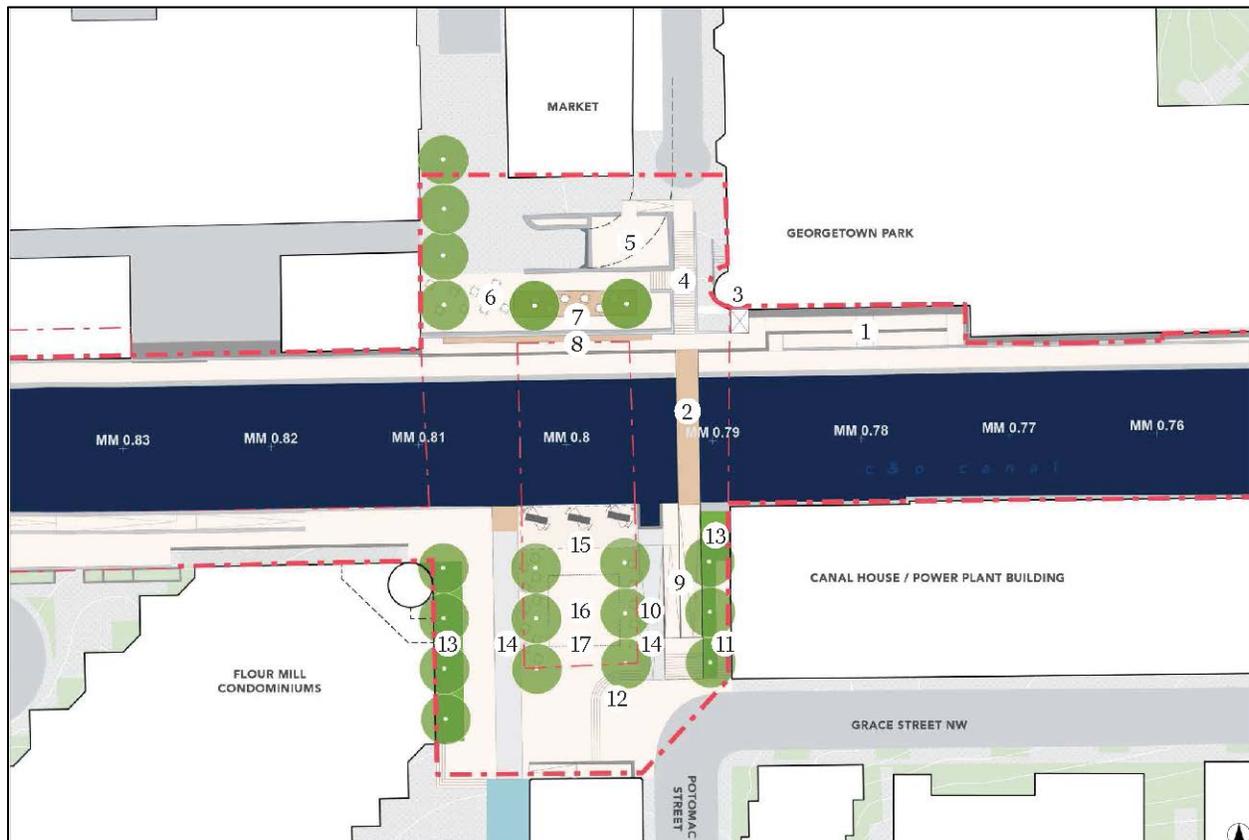


Figure 11: Proposed Concept Designs at the Canal Overlook and Fish Market Square (Mile 0.76 - Mile 0.83)

1. Mile 0.77 - Mile 0.79: Potomac Street Towpath Ramp - The existing approximately 50 feet long and 1:4 rise-to-run ramp connecting the Towpath to the Potomac Street Pedestrian Bridge would be reconstructed to be an ABAAS-compliant 1:12 rise-to-run switchback ramp. The lower and upper runs would be approximately 6 feet wide, and the switchback ramp would be approximately 130 feet in length.
2. Mile 0.79: Potomac Street Pedestrian Bridge - The existing approximately 6 feet wide by 50 feet long pedestrian bridge would be replaced with a new pedestrian bridge approximately 8 to 10 feet wide and 50 feet long at a finished surface elevation of approximately 48 feet.

3. Mile 0.79: Potomac Street Elevator - A new outdoor elevator would be constructed to provide access to the Potomac Street Pedestrian Bridge level from the M Street NW level.
4. Mile 0.79: Upper Potomac Street Stairs - The existing stairs providing access to the Potomac Street Pedestrian Bridge level from the M Street NW level would be reconstructed and moved north to serve the revised grading elevations of the area. The proposed Upper Potomac Street Stairs would be on private property and are contingent on future agreements with the property owner.
5. Mile 0.79 - Mile 0.80: Sky Deck - The existing planted area above the entrance to the Georgetown Park Garage would be removed, and a two-level occupiable area would be constructed for better views of the Canal and other viewsheds. A ramp would be constructed to allow for access to the lower area, and stairs would be constructed to allow for access to the upper area. The proposed Sky Deck would be on private property and is contingent on future agreements with the property owner.
6. Mile 0.79 - Mile 0.81: Canal Overlook - The market plaza on the north side of the Canal would be regraded and resurfaced as a Canal viewing area and platform to provide passive engagement opportunities. The proposed Canal Overlook would be on private property and is contingent on future agreements with the property owner.
7. Mile 0.79 - Mile 0.81: Wall Balcony and Seating Bench - The existing lower retaining wall would be deconstructed and reconstructed north of its existing location to provide an ABAAS-compliant route through the area. The existing planted area would be resurfaced, and linear seating constructed for better views of the Canal. The proposed Wall Balcony and Seating Bench would be on private property and are contingent on future agreements with the property owner.
8. Mile 0.80 - Mile 0.81: Lowered Upper Retaining Wall - The top of the upper retaining wall would be lowered to the Canal Overlook grade for better viewing of the Canal, and the Old Market House. The retaining wall is located on private property and is contingent on future agreements with the property owner.

Fish Market Square

9. Mile 0.79: Potomac Street Ramp - A new ramp connecting Fish Market Square to the Potomac Pedestrian Bridge would be constructed to be an ABAAS-compliant 1:12 rise-to-run switchback ramp. The lower run would be approximately 6 feet wide, and the upper run would be approximately 8 to 10 feet wide. The switchback ramp would be approximately 70 feet in length.
10. Mile 0.79: Fish Market Square Ramp - A new ramp connecting Fish Market Square to the corner of Potomac and Grace Streets NW would be constructed to be an ABAAS-compliant 1:12 rise-to-run switchback ramp. The ramp would be approximately 10 feet wide and 45 feet long.
11. Mile 0.79: Canal House Egress - Existing egress at the western entrance to the Canal House building would be revised and constructed to provide direct access to the corner of Grace and Potomac Streets NW.
12. Mile 0.79 - Mile 0.80: Fish Market Stairs - A new run of stairs would be constructed at the corner of Grace and Potomac Streets NW to provide access to Fish Market Square and the Potomac Street Pedestrian Bridge upper ramp run.
13. Mile 0.79 - Mile 0.81: Native Stormwater Planting - The existing non-permeable brick paved area to the west and east of Fish Market Square would be replaced with approximately 800 to 850 SF of native vegetation resilient to inundated conditions.

14. Mile 0.80: Interpreted Water Intakes and Paving - South and in-line of both the western and eastern water intakes, a change in paving material would be constructed to further interpret the historical resources.
15. Mile 0.80: Fish Market Seating - Three to five new interpretive seating elements would be installed evocative of the engineering found in lock gates. Temporary and seasonal shading devices would be present in the area to provide a comfortable seating area overlooking the Canal.
16. Mile 0.80: Underground Rainwater Cistern(s) - Below the grade of Fish Market Square, rainwater cistern(s) would be constructed to assist in meeting rainwater retention requirements established by DOEE.
17. Mile 0.80: Fish Market Canopies - Temporary and seasonal shading devices would be present in the area to provide a comfortable environment within Fish Market Square. Removable stanchions would be installed.

Zone D

Zone C (Figure 12) includes the area along the Canal from mile 0.28 to 0.59. Key Areas within this Zone include The Gongoozler Platform (Figure 13) and The Potomac Aqueduct (Figure 14).



Figure 12: Proposed Concept Designs from Mile 0.85 to Mile 1.12

1. Mile 0.90 - Mile 0.97: See *The Gongoozler Platform* (Figure 13) for specific proposed projects in this Key Area.
2. Mile 1.02 - Mile 1.06: Whitehurst Freeway Ramp - A new ramp connecting the Towpath to the Whitehurst Freeway would be constructed to be an ABAAS-compliant 1:12 rise-to-run sing-run ramp. The ramp would be approximately 6 to 8 feet wide and approximately 250 feet long.

3. Mile 1.04: Reintroduced Interpretive Hydroelectric Facility - The building would be repurposed as either an educational or interpretational facility to better interpret the power of water, and/or a modernized micro-hydroelectricity facility to generate electricity as it was originally programmed.
4. Mile 1.05 - Mile 1.12: See *The Potomac Aqueduct* (Figure 14) for specific proposed projects in this Key Area.

Gongoozler Platform



Figure 13: Proposed Concept Designs in the Vicinity of the Proposed Gongoozler Platform (Mile 0.90 - Mile 0.97)

1. Mile 0.90 - Mile 0.93 - Stone Yard Seating - Approximately 180 feet of seating would be installed along the south side of the pathway evocative of the historic Stone Yard to interpret the history of the site. The proposed Stone Yard Seating would be on private property and is contingent on future agreements with the property owner.
2. Mile 0.91 - Mile 0.93: Gongoozler Platform - A new stationary and fixed platform would be constructed within the Prism of the Canal at the approximate location of the historical Stone Yard Platform to encourage passive enjoyment of the Canal and to interpret the Stone Yard. The ABAAS-compliant platform would be approximately 15 feet wide by 90 feet long.
3. Mile 0.94 - Mile 0.95: Francis Scott Key Park Ramp - A new ramp connecting the 34th Street Pedestrian Bridge to Francis Scott Key Park would be constructed to be an ABAAS-compliant 1:12 rise-to-run switchback ramp. The lower and upper runs would be approximately 6 feet wide, and the switchback ramp would be approximately 60 feet long.

4. Mile 0.94 - Mile 0.96: 34th Street NW Plaza and Stairs - A larger regraded and resurfaced paved area of approximately 1,000 SF would be constructed to provide better views and access to the 34th Street NW Pedestrian Bridge. The existing stairs would be replaced with new stairs to connect 34th Street NW with the 34th Street NW Pedestrian Bridge.
5. Mile 0.94 - Mile 0.96: 34th Street NW North Ramp - The existing approximately 60 feet long and 1:5 rise-to-run ramp connecting the Towpath to the 34th Street Pedestrian Bridge would be regraded and partially reconstructed to be an ABAAS-compliant 1:12 rise-to-run switchback ramp. The lower and upper runs would be approximately 6 to 8 feet wide, and the switchback ramp would be approximately 100 feet long.
6. Mile 0.94 - Mile 0.96: 34th Street NW South Ramp - The existing approximately 60 feet long and 1:6 rise-to-run ramp connecting the Towpath to the 34th Street Pedestrian Bridge would be regraded and partially reconstructed to be an ABAAS-compliant 1:12 rise-to-run single run ramp. The ramp would be approximately 6 to 8 feet wide and 100 feet long.
7. Mile 0.94 - Mile 0.97: 34th Street NW Spur - A new pedestrian pathway would be constructed to connect Water Street NW to the Towpath. The pathway would be approximately 8 feet wide and 250 feet long. The proposed 34th Street NW Spur would partially be on private property and is contingent on future agreements with the property owner.

The Potomac Aqueduct

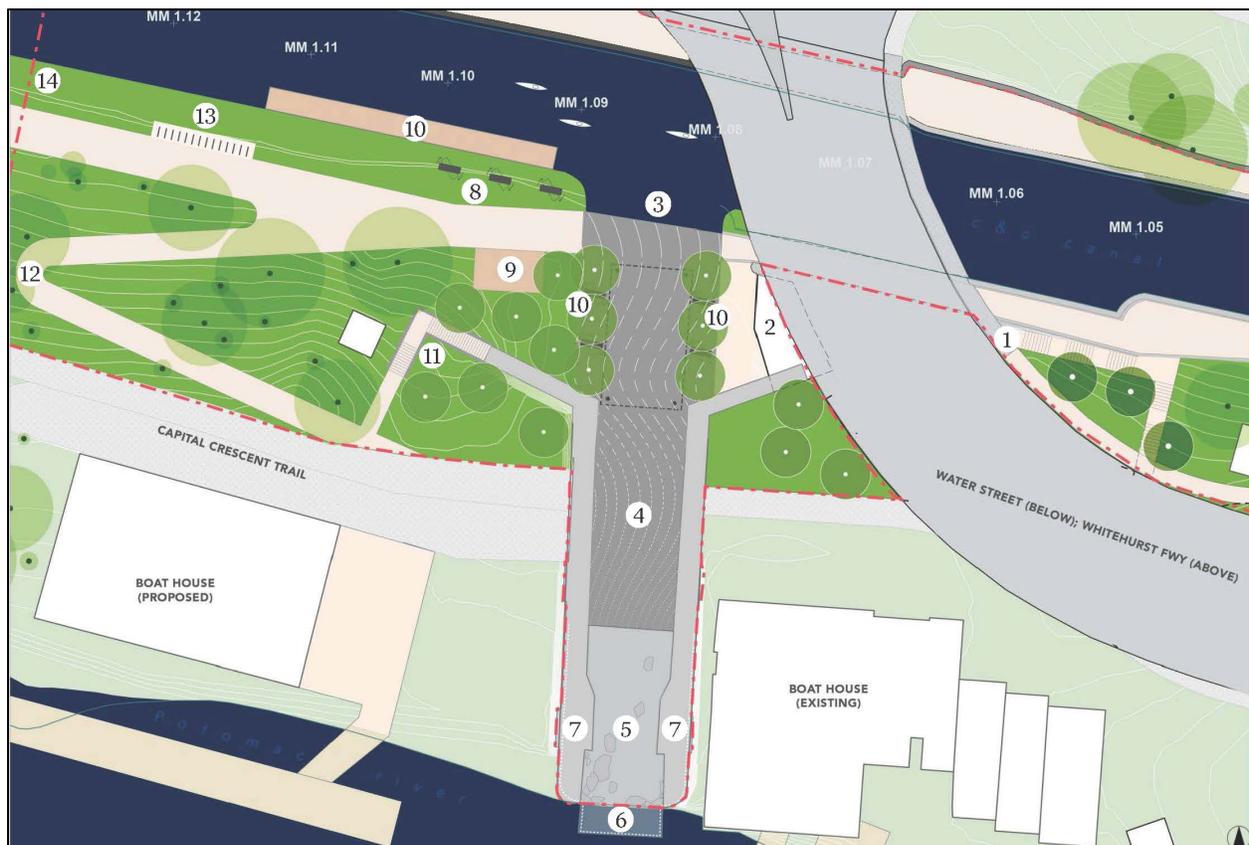


Figure 14: Proposed Concept Designs in the vicinity of the Potomac Aqueduct (Mile 1.05 - Mile 1.12)

1. Mile 1.05: Whitehurst Staircase & Walkway - The existing staircase from the Towpath to the Whitehurst Freeway would be demolished and a new staircase constructed to connect the Whitehurst Freeway, Towpath, and Water Street levels. The existing sidewalk along the Whitehurst Freeway would be widened to a minimum of 6 feet. The Whitehurst Freeway is under DDOT jurisdiction and alterations are contingent on future approvals and agreements.
2. Mile 1.07: Aqueduct Kiosk - A new 1,000 SF kiosk would be constructed to the west and partially below the overhang of the Whitehurst Freeway and would provide recreational and park security programming to the Potomac Aqueduct area. West of the Aqueduct Kiosk, the immediate area would be regraded and resurfaced to provide an ABAAS-compliant surface through the area.
3. Mile 1.08 - Mile 1.09: Aqueduct Waterway - The southern Prism wall would be realigned to better interpret the original footprint of the Canal intersection with the Potomac Aqueduct.
4. Mile 1.08 - Mile 1.09: Aqueduct Hardscape - A new hardened surface would be placed within the Aqueduct Prism and extend to the Canal Prism to interpret the original footprint of the waterway. The paving would have a surface texture evocative of water. The elevation of the surface would be flush with grade north of the Potomac Aqueduct Ruin and slope to the original elevation of the water within the Potomac Aqueduct Ruin.
5. Mile 1.08 - Mile 1.09: Aqueduct Viewing Area - A non-intrusive transparent walking surface that is compatible with the industrial character of the Aqueduct and that is designed to allow the visitor to see the interior of the structure walking surface would be placed within the Aqueduct Prism and extend to the southern edge of the Aqueduct to provide safe viewing the Aqueduct Prism. The elevation of the surface would be at the original elevation of the water within the Potomac Aqueduct Ruin.
6. Mile 1.08 - Mile 1.09: Aqueduct Overlook - A usable and transparent walking surface would cantilever over the southern edge of the Aqueduct Ruin for approximately 10 feet to better interpret the Potomac Aqueduct as an overwater waterway.
7. Mile 1.08 - Mile 1.09: Bone Conduction Audio Railings - Around the perimeter of the Potomac Aqueduct, the original guardrails would be restored, and new guardrails evocative of the existing railings patterning would include bone-conduction audio technology to better interpret the Potomac Aqueduct and its historical significance.
8. Mile 1.08 - Mile 1.10: Lock Benches - Seven to nine new interpretive seating elements would be installed to the west and east of the Aqueduct Hardscape and evocative of the engineering found in lock gates.
9. Mile 1.09: Aqueduct Platform - A new 300 SF platform would be constructed to the south of the Prism for the placement of interpretive elements.
10. Mile 1.09 - Mile 1.11: Aqueduct Launch - A new ABAAS-compliant small-craft launch would be constructed within and to the south of the Prism to provide opportunities for appropriate outdoor recreation. The launch would be stationary with some floating-dock segments and would be approximately 10 feet by 100 feet.
11. Mile 1.10: Reinterpreted Aqueduct Stairs - The existing ruins of the Potomac Aqueduct Stairs connecting the Potomac Aqueduct to the Capital Crescent Trail levels would be reconstructed with ABAAS-compliant stairs, handrails, and guardrails.

12. Mile 1.10 - Mile 1.12: Aqueduct Bypass - A new pedestrian pathway would be constructed to connect the Towpath to the Capital Crescent Trail. The pathway would be approximately 8 feet wide and 300 feet long.
13. Mile 1.11 - Mile 1.12: Bike Station - A new bike rack for approximately 20 to 30 bikes would be provided to the south of the Prism and north of the Towpath.
14. Mile 1.12 - Debris Netting & Silt Reduction - A new debris netting and removal system would be installed to remove any floating light-weight organic and inorganic debris from the Canal. Within the Prism, a silt reduction system would be installed to reduce the accumulation of silt downstream of Mile 1.12.

ALTERNATIVES DISMISSED FROM FURTHER CONSIDERATION

Many design concepts were considered during project planning but were ultimately dismissed from further consideration in this EA due to unacceptable impacts, cost, or feedback from stakeholders. These concepts are described in Appendix D.

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section includes descriptions of the affected environment, which are intended to document the existing conditions of the C&O Canal NHP and surrounding area. These descriptions serve as a baseline for understanding the resources that could be impacted by implementation of the proposed action. This section also includes an analysis of the environmental consequences or “impacts” of the no-action alternative and the proposed action immediately following the affected environment descriptions for each resource topic. The resource topics presented in this section correspond to the issues described in the “Purpose and Need” section of this EA.

GENERAL METHODOLOGY FOR ANALYZING IMPACTS

In accordance with Council on Environmental Quality regulations, the environmental consequences analysis includes direct, indirect, and cumulative impacts (40 CFR 1502.16). The intensity of the impacts is assessed in the context of the NHP’s purpose and significance and any resource-specific context that may be applicable (40 CFR 1508.27). The methods used to assess impacts vary, depending on the resource being considered, but are generally based on a review of pertinent literature and park studies, information provided by on-site experts and other agencies, professional judgment, and park staff knowledge and insight.

Cumulative Impacts Methodology

This EA also considers cumulative impacts, namely “the impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions” (40 CFR 1508.7). Cumulative impacts have been addressed in this EA by resource and are considered for the no-action alternative and the proposed action. Because some of these actions are in the early planning stages, the evaluation of the cumulative impact is based on a general description of the projects. The projects considered in the cumulative impact analysis are listed below in Table 5.

Table 5: Cumulative Impacts Projects

Project	Description	Status
Repair of Locks 3 and 4	Repairs to C&O Canal NHP Locks 3 and 4 in Georgetown were performed to ensure the Canal can continue to hold water for future generations and to maintain the Canal as a functioning piece of DC’s flood control plan. Repairs concluded in summer 2019 (Georgetown Heritage 2019). Affected Resources: Community/Visitor Use and Experience and Historic Structures and Districts	Past
31st Street Bridge Replacement	The historic 31st Street Bridge over the C&O Canal in Georgetown is being removed, restored, and reset over an approximately 1.5-year period. The bridge will be closed to traffic but a temporary pedestrian crossing over the Canal will be maintained during construction. Improvements also include lateral supports for Canal walls, new railings, and ADA compliant sidewalks and ramps (Georgetown 2019). Affected Resources: Community/Visitor Use and Experience, Historic Structures and Districts, and Cultural Landscapes.	Present

Project	Description	Status
Rock Creek and Potomac Parkway	Improvements including rehabilitation, crosswalk and signal improvements, and geometric realignment would be made to the Rock Creek and Potomac Parkway in the vicinity of the Kennedy Center. This project is intended to enhance bicycle and pedestrian connections, access, and safety to the National Mall, Constitution Avenue NW & 23rd Street NW, Georgetown, New Hampshire Avenue NW, Foggy-Bottom metro station, and Arlington, Virginia. Affected Resources: Community/Visitor Use and Experience, Historic Structures and Districts, and Cultural Landscapes.	Future
DC Clean Rivers Project – Potomac River Tunnel	In accordance with a federal consent decree, the NPS and the DC Water and Sewer Authority (DC Water) are proposing to construct the Potomac River Tunnel which would substantially reduce untreated discharges by diverting the combined sewer overflows (CSOs) to a new storage tunnel which would eventually transport the CSOs to Blue Plains Advanced Wastewater Treatment Facility. Additionally, Green Infrastructure projects are proposed in Georgetown in order to limit the length of the tunnel. The project is scheduled to begin construction in 2023 and be completed by 2030 (DC Water 2018). Affected Resources: Community/Visitor Use and Experience, Historic Structures and Districts, and Cultural Landscapes, Archeological Resources.	Future
Georgetown Nonmotorized Boathouse Zone Development Plan	The NPS identified an area near the Key Bridge to develop better public access to the Potomac River for nonmotorized recreation. The Plan includes new and expanded boating facilities and a streetscape reconfiguration which would enhance connections to area trails and parks (NPS 2016). Affected Resources: Community/Visitor Use and Experience, Historic Structures and Districts, and Cultural Landscapes.	Future

COMMUNITY/VISITOR USE AND EXPERIENCE

Affected Environment

In Georgetown, the Canal runs parallel to M Street NW to the north and K Street NW to the south. The Canal is bound to the north and south by residential and commercial structures including condominium buildings and houses, office buildings, retail businesses, and restaurants. The C&O Canal NHP in Georgetown hosts nearly 1.2 million visitors per year who use the NHP in a variety of ways. Average daily use on weekdays is approximately 3,500 users and peaks at approximately 10,800 users on the weekend (James Corner Field Operations 2017).

Tourists may visit intentionally in order to see the C&O Canal's Towpath, locks, and other historic infrastructure. Cyclists may visit to begin or end their 184.5-mile trip along the entire length of the Canal. Other tourists may stumble upon the C&O Canal while visiting Georgetown or travel through while using one of the many trails that Washington, DC has to offer. Although tourists contribute a substantial portion of visitors to the NHP, a large portion of visitors to the C&O Canal NHP are residents and employees of Georgetown and Washington, DC who use the Towpath as a commuter route, as part of daily life, for exercise (walking, jogging, or biking), or as a tranquil respite from urban surroundings.

The C&O Canal NHP in Georgetown is comprised of several notable features (Figure 1). The beginning of the C&O Canal, Mile Marker Zero, is in a grassy area at the confluence of Rock Creek and the Potomac River, adjacent to Thompson Boat Center. This area also contains remnants of the Tide Lock and the former Waste Gate, which were used during C&O Canal operation to control water levels in Rock Creek. These features are considered the gateway to the C&O Canal.

Today, the C&O Canal begins approximately 0.3 miles upstream of the mouth of Rock Creek. There are four locks along the beginning segment of the Canal with Lock One, located close to the confluence with Rock Creek; Lock Two, located between 29th and 30th Streets NW; Lock Three, located between 30th and Thomas Jefferson Streets NW; and Lock Four, located just above Thomas Jefferson Street NW. These locks were historically used to bring vessels into the C&O Canal from Rock Creek. The C&O Canal is framed by stone walls and typically holds 5 to 6 feet of water.

The C&O Canal also features a Towpath, which was historically used by mules to tow vessels through the C&O Canal. Currently, sections of the Towpath remain directly adjacent to portions of the north and south sides of the C&O Canal. On the north side, the Towpath extends from Lock One to the Francis Scott Key Bridge. On the south side, the Towpath extends from 34th Street NW to the Potomac Aqueduct. A path on the south side of the Canal from Fish Market Square (Potomac Street NW) to 34th Street is not owned by the NPS and is not considered part of the Towpath. The Towpath is a compacted earth path and varies in average width from 6 to 10 feet. It is wider in areas where the Towpath exists along the south side of the Canal.

Along the Towpath, there are several open spaces which provide passive enjoyment opportunities for visitors. Some of these areas include: Square 1197 Lot 8059 (the lawn adjacent to Lock Three), located on the north side of the Canal, just above 30th Street NW; Fish Market Square, located on the south side of the Canal at Potomac Street NW; and the Potomac Aqueduct, located on the south side of the Canal, north of the Francis Scott Key Bridge. Some of these areas are easements held by the NPS or private property. All open spaces along the C&O Canal and their ownership are shown on Figure 15.

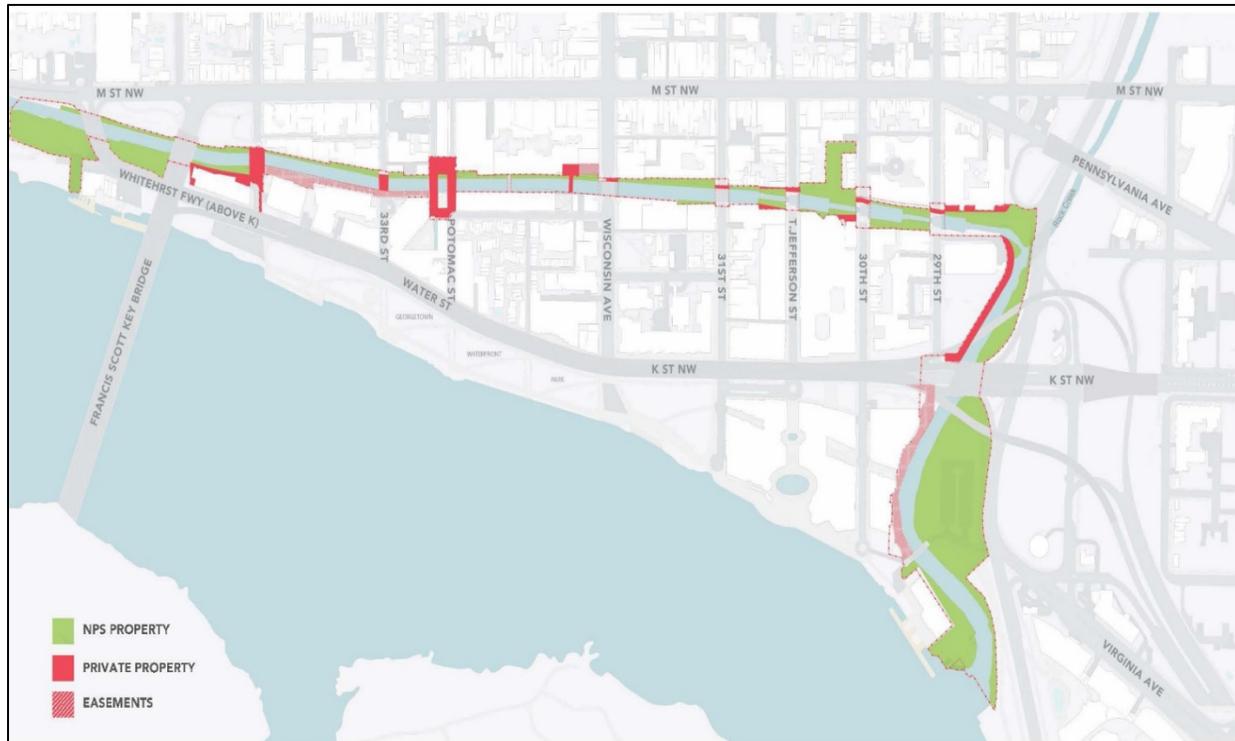


Figure 15: Ownership along the C&O Canal NHP in Georgetown

Currently, the NPS offers no active interpretive engagement opportunities within the project area. Beginning in 2018, Georgetown Heritage began offering walking tours along the Canal and is planning to launch an interpretive Georgetown Canal Boat which would be towed by mules to mile 1.12. Interpretive signage within the project area includes two signs at Lock Four, wall panels at Lock Three, and two signs at Mile Marker Zero that describe the historical use and infrastructure of the Canal at those locations. The C&O Canal NHP visitor center, located at 1057 Thomas Jefferson Street NW, has been closed since 2012. Dedicated seating areas are provided at Lock Three (built-in seating) and removable seating furnished by Georgetown BID is available at Fish Market Square. No public restrooms are available within the NHP, although restrooms and other amenities are widely available within a short distance.

Access to the C&O Canal and Towpath is provided at 19 points within Georgetown. Most of these access points are unmarked and not well known to the general public. Eight access points are provided adjacent to vehicular bridge crossings, and five access points are provided adjacent to pedestrian bridge crossings. Visitors with physical disabilities must use the Wisconsin Avenue Bridge in order to cross over the C&O Canal and may only access the Canal via the Fish Market Square at Potomac Street NW on the south side of the C&O Canal. Current accessibility within the project area is shown on Figure 16.



Figure 16: Current Accessibility Conditions in the project area

Several trail systems are associated with the C&O Canal Towpath. The Towpath itself is popular for bicyclists traveling along the entire length of the trail from Pittsburgh, Pennsylvania (the C&O Canal connects to the Great Allegheny Passage trail at the Maryland/Pennsylvania line) or Cumberland, Maryland to Washington, DC. The Capital Crescent Trailhead is located adjacent to the Potomac Aqueduct, and those wishing to continue their journey in DC must maneuver around the Potomac Aqueduct and onto the Towpath. The Rock Creek Trail is located east of Rock Creek and is accessible from the Towpath near 29th Street NW, although there is not a dedicated connection.

The C&O Canal NHP in Georgetown has many unique features that provide a glimpse into the industrial history of the area. Unfortunately, due to limited funding and deferred maintenance, some of the infrastructure of the C&O Canal in Georgetown is beginning to age and needs repairs. Locks 3 and 4 recently underwent repairs, which required drainage of the C&O Canal to complete. Repairs to Locks 3 and 4 concluded in summer 2019. The Towpath is eroding in some sections, and the C&O Canal walls, which stabilize and line the Towpath, need reinforcement and repair. An infrastructure assessment was performed in 2019 that outlined all repairs needed along the Georgetown portion of the C&O Canal and parts of Rock Creek.

About the Analysis

In order to analyze the impact of each alternative on park visitors and surrounding communities, accessibility to the NHP, connectivity within the NHP and to the surrounding areas, amenities, interpretive opportunities, and overall engagement with the C&O Canal NHP were qualitatively evaluated. Temporary disruptions during construction were considered as were potential overall benefits from full implementation of the Plan. The analysis of potential impacts was performed using information provided by stakeholders and park staff, professional judgement, and experience with similar past projects.

Impacts of the No-Action Alternative

Under the no-action alternative, current operations and maintenance of the C&O Canal NHP would continue. Basic maintenance, rehabilitation, and restoration efforts would be made for

the Canal, Towpath, and supporting infrastructure. This could require the temporary closure of portions of the NHP and/or the Towpath, dewatering of the Canal, and other disruptions to the community/visitor use and experience of the NHP for short periods while these repairs are completed. Maintenance and repairs would be localized, minor, and temporary in nature and would not prevent visitors from using the NHP, although the use capacity could be slightly reduced while these activities were occurring. Park visitors and the neighboring community would be notified in advance of maintenance and repair activities that would result in temporary closures within the NHP, or surrounding areas. The NPS would minimize disruptions to users by providing and marking detour routes or by phasing repairs to maintain access.

Ambient noise levels could be elevated during operations, maintenance, and repair activities. Elevated noise levels would be temporary, minor in nature, and would be limited to the area immediately surrounding these activities. In order to minimize impacts to adjacent residents and businesses, maintenance and repair contractors would be required to operate in accordance with Section 20-2802 of the DC Municipal Regulations (DCMR). Maintenance and repairs that require heavy equipment operation would be limited to 7:00 am to 7:00 pm on weekdays. Depending on the equipment used, additional noise mitigation could be required so as not to exceed DCMR noise requirements for construction sites.

Overall, even though operations, maintenance, and repairs could result in temporary impacts to community/visitor use and experience while these activities were conducted, no new impacts would occur because these impacts would not be different than those that occur within the NHP during past and current routine operation, maintenance, and repair activities.

Cumulative Impacts. There would be no new impacts under the no-action alternative and therefore, there would be no cumulative impacts.

Conclusion. Under the no-action alternative, operations, maintenance, and repairs would likely temporarily disrupt community/visitor use and experience, but these disruptions would be temporary, localized, and minor in nature and would not differ from those activities already occurring in the NHP. The continuation of current operations and maintenance of the NHP would not prevent visitors from using the NHP as they currently do, nor would it change the way visitors use the NHP. There would be no cumulative impacts under the no-action alternative.

Impacts of the Proposed Action

The Georgetown Canal Plan would be designed and implemented in a phased approach depending on funding availability. Construction related to repairs, rehabilitation, and the various concept designs and Plan elements would likely result in temporary Towpath closures, detours, and other disruptions to the visitor use and experience of the C&O Canal NHP, such as construction noise and obstruction of views. Construction would be localized and minor in nature and would not prevent visitors from using the NHP, although the use capacity could be slightly reduced. The NPS would minimize disruptions to users by providing and marking detour routes or by phasing construction to maintain access. Park visitors and the neighboring community would be notified in advance of construction activities that would result in temporary closures and detours within the NHP.

Ambient noise levels could be elevated during construction. Elevated noise levels would be temporary, minor in nature, and would be limited to the area immediately surrounding construction activities. In order to minimize impacts to adjacent residents and businesses, construction contractors would be required to operate in accordance with Section 20-2802 of the DCMR. Construction would be limited to 7:00 am to 7:00 pm on weekdays. Depending on the equipment used during construction, additional noise mitigation could be required so as not to exceed DCMR noise requirements for construction sites.

Overall, construction would result in minimal adverse impacts to community/visitor use and experience. Repair and rehabilitation projects are aimed at improving community/visitor use and experience and preserving historic Canal infrastructure.

As described in the Alternatives section, The Georgetown Canal Plan proposes several new ABAAS-compliant access points to the C&O Canal NHP. Additionally, existing non-compliant access points to the NHP would be regraded, resurfaced, and made safer. Proposed resurfacing and limited expansion of the Towpath to a total width of at least 9 feet would further improve access, accessibility, safety, and general use of the Towpath for all users. Figure 17 below shows the improved overall accessibility that would be achieved by implementation of the Georgetown Canal Plan.

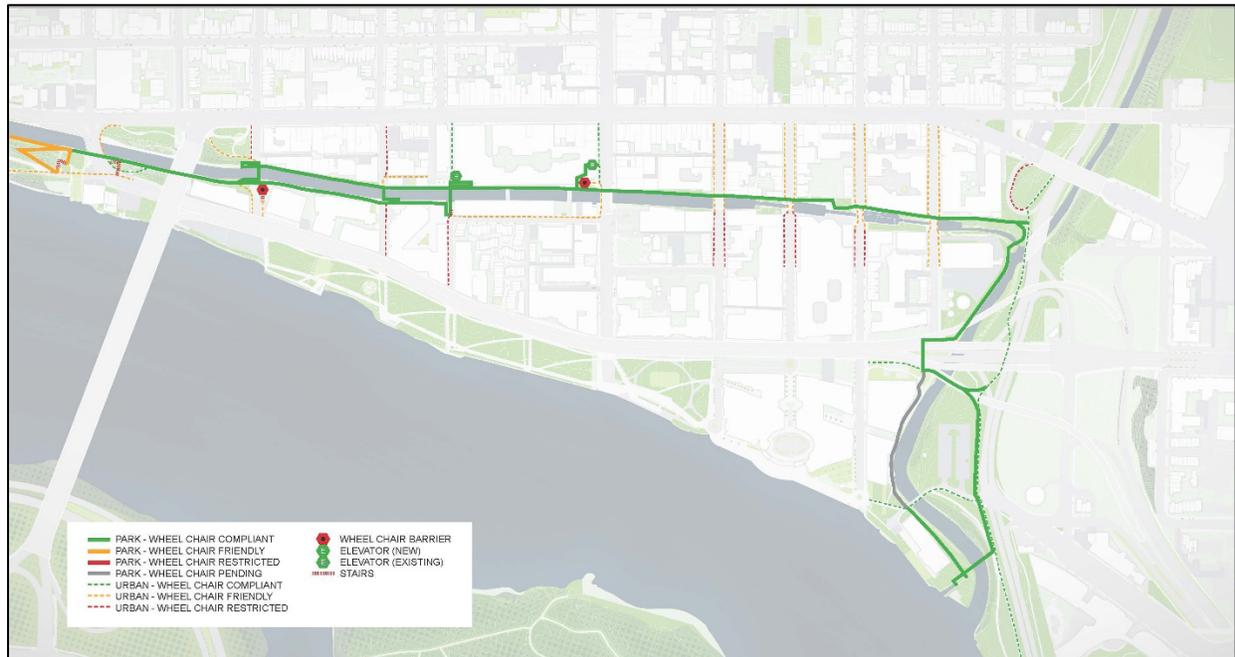


Figure 17: Accessibility Conditions under the Georgetown Canal Plan

The Georgetown Canal Plan proposes multi-use connections to the Capital Crescent Trail and Rock Creek Trail; new pedestrian/bicycle crossings over Rock Creek; and new paths along Rock Creek to encourage connectivity to the local and regional trail network, to urban amenities in Georgetown, and to Mile Marker Zero. Overall, increased connectivity within the NHP and to the surrounding area would enhance community/visitor use and experience.

Proposed amenities, including restrooms and seating; interpretive opportunities, including signage and interactive educational models; and improved open spaces (plazas) at the Canal’s plazas would provide new passive and active engagement/recreational opportunities in the NHP.

Overall, members of the community and visitors alike would benefit from the preservation of Canal infrastructure, improved local and regional connectivity, and the creation of new amenities and recreational and interpretive opportunities.

Cumulative Impacts. Construction of past, present, and reasonably foreseeable future projects including those listed in Table 5 could result in disruptions to the community/visitor use and experience of the NHP. Cumulative impacts from construction activities associated with these projects would only occur if they coincide with the construction-related impacts of the Plan. The proposed action would contribute a small adverse increment to cumulative impacts

from the disruptions expected during maintenance and repairs. This would result in short-term adverse cumulative impacts that would be minimal as there would likely only be some overlap among the projects. Plans for implementation of all projects would be coordinated in order to reduce impacts to visitors. Over the long-term, projects listed in Table 5 would result in beneficial cumulative impacts to the community and visitors by improving local and regional connectivity, creating new recreational and interpretive opportunities, and preserving Canal infrastructure.

Conclusion. Repairs, rehabilitation, and construction of the various concept designs and Plan elements would result in minor, temporary disruptions to community/visitor use and experience. Over the long-term, community/visitor use and experience would benefit from the proposed improvements to accessibility, connectivity, and from the added amenities and interpretive and engagement opportunities. The Plan would contribute a small adverse increment to cumulative impacts from the disruptions expected during construction. The Plan would contribute beneficial increments to cumulative impacts by improving local and regional connectivity, creating new recreational and interpretive opportunities, and preserving Canal infrastructure.

HISTORIC STRUCTURES AND DISTRICTS

Affected Environment

Introduction

This section describes the historic structures and districts present within the project and surrounding area. This information is derived from the National Register, the DC Inventory of Historic Sites (DC Inventory), Determinations of Eligibility (DOEs), historic structures reports, historic photographs, maps, other documentation, and site reconnaissance and observation. The cultural resources identified document the existing historic resources within the Georgetown Canal Plan and surrounding area. These descriptions serve as a baseline for understanding and identification of the resources that could be impacted by implementation of the proposed project.

Compliance with Section 106 of the NHPA has been conducted concurrently with the NEPA process for the Plan. After initiating the Section 106 compliance process, the NPS, in partnership with Georgetown Heritage and Georgetown BID, and in consultation with the DC SHPO and Virginia Department of Historic Resources (VDHR), identified the historic properties within the project's Area of Potential Effects (APE).

The Plan APE stretches from Rock Creek and Potomac Parkway to the east to just past the Potomac Aqueduct. The APE is composed of the land 300 feet beyond the C&O Canal in all directions as well as land across the Potomac River in Virginia with the potential for visual impacts. The APE has been broken into individually listed historic properties and historic districts depicted on Figure 18 and Figure 19, respectively. For further detail about the APE and how it was delineated, please reference the Assessment of Effects Report (Appendix A) for the Plan being executed in tandem with the EA.

Many cultural resources, including recorded archeological sites, historic structures and districts, and cultural landscapes (under separate section within this EA) are located within the APE of the Georgetown Canal Plan. Each are listed and described below.

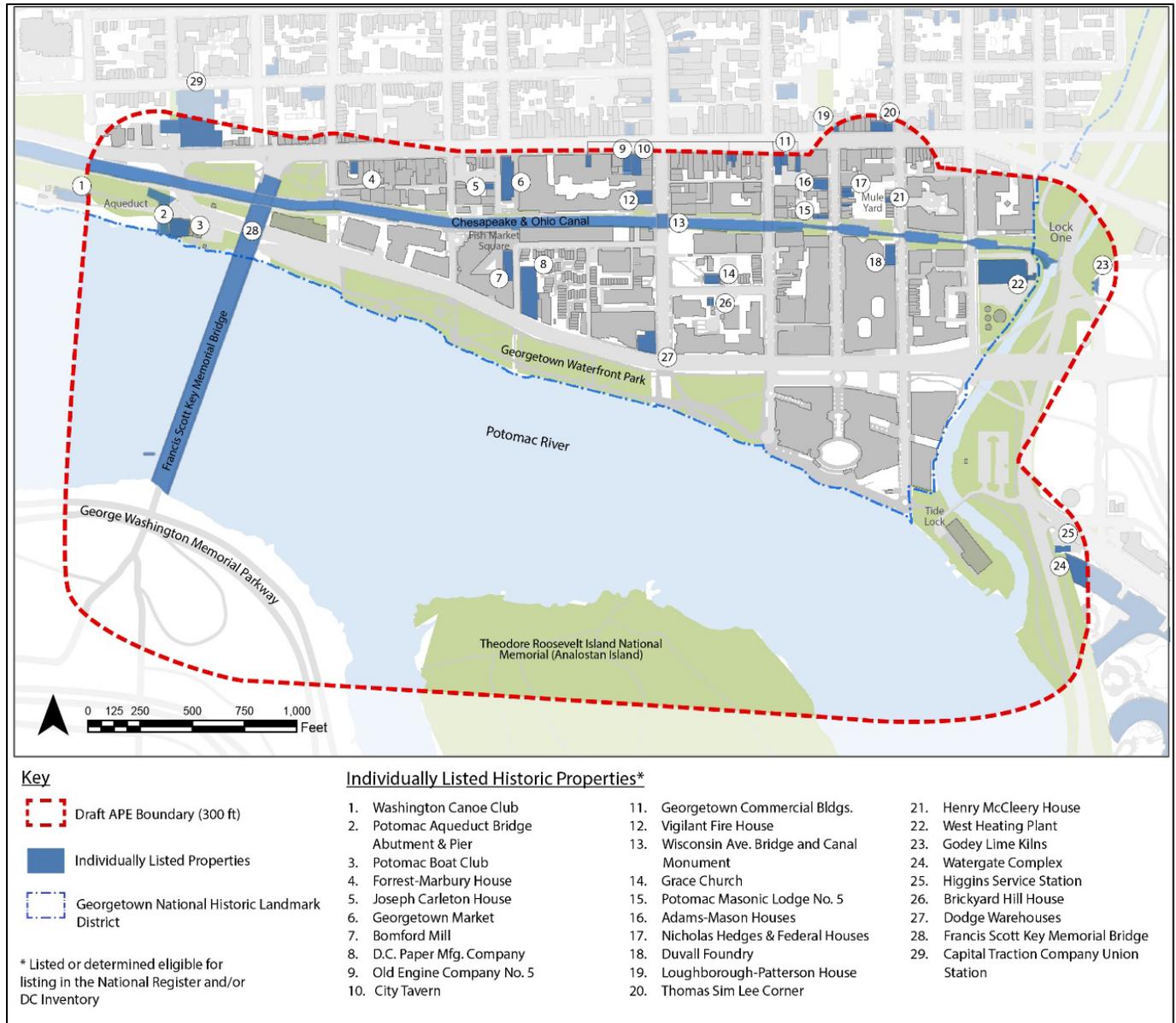


Figure 18: Individually Listed Historic Properties Potentially Affected by the Georgetown Canal Plan

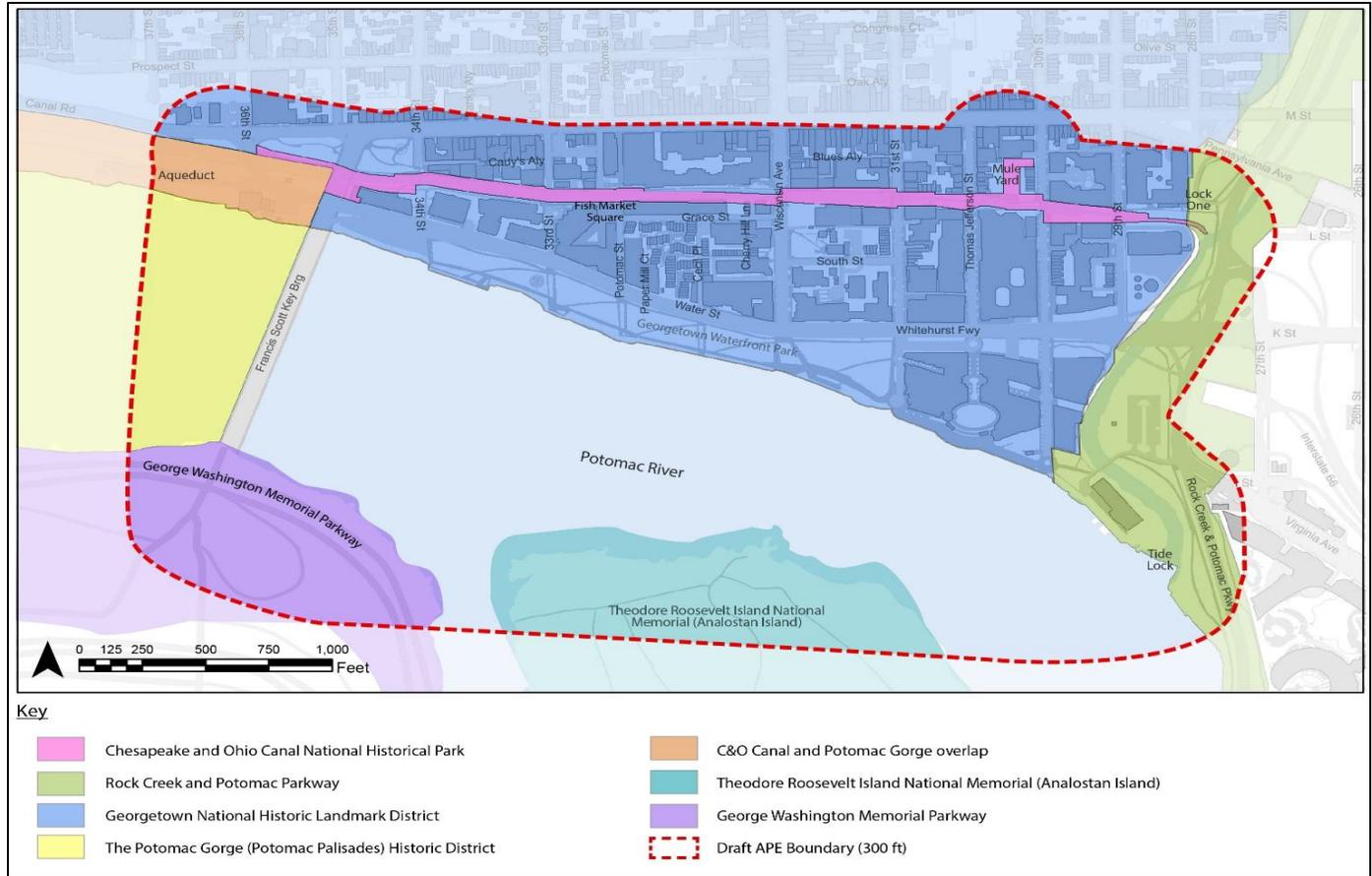


Figure 19: Historic Districts Potentially Affected by the Georgetown Canal Plan

Individually Listed Historic Properties

Individually listed historic properties are properties that have been listed in or found eligible for listing in the National Register and properties listed in or eligible for listing in the DC Inventory. These properties were identified using the National Register and DC Inventory lists and weekly updates, VDHR and DC SHPO GIS Data, and previously completed DOEs. Historic districts are described separately below, and cultural landscapes are identified separately in the *Cultural Landscapes* section of this EA.

Table 6 identifies those individually listed resources located in or within proximity to the Plan APE. Each property’s number corresponds with the identification of its physical location as depicted on Figure 18.

Table 6: Individually Listed Historic Properties within the APE

Number	Historic Property	Location	Designation	Period of Significance
1	Washington Canoe Club	3700 K Street NW	National Register, DC Inventory, Contributes to Georgetown NHL District, Potomac Gorge	1904 – 1939
2	Potomac Aqueduct Bridge Abutment and Pier	Potomac River west of Key Bridge	DC Inventory	1833 – 1962

Number	Historic Property	Location	Designation	Period of Significance
3	Potomac Boat Club	3530 Water Street NW	National Register, DC Inventory, Contributes to Georgetown NHL District, Potomac Gorge	1908 – 1941
4	Forrest-Marbury House	3350 M Street NW	DC Inventory, National Register, Contributes to Georgetown NHL District	1788 – 1790
5	Joseph Carleton House	1052 – 1054 Potomac Street NW	DC Inventory, Contributes to Georgetown NHL District	c. 1794
6	Georgetown Market	3276 M Street NW	National Register, DC Inventory, Contributes to Georgetown NHL District	1865
7	Bomford Mill (Pioneer Flour Mills; Flour Mill)	3261 K Street NW	DC Inventory, Contributes to Georgetown NHL District	1845 – 1922
8	District of Columbia Paper Manufacturing Company (Paper Mill)	3255 – 3259 K Street NW	DC Inventory, Contributes to Georgetown NHL District	1900 – 1902
9	Old Engine Company No. 5 (Bank of Columbia, Georgetown Town Hall & Mayor's Office)	3210 M Street NW	DC Inventory, Contributes to Georgetown NHL District	1796 – 1946
10	City Tavern	3206 M Street NW	National Register, DC Inventory, Contributes to Georgetown NHL District	1796 – 1875
11	Georgetown Commercial Buildings, M Street and Wisconsin Avenue	2919, 3068, 3056, 3072, 3112, 3116 M Street NW & 1218, 1219, 1221, 1249, 1304, 1515, 1517, 1522, 1524, 1527, & 1529 Wisconsin Avenue NW	DC Inventory, Contributes to Georgetown NHL District	c. 1780 – 1820
12	Vigilant Firehouse	1066 Wisconsin Avenue NW	National Register, DC Inventory, Contributes to Georgetown NHL District	1844 – 1883
13	Wisconsin Avenue Bridge (High Street Bridge)	Wisconsin Avenue over the C&O Canal	DC Inventory, Contributes to Georgetown NHL District	1831
14	Grace Church (Grace Protestant Episcopal Church)	1041 Wisconsin Avenue NW	National Register, DC Inventory, Contributes to Georgetown NHL District	c. 1866 – 1895
15	Potomac Masonic Lodge No. 5	1058 Thomas Jefferson Street, NW	DC Inventory, Contributes to Georgetown NHL District	1810
16	Adams-Mason Houses	1072 & 1074 Thomas Jefferson Street NW	DC Inventory, Contributes to Georgetown NHL District	c. 1810 – 1812
17	Nicholas Hedges & Federal Houses	1063, 1069, & 1071 Thomas Jefferson Street NW	DC Inventory, Contributes to Georgetown NHL District	c. 1800 – 1815
18	Duvall Foundry	1050 30th Street NW	DC Inventory, Contributes to Georgetown NHL District	c. 1856 – c. 1870
19	Loughborough-Patterson House	3041 M Street NW	DC Inventory, Contributes to Georgetown NHL District	1801 – 1806
20	Thomas Sim Lee Corner	3001 – 3011 M Street NW	DC Inventory, Contributes to Georgetown NHL District	c. 1787 – 1791; c. 1810 – 1812

Number	Historic Property	Location	Designation	Period of Significance
21	Henry McCleery House	1068 30th Street NW	DC Inventory, Contributes to Georgetown NHL District	c. 1800
22	West Heating Plant	1051 29th Street NW	DC Inventory, Contributes to Georgetown NHL District	1942 – 1968
23	Godey Lime Kilns	Rock Creek & Potomac Parkway at 27th & L Streets NW	National Register, DC Inventory, Contributes to Rock Creek & Potomac Parkway District	1864 – 1908
24	Watergate Complex	2500, 2600, 2650, & 2700 Virginia Avenue NW; 600 and 700 New Hampshire Avenue NW	National Register, DC Inventory	1964 – 1972
25	Higgins Service Station (Watergate Exxon, Rock Creek Valero)	2708 Virginia Avenue NW	Determined Eligible by DC SHPO	1937
26	Brickyard Hill House	3134-3136 South Street NW	DC Inventory, Contributes to Georgetown NHL District	c. 1800
27	Dodge Warehouses (and Adjacent Structures)	1000-1008, & 1010 Wisconsin Avenue NW; 3205 K Street NW	DC Inventory; Contributes to Georgetown NHL District	1807 – 1851
28	Francis Scott Key Bridge	Over the Potomac River, connects Georgetown in Washington, DC to Rosslyn in Arlington County, Virginia	National Register, DC Inventory, Virginia Landmarks Register	1917 – 1939
29	Capital Traction Company Union Station (Georgetown Car Barn; Exorcist Stairs)	3520 Prospect Street NW	DC Inventory, Contributes to Georgetown NHL District	1894 – 1973

Historic Districts

Historic districts are resources that have been listed in or found eligible for listing in the National Register and properties listed in or eligible for listing in the DC Inventory. These resources were identified using the National Register and DC Inventory lists and weekly updates, VDHR and DC SHPO GIS Data, and previously completed DOEs.

Table 7 identifies historic districts located in or proximal to the Plan APE. Each property corresponds with its physical location as depicted on Figure 19.

Table 7: Historic Districts within the APE

Historic District	Location	Designation	Period of Significance
C&O Canal NHP	Georgetown extending west from Rock Creek	National Register, DC Inventory, NM, Contributes to Georgetown NHL District, Potomac Gorge	9000 BCE-1500 CE; 1928 – 1924; 1938 – 1942; 1964 – 1965
Rock Creek and Potomac Parkway Historic District	Along the Potomac River and Rock Creek from the Lincoln Memorial to the National Zoo	DC Inventory, National Register	1828 – 1951

Historic District	Location	Designation	Period of Significance
Georgetown National Historic Landmark District	Roughly bound by Reservoir Road NW and Dumbarton Oaks Park to the north, Rock Creek Park to the east, the Potomac River to the south, and Glover-Archbold Parkway to the west	National Register, DC Inventory, NHL	1751 – 1950
The Potomac Gorge (Potomac Palisades)	028, 029	Potomac River upstream from the Francis Scott Key Bridge	DC Inventory
George Washington Memorial Parkway (GWMP)	Extends from Memorial Circle south to Mount Vernon, and north on both side of the Potomac River to the Capital Beltway	National Register, Virginia Landmarks Register	1930 – 1966
Theodore Roosevelt Island National Memorial (AnaloStan Island)	Potomac River west of Georgetown Channel	National Register, DC Inventory, NM	1749 – 1833; 1861 – 1865; 1931 – Present

Impacts of the No-Action Alternative

Under the no-action alternative, current operations and maintenance of the C&O Canal NHP would continue. The Canal, Towpath, and supporting infrastructure would be maintained, repaired, and/or rehabilitated on an as-needed basis. All work would conform with the *Standards* and therefore would have no impacts on individually listed historic properties or historic districts.

Cumulative Impacts. Under the no-action alternative, there would be no cumulative impacts on historic resources and districts from the past, present, and reasonably foreseeable future projects listed in Table 5 as no additional work beyond the current operations and maintenance of the C&O Canal NHP would occur.

Conclusion. Under the no-action alternative, all work would conform with the *Standards* and therefore would have no impacts on historic resources and districts. There would be no cumulative impacts to historic resources and districts.

Impacts of the Proposed Action

Canal Infrastructure Repairs and Rehabilitation

Under the proposed action, portions of Canal infrastructure would be repaired, rehabilitated, and/or stabilized. All work would conform with the *Standards* and be executed by a qualified professional, as defined in the *Standards* (36 CFR 61 Appendix 1); therefore, would have no impacts on individually listed historic properties or historic districts. Restoration and repairs to contributing resources within the C&O Canal, including but not limited to, the Prism walls, retaining walls, water intake features, as well as the stabilization and rehabilitation of the Hydroelectric Facility, would stabilize and restore the features to ensure their longevity resulting in a beneficial impact on the C&O Canal NHP and Georgetown NHL District.

Riparian Planting and Stream Bank Restoration

Under the proposed action, the stream bank of Rock Creek would be restored, the timber sheeting that has eroded over time would be restored or replaced based on their conditions, and missing stone would be backfilled and subsurfaces compacted. All plantings used in the restoration efforts would consist of native species and therefore would have no impacts on individually listed historic properties or historic districts.

Towpath and Pathway Enhancements

Widening the Towpath at previously identified locations would result in a moderate adverse impact to the C&O Canal due to the visual and physical intrusion of new fabric within the Towpath. The change in surface would have negligible adverse impact if the new material would be chosen following the *Standards* and is compatible in size, scale, color and texture with the historic material, as well as the surrounding ecology, both physically and chemically.

The Canal Prism retains its original design as a trapezoidal shape, with a flat top and historic materials that maintain a high level of integrity, despite past rehabilitation efforts (NPS 2017:149). The proposed Towpath widening would alter the Canal Prism with a condition that never existed historically. Consequently, the proposed changes to the Towpath would have moderate adverse impacts to the Canal Prism.

Interpretive and Wayfinding Signage

The addition of new signage and wayfinding throughout the project area would have the potential to have minor adverse impacts on the C&O Canal NHP and cultural landscape.

Zone A

The proposed changes to Zone A includes the removal of approximately 15 trees, eight trees would be relocated, and approximately 200 would be planted. Specifically, along the Parkway, the insertion of a dense line of trees would interrupt the perceived space of the Parkway and would result in a minor adverse impact to Rock Creek and Potomac Parkway. There would be no adverse impacts as a result of repaving the pathway within the historic resources, as all materials would be replaced in the same or similar materials.

The parking lot falls within the bounds of the Rock Creek and Potomac Parkway including the extension of the parking lot to the north. Currently, the existing parking lot includes a make-shift boat storage area that has been sectioned off with a tall board-on-board fence. This portion of Rock Creek and Potomac Parkway holds little integrity; according to the Cultural Landscape Report, alterations in this area, including the parking lot, pathway paving, and plantings, were completed in 2010 and fall outside the period of significance, 1828 – 1951 (NPS, 2018b). Though the parking lot itself lies just to the east of the Creek and west of the Parkway, the area is utilitarian and not formally landscaped. The Whitehurst Freeway lies directly to the north, blocking this section from much of the historic district to the north. In addition, dense vegetation along the Creek and the Thompson Boat Center currently blocks views of the area to and from the Potomac River. The expansion of the parking lot to the north would cause negligible impacts on Rock Creek and Potomac Parkway.

The added vegetation along the west side of the Parkway would result in a minor adverse impact to Rock Creek and Potomac Parkway. The reorganization and extension of the parking lot would cause no adverse impacts to Rock Creek and Potomac Parkway. There would be no impacts to C&O Canal NHP, Georgetown NHL, The Potomac Gorge, Theodore Roosevelt Island, GWMP, or individually listed resources within the APE. The changes proposed would not directly or indirectly adversely impact any of these resources, either physically or visually.

Mile Marker Zero: New features introduced at Mile Marker Zero, including the platform at the Mole, Tide Lock nets, and two pedestrian bridges over the Tide Lock would result in minor adverse impacts to the C&O Canal NHP, as they would alter the historic use from a functional, industrial use to recreational use, as well as introduce new fabric.

The proposed Potomac Kiosk, bike rack, and water station to the west would be set back from the historic setting of the Mole and would not block views to or from Rock Creek or the Potomac River. Currently, a board-on-board fence obstructs views to boat storage. The proposed design

of the Potomac Kiosk would be guided by the *Standards* and would be an improvement to the existing solid fence. These features would have negligible impacts to the C&O Canal NHP or the Rock Creek and Potomac Parkway. Additionally, DC SHPO, NCPC, and the U.S. Commission of Fine Arts (CFA) would undertake design review of the new structure to ensure compatibility with the surrounding resources.

The proposed Mile Marker Zero Pedestrian Bridge over Rock Creek would introduce a new feature into the historic setting. The bridge would have a moderate impact on the C&O Canal although the design of the new bridge would be guided by the *Standards*. While the new bridge would not have footings directly into the bed of Rock Creek, the addition of a new feature spanning the Creek, which historically was an open landscape, would have a moderate adverse impact on the Rock Creek and Potomac Parkway.

The addition of recreational equipment adjacent to Rock Creek Trail would result in minor adverse impacts to Rock Creek and Potomac Parkway with the introduction of new fabric and alteration of the use of the space.

The views to and from Theodore Roosevelt Island would not be impacted by the work proposed. The proposed new Potomac Kiosk would be constructed along the side of Thompson Boat Center, reducing its visual impact and the new bridge would not be visible between the restored Tide Lock, Waste Gate, and the Mole. Also, the recreational equipment would not be visible beyond the extant tree line at the river, so would not be visible; as a result, there would be no direct or indirect impacts to Theodore Roosevelt Island. Additionally, there would be no direct or indirect impacts to the Watergate Complex or Higgins Service Station as thick vegetation obscure the Mole and potential new pedestrian bridge from these resources to the north and the recreational equipment would not be tall enough to impact views to the river.

There would be no impacts to the Georgetown NHL District, the Potomac Gorge, GWMP, or any individually listed historic properties within the APE. The changes proposed would not directly or indirectly impact any of these resources, either physically or visually.

Zone B

The additional new vegetation in this location would not result in any impacts on the C&O Canal NHP or Georgetown NHL District as it would not block any significant views or viewsheds. The Me Amo Grove would result in a minor adverse impact to the C&O Canal NHP, as it would alter the industrial character of the area that is significant to the Canal resource and cultural landscape. The impacts would not rise to the level of adverse on the Georgetown NHL District. No other work outside of the Key Areas in Zone B would have any adverse impacts on Georgetown NHL District, The Potomac Gorge, Theodore Roosevelt Island, GWMP, or any other individually listed resources within the APE. The changes proposed would not directly or indirectly impact any of these resources, either physically or visually.

Rock Creek Confluence: This area has little integrity and no contributing features. The shoreline is in a natural state and is largely overgrown. There are no historic elements of the Canal such as the Canal Prism or stone walls in this section of the project area, and the only other feature is a portion of a wood stair leading down the steep slope, which is not a contributing feature to the C&O Canal NHP.

The proposed pedestrian bridge would stretch from the north side of the confluence to the land behind the West Heating Plant; no supports would be placed within the water. However, the insertion of a new structure within the C&O Canal NHP would have moderate adverse impacts, as a new structure that interrupts the views between Lock One and Rock Creek. The new bridge would have negligible impacts on both the Rock Creek and Potomac Parkway and the Georgetown NHL District as no significant views would be interrupted.

The confluence platform would be constructed on land and not in the Canal bed. At this location, there is no formal Canal Prism, and the shoreline is in a natural and overgrown condition similar to the neighboring Rock Creek. A small portion of the platform would be cantilevered over the Canal, designed so as not to block any historic views. The insertion of a contemporary element at this location would have minor adverse impacts on the C&O Canal NHP.

The brick surfacing and location of the Towpath in this area dates to the construction of the Four Seasons Hotel in 1977 and has no integrity. The NPS granted the Four Seasons an easement to construct directly adjacent to the Towpath, between Rock Creek and 29th Street NW. The contributing commemorative Mile Marker Plaque in this location will not be moved. The proposed re-sloping and slight reconfiguration of this section of the Towpath, an area that has seen significant change and alteration, would have no impact on the C&O Canal NHP or Georgetown NHL District.

The proposed changes at the Rock Creek Confluence would have no minor, moderate, or major impacts to the Rock Creek and Potomac Parkway, the Georgetown NHL District, the Potomac Gorge, Theodore Roosevelt Island, GWMP, or any individually listed historic properties within the APE. The changes proposed would not directly or indirectly impact any of these resources, either physically or visually. The new viewing platform would result in a minor adverse impact to the C&O Canal NHP, while the new pedestrian bridge would result in moderate adverse impacts to the C&O Canal NHP.

The Locks: Increasing the height of the Towpath along Georgetown Place, to decrease the slope and allow for ABAAS accessibility, would have negligible impact on the C&O Canal NHP and Georgetown NHL District. This portion of the Towpath was bricked over and altered when the Georgetown Place Office Building was constructed in 1982, and, consequently, this stretch of the Towpath only holds integrity of location, which would not be altered.

The lawn was historically not part of the C&O Canal NHP and has had multiple uses over the years, including a parking lot in the 1950s and most recently as the construction staging area for the restoration of Locks Three and Four. Most of the vegetation was removed, and the approach to the lawn was altered with the redesign of the Towpath at this location. As a result, the area has lost almost all its integrity. The proposed changes to provide areas of seating, educational opportunities, murals, and signage would therefore have negligible impacts on the C&O Canal NHP and the Georgetown NHL District.

The proposed Visitor and Education Center would be located at the northernmost portion of the lawn and would not impact views or viewsheds contributing to the C&O Canal NHP or Georgetown NHL District. The design of the new building would be reviewed by DC SHPO, NCPC, and CFA for compatibility with its surroundings and would not result in adverse impacts to the C&O Canal or the Georgetown NHL District.

The use of the green space between Thomas Jefferson and 35th Streets NW to the south of the Canal for the mules to stay during the day would have no impacts on either the C&O Canal or Georgetown NHL District.

The proposed changes at the Locks would have no minor, moderate, or major impacts to any individually listed historic properties or historic districts listed within the APE. The changes proposed would not directly or indirectly impact any of these resources, either physically or visually.

Zone C

The additional new vegetation in this location would not result in an adverse impact on the C&O Canal NHP as it would not block any significant views or viewsheds. No other work outside of

the Key Areas in Zone C would have any adverse impacts on C&O Canal NHP, Georgetown NHL District, The Potomac Gorge, Theodore Roosevelt Island, GWMP, or individually listed resources within the APE. The changes proposed would not directly or indirectly impact any of these resources, either physically or visually.

The Obelisk Plaza: The plaza adjacent to the Obelisk dates to the construction of Georgetown Park between 1979 and 1982. The retaining wall in this section of the C&O Canal NHP holds varying degrees of integrity. The section with the arch, which would be widened, dates to the 1979 to 1982 construction of Georgetown Park. The section to the east, between the arch and the Wisconsin Avenue Bridge, seems to be constructed with historic stone but was rebuilt. The project would widen the arch, and the new stair would lie behind the reconstructed wall to the east. The decrease in solidity of the historically solid retaining wall would result in a moderate adverse impact on the C&O Canal NHP.

The commemorative Obelisk would be moved just northwest of its current location. While the Obelisk dates to 1850 to commemorate the completion of the Canal, it is still not known where the Obelisk was officially installed and when. Various newspaper articles report that the Obelisk was moved from its original location. The *Washington Herald* in 1920 reported the Obelisk was found in the “cellar of the ‘Hill’ Flour Mill... During the year 1900, ‘officials’ of the canal company had it erected at its present location” (Washington Herald 1920). The proposal of moving the Obelisk to the north would have a moderate adverse impact on C&O Canal NHP and Wisconsin Avenue Bridge, which is an individually listed resource, and a minor impact on the Georgetown NHL District. The relocation of the Obelisk would result in adverse impacts that could be minimized by the proposed new location that would provide more visibility and opportunities for interpretation of this commemorative feature of the Canal.

The proposed changes at the Obelisk Plaza would have no minor, moderate, or major impacts to the Rock Creek and Potomac Parkway, the Potomac Gorge, Theodore Roosevelt Island, GWMP, or any other individually listed historic properties within the APE. The changes proposed would not directly or indirectly impact any of these resources, either physically or visually. Moving the obelisk would result in moderate adverse impacts to the C&O Canal NHP and Wisconsin Avenue Bridge and minor adverse impacts to Georgetown NHL District. The widening of the arch in the retaining wall at the Canal would result in a moderate adverse impact to the C&O Canal NHP.

The Canal Overlook: The plaza to the north of the Potomac Street Bridge has been reconfigured in the recent past. The only contributing feature within this area is the Potomac Street Bridge itself, though it has been altered over time. The plaza was reconfigured in the early 1980s when the parking garage was constructed for the adjacent Georgetown Park. At this same time, the landscaping in this location was added, as was the extant ramp from the Potomac Street Bridge to the Towpath. The retaining walls at the Canal level were previously taken down and rebuilt with historic stone.

The proposed work here includes a new ramp configuration here, insertion of an elevator to Georgetown Park, and lowering the retaining walls to the west of the bridge to improve views to the Canal. The plaza would be reconfigured, and the retaining walls would be rebuilt reusing the historic stone. Therefore, there would be no adverse impacts to the Joseph Carlton House, the Georgetown Market, the C&O Canal NHP, or the Georgetown NHL District.

The Potomac Street Bridge would be replaced with a new bridge in order to be wide enough and lowered to a height that would ensure that the pathway connecting the bridge to the Canal Towpath was ABAAS compliant. The replacement of the Potomac Street Bridge would result in a moderate adverse impact to the C&O Canal NHP.

The proposed changes at the Canal Overlook would have no minor, moderate, or major impacts to the Rock Creek and Potomac Parkway, the Potomac Gorge, Theodore Roosevelt Island,

GWMP, or any individually listed historic properties within the APE. The changes proposed would not directly or indirectly impact any of these resources, either physically or visually. The replacement of the Potomac Street Bridge would result in moderate adverse impacts to the C&O Canal NHP and Georgetown NHL District.

Fish Market Square: The Fish Market Plaza was reconfigured in 1985 and holds no integrity associated with the C&O Canal NHP or the Georgetown NHL District. The proposed new elements would highlight the former water intake features and reinforce the connection to the Canal and the area would remain an open plaza. The water intake features in this area would be restored and remain visible and would result in a beneficial impact. Interpretive paving would be installed in the plaza to convey that water originally flowed from the intakes to the mill buildings to the south of the Canal. The plaza itself would include stormwater management, cisterns, new trees and vegetation, as well as temporary, seasonal canopies. The stormwater management would use native vegetation to the east and west of the plaza, pulled away from the Canal, and cisterns under the plaza. They would not result in adverse impacts to the plaza as no historic fabric would be altered, though there may be impacts to archaeology. New trees would be planted in the center of the plaza and would be set back from the Canal to not obstruct any views and would not result in any impacts. The temporary, seasonal canopies would act as furniture and would not be permanent, they would not result in an adverse impact. However, the permanent seating directly adjacent to the Canal would result in a minor adverse impact to the C&O Canal NHP as it changes the area's use from industrial to recreational use.

The ABAAS-compliant ramp and stair would replace the extant stair to the Potomac Street Bridge on the east side of the plaza connecting the bridge, plaza, and Grace and Potomac Streets. The stair to the Potomac Street Bridge is not original; photographic documentation shows that the original stair was canted to the east from the bridge (NPS, 2018a); therefore, the replacement of the stair with a ramp would not result in any impacts, neither would the stair leading to Grace and Potomac Streets.

While the plaza is directly adjacent to Bomford Mills, construction would not come close to the individually listed resource and would result in no adverse impacts. Additionally, as the extant plaza is not historic, the views to and from the DC Paper Manufacturing Company would not be impacted.

The proposed changes at Fish Market Plaza would have no adverse impacts on Georgetown NHL District, Rock Creek and Potomac Parkway, The Potomac Gorge, Theodore Roosevelt Island, GWMP, or individually listed resources within the APE. The changes proposed would not directly or indirectly impact any of these resources, either physically or visually. There would be a minor adverse impact to C&O Canal NHP as a result of the addition of permanent seating directly adjacent to the Canal.

Zone D

The additional new vegetation in this zone would not result in any impacts on the C&O Canal NHP as it would not block any significant views or viewsheds. No other work outside of the Key Areas in Zone D would have any adverse effects on C&O Canal NHP, Georgetown NHL District, The Potomac Gorge, Theodore Roosevelt Island, GWMP, or individually listed resources within the APE. The changes proposed would not directly or indirectly impact any of these resources, either physically or visually.

The Gongoozler Platform: The placement of the Gongoozler Platform on the Canal would have a moderate adverse impact to the C&O Canal NHP and a minor adverse impact on the Georgetown NHL District. Since the construction method of the platform has not yet been determined, impacts would be assumed. The seating directly adjacent to the platform would also

have a minor adverse impact on the C&O Canal NHP but would not rise to the level of adverse impact on the Georgetown NHL District.

Other proposed changes in this area would be a new ABAAS-complaint ramp at the Francis Scott Key Park, which was constructed in the early 1990s and does not contribute to the C&O Canal NHP or Georgetown NHL District. The reconfiguration includes an improved plaza and stair and would have no impact on either resource. No views within the C&O Canal would be impacted, as the ramp would be confined to Francis Scott Key Park. The ramp at the south of the 34th Street Bridge would be re-sloped to be ABAAS-compliant but would not result in any adverse impacts as the ramp itself is not a contributing feature.

The section of the pathway to the south of the Canal at this location holds varying degrees of integrity. None of the proposed changes would impact the C&O Canal NHP or the Georgetown NHL District, including the new ABAAS-compliant ramp or and the connection to the Capital Crescent Trail.

The proposed changes at the Gongoozler Platform would have no minor, moderate, or major impacts to Rock Creek and Potomac Parkway, the Potomac Gorge, Theodore Roosevelt Island, GWMP, or any individually listed historic properties within the APE. The changes proposed would not directly or indirectly impact any of these resources, either physically or visually. The installation of the Gongoozler Platform would result in moderate adverse impacts to the C&O Canal NHP and minor adverse impacts on the Georgetown NHL District.

The Potomac Aqueduct

The installation of an art platform, Aqueduct hardscape, viewing area and overlook, and permanent seating on top of the Potomac Aqueduct would have moderate adverse impacts on the Potomac Aqueduct and C&O Canal NHP as they would change the historic use from industrial and transportation to recreational. They would have negligible adverse impacts on the Georgetown NHL District. The restoration of the railings and installation of matching railings where they are missing would resulting a beneficial impact of both the Potomac Aqueduct and C&O Canal NHP.

The overlook cantilevers only 10 feet from the Potomac Aqueduct and would not rise above the height of the side walls. As such the overlook would not be visible from the GWMP. No views or viewsheds would be impacted to or from the resource.

A new ramp would be constructed connecting Whitehurst Freeway to the Towpath. The ramp would not result in any impacts as it would be constructed up against the Whitehurst Freeway and in an area adjacent to the Canal that holds little integrity, but the location of the Towpath here would not be altered. It would not impact any views within the resource. The proposed Aqueduct Kiosk would have no impacts as it would abut the Whitehurst Freeway and would not be visible from the Potomac River. Nor would it interrupt the Canal or views up and down the Towpath. The connection to the Capital Crescent Trail would have no impacts as that area holds little integrity, and little historic vegetation survives.

The canoe launch would be inserted within a portion of the Canal that holds integrity of the Canal Prism as well as the Towpath. As the construction method of the launch has not yet been determined, it is assumed that it would have a moderate adverse impact on the C&O Canal NHP due to constructing new element in the Prism and on the Towpath and minor adverse impacts on the Georgetown NHL District. The insertion of a bike rack in this location would have a minor adverse impact on the C&O Canal NHP due the interruption of the relationship of the Canal and Towpath but would have negligible impacts on the Georgetown NHL District.

The changes at the Potomac Aqueduct would have no minor, moderate, or major impacts on the Rock Creek and Potomac Parkway, GWMP, Theodore Roosevelt Island, or any other individually

listed historic properties within the APE. The changes proposed would not directly or indirectly impact any of these resources, either physically or visually. There would be minor adverse impacts to the C&O Canal NHP and the Potomac Aqueduct from, Aqueduct hardscape, viewing area and overlook, and permanent seating. The bike rack and canoe launch would result in moderate adverse impacts to the C&O Canal NHP. The insertion of the canoe launch would have minor adverse impacts on the Georgetown NHL District.

Cumulative Impacts. The Nonmotorized Boathouse Zone Development Plan was determined to have no adverse effects on historic resources. There would be incremental adverse impacts on the C&O Canal NHP due to the 31st Street Bridge Replacement project and The Potomac River Tunnel project. The Potomac River Tunnel Project specifically in the area around the Potomac Aqueduct has the potential to have adverse cumulative effects on resources in that area. Those historic resources are limited to the Washington Canoe Club, Potomac Boat Club, Francis Scott Key Memorial Bridge, and Potomac Aqueduct, as well as the C&O Canal NHP, Georgetown NHL District, and The Potomac Gorge. Overall the proposed Alternative 2 could contribute to incremental adverse effects as new construction is introduced to the C&O Canal NHP, Potomac Gorge, and Georgetown NHL District. This would result in a cumulative adverse effect to C&O Canal NHP, Georgetown NHL District, and The Potomac Gorge, but not to Washington Canoe Club, Potomac Boat Club, Francis Scott Key Memorial Bridge, and Potomac Aqueduct. There would be no cumulative impacts on Rock Creek and Potomac Parkway from the Rock Creek and Potomac Parkway Rehabilitation Project and the Georgetown Canal Plan, as work within Rock Creek and Potomac Parkway is very limited in this project.

Conclusion. A summary of adverse impacts on the historic resources can be found in Table 8 and Table 9. There would also be beneficial impacts to the C&O Canal NHP, Georgetown NHL District, and Potomac Aqueduct from the restoration, rehabilitation, and stabilization efforts within the alternative. The projects would ensure the longevity and structural integrity of the historic districts and structures.

Table 8: Summary of Impacts from the Proposed Action to Historic Districts

	Actions Common to All	Zone A	Mile Marker Zero	Zone B	Rock Creek Confluence	The Locks	Zone C	The Obelisk Plaza	The Canal Overlook	Fish Market Plaza	Zone D	Gongoozler Platform	The Potomac Aqueduct	Temporary Adverse Impacts	Cumulative Adverse Impacts
C&O Canal NHP	Adverse Impact: Widening Towpath; Altering Prism, Signage	No Adverse Impact	Adverse Impact: Altering Tide Lock with Bridges and Nets, Adding Platform	Adverse Impact: Adding Me Amo Grove	Adverse Impact: Adding New Bridge, Adding New Platform	No Adverse Impact	No Adverse Impact	Adverse Impact: Moving Obelisk, Widening Arch at Retaining Wall	Adverse Impact: Replacing Potomac Street Bridge	Adverse Impact: Adding Permanent Seating,	No Adverse Impact	Adverse Impact: Adding New Platform, Adding Permanent Seating	Adverse Impact: Art Platform, Aqueduct Hardscape, Overlook, Bike Rack, Permanent Seating, and Canoe Launch	Adverse Impact: Construction	Adverse Impact
Rock Creek and Potomac Parkway	No Adverse Impact	Adverse Impact: Adding Vegetation	Adverse Impact: Adding New Bridge, Adding Recreational Equipment	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	Adverse Impact: Construction	No Adverse Impact
Georgetown NHL District	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	Adverse Impact: Moving Obelisk	No Adverse Impact	No Adverse Impact	No Adverse Impact	Adverse Impact: Adding New Platform	Adverse Impact: Adding Canoe Launch	Adverse Impact: Construction	Adverse Impact
The Potomac Gorge	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	Adverse Impact: Construction	Adverse Impact
Theodore Roosevelt Island	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact
GWMP	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact	No Adverse Impact

Table 9: Summary of Impacts from the Proposed Action on Individually Listed Historic Properties

Number	Historic Resource	Adverse Impact	Temporary Adverse Impacts	Cumulative Adverse Impacts
1	Washington Canoe Club	No Adverse Impact	Adverse Impact: Construction	No Adverse Impact
2	Potomac Aqueduct	Adverse Effect: Adding Art Platform, Aqueduct Hardscape, Overlook, Bike Rack, Permanent Seating, Canoe Launch, and Reconfiguring Stair	Adverse Impact: Construction	No Adverse Impact
3	Potomac Boat Club	No Adverse Impact	Adverse Impact: Construction	No Adverse Impact
4	Forrest-Marbury House	No Adverse Impact	No Adverse Impact	No Adverse Impact
5	Joseph Carleton House	No Adverse Impact	Adverse Impact: Construction	No Adverse Impact
6	Georgetown Market	No Adverse Impact	Adverse Impact: Construction	No Adverse Impact
7	Bomford Mill (Pioneer Flour Mills; Flour Mill)	No Adverse Impact	Adverse Impact: Construction	No Adverse Impact
8	District of Columbia Paper Manufacturing Company (Paper Mill)	No Adverse Impact	Adverse Impact: Construction	No Adverse Impact
9	Old Engine Company No. 5 (Bank of Columbia, Georgetown Town Hall & Mayor's Office)	No Adverse Impact	No Adverse Impact	No Adverse Impact
10	City Tavern	No Adverse Impact	No Adverse Impact	No Adverse Impact
11	Georgetown Commercial Buildings, M Street and Wisconsin Avenue	No Adverse Impact	No Adverse Impact	No Adverse Impact
12	Vigilant Firehouse	No Adverse Impact	Adverse Impact: Construction	No Adverse Impact
13	Wisconsin Avenue Bridge (High Street Bridge)	Adverse Impact: Moving Obelisk	Adverse Impact: Construction	No Adverse Impact
14	Grace Church (Grace Protestant Episcopal Church)	No Adverse Impact	No Adverse Impact	No Adverse Impact
15	Potomac Masonic Lodge No. 5	No Adverse Impact	Adverse Impact: Construction	No Adverse Impact
16	Adams-Mason Houses	No Adverse Impact	Adverse Impact: Construction	No Adverse Impact
17	Nicholas Hedges & Federal Houses	No Adverse Impact	Adverse Impact: Construction	No Adverse Impact
18	Duvall Foundry	No Adverse Impact	No Adverse Impact	No Adverse Impact
19	Loughborough-Patterson House	No Adverse Impact	No Adverse Impact	No Adverse Impact
20	Thomas Sim Lee Corner	No Adverse Impact	No Adverse Impact	No Adverse Impact
21	Henry McCleery House	No Adverse Impact	Adverse Impact: Construction	No Adverse Impact
22	West Heating Plant	No Adverse Impact	Adverse Impact: Construction	No Adverse Impact

Number	Historic Resource	Adverse Impact	Temporary Adverse Impacts	Cumulative Adverse Impacts
23	Godey Lime Kilns	No Adverse Impact	No Adverse Impact	No Adverse Impact
24	Watergate Complex	No Adverse Impact	No Adverse Impact	No Adverse Impact
25	Higgins Service Station (Watergate Exxon, Rock Creek Valero)	No Adverse Impact	No Adverse Impact	No Adverse Impact
26	Brickyard Hill House	No Adverse Impact	No Adverse Impact	No Adverse Impact
27	Dodge Warehouses (and Adjacent Structures)	No Adverse Impact	No Adverse Impact	No Adverse Impact
28	Francis Scott Key Bridge	No Adverse Impact	Adverse Impact: Construction	No Adverse Impact
29	Capital Traction Company Union Station (Georgetown Car Barn; Exorcist Stairs)	No Adverse Impact	No Adverse Impact	No Adverse Impact

CULTURAL LANDSCAPES

Affected Environment

The term “Cultural Landscape” encompasses the “notion that humans necessarily occupy a significant place in the landscape... [it] is simply that which is the result of human beings’ centuries-long response to the natural qualities of the land” (Zachary 1996). The NPS defines a cultural landscape as a geographic area, including both cultural and natural resources, associated with a historic event, activity, or persons exhibiting other cultural or aesthetic values. There are four general types of cultural landscapes, defined below by the Cultural Landscape Foundation (CLF):

- 1) *Historic Sites*: those cultural landscapes that are “significant for their association with a historic event, activity, or person;”
- 2) *Designed Landscapes*: those that were “consciously designed or laid out by a landscape architect, master gardener, architect, or horticulturist to design principles, or by an amateur gardener working in a recognized style or tradition;”
- 3) *Vernacular Landscapes*: those that have “evolved through use by the people whose activities or occupancy shaped those landscapes. Through social or cultural attitudes of an individual, family, or community, the landscapes reflect the physical, biological, and cultural character of those everyday lives;” and
- 4) *Ethnographic Landscapes*: those that contain a “variety of natural and cultural resources that the associated people define as heritage resources” (CLF, 2016).

Cultural landscapes that have been previously identified and inventoried by the NPS within the APE include the Potomac Waterfront Section of the Rock Creek and Potomac Parkway and Theodore Roosevelt Island. A brief description of each is provided below.

Georgetown Area Cultural Landscape: Chesapeake and Ohio Canal Historical Park

The Georgetown Area Cultural Landscape extends from M Street to the north, south to the Potomac River, and from the Mile Marker Zero to the east to the Washington Canoe Club to the west. The Georgetown section of the Canal was constructed between 1828 and 1831 with the expressed goal of facilitating the transportation, trade, and industry of Georgetown. Mills and

warehouses surrounded the Canal, especially to the south and is significant under transportation, tourism, Civil War activities, industrial development, and urban development, as well as Criterion C for construction and engineering water features. (NPS, 2018a)

Potomac Waterfront Section, Rock Creek and Potomac Parkway

The Potomac Waterfront Section of the Rock Creek and Potomac Parkway extends south from Virginia Avenue NW to the Belvedere, the historic terminus of Constitution Avenue. This section of the Parkway is listed in the National Register as part of the Rock Creek and Potomac Parkway Historic District. An original element of the McMillan Commission's 1902 plan, the Parkway was designed as a pleasure drive connecting Rock Creek Park, established in 1890, and Potomac Park, now known as East and West Potomac Parks, established in 1897. The Parkway's design was revised several times, including revisions to better accommodate the automobile, before its completion in the 1930s. Significant as an early parkway in the District, as well as the United States, this section of the Parkway is significant for its early design and construction dating to the 1930s as well as its later design and alteration in relation to the construction of the Kennedy Center (NPS 2018b).

Theodore Roosevelt Island

Theodore Roosevelt Island is a naturally formed island with a long history, including as John Mason's estate and its occupation during the Civil War, before it was made into a memorial to the 26th president. Landscape architect Frederick Law Olmsted, Jr. is primarily responsible for the designed landscape, which he envisioned would evolve into a "native 'climax' forest." The Theodore Roosevelt Memorial, located in the northern portion of the island, was designed by architect Eric Gugler, sculptor Paul Manship, and Lee Skillman, an NPS landscape architect (Fanning, 1999).

Impacts of the No-Action Alternative

Under the no-action alternative, current operations and maintenance of the C&O Canal NHP would continue. The Canal, Towpath, and supporting infrastructure would be maintained, repaired, and/or rehabilitated on an as-needed basis. All work would conform with the *Standards* and therefore would have no impacts on cultural landscapes.

Cumulative Impacts. Under the no-action alternative, there would be no cumulative impacts on cultural landscapes from the past, present, and reasonably foreseeable future projects listed in Table 5 as no additional work beyond the current operations and maintenance of the C&O Canal NHP would occur.

Conclusion. Under the no-action alternative, all work would conform with the *Standards* and therefore would have no impacts on cultural landscapes. There would be no cumulative impacts to historic resources and districts.

Impacts of the Proposed Action

The Potomac Waterfront Section of Rock Creek and Potomac Parkway would be adversely impacted with the addition of dense vegetation at the boathouse parking lot, as it would alter the perceived space of the Parkway. Additionally, the insertion of recreational equipment would adversely impact the cultural landscape by altering the use of the landscape. The new pedestrian bridge at the Mole would also have an adverse effect on the cultural landscape as that area was historically open. There would be numerous adverse impacts to the Georgetown Area Cultural Landscape, and they would be congruent with the adverse impacts to the C&O Canal NHP, listed in Table 8. There would also be beneficial impacts to the cultural landscape due to the restoration, rehabilitation, and stabilization efforts. The projects would ensure the longevity and structural integrity of the cultural landscape.

There would be no impacts to the Theodore Roosevelt Island Cultural Landscape as no features or alterations would be visible from across the Potomac River. There would be adverse impacts to the Potomac Waterfront Section of the Rock Creek and Potomac Parkway due to the introduction of a new pedestrian bridge at the mouth of the Rock Creek.

Cumulative Impacts. The Nonmotorized Boathouse Zone Development Plan was determined to have no adverse effects on cultural landscapes. There would be incremental adverse impacts on the Georgetown Area Cultural Landscape due to the 31st Street Bridge Replacement project and The Potomac River Tunnel project. The Potomac River Tunnel Project specifically in the area around the Potomac Aqueduct has the potential to have adverse cumulative effects on Georgetown Area Cultural Landscape. Overall the proposed Alternative 2 could contribute to incremental adverse effects as new construction is introduced to the Georgetown Area Cultural Landscape. This would result in a cumulative adverse effect to Georgetown Area Cultural Landscape. There would be no cumulative impacts on Potomac Waterfront Section of the Rock Creek and Potomac Parkway from the Rock Creek and Potomac Parkway Rehabilitation Project and the Georgetown Canal Plan, as work within cultural landscape is very limited in this project.

Conclusion. The Potomac Waterfront Section of Rock Creek and Potomac Parkway would be adversely impacted and there would be numerous adverse impacts to the Georgetown Area Cultural Landscape due to the removal of historic fabric and insertion of new materials and features. There would also be beneficial impacts to the cultural landscapes due to the restoration, rehabilitation, and stabilization efforts. The projects would ensure the longevity and structural integrity of the cultural landscape. There would be no impacts to the Theodore Roosevelt Island Cultural Landscape as no features or alterations would be visible from across the Potomac River.

ARCHEOLOGICAL RESOURCES

Affected Environment

In 2019, Stantec Consulting Services, Inc. (Stantec) conducted a Phase IA Archeological Assessment to identify areas of moderate and high archeological potential within the project area. The assessment identified 16 areas within the project area that have moderate to high potential to contain archeological resources. In general, the areas with highest potential for the presence of archaeological resources are those within or adjacent to known archaeological sites that have not been disturbed by activities such as excavation for building construction or utility installation. As part of the Phase IA, Stantec conducted ground-truthing in selected areas identified as having high, moderate, or low potential for archeological resources to assess the predictive model efficacy.

Impacts of the No-Action Alternative

Under the no-action alternative, current management and maintenance practices of the C&O Canal NHP and Rock Creek Park would continue. Basic maintenance, rehabilitation, and restoration efforts would be made. It is not anticipated that these projects would impact archeological resources.

Cumulative Impacts. No impacts are expected under the no-action alternative and therefore, there would be no cumulative impacts.

Conclusion. Under the no-action alternative, no impacts to archeological resources are anticipated. There would be no cumulative impacts under the no-action alternative.

Impacts of the Proposed Action

Four of the proposed Plan concepts that could require ground disturbance are located within areas identified as having high and moderate potential to contain archeological resources. These concepts include:

- Proposed stream bank restoration within Zone A (mile 0.00 to 0.28)
- The Confluence Platform (mile 0.36)
- Visitor and Education Center (mile 0.49)
- The lawn and C&O Canal Scaled Map (mile 0.50)

Implementation of these concepts have the potential to impact archeological resources within zones of moderate and high archaeological site probability, which could result in adverse impacts. Site specific investigations are needed in these areas to determine if resources are present and to evaluate any resources identified for listing in the NRHP prior to construction. Resource survey investigations would be undertaken in consultation with the DC SHPO. If significant archaeological resources are present NPS and Georgetown Heritage would work to avoid and/or minimize impacts to archeological resources, if possible. If avoidance is not possible, minimization and mitigation measures would be determined in consultation with the DC SHPO.

Cumulative Impacts. Construction of past, present, and reasonably foreseeable future projects including the Potomac River Tunnel have the potential to impact archeological resources. The proposed action could add to these impacts, resulting in cumulative impacts to archeological resources.

Conclusion. Implementation of some Plan concepts would require ground disturbance that could adversely impact archeological resources. Further investigations would be needed to confirm the presence of these resources prior to construction. The proposed action could add to cumulative impacts to archeological resources.

CONSULTATION AND COORDINATION

The NPS and Georgetown Heritage conducted extensive public involvement during the NEPA process. Public input was sought during key points during the development of the Georgetown Canal Plan. A summary of public involvement and agency consultation can be found below. A more detailed description of public involvement and all correspondence received during public comment periods can be found in the Comment Analysis Report, which is available at <http://parkplanning.nps.gov/Georgetowncanalplan>.

PUBLIC INVOLVEMENT

As part of the NEPA process and to comply with the requirements of Section 106, the NPS and Georgetown Heritage involved the public in project scoping and alternatives development by holding several comment periods and related public meetings.

Scoping

A public scoping period was held from May 31, 2017, to July 14, 2017, in order to involve the public in project planning. A public scoping meeting and workshop was held on Wednesday, June 14, 2017, from 6:00-8:00 pm at Canal Overlook at Georgetown Park. The public scoping meeting was held to give the public the opportunity to learn about the proposed project; identify any areas of concerns and opportunities regarding the proposed project; provide the public with an opportunity to share knowledge of important environmental and cultural issues that should be considered during the planning process; and solicit public feedback to inform the development of project alternatives. In all, 63 correspondences were received during the public scoping period, the majority of which supported the project. Concerns were expressed by local residents and business owners that the Plan would draw too many visitors and lead to excessive amounts of noise, light, trash, and congestion. During the public scoping period, the NPS and Georgetown Heritage also engaged several targeted stakeholder groups and held focused meetings to discuss the specific concerns from these groups.

Alternatives Development

A second public comment period was held from November 2, 2017, through January 5, 2018. During the comment period, a second public meeting and workshop was held on Thursday, November 2, 2017, from 6:00-8:00 pm at Canal Overlook at Georgetown Park to give the public a chance to view preliminary concept designs for the Plan. Meeting attendees were encouraged to ask questions about the designs and voice any concerns over what they saw. A total of 81 correspondences was received during the comment period, the majority of which generally supported aspects of the design concepts. Georgetown Heritage and NPS received mostly positive responses from the community regarding the concept designs but were encouraged by some to avoid overdesigning the NHP.

Following the second public meeting and comment period, the NPS and Georgetown Heritage reviewed the comments received and further refined the concept alternatives based on this feedback. A third public comment period was held to gather additional feedback on the refined concept designs. Comments were accepted via PEPC from April 4, 2019, through May 11, 2019. During the comment period, a third public meeting and open house was held on Thursday, April 4, 2019, from 6:00-8:00 pm at Canal Overlook at Georgetown Park to give the public a chance to view revised concept designs for the Canal Plan. Meeting attendees were encouraged to ask questions about the revised designs and voice any concerns over what they saw. Public feedback was positive with many expressing excitement over the revised concept designs.

AGENCY CONSULTATION AND COORDINATION

Section 106

The NPS and Georgetown Heritage initiated consultation with the DC SHPO in May 2017. A second letter, which provided a project update, was sent in October 2017. Also, in October 2017, consultation with the VDHR was initiated. The NPS and Georgetown Heritage have hosted several Section 106 meetings to discuss the project including a joint NEPA/Section 106 Scoping/Consulting Parties meeting held June 14, 2017, and a second Consulting Parties meeting held April 11, 2019. All Consulting Parties were also invited to attend the second public meeting which was held November 2, 2017. The NPS and Georgetown Heritage also met with the DC SHPO, NCPC, and the US Commission of Fine Arts (CFA) on May 31, 2017, to discuss project planning; held an informational meeting with CFA on October 10, 2017; and presented preliminary concept alternatives to the Old Georgetown Board on November 2, 2017. Informational meetings with DC SHPO, NCPC and CFA were also held in 2019 on the following dates: May 2, 2019, June 6, 2019, July 3, 2019, and July 18, 2019. Section 106 is ongoing at the time of this EA.

Tribal Consultation

The NPS and Georgetown Heritage initiated tribal consultation with the Delaware Nation on May 25, 2017. After receiving feedback from the VDHR, consultation was initiated with the Pamunkey Indian Tribe, Catawba Indian Nation, and the Delaware Tribe of Indians on May 25, 2017. The Delaware Nation and Catawba Indian Nation responded and requested to be added as Consulting Parties. The Delaware Tribe of Indians also requested to be added as a Consulting Party and stated that they were interested in working with the NPS to design signage that would identify and discuss the Native American presence in the project area. The Pamunkey Indian Tribe responded that they were not aware of any cultural sites that would be affected by the proposed project but requested to be contacted in the event of an inadvertent discovery.

Section 7 of the Endangered Species Act

The NPS and Georgetown Heritage determined that one federally listed endangered species, the Hay's Spring Amphipod (*Stygobromus hayi*), had the potential to occur within the project area. In a letter dated December 12, 2017, the US Fish and Wildlife Service (USFWS) determined that the proposed project is "not likely to adversely affect" the Hay's Spring Amphipod because while the project is within the range of the species, it is unlikely that the species would occur within the project area.

The following agencies and stakeholders were contacted to request input on the project:

- Advisory Council on Historic Preservation
- Advisory Neighborhood Commission 2E
- Canal House Condominium
- C&O Canal Association
- C&O Canal Trust
- Catawba Indian Nation
- Citizens Association of Georgetown
- Coalition for the Capital Crescent Trail
- CFA
- Committee of 100 on the Federal City
- Cultural Tourism DC
- DC Department of Parks and Recreation
- DC Homeland Security and Emergency Management Agency

- DC Preservation League
- DC Water
- DCOP
- DDOT
- Delaware Nation
- Delaware Tribe of Indians
- District of Columbia Council
- DOEE
- Executive Office of the Mayor
- Flour Mill Condominium
- Friends of Georgetown Waterfront Park
- Georgetown Park Condominium
- Georgetown University
- Historical Society of Washington, DC
- National Mall Coalition
- National Trust for Historic Preservation
- Nature City Forum
- NCPC
- Pamunkey Indian Tribe
- Potomac Boat Club
- The Cultural Landscape Foundation
- Thompson Boathouse Coalition
- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency
- USFWS
- Virginia Department of Historic Resources
- Washington Area Bicyclists Association
- Washington Canoe Club

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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.

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