

**APPENDIX C: DESCRIPTION OF PROPOSED REPAIR
AND REHABILITATION PROJECTS**

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 below. 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).

Project Types:

Minor Repairs - Prism & Retaining Walls: Vegetation is present and is causing damage and deterioration of the walls, some stones have been displaced or are missing, missing and deteriorated mortar joints are visible, some concrete, shotcrete, and brick masonry patches are failing, efflorescence and/or ground water seepage is present in some areas, and some capstones of the Prism walls have been displaced or are missing. Proposed work includes removing vegetation to include root systems, placing and grouting new stones, repointing where appropriate, removing patches and replacing with new mortared face stones. Work exclusive to Prism walls include resetting fully mortared capstones.

Repairs - Prism & Retaining Walls: In addition to the Minor Repairs - Prism & Retaining Walls, large areas of stones have shifted and/or are missing, and walls are undermined in some areas. Additional proposed work includes partially reconstructing the walls in some areas, and pressure grouting cavities. Work exclusive to retaining walls may include addressing drainage behind the retaining walls to include the installation of new weep holes, or chinking new stones.

Partial Reconstruction - Prism & Retaining Walls: In addition to Repairs - Prism & Retaining Walls, partial collapse of the walls is visible in some areas. Additional proposed work includes excavating behind the walls and partially reconstructing.

Reconstruction - Prism & Retaining Walls: In addition to Partial Reconstruction - Prism & Retaining Walls, large gaps and bulges between the face stones and backing stones is present in some areas, large cracks are present, walls are failing in some areas, bedrock foundations have fractured in some areas. Additional proposed work includes disassembling and reconstructing the walls and adjacent structures, pressure grouting fractured bedrock, and constructing new concrete footings. Work exclusive to Prism walls includes restoring the clay liner.

Repairs - Rock Creek Piers: Existing piers within the confluence of the C&O Canal and Rock Creek would be stabilized, repaired, or replaced to control the level of sediment within the confluence, ensuring the stone walls are not undermined.

Repairs - Water Intake: Existing timbers at the surface of the water intake have severely deteriorated. Proposed work includes replacing existing timbers and stabilizing the side walls of the water intake.

Repairs - Hydroelectric Facility: The existing approximately 400 SF building is overgrown with vegetation and a large tree is growing on the roof. Some cracks are visible throughout the brick masonry structure. The roof structure consists of a center-span steel beam and concrete slab with visible cracks through the slab. Proposed work includes removing vegetation, repairing cracks in brick masonry and concrete roof slab, removing hazardous waste and debris, repointing where necessary, and installing new doors and windows.

Repairs - Potomac Aqueduct: Minor cracks are visible between the north concrete arch and stone walls. A 15-foot crack is visible at the crown of the south stone arch. Interior Aqueduct Prism walls have partially collapsed. Vegetation has caused mortar joints to deteriorate in many

locations. Proposed work includes removing vegetation, pressure grouting cracks, partially reconstructing interior face of aqueduct prism walls, resetting capstones, and repointing the entire structure.

Partial Reconstruction - Locks: In addition to Partial Reconstruction - Prism & Retaining Walls, some walls of the locks and walls of the immediately adjacent levels are slightly overturning and/or have shifted inwards, large bulges of the lock and level walls are visible, fill and sediment has been used to stabilize some lock walls, lock gates have largely deteriorated, and existing foundations of dry-docks have severely cracked. Additional proposed work includes removing sediment, placing new lock gates, constructing new concrete foundations where existing timber foundations have deteriorated, excavating between timber foundations and filling with concrete, injecting flowable fill into culverts, and constructing new dry-docks with mortared stones and capped with concrete.

Partial Reconstruction - Water Intake: Existing timbers above the water intake have severely deteriorated to include supporting steel structures, and cracks are visible within the water intake walls. Proposed work includes replacing existing timbers and supporting steel structures and pressure grouting and stabilizing the side walls of the water intake.

Reconstruction - Timber Walls: Timbers and hardware are deteriorating. Proposed work includes removing timbers and replacing with either new timbers or mortared stone prism walls. Waterproofing behind timbers may need to be repaired.

Table 1: Summary of Proposed Projects for Canal Infrastructure Repairs and Rehabilitation

Mile marker(s)	Project Type - Title	Zone/Key Area	Figure Reference
0.00 - 0.04	Partial Reconstruction - Tide Lock	Zone A Mile Marker Zero	4, 5
0.35	Repairs - Rock Creek Piers	Zone B Rock Creek Confluence	6, 7
0.36 - 0.42	Partial Reconstruction - Lock 1	Zone B Rock Creek Confluence	6, 7
0.42 - 0.47	Partial Reconstruction - Lock 2	Zone B	6
0.51 - 0.52	Minor Repairs - North and South Prism Walls	Zone B The Locks	6, 8
0.56 - 0.59	Minor Repairs - South Prism Walls	Zone B	6
0.56 - 0.68	Repairs - North Prism Walls	Zone B Zone C	6, 9
0.59 - 0.68	Minor Repairs - South Prism Wall	Zone C	9
0.68	Partial Reconstruction - South Prism Wall	Zone C The Obelisk Plaza	9, 10
0.68 - 0.69	Minor Repairs - South Prism Wall	Zone C The Obelisk Plaza	9, 10
0.68 - 0.69	Partial Reconstruction - North Retaining Wall	Zone C The Obelisk Plaza	9, 10

0.68 - 0.80	Minor Repairs - North Prism Wall	Zone C	9
0.69 - 0.71	Reconstruction - South Prism Wall	Zone C The Obelisk Plaza	9, 10
0.71	Minor Repairs - South Prism Wall	Zone C The Obelisk Plaza	9, 10
0.71 - 0.77	Repairs - South Prism Wall	Zone C	9
0.74 - 0.75	Minor Repairs - North Retaining Wall	Zone C	9
0.77 - 0.81	Minor Repairs - South Prism Wall	Zone C The Canal Overlook and Fish Market Square	9, 11
0.80	Repairs - Dual Water Intakes	Zone C The Canal Overlook and Fish Market Square	9, 11
0.80 - 0.81	Repairs - North Upper Retaining Wall	Zone C The Canal Overlook and Fish Market Square	9, 11
0.80 - 0.90	Repairs - North Prism Wall	Zone C Zone D	9, 12
0.81 - 0.83	Reconstruction - North Retaining Wall	Zone C The Canal Overlook and Fish Market Square	9, 11
0.81 - 0.85	Minor Repairs - South Prism Wall	Zone C	9
0.84 - 0.86	Minor Repairs - South Prism Wall	Zone C	9
0.86	Partial Reconstruction - Water Intake	Zone D	12
0.86 - 0.89	Minor Repairs - South Prism Wall	Zone D	12
0.89 - 0.90	Reconstruction - South Prism Wall	Zone D	12
0.90 - 0.91	Minor Repairs - South Prism Wall	Zone D The Gongoozler Platform	12, 13
0.90 - 1.00	Partial Reconstruction - North Prism Wall	Zone D	12
0.91 - 0.93	Reconstruction - South Timber Prism Wall	Zone D The Gongoozler Platform	12, 13
0.94 - 0.96	Repairs - North Retaining Wall	Zone D The Gongoozler Platform	12, 13
0.94 - 1.00	Repairs - South Prism Wall	Zone D	12

0.96 - 0.97	Reconstruction - North Retaining Wall	Zone D The Gongoozler Platform	12, 13
1.00 - 1.05	Repairs - South Prism Wall	Zone D	12
1.00 - 1.07	Minor Repairs - North Prism Wall	Zone D	12
1.04	Repairs - Hydroelectric Facility	Zone D	12
1.08 - 1.09	Repairs - Potomac Aqueduct	Zone D The Potomac Aqueduct	12, 14
1.09 - 1.12	Reconstruction - South Prism Wall	Zone D The Potomac Aqueduct	12, 14