

APPENDIX A: DRAFT IMPAIRMENT DETERMINATION

IMPAIRMENT OVERVIEW

The Prohibition on Impairment of Park Resources and Values

NPS *Management Policies 2006*, Section 1.4.4, explains the prohibition on impairment of park resources and values:

While Congress has given the Service the management discretion to allow impacts within parks, that discretion is limited by the statutory requirement (generally enforceable by the federal courts) that the Park Service must leave park resources and values unimpaired unless a particular law directly and specifically provides otherwise. This, the cornerstone of the Organic Act, establishes the primary responsibility of the National Park Service. It ensures that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities for enjoyment of them.

What is Impairment?

NPS *Management Policies 2006*, Section 1.4.5, What Constitutes Impairment of Park Resources and Values, and Section 1.4.6, What Constitutes Park Resources and Values, provide an explanation of impairment.

Impairment is an impact that, in the professional judgment of the responsible National Park Service manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values.

Section 1.4.5 of *Management Policies 2006* states:

An impact on any park resource or value may, but does not necessarily, constitute impairment. An impact would be more likely to constitute impairment to the extent that it affects a resource or value whose conservation is:

- Necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park
- Key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or
- Identified as a goal in the park's general management plan or other relevant NPS planning documents as being of significance.

An impact would be less likely to constitute an impairment if it is an unavoidable result of an action necessary to preserve or restore the integrity of park resources or values and it cannot be further mitigated.

Per Section 1.4.6 of *Management Policies 2006*, park resources and values that may be impaired include:

- the park's scenery, natural and historic objects, and wildlife, and the processes and condition that sustain them, including, to the extent present in the park: the ecological, biological, and physical processes that created the park and continue to act upon it; scenic features; natural visibility, both in daytime and at night; natural landscapes; natural soundscapes and smells; water and air resources; soils; geological resources; paleontological resources; archeological resources; cultural landscapes; ethnographic resources; historic and prehistoric sites, structure, and objects; museum collections; and native plants and animals;

- appropriate opportunities to experience enjoyment of the above resources, to the extent that can be done without impairing them;
- the park's role in contributing to the national dignity, the high public value and integrity, and the superlative environmental quality of the national park system, and the benefit and inspiration provided to the American people by the national park system; and
- any additional attributes encompassed by the specific values and purposes for which the park was established.

Impairment may result from NPS activities in managing the park, visitor activities, or activities undertaken by concessionaires, contractors, and others operating in the park. Impairment may also result from sources or activities outside the park, but this would not be a violation of the Organic Act unless the NPS was in some way responsible for the action.

How is an Impairment Determination Made?

Section 1.4.7 of *Management Policies 2006* states, “[i]n making a determination of whether there would be an impairment, an NPS decision maker must use his or her professional judgment. This means that the decision-maker must consider any environmental assessments or environmental impact statements required by the National Environmental Policy Act of 1969 (NEPA); consultations required under Section 106 of the National Historic Preservation Act (NHPA); relevant scientific and scholarly studies; advice or insights offered by subject matter experts and others who have relevant knowledge or experience; and the results of civic engagement and public involvement activities relating to the decision.”

NPS *Management Policies 2006* further define “professional judgment” as “a decision or opinion that is shaped by study and analysis and full consideration of all the relevant facts, and that takes into account the decision-maker’s education, training, and experience; advice or insights offered by subject matter experts and others who have relevant knowledge and experience; good science and scholarship; and, whenever appropriate, the results of civic engagement and public involvement activities relation to the decision.”

IMPAIRMENT DETERMINATION FOR THE PREFERRED ALTERNATIVE

This determination on impairment has been prepared for the preferred alternative described in chapter 2 of this EA. An impairment determination is made for all resource impact topics analyzed for the preferred alternative. An impairment determination is not made for visitor use and experience, or park management and operations because impairment findings relate to park resources and values, and these impact areas are not generally considered to be park resources or values according to the Organic Act, and cannot be impaired in the same way that an action can impair park resources and values.

The NPS has determined that the implementation of alternative B option 1, the NPS preferred alternative, would not constitute an impairment to the resources or values of the C&O Canal NHP. This conclusion is based on consideration of the thorough analysis of the environmental impacts described in the EA, relevant scientific studies, the comments provided by the public and others, and the professional judgment of the decision-makers guided by the direction in NPS *Management Policies 2006*. As described in the EA, implementation of the NPS selected alternative would not result in impairment of park resources or values whose conservation is (1) necessary to fulfill specific purposes identified in the park’s establishing legislation, (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or (3) identified in the park’s management plan or other relevant NPS planning documents as being of significance.

Findings on Impairment for the Summit Hall Water Access

The preferred alternative would result in short-term to long-term negligible to minor adverse impacts on some of the park's resources, which include soils, vegetation, terrestrial wildlife, and cultural resources (archeological resources and historic structures and districts).

Soils

Implementation of the preferred alternative (alternative B option 1) would result in short-term minor adverse impacts on soils as a result of using directional drilling to install the underground pipes, cables, and/or conduits in a shallow arc along a prescribed bore path. The directional drilling method would result in localized disturbances to soils as the bore path would be slightly larger than the 10-inch diameter pipe and would be submerged underground. Construction of new concrete support foundations would temporarily expose the top layer of soils, decreasing soil productivity and increasing the overall potential for erosion. Construction of the pump pit for Pump #3 of the new Line #3 would not affect soils within the NPS project area as it would be located off NPS property, on an area of mowed lawn within the Summit Hall property.

Short-term minor adverse impacts on soils would be mitigated through the use of best management practices such as silt fencing to prevent and control soil erosion and sedimentation during construction of the proposed water lines and concrete support foundations. In addition, construction activities would adhere to an approved erosion and sediment control plan. Soils disturbed within the proposed construction area would be actively reseeded to stabilize the soil, repair compaction, and/or improve soil productivity. Because there would be only minor adverse impacts on soils, the preferred alternative would not result in impairment.

Vegetation

Implementation of the preferred alternative (alternative B option 1) would result in long-term negligible adverse impacts. Drilling of the bore path would not result in impacts on vegetation as the bore path would be submerged underground, although there could be negligible effects to the root zone of trees. Construction of the concrete support foundations, to which both new pipes would be anchored, would result in long-term negligible adverse impacts on vegetation as these areas would be cleared of all vegetation to prepare the sites for installation of the new foundation. Construction of the pump pit for Pump #3 of the new Line #3 would not affect vegetation as it would be located off NPS property, on an area of mowed lawn within the Summit Hall property. The construction staging areas would also be located on Summit Hall land, resulting in no impacts on vegetation. Because there would be only negligible adverse impacts on vegetation, the preferred alternative would not result in impairment.

Terrestrial Wildlife and Wildlife Habitat

Implementation of the preferred alternative (alternative B option 1) would result in short-term negligible adverse impacts on wildlife. During the construction activities, there would be a temporary disturbance to species from noise and human presence, deterring wildlife from using the immediate area. However, there would be no effect on overall population levels in the vicinity of the project area. Directional drilling would employ a trenchless method of installing the underground pipes in a shallow arc along a prescribed bore path. The surface-launched drill would be located and operated from the Summit Hall property. Construction of the pump pit for Pump #3 of the new Line #3 would not affect wildlife or wildlife habitat in the project area as it would be located off NPS property, on an area of mowed lawn within the Summit Hall property. Because there would be only negligible adverse impacts on wildlife and wildlife habitat, the preferred alternative would not result in impairment.

Cultural Resources

Historic Structures and Districts

Installation of modified Line #2 and Line #3 under the preferred alternative (alternative B option 1) would result in long term negligible impacts on historic structures in the project area. In addition, there would be short-term negligible to minor adverse impacts (*no adverse effect* under Section 106) to the existing towpath as a result of its brief use for construction vehicle traffic. Construction vehicles would be allowed on the towpath only during periods when they could travel without rutting or otherwise scarring the towpath surface. There would be no perceptible loss of integrity to the towpath or the canal prism, as the directional boring would not require any surface excavation or settling from tunneling. The new intake structures and water line would be barely noticeable from the towpath, so indirect impacts would be negligible (*no adverse effect* under Section 106).

Impacts to historic districts and structures would be mitigated by limitations on the use of construction equipment within the park and by a careful program of construction management. The risk of damage to Culvert #39 would be mitigated by the development of special use permit requirements designed to limit construction activities around this feature. NPS would also strictly enforce existing regulations regarding vehicle traffic on the towpath. Aside from protecting Culvert #39 from accidental damage, there would be little need for other mitigation measures. Because of implementation of appropriate mitigation measures, any impacts on historic structures and districts would be negligible to minor; therefore, the preferred alternative would not result in impairment.

Archeological Resources

Installation of modified Line #2 and Line #3 under the preferred alternative (alternative B option 1) would not cause any impacts on archeological resources in the study area. The directional drilling method would be initiated in a push pit located on private land outside the study area, and it would advance the boring at a depth of at least three feet below the base of the canal prism, emerging or daylighting in the active floodplain of the Potomac River. It is conceivable that the directional bore could pass through an as-yet-unidentified, deeply buried archeological site, but the magnitude of this impact would be negligible, given the small diameter of the bore (one foot or less). No mitigation measures for archeological resources would be necessary, as any potential impacts would be negligible (*no adverse effect* under Section 106). Impacts to archeological resources would be negligible; therefore, the preferred alternative would not result in impairment.