NEW YORK CITY WATERFRONT REVITALIZATION PROGRAM (WRP)
CONSISTENCY ASSESSMENT FORM - WRP POLICY QUESTIONS – RESPONSES

For those policies checked Promote or Hinder, on the Consistency Assessment Form, responses are provided below.

WRP POLICY QUESTIONS – RESPONSES

WRP Policy 3: *Promote use of New York City's waterways for commercial and recreational boating and water-dependent transportation.*

The project will create long-term benefits that will improve the area's aesthetics, recreation, and public access with the creation of new natural habitat and public access points; therefore, the project is consistent with this policy.

WRP Policy 3.1: *Support and encourage in-water recreational activities in suitable locations.*

Improvements to the site will be coordinated with the New York City Department of Parks and Recreation, and opportunities exist to incorporate signage and paths along the restoration site; therefore the project is consistent with this policy.

WRP Policy 4: *Protect and restore the quality and function of ecological systems within the New York coastal area.*

The project goal is to "restore and sustain a mosaic of habitats within the region, in a cost-effective and socially feasible manner"; therefore, the project is consistent with this policy.

WRP Policy 4.4: *Identify, remediate, and restore ecological functions within the Recognized Ecological Complexes.*

Modifying the river channel, replacing river bed material, installing instream structures, and removing debris and log jams from the river are critical components of fish passage projects along the Bronx River that will complement downstream fish ladder projects to expand fish passage and provide additional upstream habitat for anadromous fish and restore ecological function of the river; therefore, the project is consistent with this policy.

WRP Policy 4.5: *Protect and restore tidal and freshwater wetlands.*

Habitat restoration and bank stabilization will provide beneficial wildlife habitat, increase native biodiversity, and prevent wetland loss; therefore, the project is consistent with this policy.

WRP Policy 4.6: *In addition to wetlands, seek opportunities to create a mosaic of habitats with high ecological value and function that provide environmental and societal benefits. Restoration should strive to incorporate multiple habitat characteristics to achieve the greatest ecological benefit at a single location.*

The Bronx River channel at the Muskrat Cove site is linear. It has lost much of its natural riverine geomorphology. Little instream structures, or habitat diversity exist and much of the shoreline is hardened. Sediment load comes mostly from up the river, with some contribution from point sources and eroded banks. Much of the bank understory consists of invasive vegetation. The purpose of the project is to "restore and sustain a mosaic of habitats within the region". Restoration measures will improve aquatic habitat and water quality, reduce invasive species, and enhance recreational usage.

To ensure the most ecologically and economical feasible plan was a selected, a comprehensive tiered evaluation plan was used. The Evaluation of Planned Wetlands assessment method was used to

characterize the functional capacity of the project site. The assessment results estimated the current resource value and the potential increase in resource value for each alternative restoration plan proposed. Current vegetative communities, tidal patterns, and human use patterns were observed, documented, and incorporated into an analysis of the existing site and in the selection for the most economically and ecological beneficial design plan. The project is consistent with this policy.

WRP Policy 4.7: *Protect vulnerable plant, fish, and wildlife species, and rare ecological communities. Design and develop land and water uses to maximize their integration or compatibility with the identified ecological community.*

All appropriate federal and state agencies were consulted regarding the documentation of rare, threatened, and endangered species in the project area. Restoration plans have been carefully mapped to avoid areas where listed species were found during previous surveys. A final survey of the restoration site will be performed to ensure that damage to rare plants will be avoided. If protected species are found on site, further protective measures will be considered including but not limited to protection from construction by fencing, or transplanting if the plants are in an unavoidable impact area. Handling of protected species will be coordinated with the New York Natural Heritage Program and New York State Department of Environmental Conservation. Avian species are not expected to be impacted due to their mobile nature. It is expected that listed bird species will fly to another nearby site to forage during construction and planting. Restoration activities in the long term will benefit threatened and endangered species by producing localized environmental enhancements, including improving water quality and creating and restoring habitat, which support an increase in local and regional biodiversity; therefore, the project is consistent with this policy.

WRP Policy 4.8: *Maintain and protect living aquatic resources.*

Aquatic resources will receive long-term benefits from the implementation of the tentatively selected plan (TSP) and restoration measures of this project. Habitats created and restored will enhance the entire ecosystem by increasing primary and secondary production, habitat availability, water quality, and aquatic species diversity and abundance. During construction, fish may be displaced due to noise, changes in currents or stream flow, changes in water quality including increased turbidity, and direct mechanical disturbance to habitat. To prevent these impacts, proper planning and implementation of best management practices (BMPs) will minimize these disturbances, and fish will return to the area shortly after completion of construction activities. Generally, these impacts will be minor for species that are abundant as well as species that may be rare. Construction activities can deter commercially important, rare, or protected fish species from using essential migratory pathways, breeding, foraging, or seeking shelter from predators. However, seasonal work windows will be observed to minimize or avoid disturbances to fish life stage concerns. The project is consistent with this policy.

WRP Policy 5: *Protect and improve water quality in the New York City coastal area.*

To minimize impacts to surface water and water quality during construction, erosion and sediment control measures will be employed. These may include temporary construction of a cofferdam, employing silt curtains, and stabilizing soils. These BMPs for soil and sediment control will be prepared before any construction commences. With wetland creation and habitat enhancement, restored vegetative communities will provide a reduction in nutrient inputs into surface water bodies. Restoration work proposed will result in fewer low dissolved oxygen events, increased water transparency and a reduction in frequency and duration of algal blooms. Therefore, the project is consistent with this policy.

WRP Policy 5.1: *Manage direct or indirect discharges to waterbodies.*

See Policy 5 above.

WRP Policy 5.2: *Protect the quality of New York City's waters by managing activities that generate nonpoint source pollution.*

Standard construction stormwater BMPs will be implemented to protect water quality of surrounding water resources. The following BMPs will be used:

- Minimize area of ground disturbance and vegetation clearing.
- Use the site's natural contours to minimize run-off and erosion.
- Do not expose the entire site at one time; avoid bare soils during rainy months.
- Stabilize erodible surfaces with mulch, compost, seeding, or sod.
- Use features such as silt fences, gravel filter berms, silt dikes, check dams, and gravel bags for interception and dissipation of turbid runoff water.
- Use silt or turbidity curtains during in-water construction to contain and control dissolved sediments.
- Use wetland mats for construction access within wetland areas to prevent soil compaction.
- Use vehicles with high flotation tires within wetland areas to prevent rutting and soil compaction.
- Complete in-water work during periods of low tide.
- Install cofferdams or stream diversions to isolate in-water construction areas.
- Use stabilized construction entrances for all ingress and egress points.

The project is consistent with this policy.

WRP Policy 5.3: *Protect water quality when excavating or placing fill in navigable waters and in or near marshes, estuaries, tidal marshes, and wetlands.*

The project will carefully evaluate construction in a manner to prevent or minimize adverse impacts such as soil erosion and sediment alteration. For example, work can be accomplished during low tidal periods or in areas temporarily disconnected from tidal waters. In addition, all appropriate BMPs for soil erosion and sediment control, including use of an environmental bucket to perform mechanical dredging, silt fencing, turbidity curtains, and hay bales, will be used. The project is consistent with this policy.

WRP Policy 5.4: *Protect the quality and quantity of groundwater, streams, and the sources of water for wetlands.*

The project, which includes restoration measures such as shoreline stabilization and channel modification, will reduce erosion and help reestablish hydrologic conditions and sediment transport in the system. Additionally, restored vegetative communities associated with wetland and maritime forest restoration will retain and bio-transform soil and sediment nutrients. Overtime, a reduction in nutrient inputs, combined with increased nutrient uptake by vegetation should result in improved water quality. Wetland and forest restoration will also establish new areas for aquifer recharge, which will also provide beneficial impacts to water quality. As stated in Policy 5.2, BMPs for soil erosion and sediment control will also be implemented at the site to protect water quality; therefore, the project is consistent with this policy.

WRP Policy 5.5: *Protect and improve water quality through cost-effective grey-infrastructure and in-water ecological strategies.*

Multiple restoration alternatives were proposed for the project site and evaluated through a Cost Effectiveness Analysis/Incremental Cost Analysis. The alternative selected included the most cost-effective and ecologically effective restoration option for the site. Restoration measures at the site, including habitat restoration, shoreline stabilization, channel modification, and the installation of a sediment basin will contribute to the overall resolution of water resource problems within the area; therefore, the project is consistent with this policy.

WRP Policy 6: *Minimize loss of life, structures, infrastructure, and natural resources caused by flooding and erosion, and increase resilience to future conditions created by climate change.*

The creation of wetlands and maritime forests on the project site can function as retention basins acting as flood prevention measures. Channel modification and shoreline stabilization will also have beneficial effects to flood plains as the project will reestablish natural flood regimes; therefore, the project is consistent with this policy.

WRP Policy 6.1: *Minimize losses from flooding and erosion by employing non-structural and structural management measures appropriate to the site, the use of the property to be protected, and the surrounding area.*

As stated in Policy 6, the project includes the creation of wetlands, channel modification, and shoreline stabilization that will function as flood protection measures; therefore, the project is consistent with this policy.

WRP Policy 6.2: *Integrate consideration of the latest New York City projections of climate change and sea level rise (as published in New York City Panel on Climate Change 2015 Report, Chapter 2: Sea Level Rise and Coastal Storms) into the planning and design of projects in the city's Coastal Zone.*

Consistent with United States Army Corp of Engineers (USACE) guidance, as alternatives are refined, and a particular alternative is identified, the selection of the preferred plan will consider the sensitivity of the alternative plan to varying projections of sea level rise (SLR). Consideration will also be given to alternatives that perform well and are adaptable to a range of SLR projections. The 2015 report prepared by the New York City Panel on Climate Change presents SLR projections that take into account the predicted ranges of both global climate change and local land subsidence. The central ranges of these projections are sea level increases in New York City of four (4) to eight (8) inches by the 2020s, 11 to 21 inches by the 2050s, and 18 to 39 inches by the 2080s.

Implementing the TSP at this site involves the restoration of terrestrial habitat and creation of aquatic plant communities, which will promote primary productivity and increase removal of carbon dioxide from the atmosphere. The project will also result in improved water quality and clarity, which will promote increased photosynthesis and carbon capture from aquatic vascular plants and phytoplankton. The creation and restoration of terrestrial habitat could also lead to minor alterations in microclimates. Biological and physical processes such as transpiration, evaporation, convection, and shading will mediate temperature and humidity within these microhabitats. Therefore, the project is consistent with this policy.

WRP Policy 6.3: *Direct public funding for flood prevention or erosion control measure to those locations where the investment will yield significant public benefit.*

The erosion control measures proposed for the site are necessary, as based off modeling efforts, to protect the existing and constructed habitats at the site. Without installation, it is expected that current rates of erosion will persist. Therefore, it is determined the project is consistent with this policy.

WRP Policy 7: *Minimize environmental degradation and negative impacts on public health from solid waste, toxic pollutants, hazardous materials, and industrial materials that may pose risks to environment and public health and safety.*

The Bronx River watershed has been impacted by commercial, industrial and residential activities so the potential for existing environmental contamination on the site exists. Prior to construction, testing will be conducted to determine any contamination on site. It is expected that testing will define areas that may include contaminated soils or solid wastes that would need to be excavated and transported to an existing upland facility for processing. It will also verify soils that can be reused on site for landscaping and possible capping of contaminated areas and solid wastes that do not need to be removed. Overall, the proposed project is expected to result in a positive impact, in that it will effectively remove or cap contaminated soils. It is therefore determined that the project is consistent with this policy.

WRP Policy 7.1: *Manage solid waste material, hazardous wastes, toxic pollutants, substances hazardous to the environment, and the unenclosed storage of industrial materials to protect public health, control pollution and prevent degradation of coastal ecosystems.*

As stated in Policy 7, testing will be conducted prior to construction to determine the presence of contamination at the site and the nature of the soil/sediment removal and placement. If the nature of the removed material is non-hazardous, it can be retained on site. If the nature of the excavated material is found to be hazardous, the material will be treated and disposed of at a facility approved to accept hazardous material. The project is consistent with this policy.

WRP Policy 8: *Provide public access to, form, and along New York City's coastal waters.*

During construction, viewsheds and recreational access may be temporarily restricted. However, the proposed action will have positive impacts to the recreational and educational features of this site by creating a much more diverse landscape with enhanced wildlife habitat and viewing opportunities and improvement of public access to natural resources. Restoration activities will not modify public access and any trails that were temporarily disturbed will be reestablished after construction. Therefore, the project is consistent with this policy.

WRP Policy 8.1: *Preserve, protect, maintain, and enhance physical, visual, and recreational access to the waterfront.*

See Policy 8 above.

WRP Policy 8.3: *Provide visual access to the waterfront where physically practical.*

Two (2) public access points with be installed on the northeast bank of the river. The location of these public access points will be easily accessible from the parking area to the east. The project is consistent with this policy.

WRP Policy 8.4: *Preserve and develop waterfront open space and recreation on publicly owned land at suitable locations.*

See Policy 8 above.

WRP Policy 8.5: *Preserve public interest in and use of lands and waters held in public trust by the State and City.*

One of the planning goals for this project includes "improving public education opportunities through the watershed to promote public ownership of restoration"; therefore, the project is consistent with this policy.

WRP Policy 8.6: *Design waterfront public spaces to encourage the waterfront's identify and encourage stewardship.*

See Policy 8 above.

WRP Policy 9: *Protect scenic resources that contribute to the visual quality of the New York City coastal area.*

With the implementation of restoration measures the project will protect existing habitats from erosion, and improve water quality; therefore, the project is consistent with and furthers the goals of this policy.

WRP Policy 9.1: *Protect and improve visual quality associated with the New York City's urban context and the historic and working waterfront.*

See Policy 9 above.

WRP Policy 9.2: *Protect and enhance scenic values associated with natural resources.*

See Policy 9 above.

WRP Policy 10: *Protect, preserve, and enhance resources significant to the historical, archaeological, architectural, and cultural legacy of the New York City coastal area.*

A Cultural Resources Baseline Study has been completed to identify potentially significant cultural resources in the project area. The restoration area will not affect any known prehistoric sites. Three (3) archaeological sites have been identified within one (1) mile of the project area. Further testing will be conducted in the Plans and Specifications Phase of the project and will be completed prior to construction. The USACE will consult with the New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP) to develop plans to complete identification and evaluation of historic resources found within the project area. Appropriate treatment plans for historic resources that may be affected will be developed with input from the NYSOPRHP. Therefore, the project is consistent with this policy.

WRP Policy 10.1: *Retain and preserve historic resources, and enhance resources significant to the coastal culture of New York City.*

See Policy 10 above.

WRP Policy 10.2: *Protect and preserve archaeological resources and artifacts.*

See Policy 10 above.