Scajaquada Creek Ecosystem Restoration
Within Forest Lawn Cemetery

Sponsored by Buffalo Niagara Riverkeeper in partnership with Forest Lawn Heritage Foundation and Ducks Unlimited

June 1, 2016
I. Project Background

Scajaquada Creek and its watershed is one of twelve sub-basins within the Niagara River Watershed. Once part of a rich, diverse wetland system, the Scajaquada Creek corridor consists of 27-square miles, supporting over 94,000 people living in five communities including the City of Buffalo, the Town of Cheektowaga, the Town of Lancaster, the Village of Lancaster and the Village of Depew. Hence, the watershed is a mix of urban, residential, and rural development patterns. Primarily due to human interventions over time, Scajaquada Creek suffers from a multitude of environmental problems including: loss of wetlands and other wildlife habitat, a deficiency of public access points, poor aesthetic conditions, combined sewer overflows, legacy contamination, excess sedimentation, altered hydrology, and a lack of recreational opportunities. Further, the creek is designated as a sediment source area for the Niagara River Area of Concern (AOC).

Although the watershed’s problems are well documented, recent investments of Federal, State and local resources have spurred increased interest and a heightened sense of urgency to take immediate action in restoring Scajaquada Creek for the benefit of the region’s water quality and communities. This is, in part, directly related to the release of the Niagara River Greenway Habitat Conservation Strategy which identifies the restoration of wetlands and riparian areas along the Scajaquada Creek corridor as a priority effort. Specifically, the Strategy lists the restoration of the historic Swan Lake wetland complex within Forest Lawn Cemetery as an immediate opportunity to reconnect the creek with its historic floodplain, directly improve water quality, provide enhanced infiltration and flood storage functions, and generally improve both the quantity and quality of wildlife habitat within the Niagara River Greenway. In addition, the proposed restoration will enhance and supplement existing habitat for migratory songbirds which have recently been documented to utilize the cemetery as an important oasis amid the urban landscape as they migrate along the Atlantic flyway.

The purpose of the larger project is to create 2-3 acres of emergent and backwater wetland and shoreline habitat within the historic Forest Lawn Cemetery in the City of Buffalo. The requested funding fills a critical gap in completing a 4-year vision for water quality and habitat improvements along Scajaquada Creek and serves as a catalyst for future investments in projects that prioritize the ecological health and integrity of our waterways.

II. Project Narrative

Overview

Since 2013, Buffalo Niagara River, Forest Lawn Heritage Foundation and the US Army Corps of Engineers have worked in partnership to conduct a feasibility study and identify a suite of restoration opportunities along Scajaquada Creek, within Forest Lawn Cemetery. Included in this effort were in-field habitat assessments, water quality monitoring, a hydrologic and hydraulic study including the spring-fed seeps in the cemetery, development and employment of a HEC-RAS model and engineered site grading plans and
corresponding landscape planting plans for restoration along two specific reaches of the creek.

Leveraging the investments and results of the feasibility and planning stage, the Buffalo Sewer Authority obtained funding from the NY State Environmental Facilities Corporation to implement a significant portion of the proposed restoration components of this project including modification of existing channelizing features and implementation of a series of vegetated floodplain benches, in-stream, flow deflectors, and the restoration of a 2-acre backwater wetland in the location of the former Swan Lake complex. Concurrently, Riverkeeper is requesting Greenway Ecological Funds (GEF) to work in partnership with Forest Lawn Heritage Foundation and Ducks Unlimited to restore an additional acre of emergent wetland within the footprint of the former Swan Lake complex. Fed by an existing spring source, the emergent wetland will be designed as a combination of wet meadow habitat with braided stream channels leading to several areas of pooled water capable of supporting fish and amphibian species. The GEF supported wetland will overflow into the backwater wetland to augment and further improve water quality in the creek. If funded during the current GEF cycle, the implementation of the emergent wetland could occur simultaneously with the implementation of the backwater wetland to maximize efficiencies if realized during construction mobilization and site prep. Together, the wetland components will help to complete the vision for ecological restoration within Forest Lawn Cemetery. When implemented in its entirety, this catalytic ecological improvement project along Scajaquada Creek will restore up to 3 acres of an historic wetland complex and will serve as a model for urban creek restoration that can be replicated throughout the corridor.

Details
As described, the partners are requesting funding to design and implement up to 1-acre of emergent and wet meadow habitat to complement a larger vision for restoration along Scajaquada Creek within Forest Lawn Cemetery (Appendix A). Forest Lawn Heritage Foundation is a non-profit corporation that is the owner of the property and of the creek. A letter of support expressing Forest Lawn’s commitment to the project is provided as part of this application (Appendix B). Buffalo Niagara Riverkeeper will serve as the lead project sponsor and will be responsible for completing the wetland design, obtaining any necessary permits, developing the planting/maintenance plan, and providing oversight for the construction of the wetland. Beyond the 1-year Period of Establishment (POE), Forest Lawn Cemetery will be responsible for the long-term maintenance of all restoration features within the cemetery. Wildlife deterrent measures to include deer, geese and carp exclosures will be included in the proposed design. Ducks Unlimited will provide technical assistance throughout the design and implementation based on their extensive experience in restoring wetland habitats throughout the nation. A letter of support demonstrating Ducks Unlimited commitment to the project is forthcoming.

While not included as part of the funding request, the vision for restoration of Scajaquada Creek within Forest Lawn Cemetery includes public amenities designed to attract visitors and offer inspirational nature experiences. Opportunities to incorporate memorialization into the wetlands will be explored by Forest Lawn Cemetery as well. Specific amenities include a system of walkways ranging from ADA-compliant surfaces to rugged, less manicured, pathways that will connect to Forest Lawn’s extensive existing pedestrian network. Throughout its history, the Cemetery has functioned as a place of reverence, peaceful contemplation, and also as an unofficial park, attracting many patrons who enjoy strolls through the shaded hilly terrain, the elevated vistas into Delaware Park, and the many bucolic features of the cemetery landscape itself. With this project, we also seek to educate Forest Lawn’s many visitors about the historic presence of a rare, freshwater spring seep ecosystem, the cleansing capabilities of constructed wetlands, the ecological value of Scajaquada Creek, and its role in the health and integrity of the Niagara River watershed. Educational signage will be designed as part of this funding request to complement the historic and cultural elements of the cemetery that are so vital to Buffalo’s identity. A letter of support from Buffalo Olmsted Parks Conservancy is included within Appendix B which speaks to the project’s connectivity with Delaware.
Park as well as its benefit to downstream water quality.

III. Project Consistency with Niagara River Greenway Plan

On May 17, 2016 Riverkeeper submitted a detailed proposal to the Niagara River Greenway Commission seeking concurrence that the proposed project is consistent with the Niagara River Greenway Plan. Based on the overlapping timelines of the current Greenway Consistency cycle and the funding cycle for the Greenway Ecological Fund, Riverkeeper is seeking approval of GEFs conditioned upon a positive response from the Greenway Commission and its representatives. Prior consultation with the GESC Chair, Tim DePriest, was conducted to ensure that this approach is in keeping with the previous practices and policies of the GESC.

Ecological Integrity and Restoration
The proposed project will restore a former wetland complex and help to offset the historic wetland loss occurring throughout the Great Lakes Basin and within the Niagara River AOC. Scajaquada Creek is also subject to excess nutrients and pollutants from upstream, diminishing its overall ecological health. The restored wetland complex will help capture suspended solids and heavy metals which may otherwise enter the creek. In its entirety, the natural treatment network will cleanse stormwater runoff prior to release into Scajaquada Creek. Constructed wetland features, more significantly, will also provide natural habitat for waterfowl, amphibians, and aquatic species. Forest Lawn has recently been recognized as a key urban habitat for migratory birds as they make their way along the Atlantic Flyover and utilize the oasis-like setting that the cemetery offers.

Connectivity
The proposed wetland restoration provides physical connectivity between Scajaquada Creek and its floodplain as well as restores a historic landscape within the City of Buffalo. Additionally, the proposed project further solidifies Forest Lawn Cemetery as a recreational asset within the Niagara River Greenway and establishes another link in a recreational trail system that connects with Delaware Park, located immediately downstream.

Improve Access, Sparks Revitalization and Renewal
Design and construction of the restored wetland will better provide access to Scajaquada Creek, currently an almost inaccessible resource of the Greenway, through a walkway system with waterfront access points. This feature will entice and welcome more visitors to Forest Lawn Cemetery. This implementation project is designed to serve as a catalyst for change and to provide a renewed sense of community hope for what the restoration of an urban waterway can accomplish and represent to the surrounding community. When integrated into the context of regional projects occurring along Scajaquada Creek, the restoration of wetlands within Forest Lawn Cemetery adds to a comprehensive vision for creek corridor restoration across multiple municipalities.

Partnerships
The proposed project is a culmination of 4 years of planning, technical research, modeling, community outreach, historic assessment, and architectural and engineering design efforts by Forest Lawn Cemetery, Buffalo Niagara Riverkeeper and the US Army Corps of Engineers. Further, this project fosters collaboration with Ducks Unlimited, Inc. within the Niagara region, incorporating their expertise and design skills. This project is also designed to complement the backwater wetland and floodplain bench restoration components currently being planned for implementation by the Buffalo Sewer Authority, in collaboration with Forest Lawn Heritage Foundation, Buffalo Niagara Riverkeeper, and the US Army Corps of Engineers within the same stretch of Forest Lawn Cemetery.
Promote Long Term Sustainability

The installation of living infrastructure, such as wetlands, within the Niagara River Greenway serves to promote coastal resiliency, ecological integrity, and community revitalization. Both resiliency and revitalization contribute to the long-term sustainability and well-being of the Buffalo Niagara region.

Priority Status

The wetland restoration at Forest Lawn achieves priority project status because it addresses the vision and guiding principles of the Greenway Plan by providing improved access to waterfront resources, integrating a trail and park system that links to a treasured, historic Olmsted resource (Delaware Park and Hoyt Lake), restores wetland components of the Niagara River ecosystem, sparks revitalization and community renewal and promotes interpretation and education about the region’s cultural, natural, and historic resources.

Focus Area

This project is located in the focus area of the Greenway and is a restoration of Scajaquada Creek which is a New York State Section 303(d) listed waterway, denoting its highly impaired state. The project also is located within the historically significant Forest Lawn Cemetery and is contained within the City of Buffalo’s Local Waterfront Revitalization Plan (LWRP).

Environmental Soundness

The goal of this project is implement ecological restoration along Scajaquada Creek and to promote holistic, watershed planning that protects the integrity of our waterways across political boundaries. By implementing the proposed project, environmental soundness within the larger Niagara River Greenway is enhanced. Since the project area is fed by freshwater seeps located within the hills of the cemetery, the project stands alone as a place-based, urban restoration effort that will reduce contamination and upstream sources of pollution within Scajaquada Creek.

Implementable

The project builds on four years of active partnership and seeks to move a project from the planning and feasibility stage to the implementation stage. Based on the previous work of the partners, this project draws from hydraulic and hydrologic studies and models as well as field data collection and analysis to support its approach. Additionally, the implementation partners are poised and ready to secure the funds and permits needed to implement the design and construction of the wetland.

Economic Viability and Ability to Match or Leverage Funds

The proposed project leverages significant Federal, State and local investments by building upon the work of a four-year formal partnership. Cost estimates are derived in part from the previous study results. Additionally, the cost associated with the proposed wetland restoration will generate triple, bottom line returns on investment for the economic, environmental and social benefits that the project will deliver. Finally, the project sponsor proposes a budget that provides cost-sharing across partners to minimize costs to any one funding entity.

IV. Budget

As proposed, the requested funding is to design and construct up to one acre of wet meadow and emergent wetlands. The GEF would provide the remaining funding in the larger restoration of Scajaquada Creek within Forest Lawn Cemetery and allow for simultaneous implementation of restoration features within 2017. As such, the project budget includes a summary of the total project costs, including funds already secured, as well as the amount of funding requested from the GEF. Additionally, cost sharing for the GEF application is being provided by Ducks Unlimited and Forest Lawn Heritage Foundation. The balance of funds being requested from the GEF is $261,226.
Project Cost Detail

Total Project Cost: $2,874,776

Feasibility Analysis, Restoration Planning & Partial Engineered Design Plans: $ 801,870 (65% GLRI, 35% NYSEDAP & local funds)

Creek Dredging & Partial Restoration Implementation: $ 1,800,000 (NYS EFC Funds)

Emergent Wetland Implementation: $ 272,906
  Design $ 33,256
  Construction $ 204,413
  Monitoring/Maintenance $ 6,008
  Grant Administration $ 17,428
  Travel $ 121

Less Cost-Sharing Resources: $ 1,907 (Ducks Unlimited Survey)
  $ 10,000 (Forest Lawn Materials)

Total GEF Requested Funds: $ 261,226
Proposed Forest Lawn Wetland Project

Appendix A

Proposed Wetland
Work to be completed by others

Scajaquada Creek

COB_Streets
Delaware Park
Scajaquada Creek
Forest Lawn

Miles
May 24, 2016

Jill Jedlicka, Executive Director
Buffalo Niagara Riverkeeper
721 Main Street
Buffalo, NY 14203

Dear Ms. Jedlicka,

The Forest Lawn Cemetery and the Forest Lawn Heritage Foundation are pleased to offer this letter of support on behalf of Buffalo Niagara Riverkeeper for the Niagara River Greenway Commission project submittal. The Forest Lawn wetland restoration project, one component of a larger wetland restoration and living infrastructure system that will capture and cleanse storm water runoff before it enters Scajaquada Creek, is an extremely important undertaking and we are pleased to be a part of this collaborative effort.

As a project partner and site landowner, Forest Lawn Cemetery and the Forest Lawn Heritage Foundation recognize the significance of the proposed restoration in Forest Lawn Cemetery and Scajaquada Creek as a top priority in the Niagara River Greenway. This project will lower nutrient and suspended solid loads entering Scajaquada Creek while simultaneously providing valuable habitat to fish and wildlife. Serving as a catalytic opportunity to improve water quality, this project will be among the first to address the water quality issues that have landed Scajaquada Creek on the New York State Section 303(d) List of Impaired Waters.

In closing, we have worked in trusted partnership with Buffalo Niagara Riverkeeper over the past 4 years to develop a vision for holistic creek corridor restoration that remains true to Forest Lawn’s rich historic and cultural heritage. It is our pleasure to support the proposed wetland restoration project at Forest Lawn Cemetery.

Sincerely,

Joseph Dispenza
President
May 26, 2016

Jill Jedlicka, Executive Director
Buffalo Niagara Riverkeeper
721 Main Street
Buffalo, NY 14203

Dear Ms. Jedlicka,

The Buffalo Olmsted Parks Conservancy is pleased to offer this letter of support on behalf of Buffalo Niagara Riverkeeper for the Niagara River Greenway Ecological Standing Committee project submittal. The Forest Lawn wetland restoration project is an extremely important undertaking and we are pleased to offer support for the effort, with the understanding that it is one component of a larger system-wide initiative.

Delaware Park is located adjacent to and directly downstream from the proposed project site, thus the Buffalo Olmsted Parks Conservancy recognizes the benefits of the proposed restoration in Forest Lawn Cemetery and Scajaquada Creek. We concur this is an important step in improving water quality and providing habitat, but also in contributing to Frederick Law Olmsted’s vision for connectivity across landscapes. Additionally, we support the implementation of this project as a catalyst for the region that will help to promote additional investments in creek corridor restoration as well as historic and cultural resource protection.

The Conservancy believes that Buffalo Niagara Riverkeeper and its partners are well positioned to implement this project and its many inherent values for all of Buffalo. This project is also consistent with the Conservancy’s guiding principles of sustainability and collaborative engagement, and therefore it is our pleasure to support this proposed wetland restoration project at Forest Lawn Cemetery.

Sincerely,

Stephanie Crockatt
Executive Director, Buffalo Olmsted Parks Conservancy