SOUTH PARK LAKE
AQUATIC ECOSYSTEM
RESTORATION PROJECT

PREPARED FOR:

Niagara River greenway

ECOLOGICAL STANDING COMMITTEE

PREPARED BY:
BUFFALO OLMSTED PARKS CONSERVANCY
FEBRUARY 2016

BUFFALO
OLMSTED PARKS
CONSERVANCY

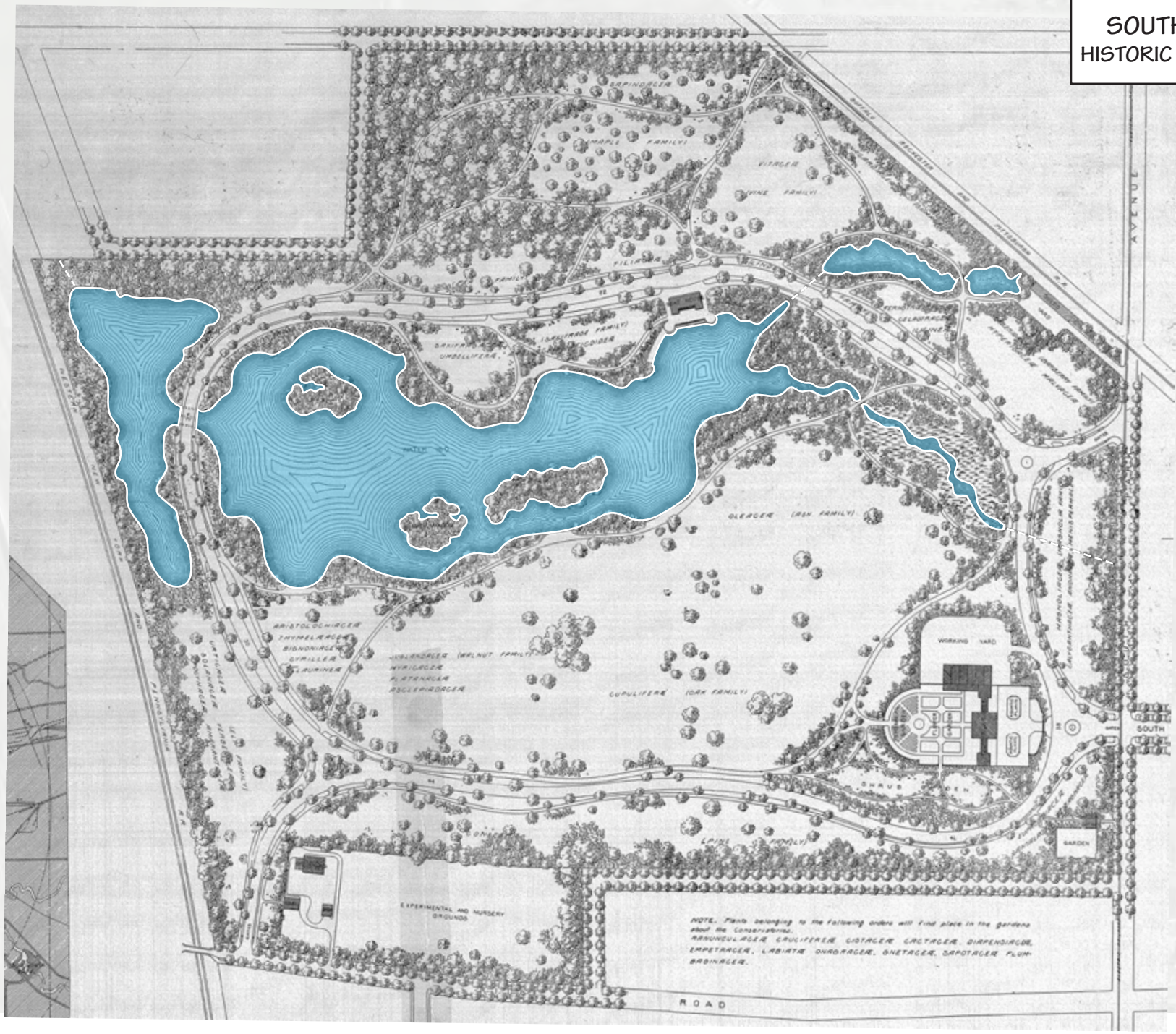
Unique Public Private Partnership

CITY OF BUFFALO
PARKS AND RECREATION

BUFFALO OLMSTED
PARKS CONSERVANCY

Zone Management

SOUTH PARK 1892
HISTORIC OLMSTED PLAN



Hopkins St
6
3
NORTH MEADOW
RING ROAD
10
4
11
5
THE LAKE
2
South Park
CENTRAL MEADOW
1
BOTANICAL GARDENS
7
McKinley Parkway
4
RING ROAD
9
8
0
200'
400'
SCALE

NIAGARA RIVER GREENWAY COMMISSION

PROJECT LOCATION MAP MAY 2012

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CHAPTER 2 - EXISTING CONDITIONS

2.1 Project Location

The South Park Lake Project lies within South Park, a City of Buffalo multi-use public park located within the southernmost sector of the city of Buffalo, Erie County, New York. The project is located in the Cazenovia Creek – Buffalo Creek watershed which flows directly into Lake Erie. South Park Lake itself is located 1.5 miles east of Lake Erie. The northwest side of the site is adjacent to rail yards and industrial uses. The southeast side of the site borders commercial and residential areas. The location of South Park Lake and the surrounding area is shown in Figure 2.

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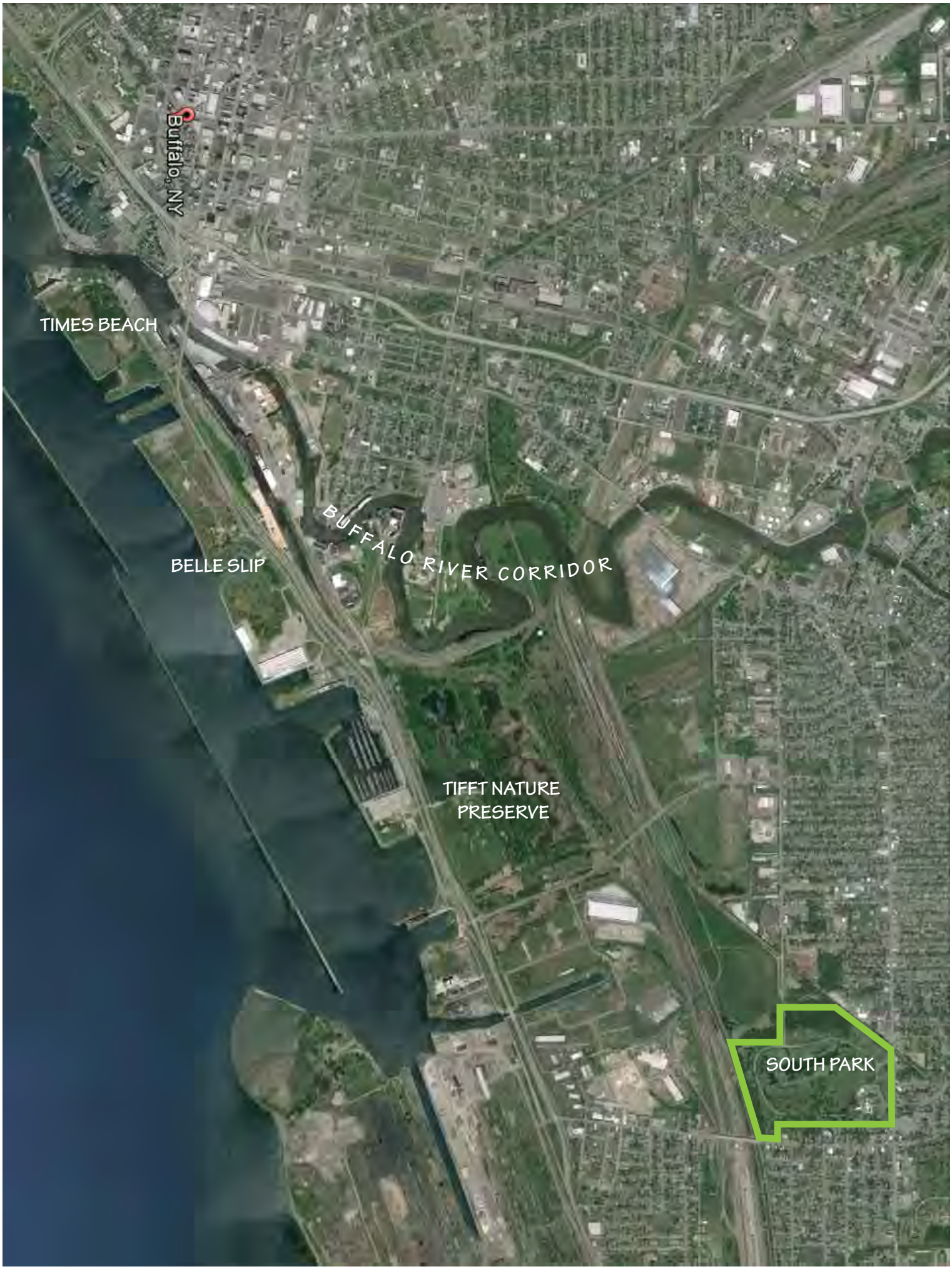
Figure 2: South Park Lake Project Location Map


Buffalo, NY
TIMES BEACH
BELLE SLIP
BUFFALO RIVER CORRIDOR
TIFFT NATURE
PRESERVE
SOUTH PARK

SOUTH PARK LAKE
PARK MAP
NOV. 2015
24 ACRE LAKE
INLET WETLANDS

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DETAILED PROJECT REPORT AND ENVIRONMENTAL ASSESSMENT

South Park Lake

City of Buffalo, Erie County, New York

Aquatic Ecosystem Restoration

Section 206 of the Water Resources Development Act of 1996,
as amended

US Army Corps of Engineers
Buffalo District
BUILDING STRONG

September 2013
P2# 113222

CHAPTER 3 - Plan Formulation

3.1 Introduction

This study and report was prepared consistent with guidance provided in USACE Regulation ER 1105-2-100, the Planning Guidance Notebook (USACE, 2000). In brief, the guidance requires a six step planning process as outlined below:

Step 1 – Identifying problems and opportunities
Step 2 – Inventorying and forecasting conditions
Step 3 – Formulating alternative plans
Step 4 – Evaluating alternative plans
Step 5 – Comparing alternative plans
Step 6 – Selecting a plan

Floating Aquatic Vegetation

Submergent Aquatic Vegetation

White Waterlily, *Nymphaea odorata*

Invasive (Non-native) Terrestrial Plants

Erosion Problems
Lake Access Points

CHAPTER 4 - Formulation of Alternatives

This section presents alternatives developed for this project. Each alternative is discussed with respect to its potential ability to achieve the project planning objectives. The formulation of alternatives was approached from two varying points of view. The engineering feasibility of applying each alternative, plus the economic considerations and environmental aspects are described for each alternative. The alternatives are listed below and described afterwards.

- Alternative 1 - No Action
- Alternative 2 – Sedimentation Basins
- Alternative 3 – Dredging and Disposal Alternatives
    - Dredging Alternatives
        - Draining the Lake
        - Not Draining the Lake
            - Mechanical Removal of Sediments
            - Hydraulic Dredging
    - Disposal Alternatives
        - Disposal at CDF No. 4
        - Disposal at Construction and Debris (C&D) landfill
        - Disposal onsite

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CITY OF BUFFALO PARK COMMISSION

BOTANIC GARDEN.

PLANTING PLAN.

SCALE.

CITY OF BUFFALO PARK COMMISSION
BOTANIC GARDEN.
PLANTING PLAN.
SCALE.

Table 10: Roseaceae Family Species

Scientific Name (Spp)	Common Name	Growth habit	U.S. Nativity	T&E Status
Agrimonia pubescens	soft agrimony	forb/herb	native	
Agrimonia gryposepala	tall hairy agrimony	forb/herb	native	
Agrimonia parviflora	harvestlice	forb/herb	native	
Agrimonia striata	roadside agrimony	forb/herb	native	
Amelanchier arborea	common serviceberry	tree/shrub	native	
Amelanchier humilis	low serviceberry	shrub	native	
Crataegus calpodendron	pear hawthorn	tree/shrub	native	
Crataegus chrysoscarpa	fireberry hawthorn	tree/shrub	native	
Crataegus crus-galli	cockspur hawthorn	tree/shrub	native	
Crataegus succulenta	fleshy hawthorn	tree/shrub	native	
Dalibarda repens	robin runaway	forb/herb	native	
Filipendula ulmaria	queen of the meadow	forb/herb	introduced	
Fragaria vesca	wood strawberry	forb/herb	native - invasive	
Fragaria virginiana	mountain strawberry	forb/herb	native - invasive	
Geum aleppicum	yellow avens	forb/herb	native	
Geum canadense	white avens	forb/herb	native	
Geum laciniatum	rough avens	forb/herb	native	
Geum rivale	purple avens	forb/herb	native	
Geum virginianum	cream avens	forb/herb	native	State Endangered
Gillenia stipulata	Indian physic	forb/herb	native	
Malus coronaria	sweet crabapple	tree shrub	native	
Malus pumila	paradise apple	tree	introduced	
Photinia floribunda	purple chokeberry	shrub	native	
Photinia melanocarpa	black chokeberry	shrub	native	
Physocarpus opulifolius	Atlantic ninebark	shrub	native	State Endangered
Potentilla arguta	tall cinquefoil	forb/herb	native	
Potentilla norvegica	Norwegian cinquefoil	forb/herb	native	
Potentilla paradoxa	paradox cinquefoil	forb/herb	native	
Potentilla simplex	common cinquefoil	forb/herb	native - invasive	
Prunus americana	American plum	tree/shrub	native	
Prunus pensylvanica	pin cherry	tree	native	
Prunus serotina	black cherry	tree	native	
Prunus virginiana	chokecherry	tree/shrub	native	
Rosa carolina	Carolina rose	subschrub	native	
Rosa eglanteria	sweetbriar rose	subschrub	introduced	
Rosa setigera	climbing rose	vine	introduced	
Rosa virginiana	Virginia rose	subschrub	native	
Rubus allegheniensis	Allegheny blackberry	subschrub	native	
Rubus flagellaris	northern dewberry	subschrub	native	
Rubus idaeus	American red raspberry	subschrub	native	
Rubus occidentalis	black raspberry	subschrub	native	
Rubus odoratus	purpleflowering raspberry	subschrub	native	
Sorbaria sorbifolia	false spirea	shrub	introduced	
Sorbus aucuparia	European mountain ash	tree/shrub	introduced	
Spiraea alba	white meadowsweet	shrub	native	
Waldsteinia fragarioides	Appalachian barren strawberry	forb/herb	native	

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Table 11: Saxifragaceae Family Species

Scientific Name (Spp)	Common Name	Growth habit	U.S. Nativity	T&E Status
Saxifraga pensylvanica	eastern swamp saxifrage	forb/herb	native	
Saxifraga virginiensis	early saxifrage	forb/herb	native	
Chrysosplenium americanum	American golden saxifrage	forb/herb	native	
Tiarella cordifolia	heartleaf foamflower	forb/herb	native	
Mitella diphylla	twoleaf miterwort	forb/herb	native	
Mitella nuda	naked miterwort	forb/herb	native	
Parnassia glauca	fen grass of Parnassus	forb/herb	native	Exploitably Vulnerable (NY)

Table 12: Caprifolicaceae Family Species

Scientific Name (Spp)	Common Name	Growth habit	U.S. Nativity	T&E Status
Diervilla lonicera	northern bush honeysuckle	shrub	native	
Lonicera canadensis	American fly honeysuckle	shrub	native	
Lonicera dioica	limber honeysuckle	vine	native	
Symphoricarpos albus	common snowberry	subshrub	native	
Symphoricarpos orbiculatus	coralberry	shrub	native	
Sambucus nigra	European black elderberry	tree/shrub	native and introduced	
Sambucus racemosa	red elderberry	tree/shrub	native	
Triosteum aurantiacum	orangefruit horse-gentian	forb/herb	native	
Triosteum perfoliatum	feverwort	forb/herb	native	
Linnaea borealis	twinflower	forb/herb	native	
Viburnum acerifolium	mapleleaf viburnum	subshrub	native	
Viburnum lentago	nannyberry	tree/shrub	native	
Viburnum lantanoides	hobblebush	shrub	native	
Viburnum opulus	European cranberrybush	tree/shrub	native/introduced/invasive	
Viburnum rafinesquianum	downy arrowwood	shrub	native	
Viburnum recognitum	southern arrowwood	tree/shrub	native	

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Table 13: Hamamelidae Family Species

Scientific Name (Spp)	Common Name	Growth habit	U.S. Nativity	T&E Status
Liquidambar styraciflua	sweetgum	tree	native	
Hamamelis virginiana	American witchhazel	tree/shrub	native	

Table 14: Oleaceae Family Species

Scientific Name (Spp)	Common Name	Growth habit	U.S. Nativity	T&E Status
Syringa vulgaris	common lilac	shrub	Introduced	
Forsythia viridissima	greenstem forsythia	shrub	Introduced	
Fraxinus americana	white ash	tree	native	
Fraxinus nigra	black ash	tree	native	
Fraxinus pennsylvanica	green ash	tree	native	

Table 15: Cornaceae Family Species

Scientific Name (Spp)	Common Name	Growth habit	U.S. Nativity	T&E Status
Cornus alternifolia	alternateleaf dogwood	tree/shrub	native	
Cornus amomum	silky dogwood	shrub	native	
Cornus canadensis	bunchberry dogwood	forb/herb	native	
Cornus drummondii	roughleaf dogwood	tree/shrub	native	State Endangered (NY)
Cornus florida	flowering dogwood	tree/shrub	native	Exploitably Vulnerable (NY)
Cornus racemosa	gray dogwood	shrub	native	
Cornus rugosa	roundleaf dogwood	tree/shrub	native	
Cornus sericea	redosier dogwood	tree/shrub	native	
Nyssa sylvatica	blackgum	tree	native	

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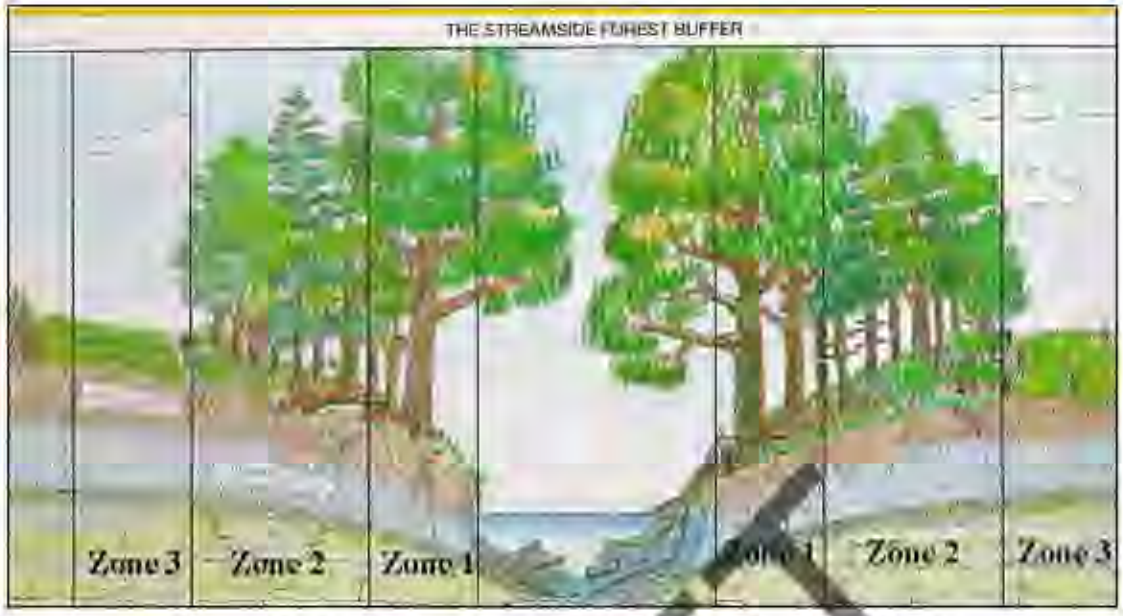

Figure 15: Depiction of a Three-Zone Riparian Buffer Strip

- Zone 1: This zone is oriented closest to the water body. Vegetation in this zone provides shoreline stabilization and habitat for both aquatic and terrestrial organisms. This zone typically would consist of the largest, most mature trees within the buffer area, whose primary functions include providing shade and input to the water body of detritus and large woody debris, which provide in-water habitat.
- Zone 2: This zone is oriented immediately adjacent to Zone 1, and consists primarily of smaller, immature trees and shrubs, managed as a riparian forest. The primary function of this zone is to remove sediments, nutrients, and other pollutants from surface and groundwater.
- Zone 3: This zone is located furthest from the water body, and is comprised primarily of grass, forbs and herbs. This herbaceous zone will provide the greatest water quality benefit by slowing runoff, infiltrating water and filtering sediment and associated chemicals.

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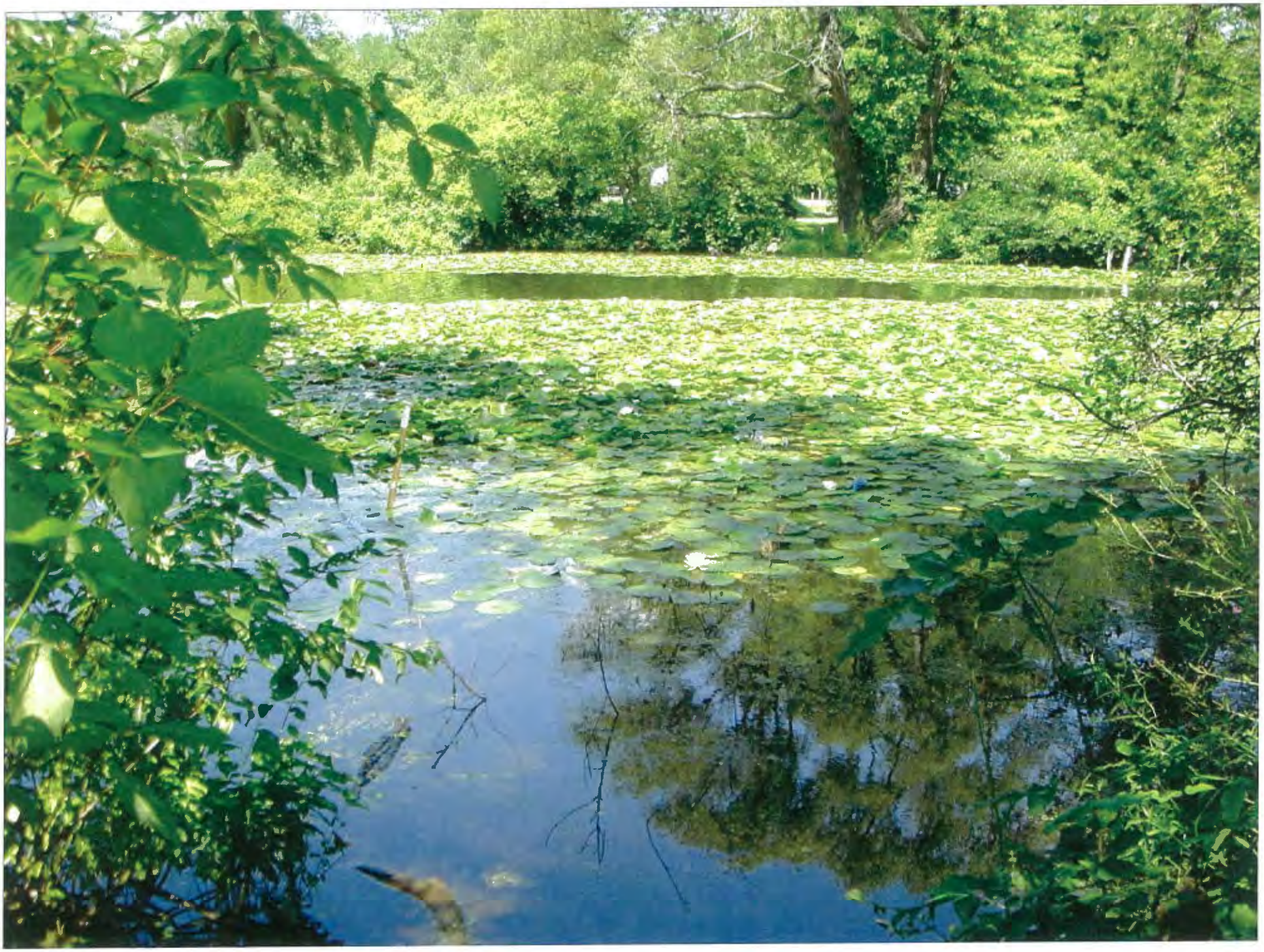

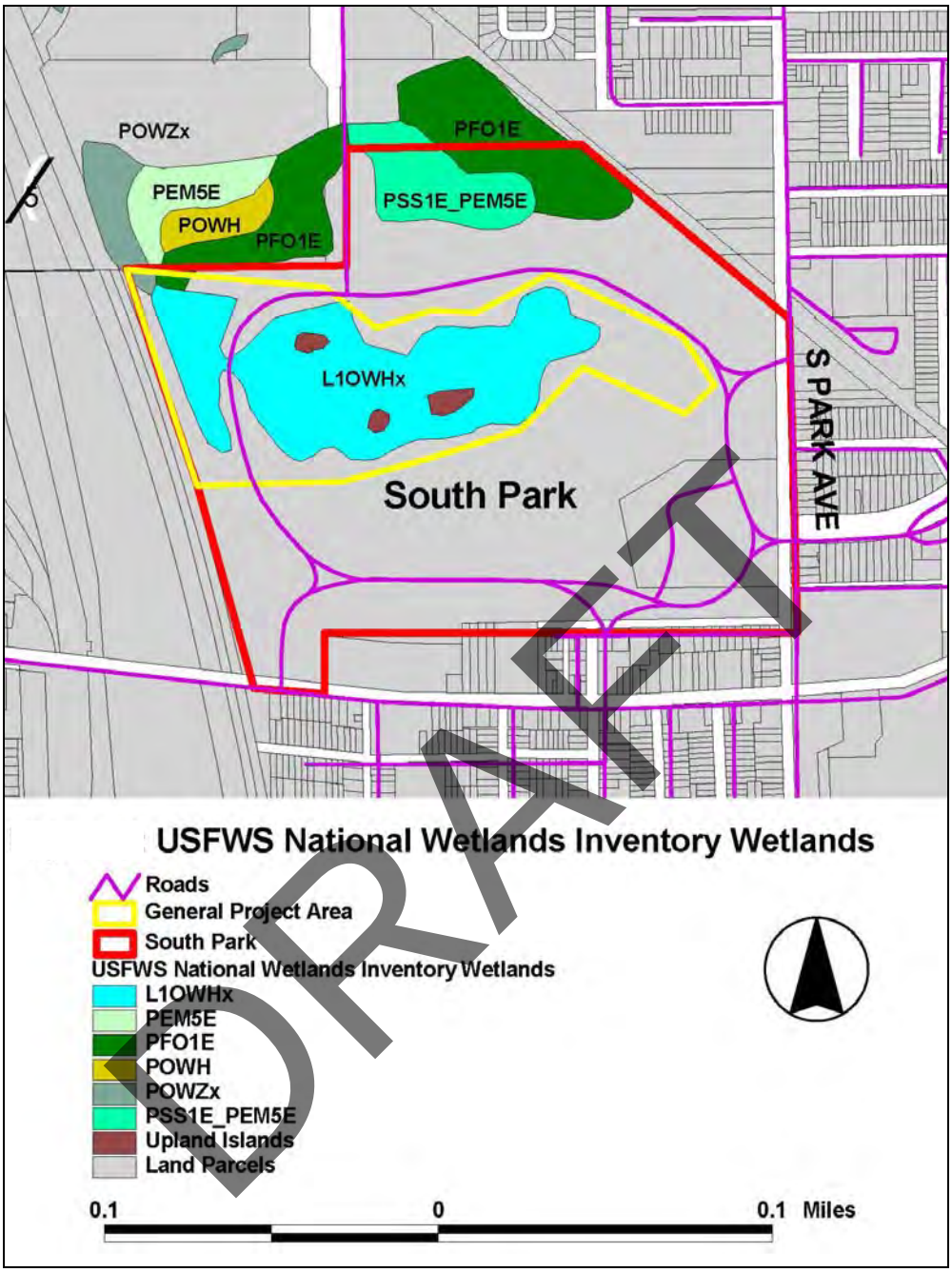

Figure 7: U.S. Fish and Wildlife Service National Wetlands Inventory

The NYSDEC Freshwater Wetlands map (Figure 8) shows South Park and the project located within NYSDEC Freshwater Wetland BU-1 (58± acres). Based on NYSDEC Freshwater Wetland Mapping and Classification Regulations, BU-1 is a designated a "Class I" NYSDEC Freshwater Wetland based upon the presence of 4 or more Class II characteristics which are as follows:

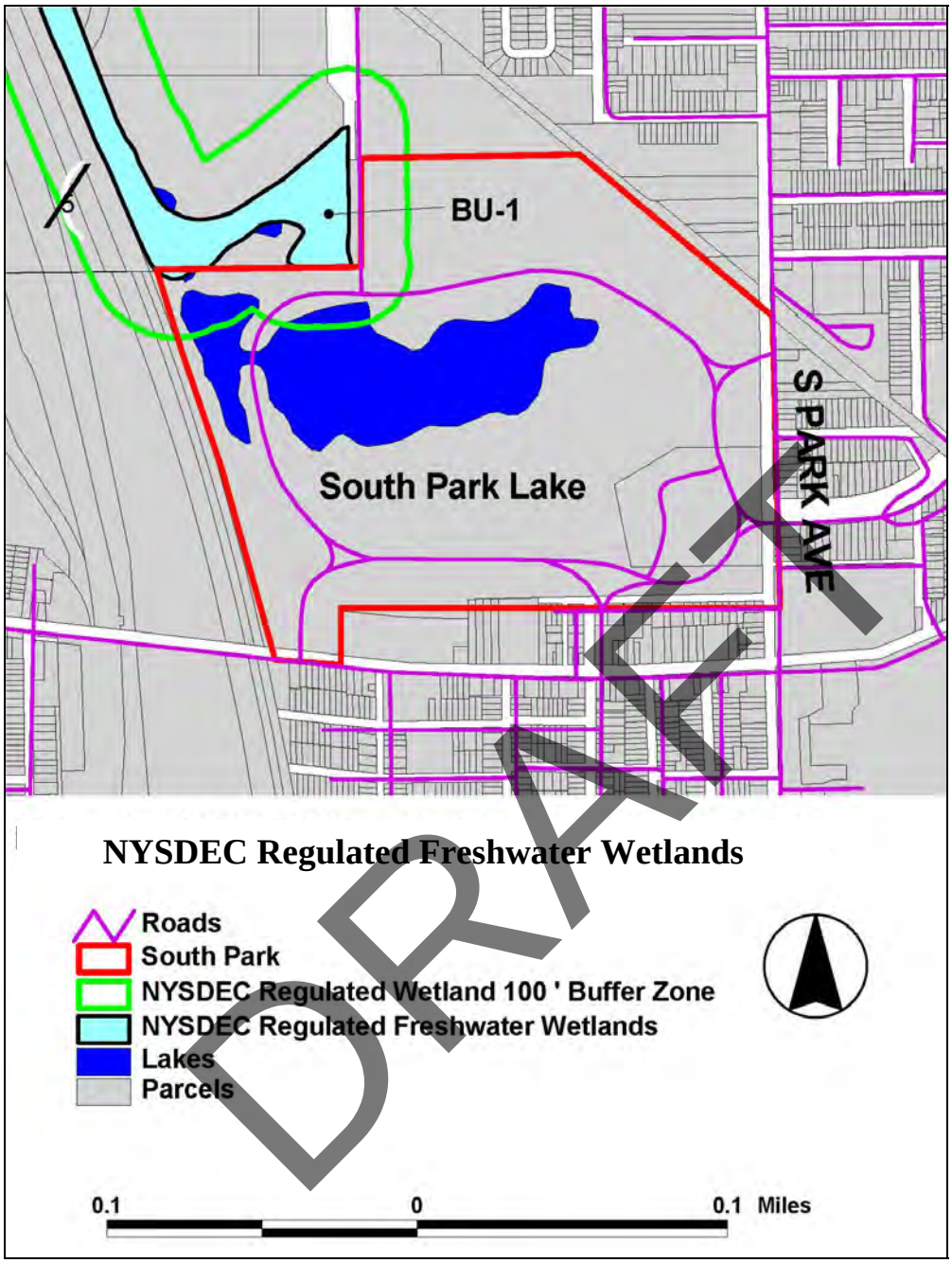

Figure 8: NYSDEC Regulated Freshwater Wetlands

The aquatic and wetland ecosystems within the project area function together as a system in the landscape with other uplands and wetlands resources. They provide vital habitat and natural resource functions and values in an otherwise urban landscape. Some of these functions and values include, but are not limited to fish habitat, sediment/toxicant/pathogen retention, nutrient removal/retention/transformation, wildlife habitat, and recreation. The affects of natural and cultural eutrophication combined with the introduction and proliferation of aggressive aquatic macrophytes, and the structural

Figure 9: South Park Lake Sediment Sample Locations

In order to evaluate the level of contaminants in South Park Lake sediments and assess their potential for beneficial re-use, three sets of guidelines were compared to the data generated through the laboratory analyses. These guidelines included:

1. New York State Department of Environmental Conservation (NYSDEC) Interim Guidance for Freshwater Navigational Dredging (October 1994)
2. NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 – Determination of Soil Cleanup Objectives and Cleanup Levels (January 1994)
3. United States Environmental Protection Agency (USEPA) Region 9 Preliminary Remediation Goals

2.18.4 Conclusion

After reviewing the South Park Lake sediment data and comparing the results to the three sets of guidelines, it appears that the potential contaminants of concern for this project would include some metals, VOCs (primarily acetone), and possibly some PAH compounds. A TCLP test is likely an inevitable necessity unless a determination is made by the NYSDEC that it is unnecessary. The NYSDEC will ultimately have the final say on whether or not the South Park Lake sediments are suitable for placement on any given site, and may recommend further analysis on either the South Park Lake sediments or placement site material.

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2.19 Sedimentation and Aquatic Ecosystem Habitat Degradation

Sediment accumulation in most lakes, ponds, and impoundments is an unavoidable geologic condition. The rate of accumulation is governed by complicated interacting factors, such as, but not limited to soil conditions along tributary banks, watershed development, stream flow, weather regimes in a given region, and water retention time in an impoundment or artificial lake such as South Park Lake. Sedimentation at South Park Lake has gradually occurred over the past 100 years due to a combination of factors listed above. As sedimentation progresses there will be a continual loss of open water habitat and a commensurate loss of lake depth.

Sedimentation negatively affects fish species by smothering the eggs of breeding fish and amphibians, and reducing the ability of sight oriented predator fish, such as largemouth bass, walleye, and other species from successfully capturing food. The NYSDEC terminated fish stocking at South Park Lake after 1997 due in part to South Park Lake's physical attributes and degraded conditions which were no longer conductive for fish survival (USACE 2002). It was determined to be very shallow, choked with excessive aquatic vegetation, and experienced oxygen and water temperature problems in the summer months. It is expected that present fish species diversity is limited to only a few tolerant species. This continual loss and degradation of habitat through sedimentation will eventually reduce its capacity to support any type of warm water sport fishery.

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Indicator Categories:

1. Obligate Wetland (OBL): Almost always occurs in wetlands (estimated probability > 99%)
2. Facultative Wetland (FACW): Usually occurs in wetlands (estimated probability 67% -99%), but occasionally found in non-wetlands.
3. Facultative (FAC): Equally likely to occur in wetlands (estimated probability 34% - 66%) or non-wetlands.
4. Facultative Upland (FACU): Usually occur in non-wetlands (estimated probability 67% - 99%), but occasionally found in wetlands (estimated probability 1% - 33%).
5. Obligate Upland (UPL): Occur almost always (estimated probability > 99% in non-wetlands under natural conditions.

Table 2: Wetland Plant Species Identified at Project Site

Common Name	Indicator Status	Scientific Name
Black willow	FACW	*Salix nigra*
Blunt broom sedge	FACW	*Carex tribuloides*
Bright green bulrush	OBL	*Scirpus atrovirens*
Broad-leaf cattail	OBL	*Typha latifolia*
Broad-leaf water plantain	OBL	*Alisma plantago-aquatica*
Bur-reed	OBL	*Sparganium eurycarpum*
Clearweed	FACW	*Pilea pumila*
Common elderberry	FACW	*Sambucus canadensis*
Creeping bentgrass	FACW	*Agrotis stolonifera*
Elodea	OBL	*Elodea canadensis*
Fowl manna-grass	OBL	*Glyceria striata*
Fox sedge	OBL	*Carex vulpinoidea*
Gray-stem dogwood	FAC	*Cornus fomina ssp. racemosa*
Green ash	FACW	*Fraxinus pennsylvanica*
Hornwort	OBL	*Ceratophyluum spp.*
Lesser duckweed	OBL	*Lemna minor*
Milfoil	OBL	*Myriophyllum spp.*
Narrow-leaf cattail	OBL	*Typha angustifolia*
Northern arrow-wood	FAC	*Viburnum recognitum*
Pennsylvania smartweed	FACW	*Polygonum pennsylvanica*
Pickerel weed	OBL	*Pontederia cordata*
Pondweed	OBL	*Polygonum spp.*
Purple-stem aster	OBL	*Aster Puniceus*
Pussy willow	FACW	*Salix discolor*
Red maple	FAC	*Acer rubrum*
Red osier dogwood	FACW	*Cornus sericea*
Rice cutgrass	OBL	*Leersia oryzoides*
Silky dogwood	FACW	*Cornus amomum*
Silver Maple	FACW	*Acer saccharinum*
Soft-stem bulrush	OBL	*Scirpus validus*
Soft rush	FACW	*Juncus effusus*
Spikerush	OBL	*Eleocharis spp.*
Spotted touch-me-not	FACW	*Impatiens capensis*
Water purslane	OBL	*Lugwigia palustris*
Water lily (white/pink)	OBL	*Nymphaea spp.*

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Table 3: Upland Plant Species Identified at the Project Site

Common Name	Indicator Status	Scientific Name
American bittersweet	FACU	*Celastrus scandens*
Birdsfoot trefoil	FACU	*Lotus corniculatus*
Canada bluegrass	FACU	*Poa compressa*
Canada goldenrod	FACU	*Solidago canadensis*
Chickory	FACU	*Cichorium intybus*
Common buckthorn	FAC	*Rhamnus cathartica*
Crooked stem aster	FAC	*Aster prenanthoides*
Gray-stem dogwood	FAC	*Cornus fomina ssp. racemosa*
Green ash	FACW	*Fraxinus pennsylvanica*
Kentucky bluegrass	FACU	*Poa pratensis*
Multiflora rose	FACU	*Rosa multiflora*
Northern arrowwood	FAC	*Viburnum recognitum*
Orchard grass	FACU	*Dactylis glomerata*
Queen Ann's lace	FACU	*Daucus carota*
Red maple	FAC	*Acer rubrum*
Red oak	FACU	*Quercus rubra*
Reed canary grass	FACW	*Phalaris arundinacea*
Staghorn sumac	FACU	*Rhus typhina*
Summer grape	FACU	*Vitis riparia*
Tartarian honeysuckle	FACU	*Lonicera tartarica*
Timothy	FACU	*Phleum pratense*
Virginia creeper	FACU	*Parthenocissus quinquefolia*
Virginia strawberry	FACU	*Fragaria virginiana*

2.10 Fisheries

There are no current records of fish species inhabiting South Park Lake. The NYSDEC fish stocking records go back to 1973 and document the periodic introduction of assorted panfish taken from Chautauqua Lake as a byproduct of netting muskellunge for egg-take operations for the Pendergast Fish Hatchery. Table 4 lists the fish species included in the transfer at that time.

Table 4: NYSDEC Transferred Fish Species to South Park Lake

Common Name	Scientific Name
Black crappie	*Pomoxis nigromaculatus*
Bluegill	*Lepomis macrochirus*
Brown bullhead	*Ameiurus nebulosus*
Pumpkinseed	*Lepomis gibbosus*
White crappie	*Pomoxis annularis*
White perch	*Morone americana**
Yellow perch	*Perca flavescens*

*: Added in 1990's

An occasional bass and walleye may have been inadvertently transferred during these stocking events. Over the 25 years of stocking South Park Lake, panfish species abundance in Chautauqua Lake changed, and the make-up of what was stocked in South Park Lake changed accordingly. In the 1970's and 1980's crappie were relatively abundant in Chautauqua Lake and they likely made up a good portion of the fish transferred to South Park Lake. In the 1990's, as crappie declined and white perch exploded, very few crappie were stocked and therefore white perch made up most of the stocking in later years.

The NYSDEC terminated fish stocking at South Park Lake after 1997 for several reasons. Panfish abundance in Chautauqua Lake decreased to the point where a decision was made not to transfer as many fish to other waters like South Park Lake. Of the 4 waters in the Buffalo area that received Chautauqua Lake panfish, South Park Lake's physical attributes and degraded conditions were the least conducive for fish survival. It was determined to be very shallow, choked with excessive aquatic vegetation, and experienced oxygen and water temperature problems in the summer months. The excessive aquatic vegetation causes reduced light penetration which results in insufficient photosynthesis to support a diverse plant community. While no direct fish sampling was completed, a visual inspection revealed flathead minnow (*Pimephales promelas*) and creek chub (*Semotilus atromaculatus*) in shallow areas (Sullivan 2009). Largemouth bass (*Micropterus salmoides*) are also reported to be common in the lake (Sullivan 2009). It is expected that present fish species diversity is limited to only a few tolerant species.

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2.11 Macroinvertebrates

Macroinvertebrate community data for South Park Lake and adjacent habitats is unavailable but assumed to be consistent with similar habitats in the region. It is understood that benthic macroinvertebrates are a very important component of any aquatic ecosystem and good indicators of ecosystem health. Community composition is influenced by many factors including substrate, depth, water temperature, currents and wave action, presence and density of aquatic vegetation, and environmental contaminants. Different species of benthic macroinvertebrates have varying tolerances of environmental stress, such as low levels of dissolved oxygen or high concentrations of toxic substances. It is likely that, if sampled, the diversity and number of taxa present in the project area would be reflective of the known degraded water quality conditions.

2.12 Herpatofauna

Populations of herpatofauna in South Park Lake are limited to the existing wetlands and nearshore littoral areas. Typical reptiles and amphibians include green frog (*Rana clamitans melanota*) bullfrog (*Rana catesbeiana melanota*), bullfrog (*Rana catesbeiana*), northern water snake (*Nerodia s. sipedon*), painted turtle (*Chrysemys picta*), and red-spotted newt (*Notophthalmus v. viridescens*). Table 5 lists commonly observed species likely to be found in South Park Lake.

Table 5: Herpatofauna Species

Common Name	Scientific Name
Bullfrog	*Rana catesbeiana*
Common Garter Snake	*Thamnophis sirtalis*
Common Snapping Turtle	*Chelydra s. serpentina*
Eastern American Toad	*Bufo a. americanus*
Eastern Box Turtle	*Terrapene c. carolina*
Gray Treefrog	*Hyla versicolor*
Green Frog	*Rana clamitans melanota*
Northern Brown Snake	*Storeria d. dekayi*
Northern Dusky Salamander	*Desmognathus fuscus*
Northern Leopard Frog	*Rana pipiens*
Northern Spring Peeper	*Pseudacris c. crucifer*
Northern Spring Salamander	*Gyrinohilus p. porphyriticus*
Northern Water Snake	*Nerodia s. sipedon*
Painted Turtle	*Chrysemys picta*
Pickerel Frog	*Rana palustris*
Red-spotted Newt	*Notophthalmus v. viridescens*
Spotted Salamander	*Ambystoma maculatum*
Wood Frog	*Rana sylvatica*

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2.13 Avian Wildlife

Table 6: Avian Wildlife

Common Name	Scientific Name
American crow	*Corvus brachyrynchos*
American goldfinch	*Carduelis tristis*
American Kestrel	*Falco sparverius*
American robin	*Turdus migratorius*
American wigeon	*Anas americana*
American Woodcock	*Scolopax minor*
Bank swallow	*Riparia riparia*
Belted kingfisher	*Ceryle alcyon*
Black Duck	*Anas rubripes*
Black-billed cuckoo	*Coccyzus erythopthalmus*
Blue-winged Teal	*Anas discors*
Brown-headed cowbird	*Molothrus ater*
Canada Goose	*Branta canadensis*
Cedar waxwing	*Bombycilla cedrorum*
Common grackle	*Quiscalus quiscula*
Common yellowthroat	*Geothlypis tricas*
Dark-eyed junco	*Junco hyemalis*
Double-crested cormorant	*Phalacrocorax auritus*
European starling	*Sturnus vulgaris*
Gray catbird	*Dumetella carolinensis*
Great Blue Heron	*Ardea herodias*
Green-Backed Heron	*Butorides striatus*
Herring gull	*Larus argentatus*
Horned grebe	*Podiceps auritus*
House finch	*Carpodacus mexicanus*
House sparrow	*Passer domesticus*
Killdeer	*Charadrius vociferus*
Least sandpiper	*Calidris minutilla*
Mallard	*Anas platyrhynchos*
Mourning Dove	*Zenaida macroura*
Northern flicker	*Colaptes ayratus*
Northern rough-winged swallow	*Stelgidopteryx serripennis*
Olive-sided flycatcher	*Contopus borealis*
Osprey	*Pandion haliaetus*
Peregrine falcon	*Falco peregrinus*
Pied-billed grebe	*Podilymbus podiceps*
Purple finch	*Carpodacus purpureus*
Red-breasted merganser	*Mergus serrator*
Red-tailed Hawk	*Buteo jamaicensis*
Red-winged blackbird	*Agelaius phoeniceus*
Ring-billed gull	*Larus delawarensis*
Ring-necked pheasant	*Phasianus colchicus*
Rock Dove	*Columba livia*
Song sparrow	*Melspiza melodia*
Tree swallow	*Tachycineta bicolor*
Turkey Vulture	*Cathares aura*
Wild Turkey	*Meleagris gallopavo*
Willow flycatcher	*Empidonax traili*
Wood Duck	*Aix sponsa*
Yellow warbler	*Dendrocia petechia*
Yellow-rumped warbler	*Dendrocia coronata*

NOTE: A wide variety of resident and migratory songbirds, too extensive to list, also use South Park and South Park Lake at various times during the year.

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2.14 Mammals

Mammals found in the park are those species capable of adapting to or tolerating human disturbance. This would include mammals such as racoon (*Procyon lotor*), gray squirrel (*Sciurus carolinensis*), white-tailed deer (*Odocoileous virginianus*), Eastern cottontail (*Sylvilagus floridanus*), and muskrat (*Odantra zibethicus*). Also, given their proclivity to dam the connecting channel between the two northwest ponds, it is important to note the presence of American beaver (*Castor canadensis*) at South Park Lake. During a wildlife survey completed by the NYSDEC in 1992, 13 mammalian species were observed within the lower Buffalo River corridor (Roblee 1992). Species found are included in Table 7 and consist of primarily common species expected to inhabit South Park and nearby resources in the vicinity and native to the region and endemic to the prevailing ecology.

Table 7: Mammalian Species

Common Name	Scientific Name
Beaver	*Castor canadensis*
Eastern chipmunk	*Tamias striatus*
Eastern cottontail	*Sylvilagus floridanus*
Gray squirrel	*Sciurus carolinensis*
Mink	*Mustela vison*
Muskrat	*Odantra zibethicus*
Opossum	*Didelphis marsupialis*
Raccoon	*Procyon lotor*
Red fox	*Vulpes fulva*
Red squirrel	*Tamiasciurus hudsonicus*
Striped skunk	*Mephitis mephitis*
White-tailed deer	*Odocoileous virginianus*
Woodchuck	*Marmota monax*

CONSULTATION

January 22, 2016

Stephanie Crockatt
Buffalo Olmsted Parks Conservancy
84 Parkside Ave.
Buffalo, NY 14214

Dear Ms. Crockatt:

The Niagara River Greenway Commission is pleased to support your projects, The South Park Lake Aquatic Ecosystem Restoration and the Scajaquada Trail Phase 5 Rumsey Woods Project.

The projects were deemed consistent to the Niagara River Greenway Plan as determined by the Niagara River Greenway Commission on January 19, 2016. The subjective evaluations were been based on the principals, goals and criteria that define the Niagara River Greenway Plan.

The Commission is pleased to support your project proposals and wishes you great success.

Respectfully,

Greg Stevens
Chairman, Niagara River Greenway

Cc: Allan Bozer, Erie County Standing Committee
Lou Paonessa, NYPA

DRAFT

DETAILED PROJECT REPORT AND ENVIRONMENTAL ASSESSMENT

South Park Lake

City of Buffalo, Erie County, New York

Aquatic Ecosystem Restoration

Section 206 of the Water Resources Development Act of 1996,
as amended

US Army Corps of Engineers
Buffalo District
BUILDING STRONG

September 2013
P2# 113222

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DRAFT

CITY OF BUFFALO

DEPARTMENT OF
PUBLIC WORKS, PARKS & STREETS
DIVISION OF PARKS & RECREATION

BYRON W. BROWN
MAYOR

STEVEN J. STEPNIAK
COMMISSIONER

ANDREW R. RABB
DEPUTY COMMISSIONER

February 2, 2016

Stephanie Crockatt, Executive Director
Buffalo Olmsted Parks Conservancy
Parkside Lodge, 84 Parkside Ave.
Buffalo, NY, 14214

Re: South Park Lake Ecosystem Restoration Project

The City of Buffalo supports the application of the Buffalo Olmsted Parks Conservancy (BOPC) as submitted to the Ecological Standing Committee of the Niagara River Greenway Commission, for funding to complete the Detail Project Report and Environmental Assessment of South Park Lake Ecosystem Restoration Study.

We will continue to work collaboratively with the BOPC and United States Army Corps of Engineers on this important study, as we have done on similar studies in other locations and believe the funding request is both appropriate and essential from the Ecological Standing Committee.

Thank you for your consideration of this proposal.

Sincerely,

Andrew R. Rabb

65 NIAGARA SQUARE / 505 CITY HALL / BUFFALO, NY 14202-3373 / (716) 851-9672 / FAX: (716) 851-5200 / Email: arabb@city-buffalo.com

CITY OF BUFFALO

DEPARTMENT OF
PUBLIC WORKS, PARKS & STREETS

BYRON W. BROWN
MAYOR

STEVEN J. STEPNIAK
COMMISSIONER
PETER J. MERLO, P.E.
CITY ENGINEER

October 20, 2011

Jennifer Janik
Realty Specialist
Army Corps of Engineers, Buffalo District
1776 Niagara Street
Buffalo, New York 14207

RE: SOUTH PARK LAKE

Ms. Janik,

Please find attached a signed copy of the agreement between the City of Buffalo and the Army Corps. of Engineers. Please sign, execute and return to my office at your earliest convenience.

Any questions please contact Don Poleto of my office at 716-851-5359.

Sincerely,

Peter J. Merlo, P.E.
City Engineer

PJM:DJP

CC: Andy Rabb
Buffalo Parks

Attachments

65 NIAGARA SQUARE / 502 CITY HALL / BUFFALO, NY 14202-3373 / (716) 851-5636 / FAX: (716) 851-4201 / Email: sstepniak@city-buffalo.com

CITY CLERK'S OFFICE

CITY HALL

BUFFALO, June 7, 2006

To Whom it May Concern:

I Hereby Certify, That at a Session of the Common Council of the City of Buffalo, held in the City Hall, on the 30th day of May 2006 a resolution was Passed .

NO. 24
Right of Entry Agreement
US Army Corps
South Park Lake Restoration Project
South District

In order to facilitate continuing studies by the Department of the Army related to the South Park Aquatic and Wetland Restoration Project our department has received a license for right of entry (copy attached) in the park for survey, exploration and testing.

The proposed time of duration is from 6/1/06 to 9/30/2008 with a 90 day written termination clause. Our department has no objection to this agreement as the owner of South Park and recommends that Your Honorable Body authorize execution of this agreement

ATTEST Deputy City Clerk

CCP # 24 was signed by the Mayor on 6/8/06 and returned to the City Clerk's Office on 6/8/06

W911XK-9-06-1012

DEPARTMENT OF THE ARMY
LICENSE FOR RIGHT OF ENTRY
FOR
SURVEY AND EXPLORATION

South Park Lake Aquatic and Wetland Restoration Project
(Project, Installation or Activity)

South Park Lake, City of Buffalo
(Tract Number or Other Property Identification)

The City of Buffalo, hereinafter called the "Grantor", in consideration of the mutual benefits of the work described, below hereby grants the United States of America, hereinafter called the "Government", a license for right of entry upon following terms and conditions:

1. The Grantor hereby provides to the Government a right to enter upon the land hereinafter described in order to survey and to carry out other exploratory work as may be necessary to complete the investigation being made of such lands, at any time for the period June 1, 2006 through September 30, 2008, unless terminated or further extended by written agreement of the parties. Either party may terminate this agreement upon ninety (90) calendar days written notice to the other party.

2. This license includes the right of ingress and egress on other lands of the Grantor not described below, provided that such ingress and egress is necessary and not otherwise conveniently available to the Government.

3. All tools, equipment, and other property taken or placed upon the land by the Government shall remain the property of the Government and may be removed by the Government at any time within a reasonable period after the expiration of this License for Right of Entry.

4. If any action of the Government's employees or agents in the exercise of this license for right-of-entry resulting damage to the real property, the Government will, at its option, either repair such damage or make an appropriate settlement with the Grantor. In no event shall such repair or settlement exceed the fair market value of the fee interest of the real property at the time immediately preceding such damage. The Government's liability under this clause may not exceed the appropriations available for such payment and nothing contained in this agreement may be considered as implying that Congress will at a later date appropriate funds sufficient to meet deficiencies. The provisions of this clause are without prejudice to any rights the Grantor may have to make a claim under the Federal Tort Claims Act, as amended, 28 USC 1346 and 2671 et. Seq., or other applicable federal laws for property damage, personal injury or death arising out of the acts of the Government's employees or agents while exercising the rights herein granted.

NOTE: THE CERTIFICATE OF AUTHORITY must be executed by an individual <u>other</u> than by the person who signed the agreement. The individual must certify <u>that the official who signed the agreement was authorized to act in that capacity.</u>

CERTIFICATE OF AUTHORITY

I, DANIEL E. KREUZ, do hereby certify that I am the
(someone other than the person signing the agreement)

CITY ENGINEER of the CITY OF
(my position of responsibility within the organization)

BUFFALO and that JOSEPH N. GIAMBRA,

who signed the agreement on behalf of the CITY OF BUFFALO

was at the time of signature its COMMISSIONER,
(position held)

and that the person who executed the agreement on behalf

of the CITY OF BUFFALO acted within his/her statutory

authority.

IN WITNESS WHEREOF, I have made and executed this certification

this 14 day of JUNE, 2006.

DANIEL E. KREUZ
(Name)

CITY ENGINEER
(Title)

W911XK-9-12-1001

DEPARTMENT OF THE ARMY
LICENSE FOR RIGHT OF ENTRY
FOR
SURVEY AND EXPLORATION

South Park Lake Aquatic and Wetland Restoration Project
(Project, Installation or Activity)

South Park Lake, City of Buffalo
(Tract Number or Other Property Identification)

The City of Buffalo, hereinafter called the "Grantor", in consideration of the mutual benefits of the work described, below hereby grants the United States of America, hereinafter called the "Government", a license for right of entry upon following terms and conditions:

1. The Grantor hereby provides to the Government a right to enter upon the land hereinafter described in order to survey and to carry out other exploratory work as may be necessary to complete the investigation being made of such lands, at any time for the period of six (6) months from the date of signing of this instrument, unless terminated or further extended by written agreement of the parties. Either party may terminate this agreement upon ninety (90) calendar day's written notice to the other party.

2. This license includes the right of ingress and egress on other lands of the Grantor not described below, provided that such ingress and egress is necessary and not otherwise conveniently available to the Government.

3. All tools, equipment, and other property taken or placed upon the land by the Government shall remain the property of the Government and may be removed by the Government at any time within a reasonable period after the expiration of this License for Right of Entry.

4. If any action of the Government's employees or agents in the exercise of this license for right-of-entry resulting damage to the real property, the Government will, at its option, either repair such damage or make an appropriate settlement with the Grantor. In no event shall such repair or settlement exceed the fair market value of the fee interest of the real property at the time immediately preceding such damage. The Government's liability under this clause may not exceed the appropriations available for such payment and nothing contained in this agreement may be considered as implying that Congress will at a later date appropriate funds sufficient to meet deficiencies. The provisions of this clause are without prejudice to any rights the Grantor may have to make a claim under the Federal Tort Claims Act, as amended, 28 USC 1346 and 2671 et. Seq., or other applicable federal laws for property damage, personal injury or death arising out of the acts of the Government's employees or agents while exercising the rights herein granted.

NOTE: THE CERTIFICATE OF AUTHORITY must be executed by an individual <u>other</u> than by the person who signed the agreement. The individual must certify <u>that the official who signed the agreement was authorized to act in that capacity.</u>

CERTIFICATE OF AUTHORITY

I, Peter Marlo, do hereby certify that I am the
(someone other than the person signing the agreement)

City Engineer of the City of Buffalo
(my position of responsibility within the organization)

_____ and that Steve Stepniak,

who signed the agreement on behalf of the City of Buffalo

was at the time of signature its Commissioner,
(position held)

and that the person who executed the agreement on behalf of the

City of Buffalo acted within his/her statutory authority.

IN WITNESS WHEREOF, I have made and executed this certification

this 20 day of October, 2011.

Peter Marlo
(Name)

City Engineer
(Title)

New York State Department of Environmental Conservation
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, Albany, New York 12233-4757
Phone: (518) 402-8935 • FAX: (518) 402-8925
Website: www.dec.state.ny.us

2007 SEP 21 PM 1:39

Alexander B. Grannis
Commissioner

September 18, 2007

Martin P. Wargo
U S Army Corps of Engineers - Buffalo District
1776 Niagara Street
Buffalo, NY 14207-3199

Dear Mr. Wargo:

In response to your recent request, we have reviewed the New York Natural Heritage Program databases with respect to an Environmental Assessment for the proposed South Park Lake #206 Aquatic Ecosystem Restoration Project, area as indicated on the map you provided, located in the City of Buffalo, Erie County.

We have no records of <u>known</u> occurrences of rare or state-listed animals or plants, significant natural communities, or other significant habitats, on or in the immediate vicinity of your site.

The absence of data does not necessarily mean that rare or state-listed species, natural communities or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain any information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. For these reasons, we cannot provide a definitive statement on the presence or absence of rare or state-listed species, or of significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities and other significant habitats maintained in the Natural Heritage Data bases. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, at the enclosed address.

Sincerely,

Tara Scoane jp

Tara Scoane, Information Services
New York Natural Heritage Program

cc: Reg. 9, Wildlife Mgr.
Reg. 9, Fisheries Mgr.

Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

New York State Office of Parks, Recreation and Historic Preservation

Division for Historic Preservation • Peebles Island, PO Box 189, Waterford, New York 12188-0189

518-237-8643

www.nysparks.com

March 7, 2012

Mr. William Butler
US Army Corps of Engineers
1776 Niagara Street
Buffalo, New York 14207

Re: USACE
Aquatic Ecosystem Restoration Project
South Park Lake
Buffalo, Erie County
12PR00243

Dear Mr. Butler:

Thank you for providing information to the New York State Historic Preservation Office (SHPO) regarding the proposed dredging project at South Park Lake in Buffalo. The SHPO has reviewed the materials submitted in accordance with Section 106 of the National Historic Preservation Act of 1966 and the relevant implementing regulations.

Based on the materials provided, it is our opinion that the proposed Aquatic Ecosystem Restoration will have No Adverse Effect on the historic and cultural resources in and around the APE of the dredging project. As you know, Nancy Herter has no archaeology concerns.

Should you have any questions, I can be reached at (518) 237-8643, ext. 3287, or by email at elizabeth.martin@parks.ny.us. Please refer to the SHPO Project Review (PR) number in any future correspondences regarding this project.

Sincerely,

Elizabeth Martin
Historic Site Restoration Coordinator

cc: Bonnie L. Locking, Tetra Tech

via email only

An Equal Opportunity Employer/Affirmative Action Agency

SUPPORT LETTERS

BUFFALO AND ERIE COUNTY
BOTANICAL GARDENS

February 1, 2016

Tim Priest
Chair
GEFSC
NYS DEC Region 9
Michigan Ave.
Buffalo, NY, 14203

Re: South Park Lake Ecosystem Restoration Project

Dear Mr. Priest:

I am writing on behalf of The Buffalo and Erie County Botanical Gardens Society, Inc. to fully endorse the application of the Buffalo Olmsted Parks Conservancy (BOPC) as submitted to the Ecological Standing Committee of the Niagara River Greenway Commission, for funding to complete the Detail Project Report and Environmental Assessment of South Park Lake Ecosystem Restoration Study.

The Buffalo and Erie County Botanical Gardens is a living museum dedicated to advancing appreciation for and knowledge of plant life and its connection to people and cultures through its documented plant collection, historic conservatory, education, research and exhibits.

South Park is a jewel of the Olmsted Parks System, and an important component of the Niagara River Greenway Corridor, the City of Buffalo and its South Buffalo community. Restoration of South Park Lake could restore habitat, ecosystem and aquatic filtration function to the 24 acre historic lake facilitating the recovery of flora and fauna diversity in South Park. In addition to the lake itself, this project repairs the shoreline and creates points of access to the water's edge. Thorough study of existing conditions, evaluation of alternatives, and environmental review are critically important in setting the stage for future action and improvements.

We support the BOPC's collaborative work with agencies including the Army Corps of Engineers on this important study, and believe the funding request is both appropriate and essential from the Ecological Standing Committee.

Thank you for your consideration of this proposal.

Sincerely,

David Swarts
President/CEO

Buffalo and Erie County Botanical Gardens Society, Inc | 2655 South Park Avenue | Buffalo, New York 14218 phone 716 827 1584 fax 716 828 0091 | www.buffalogardens.com

The Buffalo Common Council

CHRISTOPHER P. SCANLON
SOUTH DISTRICT COUNCIL MEMBER
65 NIAGARA SQUARE, 1401 CITY HALL
BUFFALO, NY 14202-3318
PHONE: (716) 851-5169 ♦ FAX: (716) 851-4294
E-mail: cscanlon@city-buffalo.com

CHAIRMAN
FINANCE
TRANSPORTATION
WATERFRONT DEVELOPMENT
COMMITTEES
BUDGET
CIVIL SERVICE
LEGISLATIVE ASSISTANTS
PEGGY SHEA
JUSTIN STEINWANDEL

Date: February 2, 2016, 2016

Tim Priest, Chair GEFSC
NYS DEC Region 9

Re: South Park Lake Ecosystem Restoration Project

I am writing to inform you that I fully endorse the application of the Buffalo Olmsted Parks Conservancy (BOPC) as submitted to the Ecological Standing Committee of the Niagara River Greenway Commission, for funding to complete the Detail Project Report and Environmental Assessment of South Park Lake Ecosystem Restoration Study.

Being the South District Councilman, I am tasked with many things that bring me great joy. Working with BOPC towards the restoration of South Park Lake is one such instance. Along with the environmental impact this restoration will deliver, the upkeep and proper usage of South Park Lake is very important to the constituents of South Buffalo. The constituency I represent in South Buffalo holds South Park Lake in a special place. Whether it was growing up using South Park Lake for all that it has to offer, or taking your children or grandchildren to the park to utilize all its beautiful characteristics, the preservation and restoration of South Park Lake is very important. Taking immediate action is necessary when something along these lines comes across my desk.

South Park is a jewel of the Olmsted Parks System, and an important component of the Niagara River Greenway Corridor, the City of Buffalo and its South Buffalo community. Restoration of South Park Lake could restore habitat, ecosystem and aquatic filtration function to the 24 acre historic lake facilitating the recovery of flora and fauna diversity in South Park. In addition to the lake itself, this project repairs the shoreline and creates points of access to the water's edge. Thorough study of existing conditions, evaluation of alternatives, and environmental review are critically important in setting the stage for future action and improvements.

We support the BOPC's collaborative work with agencies including the Army Corps of Engineers on this important study, and believe the funding request is both appropriate and essential from the Ecological Standing Committee.

Thank you for your consideration of this proposal.

Sincerely,

South District Councilman

ERIE COUNTY LEGISLATURE

HON. LYNNE DIXON
LEGISLATOR
DISTRICT 9

February 1, 2016

Mr. Tim Priest, Chair GEFSC
NYS DEC Region 9
270 Michigan Avenue
Buffalo, New York 14203

Re: South Park Lake Ecosystem Restoration Project

Dear Mr. Priest:

I am writing to endorse the application of the Buffalo Olmsted Parks Conservancy (BOPC) as submitted to the Ecological Standing Committee of the Niagara River Greenway Commission, for funding to complete the Detail Project Report and Environmental Assessment of South Park Lake Ecosystem Restoration Study.

South Park is a jewel of the Olmsted Parks System, and an important component of the Niagara River Greenway Corridor, the City of Buffalo and its South Buffalo community. Restoration of South Park Lake could restore habitat, ecosystem and aquatic filtration function to the 24 acre historic lake facilitating the recovery of flora and fauna diversity in South Park. In addition to the lake itself, this project repairs the shoreline and creates points of access to the water's edge. Thorough study of existing conditions, evaluation of alternatives, and environmental review are critically important in setting the stage for future action and improvements.

I support the BOPC's collaborative work with agencies including the Army Corps of Engineers on this important study, and believe the funding request is both appropriate and essential from the Ecological Standing Committee.

Thank you for your consideration of this proposal.

Sincerely,

Lynne Dixon
Erie County Legislator
District #9

SERVING THE COMMUNITIES OF HAMBURG, BLASDELL, LACKAWANNA & SOUTH BUFFALO
LEGISLATIVE CHAMBERS • 92 FRANKLIN STREET • BUFFALO, N.Y • 14202 • (716) 858-8671 • LYNNE.DIXON@ERIE.GOV

RANKING MINORITY MEMBER
COMMERCE, ECONOMIC DEVELOPMENT & SMALL BUSINESS
INFRASTRUCTURE & CAPITAL INVESTMENTS
COMMITTEES
BANKS
CULTURAL AFFAIRS, TOURISM, PARKS & RECREATION
ENERGY & TELECOMMUNICATIONS
FINANCE
INSURANCE
TRANSPORTATION

THE SENATE
STATE OF NEW YORK

TIMOTHY M. KENNEDY
SENATOR, 63RD DISTRICT

ALBANY OFFICE:
ROOM 506
LEGISLATIVE OFFICE BUILDING
ALBANY, NEW YORK 12247
(518) 455-2426 OFFICE
(518) 426-6851 FAX

DISTRICT OFFICE:
2239 SOUTH PARK AVENUE
BUFFALO, NEW YORK 14220
(716) 826-2683 OFFICE
(716) 826-2793 FAX

E-MAIL ADDRESS:
KENNEDY@NYSENATE.GOV

January 26, 2016

Tim DePriest, Chair GEFSC
NYS DEC Region 9
Michigan Ave
Buffalo, New York 14203

Re: South Park Lake Ecosystem Restoration Project

Dear Mr. DePriest:

I write to offer my strong support for the application of the Buffalo Olmsted Parks Conservancy to the Ecological Standing Committee of the Niagara River Greenway Commission for funding to complete the Detail Project Report and Environmental Assessment of South Park Lake Ecosystem Restoration Study.

As a State Senator representing South Park, an Olmsted-designed park, I understand the importance of maintain the historical integrity of this vital public property. Not only does this park serve as the home of the Buffalo & Erie County Botanical Gardens, but it also plays an important role as Buffalo's front door to the Southtowns.

South Park is an important component of the Niagara River Greenway Corridor, the City of Buffalo's Olmsted Parks System and the South Buffalo community. Restoration of South Park Lake would restore habitat, ecosystem and aquatic function to the 24-acre historic lake, thereby facilitating recovery of flora and fauna diversity in South Park. In addition to the lake itself this project repairs the shoreline and creates points of public access to the water's edge in this jewel of the Olmsted Parks System. Thorough study of existing conditions, evaluation of alternatives, and environmental review are critically important in setting the stage for future action, and the completion of this study is key.

Again, I strongly support the Buffalo Olmsted Parks Conservancy's application for support from the Niagara River Greenway Commission. Thank you for your consideration of this proposal. Should you have any questions, please do not hesitate to contact me in my district office.

Sincerely,

Timothy M. Kennedy
New York State Senator, 63rd District