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**LOWER PASSAIC RIVER RESTORATION PLANNING
SUMMARY OF RESTORATION OPPORTUNITIES**

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SUMMARY OF RESTORATION OPPORTUNITIES**

1. Kearny Point
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31. Third River Forest Hills Field Club
32. Third River JFK Parkway
33. Third River Glen Ridge Country Club
34. Third River Clarks Pond
35. Third River Alonzo F. Bonsal Wildlife Preservation

1. Kearny Point

Category: Existing restoration, preservation, and/or mitigation site.

Location: Located at the convergence of the Hackensack and Passaic rivers at river mile 1.

Current Land Use: Vacant lot, former industrial site.

Size: 3000ft. x 1600ft.

Site Description: The Kearny Point restoration site is a decommissioned industrial facility built entirely of historic fill.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Coastal Wetlands - Re-establish the degraded portion of wetlands that exist along the eastern portion of the point and create new wetlands along the western portion of the point (totaling ≈34.22 acres). Deepen and extend existing tidal channels creating ≈3,519 linear feet of connective sections, re-grade fill, remove invasive species and increase the density of indigenous species.

Sediment Contamination - Potential dredging and/or capping of contaminated sediment based on sediment sampling.

Shorelines and Shallows - Removing the riprap and bulkhead and re-grading the shoreline with rocky structure and stable slope along the western portion of the point to restore ≈1697.09 linear feet of habitat.

Habitat for Fish, Crabs, and Lobsters – Removal of invasive species, man made debris and unused structures will help to restore connections between mudflats, shorelines and wetlands. Clean recycled boulders and piling material from the property can be added as complex structure for ≈27.28 acres of habitat.

Public Access – Opportunity for several public access points exists at this site including an elevated path system that spans several habitats and leads to a boat launch.



EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphics maps and NJDEP Regional Data Inclusive of this site.

B. Real/Estate/ Ownership: BASF Corporation, Town of Kearny, Havenick Associates.

C. Site History and Land Use: Former chemical manufacturing facility.

D. Biological Studies/ Fauna: Winter and summer fish sampling, one time benthic community sampling (1, 19).

E. Biological Studies/ General Environment: Salt marsh containing *Spartina alterniflora* exists along both sides of the point, particularly the east side (Shisler, 2004) (2, 19).

F. Geotechnical: Sediment characterization in 1995, 1996 and 2005 by Aqua Survey (3). No data above high tide.

G. Hydraulics and Hydrology: No data obtained.

H. Water and Sediment: Newark Bay Estuary Sediment Characterization 1990-1993 (4), limited surface water quality and sediment data from Passaic River Study Area Investigations (5, 6), Water Quality NJHDG 2002-present (7)

I. Historical and Cultural Resources: No data obtained.

2. OAK ISLAND YARDS

Category: Existing restoration, preservation, and/or mitigation site.

Location: Located in the industrial district north of Port Newark, this site is situated on the west bank of the Newark Bay at river mile 0.

Current Land Use: Vacant lot/ former industrial site.

Size: 8400ft. x 2700ft.

Site Description: Oak Island Yards contains Newark's largest extent of tidal marsh, tidal creeks, and palustrine emergent wetland. This estuarine ecosystem is documented to have historic fill, build up of vacant structural elements, debris in the tidal channel, and unused pipelines running throughout. The dominant vegetative species are invasive phragmites, mugwort and sumac. Faunal species include 3 types of birds and 2 mammals. The substrate type is predominantly fine (sand/silt/clay) with some coarse cobble/gravel. Hydrologic environments include tidal, subtidal, and intertidal. The water regime is permanently and intermittently flooded with a drainage pathway on the east-west southern property.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Sediment Contamination – Potential dredging and/or capping of contaminated sediment based on sediment sampling.

Coastal Wetlands – Restore hydrology with $\approx 2,262$ linear feet of tidal channels to create ≈ 11.84 acres of wetland. Soften shoreline, create upland buffer zone, remove fill and re-grade sediment, invasive species removal and indigenous species re-vegetation.

Tributary Connections – Removal of man-made debris and unused structures (tide gate), re-connection of $\approx 6,824$ linear feet of water from the river to wetlands and southern creek.

Habitat for Fish, Crabs, and Lobsters – Addition of artificial complex structure to the ≈ 0.93 acre subtidal and intertidal zones will facilitate connections to SAV and marsh habitat.

Public Access – Upgrade existing pedestrian path on southern perimeter of property, construct floating dock for kayak and canoe launch.



EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site.

B. Real/Estate/ Ownership: City of Newark and Motive Enterprises.

C. Site History and Land Use: Vacant forested lot, former industrial site.

D. Biological Studies/ Fauna: Qualitative data on observed fauna (8, 19).

E. Biological Studies/ General Environment: Qualitative discussion on habitat types (8, 19).

F. Geotechnical: Sediment characterization in 1995, 1996 and 2005 by Aqua Survey Inc. (3). No data above high tide.

G. Hydraulics and Hydrology: No data obtained.

H. Water and Sediment: Newark Bay Estuary Sediment Characterization 1990-1993 (4), limited surface water quality and sediment data from Passaic River Study Area Investigations (5, 6), Water Quality NJHDG 2002-present (7).

I. Historical and Cultural Resources: No data obtained

3. UNNAMED TIDAL CREEK PULASKI SKYWAY (LAWYER’S CREEK)

Category: Existing restoration, preservation and/or mitigation site.

Location: Located in Essex County on the west ascending bank of the Passaic River just north of the Pulaski Skyway at river mile 2.

Current Land Use: Mixed use forested open space and hard surface lot used for storage and parking. This site is partially shaded by the Pulaski Skyway and contains some vacant degraded fringe wetland in the southern portion. Several outfall and storm drains are suspected underwater.

Size: ≈ 6.25 acres

Site Description: Pulaski Skyway (Lawyer’s Creek) is one of the 5 Major Tributaries of the Lower Passaic River. This site is an estuarine system containing a degraded fringe wetland. The intertidal is narrow and filled with hard surface debris. The substrate is primarily open water mudflats with some boulder and riprap. The property immediately north of this site is an active industrial facility (Public Service Gas and Electric Co.) which contains an expanse of paved surface, building structures and equipment.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Enclosed and Confined Waters – Increase tidal flow to the marsh by dredging the existing dead-end tidal channel to create ≈1,772 linear feet of restored channel.

Tributary Connections– Removal of man-made debris (possible fill and culverts), possible stream day-lighting, re-connection of the tributary to the wetland.

Coastal Wetlands – Restoration of ≈6.25 acres of marsh, through invasive species removal and native species re-vegetation.

Sediment Contamination – Potential dredging and capping of contaminated materials based on sediment sampling.



EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site.

B. Real/Estate/ Ownership: Public Service Gas and Electric Co. / Unknown

C. Site History and Land Use: No data available for history. Mixed use forested open space and hard surface lot.

D. Biological Studies/ Fauna: Benthic community composition and fish/crab tissue chemistry and pathology, bird community survey, Passaic River Study Area Investigations 2002 (9, 10, 11).

E. Biological Studies/ General Environment: No data obtained.

F. Geotechnical: Sediment characterization in 1995, 1996 and 2005 by Aqua Survey Inc. (3). No data above high tide.

G. Hydraulics and Hydrology: Limited river current and tide gauge data are available from 1995 and 1996. Limited hydrodynamic data collected by Rutgers University (12).

H. Water and Sediment: Limited surface water quality and sediment data from Passaic River Study Area Investigations (5, 6). Water Quality, NJHDG 2002-present (7).

I. Historical and Cultural Resources: No data obtained.

4. JACOBUS AVENUE-KEARNY *** (Contact Clean Earth and Pamela Baxter at EPA 212-637-4416)

Category: Existing restoration, preservation and/or mitigation site.

Location: Located on the Kearny peninsula on the east ascending bank of the Passaic River at river mile 2.2.

Current Land Use: This site is a heavily contaminated decommissioned industrial facility which is a NJDEP Known Contaminated Site and USEPA National Priority List (NPL) Superfund site (1983). Record of decision (ROD) requires that this site only be used for industrial purposes. Adjacent land use is a RCRA Part B permitted transfer storage and disposal facility.

Size: ≈2 acres

Site Description: This site is situated within a degraded coastal wetland area. In addition to the 13 buildings on site, there were two unlined lagoons, numerous large bulk storage tanks, underground storage tanks, and at least two chemical reactor buildings housing stainless steel vessels. Prior to their removal, the site also contained approximately 12,800 55-gallon drums. Some of the 55-gallon drums had rusted, spilling their contents onto the soil. The Remedial Investigation of the site found extensive contamination of the groundwater, soil, buildings, vessels and tanks. Operable Unit 1 remedial construction activities completed in 1993 included removal of contaminated materials in storage tanks, lagoon liquids/sediments/soils, decontamination of buildings/tanks, installation of gravel cover over site and construction of contaminated water treatment facility (CWTS). Groundwater collection and treatment is currently in operation. The OU 2 September 2000 ROD was issued in 2000, Preliminary Design Investigation 2006 and Proposed Plan (2010) included excavation of contaminated soil, remove buried debris, installation of drainage layer, treatment/disposal of drained free product, backfilling, restoration of natural hydraulic conditions, discontinuation of contaminated water treatment facility (CWTS) operation and institutional controls. Information obtained during the Remedial Design showed that soil draining would be unsuccessful. Therefore, USEPA's Preferred Alternative (August 2010) for soil is excavation and off-site treatment/disposal, backfilling with imported clean fill and institutional/engineering controls.

Restoration Recommendations (Applicable Target Ecosystem Characteristics): All recommendations and restoration planning would be conducted in coordination with EPA Region 2 Superfund Project and USEPA Proposed Plan (August 2010).

Sediment Contamination – Potential dredging and capping of contaminated materials based on sediment sampling.

Shorelines and Shallows – Removal of riprap and man made debris and shoreline re-grading.

Coastal Wetlands – Removal of invasive species and re-vegetation with native species could create ≈2 acres of fringe marsh habitat along the Passaic River parcel.

EXISTING SITE SPECIFIC DATA INVENTORY

See Syncon Administrative Record including: Remedial Investigation/Feasibility Study of OU1 (1986), Remedial Construction activities (1990), NJDEP FS (1998), OU2 ROD (2000), Preliminary Design Investigation (2007), Proposed Plan (2010)

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site.

B. Real/Estate/ Ownership: Farnow Inc./Syncon Resins.

C. Site History and Land Use: USEPA/NJDEP NPL Superfund Site

D. Biological Studies/ Fauna: See historic RI/FS data along Passaic River and Syncon Resin Focused Feasibility Study (FFS) (August 2010) and Administrative Record

E. Biological Studies/ General Environment: See Syncon Administrative Record

F. Geotechnical: Sediment characterization in 1995, 1996 and 2005 by Aqua Survey Inc. (3) below high tide. See Syncon Administrative Record.

G. Hydraulics and Hydrology: Limited river current and tide gauge data are available from 1995 and 1996. Hydrodynamic data were collected by Rutgers University (12). See Syncon Administrative Record

H. Water and Sediment: EPA and NJDEP soil and water contamination testing inclusive of this site. Limited surface water quality and sediment data from Passaic River Study Area Investigations (5, 6). Water Quality, NJHDG 2002-present (7). See Syncon Administrative Record.

I. Historical and Cultural Resources: See Syncon Administrative Record

*** HOLD* DETERMINE CURRENT USEPA STATUS FOR OU2 PROPOSED PLAN (CONTACT PAMELA BAXTER)**

5. UN-NAMED TIDAL CREEK-NJ TURNPIKE

Category: Existing restoration, preservation and/or mitigation site.

Location: Located in Essex County on the west ascending bank of the Passaic River at river mile 2.1, just west of the NJ Turnpike.

Current Land Use: This site is a vacant lot, which NJDEP has zoned as forest.

Size: ≈4 acres

Site Description: This site is adjacent to the Blanchard St./Fairmont Chemical Development Area. It contains a degraded wetland and an unnamed tidal creek with limited flow (possible fresh water source) which runs north to south along the center of the property. The substrate is primarily mudflats and vegetation is visible from the aerial photos.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Sediment Contamination – Potential dredging and capping of contaminated materials based on sediment sampling.

Shorelines and Shallows – Restoration and re-grading of shorelines should take place to create a riparian zone, intertidal zone and illuminated shallow zone along ≈466.32 linear feet of habitat.

Habitat for Fish, Crabs, and Lobsters – Addition of complex structure to create habitat and connections between mudflats, SAV, marsh and (possible) freshwater input to create ≈0.64 acre of habitat.

Enclosed and Confined Waters – Restore hydrologic flow and up-grade water quality to create ≈728 linear feet of restored channel.

Tributary Connections– Removal of man-made debris (possible fill and culverts), possible stream day-lighting, re-connection of the tributary to the wetland.

Coastal Wetlands – Remove fill and re-grade to wetland elevations. Removing invasive vegetation and re-plant with native species to create ≈4.09 acres of coastal wetlands.



EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site.

B. Real/Estate/ Ownership: Port Authority NY/NJ

C. Site History and Land Use: No data obtained for history. Site is a forested vacant lot.

D. Biological Studies/ Fauna: Benthic community composition and fish/crab tissue chemistry and pathology, Passaic River Study Area (9, 10).

E. Biological Studies/ General Environment: No data obtained.

F. Geotechnical: Sediment characterization in 1995, 1996 and 2005 by Aqua Survey Inc. (3). No data above high tide.

G. Hydraulics and Hydrology: Limited river current and tide gauge data are available from 1995 and 1996. Limited hydrodynamic data were collected by Rutgers University (12).

H. Water and Sediment: Limited surface water quality and sediment data from Passaic River Study Area Investigations (5,6). Water Quality, NJHDG 2002-present (7).

I. Historical and Cultural Resources: No data obtained.

6. KEARNY MARSH (CEDAR CREEK MARSH)

Category: Existing restoration, preservation and/or mitigation site. NJDEP Known Contaminated Site.

Location: This site is located in the town of Kearny at the intersection of the NJ turnpike eastern spur, the Newark turnpike and the New Jersey Transit Railroad lines.

Current Land Use: NJDEP has zoned this site as Meadows/Marsh.

Size: ≈ 31.5 acres

Site Description: This site represents the significant portion of wetland located just south of the NJ Meadowlands Commission (NJMC) redevelopment area. The Kearny Marsh system is contaminated due to current and historical inputs of landfill leachate, combined sewer overflows, and municipal storm water discharges. NJDEP mapping has indicated that there are existing wetland in this area. However, this site would benefit from increased hydrology to decrease the effects of construction impoundment. This site is functionally related to the Franks Creek site. It is part of the Hudson County conservation plan.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Enclosed and confined waterways – Alterations to the marsh hydrology including ditching, urban stormwater infrastructure, highway and rail construction. Increasing the effectiveness of existing culverts along the railway and the Newark Turnpike and adding new technology would re-connect the hydrology to the wetlands to create ≈ 5120 linear feet of restored channels. Storm water systems should be functioning to prevent spill over from occurring.

Coastal Wetlands – Marsh habitat could be created by re-grading and removing fill along with the removal of invasive species and re-vegetation with native emergent wetland species to create ≈ 34.14 acres of wetlands.

Sediment Contamination – Contaminations to the marsh sediment have been well documented in the literature. Potential dredging and capping of contaminated materials based on sediment sampling.

Habitat for Fish Crab and Lobsters – Addition of complex structure to create functionally related habitats amongst mudflats, low marsh and high marsh to create ≈ 12.10 acres of habitat.



EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site.

B. Real/Estate/ Ownership: NJMC, Town of Kearny.

C. Site History and Land Use: NJDEP has zoned this site as Meadow/Marsh.

D. Biological Studies/ Fauna: Various Rutgers University studies.

E. Biological Studies/ General Environment: Various Rutgers University studies.

F. Geotechnical: Sediment characterization in 1995, 1996 and 2005 by Aqua Survey Inc. (3). No data above high tide.

G. Hydraulics and Hydrology: NJMC/Rutgers University conducted hydrologic studies in the adjacent wetland. Limited river current and tide gauge data are available from 1995 and 1996. Storm water and drainage study (14). Limited river hydrodynamic data were collected by Rutgers University (12, 13).

H. Water and Sediment: NJMC redevelopment area has been analyzed for concentrations of heavy metals, PAHs, and PCBs by Rutgers University 2004, 2005, 2008 (13, 16, 17). Sediment and water sampling report 1999 (15).

I. Historical and Cultural Resources: No data obtained.

7. FRANKS CREEK SITE (1-D LANDFILL)

Category: Existing restoration, preservation and/or mitigation site bordering a closed landfill. NJDEP Known Contaminated Site.

Location: The area is bounded by the Pennsylvania Railroad, Conrail Co., United New Jersey Railroad and Canal Tracts on the south, Interstate Route 280 and the Newark Turnpike on the North and I-95 and the Kearny Marsh on the east.

Current Land Use: This property is currently open space. NJDEP has this site zoned as a mixed use barren, urban and wetland.

Size:

Site Description: Franks Creek is one of the 5 major tributaries of the Lower Passaic River. This candidate restoration site is the property located east of Frank's Creek and north of the Passaic River. The current state of the Frank's Creek system is a result of severe alterations to its hydrologic function (ditching, highway impoundment, bulkheads and culverts), use as a storm water drainage basin and industrial contaminations.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Sediment Contamination – Franks Creek has historically received drainage waters from the Diamond Head Oil Refinery Facility. In the past EPA has removed 9 million gallons of oil-contaminated water and 5 to 6 million cubic yards of oil sludge from the disposal pits. There is the potential for dredging and capping of contaminated sediment based on testing.

Tributary Connections – The 2007/2008 Hudson County comprehensive economic development strategy and NJMC plans for Franks Creek includes dredging and the construction of new tide gates equip with fish passage technology along the Passaic River side, south of the railroad and removal of old, restrictive tide gate structures. Additional culverts under the railroad, running towards the NJ Turnpike would serve to increase these connections to $\approx 23,920$ linear feet.

Enclosed and Confined Waters – Franks Creek should be dredged to obtain positive pitch and increase the storm water conveyance capacity of the system. Dredging and softening the edges along the existing channels and creeks would re-introduce the hydrology to the system creating ≈ 9710 linear feet of restored channel and re-creating historic wetlands which will further support the storm water storage capacity of this system.

Coastal Wetlands – Some re-grading should take place along the existing water bodies to re-establish wetland elevations and soften the edges along the maintenance roads. Due to the existing hilly topography on this property, re-grading should be limited to fringe marsh habitat. Density of emergent vegetation should be increased by removing invasive species and re-planting with native to create ≈ 44.82 acres of wetlands.

Habitat for Fish, Crabs, and Lobsters – New marsh and mudflat habitats and improvements to existing habitats should be designed in a manner to allow connections between and amongst them to create ≈ 10.15 acres of habitat.



EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site.

B. Real/Estate/ Ownership: NJMC, Town of Kearny.

C. Site History and Land Use: NJDEP has this site zoned as mixed use barren, urban and wetland.

D. Biological Studies/ Fauna: No data obtained.

E. Biological Studies/ General Environment: No data obtained.

F. Geotechnical: Sediment characterization in 1995, 1996 and 2005 by Aqua Survey Inc. (3). No data above high tide.

G. Hydraulics and Hydrology: NJMC/Rutgers University conducted hydrologic studies in the adjacent wetland. Limited river current and tide gauge data are available from 1995 and 1996. Storm water and drainage study 2001 (14). Hydrodynamic data was collected by Rutgers University in 2004 (12, 13).

H. Water and Sediment: Limited surface water quality and sediment data from Passaic River Study Area (5, 6).

I. Historical and Cultural Resources: No data obtained.

8. PATH RAIL FRINGE MARSH

Category: Existing restoration, preservation and/or mitigation site.

Location: Located on the east ascending bank of the Passaic River at river miles between ≈ 3.7 and 4.4. This site is adjacent to the NJ Transit PATH rail and an industrial development.

Current Land Use: Open space with rail lines along the northern border and fringe marsh habitat along the Passaic River bank. NJDEP has this site zoned as forest.

Size:

Site Description: This estuarine intertidal wetland is a model system of a persistent fringe marsh on the Lower Passaic River. It contains some native emergent plant species (*Spartina*) with substrates composed of concrete debris, gravel, and very fine silt.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Coastal Wetlands – Protect and restore the existing habitat. Density of emergent vegetation should be increased by removing invasive species and re-planting with native species to create ≈ 6.47 acres of wetland.

Sediment Contamination – Potential dredging and capping of contaminated materials based on sediment sampling.

Habitat for Fish, Crabs, and Lobsters – Integrate complex structure to create functionally related habitats and connections between mudflats, SAV and marsh to create ≈ 4.47 acres of habitat.



EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site.

B. Real/Estate/ Ownership: No data obtained.

C. Site History and Land Use: No data obtained on history. Parcel is vacant and contains rail lines with fringe habitat.

D. Biological Studies/ Fauna: Benthic community composition and fish/crab tissue chemistry and pathology, bird community survey, Passaic River Study Area Investigations (9, 10).

E. Biological Studies/ General Environment: Delineation and surveys. Vegetation Sampling and Wetland Delineation 2008 (18).

F. Geotechnical: Sediment characterization in 1995, 1996 and 2005 by Aqua Survey Inc. (3). No data above high tide.

G. Hydraulics and Hydrology: Limited river current and tide gauge data are available from 1995 and 1996. Hydrodynamic data were collected by Rutgers University in 2004 (12).

H. Water and Sediment: Newark Bay Estuary Sediment Characterization 1990-1993 (4), limited surface water quality and sediment data from Passaic River Study Area Investigations (5, 6). Water Quality NJHDG 2002-present (7).

I. Historical and Cultural Resources: No data obtained.

9. HARRISON SHORELINE REDEVELOPMENT

Category: Existing restoration, preservation and/or mitigation site.

Location: Located on the east ascending bank of the Passaic River between river miles ≈ 4.4 – 4.6 . This site is bordered by Cape May St. and Frank E. Rogers Blvd. South, it is adjacent to a former industrial facility.

Current Land Use: Open space with several industrial structures bordering the northern perimeter and existing fringe marsh habitat along the Passaic River bank. NJDEP has this site zoned as forest.

Size:

Site Description: This site is adjacent to the Path Rail Fringe a model system containing fringing growth native emergent plant species. Similar vegetation is visible from aerial photographs, but lacks confirmation. It is located immediately adjacent to an industrial development

Restoration Recommendations (Applicable Target

Ecosystem Characteristics:

Coastal Wetlands – Protect and restore the existing habitat.

Density of emergent vegetation should be increased by removing invasive species and re-planting with natives to create ≈ 2.28 acres of wetlands.

Sediment Contamination – Potential dredging and capping of contaminated materials based on sediment sampling.

Habitat for Fish, Crabs, and Lobsters – Integrate complex structure to create functionally related habitats and connections between mudflats, SAV and marsh to create ≈ 2.58 acres of habitat.



EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site.

B. Real/Estate/ Ownership: No data obtained

C. Site History and Land Use: No data obtained on history. Site contains open space with industrial structures and fringe habitat.

D. Biological Studies/ Fauna: Benthic community composition and fish/crab tissue chemistry and pathology, Passaic River Study Area Investigations (9, 10).

E. Biological Studies/ General Environment: Delineation and surveys. Vegetation Sampling and Wetland Delineation 2008 (18).

F. Geotechnical: Sediment characterization in 1995, 1996 and 2005 by Aqua Survey Inc. (3). No data above high tide. PRSA RI, 1995.

G. Hydraulics and Hydrology: Limited river current and tide gauge data are available from 1995 and 1996. Hydrodynamic data were collected by Rutgers University in 2004.

H. Water and Sediment: [Newark Bay Estuary Sediment Characterization 1990-1993 (4)?], PRSA RI 1995 (5), limited surface water quality and sediment data from Passaic River Study Area Investigations (5,6). Water Quality NJHDG 2002-present (7).

I. Historical and Cultural Resources: No data obtained.

10. PSE&G SHORELINE

Category: Existing restoration, preservation and/or mitigation site. Former Harrison Gas Plant Remediation Project.

Location: Located on the east ascending bank of the Passaic River at river miles \approx 4.6–5, in the town of Harrison.

Current Land Use: Vacant lot of a recently remediated former industrial facility. NJDEP has zoned this site as urban.

Size:

Site Description: Former Harrison Gas Plant remediation project, this site is a brownfield with recently completed environmental remediation. A slurry wall contains the site from the Passaic River, the surface sediment has been capped and an internal drain system installed to maintain hydraulic control. Contaminated soil outside the wall, but adjacent to the river, was removed and disposed offsite.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Sediment Contamination – Potential dredging and capping of contaminated materials based on sediment sampling. This remediated gas plant facility left behind coal, tar and other by-products that have contaminated soil and ground water on the sites. Although some contaminated sediments have been removed mudflats may remain contaminated.

Coastal Wetlands – This site contains a slurry wall/bulk-heading along the entire Passaic River perimeter. Wetland development would require significant modifications to this structure. Marsh creation would require re-connecting the hydrology, re-grading to wetland elevations and increasing vegetation with native plantings.

EXISTING SITE SPECIFIC DATA INVENTORY

(MUST INVESTIGATE ADMINISTRATIVE RECORD FOR HARRISON REMEDIAL ACTION)

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site.

B. Real/Estate/ Ownership: PSE&G

C. Site History and Land Use: Former manufactured gas remediation site.

D. Biological Studies/ Fauna: No data obtained.

E. Biological Studies/ General Environment: No data obtained.

F. Geotechnical: Sediment characterization in 1995, 1996 and 2005 by Aqua Survey Inc. (3). No data above high tide. PRSA RI, 1995.

G. Hydraulics and Hydrology: Limited river current and tide gauge data are available from 1995 and 1996. Hydrodynamic data were collected by Rutgers University in 2004 (12).

H. Water and Sediment: Newark Bay Estuary Sediment Characterization 1990-1993 (4), Passaic River Study Area Investigations (5,6). Water Quality NJHDG 2002-present (7).

I. Historical and Cultural Resources: No data obtained.

***** THIS SITE CONTAINS A NEW BULKHEAD ALONG THE ENTIRE RIVER FRONT PERIMETER OF THE PROPERTY. IT IS UNLIKELY AVAILABLE FOR TEC HABITAT RESTORATION OR CREATION. GET STATUS FROM NJDEP, PSE&G BEFORE GIS.**

11. NEWARK RIVERBANK PARK/ JOSEPH G. MINISH PARK (PORTION)

Category: Existing restoration, preservation and/or mitigation site.

Location: Located along the west ascending bank of the Passaic River at river mile ≈ 4.2 –4.6 in the city of Newark between Jackson and Brill St.

Current Land Use: Currently part of the USACE/NJDEP/Newark Joseph G. Minish Park Project which plans to build 6,000 ft of bulkheads, 3,200 ft of stabilized riverbank, a park along the riverfront and create 9,200ft of riverfront walkway. The City of Newark, NJDOT IBOAT NJ, NY/NJ Baykeepers along with the Trust for Public Land has recently secured some funding to speed up development of the park. Conceptual plans focus on parcels that are publically owned, available for improvement and designated for park use. This includes the area from Jackson to Oxford St. Ground breaking occurred in 2010.

Size:

Site Description: Former industrial parcels containing building remnants, paved surfaces, litter and fenced off container storage sites. The subtidal habitat is composed of coarse substrate. A two block stretch of riverfront park space owned by Essex County is located across from Riverbank Park. This area is underutilized as it is degraded and lacks park amenities.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

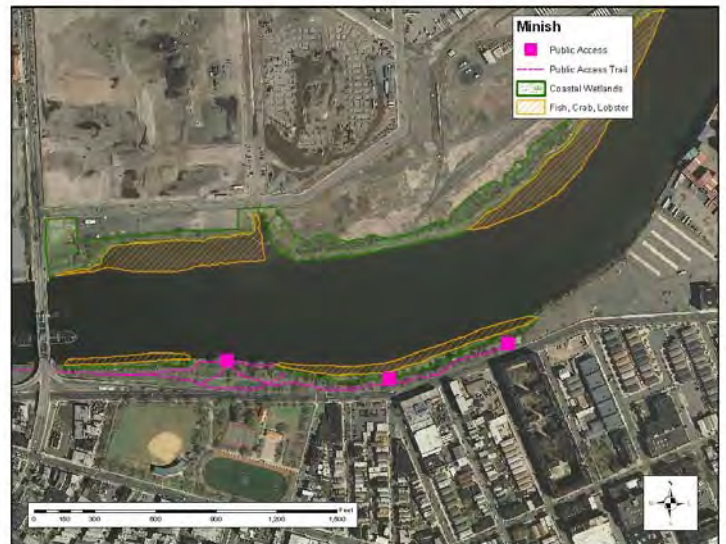
Coastal Wetlands – Increase density of emergent wetland vegetation by re-grading to wetland elevations, removing invasives and re-planting native species to create ≈ 0.95 acres of wetland.

Habitat for Fish, Crabs, and Lobsters – Complex structure should be added to the small mudflat section at the intersection of Sommes St. and the riverfront to create ≈ 1.68 acres of habitat; this would help to facilitate connections between the mudflats, SAV and the marsh.

Sediment Contamination – Potential dredging and capping of contaminated materials based on sediment sampling. Environmental testing should take place prior to the planned remediation phase of the project.

Shorelines and Shallows – USACE, City of Newark and NJDEP may have future plans for riverbank restoration as part of the Minish Park Project.

Public Access – The City of Newark has extensive plans for public access including; signage, benches, paths, lawns, ecology pavilion, picnic area, outdoor classrooms, science playground, art exhibit spaces, dog run, boat launch and public parking.



EXISTING SITE SPECIFIC DATA INVENTORY (CHECK MINISH PARK PROJECT FILES AND CITY OF NEWARK)

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site.

B. Real/Estate/ Ownership: Passive recreation parcels; City of Newark, Essex County Park Community. Active Recreation parcels; Orfal Property Management LLC, Rubin Gerald et al.

C. Site History and Land Use: Former industrial site.

D. Biological Studies/ Fauna: Benthic community composition and fish/crab tissue chemistry and pathology, bird community survey, Passaic River Study Area Investigations (9, 10, 11).

E. Biological Studies/ General Environment: Vegetation Sampling and Wetland Delineation 2008 (18).

F. Geotechnical: Sediment characterization in 1995, 1996 and 2005 by Aqua Survey Inc. (3). No data above high tide. PRSA RI, 1995.

G. Hydraulics and Hydrology: No data obtained.

H. Water and Sediment: Newark Bay Estuary Sediment Characterization 1990-1993 (4), Passaic River Study Area Investigations (5,6). Water Quality NJHDG 2002-present (7).

I. Historical and Cultural Resources:

12. GATEWAY PARK/JOSEPH G. MINISH PARK (PORTION)

Category: Existing restoration, preservation and/or mitigation site. NJDEP Known Contaminated Site.

Location: Located along the west ascending bank of the Passaic River at river mile $\approx 4.6-5$ in the city of Newark between Jackson St. and Penn Station.

Current Land Use: Currently part of a USACE/NJDEP/Newark Joseph G. Minish Park Project which plans to build 6,000 ft of bulkheads, 3,200 ft of stabilized riverbank, a park along the riverfront and create 9,200ft of riverfront walkway. **The City of Newark, NJDOT IBOAT NJ, NY/NJ Baykeepers along with the Trust for Public Land** has recently secured some funding to speed up development of the park. Conceptual plans focus on parcels that are publically owned, available for improvement and designated for park use. This includes the area from Jefferson to Jackson St. Ground breaking is scheduled for 2010 (similar to Newark Riverfront Park?).

Size:

Site Description: This parcel is a vacant lot which lies in between the Passaic River and Raymond Blvd. The parcel has been bulk-headed along the entire riverfront perimeter for flood protection.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Public Access – The City of Newark has extensive plans for public access including; signage, benches, paths, lawns, playground, performing arts/ outdoor theater barge, amphitheater, dance pavilion, fountain and science barge.



EXISTING SITE SPECIFIC DATA INVENTORY (CHECK MINISH PARK PROJECT DATA)

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site.

B. Real/Estate/ Ownership: Public parcels; State of NJ, City of Newark. Private parcels; PSE&G Co., 50-58 Jersey St. LLC, Hartz Co.

C. Site History and Land Use: Former industrial site.

D. Biological Studies/ Fauna: No data obtained.

E. Biological Studies/ General Environment: No data obtained.

F. Geotechnical: Sediment characterization in 1995, 1996 and 2005 by Aqua Survey Inc. (3). No data above high tide. Passaic River Study Area Remedial Investigations, 1995 (5).

G. Hydraulics and Hydrology: No data obtained.

H. Water and Sediment: Newark Bay Estuary Sediment Characterization 1990-1993 (4), Passaic River Study Area Investigations (5,6). Water Quality NJHDG 2002-present (7).

I. Historical and Cultural Resources: No data obtained.

13. RIVERFRONT PARK

Category: Existing restoration, preservation and/or mitigation site. NJDEP Known Contaminated Site.

Location: Located along the west ascending bank of the Passaic River at river mile 5.9 in the City of Newark.

Current Land Use: This site is currently forested open space. NJDEP has zoned this site as urban.

Size: 12.33 Acres

Site Description: This site contains forested fringe habitat along the Passaic River. The site borders an industrial facility, Interstate 280 and the colonial concrete facility. The extent of bulkhead and riprap at this site is unknown; however, there is some softened shoreline. The subtidal habitat is composed of coarse substrate with limited mudflats. Essex County broke ground on proposed park in August 2011.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Sediment Contamination – Potential dredging and capping of contaminated materials based on sediment sampling.

Shorelines and Shallows – Remove fill and re-grade shorelines to wetland elevations. Remove rip rap and bulkhead to allow subtidal sedimentation in an area where bulkheads have caused erosion. Re-structure shoreline with stable slope and rocky structure to restore ≈ 369.83 linear feet of habitat.

Coastal Wetlands – Enhance the existing habitat along the newly re-graded shoreline by increasing the density of native vegetation and removing invasives to create ≈ 0.60 acres of fringe marsh habitat.

Habitat for Fish, Crabs, and Lobsters – Complex structure should be added to the small shoreline and mudflats section just north of the Interstate 280 bridge to create 0.20 acres of habitat. This would help to facilitate connections between the mudflats and the newly created SAV and the marsh.

Public Access - Newly named, Essex County Riverfront Park will consist of a walking path along the bank of the Passaic River from Brill Street to Oxford Street. The park will also include a soccer field and baseball field with synthetic grass surfaces, tennis and basketball courts, a passive meadow, walking paths, two playground areas and a small parking area. There will be a public greenway located on the west side of the park that will be expanded to nine city blocks long spreading from Van Buren Street to Brill Street.



EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site.

B. Real/Estate/ Ownership: Valenta Nichols, Norfolk Southern Corp., Colonial Concrete, unknown.

C. Site History and Land Use: No data obtained on history. Vacant forested lot adjacent to active industrial sites. (Eustachewich, 2011)

D. Biological Studies/ Fauna: Benthic community composition and fish/crab tissue chemistry and pathology, Passaic River Study Area Investigations (9, 10).

E. Biological Studies/ General Environment: No data obtained.

F. Geotechnical:

Sediment characterization in 1995, 1996 and 2005 by Aqua Survey Inc. (3). No data above high tide.

G. Hydraulics and Hydrology: No data obtained.

H. Water and Sediment: Newark Bay Estuary Sediment Characterization 1990-1993 (4), limited surface water quality and sediment data from Passaic River Study Area Investigations (5,6). Water Quality NJHDG 2002-present (7).

I. Historical and Cultural Resources: No data obtained.

14. CLAY STREET LOT

Category: Existing restoration, preservation and/or mitigation site. NJDEP Known Contaminated Site.

Location: Located along the west ascending bank of the Passaic River at river mile 6.1-6.2, in the city of Newark, at the intersection of Clay and Passaic Streets.

Current Land Use: Former industrial site, currently a vacant lot.

Size:

Site Description: This site is a vacant lot which contains un-remediated BTEX groundwater and soil contamination. This site contains bulkhead along the entire Passaic River perimeter, remnants of building foundations and appears to contain a significant amount of fill.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Sediment Contamination - Potential dredging and/or capping of contaminated sediment based on sediment sampling.

Public Access – Create a park with pedestrian paths based off of existing street network and access to the waterfront and in collaboration with Newark Riverfront Development Framework. Paths will run the perimeter of the property and compliment design guidelines for waterfront public access easement.



EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site.

B. Real/Estate/ Ownership: Passaic Clay Urban Renewal, LLC.

C. Site History and Land Use: Former industrial site.

D. Biological Studies/ Fauna: No data obtained.

E. Biological Studies/ General Environment: No data obtained.

F. Geotechnical: Sediment characterization in 1995, 1996 and 2005 Aqua Survey Inc. (3). No data above high tide. PRSA RI, 1995.

G. Hydraulics and Hydrology: No data obtained.

H. Water and Sediment: Newark Bay Estuary Sediment Characterization 1990-1993 (4), limited surface water quality and sediment data from Passaic River Study Area Investigations (5, 6). Water Quality NJHDG 2002-present (7).

I. Historical and Cultural Resources: Site of historical lost tributary.

15. FRANKLIN-BURLINGTON PLASTICS PARCEL (FORMERLY INCORRECTLY NAMED AMERICAN STRIP STEEL PARCEL)

Category: Existing restoration, preservation and/or mitigation site. NJDEP Known Contaminated Site.

Location: Located along the east ascending bank of the Passaic River at river mile ≈ 6.5 -6.7, in the city of Kearny.

Current Land Use: Active industrial facility housing Franklin-Burlington Plastics Corp., a color and specialty compounds facility. Site contains fringe habitat on the Passaic River side.

Size:

Site Description: Estuarine low site ≈ 3 feet above high water with permanent to intermittent flooding and fringe habitat along the entire Passaic River perimeter. Contains tidal, subtidal and lower perennial habitat with mudflat, vegetation, lawn and some deciduous brush and shrub land.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Sediment Contamination – Potential dredging and/or capping of contaminated sediment based on sediment sampling.

Shorelines and Shallows – Bio-stabilization and re-grading of shoreline to restore ≈ 846.53 linear feet of habitat.

Coastal Wetlands – Protect and restore the existing fringe marsh habitat. Density of emergent vegetation should be increased by removing invasive species and re-planted with natives to create ≈ 0.59 acres of wetland.

Habitat for Fish, Crabs, and Lobsters – Addition of complex structure to the mudflat will facilitate connections between SAV and fringe marsh habitat to create ≈ 0.78 acres of habitat.



EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site.

B. Real/Estate/ Ownership: Franklin Burlington Plastics Corp. (Spartech Polytech Inc.)

C. Site History and Land Use: No data obtained on history. Site contains fringe habitat on active industrial site.

D. Biological Studies/ Fauna: Benthic community composition and fish/crab tissue chemistry and pathology, bird community survey, Passaic River Study Area Investigations (9, 10, 11).

E. Biological Studies/ General Environment: No data obtained.

F. Geotechnical: Sediment characterization in 1995, 1996 and 2005 Aqua Survey Inc. (3). No data above high tide.

G. Hydraulics and Hydrology: No data obtained.

H. Water and Sediment: Limited surface water quality and sediment data from Passaic River Study Area Investigations (5,6). Water Quality, NJHDG 2002-present (7).

I. Historical and Cultural Resources: No data obtained.

16. FRANK VINCENT PARK AND BOAT RAMP

Category: Existing restoration, preservation and/or mitigation site.

Location: Located along the east ascending bank of the Passaic River, at river mile 7.0 – 7.2, in the city of Kearny.

Current Land Use: This site is zoned as open space, it contains fringe habitat along the Passaic River and is adjacent to an empty field, Frank Vincent Marina (boat launch), a large parking lot, a basketball court and a roller skating rink.

Size:

Site Description: Estuarine system with riparian fringe and flats adjacent to a road and athletic field (school). Site is forested with a 45° slope consisting of rock and soil. Site contains dense Japanese knotweed in the riparian zone with sparse vegetation below the high tide line, including *Polygonum hydropiperoides*. Hydrologic features include; tidal, subtidal, and intertidal habitats. The water regime is permanently to intermittently flooded. There are 3 Newark City discharge points within 500-feet of the site.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Sediment Contamination – Potential dredging and/or capping of contaminated sediment based on sediment sampling.

Shorelines and Shallows – Bio-stabilization and re-grading of the shoreline to wetland elevations to create ≈1,158.50 linear feet of restored habitat.

Coastal Wetlands – Creation of fringe marsh by removing invasives and increasing the density of indigenous species in the subtidal and riparian zones to create ≈0.91 acres of wetland.

Habitat for Fish, Crabs, and Lobsters – Removal of manmade structures where possible. Addition of complex structure to the mudflats will facilitate connections between the mudflats and fringe marsh to create ≈0.66 acres of habitat.

Public Access – Plans exist for a boat launch upgrade as part of the Town of Kearny Passaic Avenue Redevelopment efforts.



EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site.

B. Real/Estate/ Ownership: Town of Kearny.

C. Site History and Land Use: No data obtained on history. Site contains recreational facilities, boat launch and fringe habitat.

D. Biological Studies/ Fauna: No data obtained.

E. Biological Studies/ General Environment: Vegetation Sampling and Wetland Delineation, 2008 (18).

F. Geotechnical: Sediment characterization in 1995, 1996 and 2005 Aqua Survey Inc. (3). No data above high tide. PRSA RI, 1995.

G. Hydraulics and Hydrology: No data obtained.

H. Water and Sediment: Newark Bay Estuary Sediment Characterization 1990-1993 (4), limited surface water quality and sediment data from Passaic River Study Area Investigations (5, 6). Water Quality NJHDG 2002-present (7).

I. Historical and Cultural Resources: No data obtained.

17. KEARNY RIVERBANK PARK

Category: Existing restoration, preservation and/or mitigation site.

Location: Located on the east ascending bank of the Passaic River, at river mile $\approx 7.2 - 8.5$, in the city of Kearny.

Current Land Use: This site is zoned as open space, it contains fringe marsh habitat along the Passaic River. Residential areas exist east and north of the site.

Size:

Site Description: Wetlands are fringe estuarine intertidal with substrate composed of concrete debris, gravel, and silty sand. They are generally un-vegetated, but sparse emergent, persistent vegetation is present. Portion of the site from RM_- has a steep riparian edge approximately 30' high and forested. The shoreline is filled with extensive mudflats exposed at low tide. Half of the site is densely covered with Japanese knotweed, the other half had more native herbaceous vegetation. Hydrologic features throughout the site include tidal, subtidal and intertidal habitats. Water regime is permanently to intermittently flooded.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Sediment Contamination – Potential dredging and/or capping of contaminated sediment based on sediment sampling.

Shorelines and Shallows – Bio-stabilization and regrading of the shoreline to restore $\approx 4,690.8$ linear feet of habitat.

Coastal Wetlands – Removing invasive flora, replanting with indigenous species to create ≈ 4.3 acres of wetland.

Habitat for Fish, Crabs, and Lobsters – Removal of manmade structures (where possible). Addition of complex structure to the mudflats will facilitate connections between the mudflats and fringe marsh to create ≈ 7.3 acres of habitat.



EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site.

B. Real/Estate/ Ownership: Majority of the parcels are owned by Town of Kearny. Scattered parcels belong to Skinner Brothers Inc., John A. Magullian, HL Board of Freeholders and 855-857 Passaic LLC.

C. Site History and Land Use: No data obtained on history. Site is located in a park.

D. Biological Studies/ Fauna: No data obtained.

E. Biological Studies/ General Environment: Vegetation Sampling and Wetland Delineation, 2008 (18).

F. Geotechnical: Sediment characterization in 1995, 1996 and 2005 Aqua Survey Inc. (3). No data above high tide. Passaic River Study Area Remedial Investigations, 1995 (5).

G. Hydraulics and Hydrology: No data obtained.

H. Water and Sediment: Newark Bay Estuary Sediment Characterization 1990-1993 (4), limited surface water quality and sediment data from Passaic River Study Area Investigations (5,6). Water Quality NJHDG 2002-present (7).

I. Historical and Cultural Resources: No data obtained.

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17. Bentivegna CS., Alfano JE., Bugel SM., Czechowicz K. 2004. Influence of Sediment Characteristics on Heavy Metal Toxicity in an Urban Marsh. Urban Habitats Vol 2(1) p. 3-21.
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18. SADDLE RIVER OX BOW

Category: Existing restoration, preservation and/or mitigation site.

Location: Historic Saddle River ox bow, located just upstream of its confluence with the Passaic River in the town of Wallington, NJ.

Current Land Use: The upland areas around the oxbow are currently unused except for storing trucks and industrial material. There are several parking lots located just north of this section of the river.

Site Description: This area has a history of flooding. Major flooding along the lower Saddle River in recent years has adversely affected residential, commercial, and industrial establishments. This section of channel, which meanders through the most urbanized portion of the basin, consists of earthen channel bottom with little vegetation on the overbanks, and has an irregular bottom slope

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Sediment Contamination – These waters receive pollutants from both point and non-point sources. Potential dredging and/or capping of contaminated sediment based on sediment sampling. Heavy soil contamination, including lead, exists at 2 sites within close proximity to the oxbow. These areas are the Jasontown apartment complex and a site just below Midland Avenue. Channel excavations should be avoided through these sites.

Coastal Wetlands (brackish) – Potential to create or restore ≈ 0.13 acres of fringe/pocket forested wetlands.

Tributary Connections – Potential to stabilize $\approx 2,112.15$ linear feet of stream bank through preservation and restoration of the ≈ 4.81 acres of flood plain with vegetation and re-grading to proper elevations. Stream corridor restoration to accommodate increased capacity includes widening and deepening of the river bank and installation of retention walls in highly urbanized sections. Removal of debris.

EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USACE, USGS, NJDEP regional data inclusive of this site.

B. Real/Estate/ Ownership: Real estate studies conducted in 1996. Land use is mixed residential and industrial with private and corporate ownership (Garfield Molding, Somerset Realty/Primex, Jason Town II Associates, the Wallington Group LLC).

C. Site History and Land Use: Real estate assessment 1996

D. Biological Studies/ Fauna: EIS and EA 1984, 1996.

E. Biological Studies/ General Environment: EIS and EA 1984, 1996.

F. Geotechnical: Geological and Soil assessment 1996

G. Hydraulics and Hydrology: H&H assessment 1995

H. Water and Sediment: EIS, EA, and HTRW 1984, 1996.

I. Historical and Cultural Resources: Cultural resources assessment 1996.

REFERENCES:

U.S. Army Corps of Engineers, NY District. 1984. General Design Memorandum (Phase I) Interim Report on Flood Protection Feasibility Lower Saddle River Bergen County, NJ.

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U.S. Army Corps of Engineers, NY District. 1996. General Design Memorandum (Phase II - Project Design) Lower Saddle River Bergen County, N.J. Flood Protection Project.

Appendix A&B, Hydrology and Hydraulics

Appendix C, Real Geology, Soil, and Materials

Appendix D, Hazardous Toxic and Radioactive Waste (HTRW)

Appendix E, Structural

Appendix F, Real Estate.



19. SADDLE RIVER FELICIAN COLLEGE SOUTH

Category: Existing restoration, preservation and/or mitigation site.

Location: In the area immediately south of Felician College and adjacent to St. Michael's Cemetery, in the city of Lodi.

Current Land Use: Un-used area boarded by the Saddle River, Felician College, and a portion of St. Michaels Cemetery.

Site Description: This section of channel, which meanders through the most urbanized portion of the basin, consists of earthen channel bottom with little vegetation on the overbanks, and has an irregular bottom slope. This section of the Saddle River in Lodi is particularly damage prone, as periodic flooding occurs along Main Street.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Sediment Contamination – These waters receive pollutants from both point and non-point sources. Potential dredging and/or capping of contaminated sediment based on sediment sampling.

Tributary Connections – Preservation and restoration of ≈ 4.17 acres of flood plain. Restoration of $\approx 1,552.54$ linear feet of stream bank will accommodate increased capacity. This includes widening and deepening of the river bank and installation of retention walls to prevent erosion in highly urbanized sections along this stretch. There is known flooding in this area. Re-grading to proper elevations in the low lying area, adjacent to cemetery and along river corridor. Manage invasive species and re-plant with natives along flood plain. Removal of debris.

EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USACE, USGS, NJDEP regional data inclusive of this site.

B. Real/Estate/ Ownership: United Greek Rite R.C. Church. Real estate studies conducted in 1996. Land use is mixed residential and industrial with private and corporate ownership.

C. Site History and Land Use: Real estate assessment 1996

D. Biological Studies/ Fauna: EIS and EA 1984, 1996.

E. Biological Studies/ General Environment: EIS and EA 1984, 1996.

F. Geotechnical: Geological and Soil assessment 1996

G. Hydraulics and Hydrology: H&H assessment 1995

H. Water and Sediment: EIS, EA, and HTRW 1984, 1996

I. Historical and Cultural Resources: Cultural resources assessment 1996

REFERENCES:

U.S. Army Corps of Engineers, NY District. 1984. General Design Memorandum (Phase I) Interim Report on Flood Protection Feasibility Lower Saddle River Bergen County, NJ.

Perazio P.A., L.C. Archibald, K. Baumgardt. 1991. Evaluation-Level Cultural Resources Investigation of the U.S. Army Corp of Engineers Proposed Saddle River/Sprout Brook Flood-Control Project Bergen County, New Jersey.

U.S. Army Corps of Engineers, NY District. 1996. General Design Memorandum (Phase II - Project Design) Lower Saddle River Bergen County, N.J. Flood Protection Project.

Appendix A&B, Hydrology and Hydraulics

Appendix C, Real Geology, Soil, and Materials




Appendix D, Hazardous Toxic and Radioactive Waste (HTRW)

Appendix E, Structural

Appendix F, Real Estate

Draft

Saddle River Felician College South

-  Freshwater Wetlands
-  Flood Plain
-  Stream Corridor



20. SADDLE RIVER LODI CEMETERIES

Category: Existing restoration, preservation and/or mitigation site.

Location: St. Nicholas, St. Peters, Lodi and Riverside Cemeteries located along the Saddle River in the cities of Lodi and Saddle Brook, Bergen County.

Current Land Use: Potential restoration parcels surrounding the river are zoned as urban/industrial and residential.

Site Description: This section of channel, which meanders through the most urbanized portion of the basin, consists of earthen channel bottom with little vegetation on the overbanks, and has an irregular bottom slope. This section of the Saddle River in Lodi is particularly damage prone, as severe flooding periodically occurs along Main Street.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Sediment Contamination – These waters receive pollutants from both point and non-point sources. Potential dredging and/or capping of contaminated sediment based on sediment sampling.

Tributary Connections – $\approx 2,563.71$ linear feet stream bank restoration to stabilize and decrease erosion. Restoration of forested flood plain is un-likely due to land use. Decrease sediment load from cemeteries along the river corridor. Removal of debris.

EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USACE, USGS, NJDEP regional data inclusive of this site.

B. Real/Estate/ Ownership: Order of Felician Sisters, St. Peters Cemetery, St. Nicholas Cemetery, Borough of Lodi. Real estate studies conducted in 1996. Land use is mixed residential and industrial with private and corporate ownership.

C. Site History and Land Use: Real estate assessment 1996

D. Biological Studies/ Fauna: EIS and EA 1984, 1996.

E. Biological Studies/ General Environment: EIS and EA 1984, 1996.

F. Geotechnical: Geological and Soil assessment 1996

G. Hydraulics and Hydrology: H&H assessment 1995

H. Water and Sediment: EIS, EA, and HTRW 1984, 1996. NJDEP's 2002 integrated list of surface water quality impairments.

I. Historical and Cultural Resources: Cultural resources assessment 1996.

REFERENCES:

U.S. Army Corps of Engineers, NY District. 1984. General Design Memorandum (Phase I) Interim Report on Flood Protection Feasibility Lower Saddle River Bergen County, NJ.

Perazio P.A., L.C. Archibald, K. Baumgardt. 1991. Evaluation-Level Cultural Resources Investigation of the U.S. Army Corp of Engineers Proposed Saddle River/Sprout Brook Flood-Control Project Bergen County, New Jersey.

U.S. Army Corps of Engineers, NY District. 1996. General Design Memorandum (Phase II - Project Design) Lower Saddle River Bergen County, N.J. Flood Protection Project.

Appendix A&B, Hydrology and Hydraulics

Appendix C, Real Geology, Soil, and Materials

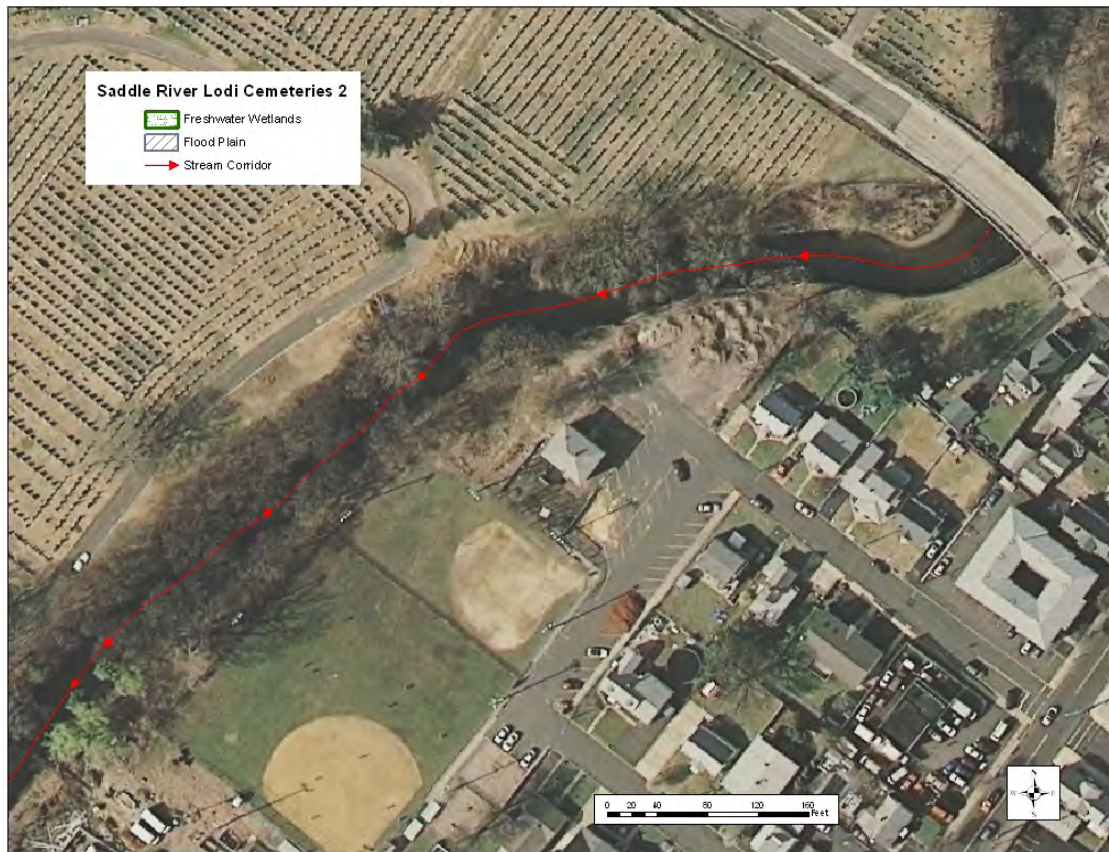
Appendix D, Hazardous Toxic and Radioactive Waste (HTRW)

Appendix E, Structural

Appendix F, Real Estate.

Surface water quality impairments from; <http://www.state.nj.us/dep/>





21. SADDLE RIVER ARCOLA POOL SITE

Category: Existing restoration, preservation and/or mitigation site.

Location: This Property is located on Paramus Road between White Pine Court and Johnson Court.

Current Land Use: Abandoned property. Location of the former Arcola Pool and Swim Club, which burned down in the 1970's.

Site Description: This reach of the Saddle River has a relatively mild channel slope. Wetland/flood retention areas can be found along the relatively undeveloped overbanks of this reach. Periodic maintenance has been performed by the local governments within this reach. The excessive backwater caused by the downstream constrictions, inadequate channel capacity and a mild bottom slope contribute to the flooding in this reach. Near the stream bank this site is predominantly suburban residential in nature. The residences are generally buffered from the banks by lands which are part of the Bergen County Park System.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Sediment Contamination – These waters receive pollutants from both point and non-point sources. Potential dredging and/or capping of contaminated sediment based on sediment sampling.

Tributary Connections – Restoration of ≈ 2.72 acres of forested flood plain will re-connected this site to the adjacent habitat. This will involve excavation of remaining concrete, clean fill of the pool, and planting of native species. Removal of debris.



EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USACE, USGS, NJDEP regional data inclusive of this site.

B. Real/Estate/ Ownership: Bergen County

C. Site History and Land Use: Arcola pool closed in 1970 after a fire. Currently,

D. Biological Studies/ Fauna: No data obtained.

E. Biological Studies/ General Environment: No data obtained.

F. Geotechnical: No data obtained.

G. Hydraulics and Hydrology: No data obtained.

H. Water and Sediment: No data obtained.

I. Historical and Cultural Resources: No data obtained.



22. SADDLE RIVER COUNTY PARK

Category: Existing restoration, preservation and/or mitigation site.

Location: The Saddle River reach between Saddle River County Park and where it joins Ho-ho-kus Brook.

Current Land Use: County park with adjacent wooded area surrounded by residential and transportation uses.

Site Description: The Saddle River County Park is a 577-acre linear park that meanders with the Saddle River and its tributary brooks. It consists of a string of five recreational locations along the Saddle River from Ridgewood south to Rochelle Park. Invasive species (eg. Japanese knotweed) are persistent within the floodplain area. This site contains a forested wetland just off Dunkerhook Road. This area should be preserved as it has the potential to be encroached on by on-going activities west of the river. This wetland could also serve as a reference site for other potential restoration sites.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Coastal Wetlands (freshwater) – Potential to create or restore fringe/pocket forested wetlands.

Sediment Contamination – These waters receive pollutants from both point and non-point sources. Potential dredging and/or capping of contaminated sediment based on sediment sampling.

Tributary Connections – Restoration and preservation of the ≈ 58.67 acres of flood plain to include re-grading to proper elevations relative to site-specific variables, removal of invasive species, and re-planting with native species. Improvements to $\approx 7,551$ linear feet of stream bank including assessing the bed/sediment load for potential deepening and erosion protection measures.

EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS, NJDEP, Bergen County regional data inclusive of this site.

B. Real/Estate/ Ownership: Bergen County

C. Site History and Land Use: County Park

D. Biological Studies/ Fauna: No data obtained

E. Biological Studies/ General Environment: No data obtained.

F. Geotechnical: No data obtained.

G. Hydraulics and Hydrology: No data obtained.

H. Water and Sediment: No data obtained.

I. Historical and Cultural Resources: No data obtained.

***STILL NEED TO FIND THIS WETLAND**

Draft



23. FIRST RIVER BRANCH BROOK PARK*

Category: Existing restoration, preservation and/or mitigation site.

Location: Located in the City of Newark and bordered at the northern end by U.S. Route 280, the park crosses Bloomfield Avenue, Park Avenue, and Heller Parkway, terminating near the Newark/Belleville line.

Current Land Use: Essex County Park.

Size: 360 acres

Site Description: This property contains a large lake, meandering streams, and in the north, the Second River channel. The property is a combination of open meadowland and small patches of woodland on gently rolling terrain. This site was historically connected to the Passaic River via the Branch Brook at River Mile X.

Restoration Recommendations and Applicable Target Ecosystem

Characteristics:

Coastal Wetlands (freshwater) – Remove invasive vegetation (*Phragmites*, *Ailanthus*, Knotweed) and increase the density of wetland vegetation along the waterways, riparian zones and the Second River channel.

Tributary Connections – Clearing the channel of the Second River (Belleville Park) of debris and manmade structures. Addition of rocky bottom and vegetated slopes will naturalize the stream beds. Stream day-lighting and de-channelization where possible. Management of storm water flow through the Second River. Investigate possibility of daylighting the First River.

Stormwater Management – The current stormwater systems in place at the park bypass the hydrologic cycle cutting off vegetation and overall water quality and quantity. Management should control for cleaning of silted in storm drains, stormwater ponding in grass and wooded areas and erosion due to non-functioning stormwater systems. Mitigation could include the use of retention basins and planting of wetland vegetation. Gravity settling in basins removes suspended solids and associated pollutants while aquatic plants and microorganisms provide uptake of nutrients and degradation of organic contaminants.



EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site.

B. Real/Estate/ Ownership: Essex County Park Commission.

C. Site History and Land Use: CLR Vol. 1 Existing Conditions, CLR Vol. 2 History.

D. Biological Studies/ Fauna: CLR

E. Biological Studies/ General Environment: CLR Vol. 5 Vegetation Report.

F. Geotechnical: CRL Vol. 3 Hydrology, Infrastructure, Historic Fabric.

G. Hydraulics and Hydrology: CLR Vol. 3 Hydrology Infrastructure Historic Fabric.

H. Water and Sediment: CRL Vol. 3 Hydrology, Infrastructure, Historic Fabric.

I. Historical and Cultural Resources: State and National registrar of historic places. CLR Vol. 2 History, CRL Vol. 3 Hydrology, Infrastructure, Historic Fabric.

REFERENCES:

Cultural Landscape Report, Treatment, and Management Plan for Branch Brook Park Newark, New Jersey Prepared for: Branch Brook Park Alliance Essex County Department of Parks, Recreation and Cultural Affairs.

Volume 1: Existing Conditions.

Volume 2: History.

Volume 3: Hydrology, Infrastructure, Historic Fabric.

Volume 4: Structures.

Volume 5: Vegetation.

Volume 7: Cost Estimate.

24. SECOND RIVER PASSAIC- BELLEVILLE

Category: Existing restoration, preservation and/or mitigation site.

Location: The section of the Second River running (approximately) from South Franklin Avenue and along Mill Street, through Belleville Park into the Passaic River.

Current Land Use: A portion of this river stretch runs through Belleville Park. Just past Union Avenue to its confluence with the Passaic River the river corridor is highly urban.

Site Description: The majority of the river is channelized with concrete walls and rip rap. On the Second River in Belleville, there are some parks

containing willows (lower in elevation than the areas containing the cherry blossoms) and natural stream bank.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Sediment Contamination – Potential dredging and/or capping of contaminated sediment based on sediment sampling.

Tributary Connections – Stream bank restoration to $\approx 3,729.71$ linear feet in Passaic and $\approx 3,569.12$ linear feet in Belleville should improve failing rip rap and concrete banks and create natural shoreline. Areas that contain natural stream bank (≈ 7.42 acres in Passaic and ≈ 16.92 acres in Belleville) should be preserved as floodplain areas and may provide good restoration opportunities.

Public Access – Improvements to $\approx 2,797.90$ linear feet of existing pedestrian paths Belleville.



EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site

B. Real/Estate/ Ownership:

C. Site History and Land Use: No data obtained.

D. Biological Studies/ Fauna: No data obtained.

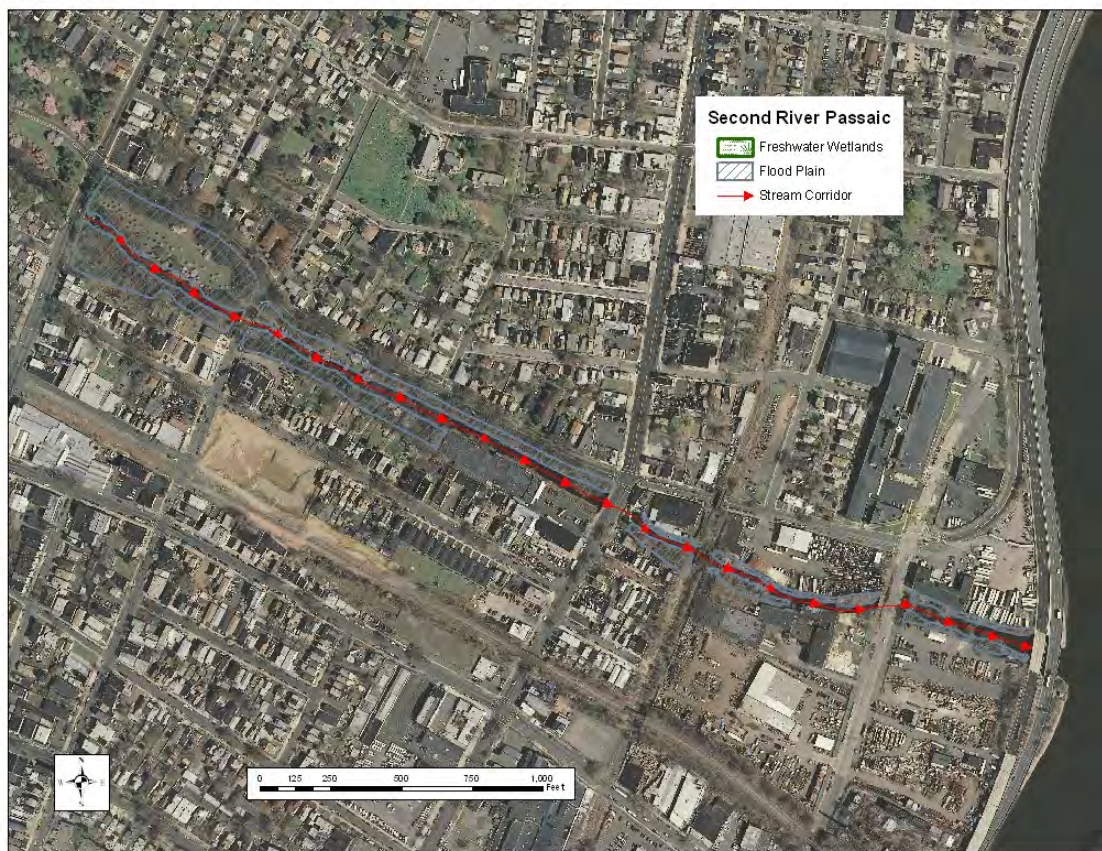
E. Biological Studies/ General Environment: No data obtained.

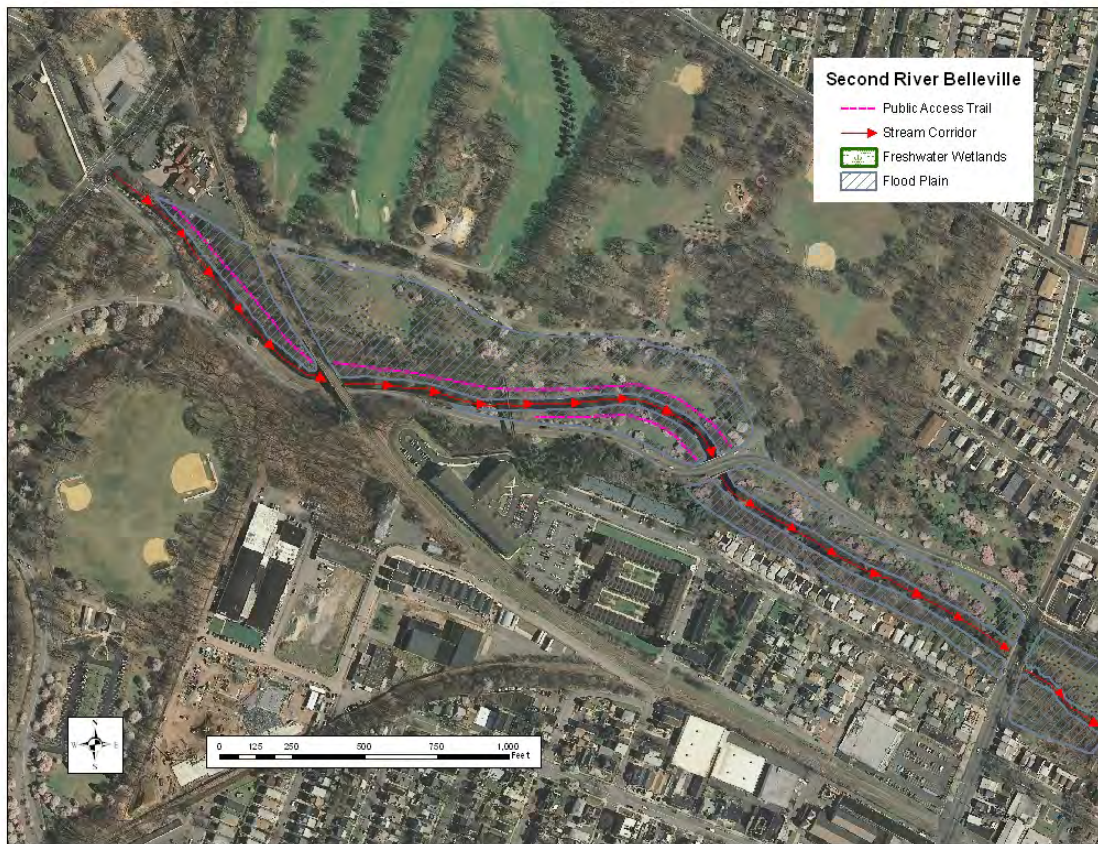
F. Geotechnical: No data obtained.

G. Hydraulics and Hydrology: No data obtained.

H. Water and Sediment: No data obtained.

I. Historical and Cultural Resources: The river may coincide with the Morris Canal, possible constraints.





25. SECOND RIVER BLOOMFIELD

Category: Existing restoration, preservation and/or mitigation site.

Location: 0.5 miles of public land (walkway and park) between Newark Ave. and Mill St. on the southern bank of the Second River.

Current Land Use: Site is adjacent to residential and industrial properties. The Southern portion contains a forested foot path that extends from Newark Ave., through the Wrights Field ball fields to Mill St.

Site Description: This site contains a thin forested strip of public land on both sides of the river with natural slopes (no bulkhead). Concrete stream banks are deteriorating, increasing erosion. Area is highly urban so restoration of flood plain property is unlikely.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Sediment Contamination – Potential dredging and/or capping of contaminated sediment based on sediment sampling.

Tributary Connections – Restoration of ≈ 1.90 acres of flood plain and $\approx 1,622.72$ linear feet of stream bank. Naturalize the stream beds through addition of rocky bottom and vegetated slopes. Re-grading of river corridor slopes to re-connect the floodplain and reduce erosion.

Public Access – Improvements to $\approx 1,209.93$ linear feet of existing pedestrian paths and park.



EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site

B. Real/Estate/ Ownership:

C. Site History and Land Use: No data obtained.

D. Biological Studies/ Fauna: No data obtained.

E. Biological Studies/ General Environment: No data obtained.

F. Geotechnical: No data obtained.

G. Hydraulics and Hydrology: No data obtained.

H. Water and Sediment: No data obtained.

I. Historical and Cultural Resources: The river may coincide with the Morris Canal here, possible constraints.



26. SECOND RIVER WATSESSING PARK

Category: Existing restoration, preservation and/or mitigation site.

Location: Watsessing Park is located on 69.67 acres in the Townships of Bloomfield and East Orange, in the eastern section of Essex County bounded by the Garden State Parkway, Glenwood Avenue, Cleveland Terrace, Dodd Street, and Bloomfield Avenue.

Current Land Use: Public Park. Several public access upgrades have been made to the park from 2003-present.

Site Description: The meandering Second River is joined here by Toney's Brook, which flows through this long open park. Watsessing Park is frequently flooded during storm event. Creeks are lined with Japanese knotweed. Some natural shorelines exist east of Glenwood Ave. The river is completely contained by concrete walls through the remainder of the site.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Sediment Contamination – Potential dredging and/or capping of contaminated sediment based on sediment sampling.

Tributary Connections – Failing concrete banks are increasing erosion. Opportunity exists to create and re-vegetate natural slopes. Enhancement and utilization of ≈ 9.03 acres of forested flood plain would decrease the severity of flooding, this may require re-grading to flood plain elevations, removal of invasive species and re-planting with natives. North of Watsessing Park the river is completely channalized and underground; restoration of $\approx 5,123.81$ linear feet of stream corridor should include naturalizing the stream bank and cleaning and assessing capacity of culverts and passages.

Public Access – Improvements to 2,559 linear feet of existing paths, parks, ball fields and signage.



EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site

B. Real/Estate/ Ownership:

C. Site History and Land Use: No data obtained.

D. Biological Studies/ Fauna: No data obtained.

E. Biological Studies/ General Environment: No data obtained.

F. Geotechnical: No data obtained.

G. Hydraulics and Hydrology: No data obtained.

H. Water and Sediment: No data obtained.

I. Historical and Cultural Resources: No data obtained.

Draft

Second River Watsessing Park

- Public Access Trail
- Stream Corridor
- Freshwater Wetlands
- Flood Plain



0 145 290 580 870 1,160 Feet



27. SECOND RIVER WIGWAM BROOK INDUSTRIAL

Category: Existing restoration, preservation and/or mitigation site.

Location: Site is located near the Wigwam Brook on Kearny St., west of NJ 444, south of Dodd St.

Current Land Use: Abandoned manufacturing and industrial areas partially function as parking lots.

Site Description: Abandoned buildings, paved surfaces. Existing commercial/ industrial/ brownfield site. Large portion of the river is channelized with concrete walls in this stretch of the river. Not indentified as a high priority restoration site.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Sediment Contamination – Potential dredging and/or capping of contaminated sediment based on sediment sampling.

Tributary Connections –Restoration to $\approx 1,326.52$ linear feet of stream bank; clear culverts and re-assess capacity, potential deepening based on flood risk assessment. Entire length of the river is channelized at this site.

EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site

B. Real/Estate/ Ownership:

C. Site History and Land Use: No data obtained.

D. Biological Studies/ Fauna: No data obtained.

E. Biological Studies/ General Environment: No data obtained.

F. Geotechnical: No data obtained.

G. Hydraulics and Hydrology: No data obtained.

H. Water and Sediment: No data obtained.

I. Historical and Cultural Resources: No data obtained.



28. SECOND RIVER MILLS



Category: Existing restoration, preservation and/or mitigation site.

Location: In the areas where the old mills existed (NEED MORE). Miles from Confluence with Passaic River?

Current Land Use:

Site Description: Current conditions are natural but disturbed. Stream banks are steep and eroded. Upstream portion of this site is located on Garfield Park.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Sediment Contamination – Potential dredging and/or capping of contaminated sediment based on sediment sampling.

Tributary Connections – $\approx 2,762.58$ linear feet of stream bank restoration and stabilization of eroded banks. Garfield Park portion presents an opportunity for ≈ 9.33 acres of flood plain preservation/restoration. Activities would include; re-grading stream edges, re-vegetating slopes, removing invasive species and re-planting with native species.

EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site

B. Real/Estate/ Ownership:

C. Site History and Land Use: No data obtained.

D. Biological Studies/ Fauna: No data obtained.

E. Biological Studies/ General Environment: No data obtained.

F. Geotechnical: No data obtained.

G. Hydraulics and Hydrology: No data obtained.

H. Water and Sediment: No data obtained.

I. Historical and Cultural Resources: No data obtained.

Draft



29. THIRD RIVER (MOUTH)

Category: Existing restoration, preservation and/or mitigation site.

Location: Mouth of the Third River

Current Land Use: Open space, fringe habitat bounded by NJ 21.

Site Description: The Third River generally flows un-interrupted into the Passaic River and is tidally influenced in this lower stretch. Much of the land use in this area is corporate/industrial. Route 21 runs along the Passaic through its confluence with the Third River and there is a retention wall along the Passaic River side of this site. There is a good portion of forested fringe habitat at the bottom stretch of the Third River along both banks. The area at the south west bank of the Third River has a large un-developed portion of land where an area of sedimentation has re-vegetated with invasive species.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Sediment Contamination – Potential dredging and/or capping of contaminated sediment based on sediment sampling.

Tributary Connections – Restoration to $\approx 2,503.10$ linear feet of river corridor and creation of ≈ 7.90 acres of flood plain in the vacant lot at the mouth of the Third River. Potentially, re-grade elevations to counter balance sedimentation. Preserve and restore riparian buffer, remove invasive species and re-plant with natives.

Public Access – Creation of Greenway in collaboration with City of Clifton and Passaic River Coalition. Greenway would provide recreation and wildlife preservation.

EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site

B. Real/Estate/ Ownership:

C. Site History and Land Use: No data obtained.

D. Biological Studies/ Fauna: Third River Watershed Characterization Study (1999), Natural Resources Inventory (2003).

E. Biological Studies/ General Environment: Third River Watershed Characterization Study (1999), Natural Resources Inventory (2003).

F. Geotechnical: No data obtained.

G. Hydraulics and Hydrology: Third River Watershed Characterization Study (1999).

H. Water and Sediment: Third River Watershed Characterization Study (1999).

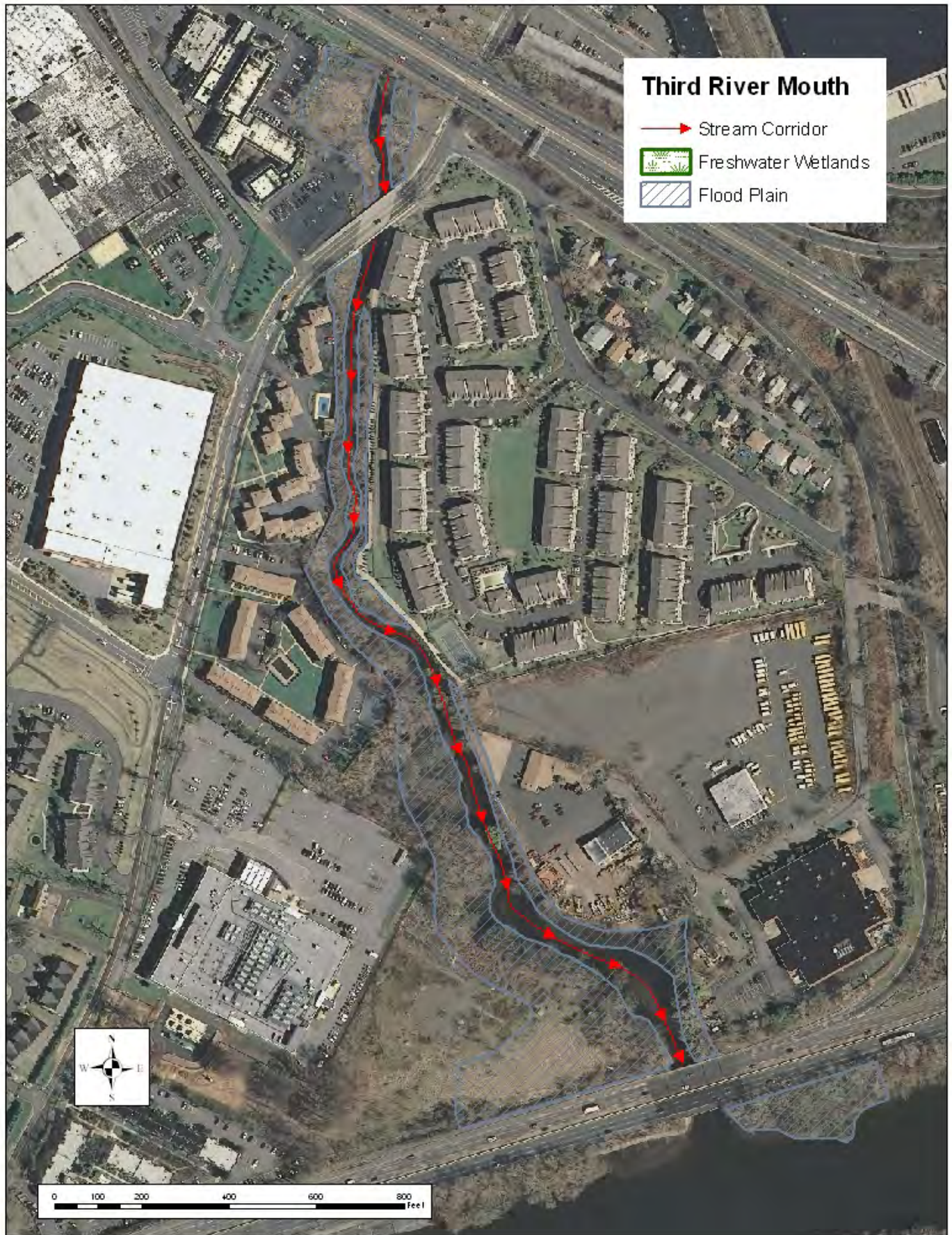
I. Historical and Cultural Resources: No data obtained.

REFERENCES:

Clifton Health Department/Clifton Environmental Protective Commission. Third River Watershed Characterization Study. September 1999.

Passaic River Coalition. Natural Resources Inventory: City of Clifton. May 2003.

Draft



30. THIRD RIVER CLIFTON POND*

Category: Existing restoration, preservation and/or mitigation site.

Location: Pond is located between Route 3 and Oak St. in Montclair, NJ. Site begins downstream X miles from confluence with Passaic River.

Current Land Use: Open space/wetland/pond

Site Description: Site is subject to heavy erosion and sedimentation and exists in an area with intense development pressure.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Sediment Contamination – Potential dredging and/or capping of contaminated sediment based on sediment sampling.

Coastal Wetlands (freshwater) – Investigate potential to create ≈ 7.60 acres of forested wetlands in highlighted areas. Low elevations in these areas may require minimal re-grading. Removal of invasive species and re-planting with natives will enhance wetland function.

Tributary Connections – Restoration of $\approx 6,383.54$ linear feet of river corridor and re-connection of ≈ 14.21 acres of forested floodplain. Potentially, re-grade elevations to counter balance sedimentation. Preserve and restore riparian buffer, remove invasive species and re-plant with natives. Re-assess culvert capacity in channelized and underground portions.

Public Access – Creation of Greenway in collaboration with City of Clifton and Passaic River Coalition. Greenway would provide recreation and wildlife preservation. School is located near site with underutilized parking lots. This area has great potential for park and playgrounds.



EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site

B. Real/Estate/ Ownership:

C. Site History and Land Use: No Data obtained

D. Biological Studies/ Fauna: Third River Watershed Characterization Study (1999), Natural Resources Inventory (2003).

E. Biological Studies/ General Environment: Third River Watershed Characterization Study (1999), Natural Resources Inventory (2003).

F. Geotechnical: No data obtained.

G. Hydraulics and Hydrology: Third River Watershed Characterization Study (1999).

H. Water and Sediment: Third River Watershed Characterization Study (1999).

I. Historical and Cultural Resources: No Data obtained.

REFERENCES:

Clifton Health Department/Clifton Environmental Protective Commission. Third River Watershed Characterization Study. September 1999.

Passaic River Coalition. Natural Resources Inventory: City of Clifton. May 2003.



31. THIRD RIVER FOREST HILLS FIELD CLUB

Category: Existing restoration, preservation and/or mitigation site.

Location: Site is located between the Forest Hill Field Club and the Glendale Cemetery in Bloomfield, NJ. Site begins downstream X miles from the confluence with the Passaic River.

Current Land Use: Open space, river corridor.

Site Description: This portion of the river flows between the Forest Hill Field Club, golf course and the Glendale Cemetery. There is a large area of low-lying open space located along the river.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Sediment Contamination – Potential dredging and/or capping of contaminated sediment based on sediment sampling. Potential leaching of fertilizers from the adjacent golf course.

Tributary Connections – Area should be preserved and restored to ≈ 15.99 acres of forested flood plain and planted with native species.

EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site

B. Real/Estate/ Ownership:

C. Site History and Land Use: No data obtained.

D. Biological Studies/ Fauna: No data obtained.

E. Biological Studies/ General Environment: No data obtained.

F. Geotechnical: No data obtained.

G. Hydraulics and Hydrology: No data obtained.

H. Water and Sediment: No data obtained.

I. Historical and Cultural Resources:



32. THIRD RIVER JFK PARKWAY

Category: Existing restoration, preservation and/or mitigation site.

Location: Between John F. Kennedy Parkway and the Garden State Parkway, the third river parallels JFK Parkway. Downstream boundary of site begins X miles from the confluence with the Passaic River.

Current Land Use: Open space, public property, ball fields, river corridor.

Site Description: This section of the Third River runs through the recreational fields Foley Field and Brookside Park and contains concrete hardened shorelines. Frequent flooding of the ball fields and parkway has been reported during storm events.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Sediment Contamination – Potential dredging and/or capping of contaminated sediment based on sediment sampling.

Tributary Connections – Stream restoration/stabilization to $\approx 4,455.20$ linear feet of stream bed and re-grading of elevations to create ≈ 10.18 acres of functional flood plain. Remove invasive species and re-plant with natives. Soften hardened shorelines.

Public Access – Adjustments to $\approx 2,072.88$ linear feet of access paths and ball fields in Foley Field and Brookside Park pending flood control measures to stream banks.

EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site

B. Real/Estate/ Ownership: Essex County

C. Site History and Land Use: No data obtained.

D. Biological Studies/ Fauna: No data obtained.

E. Biological Studies/ General Environment: No data obtained.

F. Geotechnical: No data obtained.

G. Hydraulics and Hydrology: No data obtained.

H. Water and Sediment: No data obtained.

I. Historical and Cultural Resources: No data obtained.

Draft



33. THIRD RIVER GLEN RIDGE COUNTRY CLUB

Category: Existing restoration, preservation and/or mitigation site.

Location: Near Glen Ridge Country Club at the confluence of the Third River and Springer Brook. Downstream boundary of site begins X miles from the confluence with the Passaic River.

Current Land Use: Open space, residential.

Site Description: Forested strip of land lines the river and is surrounded by residential properties. At the confluence flooding is severe and the nearby homes generally have a great deal of damage. Currently, a bad rainfall will inundate only the golf course and back yards of homes of Broad St., but any flood will cause damage to the many homes on



Lakewood, Clark and Augustus Streets. This area should be reserved for flood plain but there may be a COAH issue. Township of Bloomfield Master Plan (2002) has recognized the vacant land along the Third River at the end of Lionsgate Drive as an opportunity for preservation.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Sediment Contamination – Potential dredging and/or capping of contaminated sediment based on sediment sampling. Site is in close proximity to a NJDEP mercury known contaminated site (SGA, 2003).

Tributary Connections – Stream corridor restoration to ≈6,044.45 linear feet of stream bank to include stabilization of eroded and unstable hardened shorelines to create a natural shoreline, particularly on the side that is not yet developed. Preservation of riparian buffer and creation of ≈9.91 acres of flood plain through re-grading of elevations, removal of invasive species, and planting of native plants.

EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site

B. Real/Estate/ Ownership:

C. Site History and Land Use: No data obtained.

D. Biological Studies/ Fauna: No data obtained.

E. Biological Studies/ General Environment: No data obtained.

F. Geotechnical: No data obtained.

G. Hydraulics and Hydrology: No data obtained.

H. Water and Sediment: No data obtained.

I. Historical and Cultural Resources: No data obtained.

REFERENCES:


2002 Master Plan Township of Bloomfield Essex County, NJ.

SGA Scientific Inc. Technical Review Panel Decision Document, Site remediation and Waste Management Program. 2003.

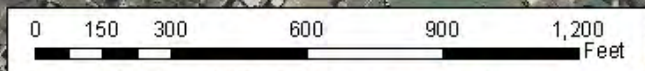
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Third River Glen Ridge Country Club

—▶ Stream Corridor

 Freshwater Wetlands

 Flood Plain



34. THIRD RIVER CLARKS POND



Category: Existing restoration, preservation and/or mitigation site.

Location: In Bloomfield, NJ west of the Garden State Parkway and south of Watchung Ave.

Current Land Use: Municipally preserved nature preserve with strong community group stewardship.

Site Description: Clarks Pond lies on the grounds of the North Middle School. The pond was declared a nature preserve in 2000. The area contains plant life of unique qualities and nearly sixty forms of wildlife, including the state proclaimed endangered species, the redheaded woodpecker. Clark's Pond is subject to sedimentation since it was formed by the damming of the Third River. A grant funded by NJDEP Green Acres Program, Essex County Open Space Trust Fund, Bloomfield Township Capital Fund recently enabled a neighborhood group to repair the dam, dredge the pond and clean its surroundings, stabilization of the Third River stream banks, pull out invasive growth, and plant native shrubs and trees. Plans to re-contouring the pond include the addition of a gentle slope on the west shore, to allow for better diversity of different classes of semi-aquatic and riparian wildlife and plants.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Coastal Wetlands (freshwater) – Build up existing habitat and increase native species plantings to support current pond restoration. Wetland restoration is accounted for in the Bloomfield Township Master Plan and could include re-grading to wetland elevations and planting of riparian buffer to create ≈ 1.80 acres of fringe marsh.

Tributary Connections – Restoration of $\approx 3,491.02$ linear feet of river corridor and pond, re-connection of ≈ 11.48 acres of forested floodplain. Potentially, re-grade elevations to address sedimentation in pond and investigate the addition of a fish ladder.

Public Access – Clarks Pond is currently used for a number of educational and recreational purposes. Town of Bloomfield plans to connect Clarks Pond to the Bloomfield Greenway which will link all of the local public open spaces by means of $\approx 1,348.82$ linear feet of walkways, bikeways and trails.

EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site

B. Real/Estate/ Ownership:

C. Site History and Land Use: No data obtained.

D. Biological Studies/ Fauna: No data obtained.

E. Biological Studies/ General Environment: No data obtained.

F. Geotechnical: No data obtained.

G. Hydraulics and Hydrology: No data obtained.

H. Water and Sediment: NJDEP Ambient Lake Monitoring Network, surface to bottom profiles and lake profiles.

I. Historical and Cultural Resources:

REFERENCES:

[HTTP://WWW.HILLTOPCONSERVANCY.ORG/CLARKSPOND.HTML](http://www.hilltopconservancy.org/clarkspond.html)

Draft

Third River Clarks Pond

-  Tributary Connections
-  Public Access Trail
-  Stream Corridor
-  Freshwater Wetlands
-  Flood Plain



35. THIRD RIVER ALONZO F. BONSAI WILDLIFE PRESERVATION

Category: Existing restoration, preservation and/or mitigation site.

Location: In Upper Montclair, NJ near Montclair University and west of the Garden State Parkway.

Current Land Use: A forested wildlife preserve.

Site Description: A 19 acre forested habitat which holds a rich concentration of wildlife along the Third River. The preserve is home to Baltimore orioles, red-eyed vireos, wood thrushes, red-winged blackbirds, robins, song sparrows, and goldfinches. Recently the North Jersey Water District Commission removed portions of the forested floodplain to build a temporary maintenance road in response to a burst sewer pipe. Currently sewage overflow and storm drains flow into the river in the preserve.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):

Sediment Contamination – Potential dredging and/or capping of contaminated sediment based on sediment sampling.

Tributary Connections – Preservation of the existing floodplain and re-vegetation of temporary maintenance road. Restoration of ≈4,439.29 linear feet of river bank and re-connection to ≈35.32 acres of forested floodplain.

Public Access – Restoration to ≈5,251.83 linear feet of existing access paths pending flood control measures to stream banks.

EXISTING SITE SPECIFIC DATA INVENTORY

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site

B. Real/Estate/ Ownership:

C. Site History and Land Use: No data obtained.

D. Biological Studies/ Fauna: No data obtained.

E. Biological Studies/ General Environment: Plant list.

F. Geotechnical: No data obtained.

G. Hydraulics and Hydrology: No data obtained.

H. Water and Sediment: No data obtained.

I. Historical and Cultural Resources:
No data obtained.

REFERENCES:

T&M Associates. 2007. Township of Montclair Master Plan Conservation Plan Element.

Fields, Julie. 1997. Clifton prepares for a 2-year study of forgotten waterway, The Bergen Record.

Plant List by Joe Labriola: <http://nynjctbotany.org/njnbtoc/bonsal.html>

