SIXTH STREET EMBANKMENT
REDEVELOPMENT PLAN

ADOPTED: XXX, 2022

DRAFT FOR PLANNING BOARD REVIEW

PREPARED FOR: HPC + PLANNING BOARD CONSIDERATION

DATE: 09.29.2022

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I. INTRODUCTION

EDITOR'S NOTE:

The Embankment has been the subject of extensive and protracted litigation in both state and federal courts over a continuous period extending over 15 years, involving many parties, including the City of Jersey City, the Consolidated Rail Corporation, the owners of Blocks 11602, 11304, 11204, 11211, 11210, 9906, 9804, 10901 and the Embankment Preservation Coalition, a community group in Jersey City, and the Rails-to-Trails Conservancy. The Redevelopment Plan Objectives and Proposed Redevelopment Actions defined herein within the Plan are only made possible by successfully settling the ongoing litigation amongst all the litigating and interested parties through a settlement agreement. Such a settlement agreement would set forth a binding settlement of all legal matters relating to the abandonment of, and redevelopment/land use matters related to the Redevelopment Area (defined below). A settlement agreement is specifically intended to govern (a) dismissal of pending litigation with prejudice between the parties, (b) release of claims by and among the parties, (c) transfer in fee of certain property to the City, and (d) procedures to be followed for implementation of residential development and community benefits including but not limited to the construction of a public park/trail, resulting in the resolution of most, if not all, of the disputes between and among the parties to such disputes.

The Sixth Street Embankment Redevelopment Plan (hereinafter, the "Plan") serves as a transformational project bringing significant impacts for both residents of Jersey City and the larger Hudson-Essex region as a whole. The Plan intends to preserve and redevelop the massive stone rail Embankment and additional land and structures that make up the eastern part of the Harsimus Branch - the Pennsylvania Railroad's historic freight right-of-way (ROW) into the Hudson River waterfront.

1. LAND USE HISTORY

The Plan area is located in Downtown Jersey City south of the Hamilton Park neighborhood. It runs along the south side of Sixth Street from Manila Avenue extending west across Newark Avenue to the I-78 Turnpike Extension, terminating at Block 8 per the Plan Boundaries defined in Section II of this document. It comprises seven segments (referred to as Blocks) currently making up the Pennsylvania Railroad freight line ROW.

Historically, the majority of the Plan Area was primarily used for infrastructure related to the Harsimus Branch of the Pennsylvania Railroad (formerly the New Jersey Railroad). Planned in the 1860s and constructed in the mid-1870s, the two-track line ran at grade in back of the Harsimus Cemetery and then on elevated trestles. By 1871, the Pennsylvania Railroad reached Jersey City via lease of the United New Jersey Railroad and Canal Company. Its passenger station at Exchange Place was at one time the largest in the world. This Age of Railroads had large impacts on Downtown Jersey City, with the Plan Area serving the terminus of the waterfront rail yard and incoming goods.

The Embankment portion of the freight line replaced the earlier elevated iron freightway and expanded the number of lines supported. It was constructed from 1902-1905. Over time, The Harsimus Branch experienced declining traffic but was profitable well into the mid-1980s. Traffic ceased in the early 1990s and bridges connecting the elevated Blocks were removed in 1994. The Embankment has since been designated a historic landmark and is now recognized as a resource whose development holds high importance for Jersey City's future. In 1999 The Pennsylvania Railroad Harsimus Stem Embankment Preservation Coalition was formed to advocate for preservation of the Embankment as a resource.

Today, the Plan Area is comprised of mostly vacant land and abandoned freight infrastructure with some smaller development and surface parking on the western blocks. Blocks 2 through 6 of the Plan exist as elevated land above block-long masonry walls which previously supported elevated rail tracks at an approximate range of 12ft-27ft above grade. Blocks 7 and 8 previously continued these elevated tracks on iron trestles supported by stanchions. Today, Block 7 includes one remaining stanchion of the elevated rail and commercial auto uses on Lot 1, whereas lots 2-7 are utilized for surface parking areas. Block 8 includes several more intact stanchions and remnant continuing west underneath the NJ Turnpike Extension.

2. LEGAL HISTORY

On June 24, 2003, Consolidated Rail Corporation (Conrail) agreed to sell eight parcels of land which included the Sixth Street Embankment, which consisted of a series of elevated structures made of earth-filled stone retaining walls connected by bridges, to a private developer. The Embankment was part of a line of rail owned by Conrail, but no longer in regular use. Shortly thereafter, the developer assigned its rights to several limited liability companies.

Conrail advised the buyers that the embankment was a "spur track" and that, in light of certain rules relating to spur tracks, the Surface Transportation Board (STB) had no authority over it. Consequently, Conrail took the position that unlike when a line of rail is sold, no formal abandonment of a spur track needed to be filed with the STB. After a 2005 closing, one of the developer entities applied to the Jersey City Planning Board for subdivision approval. The Planning Board denied the application because Conrail had failed to receive STB approval to abandon the railway.

In January 2006, Jersey City petitioned the STB for an order declaring that the Embankment was not a spur track but a line of rail, and therefore that Conrail was required to obtain STB authorization to abandon it. In August 2007, the STB agreed and held that the Embankment was a rail line subject to the STB's jurisdiction until abandonment was authorized. Litigation in federal court over the issue ensued, during which Jersey City also argued that any property authorized for abandonment by the STB must first be offered to the government for acquisition pursuant to N.J.S.A. 48:12-125.1. Following protracted litigation, on July 10, 2012, Conrail, the developers, and Jersey City stipulated that the railway located on the property in question was subject to the jurisdiction of the STB, including the STB's abandonment requirements. The abandonment proceedings before the STB are still ongoing.

In an effort to expedite the ongoing litigation and reach a settlement, the City of Jersey City together with the Embankment Preservation Coalition, the Rails to Trails Conservancy, Conrail, and the privately-owned LLC's involved in the litigation have worked to reach an agreement under which private development would be permitted to ensue in portions of the Plan Area, with the remaining portions to be transferred in ownership to Jersey City for use as a public open space and trail network. While the settlement is not yet finalized, the Redevelopment Plan herein seeks to accomplish the agreed upon goals and allowances of the ongoing negotiations pursuant to said settlement agreement.

3. HISTORIC DESIGNATIONS

The Pennsylvania Railroad Harsimus Stem Embankment, also known as The Pennsylvania Railroad Harsimus Branch Embankment or the Sixth Street Embankment, was constructed *circa* 1902 and is one of the last intact historic reminders of the railroads' influence on the economic and social development of not only Jersey City, but also to the Ports of New York and New Jersey.

The Sixth Street Embankment is located within the boundaries of the Pennsylvania Railroad Harsimus Branch Right-of-Way Historic District, which was determined eligible for the National Register of Historic Places in 2017. Blocks 1-6, in between Marin Boulevard and Brunswick Street, comprise the Sixth Street Embankment (also known as the Pennsylvania Railroad Harsimus Branch Embankment), was determined eligible for the National Register of Historic Places (2000; owner objection), was listed on the New Jersey State Register (1999), and was locally designated on the Jersey City Municipal Landmarks Register (2002). This designation recognizes the Embankment as a significant monument to the age of rail in Jersey City and its unique siting. The massive blocks of sandstone and granite also abut two listed municipal, state, and national historic districts: The Hamilton Park Historic District to the north and the Harsimus Cove Historic District to the south. Also adjacent to the embankment is the National Register Eligible Italian Village Historic District (2019) and the individually listed St. Anthony's Roman Catholic Church (2004).

4. RECENT URBAN GROWTH

In the past 20 years, downtown Jersey City has seen a significant increase in density that continues to accelerate the demand for quality public open space in a part of Jersey City with a very finite amount of available vacant and/or publicly owned land. The Embankment presents a unique opportunity to

adaptively reuse the elevated stone structure by converting the land into a public open space as is commonly done throughout the United States in rails-to-trails projects.

The natural environment that has self-seeded atop the elevated structures over recent decades also helps to alleviate growing concerns related to stormwater runoff and overall permeability of the urban landscape in Jersey City's downtown. In the face of climate change, the Embankment presents a unique opportunity to leverage open space for increased resiliency and green infrastructure measures in the floodplain as envisioned through the Resilient Jersey City Master Plan and the OURJC Master Plan Vision's Climate Resiliency goals.

At a larger scale, the Embankment serves as a critical connection to help close multi-modal transit gaps both within Jersey City and the greater region. Future greenway expansions such as the Hudson-Essex Greenway and the Bergen Arches highlight the potential for off-road bicycle and pedestrian networks that can help increase connectivity and public health. The Embankment serves as a key terminus for many of these networks from which potential connections to Manhattan and the NYC Metro may be centered in future expansion. The Plan also presents opportunities for preservation of natural habitat in Jersey City's dense urban core while strengthening relationships between the City and environmental and historic preservation groups to establish vested stewards in the resource's future as a trail and ecological corridor.

II. PLAN BOUNDARIES

The Plan boundaries are formally set by the following Tax Blocks and Lots:
NOTE: Block 1 of the Harsimus Branch Corridor is identified as Tax Block 11602, Lot 1 and is framed by Marin Boulevard to the east, Manila Boulevard to the west, Sixth Street to the north, and the Villa Borinquen housing complex to the south. Block 1 is located within the Luis Munoz Marin Redevelopment Plan (formerly the Henderson Street Redevelopment Plan) and associated land use and zoning controls for this block are regulated under said plan.

BLOCK (TAX ASSESSOR'S OFFICE)	BLOCK (WITHIN RDP)	LOT(S)
11304	**2**	1
11204	**3**	1, 24
11211	**4**	1
11210	**5**	1
9906	**6**	1
9804	**7**	1,2,3,4,5,6,7,8
10901	**8**	120

The parcelization, subdivision or creation of rights-of-way will alter this list and in that case the Map 1: Block Identification Map shall prevail.

III. REDEVELOPMENT PLAN OBJECTIVES

A. To preserve and rehabilitate the existing Embankment structures on Blocks **2** through **6**, as to secure their structural stability while protecting their historic character.

B. To preserve the remaining Embankment stanchions on Blocks **7** and **8**, as to protect their historic character.

C. To adaptively re-use the Embankment structures within the Harsimus Branch Corridor on Blocks 2 through 6 through the development of an open space and trail system for public use rooted in ecological conservation and passive/active recreational programming. Future park and trail design should include consultation with the Embankment Preservation Coalition.

D. To re-establish the Harsimus Branch R.O.W. to create a continuous, elevated corridor for open space, trail, and passenger rail, as well as at-grade park and open space on portions of Block 7. Future park and trail design should include consultation with the Embankment Preservation Coalition.

E. Wherever possible, to preserve and enhance the established natural environment and flora that has become a naturally seeded ecological corridor while allowing for environmentally conscious public use and enjoyment of the open space atop the Embankment structures.

F. To establish critical bicycle and pedestrian connections through sustainably designed off-road corridors that serve local needs and expand links to larger regional networks as consistent with the OURJC Master Plan Vision and the Open Space Element of the Jersey City Master Plan.

G. To redevelop the Plan Area in a manner that will allow for infill of a residential/mixed-use development on a portion of Block 7 of the Plan.

H. To extend greater opportunities for open space, recreation and balanced housing to all residents of the City.

I. To extend greater opportunities for educational and recreational experiences rooted in sustainability, community stewardship and environmental consciousness to all residents of Jersey City.

J. To extend greater opportunities for public transit through accommodation of a future light rail or trolley system along the Harsimus Branch Corridor.

IV. PROPOSED REDEVELOPMENT ACTIONS

It is proposed to substantially improve and upgrade the Redevelopment Area through a combination of redevelopment actions. These will include, but not be limited to:

A. Reconstitution of the Harsimus Branch Corridor R.O.W. on Blocks 2-8.

B. Restoration and stabilization of existing Embankment structures on Blocks **2** through **6**, in line with Historic Preservation Standards as defined in Section VII.A of this Plan**.**

C. Preservation of the remaining stanchions on Blocks 7 and 8.

D. Construction of a continuous corridor of an elevated and at-grade open space and trail system, with potential for integration of future light rail or trolley systems.

E. Clearance of dilapidated buildings and non-embankment structures, with the exception of existing stanchions and other significant railroad appurtenances located on Blocks 7 and 8.

F. Reuse of vacant and underutilized parcels.

G. Creation of a developable parcel for residential and mixed-use development on Block 7.

H. Construction of a new residential and mixed-use structure on Block 7 as contemplated in Section VII.B of this Plan.

I. Construction of public infrastructure necessary to implement, service and support the Plan Area including new park and open space and a residential and mixed-use development.

V. GENERAL ADMINISTRATIVE REQUIREMENTS

The following provisions shall apply to all property located within the Redevelopment Area.

A. Designation and Redevelopment Agreement Requirements – Every site plan application shall include a fully executed redevelopment agreement ("RDA") with the Jersey City Redevelopment Agency ("JCRA"). Nothing herein shall be construed to deprive or dispossess the JCRA of the discretionary exercise of its redevelopment powers enumerated in N.J.S.A. 40A:12A-1 et seq., including the designation of a redeveloper under the Act.

B. Prior to the commencement of: (1) any new construction, (2) reconstruction, (3) rehabilitation (4) any change in the use of any structure or parcel, or (5) any change in the intensity of use of any structure or parcel; a site plan for such shall be submitted by the developer or property owner to the Planning Board for review and site plan approval. No temporary or permanent Building Permit shall be issued for any work associated with proposed redevelopment actions a. through i. above, without site plan review and approval of such work by the Planning Board and review and recommendation by the Historic Preservation Commission.

C. Approval and recommendation requirements of the Planning Board and Historic Preservation Commission - Site plan review shall be conducted by the Planning Board and, pursuant to N.J.S.A. 40:55D-l et. seq. Site plan review shall consist of a preliminary and final site plan application. Submission of a site plan and site plan application shall conform to the requirements of the Jersey City Land Development Ordinance and this Plan. Applications for development requiring review and recommendation by the Historic Preservation Commission, inclusive of a Certificate of Appropriateness, shall be referred to the Historic Preservation Commission.

D. Subdivision - Any subdivision of lots and parcels of land within the Redevelopment Area shall be in accordance with this Plan's requirements and the Jersey City Land Subdivision Ordinance.

E. Severability Clause - If any word, phrase, clause, section or provision of this Plan shall be found by a court of competent jurisdiction to be invalid, illegal or unconstitutional, such word, phrase, clause, section or provision shall be deemed severable and the remainder of the ordinance shall remain in full force and effect.

F. Adverse Influences: No use or re-use shall be permitted which, when conducted under proper and adequate conditions and safeguards, will produce corrosive, toxic or noxious fume, glare, electro magnetic disturbance, radiation, smoke, cinders, odors, dust or waste, undue noise or vibration, or other objectionable features so as to be detrimental to the public health, safety or general welfare.

G. Approval and/or recommendation requirements of the Historic Preservation Commission: Application review shall be conducted by the Historic Preservation Commission for Blocks 2 through 6, pursuant to N.J.S.A 40:55D-110 and 40:55D-111. Approval of the redevelopment plan, preliminary site plan application, and final site plan application by the Planning Board, shall be contingent upon review and approval by the Jersey City Historic Preservation Commission. All development, redevelopment, rehabilitation, construction or alteration shall comply with the applicable regulations of the Jersey City Historic Preservation Commission, and with all pertinent state and federal historic preservation regulations.

H. This Plan shall supersede all provisions of the Jersey City Land Development Ordinance and Master Plan that are specifically addressed herein. Any zoning-related question that is not addressed herein shall refer to the Jersey City Land Development Ordinance for clarification. No variance from the requirements herein shall be cognizable by the Zoning Board of Adjustment. The Planning Board alone shall have the authority to grant deviations or variances from the requirements of this Plan, as provided herein subject to N.J.S.A. 40:55D-70 (c). Any variance from a provision of this Plan that falls under N.J.S.A. 40:55D-70 (d) will require an amendment to this Redevelopment Plan and shall not be heard by the Board of Adjustment. Upon final adoption of this Plan by the Municipal Council of Jersey City, the Jersey City Zoning Map shall be amended to rezone the Redevelopment Area covered by this Plan as a Redevelopment Area, and all prior zoning will be voided.

VI. GENERAL REGULATIONS AND REQUIREMENTS

A. Signage Requirements

1. No signs or window graphics other than those specifically enumerated herein shall be permitted.

2. Under no circumstances shall fluorescent or glowing paint be permitted for any signage within the area.

3. Billboards are expressly prohibited throughout the Redevelopment Area.

4. No sign shall be attached to a building facade above the first story of any structure, with the exception of signage for second level institutional and commercial uses.

5. Flashing moving or intermittently illuminated signs or advertising devices are prohibited, as are signs that may be mistaken for traffic control devices.

6. Rooftop signs are not permitted throughout the area.

7. Permanently fixed freestanding signs are prohibited. Except that way-finding identification and traffic signage in the public sidewalk or at the edges of the open space and trail corridor as per City standards shall be permitted.

8. All signage shall be externally lit. Signs may be lit from gooseneck fixtures, backlit halo, and up-lights or down-lights. Internally lit signs and sign boxes are prohibited.

9. Permitted signage material includes a.) Painted wood; b.) Metals including aluminum and steel; c.) Brushed finished aluminum, stainless steel, brass, or bronze; d.) Carved wood or wood substitute.

10. All signs shall be flush mounted, although blade signs may be attached to and perpendicular to the first-floor façade, at a minimum of 8ft vertical clearance from the sidewalk.

11. No signage may be installed on the embankment structure itself, except for emergency and park-related signage, as deemed necessary. Should the City determine emergency or park-related signage is required to be installed on the embankment, it shall be installed in a reversible manner and shall not cause an adverse effect on the embankment structure.

12. Window signs (other than lettering or logos as specifically permitted) shall be prohibited. Lettering or logos shall be limited to decorative gold-leaf, flat black or etched / frosted glass style lettering and shall cover no more than twenty percent (20%) of the window area.

13. All buildings within the Redevelopment Area shall display the street address of the building such that it is clearly visible from the adjoining street right-of-way.

14. The following additional signage restrictions shall apply to specific uses:

    a. Residential: One (1) sign per building lobby is allowed, not to exceed twenty (20) square feet for each sign.

    b. Retail, Restaurant, Office, and all other uses not specifically identified: Each establishment is allowed one sign and one blade sign per street frontage (establishments on corners are thus allowed two sets of signs.) In this instance, the Embankment R.O.W. above the Podium shall be considered a street frontage. Signage shall not exceed 30 inches in vertical dimension. Blade signage shall not exceed 18 inches in vertical dimension and shall not project more than 2.5ft from the building.

c. Accessory Parking: The location of parking facilities shall only be indicated by use of the international parking symbol. Said signage may not exceed five (5) square feet and must be flush mounted to the building. Informational and directional signage may also be provided, but only flush mounted on interior walls within the structure.

15. Prohibited Signage - the following signs and devices shall not be permitted within the Redevelopment Area: Monument signs for private development, internally or externally illuminated box signs, flashing or animated signs, spinners, pennants, reflective materials that sparkle or twinkle, billboards, posters, plastic or paper that appear to be attached to the window, pole signs, free-standing signs, fluorescent and/or glowing paint for any signage or building within the redevelopment area, waterfall style awnings, plastic awnings, product advertising signage of any kind. Product advertising signage is defined here to include, but not be limited to signage on: parking meters, signage in windows, on light poles, benches or other street furniture within the redevelopment area. Nothing in this paragraph shall be deemed to prohibit signage within New Jersey Transit Light Rail Stations or bus stop shelters; or either lamppost mounted seasonal banners or traditional residential holiday decorations.

B. Utility and Infrastructure Requirements

1. All applicants shall satisfy to the Municipal Engineer, the Planning Board, and the Historic Preservation Commission that provisions for the necessary utilities is accomplished in a way that advances the health safety and welfare of the general public.

2. Utility Placement – All utility distribution lines and utility service connections from such lines to the project area's individual uses shall be located underground. Utility appliances, such as transformers, regulators and metering devices (including gas, electric and water meters) shall be located underground or within the building. Remote readers are required for all utilities, in lieu of external location of the actual metering devices. Developers are required to arrange for connections to public and private utilities.

3. The installation of utilities shall not cause an adverse effect to the Embankment structure on Blocks 2 through 6 and on the preserved portions of the Embankment stanchions on Blocks 7 and 8.

4. No development or redevelopment of any parcel in the Plan Area that will result in an increase in wastewater from that parcel shall be permitted unless and until the planned project wastewater piping and systems for the removal of effluent and storm water are approved by the Jersey City Division of Engineering and Jersey City Municipal Utilities Authority; and the municipal wastewater piping and systems for the removal of effluent and storm water are certified by the Jersey City Division of Engineering and the JCMUA as being of sufficient capacity and good condition to accommodate uses that will occupy said parcel.

VII. SPECIFIC LAND USE AND BULK REGULATIONS

A. Zone 1: HARSIMUS BRANCH ECOLOGICAL CORRIDOR DISTRICT

This district includes Blocks 2 through 6, as well as portions of Block 7 and 8 of the Plan Area as identified on Map 3: District Map.

1. HISTORIC PRESERVATION REQUIREMENTS

a. General Requirements

i. All proposals on, within, or incorporating the embankment structure or surrounding area shall be guided by the Secretary of Interior Standards for the Treatment of Historic Properties, applicable National Park Service Preservation Briefs and Bulletins, and Chapter 345-71 of the Jersey City Land Development Ordinance.

ii. Collocations, 5G Poles, or similar cellular equipment are discouraged on Blocks 2-6 and the open space portions of Blocks 7 and 8 of the plan area.

iii. Development of the park and open space shall maintain and honor the existing natural use of the embankment structure that has developed over time and has become significant in its own right.

iv. Any new site elements, such as fencing, railings, pathways, interpretive signage, etc. shall be designed in context with the historic and cultural character of the site.

v. Sand blasting, power washing, etc. of the embankment walls is not a permissible cleaning method and is not permitted. All cleaning of the Embankment structure shall be using the gentlest means possible and done under the guidance of the JCHPC and its Staff.

vi. Up lighting or down lighting of the embankment structure is discouraged.

vii. All new improvements and alterations in the Plan Area shall preserve and restore the existing rail line structures in accordance with Secretary of Interior Standards and local historic preservation guidelines while minimizing to the greatest extent practicable the addition of non-historic fabric.

b. Blocks 2-6 Standards

i. No removal or demolition of any part of the embankment structure is permitted on Blocks 2-6. Small, selective demolition, only to accommodate new elements for the park/open space use, may be permitted but only on a case-by-case basis, under the consultation, review, and approval by the JCHPC and/or its Staff and in consultation with the Embankment Preservation Coalition.

ii. Repairs and restoration of the embankment structure shall be guided by the existing historic fabric and historic site documentation, in conjunction with the Secretary of Interior Standards for the Treatment of Historic Properties and applicable National Park Service Bulletins or Briefs.

iii. Any new bridges between blocks shall be of a modern design and may, but are not required to, visually refer to the previously existing historic structures between blocks but shall not copy or reconstruct them. Any new bridges shall not cause an adverse effect on the historic fabric of the embankment walls and will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the embankment would be unimpaired.

iv. Any new stairs or elevators providing vertical entry to/from the ground level shall be of a modern design and shall not cause an adverse effect on the historic fabric of the embankment walls. The design and installation of any new stair or elevator will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the embankment would be unimpaired.

v. New structures to accommodate the new park use shall be of a modern design and be harmonious and designed in context with the historic character of the site.

vi. It is strongly encouraged that any new structures to accommodate the new park use be located on the embankment in a way that reduces, minimizes, and, preferably, eliminates their visibility from any public right of way at street-level.

vii. Historically used exterior building materials during the period of significance are encouraged on new structures related to park use, including but not limited to full

brick, wood clapboard, and horizontal cement siding.

viii. Vinyl, thin brick veneer, corrugated metals, ground face CMU, and similar exterior building materials are discouraged.

ix. Any new lighting for the park use or between blocks shall be minimal and downcast.

c. Blocks 7-8 Standards

i. All existing elements of the Harsimus Branch structures, both above and below ground, shall be preserved. Demolition of these elements is not permitted.

ii. Repairs and restoration of the remaining rail structure shall be guided by the existing historic fabric and historic site documentation, as well as guidance from the Secretary of the Interior Standards for the Treatment of Historic Properties, under the consultation, review, and approval of JCHPC Staff.

2. LAND USE REQUIREMENTS

a. The purpose of this zone is to preserve and adaptively reuse the existing historic Harsimus Branch Rail Line and Embankment structures within the Plan Area to create a continuous elevated open space and trail system running along the south side of Sixth Street from Manila Avenue moving west to Division Street, across Newark Avenue to the western boundary of Block 10901 Lot 120. The open space and trail system is meant to be a continuation of the elevated public right-of-way envisioned on Block 11602, which spans from Marin Boulevard at the east to Manila Boulevard at the west, under the Luis Munoz Marin Boulevard Redevelopment Plan.

b. The envisioned open space and trail system shall be designed in such a way that it may accommodate future implementation of a trolley or light rail system.

c. Permitted Principal Uses:
   i. Open Space, Trail, and Parks
   ii. Light rail and/or trolley rights-of-way
   iii. Light rail and/or trolley stations and platforms

d. Permitted Accessory Uses:
   i. Facilities commonly associated with open space to serve the general public or for maintenance purposes.
   ii. Display of public art
   iii. One accessory structure, limited to the at-grade street level of Block 7

e. All storage sheds or other facilities necessary for maintenance equipment are limited to eight (8) feet in height and shall be designed and/or located as to be minimally visible from the street level below. Landscape screening is encouraged to limit visibility from the pedestrian walkway/bikeway.

f. A single accessory structure may be permitted at the street level of Block 7 and shall be limited to a maximum of fifteen (15) feet in height. The structure shall be located toward the northeast corner of the block, but shall not impede future implementation of a stair or elevator to an elevated bike/walkway. Said structure shall not exceed 450 square feet. Programming of the structure should be sustainability-oriented and/or rooted in conservational/educational purposes, as relevant to the historic Harsimus Branch Railway Corridor, the existing embankment structures, and other relevant ecological/sustainable characteristics of the trail system and general region.

g. Future design and programming of all Zone 1 portions of the Plan shall be developed through a larger community-driven engagement and visioning process. Engagement

should include consultation with the general public, relevant local and regional stakeholders, and the Embankment Preservation Coalition.

3. DESIGN REQUIREMENTS + GUIDELINES

a. All blocks within Zone 1 shall provide for a continuous, ADA compliant public walkway and bikeway.

b. All blocks within Zone 1 shall provide pedestrian-scaled lighting within the at-grade and elevated open space consistent with standards for public open space as approved by Jersey City Department of Infrastructure.

c. All bridges connecting Blocks 2 through 7 of the Plan shall be ADA accessible. Bridges shall be multimodal to accommodate bicycle and pedestrian uses.

d. Open Space improvements shall, to the extent practicable, limit the removal of mature tree canopy.

e. Open Space planting design shall consider appropriateness of species and mature size / root spread of existing and new plantings as to not jeopardize the structural stability and long-term care of the embankment structure.

f. All mechanical and utility equipment shall be located in such a way that it is screened from public view and access in conformance with Jersey City Land Development Ordinance standards and shall utilize additional landscape buffers around the screening perimeter.

g. All streetscapes shall be appropriately lit and shall be designed in accordance with the Jersey City Forestry Standards as well as Department of Traffic and Transportation and Division of Engineering standards.

h. **General Design Guidelines:**

i. Open Space planting design on all blocks should reference Appendix III: Jersey City Ecological Corridor Report for sustainable planting species with an emphasis on plant material that brings performative ecological value.

ii. The envisioned open space and trail system should acknowledge the naturally seeded forest that has established along the Harsimus Branch Ecological Corridor. Improvements should be designed in such a way that respects the nature-forward character of the Branch while emphasizing sustainable, low-impact programming throughout Zone 1, as to enhance public enjoyment while minimizing the impact of new/additional infrastructure on the historic resource and natural site.

iii. Future design and programming should concentrate traditional open space programming such as playgrounds, outdoor classrooms, seating nodes, etc. to Blocks 2 and 6 and at-grade portions of 7 and 8, allowing for Blocks 3-5 to prioritize the preservation of the ecological corridor and forest environment.

iv. Any new program elements integrated into the open space and trail design should emphasize use of natural and sustainable materials to the maximum extent practicable. Material selection should consider impacts of energy and carbon waste in manufacturing processes. Long-lasting materials that weather but do not easily wear should be prioritized with installation and maintenance costs considering the full life of the material.

v. Lighting design should provide adequate lighting to meet all necessary safety standards while minimizing size, visibility, and structural impact on the historic resource. Emphasis should be on the light itself, not decorative fixtures.

vi. All necessary fencing should be designed to be as minimal as possible in both scale and extent of application.

vii. The adjacent streetscape should utilize alternative materials to maximize permeability at the base of the Harsimus Branch while establishing all necessary safety standards for ADA compliant sidewalk networks. Porous materials that support pedestrian use and accessibility to all are encouraged and preferred.

viii. Bridges should extend the notion of continuous path for the movement of people, plants, and animals. Bridges should be made from renewable materials with low carbon footprint that are locally sourced where possible. Bridge design should continue the 'light touch' approach of the overall Corridor and allow daylight to pass through to the active streetscape below.

B. ZONE 2: MIXED-USE MID-RISE DISTRICT

1. LAND USE REQUIREMENTS

a. This district is limited to portions of Block 7, Lots 1-8 of the Redevelopment Plan as identified on Map 3: District Map

b. The purpose of this zone is to permit one (1) project by one (1) Redeveloper for infill development with a mixture of uses, high quality building design and an intensity of development compatible with the scale of the surrounding NC District in order to allow for and facilitate the transfer of lands along the Sixth Street Embankment to the City of Jersey City and the development of same as public parkland and open space.

c. The provisions of the Zone 2: Mixed-Use Mid-Rise District ("MU-MR") shall only apply to the Designated Redeveloper. Any development conducted within this zone that is not subject to a Redeveloper Agreement with the Jersey City Redevelopment Agency ("JCRA") is subject to Zone Standards of the Jersey City Land Development Ordinance as identified on the Jersey City Zoning Map as adopted in 2021.

d. The provisions of Zone 2: MU-MR District shall only apply to a Designated Redeveloper that can meet the required community benefits/performance standards as prescribed herein:

i. The provisions of the Zone 2: MU-MR District are subject to the Inclusionary Zoning Ordinance ("IZO") and triggers compliance with Chapter 187 of the Municipal Code, which shall result in the creation of affordable housing no less than fifteen (15%) of the total units of a project.

ii. The provisions of the Zone 2: MU-MR District shall comply with Chapter 188 of the Municipal Code and the developer must coordinate with the Jersey City Division of Affordable Housing. Developers are required to obtain an Affordable Housing Agreement ("AHA") with the Division of Affordable Housing that will be fully executed and recorded as a condition of site plan approval.

iii. Any development that occurs pursuant to the Inclusionary Housing Overlay District shall consist of a development where a majority of the floor area is designed for residential use

e. The provisions of Zone 2: MU-MR District are contingent upon a perfected subdivision creating two (2) new lots based on the following conditions as represented in Appendix II Exhibits A and B:
   i. Lot 1.1 shall refer to the remnants of existing lots 1-8 that result from the creation of Lot 2.1, and will be absorbed into Zone 2 of the Plan. Lot 1.1 is to be dedicated back to the City of Jersey City in fee simple and free of cost for the purposes of open space, park, and trail system prior to the issuance of any building permits and commencement of construction on Lot 2.1.

   ii. Lot 2.1 shall refer to the lot that is to be created for the purpose of private development under the standards of Zone 2: MU-MR of this Plan.

   iii. The northern lot line of Lot 2.1 is to include portions of existing lots 1-4 fronting onto Sixth Street.

   iv. The southern lot line of Lot 2.1 shall be set six (6) feet from the northernmost point at the base of the existing Embankment stanchion remnants on existing Lot 1 abutting Division Street.

   v. The eastern lot line of the new property shall be 325ft from the western property line abutting Division Street.

   vi. The subdivision may be presented before the Planning Board at the same time as a site plan application for proposed development Lot 2.1.

   *Note that the Jersey City Tax Assessor's office will determine the final lot identification numbers to be created as a result of the subdivision prescribed above.

f. Permitted Principal Uses:
   i. Residential uses above the ground floor
   ii. Art Galleries
   iii. Artist studio workspaces
   iv. Offices
   v. Medical Offices
   vi. Business Incubators
   vii. Work/Live
   viii. Assisted Living Residences
   ix. Independent Living Residences
   x. Senior Housing
   xi. Nursing Homes
   xii. Retail Sales of Goods and Services
   xiii. Restaurants: Category one and two
   xiv. Cafes
   xv. Theaters
   xvi. Bars
   xvii. Hotels
   xviii. Breweries
   xix. Distilleries
   xx. Coffee Roasters
   xxi. Child and Adult Day Care Centers
   xxii. Health Clubs
   xxiii. Schools
   xxiv. Community facilities/centers
   xxv. Any combination of the above
   *Uses xii-xxv are limited to the ground floor of the building.

g. Permitted Accessory Uses
   i. Off-street Parking, including mechanical parking systems
   ii. Loading
   iii. Public Restrooms
   iv. Indoor + Outdoor Amenity and Recreation Space

h. Density, Height and Bulk Requirements:
   i. Density: Residential development in this zone shall not be regulated by units per acre, but shall be limited by "building envelope" as defined by the bulk and setback requirements of this District, provided that no unit is permitted to be less than 400 square feet.

   ii. Maximum Height: Six (6) stories seventy-two (72) feet. The ground floor shall be a minimum of 14 feet high.

   iii. Setbacks: None. The building is permitted to be built to the property lines of Lot 2.1 as created defined in VII.B.e.i-vi above.

   iv. Rooftop Appurtenances: Enclosed rooftop appurtenances used for storage and/or amenity space shall be no more than 20% of the total roof area, exclusive of rooftop mechanical equipment. Appurtenance heights are subject to the standards of the Jersey City Land Development Ordinance.

   v. No direct access between residential uses on upper floors and the elevated park is permitted.

   vi. Off-street parking shall be screened from the Harsimus Branch Corridor on Lot 1.1

   vii. All facades for development in Zone 2 shall be considered primary facades in terms of fenestration, materiality, glazing, and architectural design.

2. MU-MR DISTRICT DESIGN REQUIREMENTS

a. Building Design Requirements
   i. All new structures within the Redevelopment Area shall be situated with proper consideration of their relationship to other buildings and the Embankment structure, both existing and proposed, in terms of materials, light, air and usable open space, access to public rights-of-way and off-street parking, height, setback and bulk, pursuant to Section VII of the Plan.

   ii. Where single developments have more than 200ft of continuous frontage, different façade design concepts shall be utilized to create varied façades in terms of materials, fenestration size and rhythm, programmatic representation/location, shading techniques, articulation of upper stories, carved/shaped forms rather than extruded boxes/flat slabs, horizontal façade divisions (defined base, middle, top or more undefined monolith), vertical façade divisions (vary width of articulation between concepts).

   iii. Dwelling units shall not be directly accessible from parking garages. A shared or common hallway shall separate dwelling units from parking garages.

   iv. Large blank walls without fenestration surrounding large residential, commercial, or open space uses must incorporate façade relief, an expressed structural system, sculpted, carved or penetrated wall surfaces, architectural lighting, murals, or other architectural techniques to provide visual interest.

v. Ground Floor Access: All building lobby and ground floor commercial entrances located at the street level are to be at grade with the sidewalk. Any ramping or stairs required to bring residential or retail uses out of the floodplain must be recessed as to be accommodated in the interior of the building.

vi. Balconies and terraces may extend from the building when facing into interior courts. However, all balconies facing onto streets or the Harsimus Branch R.O.W. shall be primarily recessed and shall project no more than 18 inches from the building face. In no instance shall a balcony project across a property line into Zone 1 of the Plan.

vii. Building projections beyond the property line shall be for ornamental / architectural interest only. Such projections shall protrude no more than two (2) feet beyond the property line and shall provide a minimum of fourteen (14) feet vertical clearance from the sidewalk at street level to bottom of the projection. Any projection that seeks to increase the habitable space of a unit shall trigger a 'c' variance and shall be subject to a Franchise Ordinance by the Jersey City Council. In no instance shall any architectural projection beyond the property line be permitted to project into Zone 1 of the Plan.

viii. The main building entry shall be prominent, easily identifiable and connect directly to the public sidewalk so as to contribute to the overall liveliness of the pedestrian environment. Use of canopies are encouraged at main building entries but may not project more than 5ft from the building facade. Canopies are not permitted to have any vertical supports landing beyond the property line, nor may they include enclosed space of any kind.

ix. Commercial frontages shall feature architecturally integrated storefront windows and may include awnings. Windows and glazing on ground floor commercial uses should be broad and expansive providing views into the store and display areas. At least seventy percent (70%) of the storefront façade shall be glass. Corner commercial uses shall have glazing on both street frontages. If security gates are used on any part of the building or window, they shall be installed on the interior side of the window, hidden from view when not in use, and be of the open grate style. Similarly, windows and doors into residential lobby areas should be broad and expansive allowing views to and from the adjoining streets.

x. Commercial spaces and entrances may wrap corners from Division St, Sixth Street, or the southeastern corner of Lot 2.1. Commercial uses shall have at least one point of access from a public sidewalk and in no instance shall a commercial frontage only have access points from the Harsimus Branch R.O.W.

xi. Building areas used to house transformers and other mechanical equipment or utilities shall be architecturally masked in a manner consistent with the design of the building. When possible, transformers and primary and/or back-up generators shall be vaulted underground.

xii. All mechanical equipment, generators, HVAC equipment and similar equipment shall be visually screened such that they are not visible from adjacent buildings or public areas. Said screening shall be constructed in a manner that is consistent with the architecture of the building and shall utilize the same or complementary materials used in the construction of the building, such that the screening appears to be an integral part of the building. Interior locations must be utilized where mechanically possible. Mechanical equipment visible from the Harsimus Branch R.O.W. shall utilize landscaped screening in addition to structural screening.

xiii. All vents for air conditioning or heating units should be integrated into the window design such that vent grills and windows appear as a single unit. This is best achieved by lining up vent grills with the vertical or horizontal edge of the adjacent window and matching the window's length or width or using a spandrel panel to fill any voids. Façade materials shall not be interrupted to incorporate HVAC sleeves/vents.

xiv. All trash receptacle areas associated with private development shall be located within buildings or parking structures.

b. Building Material Regulations

i. For the redevelopment area, a palette of materials including masonry, cementitious panels, brick, metal, and glass is suggested to be applied in a manner that respects the historic character and aesthetic of the Embankment structure and surrounding historic context.

ii. Prohibited Materials: Mirrored glass, asphalt and asbestos shingles, aluminum lap siding**,** EIFS (Exterior Insulation Finishing Systems) and vinyl siding are prohibited for use on buildings.

c. Building Roof and Rooftop Regulations

The following standards shall apply to buildings with a gross floor area of 5,000 square feet or more.

i. All major mechanical equipment located on any roof of a building shall be screened from view from all vantage points with a material harmonious to that used in the facade of the structure. The screening shall not impair the functioning of the equipment. Mechanical equipment visible from the Harsimus Branch R.O.W. shall utilize landscaped screening in addition to structural screening.

ii. All electronic communication equipment shall be mounted in such a way that it does not negatively impact the appearance of the building nor create objectionable views as seen from surrounding structures or the future elevated R.O.W.

iii. Roofs and Terraces: Any exposed roof visible from park/open space not programmed as terrace or amenity space shall be planted green roof or blue roof. Any private terrace or roof deck fronting park/open space that is not accessible by the general public shall be setback a minimum of 5ft from the building line. Such spaces shall provide appropriate fencing/parapet design and shall use landscaping to buffer the setback area. Fencing/screening of terraces and roof decks fronting park/open space shall not exceed 42” in height.

iv. Reduce Urban Heat Island Effect: White/roof/light colors shall be used for roofing material and amenity deck floor finishes in order to reduce the urban heat island effect.

v. Exposed Rain Gutters or leaders are prohibited.

d. Parking and Loading Requirements

i. Required Parking Provisions - All new construction shall provide parking as follows:

REQUIRED PARKING RATIOS TABLE	
Use	Max. Parking
Residential	0.5 spaces per unit
Retail sales and services and all other types of commercial uses	3/5,000 sq. ft.

ii. Required parking shall be located off-street and shall be provided in the same building as the use. Automated, mechanical stacker, and valet parking systems are permitted.

iii. All parking structures are to be designed to disguise the parking use within. Utility rooms may occupy no more than fifteen (15%) percent of any single façade. Where an occupied active building use is not utilized to mask the parking within the building, the façade of the parking structure shall be designed to disguise the parking use to the greatest degree possible. The exterior wall of the parking structure shall be architecturally designed to mimic and reflect the occupied portions of the building in terms of style and materials. All openings in the parking structure facade openings shall be consistent with the rhythm of the window openings serving the principal uses within the building. They shall be covered by glass, metal, grilles or louvers in such a way that the exterior design is compatible with the rest of the building. No exposed garage uses shall be visible from the Embankment R.O.W.

iv. All curbing shall be poured-in-place concrete or other suitable material such as Belgian block or granite curbing as approved by the Planning Board. Asphalt curbing and/or anchored railroad ties are not permitted. Curbs must run straight down to the asphalt roadway edge; gutter-pan type curbing is not permitted.

v. Pedestrian entrances/accessways from the public sidewalk into parking structures shall be separated from the vehicular entrance and located such that the pedestrian pathway is not shared with the vehicular access.

vi. Vehicular entrances to parking structures shall be designed as architecturally compatible openings in the façade of the building and shall not be merely gaps between buildings. There shall be no more than one (1) two-way egress OR two (2) one-way egresses per parking area/structure. A two-way egress shall be permitted a single curb cut not to exceed 20ft in width, and one-way entries shall be permitted a single curb cut not to exceed 10ft in width. Curb Cuts and driveways shall be designed as to be integrated into the sidewalk environment and shall prioritize the safety and public realm experience of the pedestrian.

vii. When vehicles are parked in loading areas, a proper loading space shall be sized so that said vehicle is not encroaching upon the setback line. Developers shall demonstrate to the satisfaction of the Planning Board that sufficient off-street loading will be provided to meet the needs of the proposed use.

viii. Electric Vehicle (EV) Parking Requirements

a. A minimum of ten percent (10%) of total parking spaces shall be dedicated charging locations with Electric Vehicle Supply Equipment (EVSE) installed

including, but not limited to, a combination of Level One, Level Two EVSE or DC Fast Chargers.

b. Within each parking structure, there shall be a minimum of twenty percent (20%) of the total parking spaces designated as EV charger ready. An acceptable EV charger ready parking space shall have pre-wiring of electrical infrastructure to facilitate future installation of EVSE. Site Plan applications shall include the proposed locations and indicate the number of EV and EV charger ready spaces provided.

ix. Bike Parking shall be provided in conformance with the standards of the Land Development Ordinance, Chapter 345-70.

x. Curb cuts, drop-off/pick-up locations, and on-street loading zones are not permitted on Division Street or Brunswick Street.

VIII. OTHER PROVISIONS FOR STATE AND LOCAL REQUIREMENTS

The Local Redevelopment and Housing Law, N.J.S.A. 40A:12A-1 et seq. requires that a Redevelopment Plan include an outline for the Planning, development, redevelopment or rehabilitation of the Project Area. The following statements are made as required under N.J.S.A. 40A12A-7:

1. This Redevelopment Plan achieves the stated objectives of the Jersey City Master Plan by locating high density development in close proximity to mass transit facilities with low parking ratios to reduce the traffic impact of future high-density development. Other uses such as retail and commercial uses compatible with a mixed-use development pattern are permitted.

2. This Redevelopment Plan provides for a list of permitted principal uses, as well as accessory uses and prohibited uses (all uses that are defined in the Land Development Ordinance that are not listed as permitted) in the Redevelopment Area. The plan also provides for density restriction by regulating maximum dwelling units and/or building bulk through the use of lots sizes, maximum height limits, use, as well as setback and stepback requirements and various design controls.

3. The Plan Area does not currently include any housing units and therefore there are no residents or relocation within the Plan Area.

4. Blocks 2-6, and portions of Block 7 and Block 8 are to be dedicated to the City of Jersey City in fee simple at no cost for use as public open space and trail system in conformance with an executed settlement agreement related to the ongoing litigation. No further acquisition is anticipated.

5. Jersey City is designated as a "Planning Area 1" in the State Plan and is at the center of the Hudson County "urban complex." The development envisioned by this plan is in conformity with the "State Planning Act" P.L. 1985, c. 398 (C.52:18A-196 et al) as well as the master plan of Hudson County and all contiguous municipalities.

6. Regarding removed units: No affordable units are identified to be removed as part of the implementation of this redevelopment plan. Currently, there are no residential dwelling units in the Plan Area.

7. Regarding replacement units: No affordable units are identified to be removed as part of the implementation of this redevelopment plan. Currently, there are no residential dwelling units in the Plan Area.

8. All applications for development shall abide by the review procedures required under the NJ Historic Places Act and any other applicable state-required reviews.

IX. PROCEDURE FOR AMENDING THE PLAN

1. The Plan may be amended from time to time upon compliance with the requirements of law. Amendments to this plan shall be contingent on review and recommendation from the Planning Board and the Historic Preservation Commission. A fee of ten-thousand dollars ($10,000), plus all costs for copying and transcripts shall be payable to the City of Jersey City for any request to amend this Plan. Any person, designated redeveloper, or other private entity requesting an amendment to this Plan shall pay these costs.

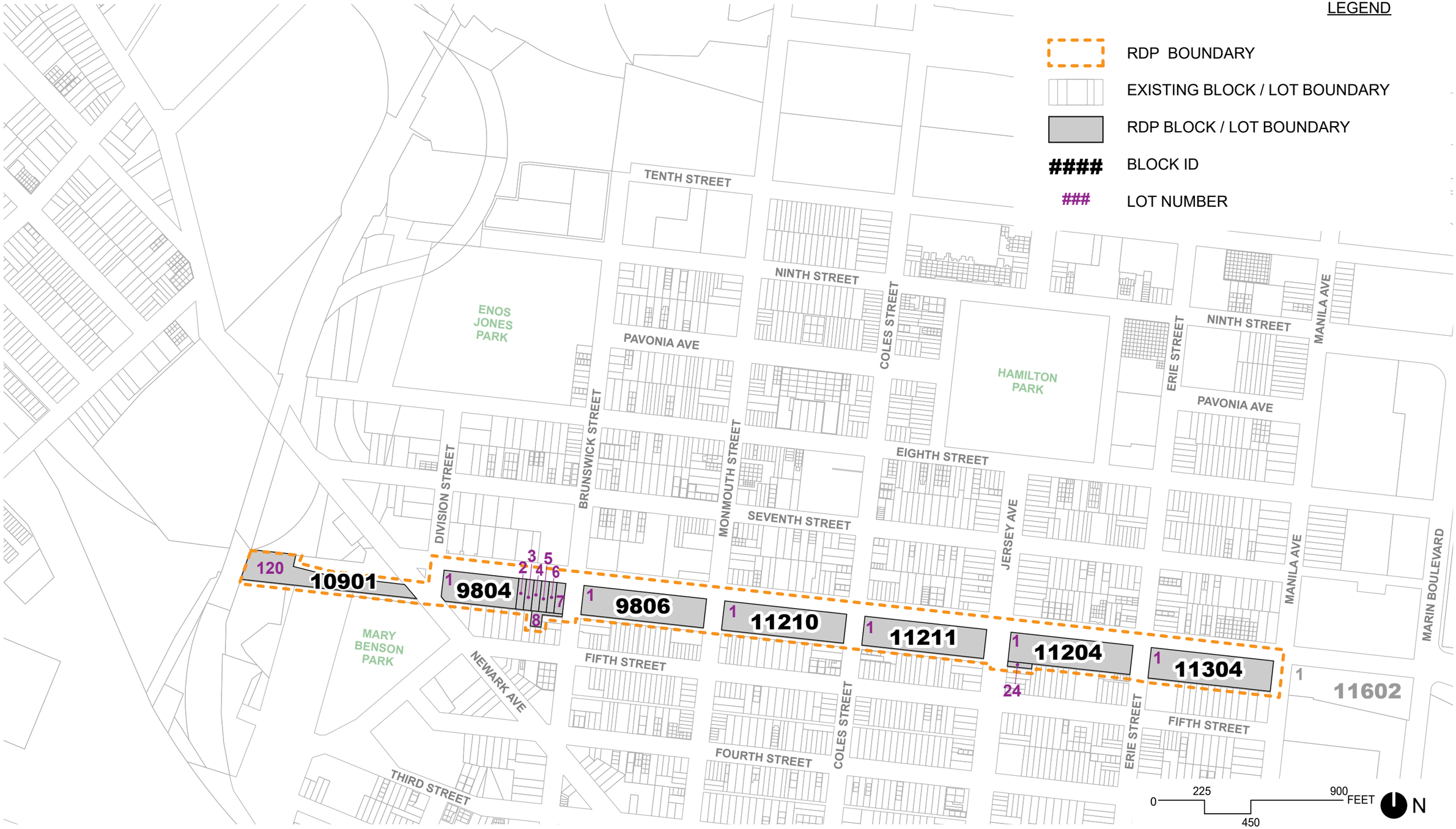
APPENDIX I
MAPS

1

BOUNDARY MAP

VERSION 09.01.2022

SIXTH STREET EMBANKMENT REDEVELOPMENT PLAN



2

BLOCK IDENTIFICATION MAP

VERSION 09.01.2022

SIXTH STREET EMBANKMENT REDEVELOPMENT PLAN

BLOCK AREA TABLE		
BLOCK ID	AREA (SF)	AREA (ACRES)
1	47,224	1.08
2	40,176	0.92
3	39,411	0.90
4	38,017	0.87
5	38,131	0.88
6	38,287	0.88
7	42,341	0.97
8	33,230	0.76

3

DISTRICT MAP

VERSION 09.01.2022

SIXTH STREET EMBANKMENT REDEVELOPMENT PLAN

4

LAND DEDICATION MAP

VERSION 09.01.2022

SIXTH STREET EMBANKMENT REDEVELOPMENT PLAN

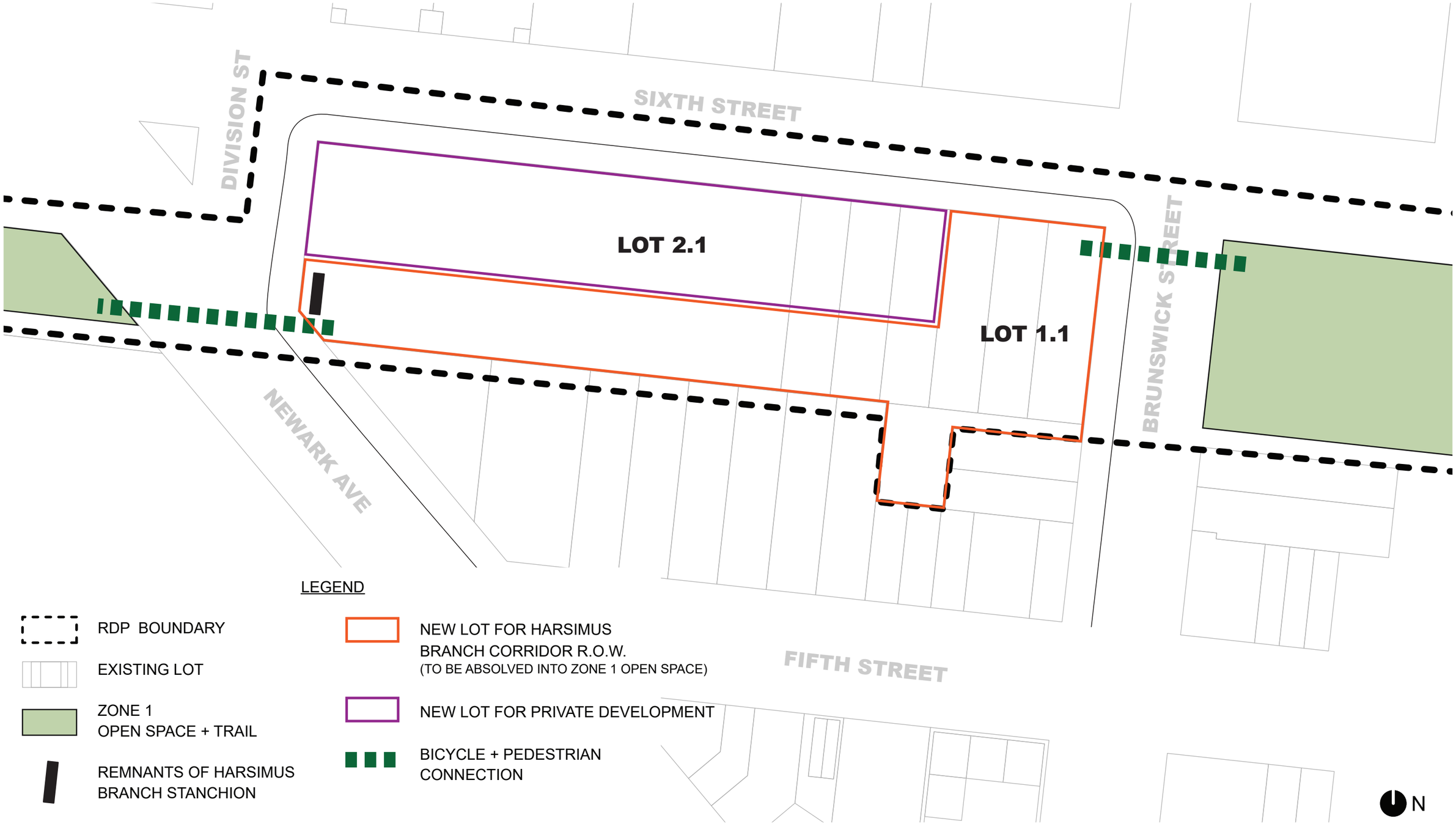
APPENDIX II
DIAGRAMS

A

ZONE 2 : MU-MR SUBDIVISION

VERSION 09.12.2022

SIXTH STREET EMBANKMENT REDEVELOPMENT PLAN



LEGEND

- RDP BOUNDARY
- EXISTING LOT
- ZONE 1 OPEN SPACE + TRAIL
- REMNANTS OF HARSIMUS BRANCH STANCHION
- NEW LOT FOR HARSIMUS BRANCH CORRIDOR R.O.W. (TO BE ABSOLVED INTO ZONE 1 OPEN SPACE)
- NEW LOT FOR PRIVATE DEVELOPMENT
- BICYCLE + PEDESTRIAN CONNECTION

B

ZONE 2 : MU-MR SETBACK REGULATIONS

VERSION 09.12.2022

SIXTH STREET EMBANKMENT REDEVELOPMENT PLAN

LEGEND

- RDP BOUNDARY
- EXISTING LOT
- ZONE 1 OPEN SPACE + TRAIL
- REMNANTS OF HARSIMUS BRANCH STANCHION
- BUILDING BULK
- DIMENSIONS AT STREET LEVEL
- BICYCLE + PEDESTRIAN CONNECTION

APPENDIX III

JERSEY CITY ECOLOGICAL CORRIDOR REPORT

(AS PROVIDED BY THE EMBANKMENT PRESERVATION COALITION)

EMBANKMENT PRESERVATION COALITION - 5/12/2022 DRAFT

JERSEY CITY ECOLOGICAL CORRIDOR REPORT

The Jersey City Ecological Corridor Report serves as reference for future development projects that impact or expand upon the naturally occurring ecological networks that currently exist within Jersey City. These networks are mainly the East Coast Greenway (ECG) proposed route (Harsimus Branch and Embankment, Bergen Arches, and Essex-Hudson Greenway) and the Morris Canal Greenway and Mill Creek Trail Greenway.

Purpose

This Report gives

- a brief overview of Urban Ecology
- an index of the existing naturally occurring communities within Jersey City's ecological corridors as well as in local habitat pockets. This index identifies the characteristics of the ecological community type, the primary vegetative species, and habitat opportunities for wildlife.
- list of flora and fauna identified on the Harsimus Branch and Embankment

The information in the *Report* establishes a basis for landscape design and corridor expansion and maintenance. The community types and species that are documented here should be fostered to further connect and strengthen the naturally occurring open space ecologies within Jersey City.

This Report, which is cited in the Harsimus Cove Station Redevelopment Plan as Amended April 13, 2022 by Ordinance 22-024, is to be used in the design of the landscape that is to be added along the former Harsimus Branch right of way in the open space at the corner of Marin and 6th Street. It is anticipated that the *Report* will also be used by developers of the corridors and private property along the corridors.

Methodology

The main part of this *Report*, the Ecological Corridors Index, documents the naturally occurring ecological communities that have been observed and identified during survey and sampling programs dating back to 2003. The basis for the Index is Liberty State Park's 285-acre survey and sampling programs. The *Report* also includes a naturalist's study of one block of the Harsimus Branch Embankment over four seasons in 2002-3 and a supplementary list of flora from 2021.

In 2021, a complete aerial survey of the ecological communities found within the Harsimus Branch and its Embankment, Bergen Arches, and Essex-Hudson Greenway corridor was conducted and data captured using advanced drone and imaging technology. This aerial survey represents a recent step in ongoing research that improves our understanding of Jersey City's natural environment.

Over time natural environments emerge, grow, evolve, adapt, and sometimes disappear. This report - therefore - is a living document that will continue to describe new ecosystems that are discovered and surveyed within Jersey City as well as incorporate changes within the existing Ecological Community Index.

It is fully recognized that the existing naturally occurring plant communities include several species that are considered invasive in New Jersey and nationally. While these species should not be included in a planting plan for a future site, they should be expected to become part of a naturally assembled plant community within the urban context. As such they often provide ecosystem functions such as fostering the structural formation of soil or the stabilization of legacy contaminants within the soil. Accepting their inevitable appearance within the communities and understanding their value is critical to the establishment of realistic ecological assemblages that will be resilient and thrive in Jersey City's changing climate over the next 100 years.

Overview of Urban Ecology

Viable ecological systems exist within Jersey City. Naturally occurring vegetative communities have colonized the abandoned areas of our city. Over the past 40 years, underutilized historic land features and industrial structures provided ground for new types of place-specific ecological assemblages that are uniquely responsive to Jersey City's micro-climatic conditions. These urban forests, meadows, shrublands, and marshes are maturing and able to thrive without the assistance of humans.

These ecological assemblages point to the future of an open space initiative that allows room for the preservation and expansion of a naturally occurring wilderness - an "Urban Ecology" that adapts to the

ever-changing climate and provides diversity of wildlife for residents to enjoy and increase their awareness of nature.

This “Urban Ecology” initiative is required if cities are to be sustainable and resilient over the century. For a naturally occurring ecology to thrive, grow, and adapt it must be connected with larger natural territories through corridors that allow for the introduction, migration, and change of species over time. Jersey City is fortunate that within its city limits there is a substantial amount of historical rail, canal, and port rights-of-way that are weaved through neighborhoods and connected to larger natural preserves. Many cities no longer have intact infrastructural rights-of-way that cut through the city’s interior and connect east, west, north, and south neighborhoods. The success of Jersey City’s Ecological Corridor relies on the preservation of these existing rights-of-way through neighborhoods to greater regional preserves.

Currently there are two primary existing rights-of-way that set the foundation of Jersey City’s Ecological Corridor. The first is the rail corridor of the Harsimus Branch and its Embankment, Bergen Arches, and Essex-Hudson Greenway. These abandoned rail corridors have given life to a robust natural ecology that will be a continuous natural corridor that allows for evolution of its habitats over time. This corridor connects East and West Jersey City and the Hudson River Estuary to the Meadowlands marshes and wetlands. The second is the Morris Canal Greenway and Mill Creek Trail. It connects North and South Jersey City and the Palisades to Liberty State Park’s naturally seeded 285 acre interior forest, meadows, and marsh. Together, these existing right-of-ways not only create a continuous natural corridor for the movement of species over time, but also connect together 28 of 34 Jersey City neighborhoods to provide the highest possible equity of access for residents.

Ecological Community Index

Successional Northern Hardwood (SNH):

SNH is defined by Edinger et al. (2002) as a forest community located on previously disturbed or cleared sites where shrubs represent less than 50% of the vegetative cover. Successional forests are those where the canopy is dominated by light-requiring, wind-dispersed species, while the seedlings and sapling species are more shade tolerant.

The dominant tree species in Jersey City sites are quaking aspen (*Populus tremuloides*), eastern cottonwood (P. deltoides), and gray birch (*Betula populifolia*). Less dominant tree species included tree-of-heaven (*Ailanthus altissima*), big-toothed aspen (P. grandidentata), black locust (Robinia pseudoacacia), white pine (*Pinus strobus*), red maple (*Acer rubrum*), lombardy poplar (*Populus nigra*), and black oak (*Quercus velutina*). The shrub layer isvdominated by winged sumac (*Rhus copallina*), smooth sumac (*R. glabra*), northern bayberry (Myrica pensylvanica), and staghorn sumac (*Rhus typhina*). Typical representatives of the herbaceous understory include Canada goldenrod (*Solidago canadensis*), cut-leaved blackberry (*Rubus laciniata*), common reed (*Phragmites australis*), mugwort (*Artemisia vulgaris*), and steeplebush (*Spiraea tomentosa*) (Table 2-1).

This forest community provides breeding and foraging habitat for several species of year- round resident birds, including the American robin (*Turdus migratorius*), downy woodpecker (Picoides pubescens), and northern flicker (*Colaptes auratus*) (*Bull and Farrand 1977*). The edges of forest communities, especially when bounded by grasslands, are particularly good foraging habitat for birds. Raptors, such as Cooper's hawk (*Accipiter cooperii*), northern harrier (*Circus cyaneus*) and red-tailed hawk (*Buteo jamaicensis*) were observed foraging along the edges of the forest communities within the LSP Restoration site in 2003.

Successional Shrublands (SSB):

SSB is defined by Edinger et al. (2002) as a shrubland community located on sites that have been cleared and are dominated by at least 50% shrub species.

SSB communities in Jersey City have similar species as maritime shrublands, but are dominated by cut-leaved blackberry and Japanese knotweed (Polygonum cuspidatum). Northern bayberry, present in maritime shrublands, is absent from the SSB communities. The herbaceous understory is dominated by Canada goldenrod and common reed (Table 2-1).

Successional shrublands offer nesting and foraging habitat for many of the same bird species as maritime shrublands, and in addition, Cooper's hawk and downy woodpecker forage in these communities (Bull and Farrand 1977).

Successional Old Field (SOF):

SOF is defined by Edinger et al. (2002) as a meadow community located in areas that have been cleared and abandoned. These communities are dominated by non-woody herbs and grasses. SOF communities are the most diverse community type within Jersey City sites, with 67 identified plant types.

Dominant species include Chee reed grass (calamagrostis epigeios), common mullein (Verbascum thapsus), Canada goldenrod, spotted knapweed (Centauria maculosa), mugwort, and butter and eggs (Linaria vulgaris). Other species identified included wild carrot (Daucus carota), hyssop-leaved boneset (Eupatorium hyssopifolium), hemp dogbane (Apocyanum cannibinum), common ragweed (Ambrosia artemisiifolia), and white sweet clover (Melilotus alba) (Table 2-1).

SOF communities are important foraging grounds for most of the bird species observed within natural Jersey City sites. The seeds of many species provide a food source for wildlife species. An abundance of insects that inhabit SOF communities provide a source of food for insectivorous bird and small mammal species. The dense herbaceous vegetation also provides nesting and roosting cover; however, the lack of a tree/shrub canopy enables predatory birds to easily locate prey species such as the songbirds and small mammal species that frequent the SOF communities.

Maritime Shrubland (MS):

MS is defined by Edinger et al. (2002) as a shrub community located near the ocean that is exposed to onshore winds and spray. These shrublands are usually located in shallow depressions and are typically

dominated by shrubs between 6 and 9 feet tall and trees are sparse or absent (less than 25% canopy cover).

The MS community is represented by a diverse mix of species, but is largely dominated by winged and smooth sumac shrubs. Subdominant species include northern bayberry, Canada goldenrod, common reed, cut- leaved blackberry, gray birch, and quaking aspen (Table 2-1). Succession of MS communities is dependent upon soil moisture. With adequate soil moisture, MS communities may succeed into wetland shrub communities, whereas drier MS communities are more likely to support successional upland forest species.

Several summer, winter and year-round resident birds use shrubland communities for foraging and breeding. American goldfinch (Carduelis tristis), yellow warbler (Dendroica petechia), eastern towhee (Pipilo erythrophthalmus) and red-winged blackbird (Agelaius phoneiceus) are likely to breed within these shrublands of LSP. Summer residents, such as the tree swallow (Tachycineta bicolor) and yellow warbler, and year-round residents including the American woodcock (Scolopax minor), chimney swift (Chaetura pelagica) and American kestrel (Falco sparverius), forage in or over the shrubland communities (Bull and Farrand 1977). Maritime shrublands also provide foraging habitat for winter residents.

Maritime Grasslands (MG):

MG is defined by Edinger et al. (2002) as a grassland community dominated by more than 50% grasses and few shrubs located near the ocean where onshore winds and spray are present. MG communities developed near trenches that are connected to drainage culverts and may be tidally influenced.

MG communities in Jersey City are dominated by grasses, mostly saltmeadow cordgrass (Spartina patens). Solitary and clustered shrubs identified in these herb-dominated were eastern baccharis (Baccharis halimifolia L.) and marsh elder (Iva frutescens). Other common species included common reed, mugwort, common mullein, Canada goldenrod, and hemp dogbane (Table 2-1).

MG communities offer valuable nesting and foraging habitat for the northern harrier and several other wildlife species, many of which are also found in Successional Old Field habitat.

Forested Mineral Forest (FMF):

FMF is a broadly-defined community type that consists (Edinger et al. 2002) of hardwood forests that grow in the low terraces of river floodplains and river deltas. This community type is flooded either regularly (lower areas) or irregularly (higher areas).

Cottonwood, gray birch and sensitive fern (Onoclea sensibilis) are the dominant plant species (Table 2-1).

Similar to other forested communities, FFWs provide foraging and breeding habitat for a number of passerine and predatory birds. These forested wetlands also provide habitat for the Fowler's toad (Bufo woodhousii fowleri), raccoons (Procyon Iotor), and cottontail rabbits (Sylvilagus floridanus).

Shrub Swamp Wetland (SSW):

Edinger et al. (2002) defines this community as an inland wetland located on mineral soil or muck substrate, dominated by tall shrubs.

Within Jersey City, SSW communities are dominated by winged sumac shrubs and common reed. Other species commonly associated with SSW are purple loosestrife and cut-leaved blackberry. Gray birch, sensitive fern, quaking aspen, mugwort and Canada goldenrod were also present in some of the SSW wetlands.

SSW communities provide valuable breeding and foraging habitat for the same species of birds as the MS communities. Nine bird species that have been observed within the Liberty State Park site may breed within SSW communities, and 16 observed bird species use shrub swamps as foraging grounds (Bull and Farrand 1977).

Shallow Emergent Marsh (SEM):

This community is defined by Edinger et al. (2002) as a wetland growing on mineral or mucky soils that are seasonally flooded, and saturated throughout the year.

These wetlands are dominated by purple loosestrife, common reed, gray birch, wool grass (Scirpus cyperinus), and steeplebush (Table 2-1). Nine SEM communities that cover a total of 10.2 acres were identified; all of which are located in the Wetland/Forest Complex (Figure 2-3).

Emergent marsh communities provide foraging habitat for several of the bird species present within the LSP Restoration site, including the northern harrier, chimney swift, American kestrel, tree swallow, and killdeer (Charadrius vociferous). Emergent marshes also provide potential breeding habitat for the bobolink (Dolichonyx oryzivorous) and the northern harrier.

Marine Intertidal Mudflat (MIM):

This community is defined by Edinger et al. (2014) as a community of quiet waters, with substrates composed of silt or sand that is rich in organic matter and poorly drained at low tide. The substrate may be covered with algae, such as sea lettuce (*Ulva lactuca*).

Characteristic mudflat organisms include polychaetes (*Polydora ligni, Streblospio benedicti, Nereis virens, Lumbrinereis tenuis,* and *Heteromastus filiformis*), mudsnail (*Ilyanassa obsoleta*), softshell clam (*Mya arenaria*), and blue mussel (*Mytilus edulis*).

This community is an important feeding ground for shorebirds, such as American oystercatcher (*Haematopus palliatus*) and willet (*Catoptrophorus semipalmatus*).

Saltwater Tidal Creek (STC):

This community is defined by Edinger et al. (2014) as shallow, continuously semidiurnally tidally flooded creek with submerged areas averaging less than 2 m (6 ft) deep at low tide. The water is typically saline (18 to 30 ppt or greater) to brackish (0.5 to 18 ppt). Varying depth zones and flow microhabitats often

result in a diverse array of ecological associations. Water levels fluctuate with the tides and two community depth zones are typically encountered: 1) the subtidal, permanently flooded, portion of the creek and 2) the intertidal portion including banks and midchannel bars or terraces exposed at low tide. Typical flow microhabitats in a fully-developed creek include abundant slow-flowing pools connected by runs with localized turbulent, fast-flowing riffles. Typical examples drain the waters of semidiurnally tidally flooded coastal salt marshes of the back barrier or finger marsh type. Most tidal creeks flow in a very sinuous (*i.e.,* meandering) pattern through a salt marsh. Although the vertical banks of the creek are regularly eroded and slump into the creek bottom, the position of the creek bed in the marsh is fairly stable and oxbows are rare. The sinuous meanders of the creek are not formed by recent erosion of the marsh, rather they are thought to be relicts of the drainage channels that were active in the tidal flats when the salt marsh grasses first became established.

Widgeon-grass (*Ruppia maritima*) is abundant in brackish to saline tidal creeks. Plants include the marine red algae tubed weed (*Polysiphonia stricta*) and banded weed (*Ceramium strictum*). Other characteristic plants are the marine red algae tubed weed (*Polysiphonia denudata*), graceful red weed (*Gracilaria tikvahiae*), and *Spyridia filamentosa,* and several cyanobacteria including *Hydrocoleum lyngbaceum*, *Anabaena torulosa*, and *Agmenellum quadruplicatum*.

The fauna in tidal creeks is diverse. Characteristic fishes that have this distribution pattern include Atlantic silverside (*Menidia menidia*), mummichog (*Fundulus heteroclitus*), striped killifish (*Fundulus majalis*), sheepshead minnow (*Cyprinodon variegatus*), fourspine stickleback (*Apeltes quadracus*), threespine stickleback (*Gasterosteus aculeatus*), and American eel (*Anguilla rostrata*). Brackish to saline tidal creeks are also utilized as nursery areas for several important marine fishes, including winter flounder (*Pseudopleuronectes americanus*), black sea bass (*Centropristis striata*), bluefish (*Pomatomus saltatrix*), and striped bass (*Morone saxatilis*). Great blue heron (*Ardea herodias*) and egrets (*Egretta* spp., *Casmerodius albus*) commonly feed on the fish. Comb jellies (*Beroe* spp., *Mnemiopsis* spp.) are common plankton species. Common benthic epifauna include eastern mud snail (*Nassarius obsoletus*), daggerblade grass shrimp (*Palaemonetes pugio*), longwrist hermit crab (*Pagurus longicarpus*), and common Atlantic slippershell (*Crepidula crepidula*). Common benthic infauna include northern quahog (*Mercenaria mercenaria*), softshell clam (*Mya arenaria*), razor clam (*Ensis directus*), and bamboo worms (Polychaeta). Other characteristic marine invertebrates include blue crab (*Callinectes sapidus*), hairy sea cucumber (*Sclerodactyla briareus*), Atlantic horseshoe crab (*Limulus polyphemus*), acorn worm (Hemichordata), and terrebelid worm (*Amphitrite* spp.).

Salt Shrub (SS):

This community is defined by Edinger et al. (2014) as a shrubland community that forms the ecotone between salt marsh and upland vegetation. Salinity levels are generally lower here than in the salt marsh and thus technically brackish. Salt shrub areas are slightly higher in elevation than the salt marsh. Salt shrub does not usually develop on deep peat. More often, it occurs on a thin (0-10 cm) layer of peat, and soils share characteristics of both estuarine and maritime terrestrial settings. Periodic disturbance associated with storms causes die-back of shrubs.

Characteristic shrubs are groundsel-tree (*Baccharis halimifolia*), saltmarsh-elder (*Iva frutescens*),

and pasture rose (*Rosa carolina*); salt meadow grass (*Spartina patens*), black-grass (*Juncus gerardii*), and switchgrass (*Panicum virgatum*) are typical herbs. Salt shrub is almost always dominated by *Iva frutescens* on the marshward edge of the community, often forming a stunted leading edge of the community. *Baccharis halimifolia* becomes more dominant only in the older, more developed, landward side. The landward side of salt shrub is usually the most diverse.

Salt shrub is usually present as a linear feature at the upper edge of a salt marsh marking the limit of the highest spring and storm tides within a given estuarine basin. In areas where the local topography is nearly level an extensive shrubland, or brackish meadow may occur. This community is often invaded by European common reed (*Phragmites australis*).

Low Salt Marsh (LSM):

This community is defined by Edinger et al. (2014) as a coastal marsh community that occurs in sheltered areas of the seacoast, in a zone extending from mean high tide down to mean sea level or to about 2 m (6 ft) below mean high tide. It is regularly flooded by semidiurnal tides. The mean tidal range of low salt marshes on Long Island is about 80 cm, and they often form in basins with a depth of 1.6 m or greater.

The vegetation of the low salt marsh is a nearly monospecific stand of cordgrass (*Spartina alterniflora*), a coarse grass that grows up to about 3 m (10 ft) tall. Salt marshes with large tidal ranges are often dominated by the tall form of *Spartina alterniflora,* while those with more restricted tidal ranges will maintain a short form *Spartina alterniflora* zone and grade into high salt marsh (Niedowski 2000). A few species of marine algae can form dense mats on the surface sediments between the cordgrass stems, including knotted wrack (*Ascophyllum nodosum*) and rockweed (*Fucus vesiculosus*); sea lettuce (*Ulva* spp.) and hollow green weeds (*Enteromorpha* spp.) can be abundant, especially in early summer. Other plants that are present in very low numbers include glassworts (*Salicornia depressa, S. bigelovii*), salt marsh sand spurry (*Spergularia marina*), and sea blites (*Suaeda* spp.).

Several birds that nest in salt marshes include marsh wren (*Cistothorus palustris*), saltmarsh sharp tailed sparrow (*Ammodramus caudacutus*), red winged blackbird (*Agelaius phoeniceus*), black crowned night heron (*Nycticorax nycticorax*), Canada goose (*Branta canadensis*), American black duck (Anas rubripes), and sometimes clapper rail (*Rallus longirostris*) and willet (*Catoptrophorus semipalmatus*) (Niedowski 2000). Many more birds depend on salt marshes for food, such as green heron (*Butorides striatus*), great egret (*Casmerodius albus*), snowy egret (*Egretta thula*), glossy ibis (*Plegadis falcinellus*), tree swallow (*Tachycineta bicolor*), and terns (*Sterna* spp.) (Niedowski 2000).

Other characteristic salt marsh fauna include fiddler crabs (*Uca pugilator* and *U. pugnax*) nesting along creek banks, ribbed mussel (*Geukensia dimissa*), and at high tide mummichog (*Fundulus heteroclitus*), and several other small fishes that live in the tidal creeks at low tide. Characteristic molluscs include coffeebean snails (*Melampus bidentatus*) and salt marsh periwinkles (*Littorina irrorata*).

The low salt marsh is one zone within a coastal salt marsh ecosystem; it occurs in a mosaic with several other communities. Low salt marsh grades into high salt marsh at slightly higher elevations, and into intertidal mudflats at slightly lower elevations. Saltwater tidal creeks that drain the salt marsh flow in a

sinuous pattern through the marsh, with a narrow band of low marsh lining the banks of the saltwater tidal creeks. Shallow depressions, or pannes, may also occur in the low marsh.

References:

Ecological Communities of the State of New York - Gregory J. Edinger - 2002

Hudson-Raritan Estuary Environmental Restoration Study - US Army Corps of Engineers / Frank J. Gallagher - 2004

Ecological Communities of the State of New York, Second Edition - Gregory J. Edinger, D. J. Evans, Shane Gebauer, Timothy G. Howard, David M. Hunt, Adele M. Olivero – 2014

Attachments:

Embankment Naturalist's Study - Nancy Slowick

Harsimus Branch and Embankment Species List - Frank Gallagher

Naturalist's Study of One Embankment Block in Four Seasons, 2002-3

In 2002-3, Nancy Slowik, a naturalist and Director of Greenbrook Sanctuary in the Palisades Park System, made a site visit to one block in each of four seasons. This block was at the time, from a distant visual perspective, the most degraded and least self-seeded of the six elevated Embankments. Her observations are summarized below.

Pennsylvania Railroad Harsimus Stem Embankment
Botanical and Animal Survey
By Nancy Slowik, Director/Naturalist,
Greenbrook Sanctuary, Palisades Park System

Description of Site: Easternmost Block of Embankment, from First Site Visit, April 10, 2002
This old field-meadow has a nice mix of native grasses and herbs that are beneficial to wildlife. However, the alien species need to be removed in the near future or at least controlled, since they will take over this habitat if left unmanaged. While visiting the site we observed several birds and insects utilizing the field.

As open space declines, preservation of these areas becomes a high priority, particularly in densely populated counties such as Hudson. The location along the waterway makes this site even more valuable as a stopover for migratory bird and insect life. Open meadow-old fields have become rare in this area as farmland and vacant lots give way to development. This open space offers a unique opportunity to create and maintain an old field-meadow habitat enhanced with a buffer planting of native shrubs and trees along the perimeter, that can provide fruits and seed for migratory birds as well as nectaring plants for migrating butterflies.

List of Botanical Species Observed on Four Site Visits During 2002-2003

Species	*Common Name*	*Growth Form*	*Date Observed*
Ailanthus altissima	Ailanthus*	Tree	4/10/02
Andropogon virginicus	Broom-sedge	Grass	4/10/02
Apocyancum spp.	Dogbane	WF	6/25/03
Artemesia vulgaris	Mugwort*	WF	4/10/02
Asclepias syriaca	Common Milkweed	WF	5/22/02
Aster pilosus	Heath Aster	WF	11/12/03
Capsella bursa-pastoris	Shepherd's Purse*	WF	5/22/03
Catalpa bignonioides	Southern Catalpa	Tree	6/25/03
Daucus carota	Queen Anne's Lace*	WF	4/10/02
			6/25/03
Erigeron spp.	Daisy Fleabane	WF	5/22/02
			6/25/03
Eupatorium hyssopifolium	Hyssop-leaved Boneset	WF	11/12/03
Eupatorium serotinum	Late-flowering Boneset	WF	11/12/03
Euthamia graminifolia	Grass-leaved Goldenrod	WF	11/12/03
Hieracium florentinum	Smooth Hawkweed*	WF	5/22/02
			6/25/03
Hypochocris radiata	Cat's Ear	WF	6/25/03
Linaria Canadensis	Blue Toad Flax	WF	5/22/02
			6/25/03
Medicago lupulina	Black Medick*	WF	5/22/02
			6/25/03
Melilotus alba	White Sweet Clover*	WF	5/22/03
Melilotus officinalis	Yellow Sweet Clover*	WF	6/25/03
Oenothera biennis	Evening Primrose	WF	6/25/03
Panicum virgatum	Switchgrass	Grass	4/10/02
Plantago lanceolata	English Plantain*	WF	5/22/03
Polygonatum cuspidatum	Japanese Knotweed*	WF	4/10/02

Prunus virginiana	Chokecherry	Tree	5/22/03
Pyrus spp.	Pear*	Tree	4/10/02
Quercus palustris	Pin Oak	Tree	5/22/03
Solidago juncea	Early Goldenrod	WF	11/12/03
Solidago rugosa	Rough-stemmed Goldenrod	WF	11/12/03
Sonchus spp.	Sow-thistle	WF	5/22/02
Stellaria graminea	Lesser Stitchwort	WF	5/22/03
Trifolium pratense	Red Clover*	WF	6/25/03
Trifolium repens	White clover	WF	5/22/02
			6/25/03
	British Soldier Lichen	Lichen	11/12/03

Birds
Northern Mockingbird 4/10/02, 5/22/02
Black-capped Chickadee 4/10/02
Eastern Phoebe 4/10/02
Rock Dove 4/10/02
European Starling 4/10/02
Barn Swallow 5/22/02
Tree Swallow 5/22/02
Gray Catbird 5/22/02
Chimney Swift 5/22/02
Common Yellowthroat Warbler 5/22/02

Insects
Dragonfly 4/10/02
Anglewing Butterfly (didn't get which species) 4/10/02, 5/22/02
Preying Mantis egg case 4/10/02

Additional Observations. Though they do not appear on the list of observed species in Ms. Slowik's study, it is common local knowledge that the Embankment hosts monarch butterflies and migratory birds. Anecdotal reports from residents overlooking the Embankment or alleys associated with the Embankment report additional species, including urban brown snake, red-tailed hawks, and opossums, and a wild turkey has been photographed atop an Embankment block. Our area is part of the Atlantic Flyway, and it would be expected that migrating species use the site. It is also within a mile of roosting sites for peregrine falcons. In October 2010, a ten-point buck became a media star when it emerged from Embankment grade-level property at Newark Avenue and raced up Newark to Exchange Place, leapt into the Hudson River, and made its way to Governors Island, where it was tranquilized and removed to a Staten Island preserve. Audubon members who visited the site in 2014 identified chimney swifts flying over the site.

Because the owners to date have not enabled access to the site, an in-depth study of the flora and fauna there is still needed.

Species		**Guild**	**Date**											
			2002-03	2020										
Acer rubrum	Red Maple	Tree		1/22/2022										
Ailanthus altissima	Ailanthus*	Tree	4/10/02	1/22/2022										
Albizia julibrissi	Mimmosa	Tree		1/22/2022										
Andropogon virginicus	Broom-sedge	Grass	4/10/02											
Apocyancum spp.	Dogbane	Forb	6/25/03											
Artemesia vulgaris	Mugwort*	Forb	4/10/02											
Asclepias syriaca	Common Milkweed	Forb	5/22/02											
Aster pilosus	Heath Aster	Forb	11/12/2003											
Betula populifolia	Grey Birch	Tree		1/22/2022										
Capsella bursa-pastoris	Shepherd's Purse*	Forb	5/22/03											
Catalpa bignonioides	Southern Catalpa	Tree	6/25/03	1/22/2022										
Daucus carota	Queen Anne's Lace*	Forb	4/10/02											
Erigeron spp.	Daisy Fleabane	Forb	5/22/02											
Eupatorium hyssopifolium	Hyssop-leaved Boneset	Forb	11/12/2003											
Eupatorium serotinum	Late-flowering Boneset	Forb	11/12/2003											
Euthamia graminifolia	Grass-leaved Goldenrod	Forb	11/12/2003											
Hieracium florentinum	Smooth Hawkweed*	Forb	5/22/02											
Hypochocris radiata	Cat's Ear	Forb	6/25/03											
Juniperus virginiana	Red Cedar	Tree		1/22/2022										
Linaria Canadensis	Blue Toad Flax	Forb	5/22/02											6/25/03
Medicago lupulina	Black Medick*	Forb	5/22/02											
Melilotus alba	White Sweet Clover*	Forb	5/22/03											
Melilotus officinalis	Yellow Sweet Clover*	Forb	6/25/03											
Oenothera biennis	Evening Primrose	Forb	6/25/03											
Panicum virgatum	Switchgrass	Forb	4/10/02											
Plantago lanceolata	English Plantain*	Forb	5/22/03											
Plantanus x hispanic	London Plane	Forb												
Polygonatum cuspidatum	Japanese Knotweed*	Forb	4/10/02											
Prunus virginiana	Chokecherry	Tree	5/22/03	1/22/2022										
Pyrus calleryana	Callary Pear	Tree	4/10/02											
Quercus palustris	Pin Oak	Tree	5/22/03	1/22/2022										
Robinia Pseudoacacia	Black Locust	Tree		1/22/2022										
Solidago juncea	Early Goldenrod	Forb	11/12/2003											
Solidago rugosa		Forb	11/12/2003											
Sonchus spp.	Sow-thistle	Forb	5/22/02											
Stellaria graminea	Lesser Stitchwort	Forb	6/25/03											
Trifolium pratense	Red Clover*	Forb	6/25/03											
Trifolium repens	White clover	Forb	5/22/03											
	British Soldier	Lichen	11/12/2003											