Tibbetts Brook Daylighting Project

Located in the Borough of The Bronx, NY

DEP ID#: GX-P-TIBB

5/25/2022

CB#8 Presentation
Tibbetts Brook Daylighting:

- Restores the hydraulic connection between Tibbetts Brook and the Harlem River
- Reduces annual CSO volume by up to 215-220 million gallons per year (MGY)
  - The proposed open channel would be designed for a baseflow of 7 cubic feet per second (cfs) and a maximum wet weather flow of 38 cfs
- Improves ecology through enhancement around Hester and Piero’s Mill Pond and along daylighted Tibbetts Brook channel
- Enhances recreational opportunities with extension of Putnam Greenway along the stream corridor
1. Existing Weir Structure and Gate Valve Manhole at Southwestern Corner of Lower Hester and Piero’s Mill Pond Connecting to Broadway Sewer
2 - Viewing opportunity on top of historic dam located west of the Old Putnam Trail footbridge looking over proposed daylighting location
3 – Existing weir with future side weir/viewing platform location in the background
3 – Retained Side of Historic Dam and Location of Proposed Outlet to Open Channel

4 – Proposed Start Location of Daylighted Channel
Site Photos

Key Plan

6 – Pathway crossing under Putnam Trail Crossing Railroad Bridge

7 – Underside of Putnam Trail Crossing Railroad Bridge
Site Photos

Key Plan

5 – Connection to boardwalk south of Tibbetts Wetland
8 – Old Putnam Trail with Historic Rail Ties

9 – Chain Link Fence on west side of proposed daylighting location in southern part of Van Cortlandt Park
10 – Location of Proposed Daylighting with Van Cortlandt Park South Bridge in Background

11 – Start of CSX Property and Continuation of Proposed Daylighting
Key Plan

12 – Start of CSX Property and proposed ramp area

13 – CSX corridor adjacent to Riverdale Crossing
14 – Street view of CSX Property and Adjacent Building from Major Deegan Expressway
17 – Location of Proposed Daylighting along CSX Corridor between 232nd Street and W 231st Street

18 – Location of Proposed Daylighting along CSX Corridor between Verveelen Place and W 231st Street
Project Overview
Proposed Circulation – Van Cortlandt Park

Legend
- Opportunities to Reconnect Circulation
- Existing Circulation to Remain
- Existing Circulation to be Removed
- Greenway Access Location
- Greenway Access Under Evaluation
Sections and Renderings
1 – Perspective Rendering of proposed side weir (before and after)
2 – Perspective Rendering of start of the proposed daylighting from the top of the historic dam at Hester and Piero’s Mill Pond
Van Cortlandt Park – Typical Stream Design
The overlook will have a view of the adjacent pocket wetland and contain opportunities for educational signage.
Section A-A1: Stream Channel with Wetland Expansion, Overlook, and Pocket Wetland

- Putnam Trail Side
- Floodplain Zone
- Open Water Zone
- Floodplain Zone
- Van Cortlandt Park

Legend:
- Shared Pathway
- Bridge
- Floodplain
- Pools and Riffles within open channel
- Upland revegetation

Existing Grade

Proposed Grade

Proposed Riffle

Proposed Wetland

Proposed Viewing Deck and Walking Path

Key Plan
Section B-B1: Stream Channel with Bridge to Van Cortlandt Park

Section View B-B1 – Van Cortlandt Park
Zoomed in View Showing Jerome Park Reservoir Blowoff Connection
The Jerome Park Reservoir Blowoff Manhole is located at the southeastern end of Van Cortlandt Park. A maintenance path to the manhole will be extended and gated off.
CSX Corridor
The City is in the process of acquiring the CSX property (Van Cortlandt Park South to W. 230th St)

**Seven** Greenway access locations will be provided along the 1-mile-long daylighting stretch of Tibbetts Brook

Access from path within Van Cortlandt Park near Van Cortlandt Park South is being evaluated based on tree impacts

Access at W 236th St/W 237th St is being evaluated – requires easement through private property

Access to Albany Crescent for potential future DOT greenway connection being evaluated
ROW Width Range:
33’ – 63’

Legend:
- Shared Pathway
- Pools and Riffles within Open Channel
- Low Herbaceous Vegetation
- Woody Vegetation and Room for Seating
- Space to be Determined Pending Site Visit
- Ramp Landing

Site Plan – VCP South to 237th St
Site Plan – 237th St to 235th St

Legend
- Shared Pathway
- Pools and Riffles within Open Channel
- Low Herbaceous Vegetation
- Woody Vegetation and Room for Seating
- Space to be Determined Pending Site Visit

ROW Width Range:
25’ – 33’

Potential access point pending agreements with private property owner

10’ wide path, typ.
Underpass space. Design decisions pending site visit, typ.

ROW Width Range:
25’ – 46’

234th St access will have access, format still under design

Transition wide stream channel design, some cantilever pathways continue

10’ wide path, typ.

Legend:
- Shared Pathway
- Pools and Riffles within Open Channel
- Low Herbaceous Vegetation
- Woody Vegetation and Room for Seating
- Space to be Determined Pending Site Visit
Site Plan – 232nd St to 230th St

ROW Width Range: 38’ – 40’

Legend:
- Shared Pathway
- Pools and Riffles within Open Channel
- Low Herbaceous Vegetation
- Woody Vegetation
- Space to be Determined Pending Site Visit

Accessible ramp connection from Verveelen Place
Maintenance Path to intake structure
Intake structure
Pipe to MNRR property/ existing outfall
Fence
Maintenance Compatible Entrance
Ramp Connecting to Roadway at Verveelen Place
Verveelen Place
231st Street
Matchline P.D.
Major Deegan Expressway

Space to be Determined Pending Site Visit
Short, ornamental planting or lawn opportunity
Sections and Renderings
Key Plan

Section View – CSX

Floodplain Zone
Open Water Zone
Floodplain Zone
F

Major Deegan Expressway
Existing Retaining Wall
Proposed Retaining Wall
Existing Grade
Proposed Grade
Existing Building
Proposed Building
Steps
Security Fence and Maintenance Gate
Proposed Ramp

Legend
Shared Pathway
West River Channel
Floodway
Low Herbaceous Vegetation
Space to be Unpaved

230th Street
F

Proposed Ramp
F1

231st Street

Verveen Place

Key Plan

F1

F

F1

39
Typical Wide Cross Section With Greenway

Ramp Area/Vegetated Area (0'-8')

10' Porous Greenway

Vegetated Area (0'-8')

Existing Concrete Wall

Proposed Concrete Wall

Rocks/Obstructions/Plantings

Wet Weather Flow
Base Flow

Major Deegan Expressway On Ramp (Elevation Varies)

Concrete Retaining Wall

Native Soil

Min. 2' Clean Fill Cap

Underdrain

Stone Layer

2' Pathway Clear Zone or Additional Paving to Increase Path Width

2' Pathway Clearance Zone

Conveyance Channel Capped with Min. 2' Clean Fill and Lined with Cobblestones and Substrate

Proposed Concrete Footing

Concrete Retaining Wall

2' Pathway Clear Zone or Additional Paving to Increase Path Width

CSX – Open Channel Design
Rendering of typical wide cross section

Proposed rendering of open channel and greenway alignment within CSX property
Typical Narrow Cross Section With Greenway

- 2' Pathway Clearance Zone
- Vegetation (0-5')
- Existing Brick Building
- Engineered Soil
- Existing Building Foundation
- Underdrain
- Stone Layer
- Native Soil
- Min. 2' Clean Fill Cap
- Base Flow
- Wet Weather Flow
- Conveyance Channel Capped with Min 2' Clean Fill and Lined with Cobbles and Substrate
- Rocks/Obstructions/Plantings
- Proposed Concrete Wall
- Existing Concrete Wall
- Major Deegan Expressway (Elevation Varies)
- Proposed Concrete Footing Extending to Cantilever Section

CSX – Open Channel Design
Rendering of typical narrow cross section

Proposed rendering of open channel and cantilevered greenway alignment within CSX property
6 – Example Photo of Proposed Intake Structure at the End of the Tibbetts Brook Daylighting

A trash rack designed for self-cleaning will be installed for floatables control.

Proposed intake structure will also incorporate wing walls to direct flow into closed conduit.
Steel Picket Fence

Educational Signage

B-Pole Light Fixtures

1939 World’s Fair Benches
Fixed/Removable Bollards

Porous Asphalt

Bike Racks
Aluminum Pipe Rail Fence

Educational Signage

B-Pole Light Fixtures

1964 World’s Fair Benches
Bullpen
Ownership: Public ROW
Adjacent Property Ownership: Public ROW (Putnam Ave W) to the South and Van Cortlandt Park to the North.
Elevation Difference: Approx. 18 ft
Ramp Length: Approx. 250 ft
Noted in ULURP: Yes

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenway connection to a major street.</td>
<td>Larger elevation difference presents constructability and safety concerns.</td>
</tr>
<tr>
<td>Direct connection into Van Cortlandt Park</td>
<td>No crosswalk across Van Cortlandt Park South</td>
</tr>
<tr>
<td>East/West access</td>
<td>Heavily trafficked street.</td>
</tr>
<tr>
<td></td>
<td>Potential interference with on-/off-ramp of Major Deegan Expressway.</td>
</tr>
</tbody>
</table>
• Ownership: Public ROW

• Adjacent Property Ownership: Private property (3800 Putnam Housing Development Fund Corporation) to the South and Public ROW (Putnam Ave W) to the West.

• Elevation Difference: Approx. 9 ft

• Ramp Length: Approx. 125 ft

• Noted in ULURP: No

<table>
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<tr>
<th>Pros</th>
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<tbody>
<tr>
<td>Improved constructability and safety.</td>
<td>Possibly requires sidewalk extension.</td>
</tr>
<tr>
<td>Lightly trafficked street.</td>
<td></td>
</tr>
<tr>
<td>Provides easy access to Van Cortlandt Park South via Putnam Ave W.</td>
<td></td>
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<tr>
<td>Preferred entry/exit location of maintenance vehicles.</td>
<td></td>
</tr>
</tbody>
</table>
Ownership: Public ROW

Adjacent Property Ownership: Private property (3800 Putnam Avenue West) to the North and Private property (Riverdale Crossing) to the South.

Elevation Difference: Approx. 17 ft

Ramp Length: Approx. 240 ft

Noted in ULURP: Yes

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<tr>
<th>Pros</th>
<th>Cons</th>
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<tr>
<td>Greenway connection to a major street.</td>
<td>Very narrow CSX corridor (25 ft). Severely constrained area would sacrifice greenway width.</td>
</tr>
<tr>
<td>East/West access</td>
<td>Private ownership directly adjacent to greenway on both sides of street.</td>
</tr>
<tr>
<td></td>
<td>Larger elevation difference presents constructability and safety concerns.</td>
</tr>
</tbody>
</table>
• Ownership: Private property (Riverdale Crossing)
• Adjacent Property Ownership: Private property (Riverdale Crossing)
• Elevation Difference: Approx. 5.5 ft
• Ramp Length: Approx. 75 ft
• Noted in ULURP: No

### Pros

<table>
<thead>
<tr>
<th>Limited elevation difference</th>
<th>Private ownership.</th>
</tr>
</thead>
</table>

### Cons

| Interferes with entrance and parking lot of major commercial property. |
| Very narrow CSX corridor (30 ft). Severely constrained area would sacrifice greenway width. |
Ownership: Public ROW

Adjacent Property Ownership: Private property (Riverdale Crossing).

Elevation Difference: Approx. 3 ft

Ramp Length: Approx. 40 ft

Noted in ULURP: No

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<tr>
<td>Limited elevation difference</td>
<td>Private ownership.</td>
</tr>
<tr>
<td>Short transition to greenway.</td>
<td>Interference with loading dock for BJs.</td>
</tr>
<tr>
<td></td>
<td>Putnam Ave W (privately owned) is a parking lot for Riverdale Crossing.</td>
</tr>
</tbody>
</table>
Ownership: Public ROW

Adjacent Property Ownership: Riverdale Crossing parking lot to the North

Elevation Difference: Approx. 16 ft

Ramp Length: Approx. 220 ft

Noted in ULURP: Yes

Pros

- Greenway connection to a major street.

Cons

- Very narrow CSX corridor on the North side of 234th Street (30 ft). Severely constrained area would sacrifice greenway width.
- Private ownership directly adjacent to greenway
- Ownership: Public ROW
- Adjacent Property Ownership: Shopping center
- Elevation Difference: Approx. 16 ft
- Ramp Length: Approx. 220 ft
- Noted in ULURP: Yes

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<td>Greenway connection to major street.</td>
<td>Constructability adjacent to private property</td>
</tr>
<tr>
<td>East/West access</td>
<td>Limited CSX corridor on the South side of 234th Street (50 ft).</td>
</tr>
<tr>
<td></td>
<td>Constrained area would sacrifice greenway width.</td>
</tr>
</tbody>
</table>

**POTENTIAL ACCESS POINT**
• Ownership: Public ROW
• Adjacent Property Ownership: Private Property to North and South.
• Elevation Difference: Approx. 17 ft
• Ramp Length: Approx. 240 ft
• Noted in ULURP: No

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<tr>
<td>Greenway connection to a major street.</td>
<td>Interferes with adjacent existing private building infrastructure on south side of 233rd St.</td>
</tr>
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<td>East/West access</td>
<td>Larger elevation difference presents constructability and safety concerns.</td>
</tr>
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• Ownership of Street: Public ROW
• Adjacent Property Ownership: Private Property to North and South.
• Elevation Difference: Approx. 18 ft
• Ramp Length: Approx. 250 ft
• Noted in ULURP: No

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<td>Greenway connection to a major street.</td>
<td>Very narrow CSX corridor on South side of 231&lt;sup&gt;st&lt;/sup&gt; Street (40 ft). Severely constrained area would sacrifice greenway width.</td>
</tr>
<tr>
<td>East/West access</td>
<td>Interferes with adjacent existing private building infrastructure on North side of 231&lt;sup&gt;st&lt;/sup&gt; Street.</td>
</tr>
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</tr>
</tbody>
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• Ownership: Public Right of Way
• Adjacent Property Ownership: Walgreens Parking Lot to North and Private Commercial Property to South
• Elevation Difference: Approx. 4.5 ft
• Ramp Length: Approx. 65 ft
• Noted in ULURP: No

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<td>Lightly trafficked street.</td>
<td></td>
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<tr>
<td>Easy maintenance access to DEP and Parks infrastructure.</td>
<td></td>
</tr>
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<td>Limited elevation difference</td>
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- Ownership: Public Right of Way
- Adjacent Property Ownership: Private property to the North
- Elevation Difference: Approx. 20ft
- Ramp Length: Approx. 270ft
- Noted in ULURP: Yes

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<td>Directly adjacent to on-/off-ramp of Major Deegan Expressway.</td>
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<td>No crosswalk across 230th St</td>
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