

March 27, 2023

Long Bridge Preliminary Engineering (LBPE) Virtual Public Meeting 6:00-7:00PM



How to Use This Presentation

VPRA published this version of the presentation on the Long Bridge Project website on March 6, 2023. The slides present the latest Project design and status updates.

Refer to the designs and information presented in these slides when completing the Spring 2023 Long Bridge Project Survey.

Agenda

1. Project Introduction
 - Virginia Passenger Rail Authority (VPRA)
 - Project Scope
 - Project Funding
 - Project Schedule
 - Design Decisions Timeline
 - Packaging & Procurement
2. Rail Bridges
3. Maine Ave SW Pedestrian Bridge
4. Potomac River Bicycle-Pedestrian Bridge
5. Next Steps

Virginia Passenger Rail Authority (VPRA)

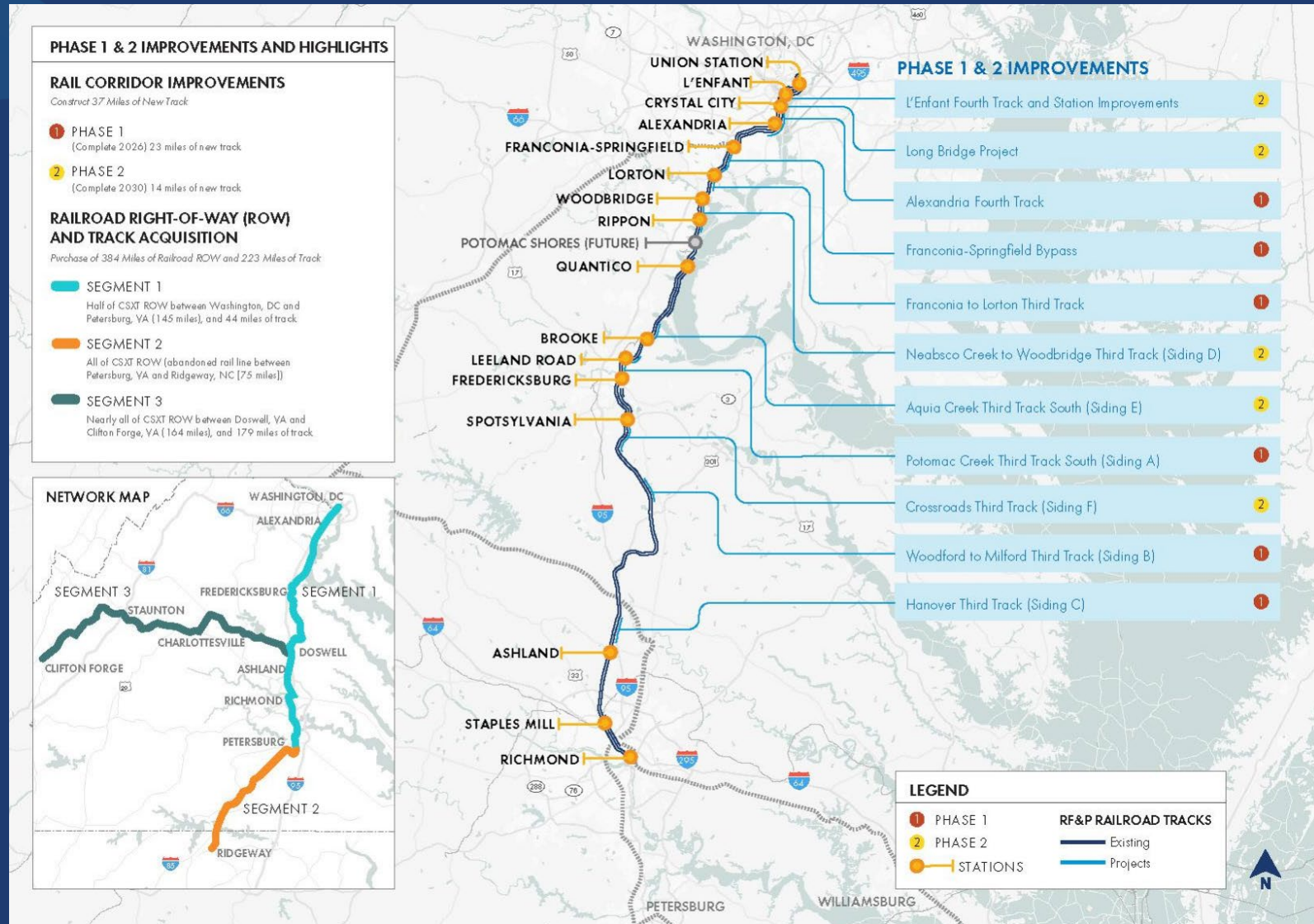
- Created by 2020 General Assembly
- Given all powers necessary for carrying out its statutory purposes:
 - Design, build, finance, and maintain rail facilities
 - Direct recipient of USDOT Grants
 - Eminent domain powers in Virginia
- Will own rail assets and right of way
- Will partner with others to operate passenger and commuter rail service
- Governed by a 15-Member Board



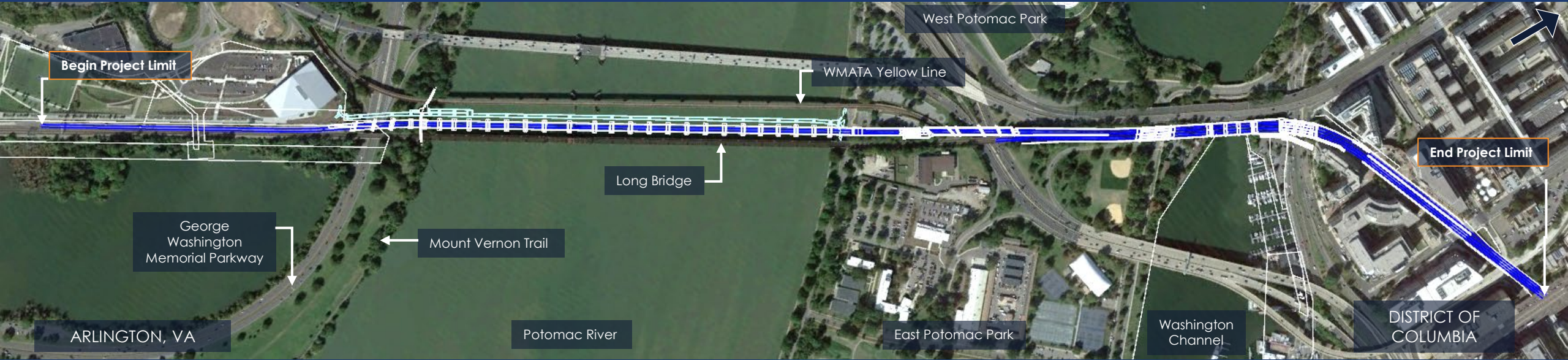
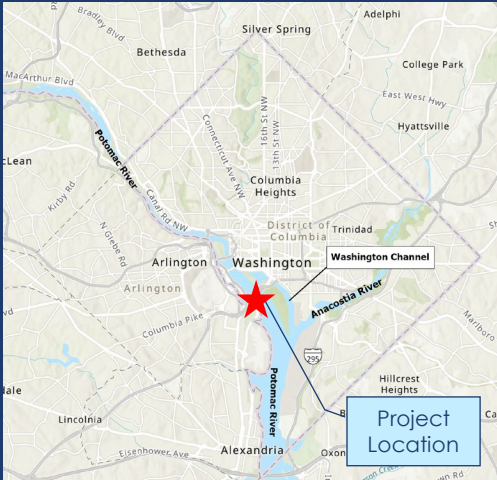
VPRA is responsible for promoting, sustaining, and expanding the availability of passenger and commuter rail service in the Commonwealth

Transforming Rail in Virginia – CSX Agreement

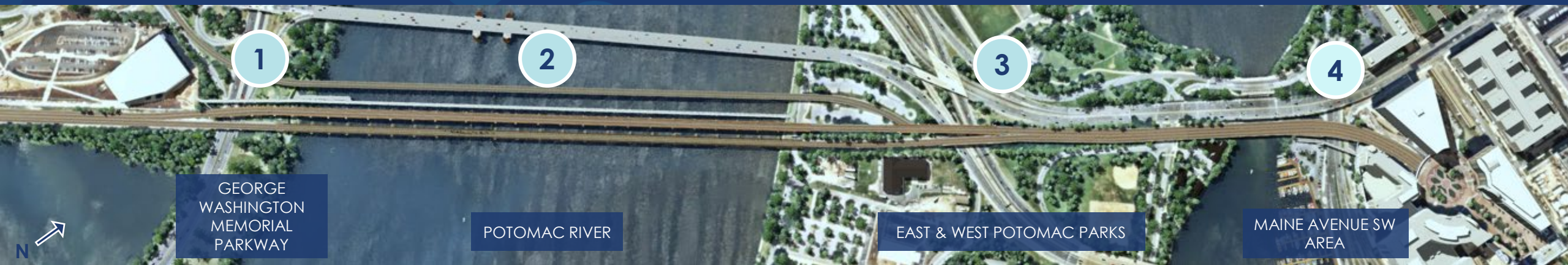
- VPRA & CSXT Agreement for Acquisition from DC to NC
- Construct dedicated 2-track passenger corridor
- Acquisition of abandoned S-Line to NC
- Completion of each Phase will trigger additional VRE and Amtrak service –
 - Phase 1 (2026)
 - 2 Amtrak Trains & 3 VRE Trains
 - Phase 2 (2030)
 - 3 Amtrak Trains & 2 VRE Trains
- Program will double state-supported Amtrak service into Union Station and increase VRE service by 75%



Long Bridge Project Location

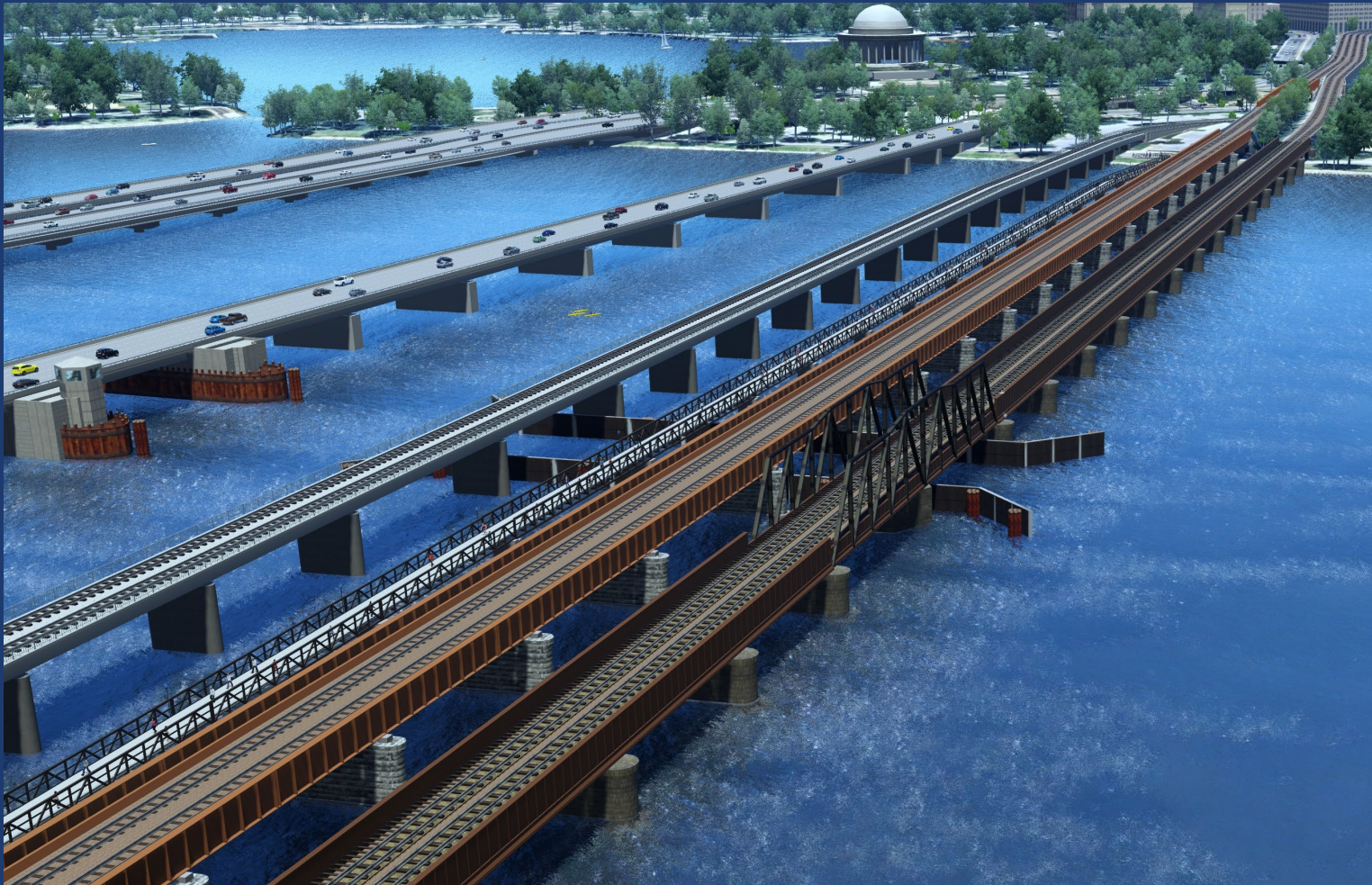


Project Areas



| Area | | Structures |
|------|-------------------------|--|
| 1 | GW Parkway | <ul style="list-style-type: none">• Potomac River Rail Bridge (extends over the Parkway and Potomac River)• Potomac River Bicycle-Pedestrian Bridge (extends over the Parkway and Potomac River) |
| 2 | Potomac River | <ul style="list-style-type: none">• Potomac River Rail Bridge (extends over the Parkway and Potomac River)• Potomac River Bicycle-Pedestrian Bridge (extends over the Parkway and Potomac River)• Retaining Walls and Landscape Design |
| 3 | East/West Potomac Parks | <ul style="list-style-type: none">• Potomac River Bicycle-Pedestrian Bridge Landing• WMATA/I-395 Rail Bridge• Ohio Drive SW Rail Bridge• Washington Channel Rail Bridge• Retaining Walls and Landscape Design |
| 4 | Maine Avenue SW Area | <ul style="list-style-type: none">• Maine Avenue SW Rail Bridge• Retaining Walls• Maine Avenue SW Pedestrian Bridge |

Project Overview



Rendering of bridges looking from Virginia

[Click here to access the Flyover Animation of the entire project.](#)

1.8 mile

Project

3

Rail Operators

20,000

Feet of Track

2

New Tracks VA to DC

6,500 ft

Rail Bridges

5

New Rail Bridges

2,800 ft

Potomac River
Bike-Ped Bridge

1

New Potomac River
Bike-Ped Bridge

3,500 ft

Retaining/Crashwalls

1

Maine Ave Ped Bridge

37+

Stakeholders

70

Daily Trains



Current Funding Sources

| Federal Funding | |
|-----------------|---|
| | USDOT RAISE Grant (Ped Bike Bridge) |
| State Funding | |
| | VPRA Commonwealth Rail Fund |
| | Priority Transportation Fund |
| | Commuter Rail Operating and Capital (CROC) Fund |
| | I-66 (ITB) Toll Revenues |
| Financing | |
| | Amtrak Ticket Revenue - Financing |
| | I-66 Toll - Financing |
| Other | |
| | Amtrak Capital Contribution |

Schedule

DDOT Led

2011–2016 Pre-NEPA

2011 FRA ARRA Grant

Phase I Study
2012–2015

Phase II Study
2015–2016

DDOT-DRPT Partnership
through MOU

2016–2020 NEPA

2016 FRA TIGER Grant

FEIS/ROD Complete
September 2020

Long Bridge Act
December 2020

Identified Mitigation
Commitments & Permit
Identification

VPRA Led

2021–2023 Preliminary Engineering (PE)

Design 15% to 30%

Determine Project
Delivery Method

Begin Environmental
Mitigation & Permits

Agreements with
Partner Organizations

2023–2030 Final Design & Construction

Design-Build or
Alternative Project
Delivery

Land Acquisition
Activities

Permitting

Final Design &
Construction



Design Decisions Timeline

| | Pre-NEPA (2011–2016) | NEPA (2016–2020) | Preliminary Engineering (2021–Present) |
|--|--|--|--|
| Design Decisions | <u>Design Decisions</u> <ul style="list-style-type: none"> No new signature bridge over the Potomac River Four rail bridge types advanced to alternative analysis Multimodal crossings considered | <u>Design Decisions</u> <ol style="list-style-type: none"> Expand to four-track rail corridor 19 preliminary rail concepts screened; tunnel, multimodal, and new corridors eliminated Two rail bridge alternatives over Potomac River evaluated in DEIS Preferred Alternative: New two-track rail bridge; retain existing Long Bridge Steel through girder rail bridge over river Added bicycle-pedestrian crossing as proposed Section 4(f) mitigation Evaluated four bicycle-pedestrian options Pre-fabricated truss bicycle-pedestrian bridge | <u>Design Development</u> <ol style="list-style-type: none"> Topographical/bathymetric survey Subsurface/soil borings Design review agency meetings Stakeholder meetings/inputs Pier, abutment, wall material preferences Arched GW Parkway rail bridge selection Landscape design criteria Retaining wall locations/materials Architectural treatment of bridges Bicycle-Pedestrian Bridge design advancement |
| Public & Stakeholder Meetings | <ul style="list-style-type: none"> Four Public Meetings | <ul style="list-style-type: none"> Four Public Meetings One Public Hearing Five Section 106 Consulting Parties Mtgs. | <ul style="list-style-type: none"> Six Public Pop-Up Events* Two Public Meetings* Eight design meetings with Section 106 Signatories, CFA, DDOT* Monthly NPS meetings <p><i>*Includes March 2023 events.</i></p> |

Packaging & Procurement



 South Package

 North Package

South Package

- Design-Build, RFQ Spring/RFP Fall 2023, Award early-2024
- GW Parkway/Potomac River Rail & Bike-Ped Bridges, Retaining Wall A, track, south end embankments
- **D-B Team**
 - Selection based on Best Value
 - Combination of qualifications and cost

North Package

- Progressive D-B, RFQ Winter, RFP Spring 2023, Award mid-2023
- Walls, embankments, ground improvements, crashwalls, track, rail bridges, Maine Ave. SW pedestrian bridge
- **Progressive D-B Team**
 - Selection based predominantly on qualifications with pre-construction/design cost component
 - Construction pricing submitted after additional design completed



Long Bridge Project Rail Bridges

Overall Concept

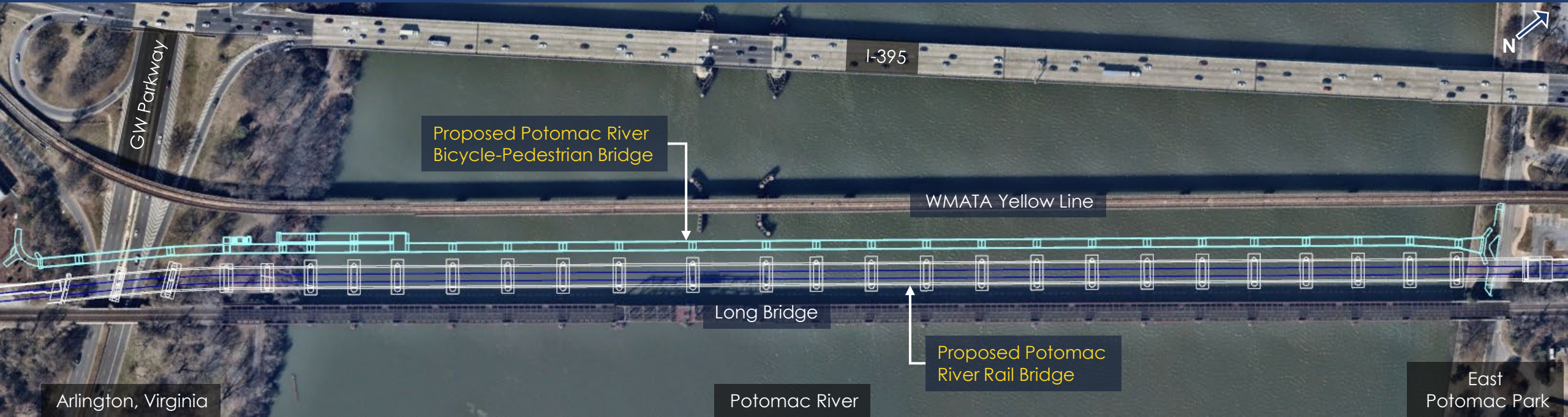
- This presentation contains Project updates made since the last public meeting held in June 2022. Refer to the Project website at the link below to view the previous presentation and recording.
 - **[Click Here for Long Bridge Project Document Library- June 2022 Public Meeting](#)**
- This section includes location, existing conditions, and design renderings of all rail bridges included in the Long Bridge Project.
- The bridges are presented in order from South to North:
 - Potomac River - Including George Washington Memorial Parkway & Mount Vernon Trail
 - I-395
 - Ohio Drive SW (East)
 - Washington Channel
 - Maine Ave SW
- The design intent for the new bridges is to fit the surrounding context of the existing transportation infrastructure.
- All designs shown in this presentation are subject to additional changes as the design progresses.



Potomac River Crossings

The design intent of the Potomac River rail crossing is to approximate the structure, material, and form of the historic Long Bridge, including its through-girder spans and the form and spacing of its piers.

The design of the bicycle-pedestrian bridge aims to provide a safe crossing with a low profile and simple structure that generally blends with the surrounding bridges. This bridge is addressed later in the presentation.



Key Map

Potomac River Crossings – Existing Bridge History



Historic Image of Long Bridge from Virginia Shoreline

From District Department of Transportation, "14th Street Bridge Complex (Various)," DDOT Historic Collections, accessed April 28, 2022, <https://ddotlibrary.omeka.net/items/show/39#lg=1&slide=124>.



Historic Note: Existing 1904 Long Bridge was a truss bridge, originally painted red



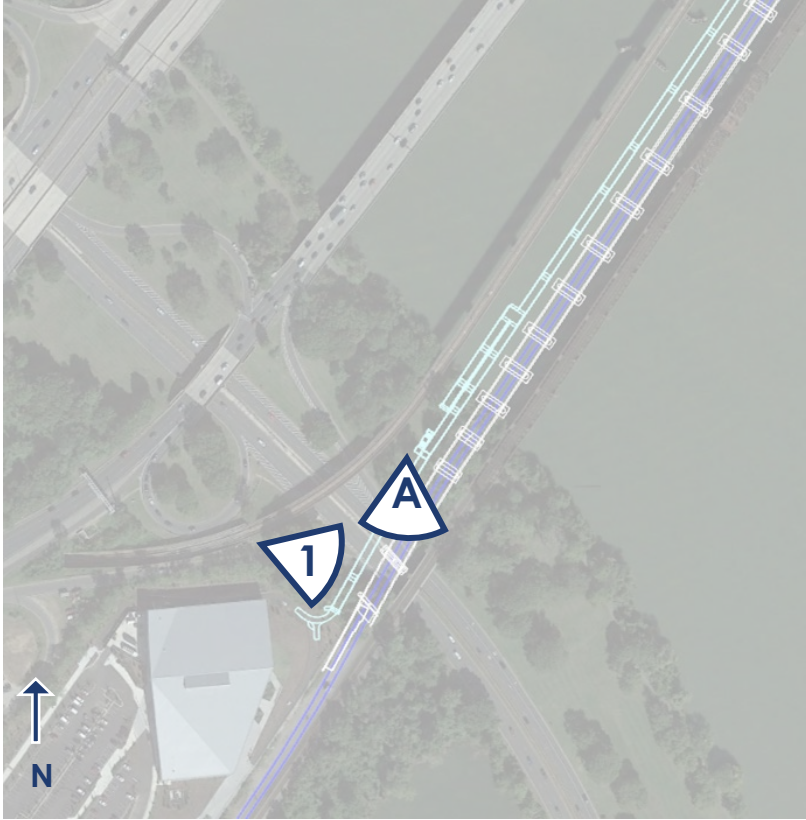
Historic Image of 14th Street and Long Bridge Rail Corridor

Source: District Department of Transportation (DDOT) Library, DDOT Historic Collection



Existing GW Parkway Rail Bridge (1904)

Potomac River Rail Bridge – George Washington Parkway



The bridge design approximates the historic character of the existing Long Bridge rail crossing at the GW Parkway through its design. The Project proposes an arched weathering steel girders and stone clad retaining walls and piers.



Potomac River Rail Bridge - Mount Vernon Trail (MVT)



Column piers are proposed at the MVT crossing to maximize visibility, safety, and security of pedestrians and bicycles through the park.

Additionally, the column piers create a natural transition point between the GW Parkway historical character and the Long Bridge historical character.



Existing Mount Vernon Trail



Rendering of Proposed Rail Bridge over Mount Vernon Trail
(Bicycle-Pedestrian Bridge not shown)

Potomac River Rail Bridge



The proposed Potomac River rail bridge piers will closely resemble the existing bridge piers in both appearance and shape. The piers will have an ice breaker nose upstream and a rounded end downstream to ensure turbulent flow around the structure is kept to a minimum. The proposed piers will also approximate the existing bridge stone masonry.



Long Bridge (1904)



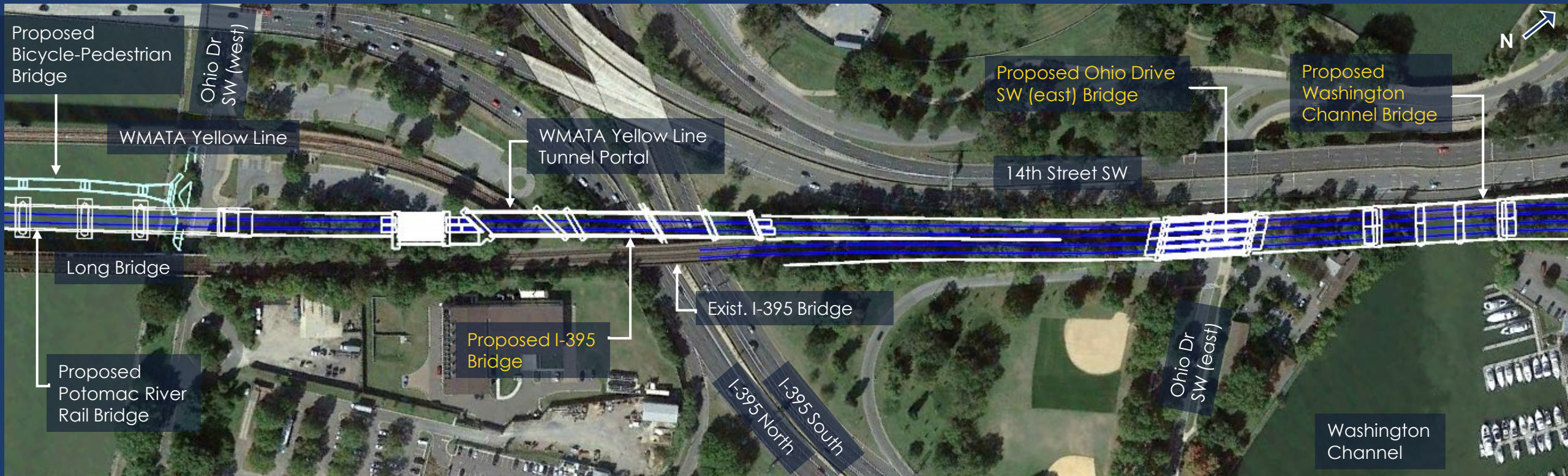
Rendering of Proposed Rail Bridge over the Potomac River



Existing Potomac River Pier

East & West Potomac Park Bridges

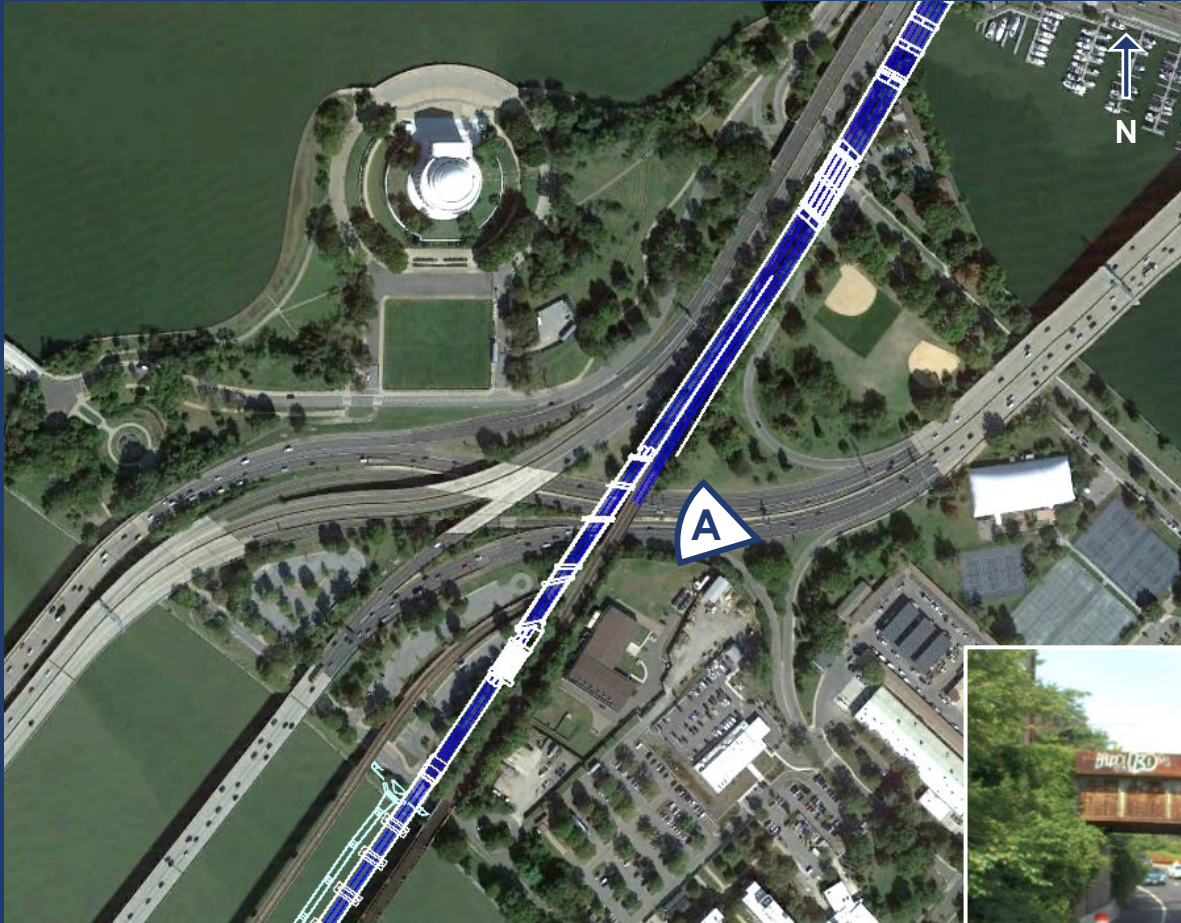
The rail crossing through East and West Potomac Parks is designed to minimize the impact to the park and viewsheds, while providing additional rail capacity through the park in a safe and efficient way. The aesthetic treatment of the three bridges in this area is based on the surrounding existing rail and highway bridges. Feasibility and design of two types of piers are currently being evaluated for these bridges. The goal is to maintain similar characteristics for the bridges in the District.



Key Map

East & West Potomac Parks: I-395 Rail Bridge

Existing Conditions



District Department of Transportation, "14th Street Bridge Complex (Various)," *DDOT Historic Collections*, accessed May 10, 2022, <https://ddotlibrary.omeka.net/items/show/39>



Rail Bridge over I-395 (1959)

I-395 Rail Bridge – Proposed Pier Options

As shown in the following renderings, the Project is currently evaluating column and wall piers for the proposed rail bridges in the East & West Potomac Parks.



East & West Potomac Parks: Ohio Drive SW (East) Rail Bridge Existing Conditions

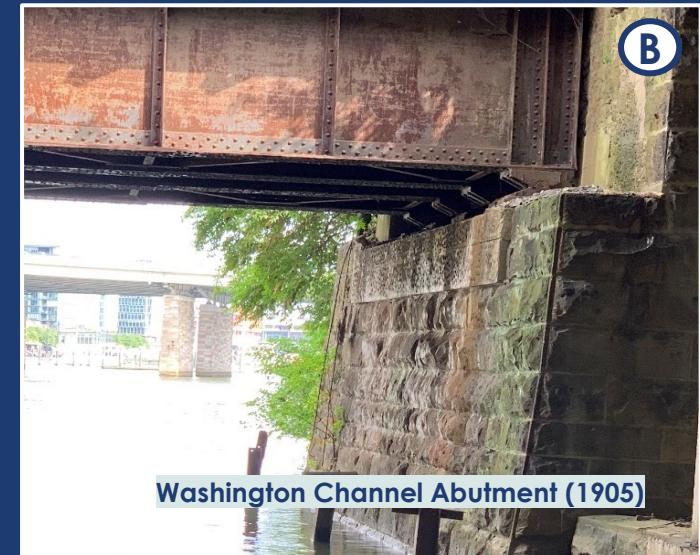
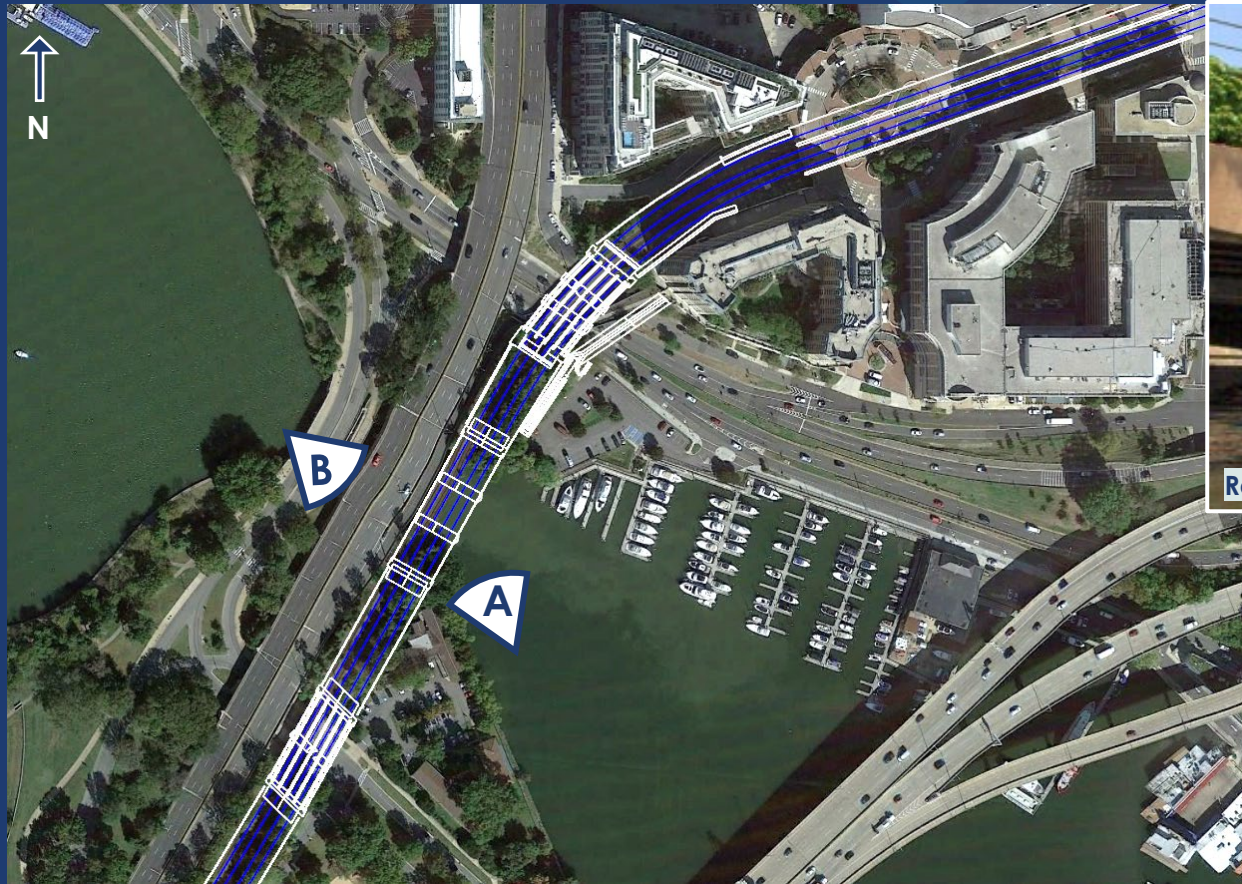


Ohio Drive SW (East) Rail Bridge – Proposed Pier Options



East & West Potomac Parks: Washington Channel Rail Bridge

Existing Conditions



Washington Channel Rail Bridge – Proposed Pier Options



As shown in the adjacent renderings, the Project is currently evaluating column and wall piers for the proposed rail bridges in the East & West Potomac Parks.

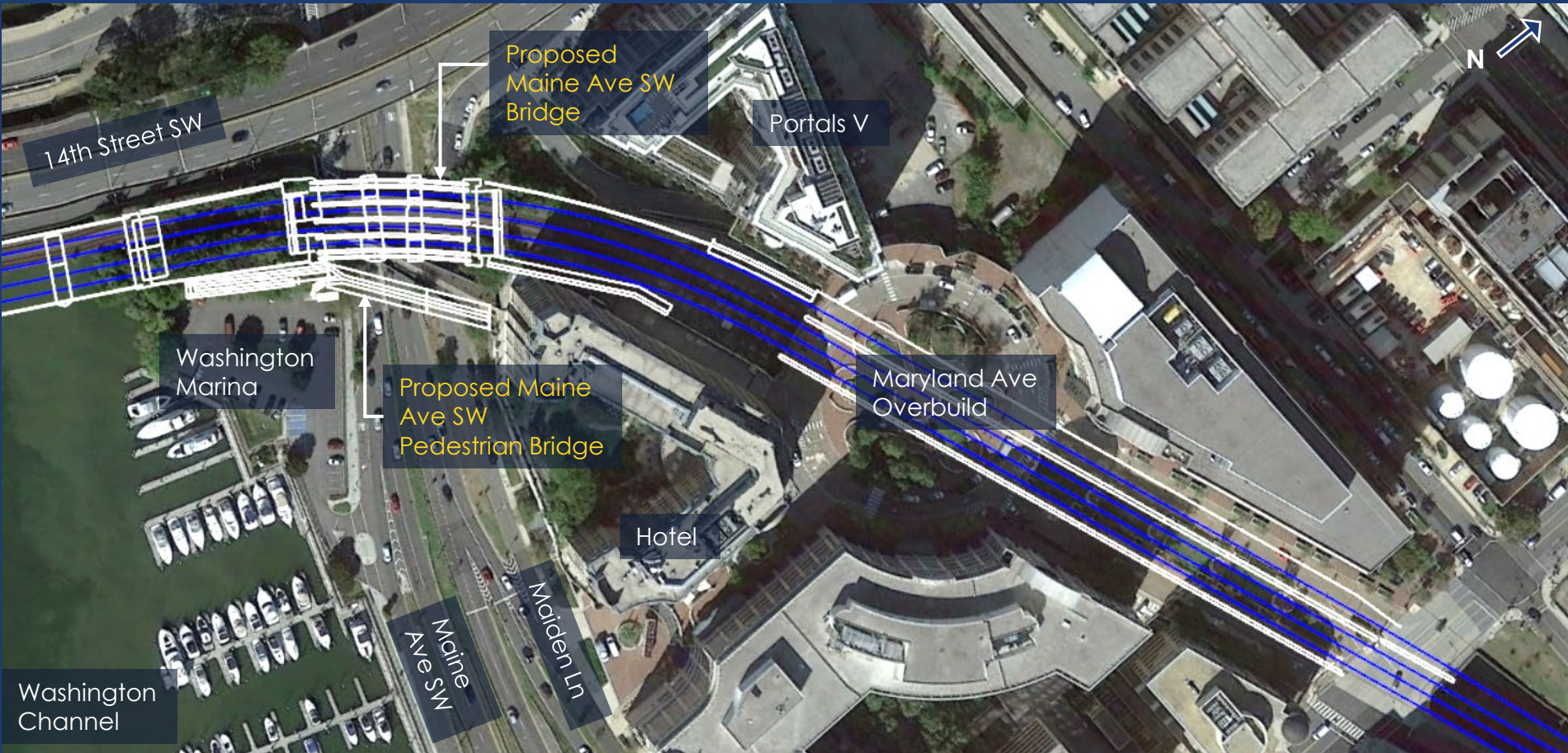


Column Pier - Rendering of Proposed Rail Bridge over Washington Channel



Wall Pier - Rendering of Proposed Rail Bridge over Washington Channel

Maine Ave SW/ Maryland Ave SW Overbuild



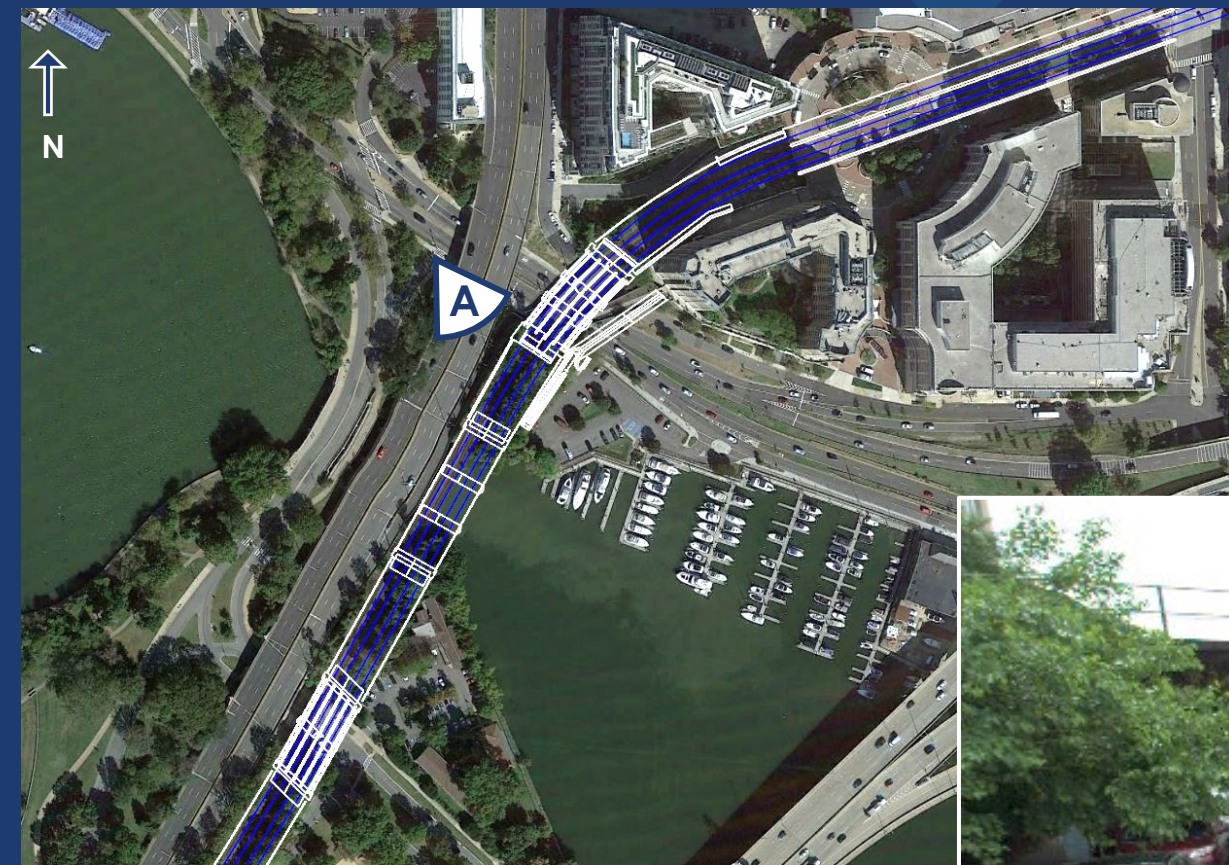
The existing two-track rail bridge across Maine Avenue SW will be removed and replaced with a four-track rail bridge. The Project will also expand the existing tracks southwest of the Maryland Avenue Linear Park from two to four.

The proposed aesthetic treatment of the new bridge will resemble the characteristics of the existing bridge.

Key Map

Maine Avenue Rail Bridge

Existing Conditions



Rail Bridge over Maine Avenue SW (1905)

Maine Ave SW Rail Bridge



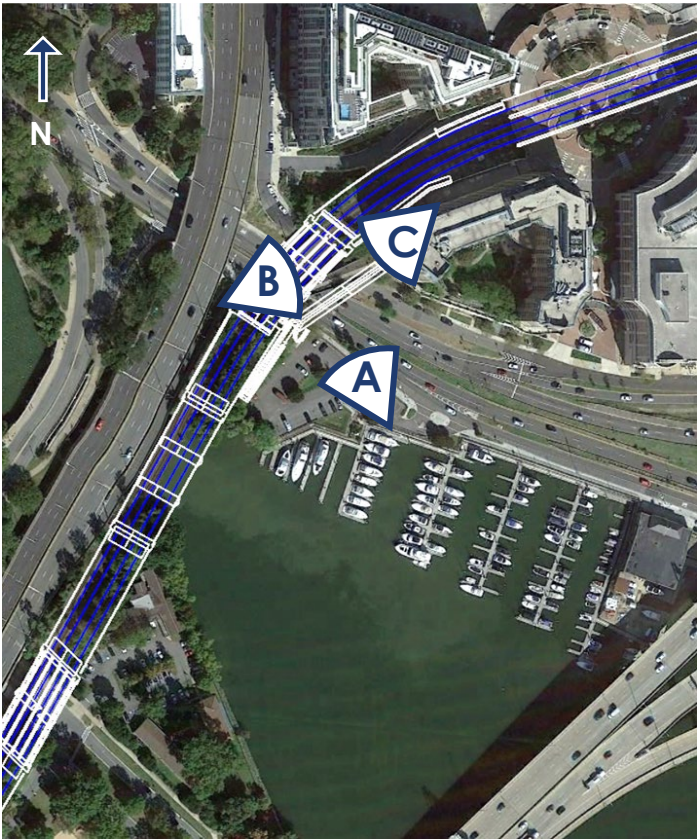
Rendering of Proposed Rail Bridge over Maine Ave SW

A series of blue circles of varying sizes and a curved graphic resembling a bridge or a path, composed of blue rectangular segments, are positioned in the upper left and center of the slide.

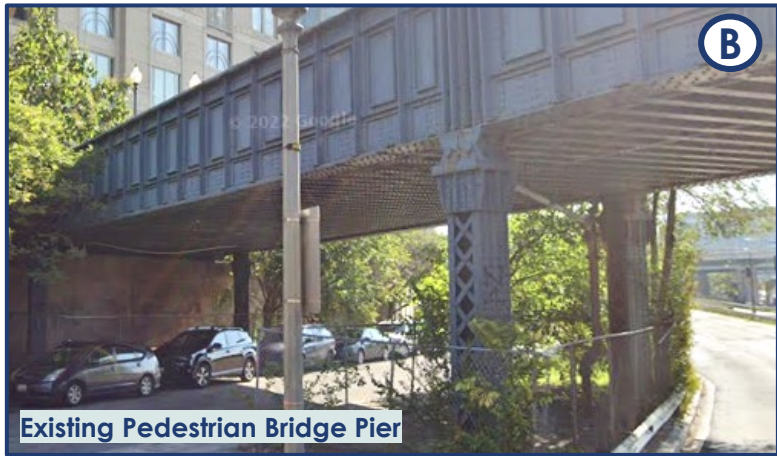
Long Bridge Project Maine Avenue SW Pedestrian Bridge

Maine Avenue SW Pedestrian Bridge

Existing Conditions



Pedestrian Bridge (1905/1928/2004), Privately Owned



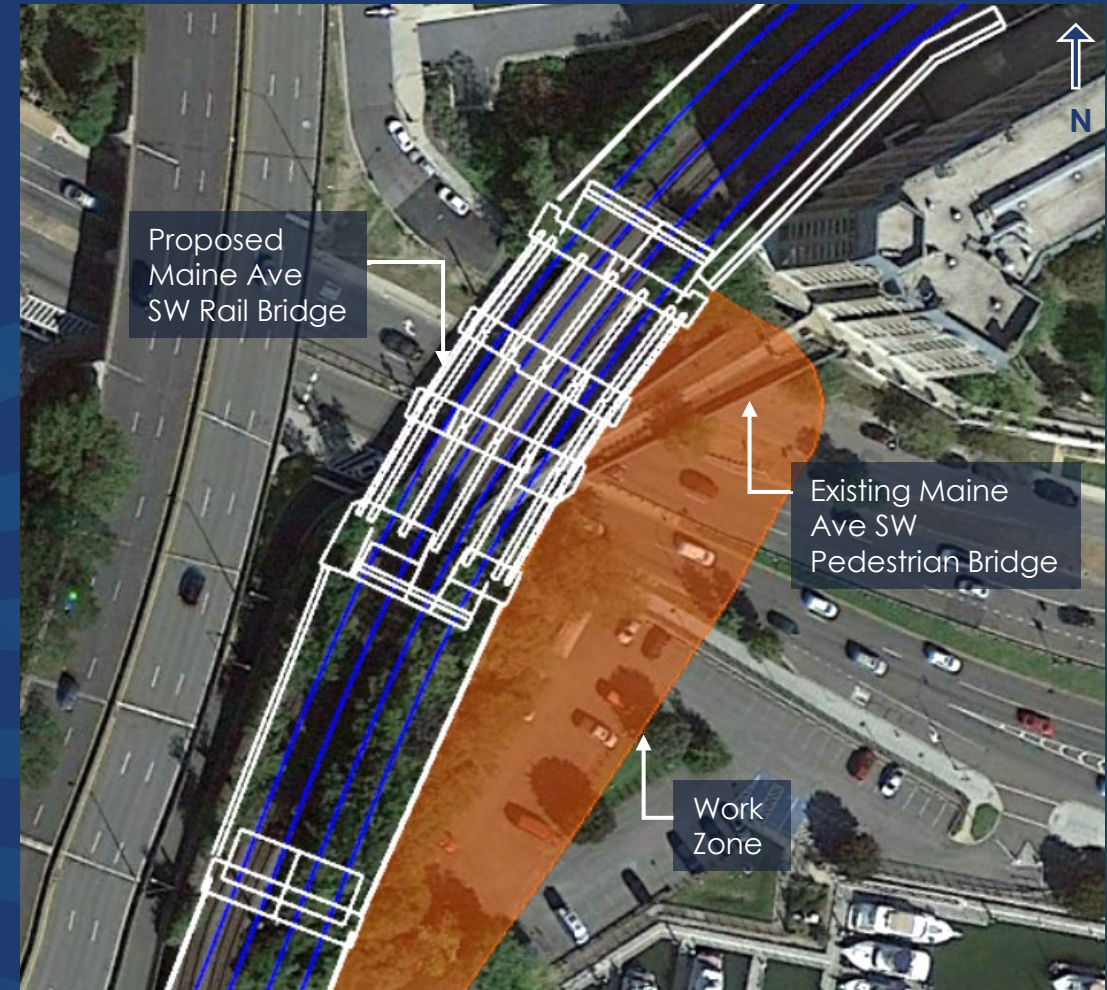
Existing Pedestrian Bridge Pier



Existing Pedestrian Bridge

Maine Avenue SW Pedestrian Bridge

- Existing rail and pedestrian bridges to be removed and replaced
- Existing rail bridge will be expanded from two to four tracks into the footprint of the existing pedestrian bridge
- Once the existing pedestrian bridge is removed, construction access for the proposed rail bridge will be from the same side, requiring construction of the new pedestrian bridge to take place after the rail bridge is complete



Maine Avenue SW Pedestrian Bridge: Stakeholders

- Existing pedestrian bridge is privately owned by the *Portals Development Associates Limited Partnership* and serves Republic Properties and the Salamander Hotel (formerly Mandarin Oriental)
- Coordination is ongoing with Stakeholders including:
 - ✓ Pedestrian bridge owners regarding the bridge design
 - ✓ Washington Marina Company and the District on temporary and permanent impacts to the parking lot
 - ✓ The Wharf on temporary impacts during construction
 - ✓ Section 106 Programmatic Agreement Signatories and Commission of Fine Arts regarding design/aesthetic decisions and Commission approvals

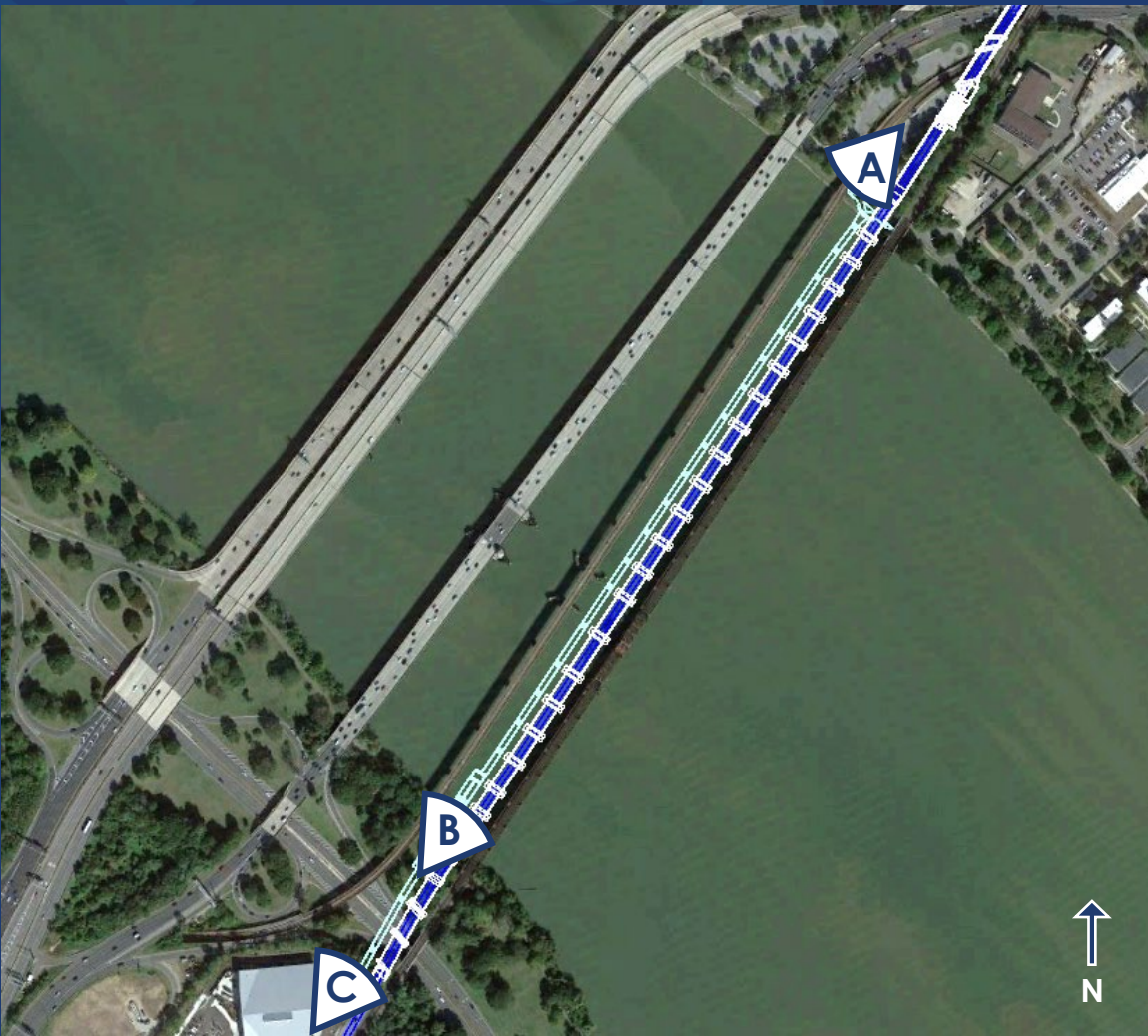


Maine Ave SW/Maryland Ave SW Overbuild area



Long Bridge Project Potomac River Bicycle-Pedestrian Bridge

Potomac River Existing Conditions



Existing 14th Street River Crossing



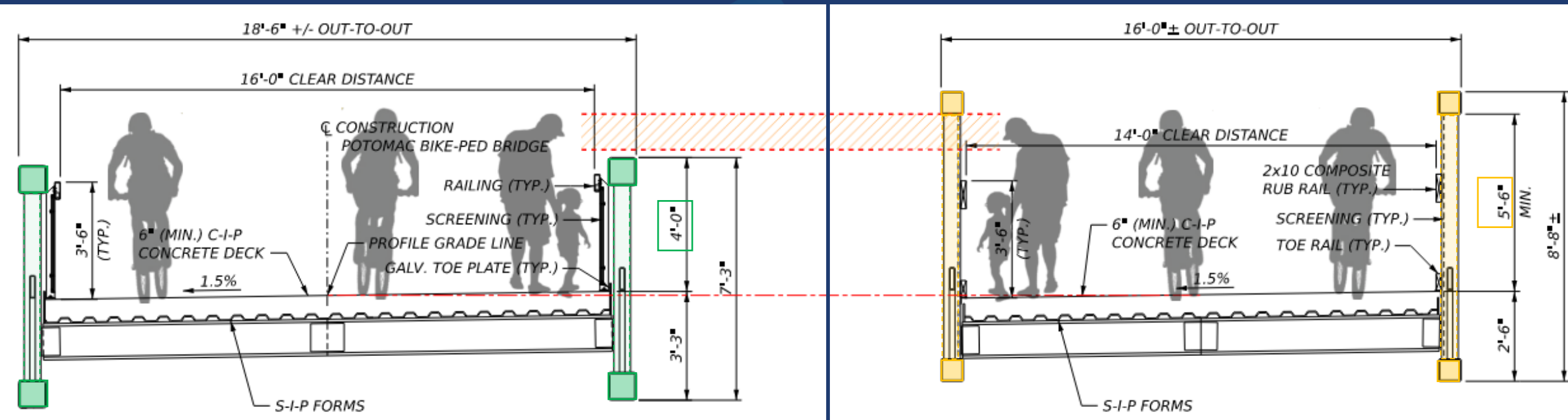
Visuals

The design of the bicycle-pedestrian bridge provides a safe, effective pedestrian and bicycle crossing with a low profile and simple structure that generally blends with the surrounding bridges.



Visual Considerations and Updates

- Truss height lowered to avoid eye level
- Low profile and simple structure that blends with the surrounding bridges
- Limit footprint over national park lands
- Updating guardrail system and integrated lighting design (*ongoing development and coordination*)



Current Design

Previous Design

Connection Designs

Long Bridge Park

The southern terminus of the bridge meets the existing trail at Long Bridge Park in Arlington County.

Coordination is ongoing with DDOT, Arlington County, and other stakeholders.



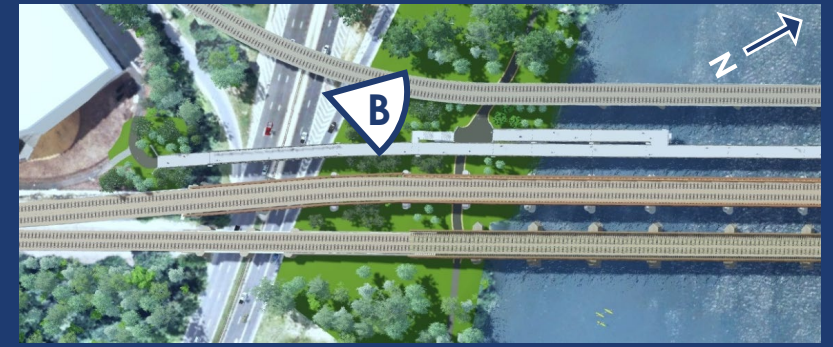
Long Bridge Park – Existing 10 ft trail

Connection Designs

Mount Vernon Trail

The proposed bicycle-pedestrian connection to the Mount Vernon Trail will match the characteristics of the proposed bicycle-pedestrian bridge. The prefabricated truss structure and pier shapes will remain the same as the bridge. The ramp will require unique detailing at its top and bottom for connections, but the independent guardrail system allows for continuity at both transition points.

Coordination is ongoing with DDOT, Arlington County, NPS and other stakeholders.



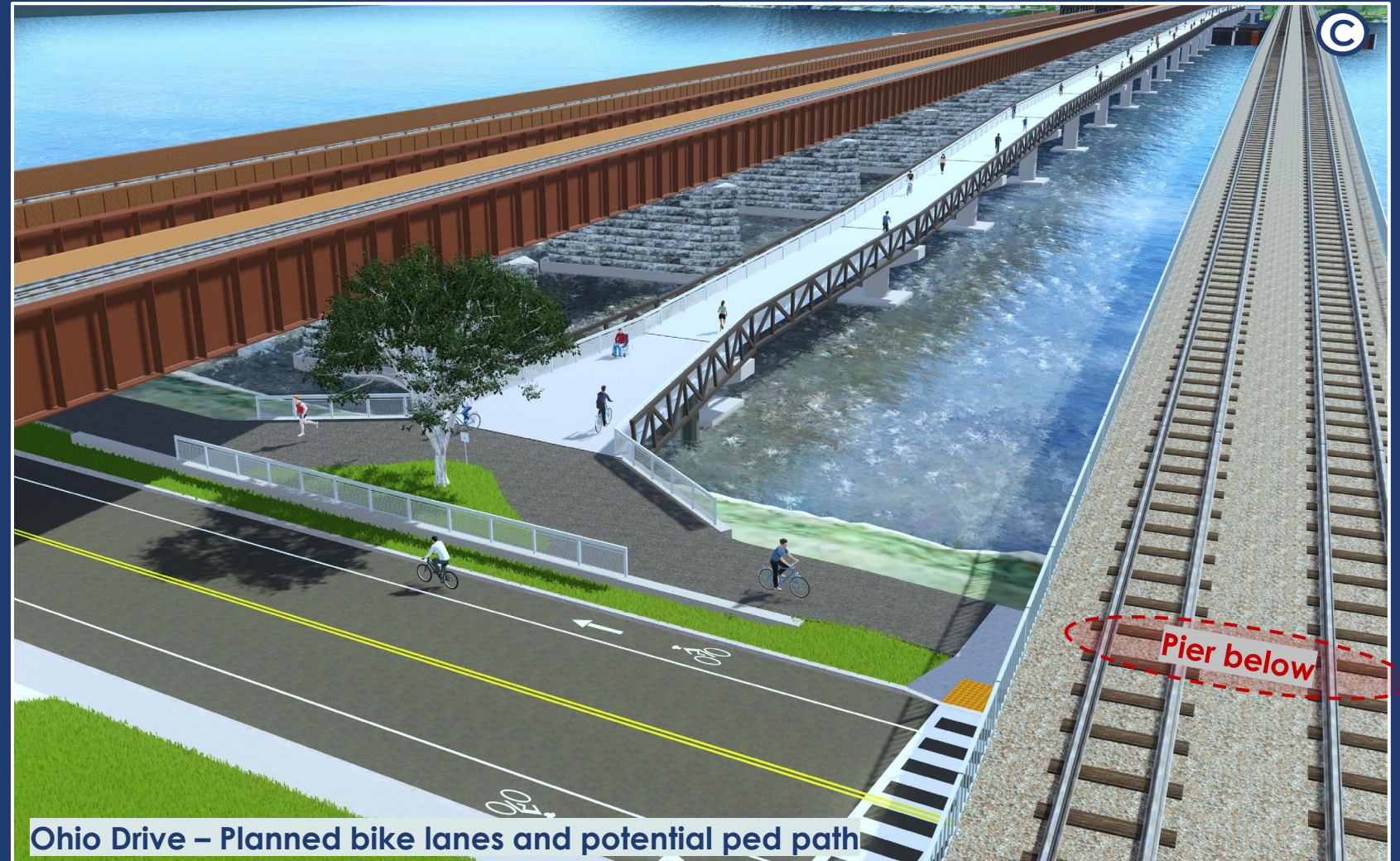
MVT – Existing 8 to 10 ft trail with planned widening to 11 ft

Connection Designs

Ohio Drive SW – East Potomac Park

A T-intersection for the ramp to Ohio Drive SW (West) will create a continuous public space along Ohio Drive and provide a smooth transition to the bike-ped bridge. The T-intersection will also encourage bicycles to slow down and promote safety for all users at this transitional location.

Coordination is ongoing with DDOT, NPS and other stakeholders.



Ohio Drive – Planned bike lanes and potential ped path



Long Bridge Project Next Steps

Next Steps



Public Engagement 2023

- Engagement Period began March 6
 - Presentation published on Project website
 - Survey opened
- **Mar 13:** ANC 6D Update (7:00 PM)
- Pop-Up Events
 - **Mar 15:** VRE Crystal City Station (3:30-6:00 PM)
 - **Mar 21:** VRE L'Enfant Station (3:30-6:00 PM)
 - **Mar 25:** Long Bridge Aquatics Center (1:00-3:00 PM)
 - **Apr 1:** Farmers Market SW (9:00 AM-1:00 PM)
- **Mar 27:** Virtual Public Meeting (6:00-7:00 PM)
- Survey open through April 10



June 2022 Pop-Up Events

Share your Questions & Comments

March 27 Public Meeting: Use the Live Event Q&A box

Through April 10: www.surveymonkey.com/r/LongBridgeSpring2023



Scan to Access
Project Survey

Stay Connected

VPRA Social Media

LinkedIn – [Virginia Passenger Rail Authority \(VPRA\)](#)

Twitter – [@VAPassengerRail](#)

Facebook – [Virginia Passenger Rail Authority/VAPassengerRail](#)

Review project information:

vapassengerrailauthority.org/longbridgeproject

Submit comments/questions and sign up for VPRA update emails:

vapassengerrailauthority.org/contact

