



# I-90 ALLSTON INTERCHANGE A MULTIMODAL TRANSPORTATION PROJECT

Task Force Meeting  
July 15, 2021



# Today's Agenda

- **Welcome & Introductions**
- **Federal Highway Floodplain Letter**
- **Modified At-Grade Cross Section and Profile**
- **Modified At-Grade Shoreline Restoration**
- **Cambridge Street Bridge Preservation**
- **Questions**

# FHWA Floodplain Letter



- **FHWA requires highway infrastructure to be placed above the 50-year flood elevation.**
  - **"...(I)n keeping with 23 CFR 650 Subpart A, through lanes of Interstate highways shall not be inundated from a design flood with a 2-percent chance of being exceeded in any given year."**  
**(2018 Letter from FHWA to MassDOT)**
  - **"The Soldiers Field Road Hybrid and the At-grade alternatives as currently proposed violate Federal regulations as they lower the Interstate below the FEMA 50-year flood elevation.... This requirement cannot be waived nor are there any means of exception or mitigation. Therefore, these alternatives as currently presented are not viable and will need to be revised to meet this floodplain requirement. We are confident that feasible design solutions are available to address this requirement for both alternatives such they can viably move forward in the DEIS."**  
**(2021 Letter from FHWA to MassDOT)**



# FHWA Floodplain Letter



- 23 CFR Part 650 Subpart A, Location and Hydraulic Design of Encroachments on Floodplains – To prescribe FHWA policies and procedures for the location and hydraulic design of highway encroachments on floodplains
- Applies to all encroachments and to all actions which affect base floodplains, except for repairs made with emergency funds
- A proposed action which includes a significant encroachment shall not be approved unless the FHWA finds that the proposed significant encroachment is the only practicable alternative. This finding... shall be supported by the following information:
  - The reasons why the proposed action must be located in the floodplain
  - The alternatives considered and why they were not practicable, and
  - A statement indicating whether the action conforms to applicable State or local floodplain protection standards.
- Source: [23 CFR § 650.101 - 650.117](#)

# FHWA Floodplain Letter (cont)



- **MassDOT's Perspective**

- It is MassDOT's view that all alternatives, as currently designed, meet the requirements of 23 CFR Part 650 Subpart A as none of the alternatives result in a physical encroachment within the 50-year floodplain.
- MassDOT recognizes the possible threat posed by climate change and flooding to the state's transportation infrastructure over a long period of time and will review possible mitigation measures to mitigate any adverse impacts associated with current and future flooding and resiliency concerns.
- MassDOT and FHWA are committed to working through interpretation of 23 CFR Part 650 Subpart A and potential solution.

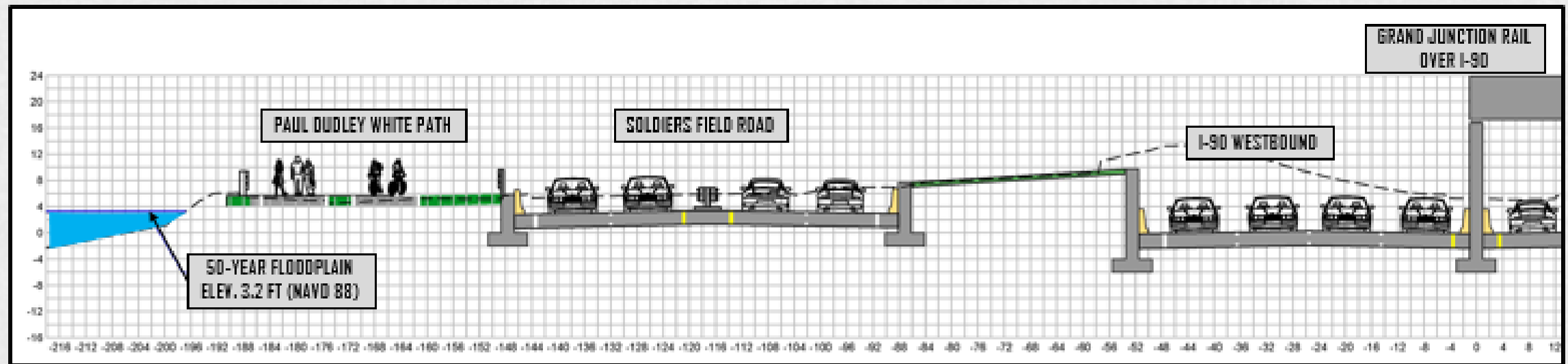


# 50-Year Floodplain Survey (Plan View)



Source: [FIS \(fema.gov\)](https://www.fema.gov)

# 50-Year Floodplain Survey (Section View)

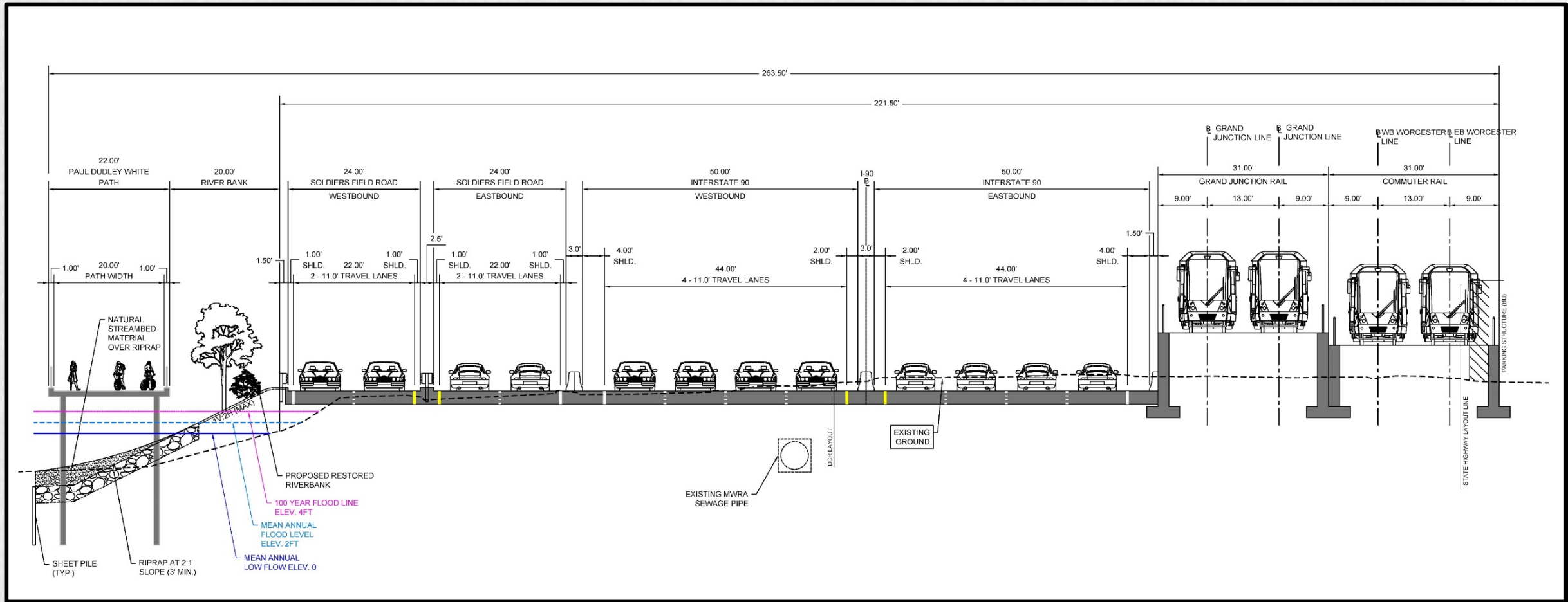


# Today's Agenda (2)

- Welcome & Introductions
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# Modified At-Grade Cross Section



# Constraints to changing the Cross Section

- I-90 Travel Lanes (Required number of lanes and widths)
  - Modified At-Grade (4 - 11' travel lanes)
  - Modified Highway Viaduct (4 - 12' travel lanes)
- I-90 Shoulder Widths
  - Modified At-Grade (2' Left/4' Right)
  - Modified Highway Viaduct (4' Left/4' Right)
- SFR Travel Lane and Shoulder Widths
  - 4 - 11' travel lanes with 1' Left/Right shoulders
- WML and Grand Junction Rail Widths
  - Minimum center to center rail/track spacing = 13'-0"
  - Horizontal Clearance from CL Rail = 9'-0"
- Buick Street/Agganis Way
  - Must maintain existing curb to curb width



Modified At-Grade  
(Looking East)



# Modified At-Grade Profiles



- **I-90 Profile**
  - FHWA letter requires highway infrastructure to be above 50-year flood elevation (El. 3.2' NAVD88)
- **Rail Profile**
  - Maximum rail grade = 1.5%
  - Rail design speed varies (Commuter Rail South Station 50mph and GJRR/Freight 20mph)
- **Vertical Clearances**
  - 14'-6" + structure depth over I-90
  - 18'-6" + structure depth over Railroad Tracks

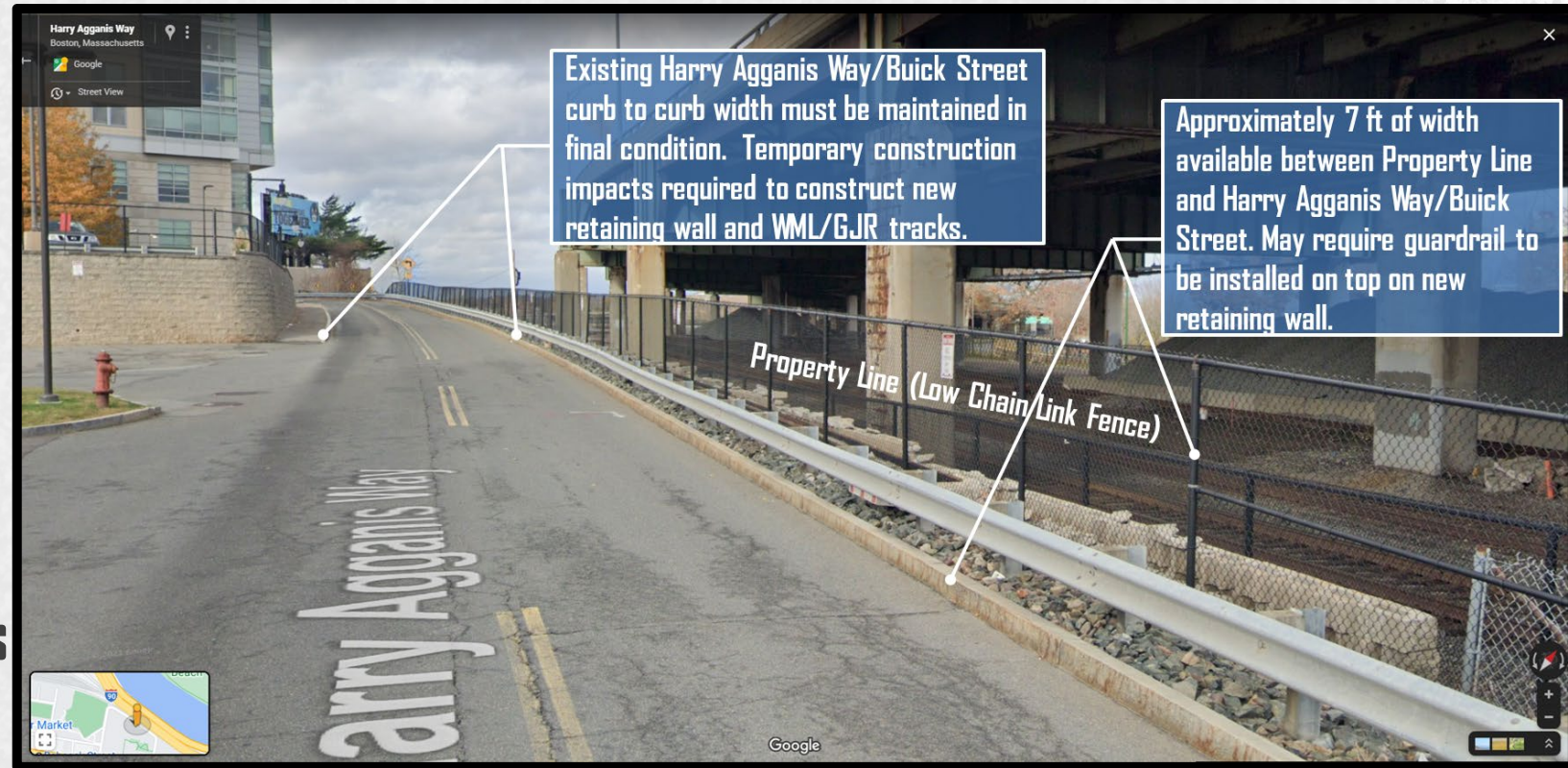


**Modified At-Grade  
(Looking East)**



# Refinements Previously Assessed

- Use of additional BU property without further impacting Buick Street operations
- Further narrowing of I-90 lane and shoulder widths and removal of travel lanes
- Decreasing existing Soldiers Field Road 24' curb to curb width



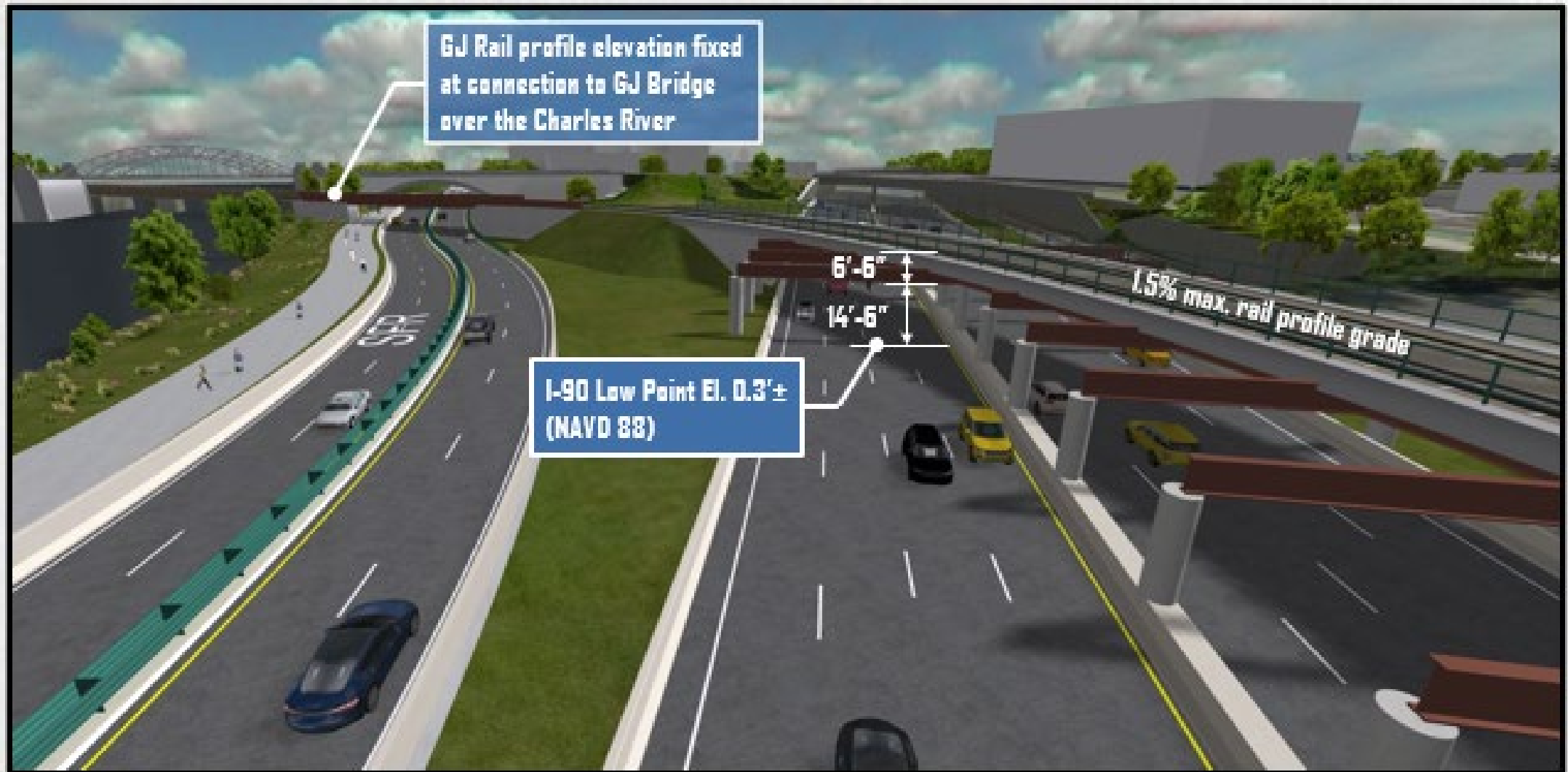
Buick Street/Agganis Way  
(Looking West)



## Refinements Currently Being Assessed

- Seeking to identify an option to decrease cross section by approximately 4 feet (minimal area of 600 SF) to allow for Soldiers Field Road roadway pavement out of the river (would not remove greater than 1 acre of fill for shoreline improvements).
- Raising Interstate 90 elevation
  - Challenging due to conflict with required elevations of the Grand Junction Rail (GJR) tracks that would be constructed over Interstate 90 as part of this option. GJR track elevations are driven by track elevation of GJR bridge over the Charles River. Therefore, raising Interstate 90 elevations would impact the GJR and may require unconventional bridge type to decrease structure depth and rail design criteria exception to increase maximum allowable profile grades.
  - Raising WML and GJR rail elevations within throat area to increase GJR clearance over Interstate 90 would impact ramp length from Agganis Way to North-South Agganis Crossing to PDW Path and further impact access drive to BU Nickerson Field.

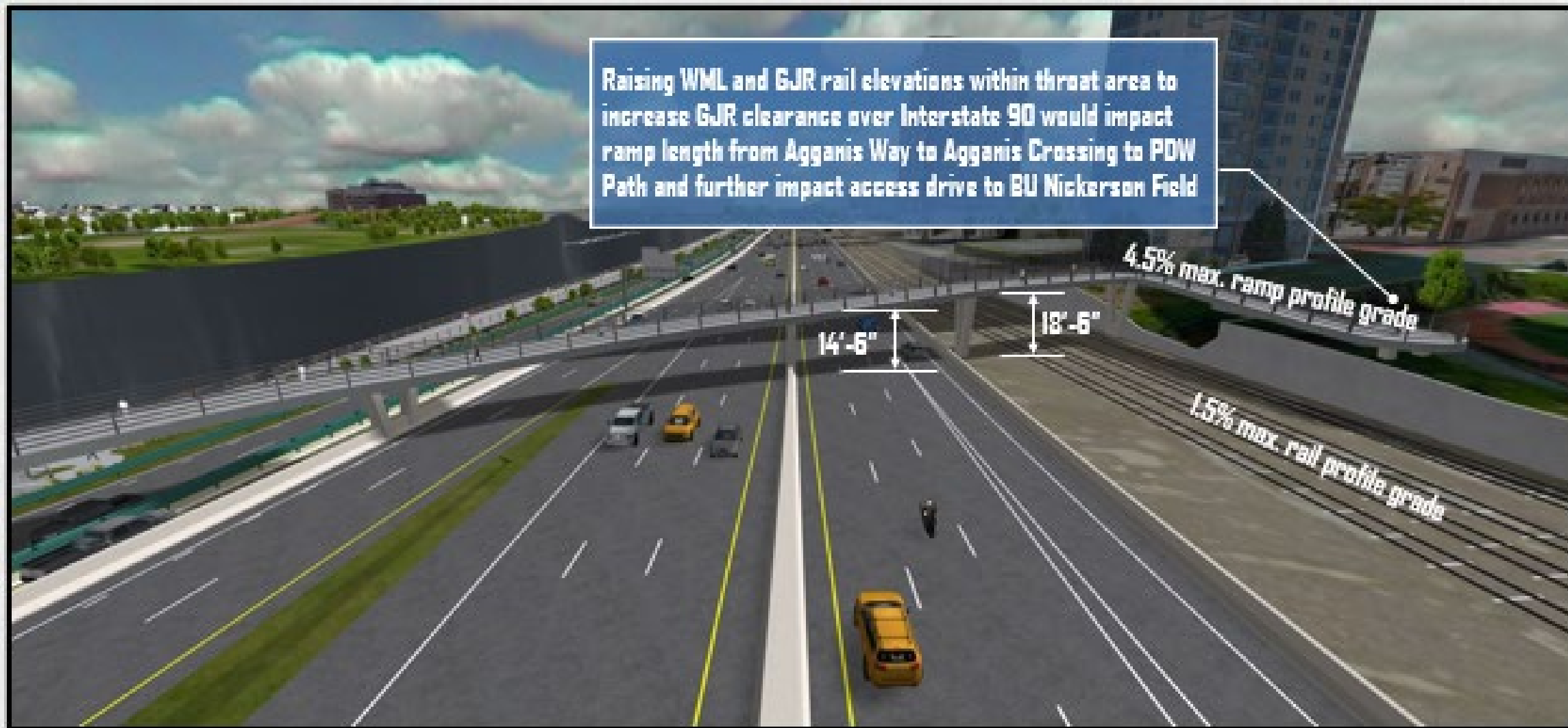
# Modified At-Grade Profiles (Cont.)



(Looking East)



# Modified At-Grade Profiles (Cont. 3)



(Looking East)

# Modified At-Grade Profiles (Cont. 4)



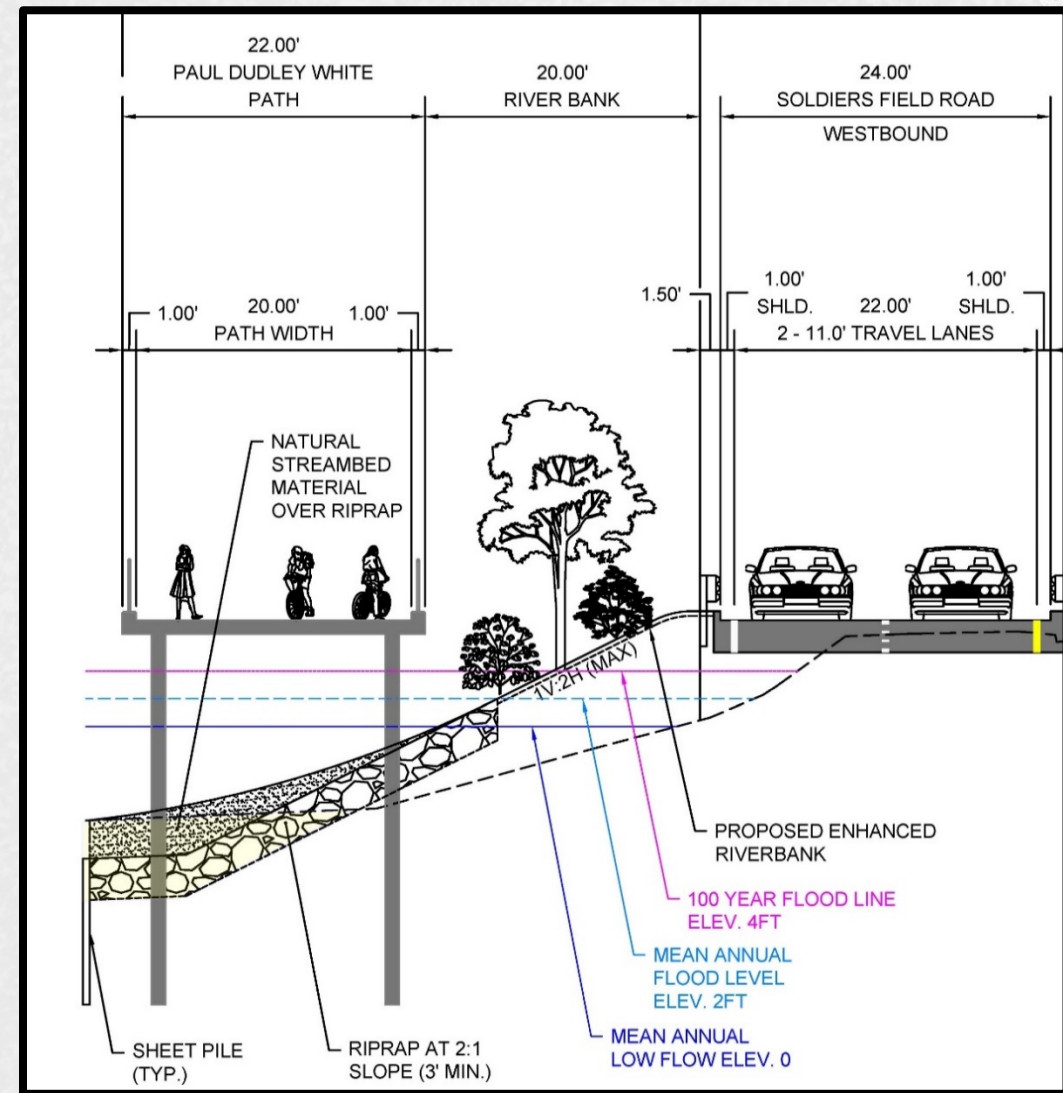
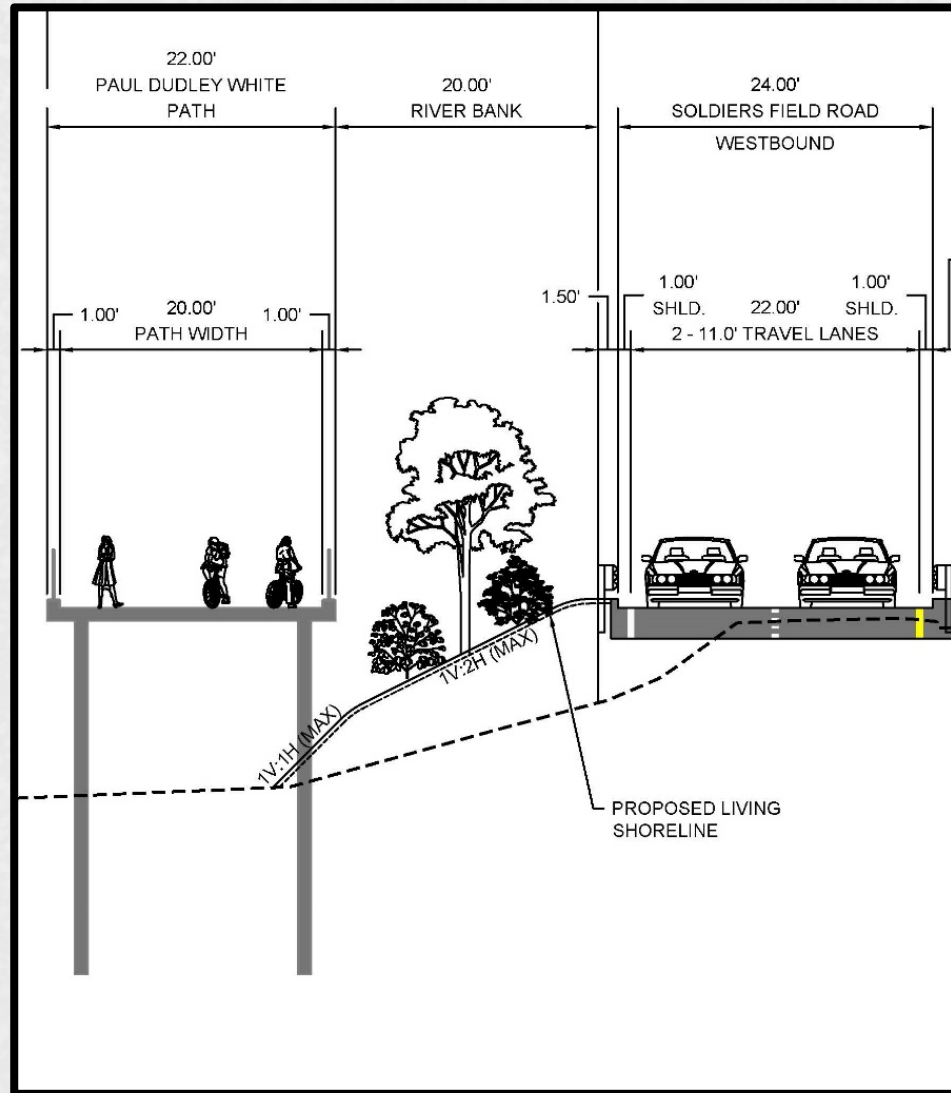
(Looking North)



# Today's Agenda (3)

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# Modified At-Grade Shoreline Restoration Option

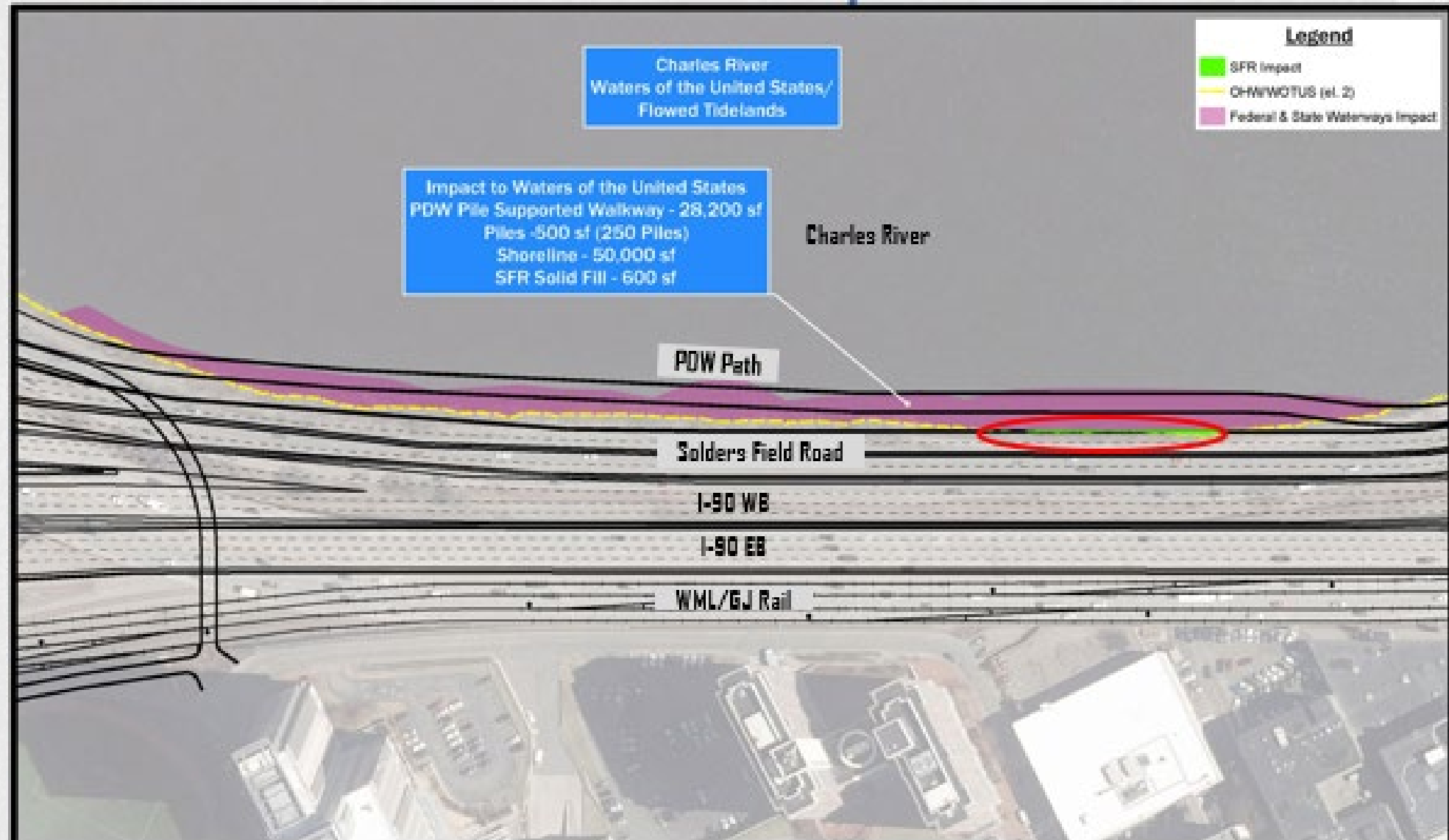


Post Scoping Summary Report

Current



# Modified At-Grade Federal and State Waterways



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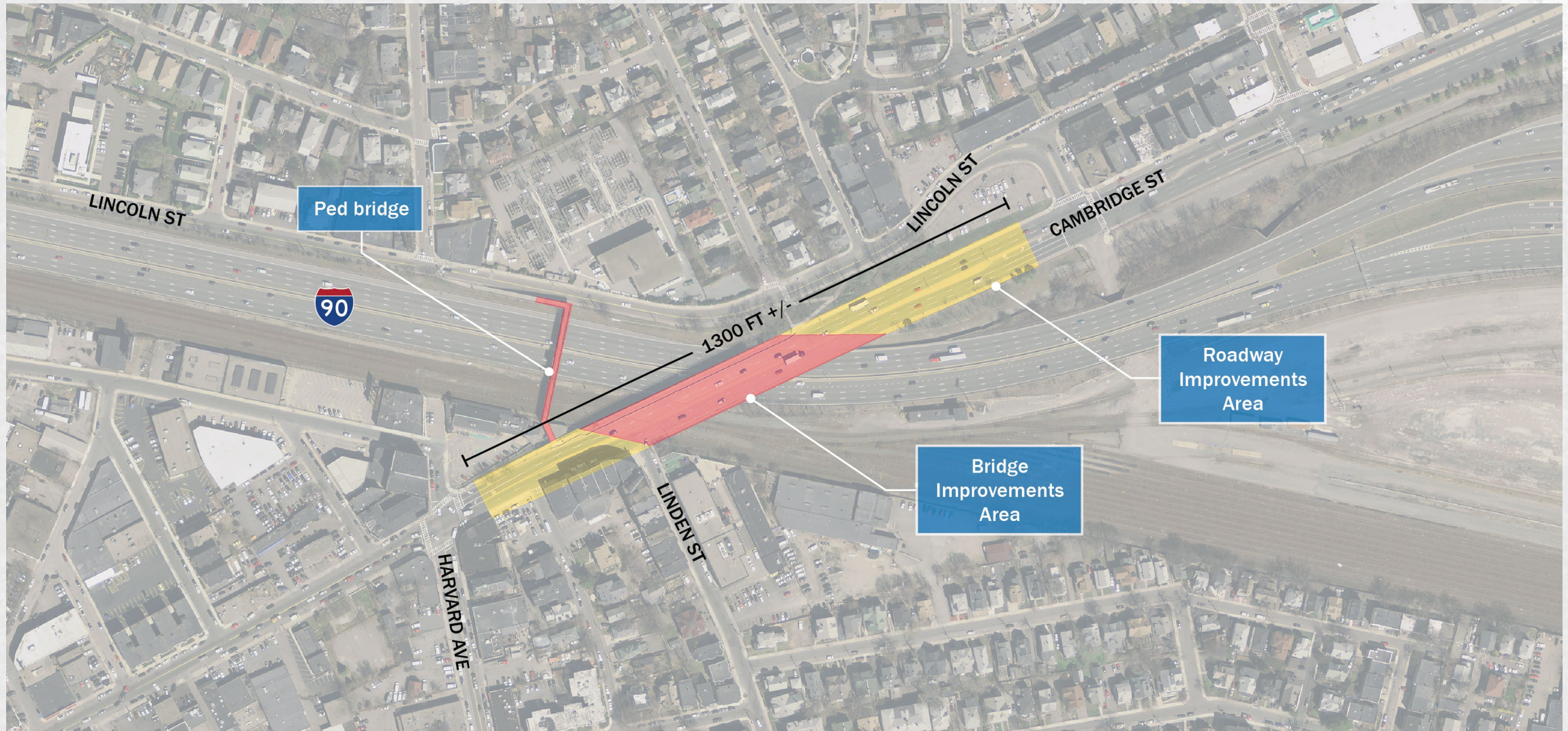


# Cambridge Street Bridge Locus





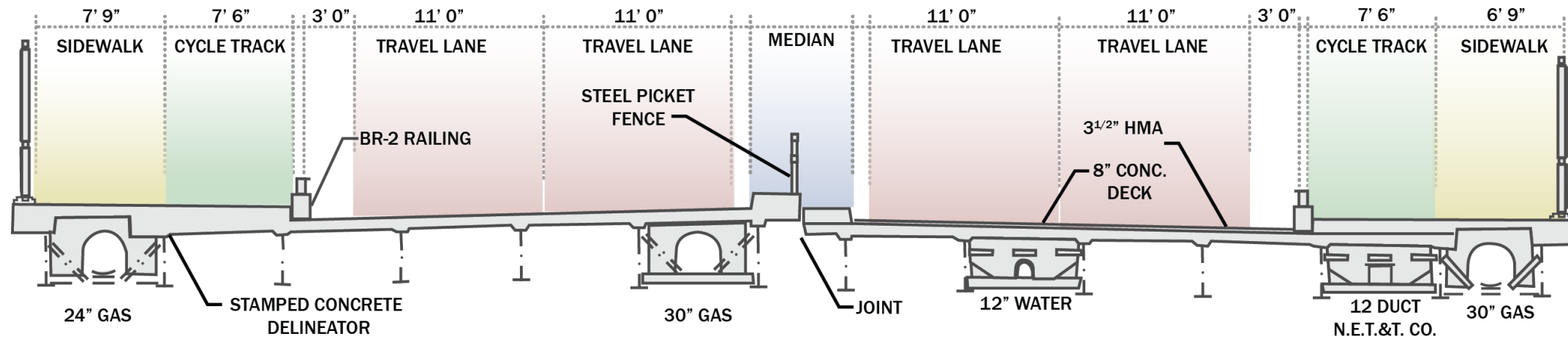
# Cambridge Street Bridge Preservation Project





# Cambridge Street Bridge Preservation Project (cont.)

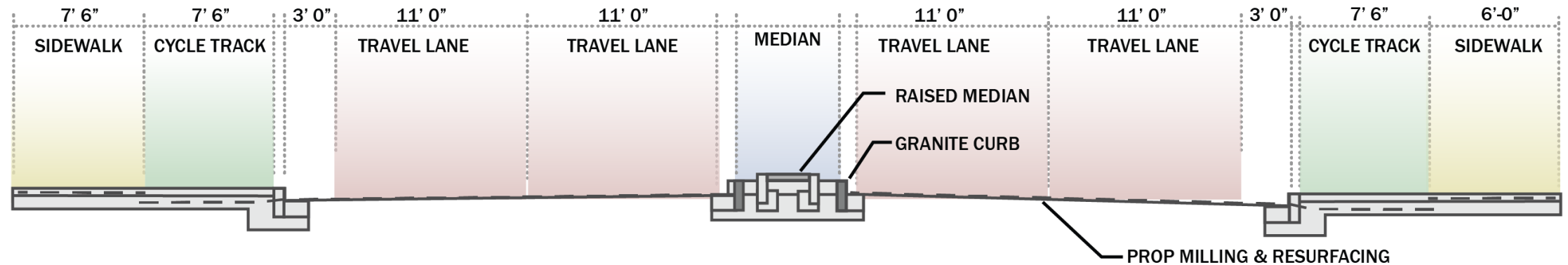
- Concept BRIDGE section shown below
- 2 vehicular travel lanes, a protected cycle track, and a sidewalk in each direction



**CAMBRIDGE STREET BRIDGE SECTION**

# Cambridge Street Bridge Preservation Project (cont. 3)

- Concept level ROADWAY section shown below
- 2 vehicular travel lanes, a protected cycle track, and a sidewalk in each direction.



**CAMBRIDGE STREET BRIDGE APPROACH SECTION**



# Cambridge Street Bridge Preservation Project Summary

## Features

- Bridge Work: New Deck, Steel Repairs, Clean and Paint Steel, Substructure Repairs
- Franklin St Bridge Substructure Repairs
- Roadway Work: Sidewalks, Mill and Overlay, Cycle Tracks, Lighting
  - Possible Midblock Crossing

## Schedule & Impacts

- Construction to begin Summer/Fall 2022
- Cambridge Street Temporary Traffic Impacts
  - Reduced lanes and sidewalks during 3-phased construction
- I-90 Temporary Traffic Impacts
  - Overnight lane closures
  - Short term lane closures for substructure repairs

# Questions?

- **Upcoming Meetings**
  - September 15
  - October 21

