



I-90 ALLSTON INTERCHANGE A MULTIMODAL TRANSPORTATION PROJECT

River Users Meeting
April 24, 2024

Today's Agenda: Shoreline Alternatives

- Welcome/Introductions
- Shoreline Alternatives
- Parkland Alternatives
- Questions

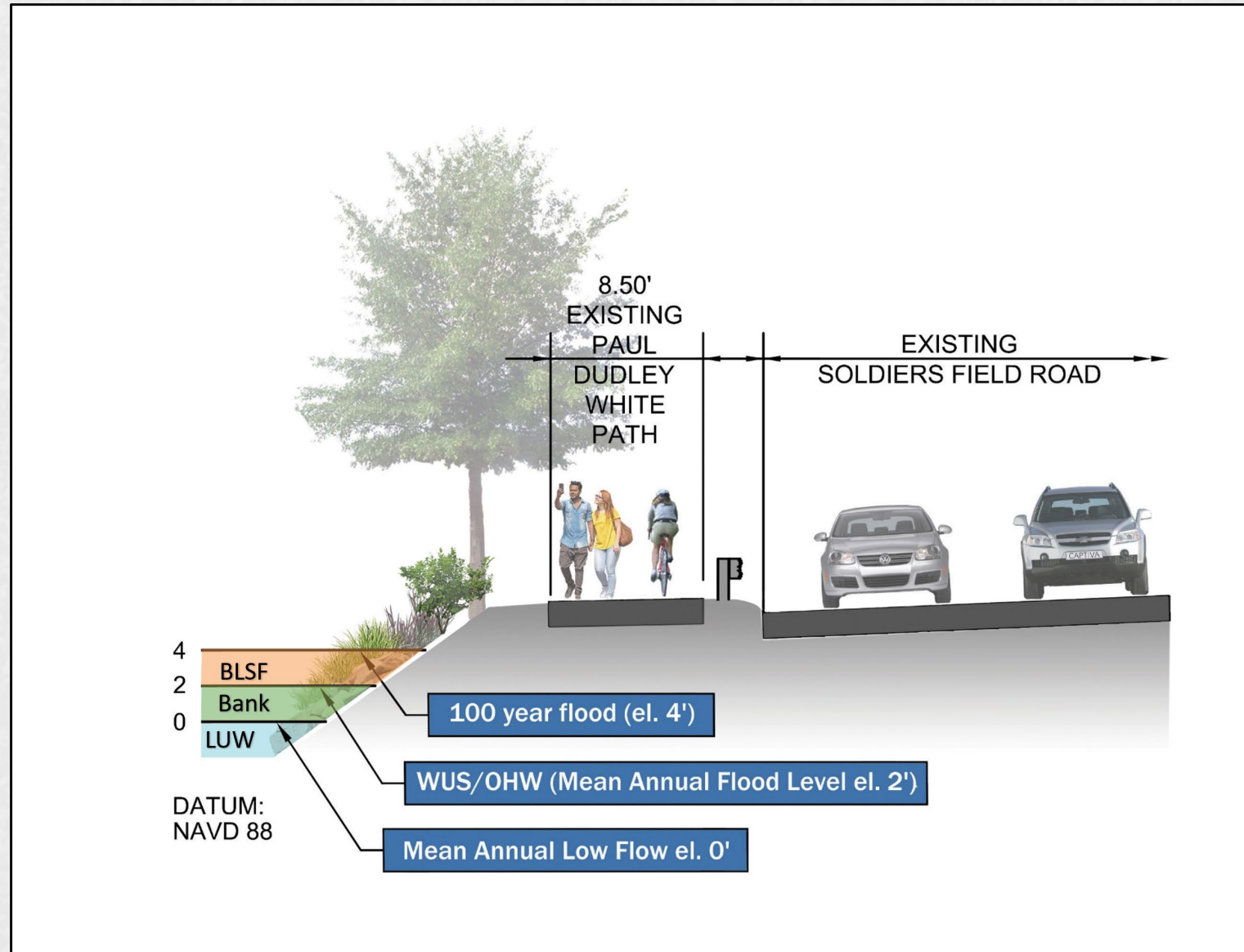
Existing Riverbank Conditions



- Water level controlled by New Charles River Dam
- Man-made bank on historic fill
- Rip Rap shoreline below elevation 3
- No vegetated wetlands, bank is dominated by invasive and nuisance species including Tree of Heaven and False Indigo Bush
- Wildlife Habitat Assessment completed in 2019 – minimal wildlife habitat
- Minimal ecological functions and values



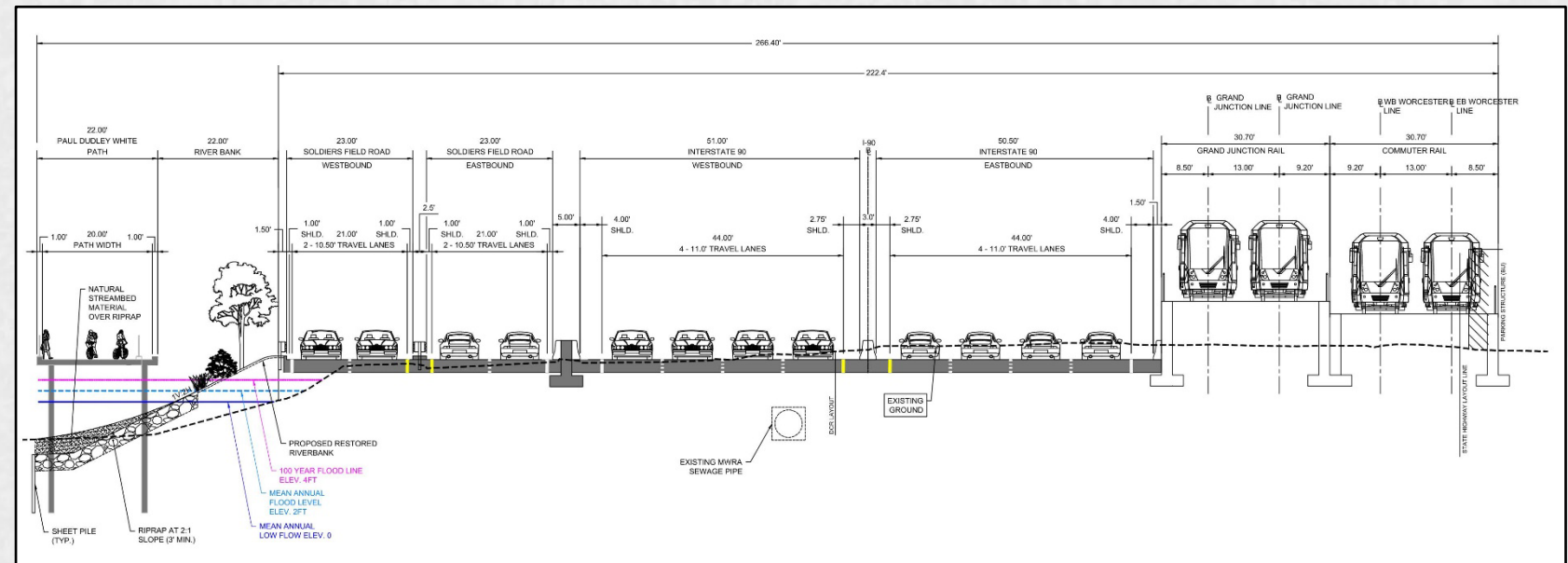
Existing Riverbank Conditions – Jurisdiction



Existing Riverbank Conditions – Shoreline



Project Overview: Modified At-Grade Alternative



Proposed Riverbank Conditions – General Design Considerations



- The Project Team's framework for the proposed riverbank design includes:
 - Minimizing fill in Accordance with Federal, State and Local Environmental permitting requirements.
 - Preliminary discussions with Army Corp have indicated approval likely under MA General Permit that would limit fill in river to less than one acre
 - Address concerns of River Users
 - Future maintenance
 - Ecological Improvement: Enhancing and establishing habitat along the riverbank if possible
 - Historic and Cultural Preservation: Improving and re-establishing the historic parkway experience of Soldiers Field Road (SFR)
 - Visual Effects: Preserving and enhancing views

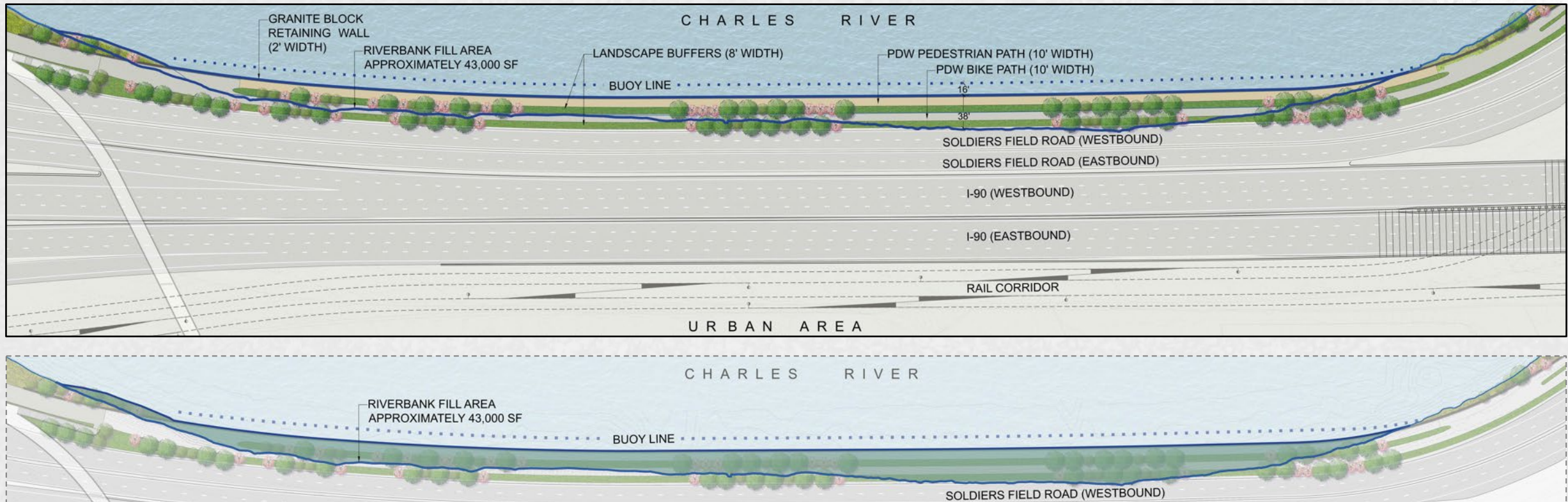
Project Overview: Shoreline Types



4,370 LF OF SHORELINE

- Shoreline treatment varies for project extents
- Opportunity for planted edge at appropriate locations
- Where required, hardened edge proposed (similar to other existing edge treatments on the Charles River)

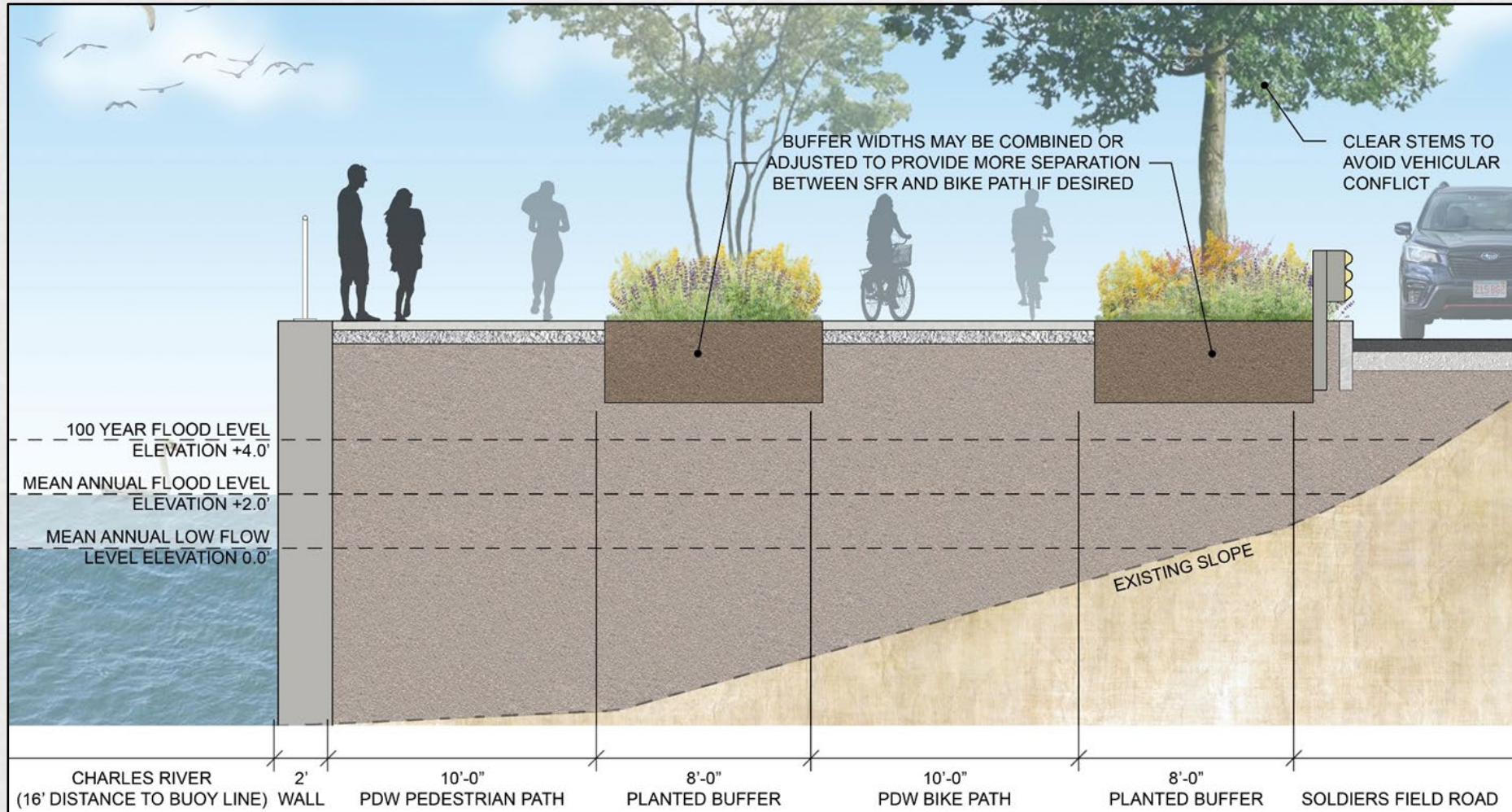
Option 1 Solid Fill Wall Option



ORIGINAL WALL OPTION

- Consistent vertical granite retaining wall for entire throat area
- Maintenance vehicle access from either end of throat area
- No new shoreline habitat or ecological improvements

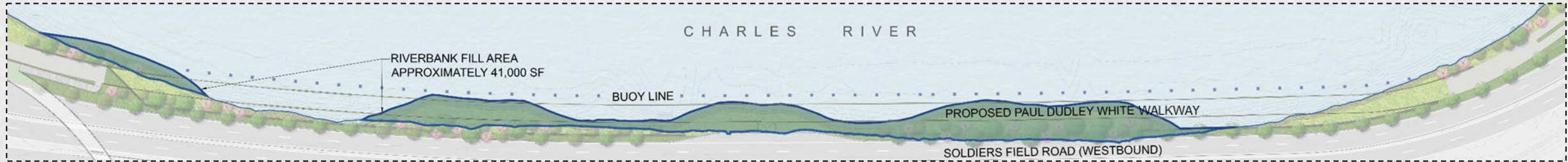
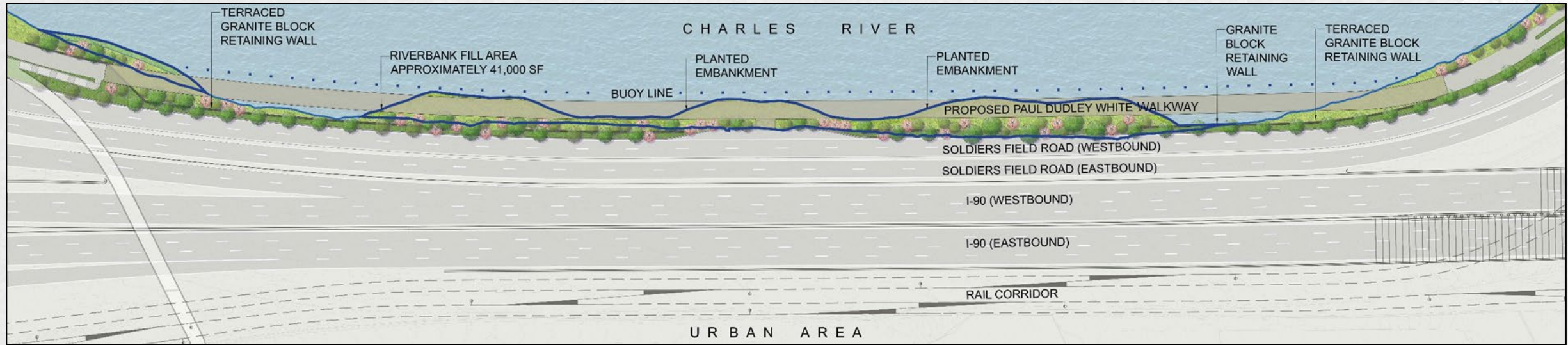
Option 1 Solid Fill Wall Option (Cont.)



ORIGINAL WALL OPTION

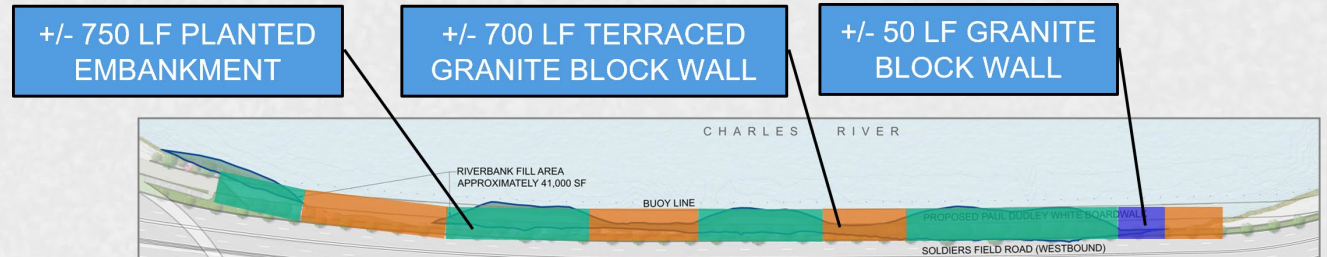
- Developed to address some of the comments from the USCG and river and park users about the PDW Path on a walkway as well as historic concerns.
- All Project infrastructure located on fill
- +/- 43,000 sq. ft. of total permanent impacts

Option 2 Varied Shoreline Edge

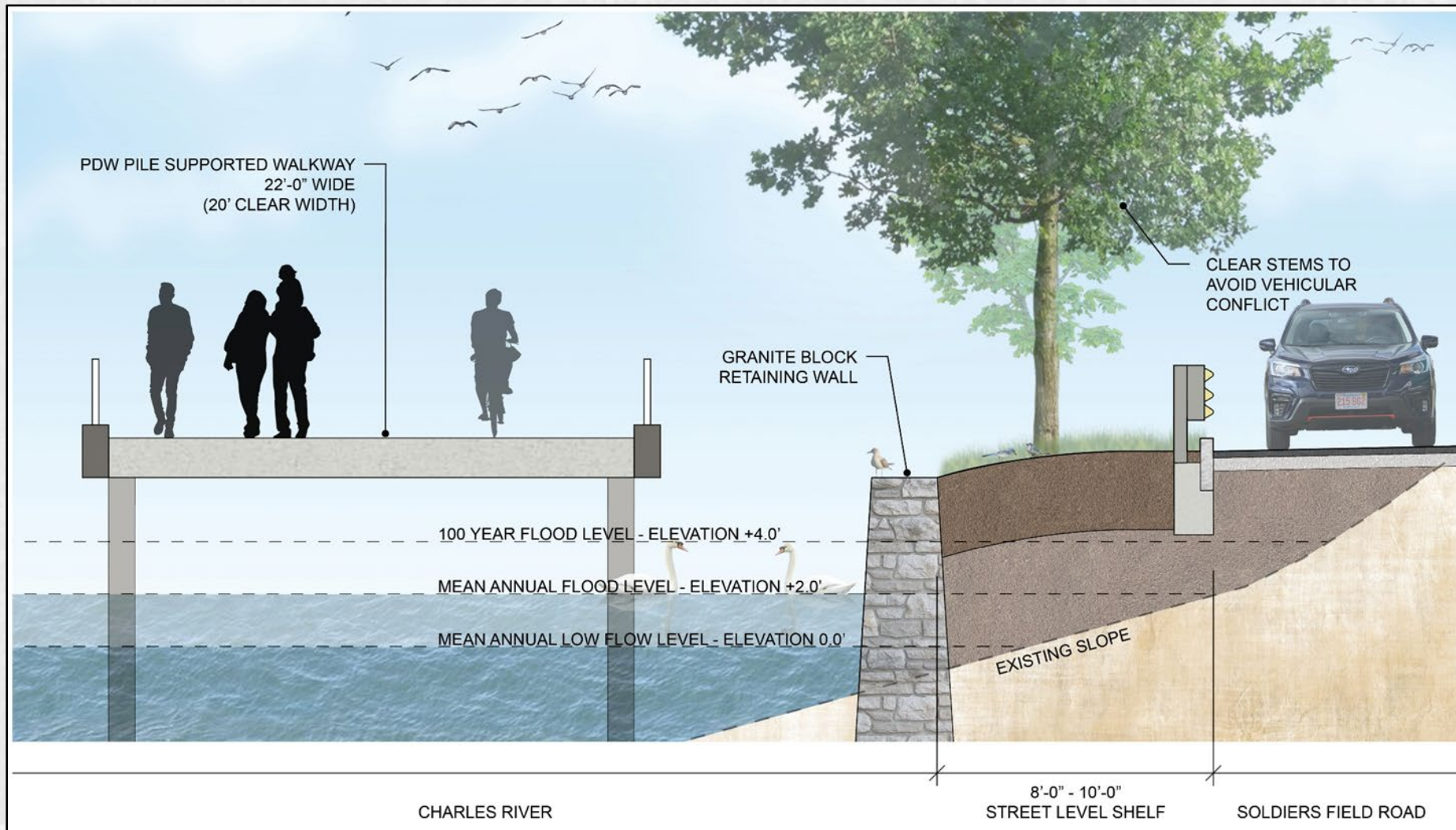


VARIED SHORELINE EDGE OPTION

- Shoreline treatment provides visual interest
- Shoreline edge replicates the existing undulating form
- The combination of edge treatments responds to key shoreline design goals



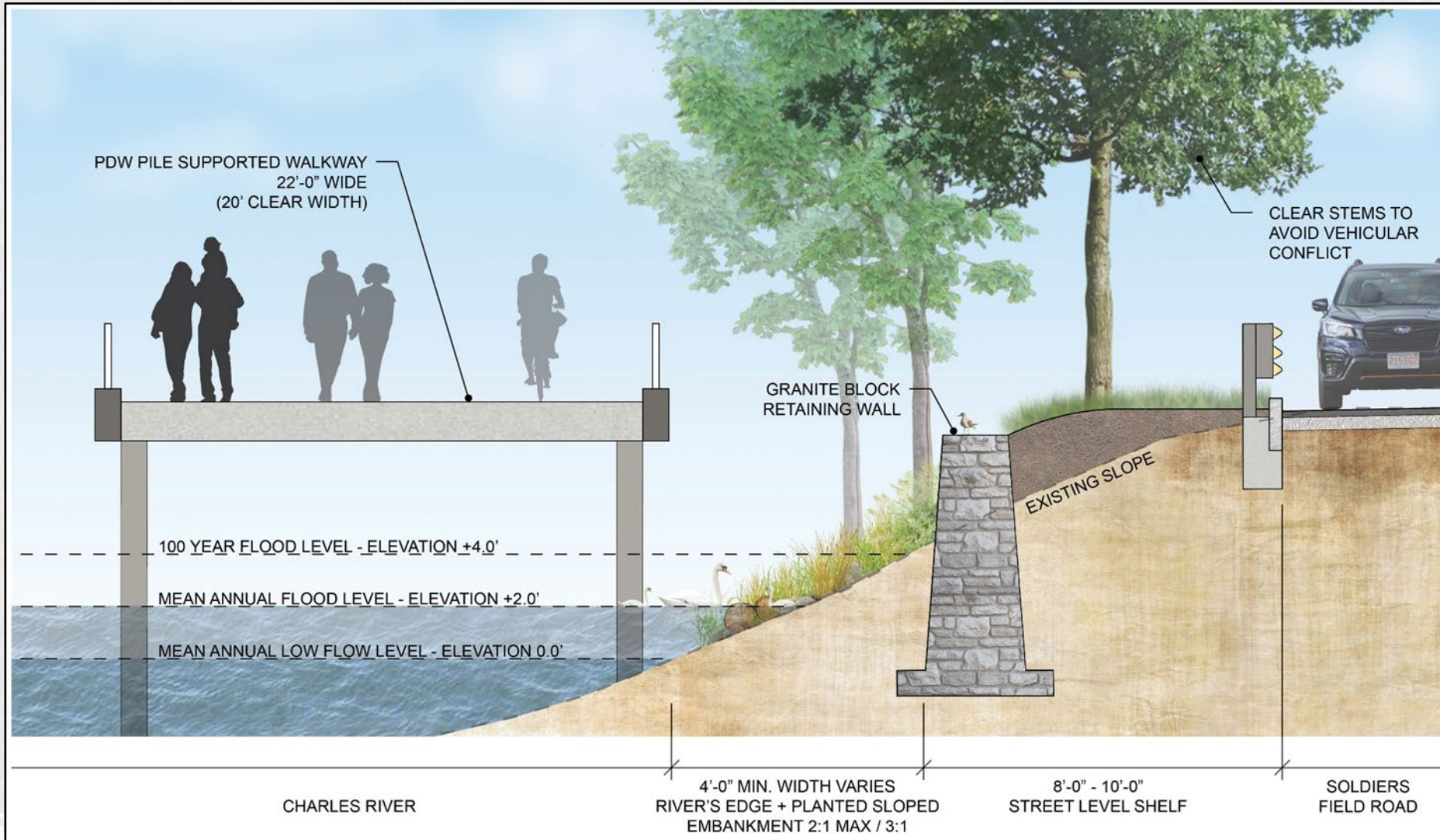
Option 2 Varied Shoreline Edge (Granite Wall)



GRANITE WALL OPTION WITH WALKWAY

- Improves parkway experience
- Similar to existing granite wall treatments elsewhere on the Charles
- Less ecological restoration or habitat opportunities
- Maintainable if turnouts are provided on the SFR
- +/-50 Linear feet in Lenth

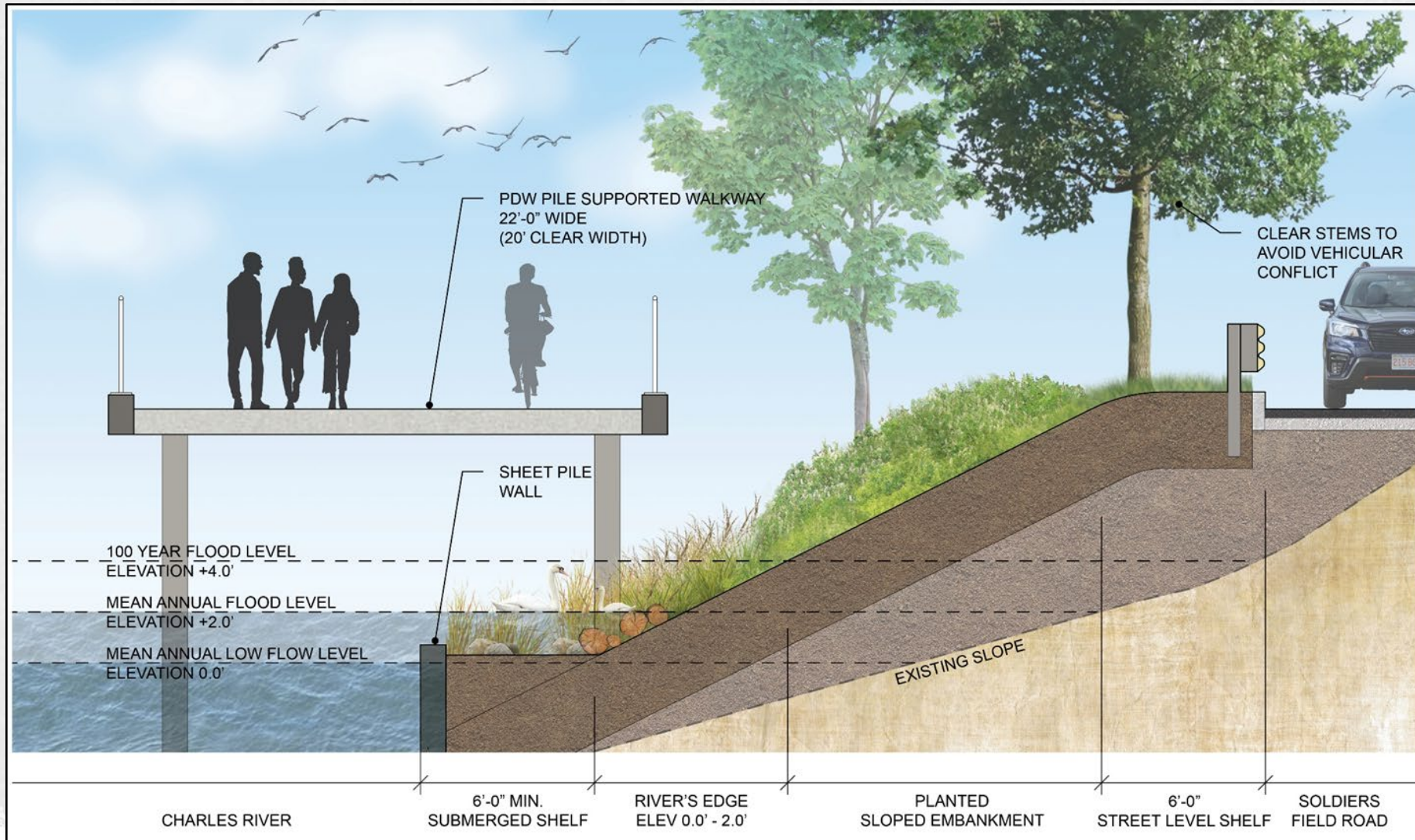
Option 2 Varied Shoreline Edge (Terraced)



TERRACED GRANITE BLOCK WALL OPTION

- Improves parkway experience, river's edge planting provides potential ecological restoration and habitat, improves views from river.
- Notable maintenance challenges for lower slope (requires access from river to maintain)
- +/- 700 Linear feet in Lenth

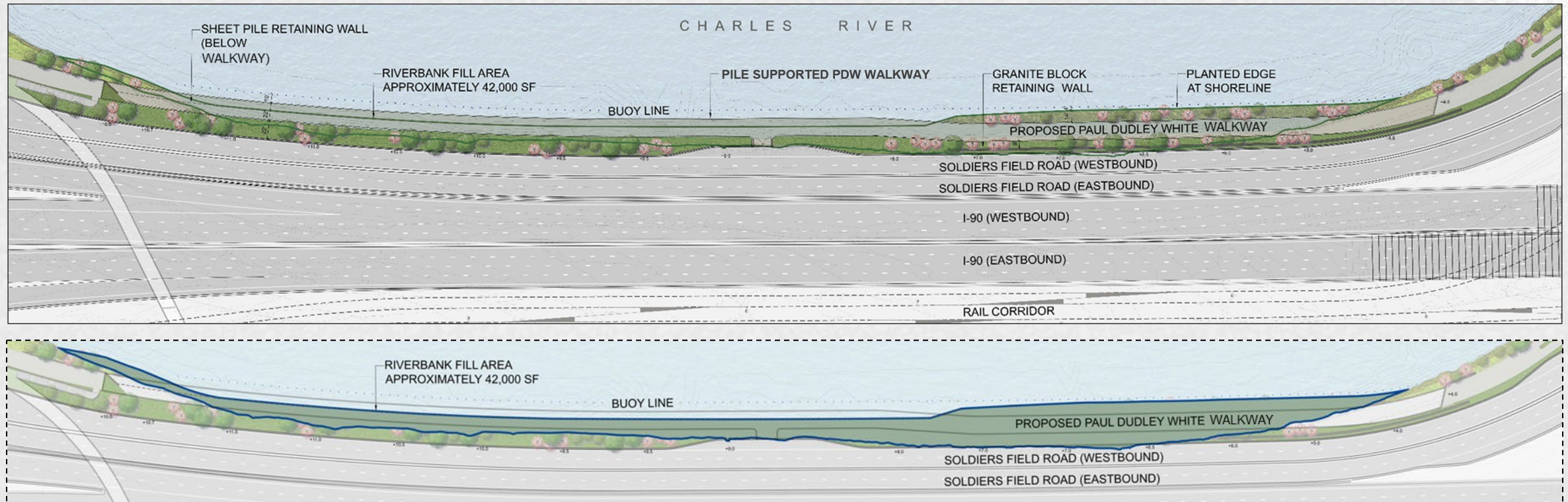
Option 2 Varied Shoreline Edge (Planted Embankment)



PLANTED EMBANKMENT OPTION

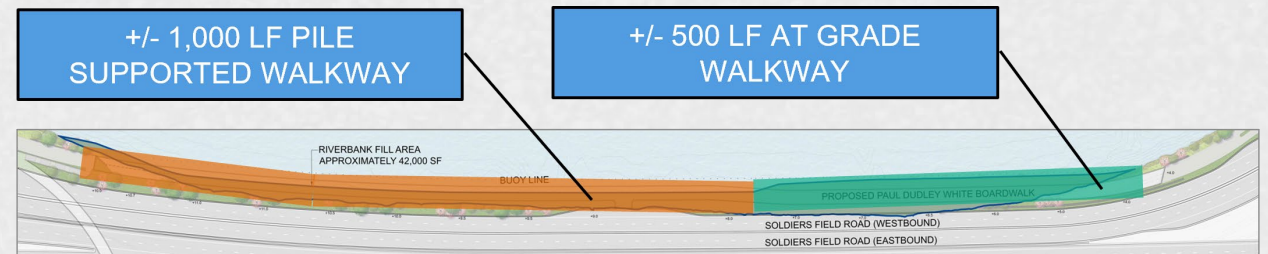
- Improves parkway experience, planted slope provides potential ecological restoration and habitat, improves views from river
- Reduces fill by use of sheet pile wall shelf
- Difficult to maintain due to PDW and need for water access
- +/- 750 Linear feet in Length

Option 3 Solid Fill and Pile Supported Walkway

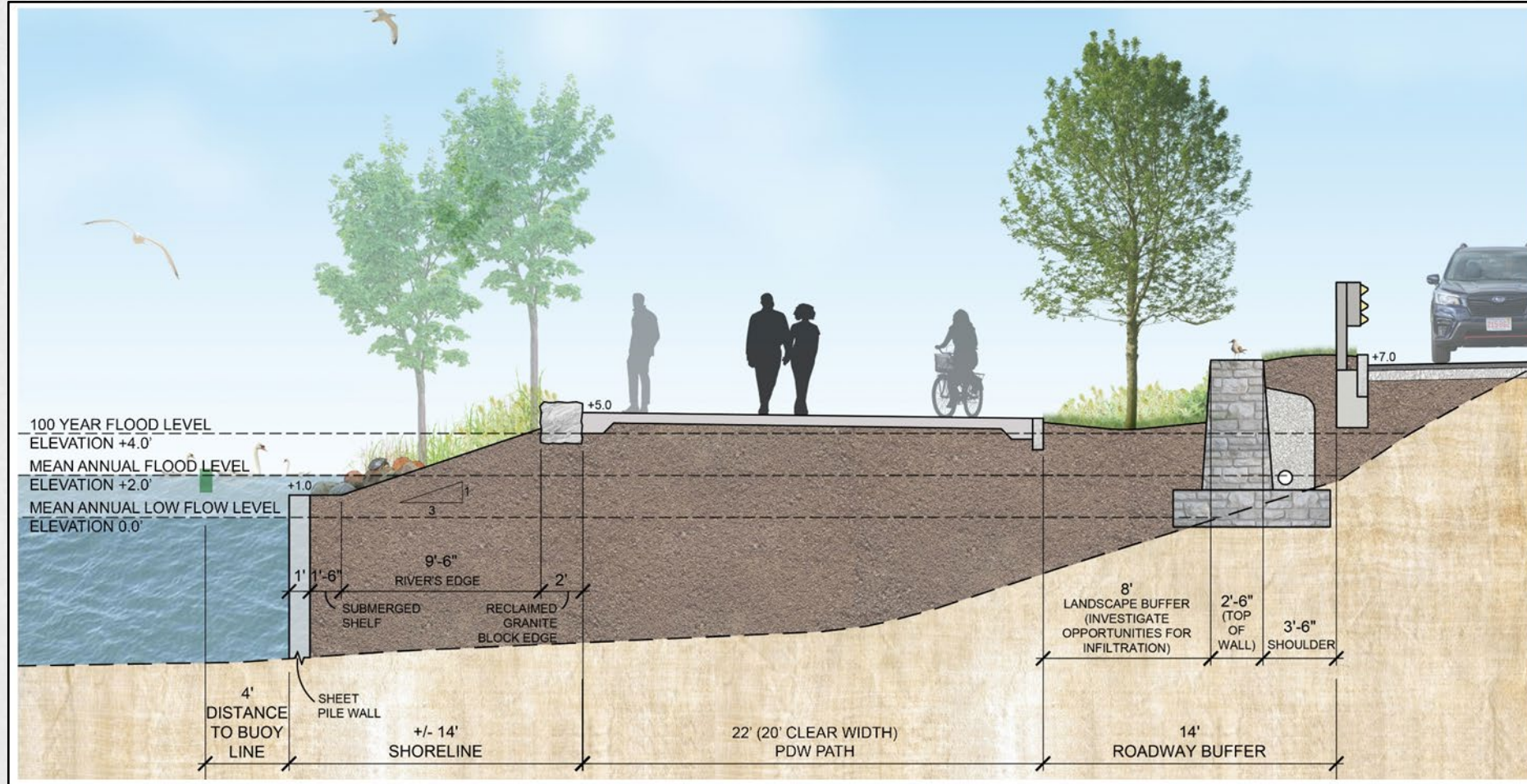


ALTERNATIVE ON GRADE AND PILE SUPPORTED WALKWAY OPTION

- Shoreline treatments address DCR's concerns related to maintenance access
- On grade path provides planted shoreline treatment
- Pile supported walkway limits fill impacts in river



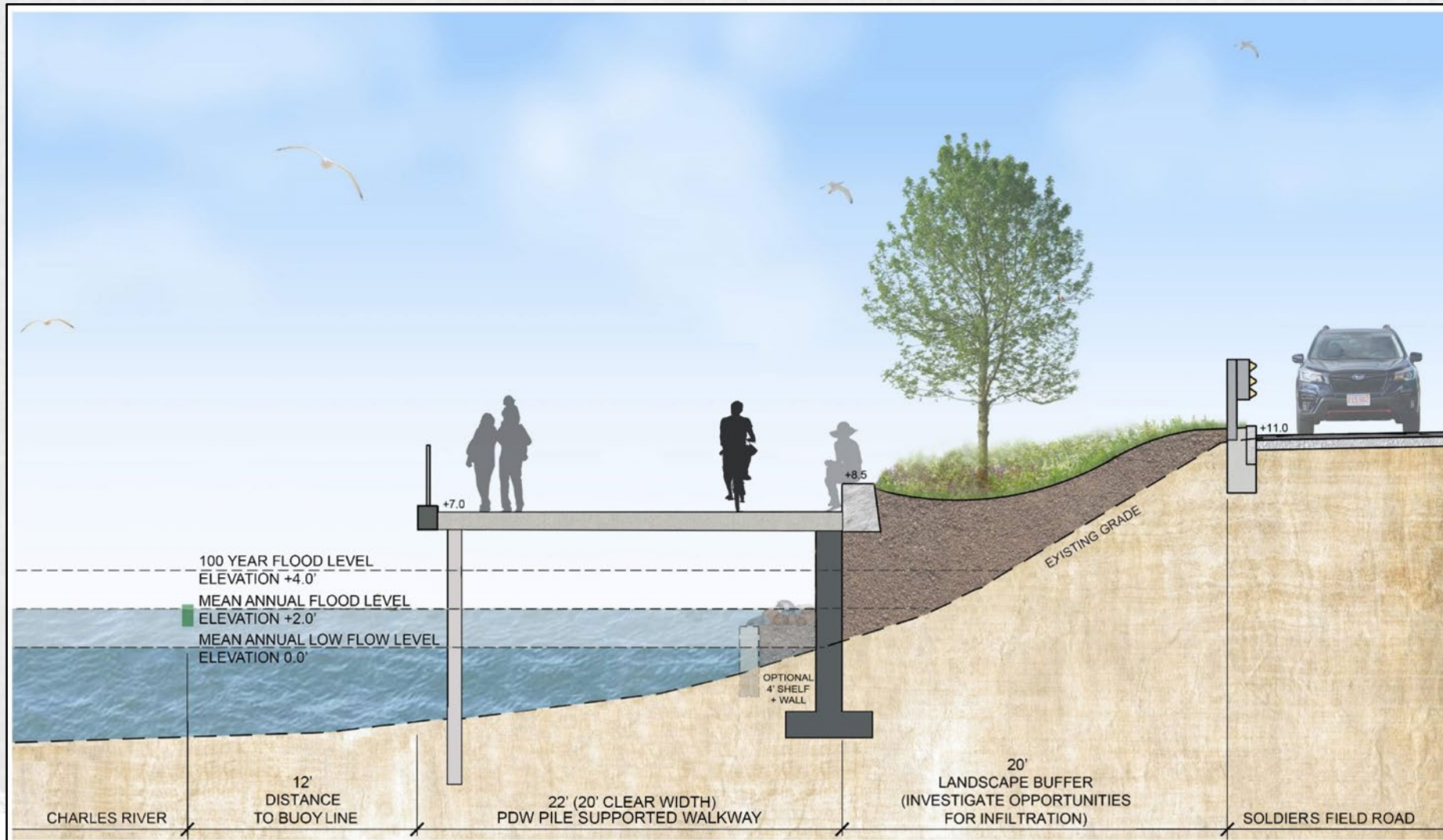
Option 3 Solid Fill and Walkway (On Grade Path with Shoreline)



ALTERNATIVE ON GRADE PATH WITH SHORELINE OPTION

- Integrates PDW with shoreline
- Improves maintenance access
- Can only be used for a portion of Throat Area due to high fill impacts
- +/- 500 Linear feet in Length

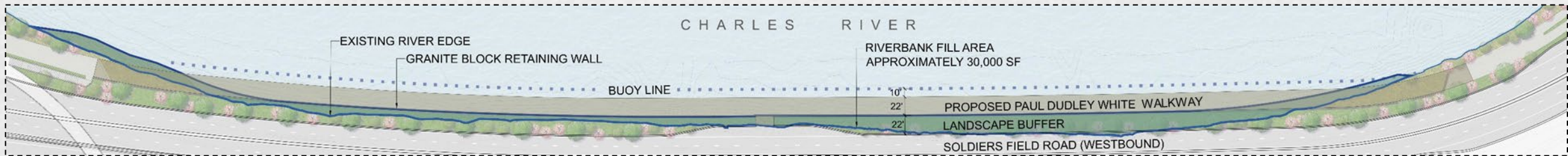
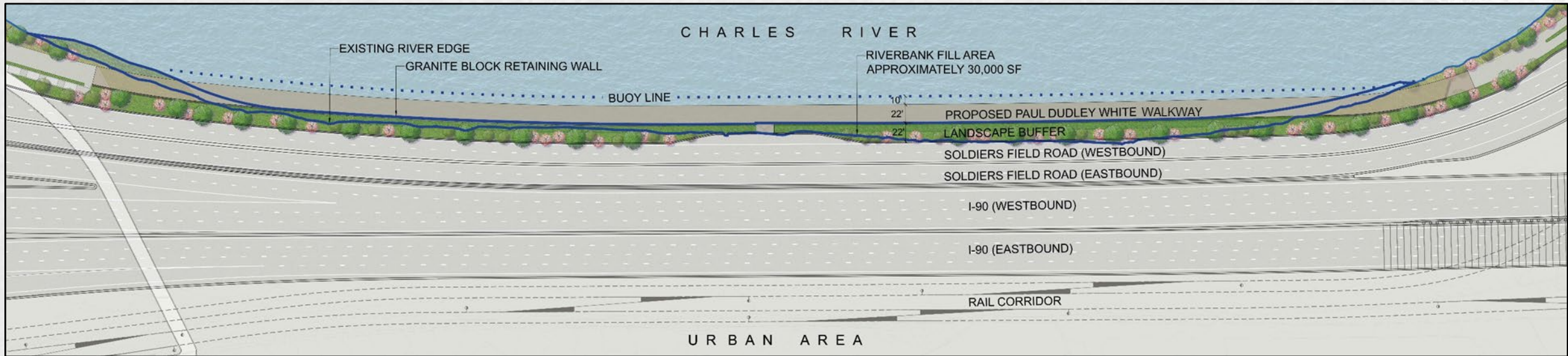
Option 3 Solid Fill and Walkway (Pile Supported)



ALTERNATIVE PILE SUPPORTED WALKWAY OPTION

- PDW on pile supported structure
- Planted roadway buffer improves parkway experience
- Optional sheet pile toe to provide habitat structure and continuous corridor
- More easily maintained
- +/-1,000 Linear feet in Length

Option 4 Pile Supported Walkway



REDUCED FILL OPTION

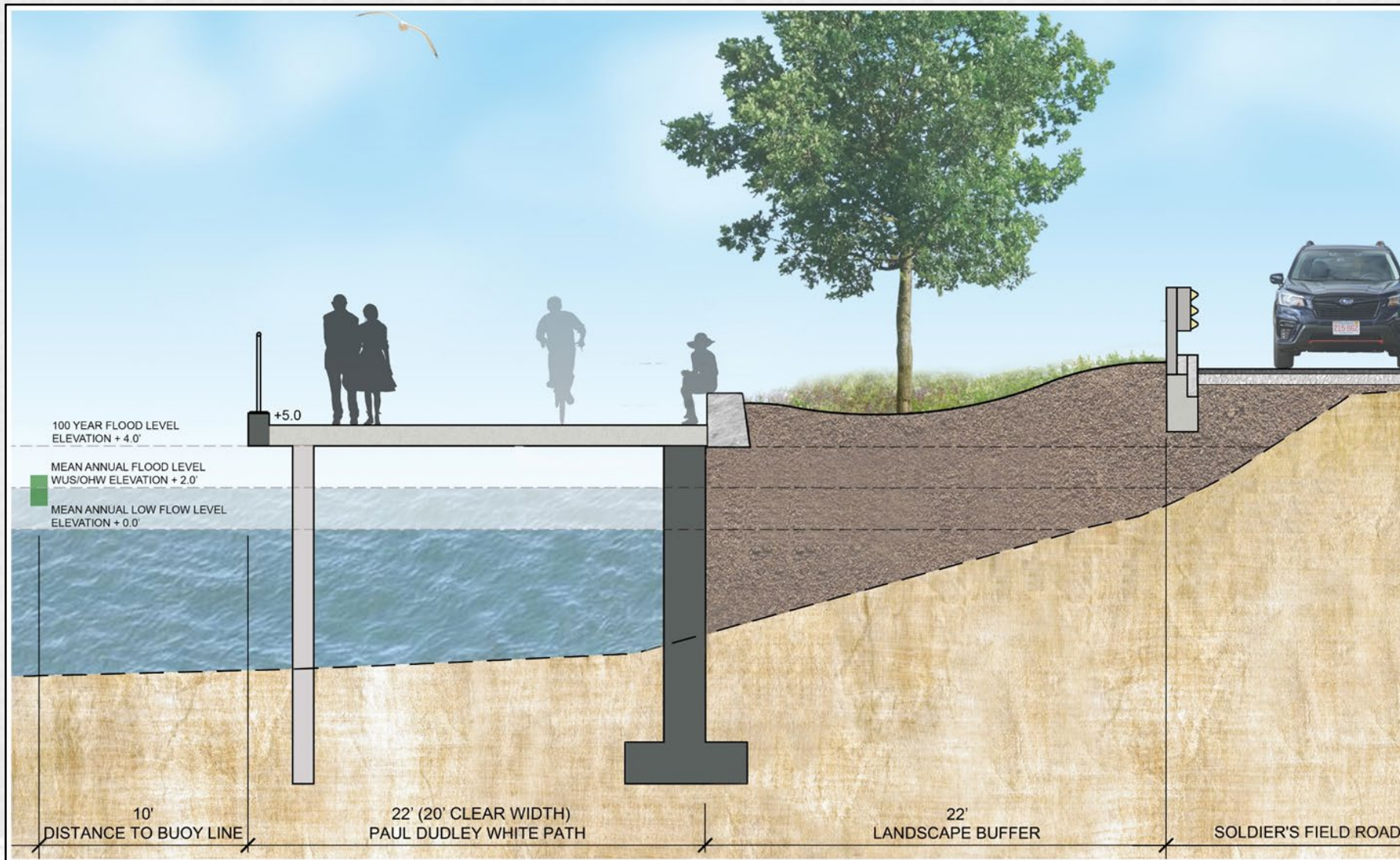
- Reduce landscape buffer width in order to minimize river impacts
- Reduced landscape areas means narrow buffer between PDW users and SFR vehicles
- Granite retaining wall supports landscape buffer and SFR

Option 4 Pile Supported Walkway (Cont.)



REDUCED FILL OPTION WITH WALKWAY

- Minimizes impacts to Charles River
- Planted roadway buffer improves parkway experience
- Consistent edge treatment for throat area



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Park Option A – Plan



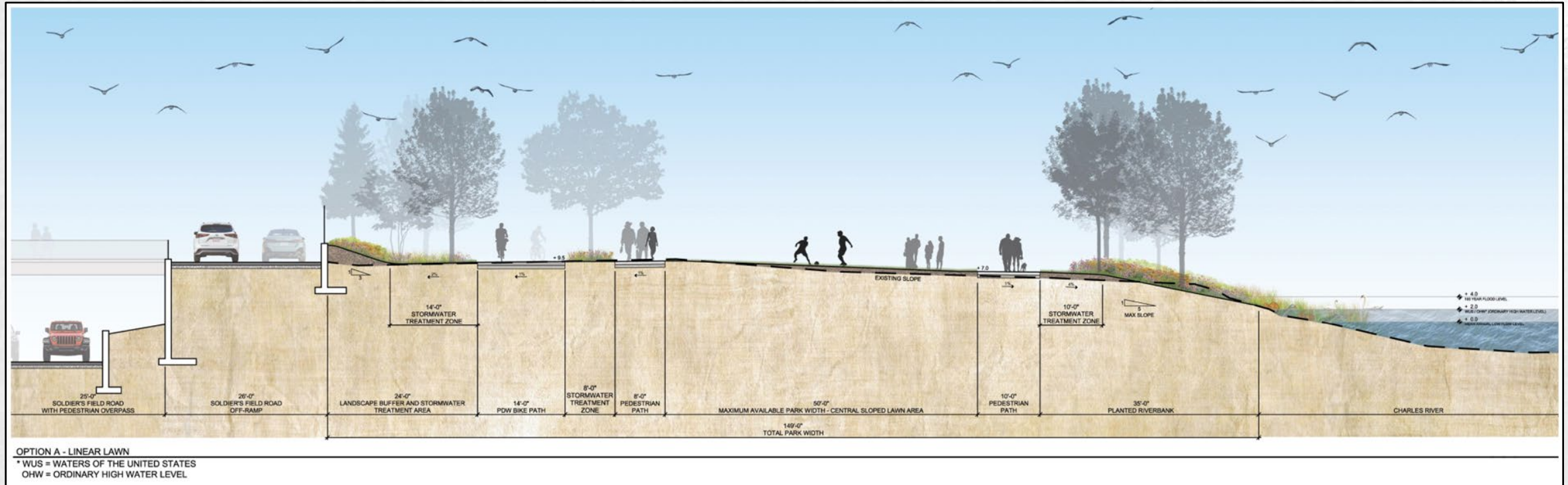
OVERALL PARK FEATURES

- Reduce river embankment steepness to 5:1 where feasible
- Provide stormwater management within parklands
- Provide passive park amenities (shade structures, seating areas, viewing platforms, passive lawns, etc.)
- Buffer park from roadway

PARK OPTION A FEATURES

- Large linear lawn area
- Riverside path
- Internal park pathways and seating areas
- Pedestrian overpass bridge at south end of park

Park Option A – Section



Park Option B – Plan



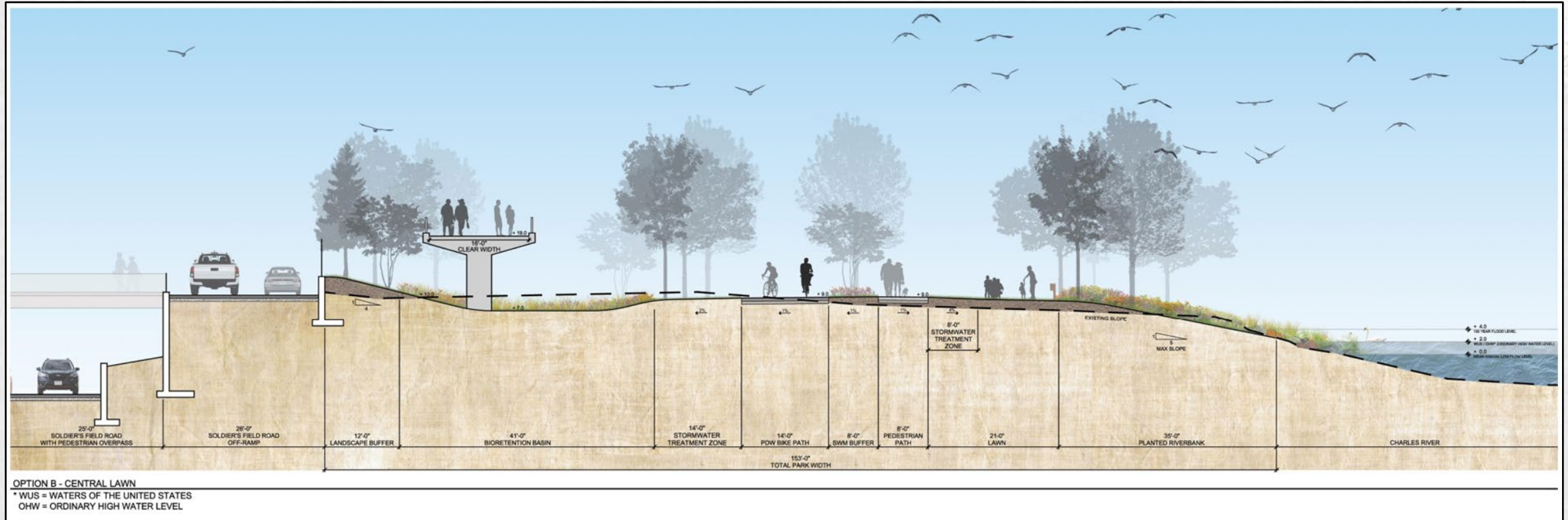
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PARK OPTION B FEATURES

- Central oval lawn
- Extended overpass ramp with stormwater retention basin under northern ramp
- Overlook with opportunity for shade structures

Park Option B – Section



Park Precedent Images – Stormwater



STORMWATER TREATMENT PLANTING APPROACHES

- Propose low maintenance planting approaches especially in larger stormwater treatment areas
- Consider more varied planting palettes in smaller swales or rain gardens to improve ease of maintenance

Park Precedent Images – River's Edge



RIVER'S EDGE PLANTING APPROACHES

- Remove invasives and manage new planting to prevent reestablishment of invasive species
- Prioritize planted riverbanks over other methods where feasible
- Use pollinator friendly planting
- Consider areas for low growing seed mixes and mown lawns to prioritize river-viewing

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