



## Memorial Drive Reconstruction Cambridge, Massachusetts

Memorial Drive Phase III  
Reconstruction Project  
December 12, 2024

## Public Meeting

Massachusetts Department of  
Conservation and Recreation





# Commonwealth of Massachusetts

Governor

**Maura Healey**

Lieutenant Governor

**Kim Driscoll**

Energy and Environmental Secretary

**Rebecca Tepper**

Department of Conservation and Recreation Commissioner

**Brian Arrigo**

## DCR Mission Statement

*To protect, promote and enhance our  
commonwealth of natural, cultural  
and recreational resources  
for the well-being of all.*

# Memorial Drive Reconstruction

Longfellow Bridge to BU Bridge  
PHASE 1- 2004



Esplanade Cross Section



Memorial Drive Cross Section

- Memorial Drive Demonstration Project
- Road Diet – one EB travel lane and several parking spaces removed to expand riverfront parkland
- Provided stabilized aggregate path connection to Longfellow Bridge
- 12 Shurcliff benches and a drinking fountain installed
- New tree plantings - 30 Red Maples, 23 Pin Oaks, 5 Swamp Oaks and 10 Silver Lindens
- Stormwater improvements – new drainage pipes, structures, water quality units & other BMPs
- Landscape paving, seeding & lawn sodding
- New traffic signal equipment, signs & pavement markings
- Refurbished/replaced embankment fencing
- Total Cost \$6.2 million

Memorial Drive,  
Cambridge, MA



# Memorial Drive Reconstruction

Longfellow Bridge to BU Bridge  
PHASE II -2016

- Continuous bi-directional shared use path constructed
- Pedestrian stabilized path along Charles River widened
- 12 new Shade shelters installed & 35 Shurcliff benches
- Stormwater improvements – new drainage pipes & structures, water quality units, infiltration trenches & other BMPs
- New lighting system, conduit, handholes & load center
- Upgraded Traffic control equipment, signs and striping
- 320 new tree plantings – Maple, Linden, Oak, River Birch, Tulip, Planetree, Maackia, Horsechestnut and Shadbush
- Extensive riverbank plantings
- Total Cost \$ 9.3 million

Parkland, shared use path, shade shelters & walking path along Charles River



Memorial Drive,  
Cambridge, MA



## Memorial Drive Reconstruction Phase III Project Goals

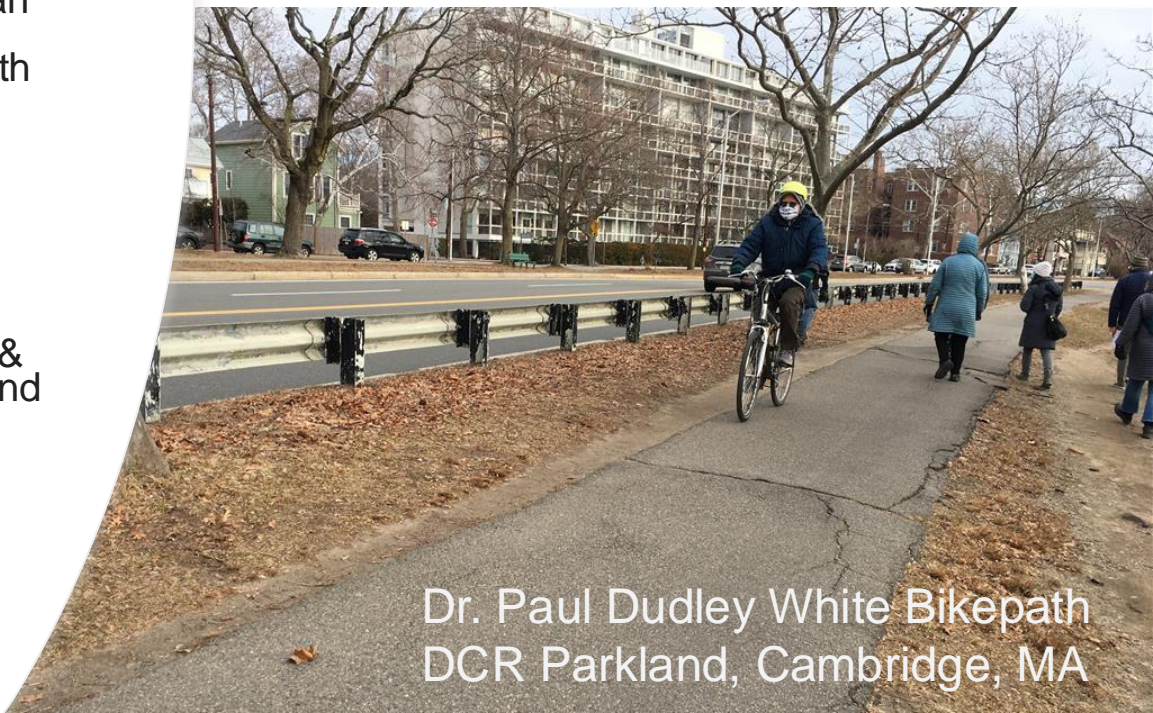
- Advances goals of the DCR Charles River Master Plan, DCR Historic Parkway Preservation Guidelines, DCR Parkways Master Plan, and the City of Cambridge Riverfront Plan.
- Protects existing London Plan Allee to maximum extent. Plants 23 new London Plane trees and 56 other native species.
- Expands parkland along the Charles River by 1.16 acres.
- Design to preserve historic features of Charles River Basin Historic District such as sloping pastoral lawns, paths, and shade trees. Remove guardrail at edge of parkland. Added shoulders on both sides of parkway.
- Improve stormwater treatment through green infrastructure, enhancing water quality of the Charles River.
- Extensive Public Engagement.

Memorial Drive,  
Cambridge, MA



# Memorial Drive Reconstruction Phase III Project Goals

- Addresses current issues with uneven pavement and elevation changes.
- Enhances safety for users of all ages and abilities.
- Provide safe bicycle and pedestrian accommodations through a new paved 11-foot-wide shared use path and a separate 5-foot-wide stabilized aggregate pedestrian path.
- Two mid-block crosswalks and northerly sidewalk restoration enhances riverfront access.
- Provides ADA accessible viewing & seating locations and other parkland amenities (i.e., benches, water fountains, bike racks, rest area, security lighting, etc.)



Dr. Paul Dudley White Bikepath  
DCR Parkland, Cambridge, MA

# Introduction to the Team

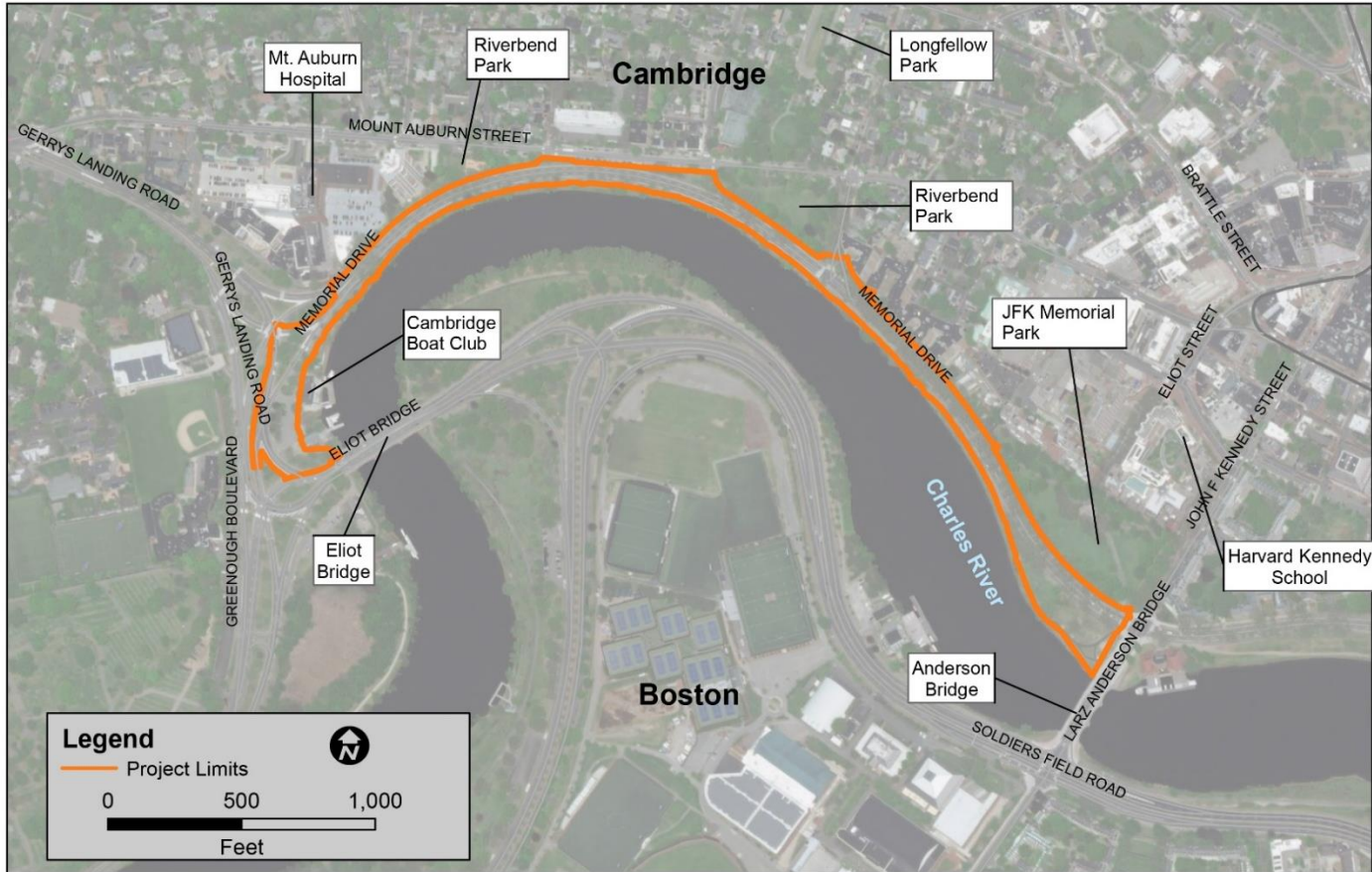
Project Lead: Department of Conservation and Recreation

Consultant Team:

- Stantec Consulting Services Inc.: Design and Permitting
- Brown, Richardson + Rowe: Landscape Design
- LEC Environmental Consultants, Inc.: Wetlands/Permitting Support
- AHS, Inc.: Archaeological/Cultural Resources
- Brennan Consulting, Inc.: Survey/Right of Way



# Phase III Project Site



Map Source: Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Energy and Environmental Affairs and ArcGIS Online.

## Project Location

DCR Cambridge - Memorial Drive Reconstruction  
Project Limits - Eliot Bridge to Anderson Bridge  
Cambridge, Massachusetts

# Getting to Today

2016 – Memorial Drive Phase II completes rehabilitation & restoration of 1.5-mile section

2017 – DCR initiates Memorial Drive Phase III Project - AECOM

2017-2019 Planning and Traffic Studies

2019 – Public Outreach Process - AECOM

- April 11, 2019 Public Listening Session
- June 25, 2019 Public Meeting #2
- Project interactive wiki map
- Received over 1,200 comments, many in favor of “Road Diet”

2020 – 2021 (Project delayed due to COVID-19 pandemic)

- DCR reduces size of initial project to reduce complexity and provide more feasible project limits
- DCR hires Stantec Consultant Team to provide 100% design of updated Memorial Drive Phase III project







# Getting to Today

## DCR re-starts Public Outreach Process – 2021 thru 2024







- 2021-2023 **City of Cambridge** Professional Staff Meetings with DCR/Project Team
- 2021-2023 **Cambridge Boat Club** Representatives Meetings with DCR/Project Team
- December 15, 2021 **ENF filed** for Memorial Drive Phase III Project
- January 18, 2022 – **MEPA Public Meeting** (ENF–received over 200 comments); Certificate issued February 7, 2022
- April to June 2022 - Individual **stakeholder meetings** with groups, businesses, and the City of Cambridge; extensive feedback incorporated into project design
- April 8, 2022 – DCR hosts **site walk** with 30 attendees (8 stakeholder groups and Cambridge staff); all London Plane tree concerns resolved
- June 30, 2022 – **25% Design Public Meeting**
- July 2022 – Enhanced outreach to **environmental justice** populations including translations of project materials in four languages
- August 10, 2022 – Meeting with Cambridge & **Cambridge Historic Commission**
- November 30, 2022 – **DEIR filed**; MEPA Certificate issued January 13, 2023
- March 31, 2023 – **FEIR filed**; over 240 DEIR comments addressed;
- June 2, 2023 – **FINAL MEPA Certificate issued**
- January 31, 2024 – **Chapter 91 Meeting** with DEP Waterways & DCR/Project Team
- March 25, 2024 - **Cambridge Conservation Commission** Public Hearing
- December 12, 2024 - **90% Design Public Meeting**



# Summary of Public Feedback

Public Feedback	Resolution
<p>Do not remove London Plane Trees</p> 	<p>Modified pathway designs to preserve additional healthy London Plane Trees. Seven compromised London Plane trees to be removed per agency/stakeholder site walk.</p>
<p>Eliminate or reduce the amount of retaining wall needed. Materials for retaining wall and fencing seem out of character.</p> 	<p>Replaced low height retaining walls with bioengineered coir logs for more sustainable slope stabilization along riverbank.</p>
<p>Reduce construction impact to London Plane Trees on north side of parkway</p> 	<p>Eliminated new curb construction on the north side of Memorial Drive near existing trees and will include specification language requiring mitigation measures for tree protection during construction. Will use construction methodologies for north side walkway replacement that are sensitive to sustainability of existing London Plane trees.</p>
<p>Include new plantings of London Plane Trees</p> 	<p>3 to 1 replacement of London Plane Trees: 24 new London Plane Trees will be planted to complete the culturally important London Plane Tree allée on the eastern end of the Project. Proposed tree health improvements such as air spading will also be included.</p>
<p>Eliminate free-flow right turn from Memorial Drive westbound onto Hawthorn Street</p> 	<p>Hawthorn Street intersection has been re-designed to eliminate free-flow traffic movements and enhance pedestrian safety</p>
<p>The shared-use and stabilized, aggregate paths should be separated to enhance pedestrian safety</p> 	<p>Shared-use path and stabilized, aggregate path have been physically separated by a landscape buffer where possible. Additionally, the stabilized, aggregate path will include signs prohibiting bicycle use.</p>

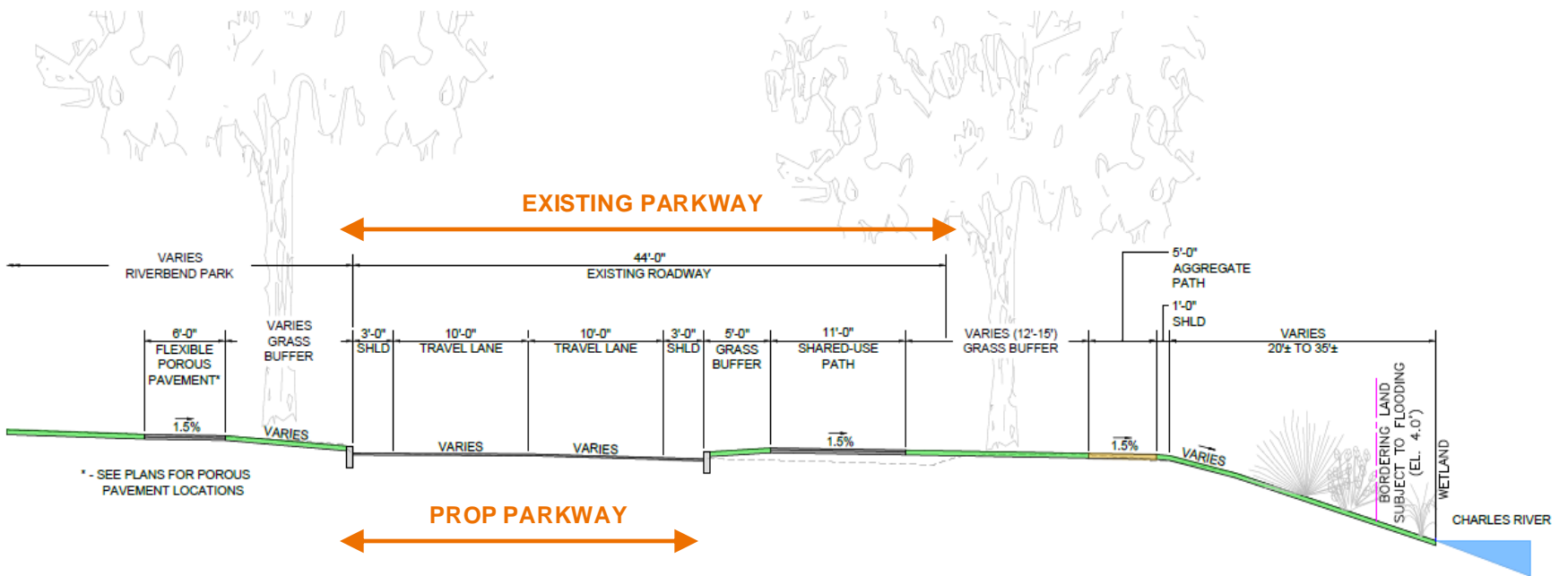
# Summary of Public Feedback

Public Feedback	Resolution
Preserve historic features and minimize impacts to Charles River Basin Historic District 	Cultural/Historic Assessment of the Charles River District's Historic Features has been performed. Current design preserves historic features to maximum extent.
Negatively impacts access to Cambridge Boathouse 	Redesigned access to/from DCR parking lot, created safer trailer loading/unloading area for shells, and provided ADA access to Boathouse building. Met with Cambridge Boat Club staff and a preferred design has been implemented.
Remove Existing Gerrys Landing Road connection to Memorial Drive 	Removed existing Gerrys Landing Road free-flow connection to Memorial Drive eastbound to provide for safer and expanded parkland uses.
Place separated bicycle path within surplus space created by Memorial Drive Road Diet 	<p><b>West Segment of Project to Hawthorn Street:</b>            – Implemented suggestion where space allows excluding new stormwater treatment locations.</p> <p><b>Hawthorn Street to JFK Street:</b>            – surplus space from road diet used to recreate London Plane tree allée with new London Plane tree plantings.</p>
Widen shared-use path to a minimum of 12 feet with a goal of 14 feet 	Shared-use path has been widened to 11 feet to accommodate AASHTO design guidelines. Space constraints prohibit further widening (i.e., trees, riverbank impacts, etc.)
The two mid-block pedestrian crossings should operate as a traffic signal to stop vehicles 	Rectangular Rapid Flashing Beacons (RRFBs) have been re-designed as Pedestrian Hybrid Beacons (i.e., HAWK) signals with red indications to stop vehicles

# Proposed Cross Section Riverbend Park (west end) to Hawthorn Street

EXISTING LONDON PLANE TREE

EXISTING LONDON PLANE TREE



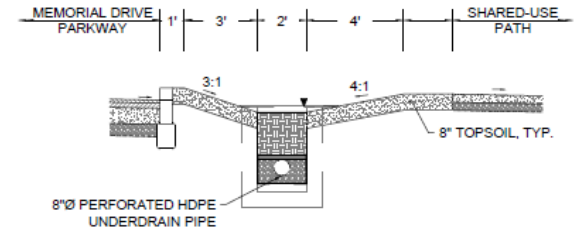
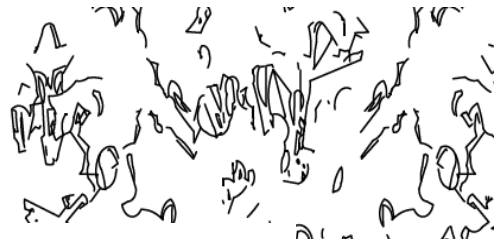


# Proposed Cross Section Hawthorn Street to JFK Memorial Park

EXISTING LONDON PLANE TREE



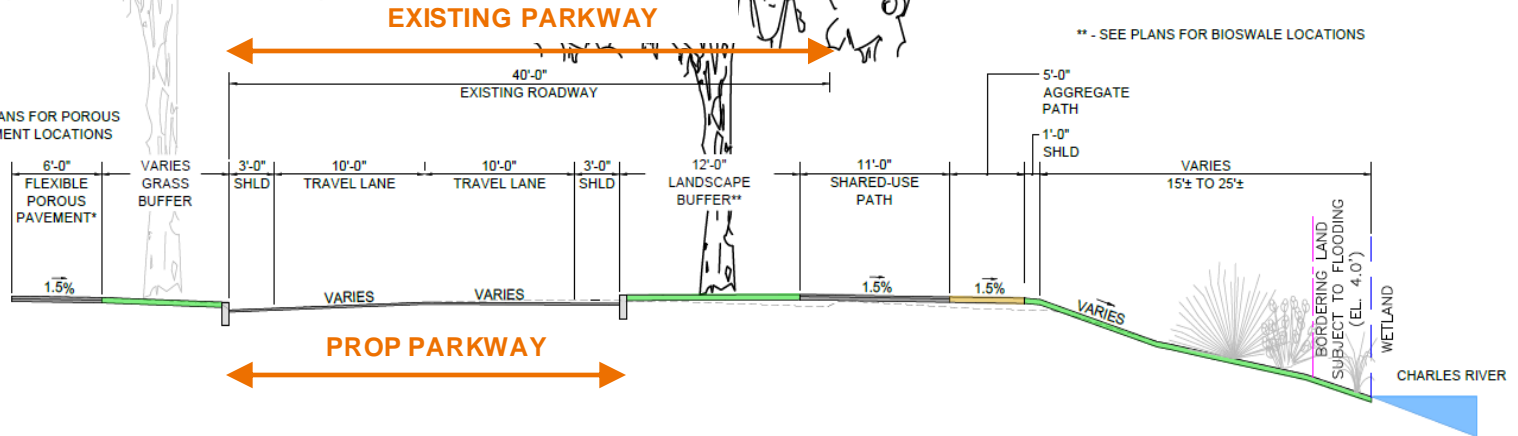
PROPOSED LONDON PLANE TREE

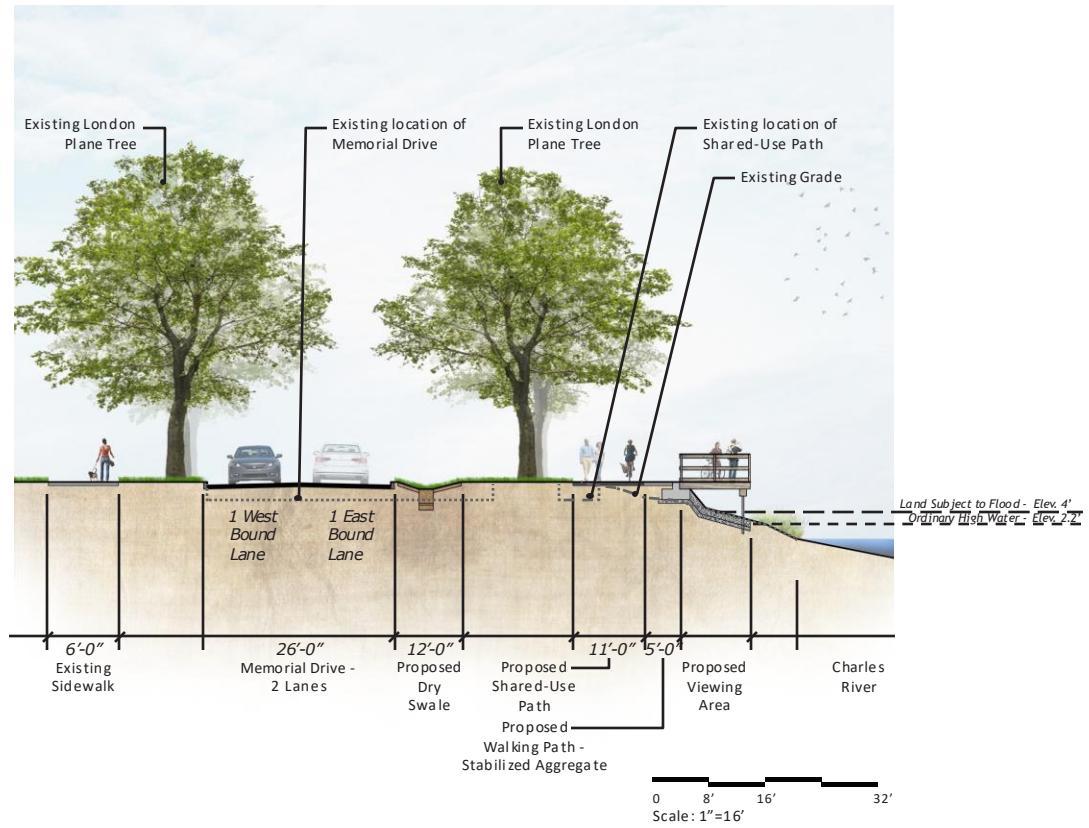


TYPICAL BIOSWALE DETAIL

\* - SEE PLANS FOR POROUS PAVEMENT LOCATIONS

\*\* - SEE PLANS FOR BIOSWALE LOCATIONS





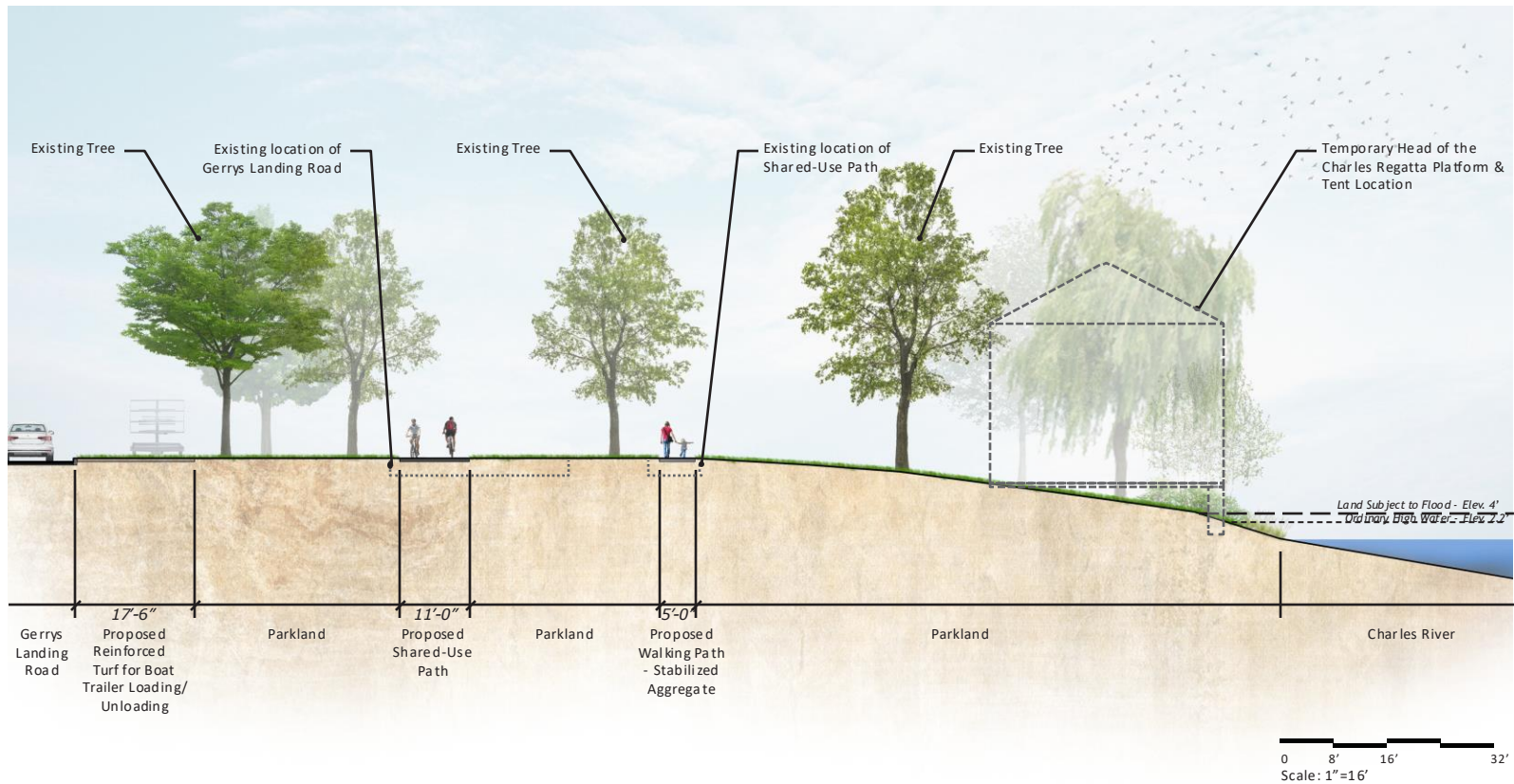
Section 2 - London Plane Allee & Viewing Area

# Memorial Drive Phase III

## Park Amenities & Safety Improvements at Western Limits

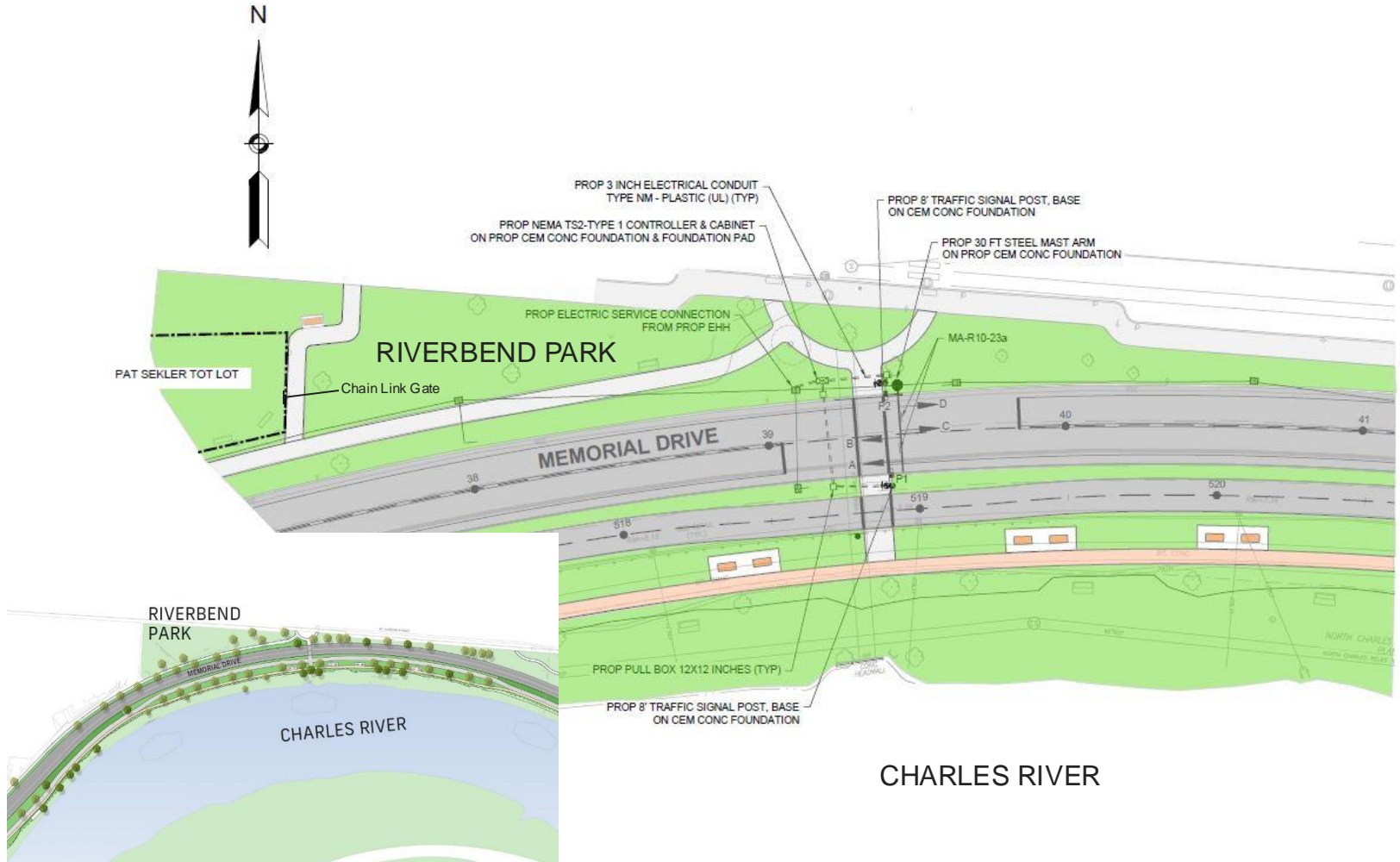




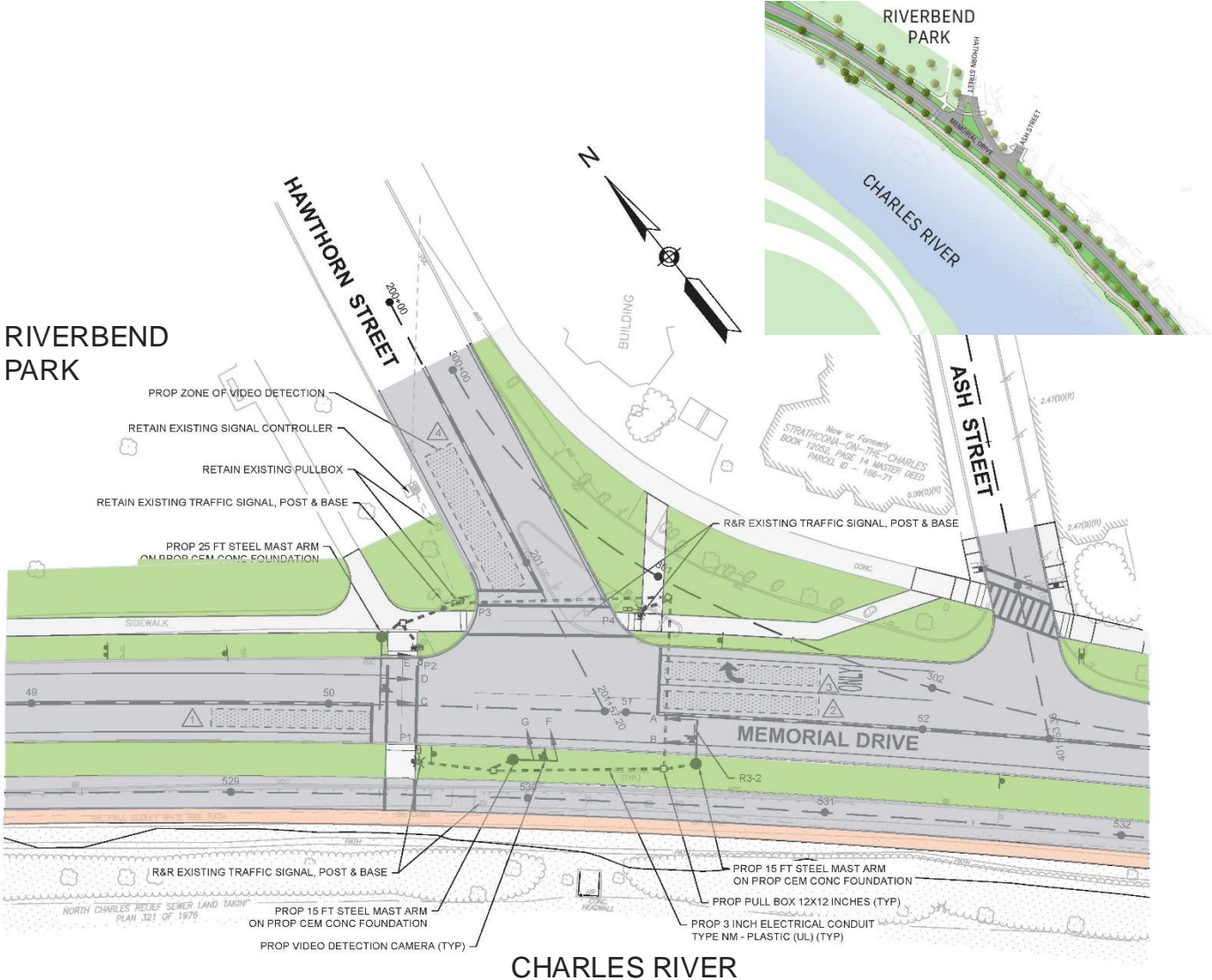


Section 1 - Adjacent to the Cambridge Boat Club

# Memorial Drive Phase III Sparks Street – New HAWK Signal

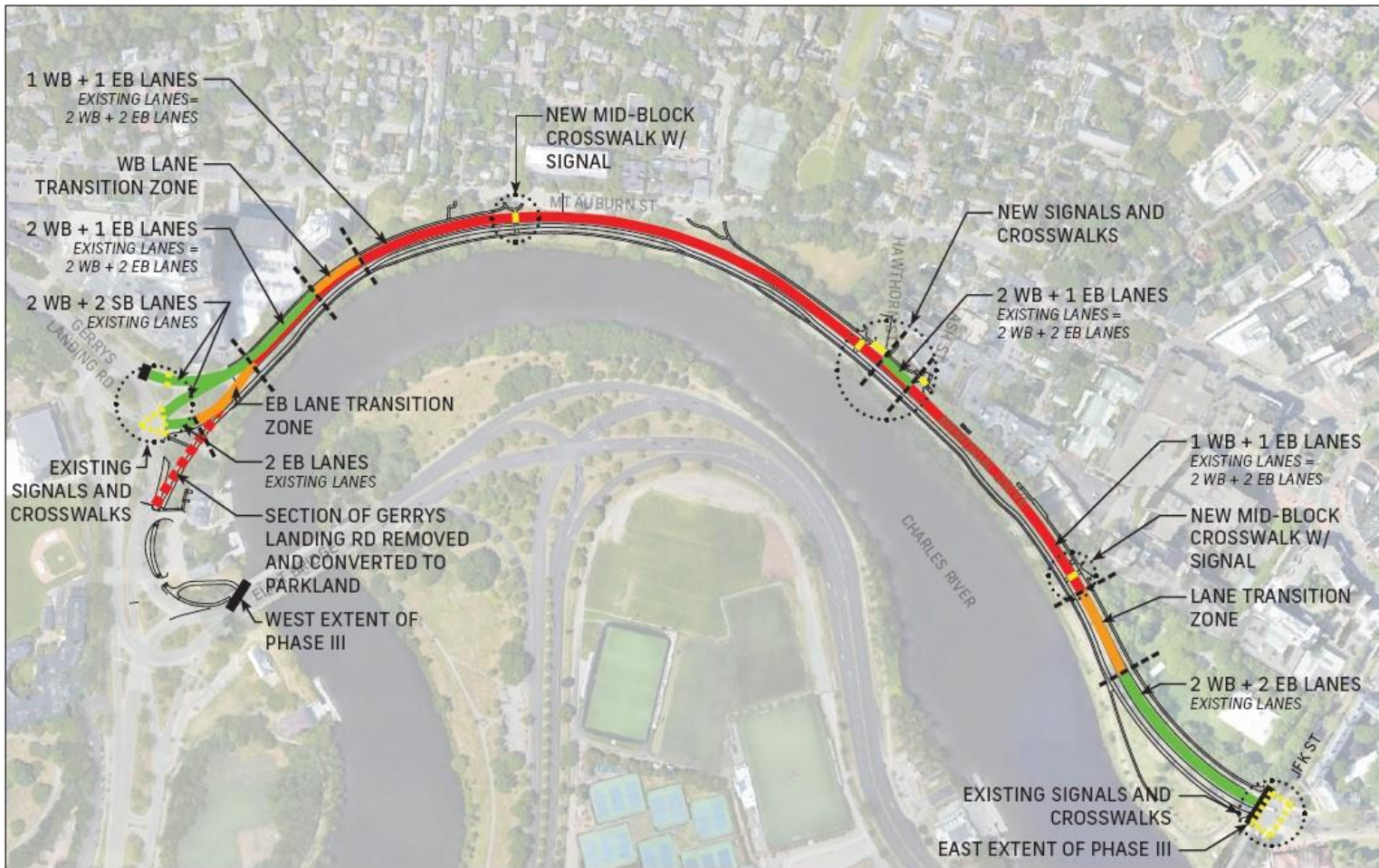


# Memorial Drive Phase III Hawthorn Street Re-Design





# Lane and Signalized Crosswalk Plan



- NO LANE REDUCTION
- NEW CROSSWALKS
- TRANSITION ZONE
- LANE REDUCTION
- ROAD CONVERTED TO PARKLAND
- EXISTING CROSSWALKS



# Landscape Design

Protect 112 London Plane Trees and Plant 24 New London Plane Trees to Preserve and Expand the Allée.

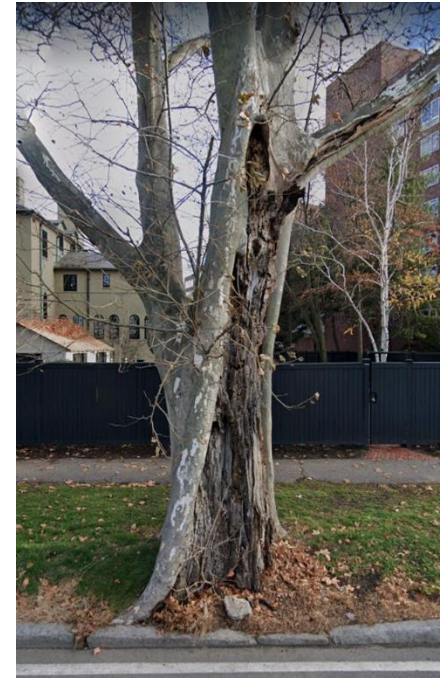


December 18, 1925 photo by Ernest Henry Wilson Glass negative property of the Arnold Arboretum Horticultural Library of Harvard University: © President and Fellows of Harvard College. Arnold Arboretum Archives



# Landscape Design Process and Recommendations

- Conducted Tree Inventory with DCR Arborist and Landscape Architecture Consultant, BRR.
- Photographed each tree and assessed condition.
- **Remove 8 London Plane Trees** over 14" suffering from vehicle strikes, internal decay, and mechanical damage at base as seen on the April 8 site walk with City and community groups.





# Planting Palette includes Native Species and London Plane Trees

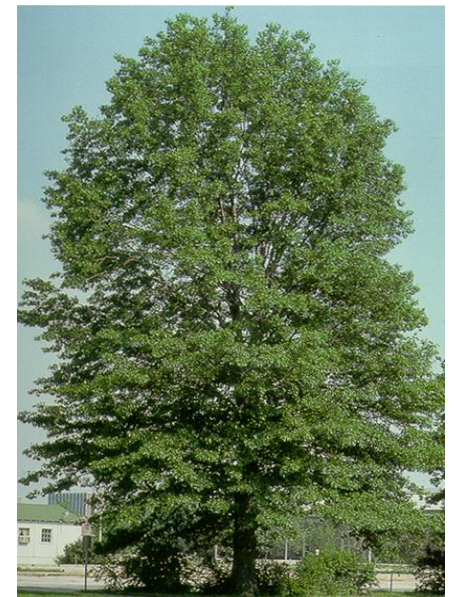
**Plant 79 new trees (55 native, 24 LPT's)** in accordance with DCR's 2018 Charles Riverbank Vegetation Management Plan, Cambridge Urban Forest Master Plan, and Master Plan for the Charles River Basin. Plant native shrubs and perennials on the riverbank.



London Plane Tree



Sweetgum



Tulip Tree

# Proposed Multi-Stemmed Native Species



Witch Hazel



Heritage River Birch



Allegheny Serviceberry

# Stormwater Improvements

- Implement improved stormwater treatment through green infrastructure, pavement reduction, BMPs – improving water quality of the Charles River
  - ❖ Bio-retention swales to treat parkway stormwater runoff
  - ❖ 1.16 acre reduction of impervious surface reduces phosphorus entering the Charles River
  - ❖ Approx. 3,000 LF of existing hot mix asphalt sidewalk replaced with porous pavement sidewalk
  - ❖ New stormwater collection system of pipes and deep sump catch basins with hoods
- Stormwater management improvements will reduce phosphorus runoff to the Charles River, a Category 5-Impaired waterway



# Permits/Approvals

Permitting



March 31, 2023

## Memorial Drive Phase III Project Final Environmental Impact Report

Submitted to:  
Executive Office of Energy and  
Environmental Affairs  
MEPA Office  
100 Cambridge Street - Suite 900  
Boston, MA 02114

Prepared for:  
Department of Conservation &  
Recreation  
251 Causeway Street - Suite 900  
Boston, MA 02114

Prepared by:  
Stairco Consulting Services, Inc.  
40 Water Street, 3rd Floor  
Boston, MA 02109

with Brown, Richardson + Rowe, Inc.  
Landscape Architects and Planners  
85 Franklin Street  
Boston, MA 02110

## COMPLETED

- ENF filed on 12/15/21
- MEPA Certificate Issued 2/7/22
- DEIR filed on 11/30/22
- MEPA Certificate Issued 1/13/23
- FEIR filed 3/31/23
- MEPA Certificate Issued 6/2/23
- Wetlands Protection Act – Order Of Conditions Issued - 7/19/24; Recorded – 10/20/24
- MWRA 8(M) Permit From MWRA Issued – 9/16/24
- Chapter 91 Minor Modification (overall project) Issued – 8/29/24

## NEXT STEPS

- Chapter 91 License (proposed viewing/resting wood deck) per Massachusetts Waterways Program



# Project Schedule

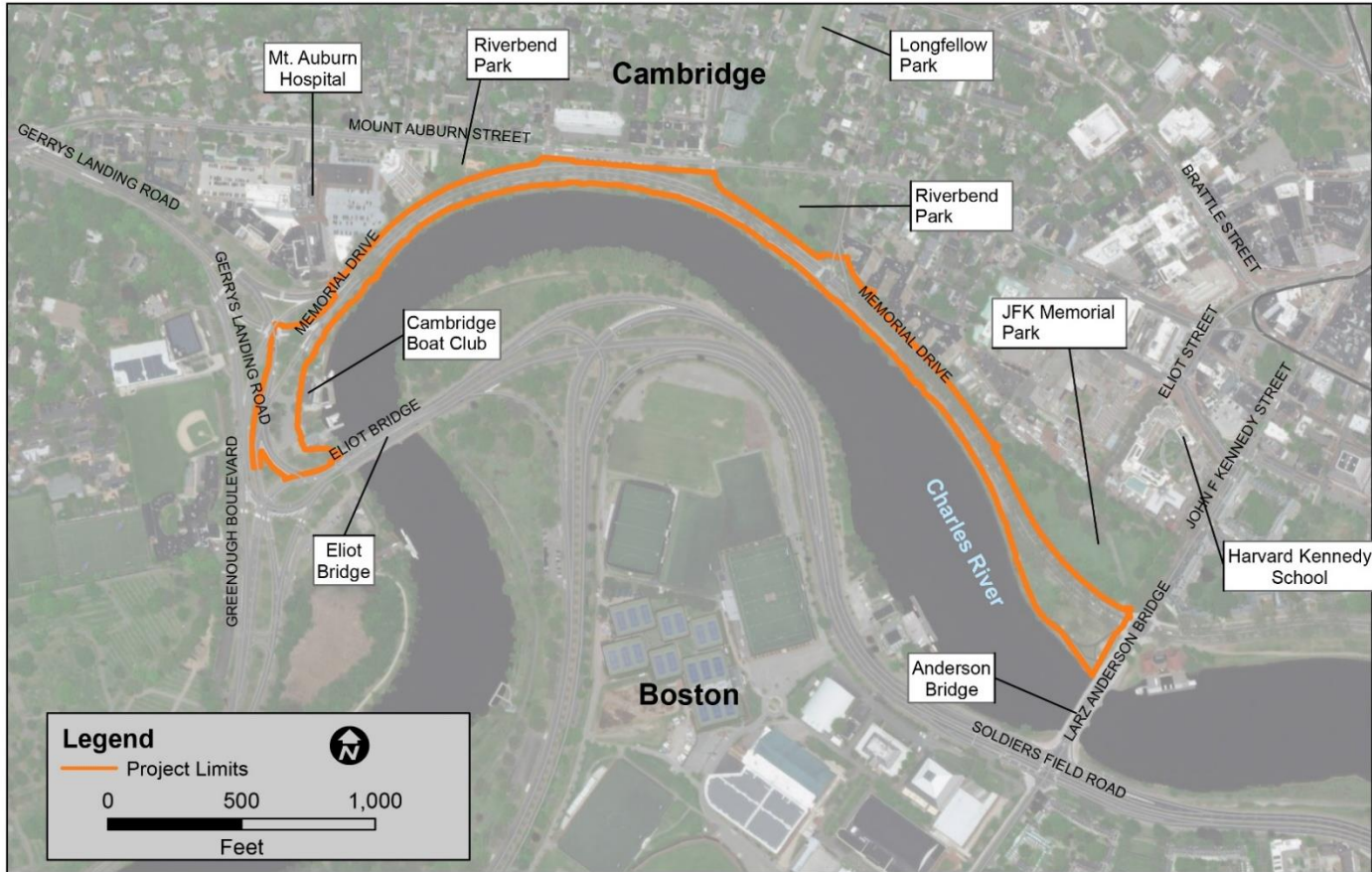
December 12, 2024  
Public Meeting – 90% Design

Late December 2024  
100%/PS&E Design Complete

Winter 2025  
Advertisement and Bidding

Summer/Fall 2025  
Construction Begins

# Q&A



Map Source: Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Energy and Environmental Affairs and ArcGIS Online.

## Project Location

DCR Cambridge - Memorial Drive Reconstruction  
Project Limits - Eliot Bridge to Anderson Bridge  
Cambridge, Massachusetts

## Additional Information

- Recording and tonight's slide deck will be available at:
  - [www.mass.gov/dcr/past-public-meetings](http://www.mass.gov/dcr/past-public-meetings)
- If you have comments on this project:
  - *Submit online:* [www.mass.gov/dcr/public-comment](http://www.mass.gov/dcr/public-comment)
  - *Deadline: Friday, January 3, 2025*

*Please note: the contents of comments submitted to DCR, including your name, town and zip code, will be posted on DCR's website. Additional contact information provided, notably email address, will only be used for outreach on future updates to the subject project or property.*

- If you wish to subscribe to a DCR general information or project-related listserv: contact DCR's Office of Community Relations via email at [mass.parks@mass.gov](mailto:mass.parks@mass.gov)