



City of Peabody – Municipal Vulnerability Preparedness (MVP) North River Resiliency, Canal Wall, & Riverwalk Project

Mayor Edward A. Bettencourt, Jr.



Public Presentation
May 30, 2019

Presented by:

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Julie Eaton, Weston & Sampson
Scott Brusco, Weston & Sampson
Jeanne Lukenda, Weston & Sampson





Presentation Overview



- Project Summary - Brendan Callahan, City of Peabody
- Introduction to Weston & Sampson – George Naslas, Weston & Sampson (W&S)
- Resiliency Report - Julie Eaton, W&S
- Wall Analysis & Repair Alternatives – Scott Brusio, W&S
- Conceptual Riverwalk Plan – Jeanne Lukenda, W&S
- Next Steps – Brendan Callahan, City of Peabody
- Questions & Answers



History of the North River Corridor



- Historically the heart of the heart of a thriving industrial corridor
- Heavily utilized by mills and leather tanneries
- Water from river utilized for processing and disposal
- Currently large vacant parcels of underutilized, potentially contaminated land that impact the quality of life for the community



MVP Project Goals & Scope



Project Goals:

- Increase flood resiliency in North River Corridor
- Create an open space amenity that enhances public access and vitality

Project Scope

- Evaluate five repair and replacement alternatives for the south side of the North River Canal wall
- Develop permitting strategy, cost estimate, and 25% design plans for future Riverwalk



Background & Recent Activity

2015 to Present:

- City began Due Diligence Investigations
- Applied/secured approx. \$500K in State funding for design, acquisition, and environmental assessment activities





Funding the City has Received for Riverwalk



- **EPA Brownfield Assessment Grant:**
 - Conducted Phase I & Limited Phase II ESA
 - Flood Mitigation
 - Developed Riverwalk Vision Plan
 - Further the 2001 Riverwalk Plan
- **Community Development Block Grant**
 - Obtained specific survey information
 - Developed surveyed plans
 - Property Acquisition Report
 - Developed Due Diligence Evaluation & Report
- **MassDevelopment TDI Program & Brownfields Program**
 - Developed North River Neighborhood District Master Plan
 - Conduct Phase II ESA
- **Community Development Authority**
 - Acquisition of 24 Caller Street
- **MassEEA Municipal Vulnerability Preparedness (MVP) Grant**
- **Massachusetts Division of Conservation Services PARC Grant**
 - Acquisition of 24 Caller Street



Downtown Corridor Riverwalk





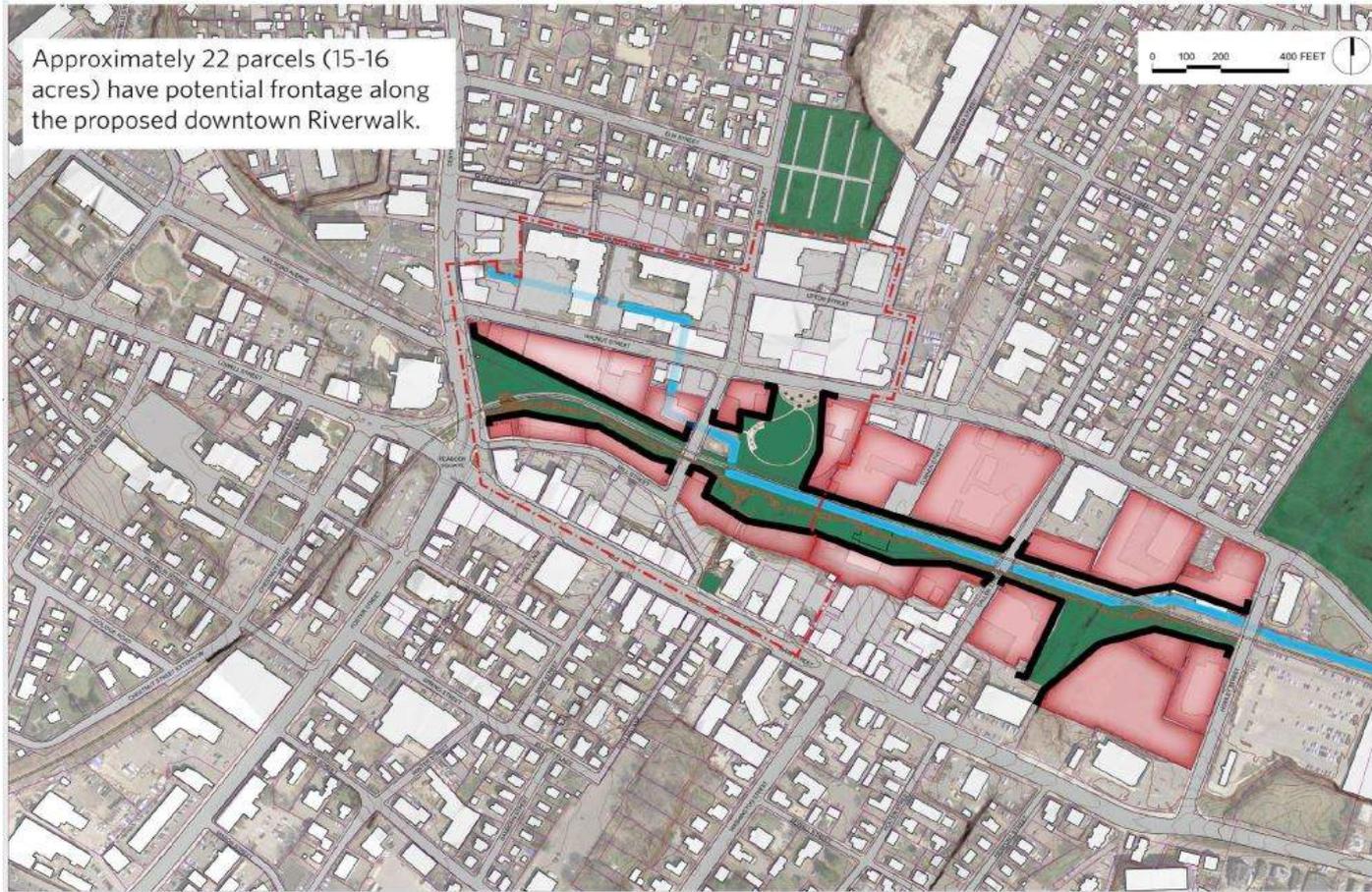
Goals of the Riverwalk



- Preserve and enhance the ecology of the river corridor
- Reconnect with the river & create additional flood storage
- Provide greenspace, create a new urban park & recreational opportunities
- Promote economic development opportunities
- Encourage redevelopment of underutilized abutting properties
- Create an auto-free zone for pedestrians



Downtown Corridor Redevelopment Potential & Riverwalk





Why Weston & Sampson?

- Since 1899
- Municipally-focused
- Engineering & design firm
- **Multidisciplinary**

OUR MISSION IS TO
PROTECT, IMPROVE, AND
SUSTAIN THE NATURAL
AND BUILT
ENVIRONMENT TO
ENHANCE THE QUALITY
OF LIFE.

- **Site Assessment and Remediation**
- **ASTM Phase I / Phase II ESA Due Diligence**
- **Hazardous Building Material Assessment & Abatement**
- Vapor Intrusion Evaluation & Remediation
- **Remedial Planning & Design**
- **Remediation Implementation Oversight**
- **Master Planning**
- **Risk Assessment**
- **Climate Resiliency & Vulnerability Assessments**
- **Permitting**
- **Site Civil Engineering**
- Geophysical Surveys & Groundwater Impact Investigations
- **Geotechnical / Structural Engineering**
- Transportation/Utility /Infrastructure
- **Landscape Architecture / Urban Design / Visioning**
- **Renewable Energy**
- **Public Outreach**

- 2009 EPA Brownfield Coalition Assessment Grant
 - Property Assessments & Conceptual Riverwalk
 - Public Outreach to Support Downtown Visioning Session
- Licensed Site Professional (LSP) Services
- Structural Improvements to North Wall of Canal
- Howley Street Bridge Project
- Grant Application Assistance
- Property Acquisition Due Diligence Assistance
- 2018 MVP Grant
 - Resiliency Evaluation
 - Engineering Evaluation of the South Wall of the Canal
 - Reuse and Visioning Services
 - Permitting Requirements
 - Meeting with MassDEP and other Regulatory Agencies



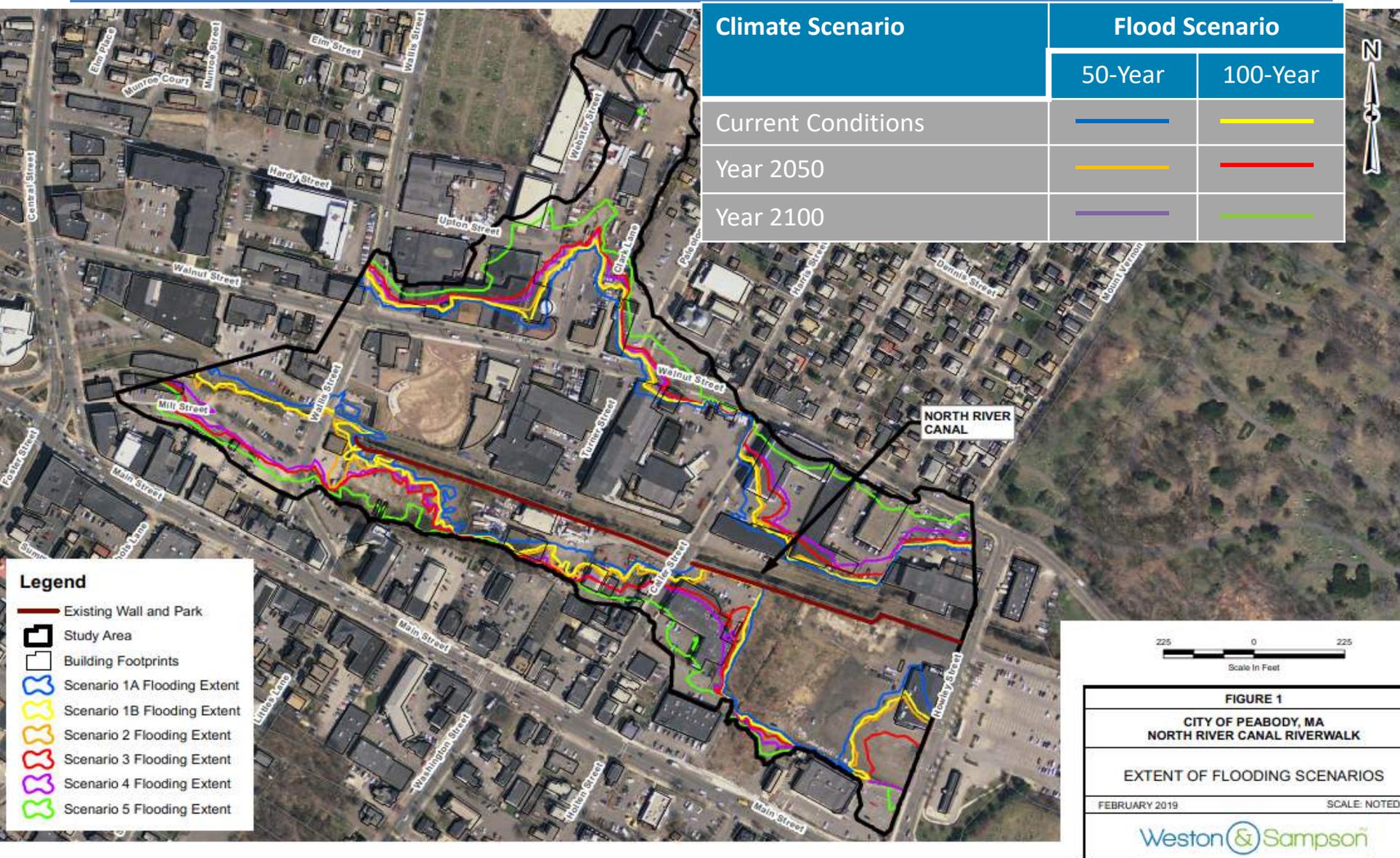
Resiliency Evaluation



- Flood Mapping
 - Current flood conditions
 - Future flood conditions under climate change
- Potential Opportunities to Store Flood Water
- Evaluate Wall Options



Resiliency Evaluation: Flooding Scenarios





Resiliency Evaluation: 100-Year Flood under Current Conditions





Resiliency Evaluation: 100-Year Flood under Climate Change (2050)



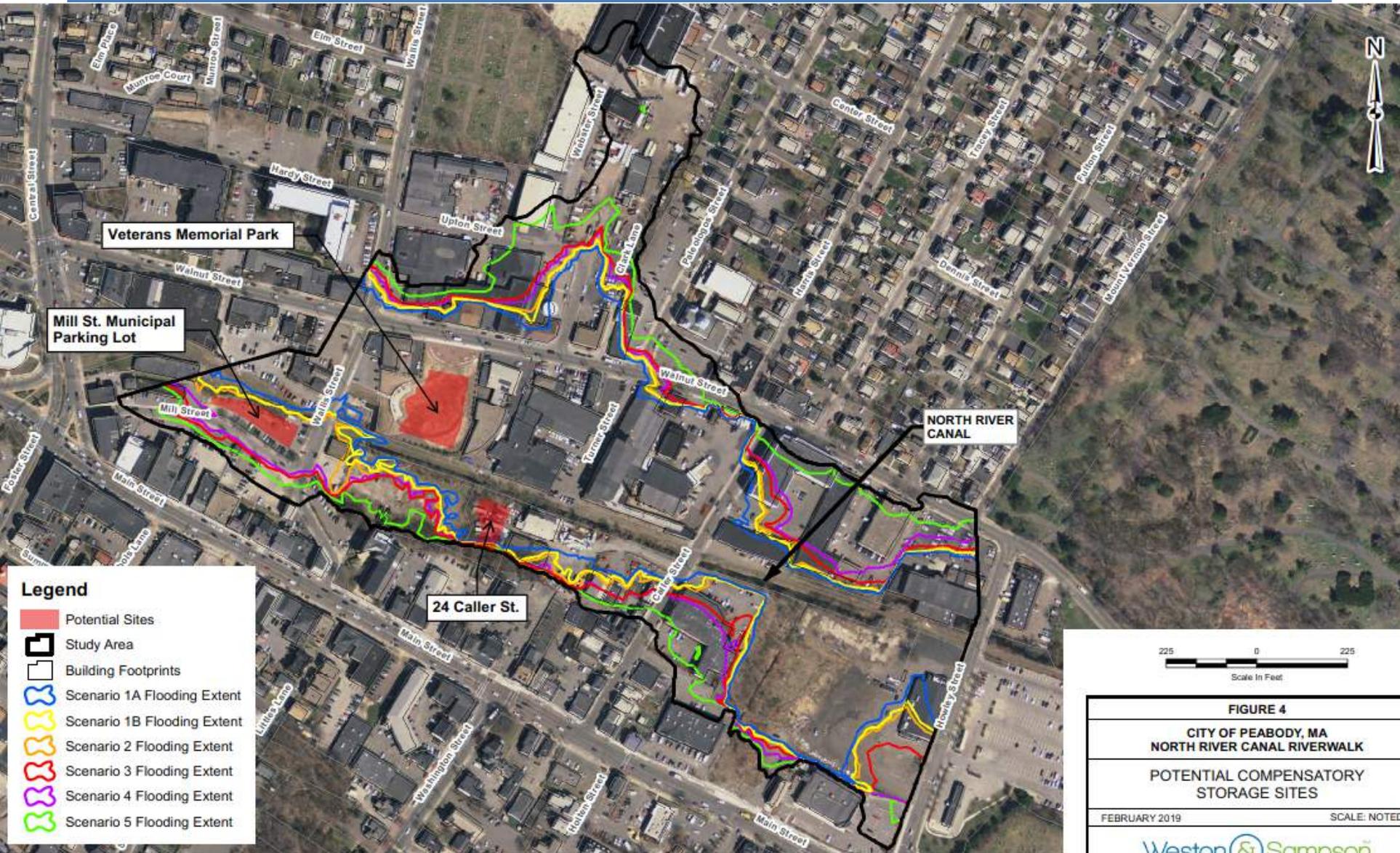


Resiliency Evaluation: 100-Year Flood under Climate Change (2100)





Resiliency Evaluation: Potential Sites for Flood Storage





Wall Analysis & Repair Alternatives



2017 – Determined that prior to the construction of the Riverwalk, the canal wall would need to be repaired in order to support the construction of the proposed Riverwalk. Existing conditions vary drastically from good to bad.



Wall Analysis & Repair Alternatives



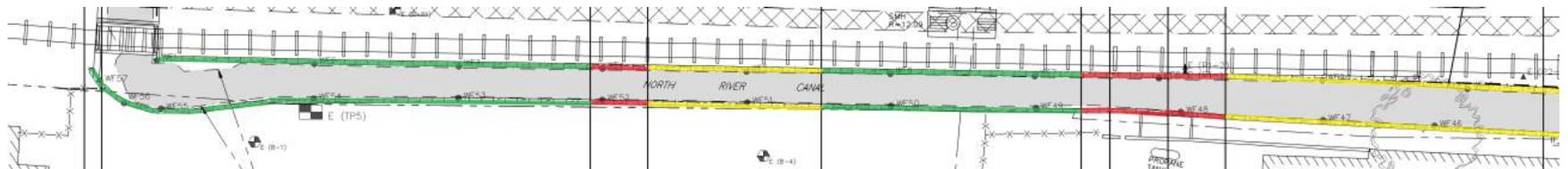
GOOD CONDITION



POOR CONDITION

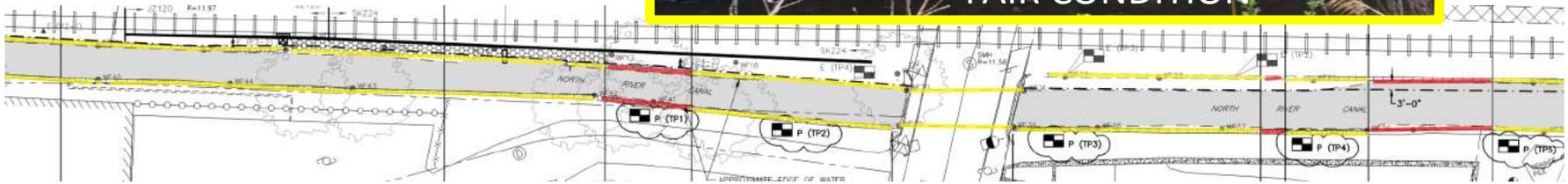


FAIR CONDITION





Wall Analysis & Repair Alternatives





Wall Analysis & Repair Alternatives



- Five (5) Wall Alternatives Considered:

- 1) Rip Rap Slope
- 2) Vegetative Berm Above Rip Rap Slope
- 3) Sheet Pile Wall
- 4) Cantilever Concrete Retaining Wall
- 5) Stone Masonry Wall

- Evaluation Criteria for Alternatives:

- a) Resiliency & Flood Storage
- b) Durability & Maintenance
- c) Environmental Impact
- d) Construction & Easements
- e) Permitting
- f) Regulatory Favorability
- g) Cost

This evaluation was used to rank and prioritize alternatives for the canal wall



Wall Analysis & Repair Alternatives



1) Rip Rap Slope



Wall Analysis & Repair Alternatives



2) Vegetative Berm Above Rip Rap Slope



Wall Analysis & Repair Alternatives



3) Sheet Pile Wall



Wall Analysis & Repair Alternatives



4) Cantilever Concrete Retaining Wall



Wall Analysis & Repair Alternatives



5) Stone Masonry Wall



Recommended Wall Alternative



3) Sheet Pile with Sloped Bank

- Highest total scoring alternative & permitting favorability
- Provides the most additional flood storage
- Relatively low total cost & minimal maintenance when compared to other alternatives
- Reasonable easement widths
- No dredging required

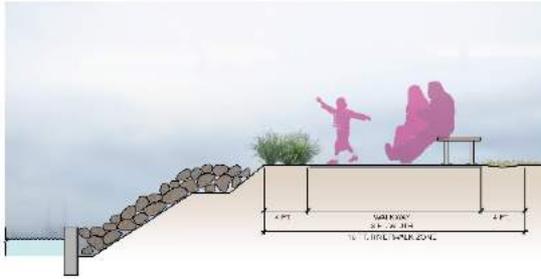


Riverwalk Concept





Riverwalk and Edges

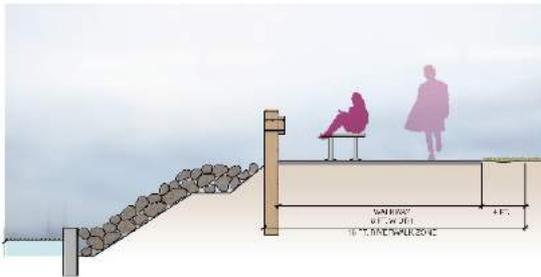


ELEVATION



PRECEDENTS

Planting Edge

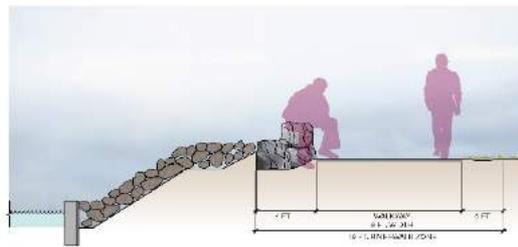


ELEVATION



PRECEDENTS

Railing Edge



ELEVATION

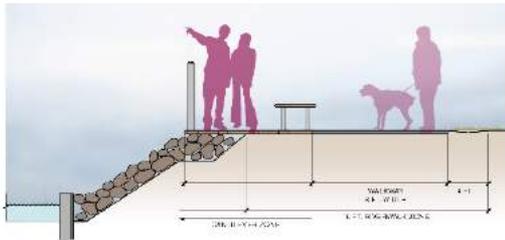


PRECEDENTS

Seating Edge



Riverwalk and Edges

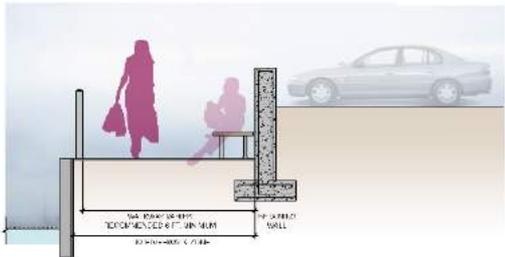


ELEVATION



PRECEDENTS

Cantilever Edge

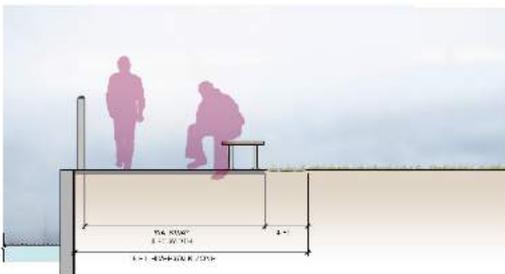


ELEVATION



PRECEDENTS

No Bank / Retaining Edge



ELEVATION



PRECEDENTS

No Bank / Railing Edge



Riverwalk Elements



Walkway Surfacing Material



Native Plant Material



Seating and Gathering



Railing Material



Riverwalk Elements



Retaining / Integrated Seating



Materials and Details



River Edge Interaction



Flood Storage / Stormwater Management



Riverwalk Elements



Amenities



Educational and Wayfinding Signage



Lighting Aesthetics



Lighting Products

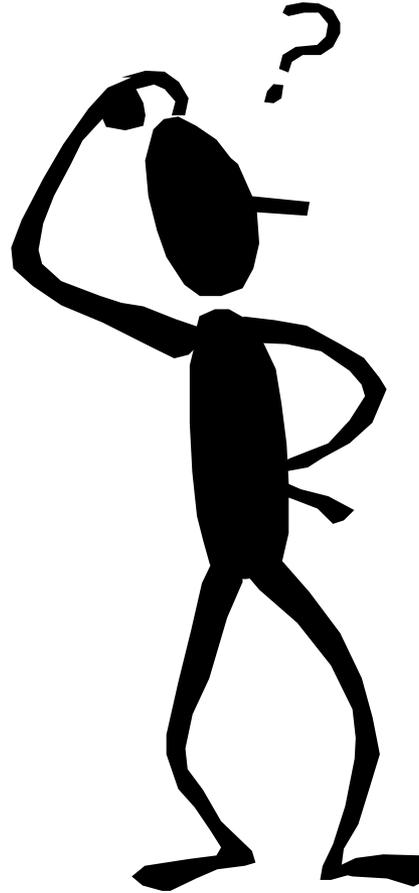


Next Steps



- Solicit Feedback from the Public
- Conduct Phase II Environmental Site Assessment Activities at 24 Caller Street
- Cleanup & Reuse Planning based on Future Use Scenarios
- Develop Path to Regulatory Closure
- Climate Resiliency
- Design & Permitting
- Apply for Future Funding Opportunities

Questions / Answers



For More Information or to Provide Additional Feedback:

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thank you



Mayor Ted Bettencourt, City of Peabody

Weston & SampsonSM

transform your environment