



2019 ANNUAL
CONFERENCE & EXHIBIT



January 28, 2019

RESILIENCE STRATEGIES FOR SOUTH BOSTON

MITIGATING RISK THROUGH PARTNERSHIPS

PRESENTERS

Kathryn Edwards, PE, Arcadis

Agenda

Boston's Climate Change
Planning Initiatives

South Boston Study

South Boston Flood Risk

Community Engagement

Proposed Solutions &
Partnerships



TRANSFORMATIVE PLAN TO CREATE RESILIENT, OPEN BOSTON HARBOR UNVEILED

"Resilient Boston Harbor" lays out strategies along Boston's 47-mile shoreline that will increase access and open space along the waterfront while better protecting the City.

October 17, 2018



PUBLISHED BY:
ENVIRONMENT

Mayor Martin J. Walsh today rolled out a comprehensive and transformative vision that will invest in Boston's waterfront to protect the City's residents, homes, jobs, and infrastructure against the impacts of rising sea level and climate change. Announced in his annual speech to the Greater Boston Chamber of Commerce, the Mayor's plan, "Resilient Boston Harbor," lays out strategies along Boston's 47-mile shoreline that will increase access and open space along the waterfront while better protecting the city during a major flooding event.



"We're not just planning for the next storm we'll face, we're planning for the storms the next generation will face," said Mayor Walsh. "A resilient, climate-ready Boston Harbor presents an opportunity to protect Boston,

connect Boston, and enhance Boston, now and for the future. As we enter a new era in our Harbor's history, Boston can show the world that resilience is not only the ability to survive adversity, but to emerge even stronger than before. That's the promise of a Resilient Boston."

Resilient Boston Harbor builds off of [Imagine Boston 2030](#) and uses the [City's Climate Ready Boston 2070](#) flood maps and [coastal resilience neighborhood studies](#) to focus on Boston's most vulnerable flood pathways. The strategies laid out in the plan include elevated landscapes, enhanced waterfront parks, flood resilient buildings, and revitalized and increased connections and access to the waterfront. The strategies will require collaboration and funding between federal, state, private, philanthropic and nonprofit partners.

Existing Plans & Initiatives

Imagine Boston
2030

Resilient Boston

Climate Ready
East Boston and
Charlestown

Climate Ready
Boston

Climate Ready
South Boston

Moakley Park
Study

UMB Finance
and Governance
Study

Go Boston 2030

Boston Harbor
Barrier Study

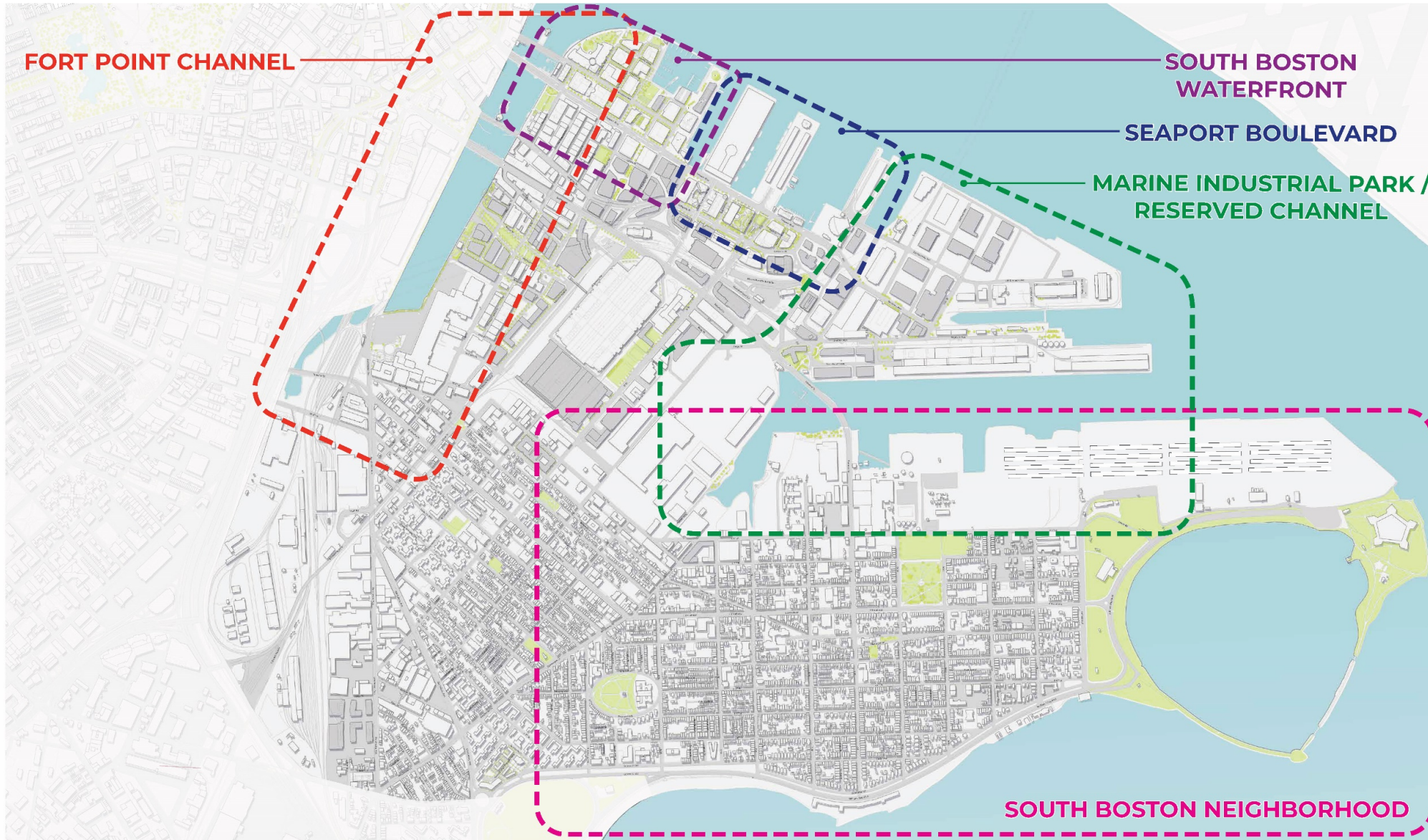
Study Area & Objectives

Mission Statement

The resiliency strategy outlines a series of layered flood control measures that provide protection from rising sea levels and storm surges, and create social, environmental, and economic benefits and value to the people of South Boston and to all who share in the health of the city and the harbor.



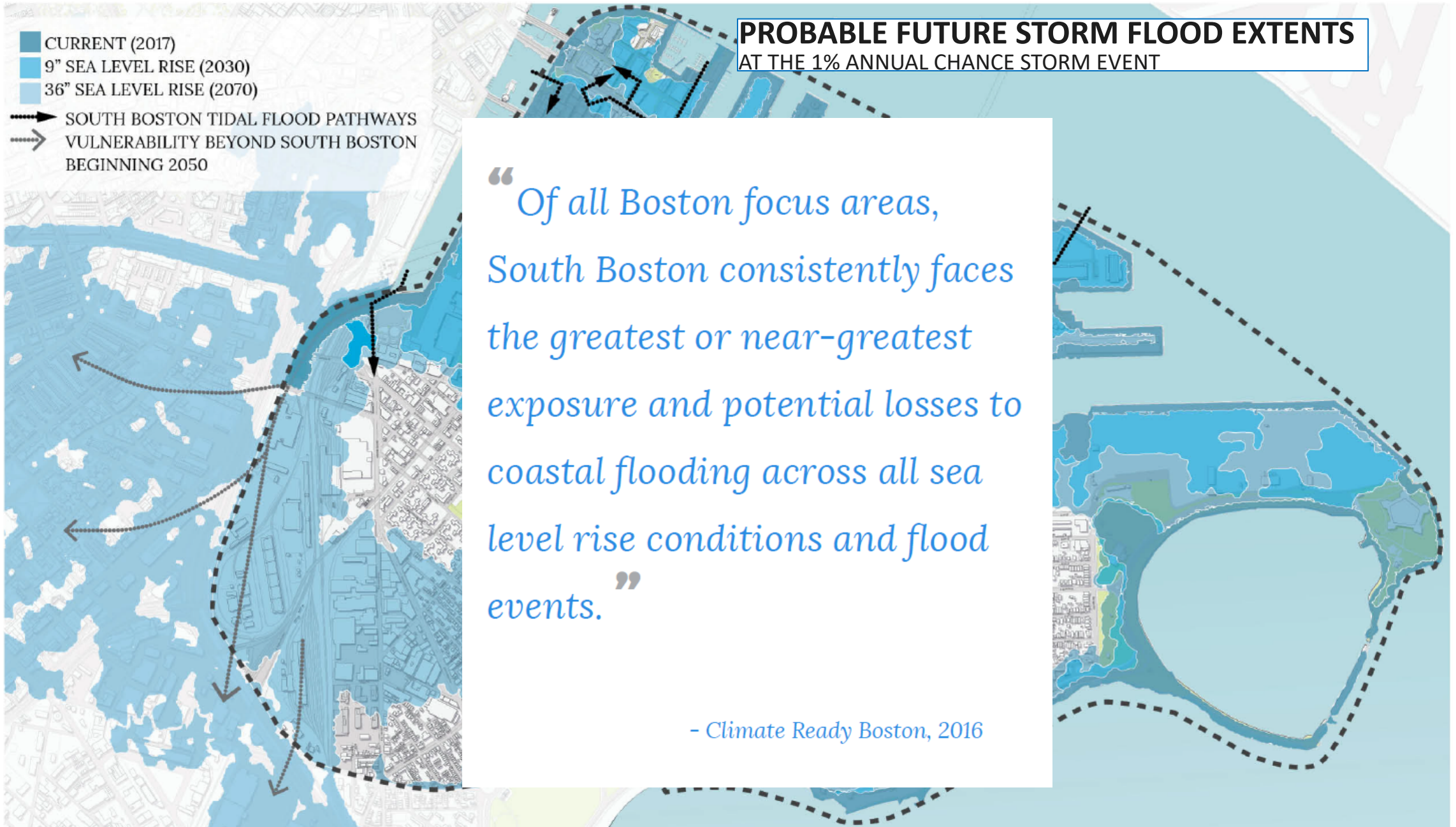
Project Planning Zones



Historic & Current Shoreline

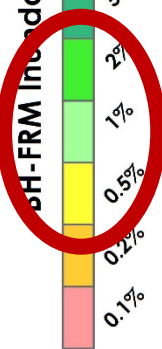


Flood Risk

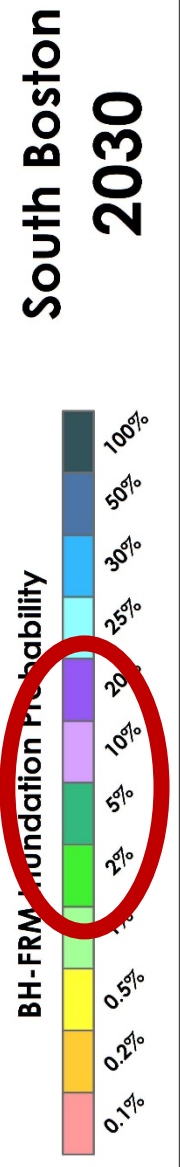
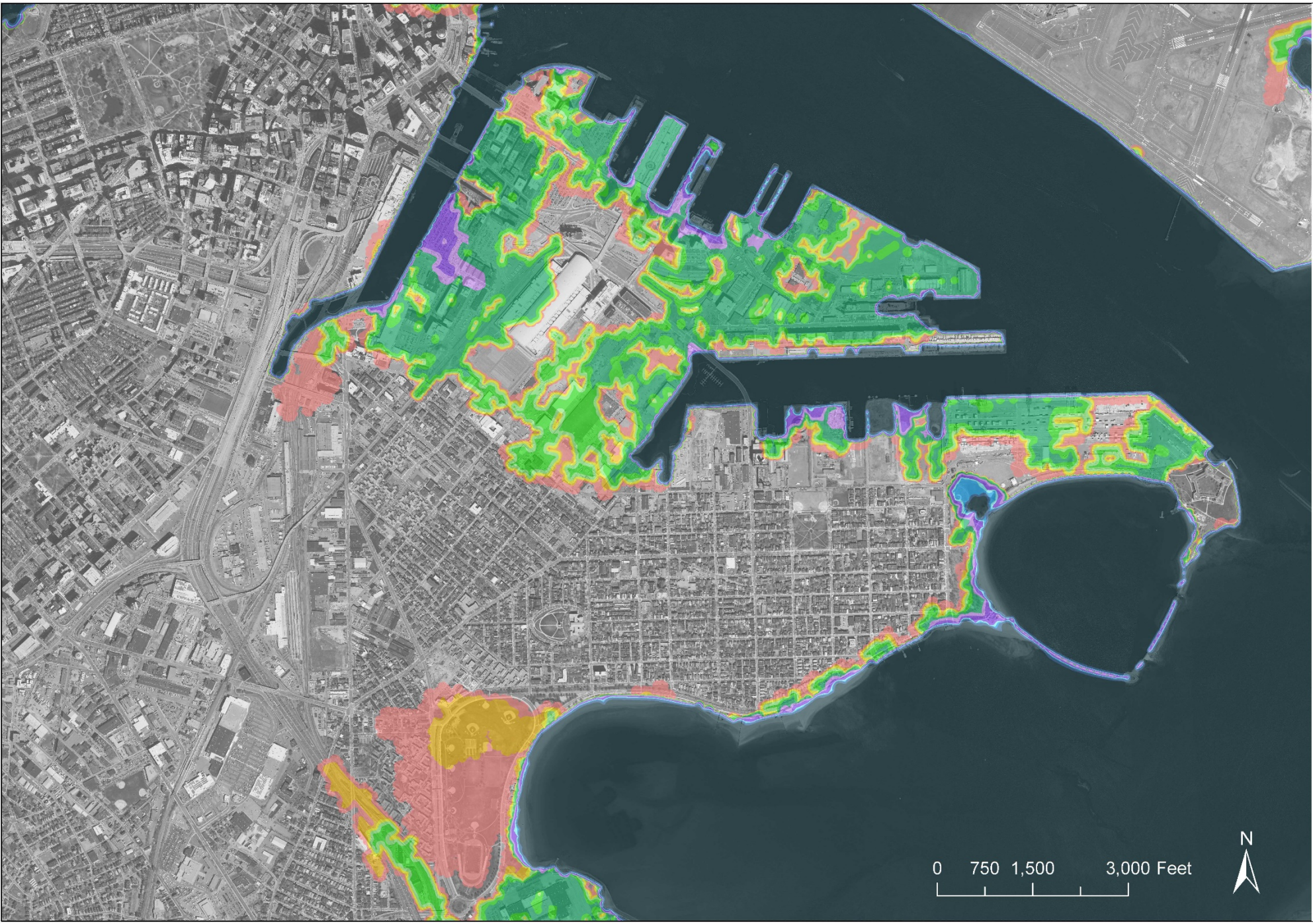


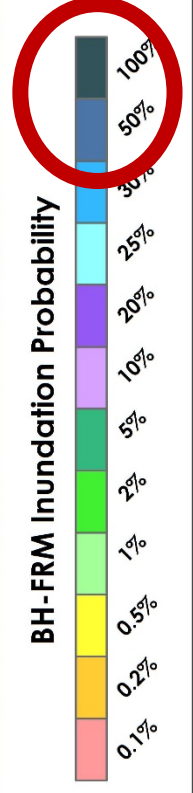
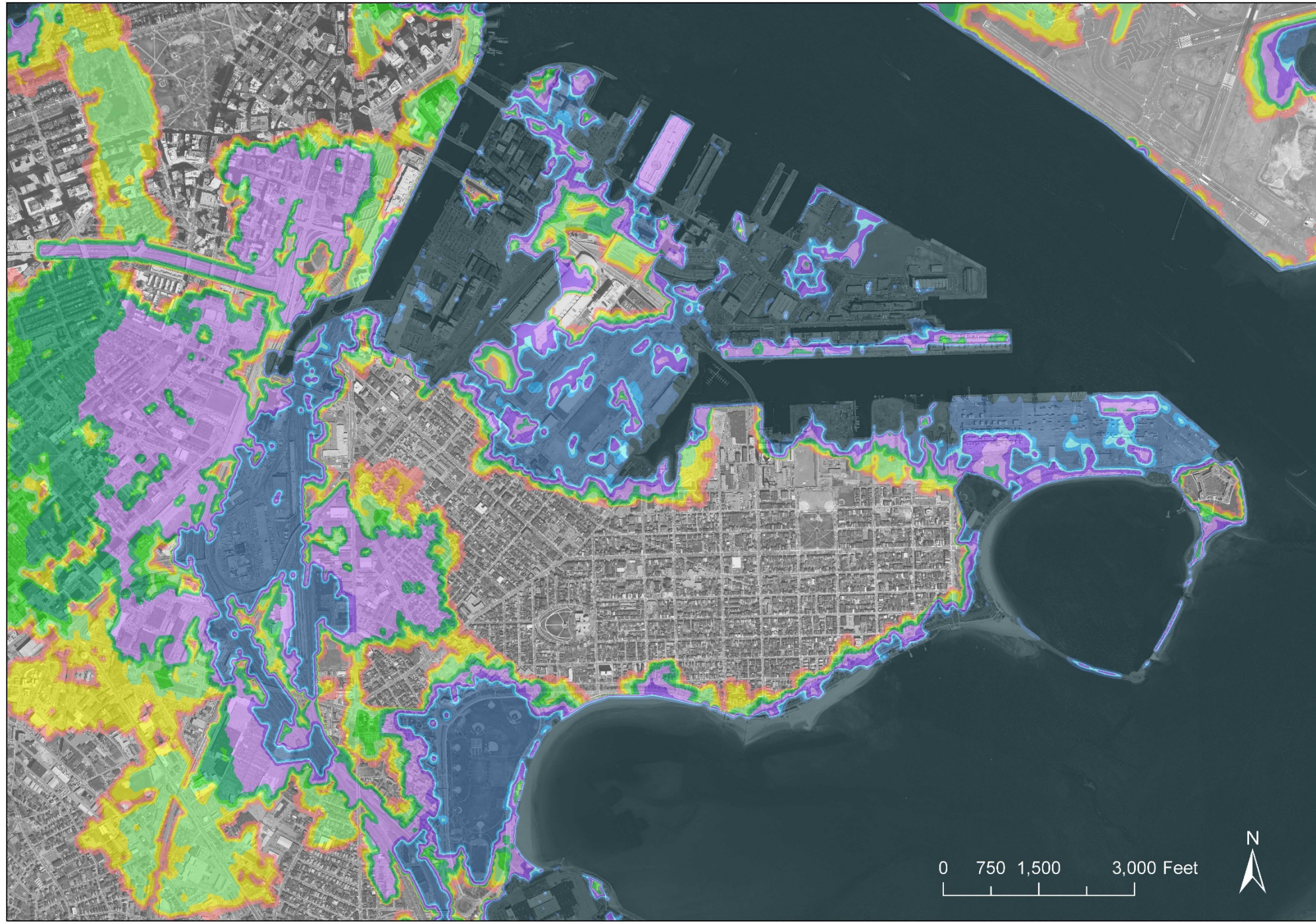


SH-FRM Inundation Probability



South Boston
Present





South Boston
2070



Photo credit: Halvorson Design



Photo credit: Halvorson Design

Community Engagement

Survey

Focus Groups

Interviews

Presentations

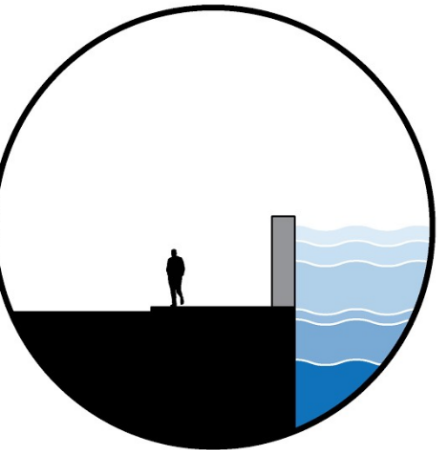
Open Houses

City Tabling & Events



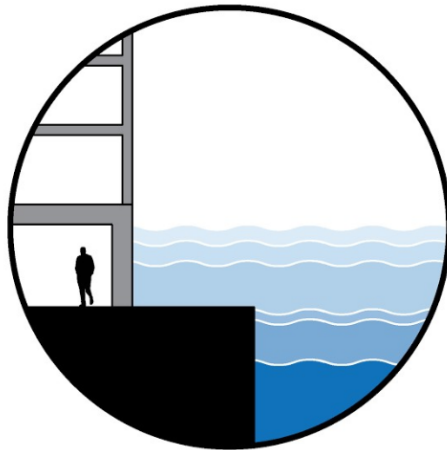
Coastal Flood Protection Technical Toolkit

1. VERTICAL SEAWALL



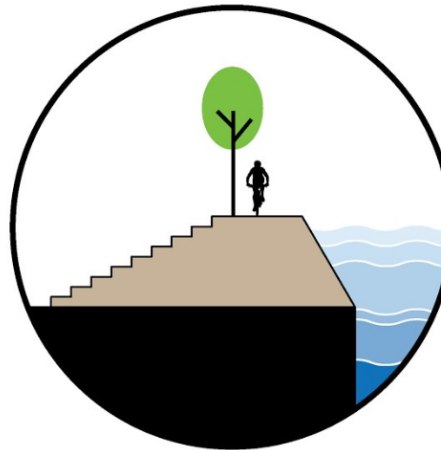
- 1A. VERTICAL SEAWALL
- 1B. BRIDGE RAILING MODIFICATION
- 1C. PEDESTRIAN TIDAL GATE

2. WATERTIGHT BUILDINGS / STRUCTURES



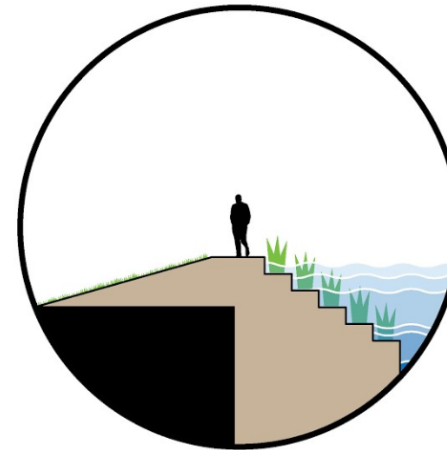
- 2A. FLOOD IMPROVEMENTS TO BUILDINGS / STRUCTURES
- 2B. RAISED FUTURE BUILDING PAD

3. RAISED HARBORWALK / PARKSPACE



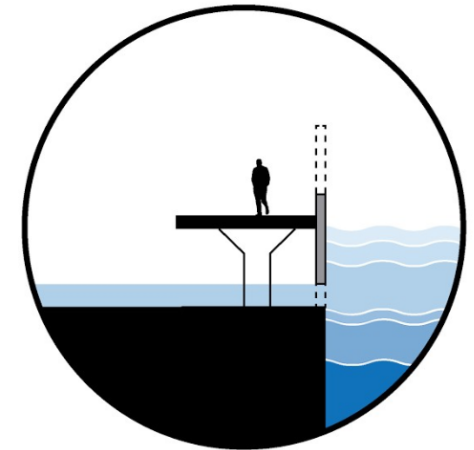
- 3A. RAISED HARBORWALK / PARK LEVEE
- 3B. RAISED ROADWAY GRID

4. CONSTRUCTED GROUND



- 4A. CONSTRUCTED LAND HARBORWALK / PARK LEVEE
- 4B. CONSTRUCTED BARRIER
- 4C. CONSTRUCTED SALT MARSH TERRACES
- 4D. CONSTRUCTED SAND DUNES

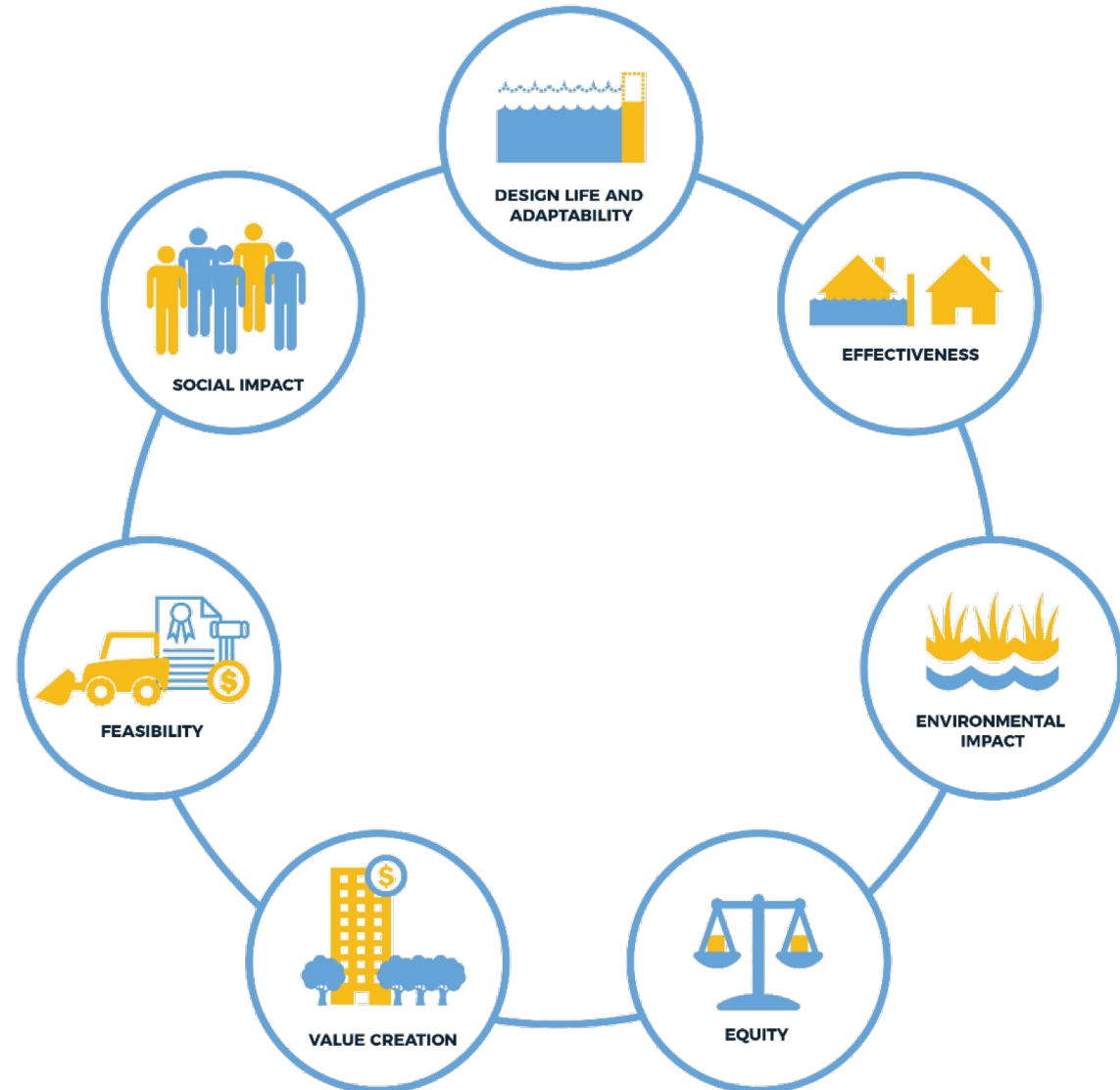
5. TRANSPORTATION / NAVIGATION



- 5A. NEW HARBORWALK OVER WATER
- 5B. NAVIGATIONAL TIDAL GATE / BARRIER SYSTEM
- 5C. NAVIGATIONAL TIDAL GATE AT RECREATIONAL MARINA
- 5D. VEHICULAR TIDAL GATE

Evaluation Criteria for Resilience Strategies

1. Effectiveness
2. Environmental Impact
3. Design Life & Adaptability
4. Feasibility
5. Equity
6. Social Impact
7. Value Creation



IMPLEMENTATION TRACKS



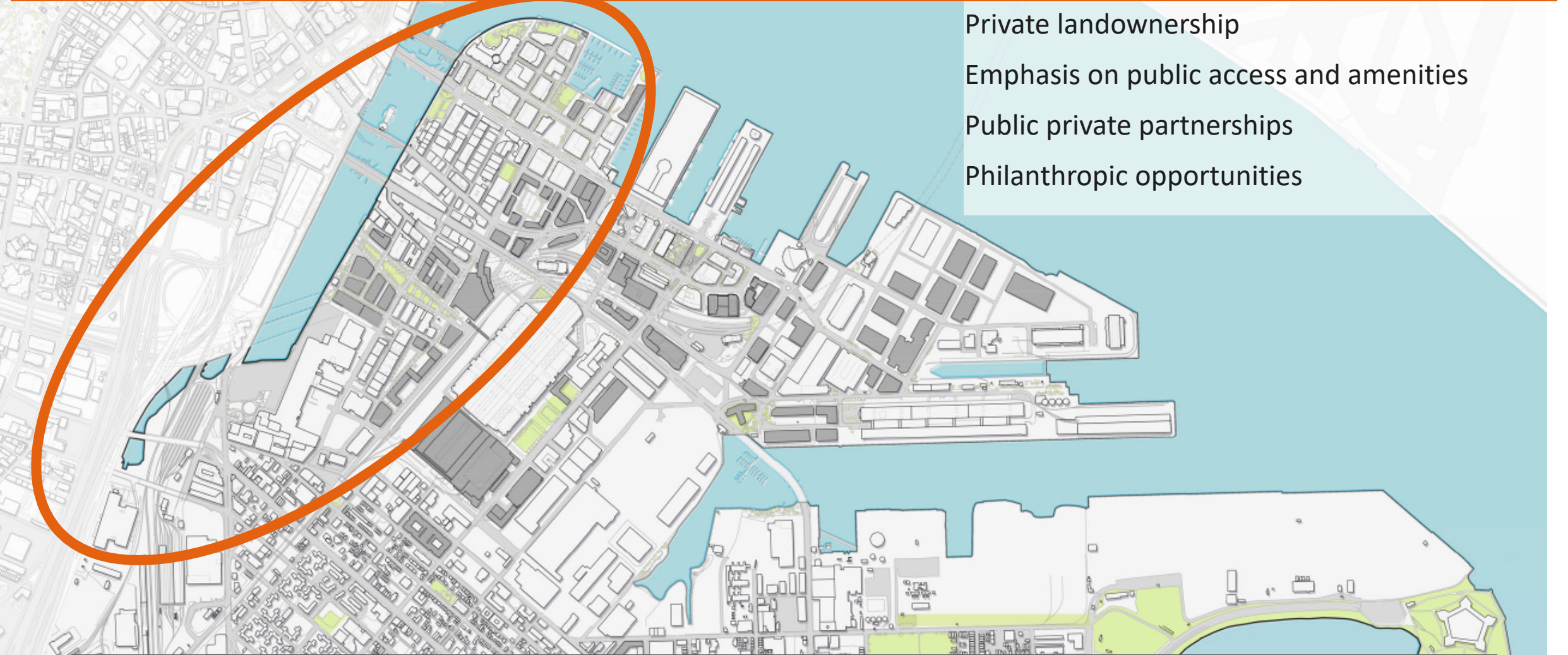
TRACK 1

TRACK 2

TRACK 3

TRACK 4 (NOT
SHOWN)

Track 1: Fort Point Channel & South Boston Waterfront



A map of the Fort Point Channel and South Boston Waterfront area. The map shows a mix of urban development, including buildings and streets, and waterfront areas. A large orange oval highlights a specific section of the waterfront, likely the area of focus for Track 1. The map is overlaid with a semi-transparent blue box containing text.

Private landownership

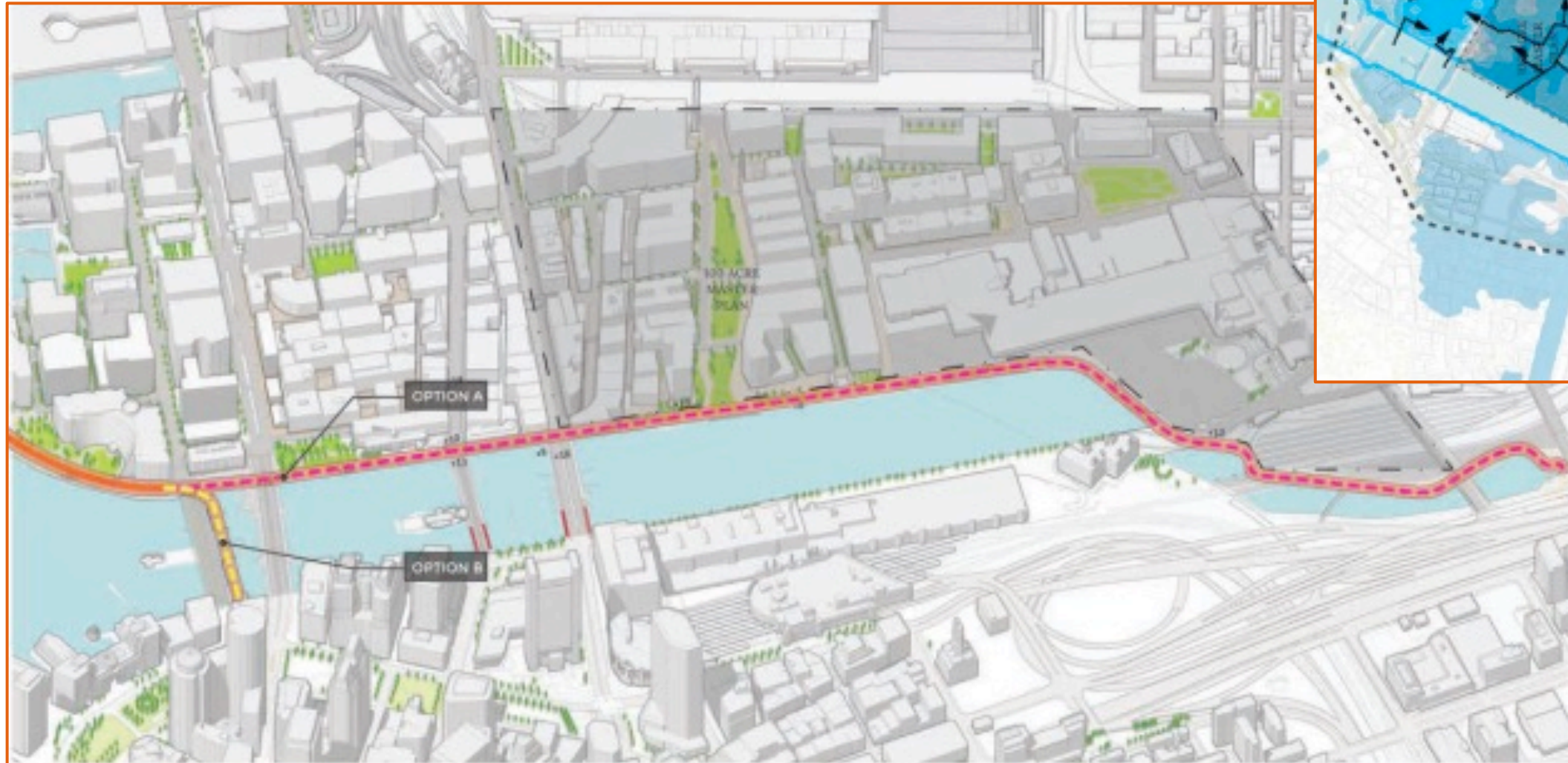
Emphasis on public access and amenities

Public private partnerships

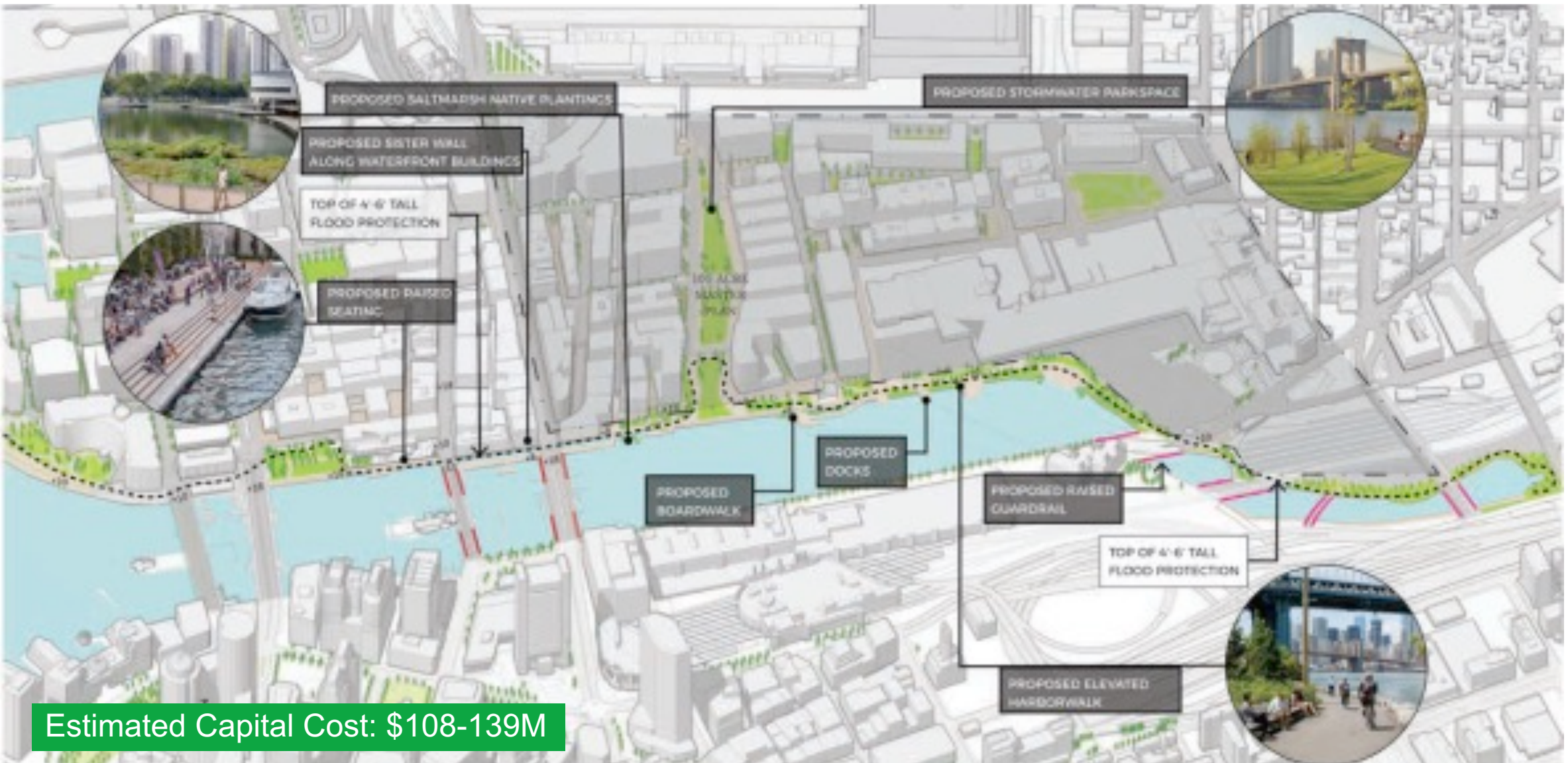
Philanthropic opportunities

Implementation Partners: Private Landowners

Long-Term Flood Protection Options Fort Point Channel



Long-Term Flood Protection Option A Fort Point Channel



Estimated Capital Cost: \$108-139M





EXISTING GRADE

14.00
36" SLR
1% STORM

8.00 +/-
EXISTING
HARBOR-
WALK
GRADE

5.00
4.00
MHT

EXISTING PARKING TO REMAIN

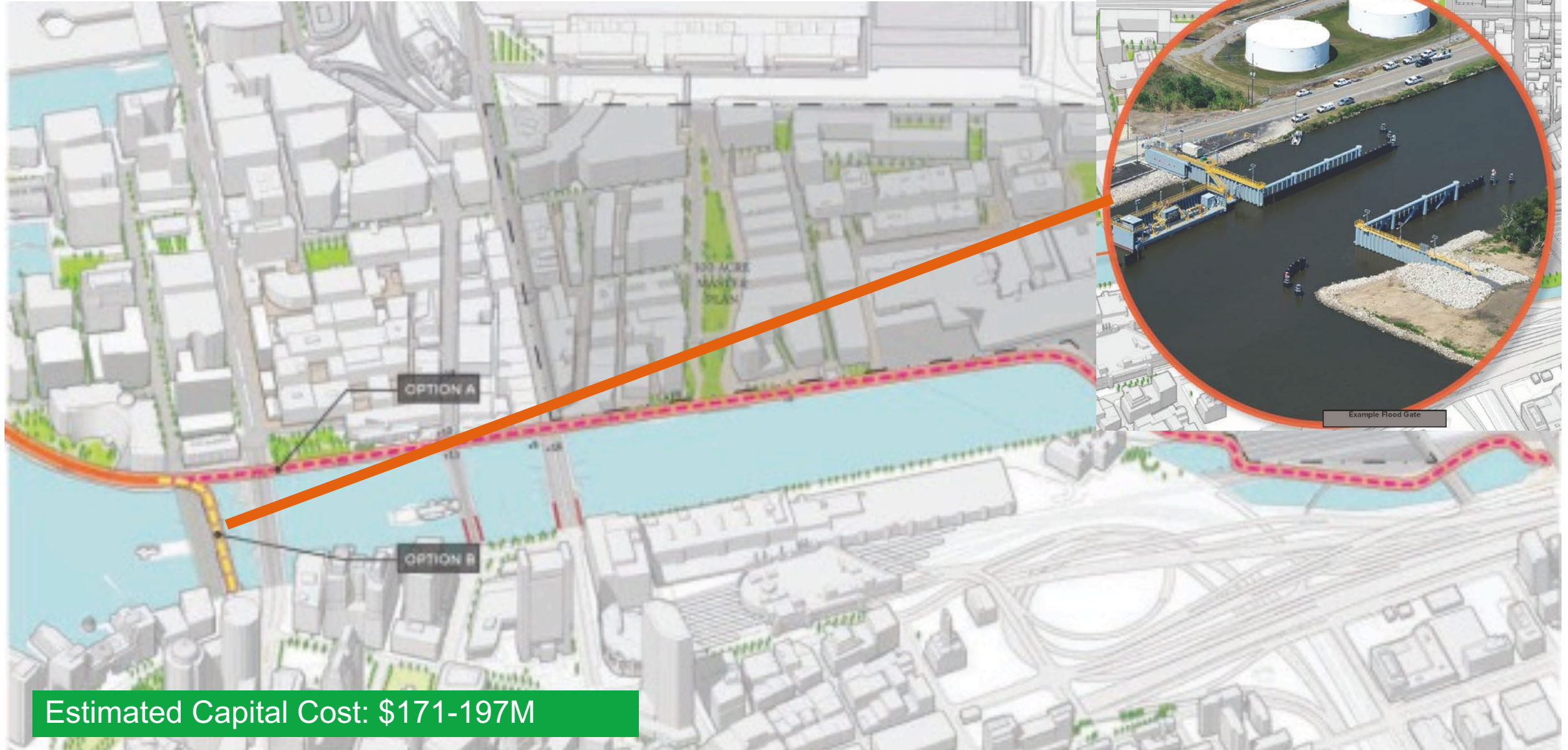
EXISTING PARKING CONVERTED TO OPEN SPACE
20'-0"

EXISTING HARBORWALK

EXISTING
SEAWALL

SALT MARSH TERRACES

Long-Term Flood Protection Option B Fort Point Channel



Track 2: Seaport Blvd, Marine Industrial Park, Reserved Channel

Dominated by Massport and City landownership
Emphasis on maintenance of operations

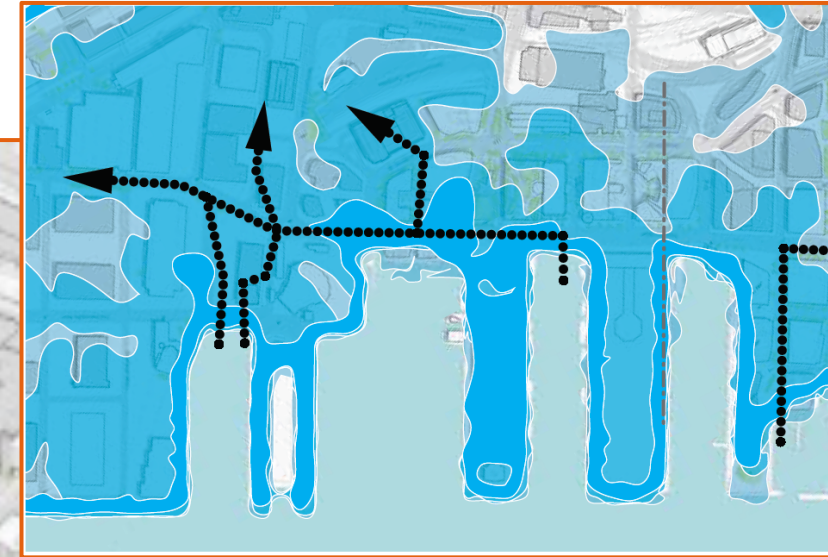


Implementation Partner: MassPort

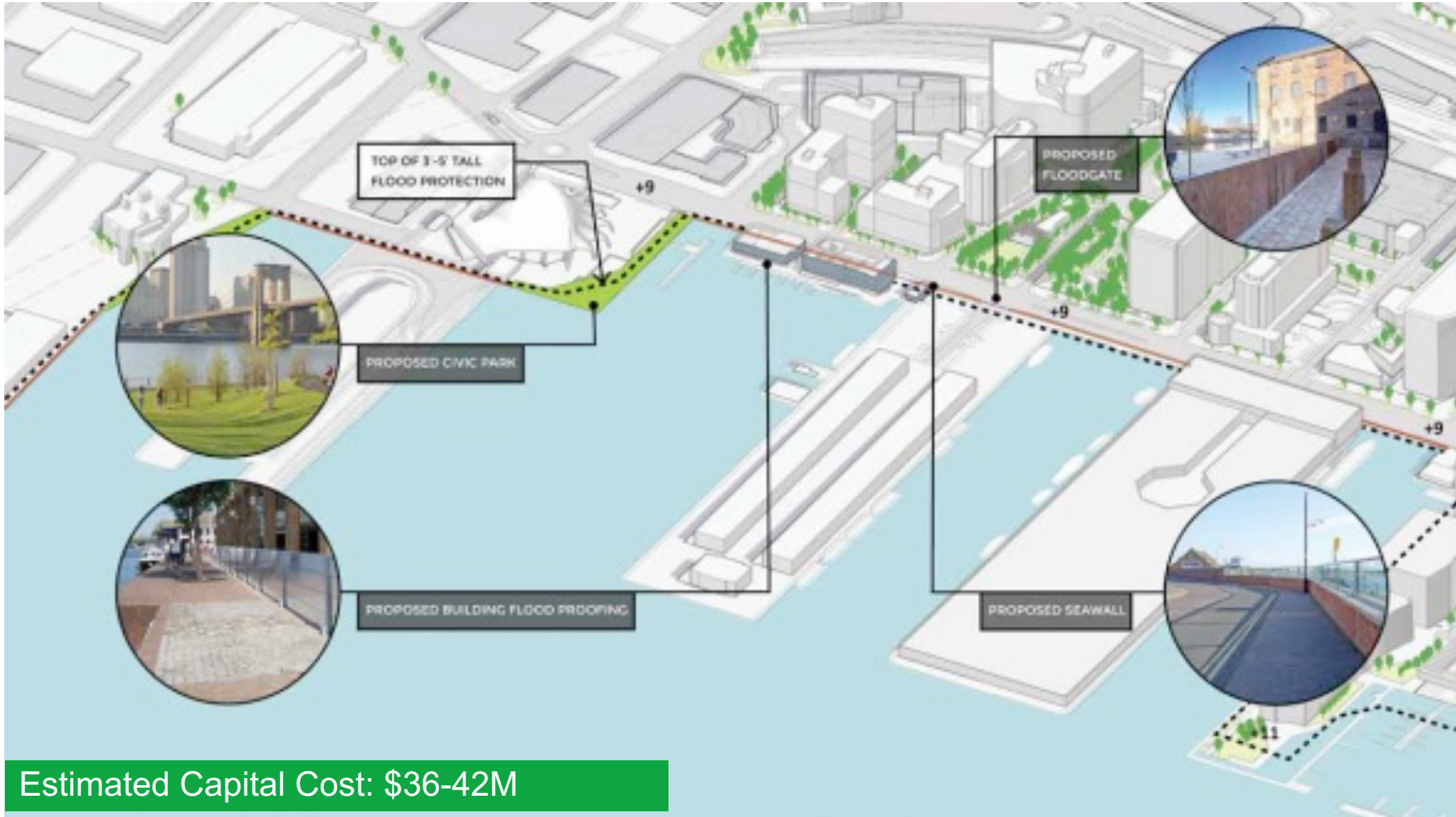
Trucking Routes



Long-Term Flood Protection Options Seaport Boulevard



Long-Term Flood Protection Option A Seaport Boulevard



Estimated Capital Cost: \$36-42M

Flood Protection Near-Term Strategies Seaport Boulevard



Waterfront Access



MODULAR: 16.5

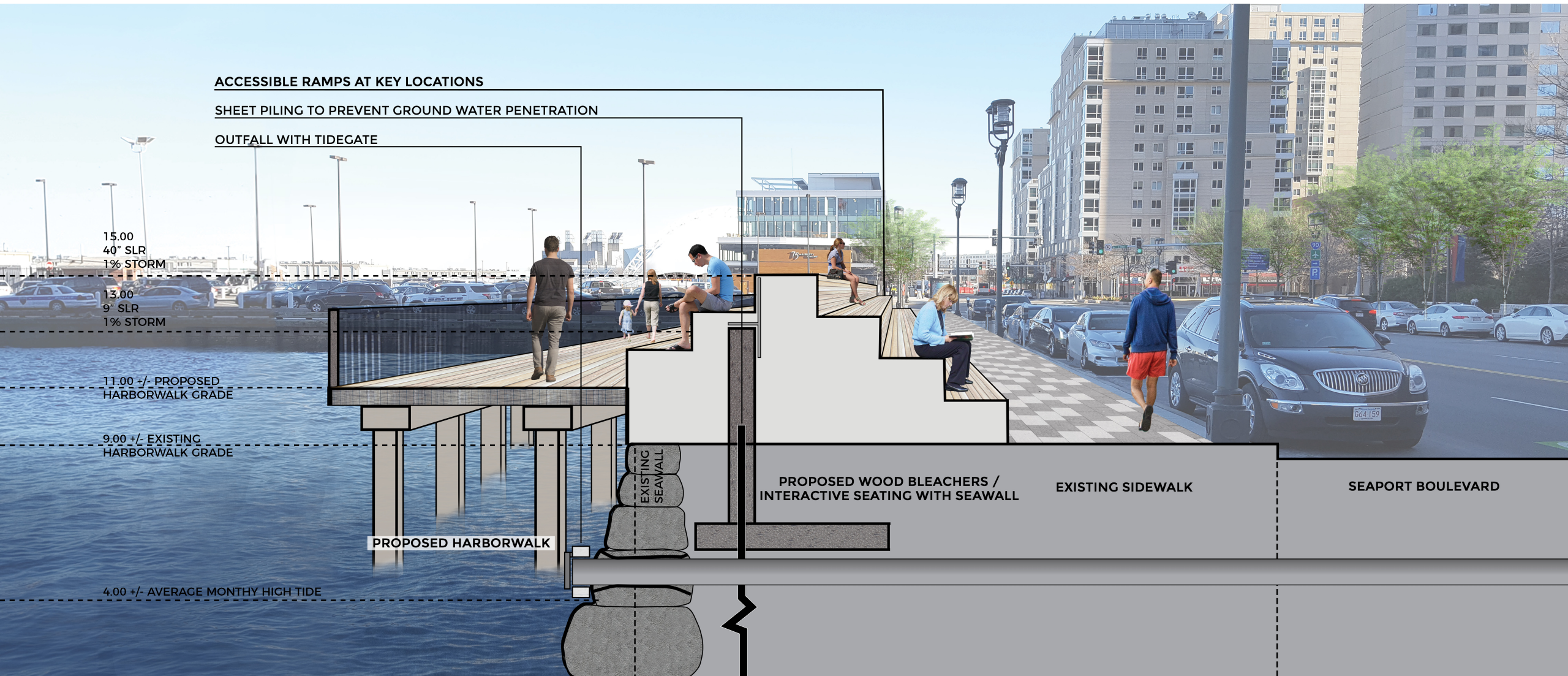
TARGET: 15.0

BASE: 13.0

EHT + 36": 9.64

ELEVATION: 9.0

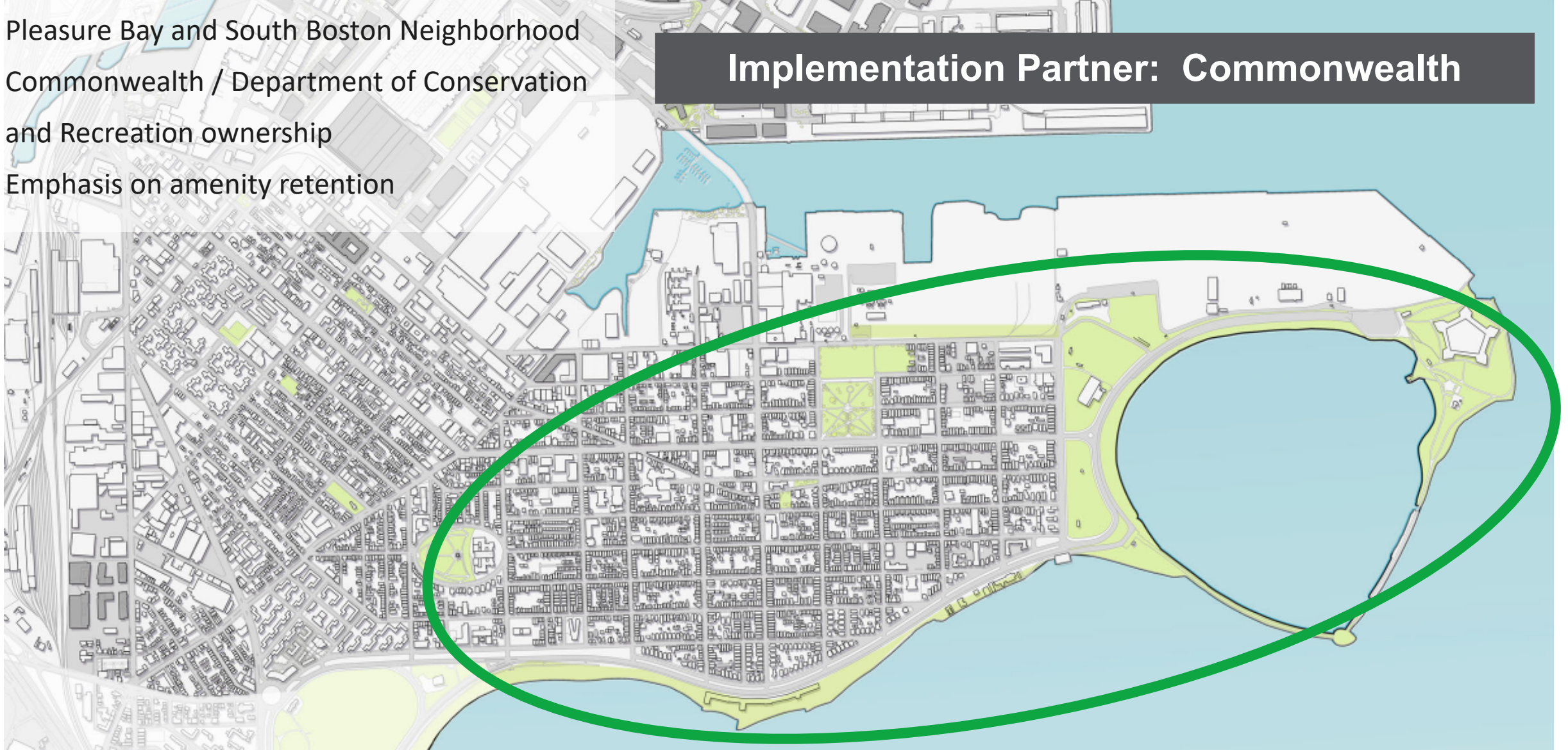
Waterfront Access



Track 3: Pleasure Bay & Day Boulevard

Pleasure Bay and South Boston Neighborhood
Commonwealth / Department of Conservation
and Recreation ownership
Emphasis on amenity retention

Implementation Partner: Commonwealth



Long-Term Flood Protection Options South Boston Neighborhood



Long-Term Flood Protection Option A South Boston Neighborhood



Long-Term Flood Protection Option B South Boston Neighborhood



Regulatory, Private Property & Infrastructure Resilience Strategies

Individual Property Protection

- Incentive and program-based recommendations
- Dynamic, more stringent standards present in future zoning and building code
 - Predictive maps
 - Lower review and substantial improvement thresholds
- Retrofit programs for existing buildings

Regulatory change recommendations

- Flood overlay district (dynamic standards, lower size threshold for large project reviews, lower substantial improvement thresholds).
- State building code
- Wetlands regulations
- “Least environmentally damaging practicable alternatives”
- Chapter 21 and public safety tanks

Infrastructure

- Coordinated planning
- Regional design standards
- CIP
- Multiple lines of defense.

IMPLEMENTATION PARTNERS: CITY DEPTS, STATE AGENCIES, FEDERAL AGENCIES

Contact Information



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