RESILIENCE RECOMMENDATIONS FOR BOSTON'S NEXT MAYOR

WEDNESDAY, JUNE 2ND, 2021

BOSTON Green Ribbon COMMISSION

A BETTER CITY


WELCOME
KATE DINEEN
A BETTER CITY

INTRODUCTION

YVE TORRIE

A BETTER CITY

PANELISTS

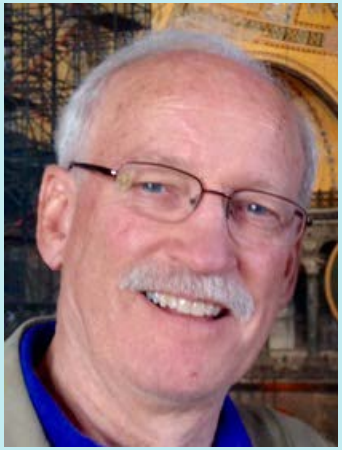
CARL SPECTOR | CITY OF BOSTON UPDATE

Commissioner of the Environment
City of Boston

DR. ATYIA MARTIN | ENSURING EQUITY

CEO & Founder
All Aces, Inc.

PANELISTS



BUD RIS | ADVANCING CLIMATE READY BOSTON

Senior Advisor
Boston Green Ribbon Commission

NICK ISELIN | THE ROLE OF THE PRIVATE SECTOR

General Manager – Development
Lendlease

RESPONDENTS

JILL VALDÉS HORWOOD

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Owner and Principal
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CITY OF BOSTON UPDATE

CARL SPECTOR

CITY OF BOSTON

ENSURING EQUITY

DR. ATYIA MARTIN

ALL ACES, INC.

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ADVANCING CLIMATE READY BOSTON

BUD RIS

BOSTON GREEN RIBBON COMMISSION

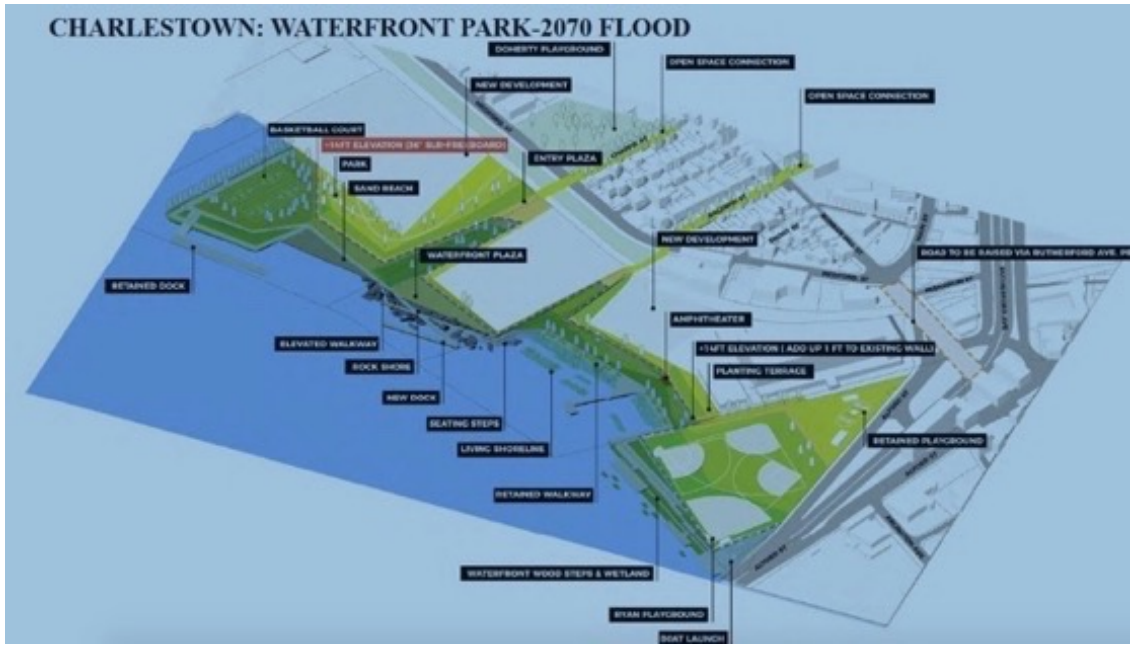
Boston Green Ribbon Commission

Bud Ris, Senior Advisor

Advancing Climate Ready Boston Implementation

BOSTON Green Ribbon COMMISSION

Neighborhood Resilience Plans
Charlestown



Estimated Cost: $33 M - $62 M

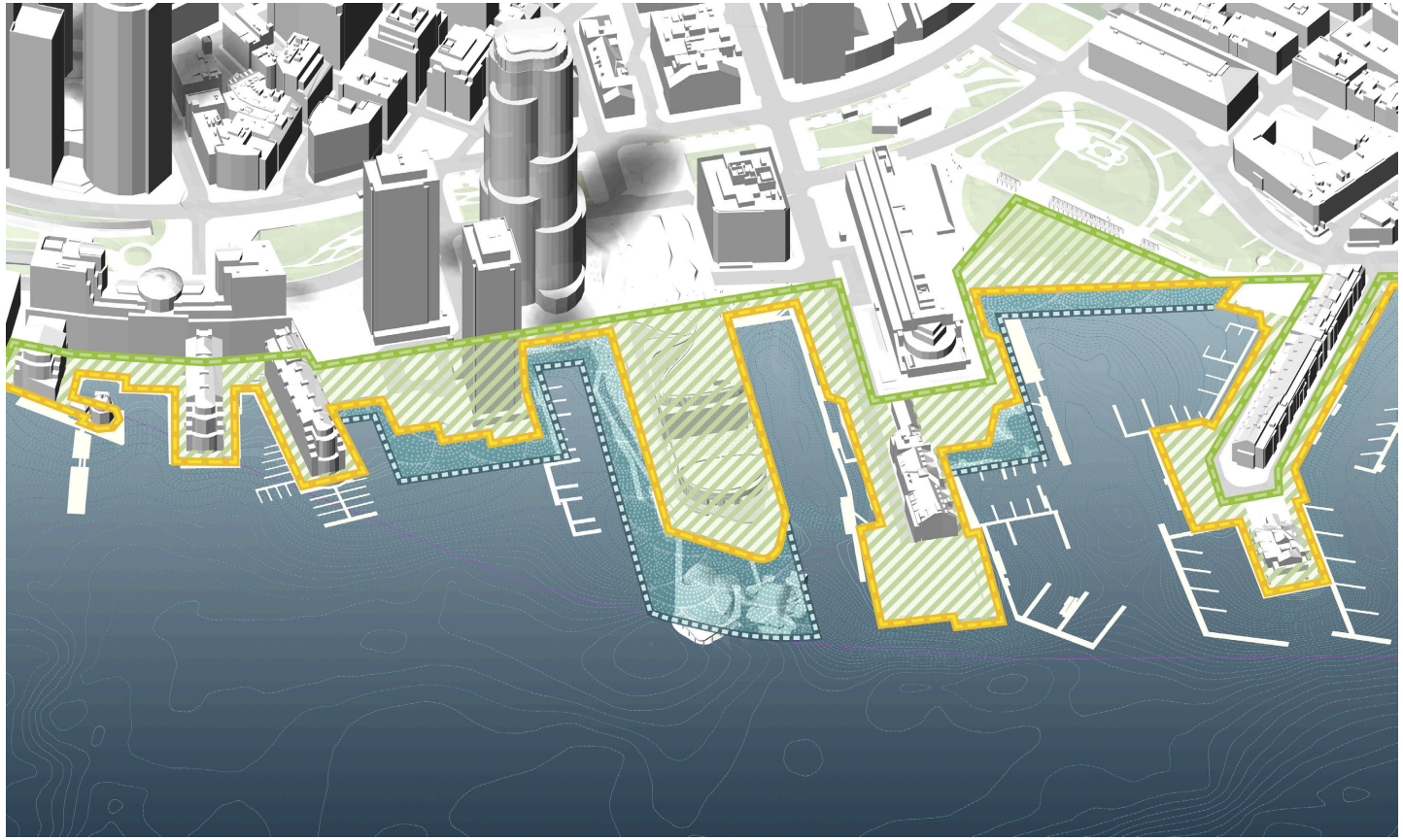
Neighborhood Resilience Plans
East Boston

Estimated Cost: $122 M - $200 M

Neighborhood Resilience Plans
South Boston - Seaport

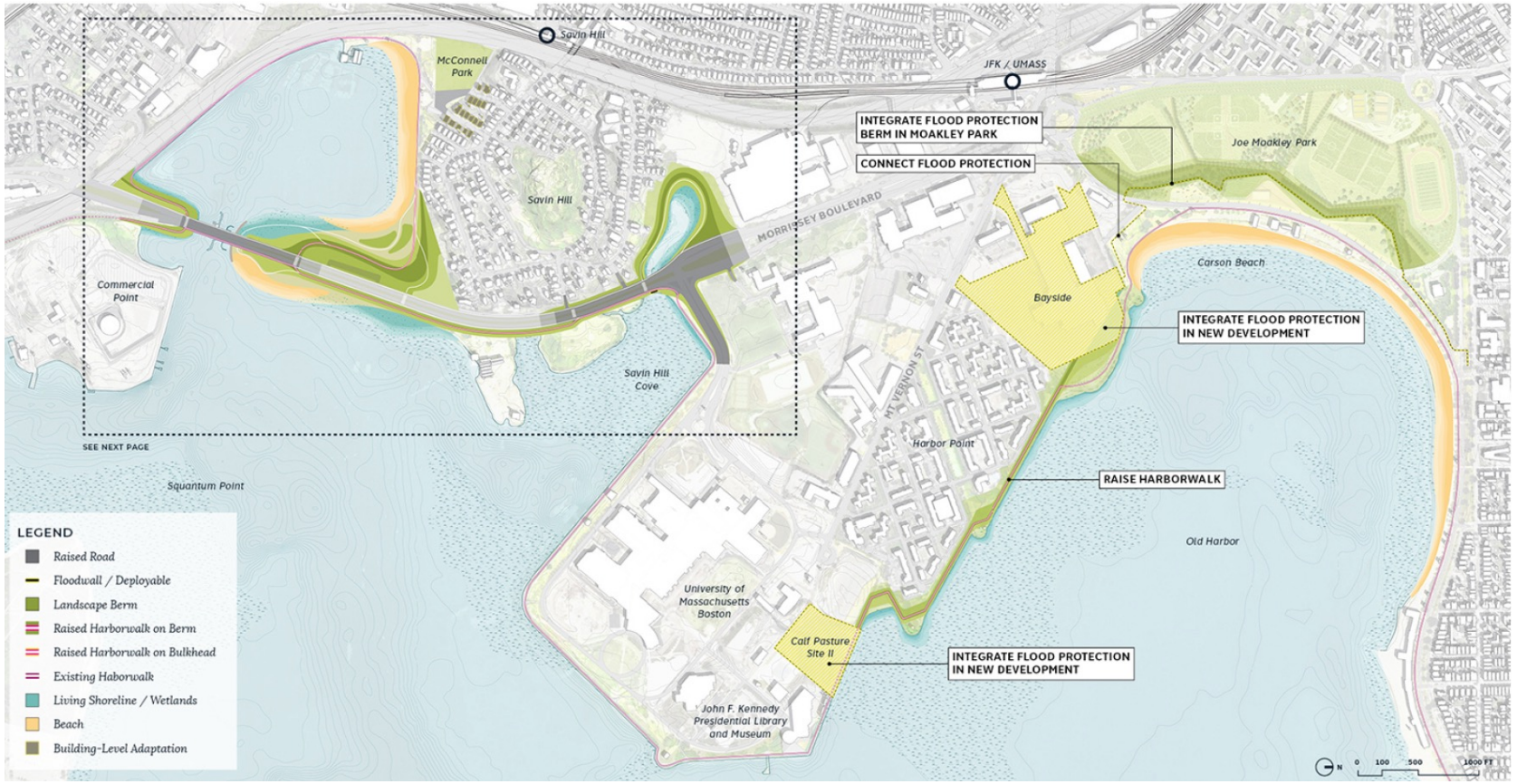
Estimated Cost: $521 M to $1.0 B

Neighborhood Resilience Plans
Downtown



Estimated Cost:
$189 M to $315 M

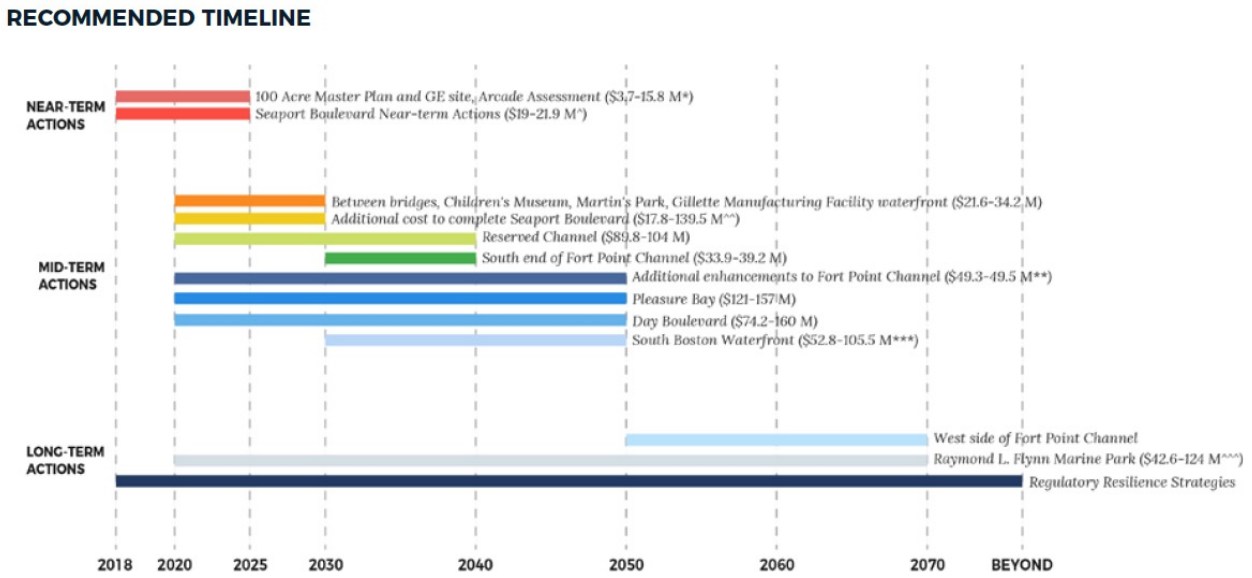
Neighborhood Resilience Plans
Dorchester



Estimated Cost:
$111 M to $215 M

Total Costs and Timeline

- Total costs: $1B- $2B - will likely approach $3B-$4B
- 75-80 flood protection projects overall, some clustered in groups of 3-5 segments
- Each plan has a multi-year timeline
- About half of projects slated for completion by 2030 – because of the flood risks
- These are generally public realm or right-of-way costs – do not include protection of private buildings



** Upper limit includes additional park space*

*** Costs for Option A only*

**** Costs for Options A and B only*

^ Costs for Option A only. Does not include costs to floodproof the Fish Piers

^^ Cost range includes Options A and B. Floodproofing of Piers not included. No Dry Dock 4 costs included.

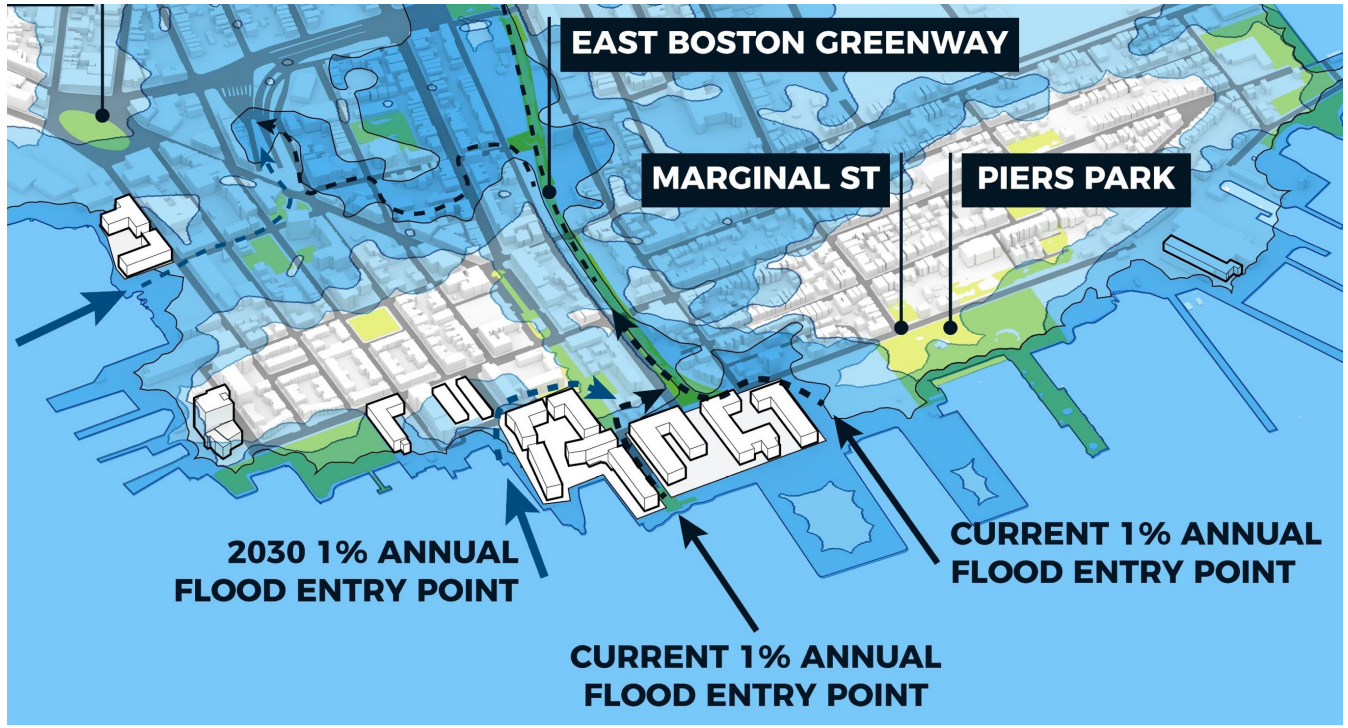
^^^ Floodproofing all structures seaward of Option B would add $113 - $131 million. Costs not included

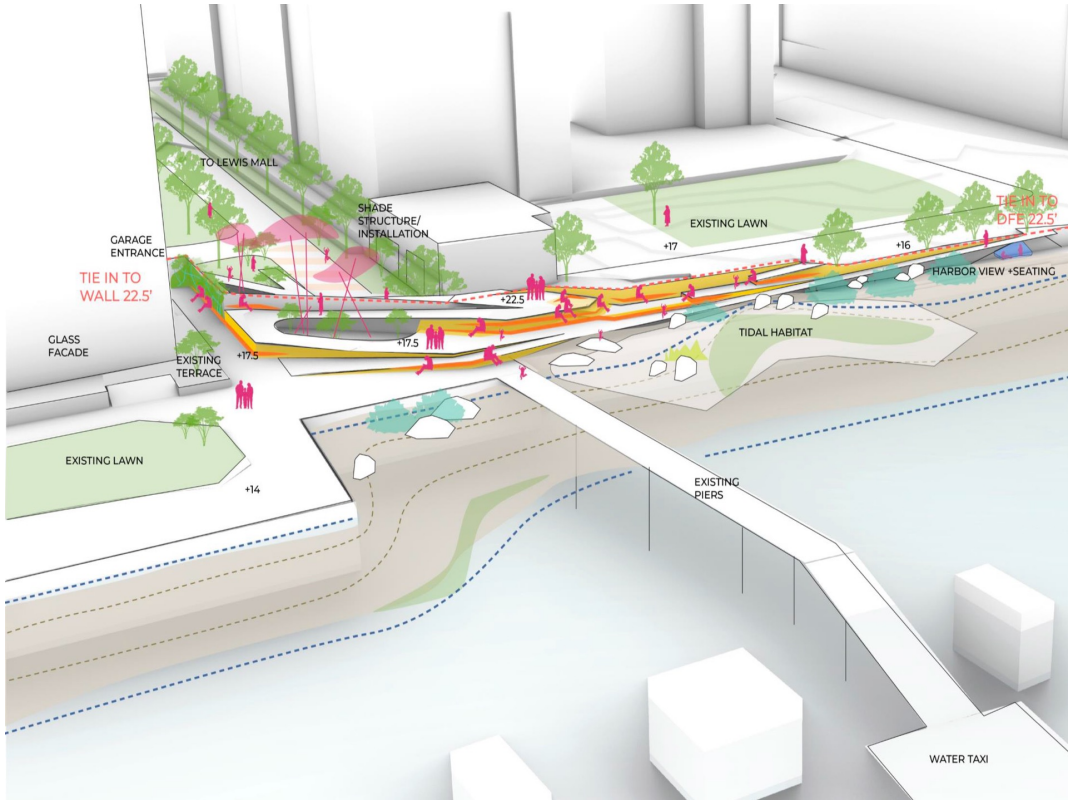
Both costs and phasing plans are estimates and recommendations only, and will require more detailed planning, design, and engineering.

Note: Additional planning underway in E Boston and Charlestown

So Far - City Focusing on Urgent Flood Pathways

East Boston: Lewis Mall & Carlton Wharf



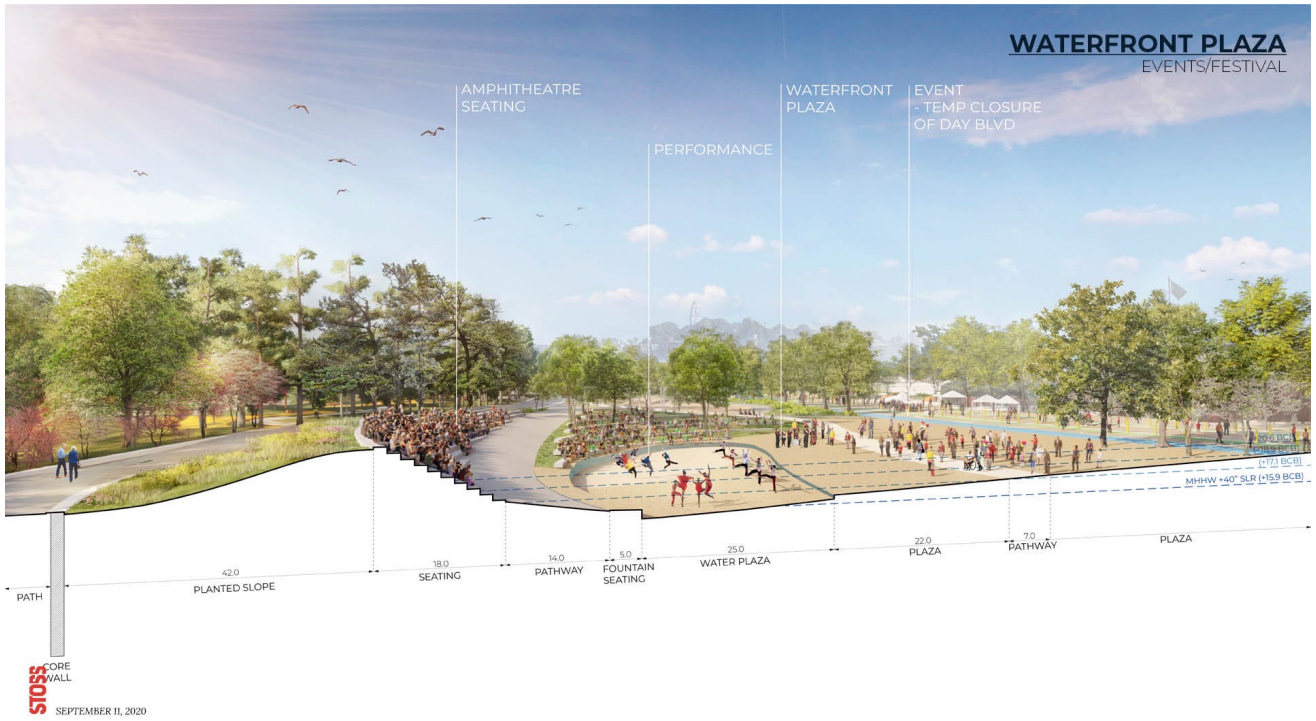


Urgent Flood Pathways

100 Acres at Fort Point Channel

And Opportunities for Park Upgrades

Moakley Park, Langone Park, Martin's Park



Private Sector Now Integrating Resilience Also

But - Big Questions Remain

- How will all of this work be prioritized and coordinated across city agencies and the private sector? (2030 is just 8 ½ years away)

- How will equity concerns be incorporated in priority setting – especially risks to vulnerable populations?

- Who will pay and what will be the basis for that decision?
  - Public sector v private sector
  - Fairness issues – waterfront property owners v interior property owners
  - Equity and affordability

Our Recommendations for the Next Mayor

- Create cabinet level position to coordinate plan implementation

- Create a transparent system for prioritizing projects for implementation, considering:
  - Urgency of flood risks
  - Risks to vulnerable populations
  - Possible synergies with other public infrastructure upgrades and private sector development

- Clarify expectations for who should pay – based on cost share analysis that would consider risks, benefits, and ability to pay

- Pursue multiple financing options – at federal, state, local level

- Create long term, permanent governance structure – e.g. “Resilience Authorities”

Thank You

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Total Cost of these Five Resilience Plans

CRB District Plans			DRAFT 3.15.21
Cost Estimates			
	Low	High	Notes
East Boston	121,000,000	200,000,000	More costs likely from additional planning now underway.
Charlestown	33,000,000	62,000,000	More costs likely from additional planning now underway.
Dorchester	111,000,000	215,000,000	Inc building adatation, but no MBTA resilience measures
Downtn NorthEnd	189,000,000	315,000,000	No building adaptation, only flood protection infrastructure
			No MBTA station resilience measures
South Boston	521,000,000	1,000,000,000	Generally, no building adaptation included (e.g. WTC pier)
			Does not include west side of FPC
Sub Total	975,000,000	1,792,000,000	
Moakley Park	300,000,000	400,000,000	Estimates for total cost, inc resilience measures
Langone/Puopolo		13,000,000	Total cost, not just resilience measures
Martin's Park			Resilience measures integrated with original design.
Total	1,275,000,000	2,192,000,000	
			All district costs include modest estimate
			for storm water flood protection - 5%?

THE ROLE OF THE PRIVATE SECTOR

NICK ISELIN

LENDLEASE

Resiliency Recommendations for Boston's Next Mayor:

A Developer's Perspective

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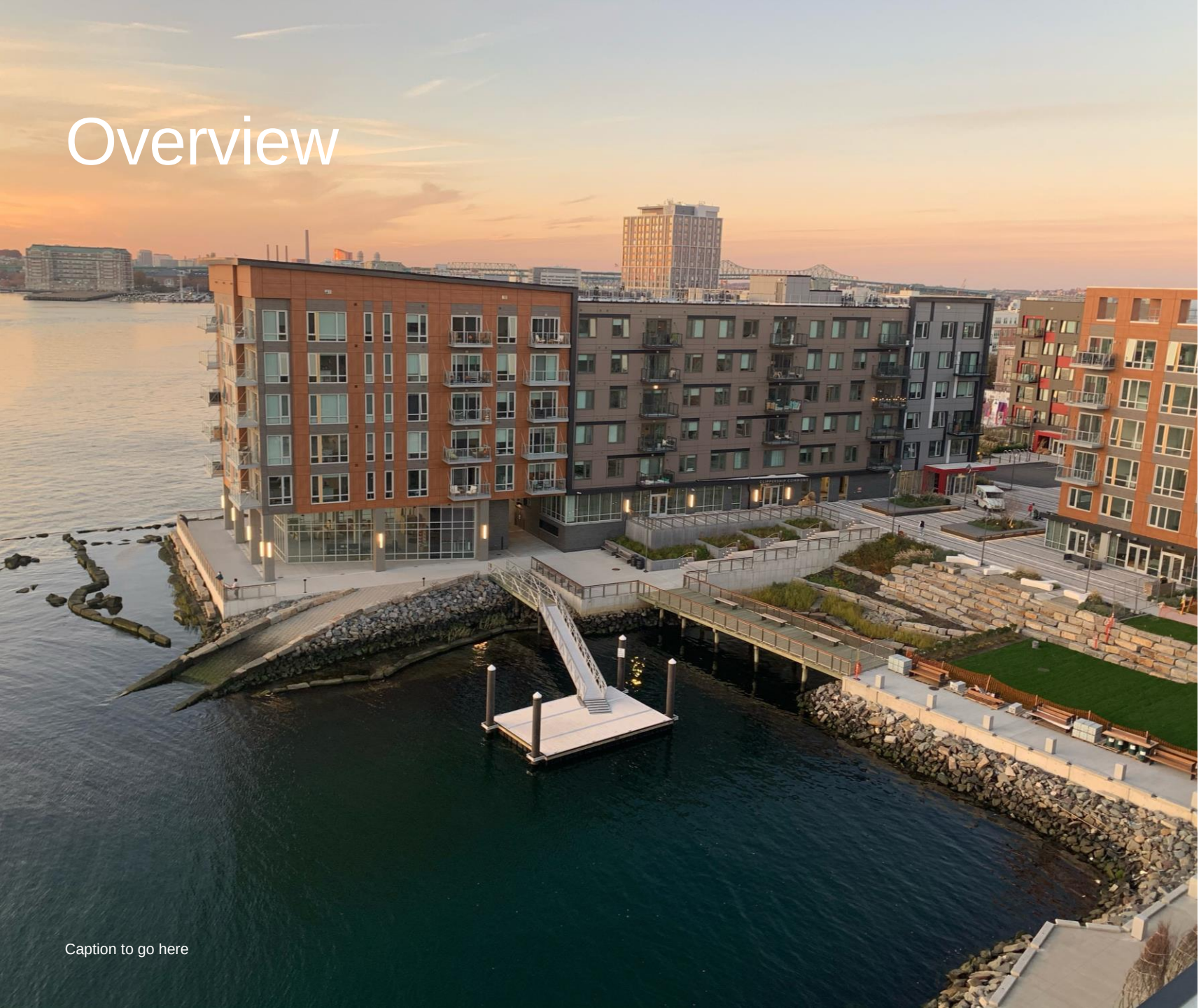
Overview



Caption to go here

1. Commit to Sustainability
2. Deregulate, Don’t Hyper-regulate
3. Practical Challenges
4. Re-define Developer Relationships
5. Learn the Lessons

1 Commitment to Sustainability Comes First

- **Developers' aspirations are typically higher than the City's**
  - Capital requires aggressive thinking
  - Tenants more savvy than ever
- **Understand the tools developers use**
  - Get beyond the checklist
  - Article 37 is just the start
  - Build on precedents, but don't be prescriptive
- **Carbon and Social Value are the new frontiers**
  - Lendlease is 1.5˚C aligned
  - We aim to create $250m in Social Value by 2025

Footnote

Lendlease Sustainability Aspirations Go Far Beyond LEED: Economic • Social • Environmental

ENERGY
- Energy Efficient Design
- Renewable Energy
- District Energy System
- Energy Metering
- Public Domain PV lighting

WASTE
- Construction Waste Reduction
- Operating Waste Reduction

HEALTH & WELLBEING
- Safety
- CPTED Strategies
- Health & Wellbeing Programs & Amenities
- Use of Non Toxic Materials
- Health Building Design
- Operating Waste Reduction

RESILIENCE & ADAPTATION
- Climate Change Resilience
- Embodies Carbon Reduction
- Building Carbon Emission Reductions
- Sustainable Transportation Strategies
- Severe Weather & Disaster Preparedness

DIVERSITY & INCLUSION
- Affordable Housing
- Cultural & Heritage Strategies
- Accessibility Strategies
- Public Art
- Job Training

INNOVATION
- Innovation Strategies in Both the Hardware & Software Delivery of Building & Placemaking

We know the tools to get us there

WATER
- Water Efficient Design
- Water Metering
- Sewage & Greywater Treatment
- Non Potable Water Use for Irrigation
- Stormwater Treatment

MATERIALS & CHAIN
- Use of FSC Wood
- Buying Local
- Recycled Materials
- Rapid Renewable Materials
- Supply Chain Management

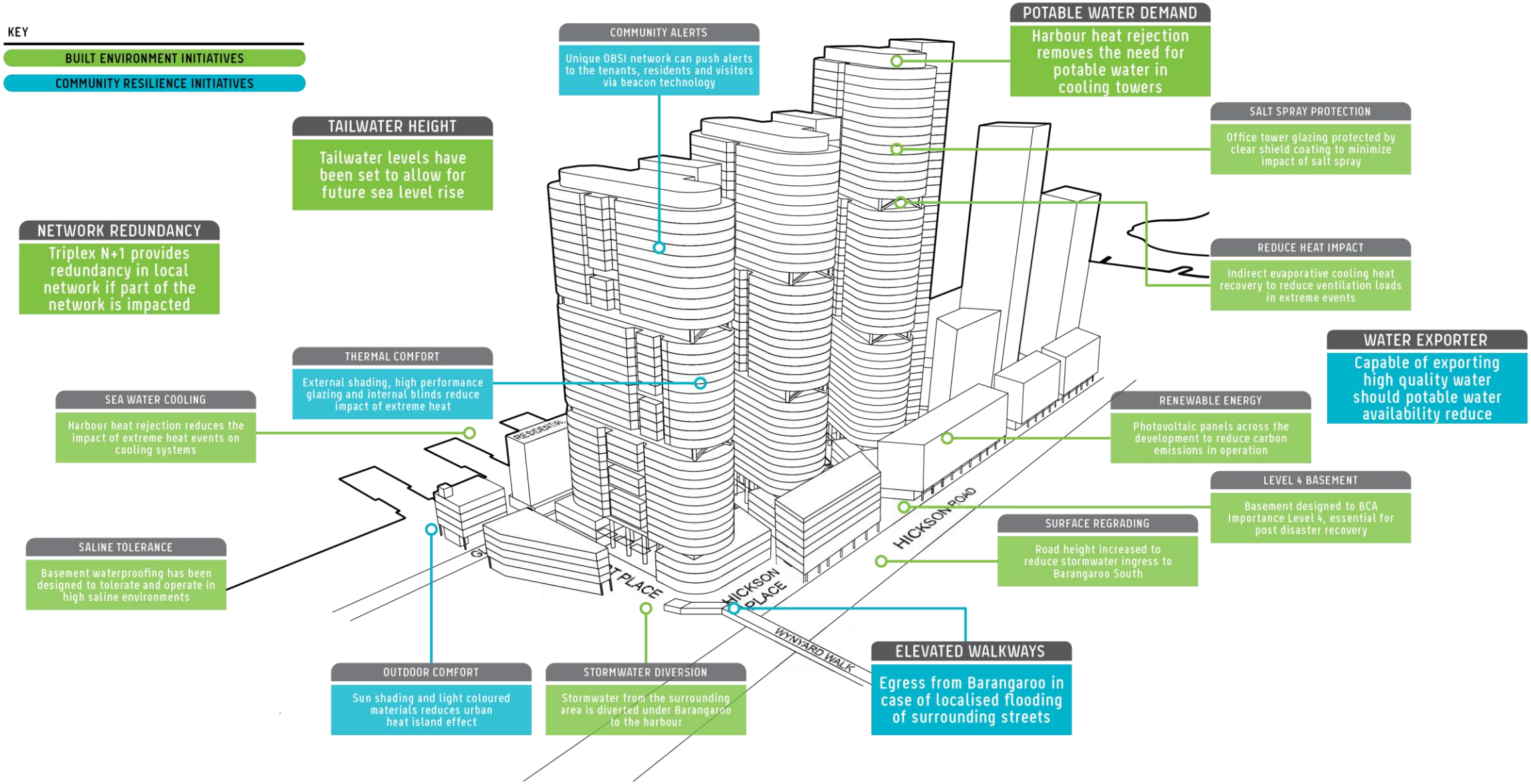
NATURE
- Biodiversity Enhancement
- Tree Planting
- Native & Adapted Planting
- Green Roofs, Walls, & Vegetable Gardens
- Biophilic Design
- Natural Habitat & Shoreline Enhancement
- Light Pollution Reduction

COMMUNITY DEVELOPMENT
- Community & Stakeholder Plans & Strategies
- Community Facilities & Amenities
- Community Programming & Events
- Visible Integrated Sustainability Strategies

TRAINING, SKILLS & EMPLOYMENT
- Training & Job Creation Programs: Minority, Women, Youth at Risk, etc.
- Sustainability Training Programs

RESPONSIBLE INVESTMENT
- Green Building Rating Certification
- Meeting Financial Targets

Key Adaption & Resilience Highlights: Barangaroo South



2 Deregulate, Don't Hyper-regulate

- **Don't make it worse**
  - More regulation inevitable with sea level rise
  - Local wetlands ordinances to navigate
  - Zoning tweaks
- **Partnership**
  - Help developers navigate the morass of waterfront regulatory requirements
  - Create an ombudsman role to coordinate across agencies
- **Focus on Outcomes**
  - Current regulatory framework is about what you can't do
  - Creativity and flexibility will lead to better results
  - Use common sense

Footnote

Clippership Wharf

East Boston

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Coastal resilience solutions for East Boston & Charlestown

FINAL REPORT October 2017

CONSULTANT TEAM

Kleinfelder

Stoss Landscape Urbanism

ONE Architecture

Woods Hole Group

Clippership Wharf Practical Constraints

Challenging Infrastructure

- 1,700 linear feet of harbor front
- Dilapidated wharf structures and piles
- Dirty dirt

Chapter 91

- Height
- Setbacks
- FPA challenges require offsets and creativity

FEMA Requirements

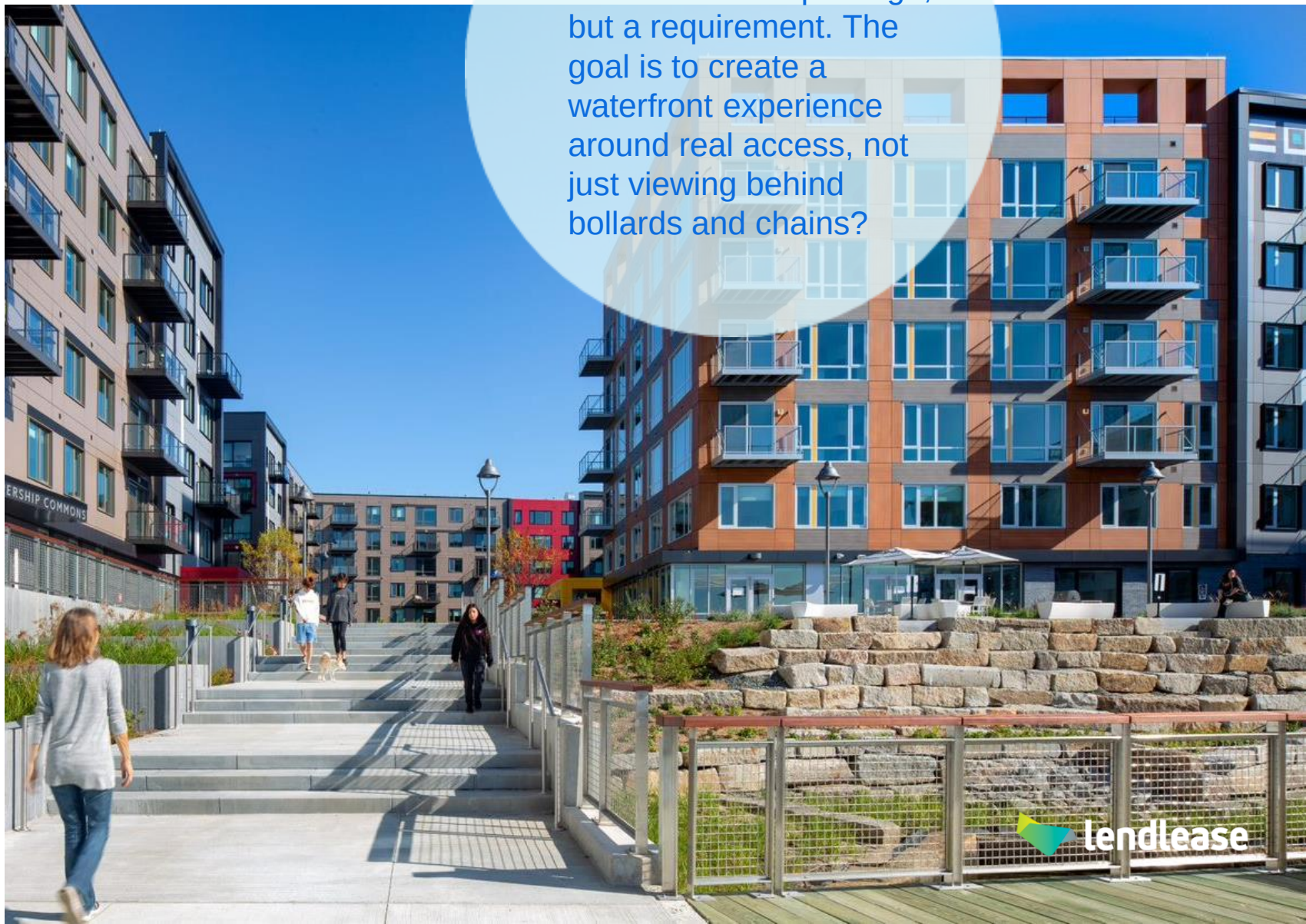
The East Boston Economy

- Previous project unbuildable
- Stick on podium construction
- Condo and rental realities

Clippership Wharf Opportunities

- Use the attributes of the site to create a resilient and sustainable place
- Create a waterfront experience unlike any in Boston
- Knit together one of the best stretches of waterfront in Boston
- A unique transportation story – T, bikes, zipcars, water transportation, and lower parking ratios
- Combine recreation and education around a living shoreline
- Amenities are on the ground, not in the air – blurring of public and private

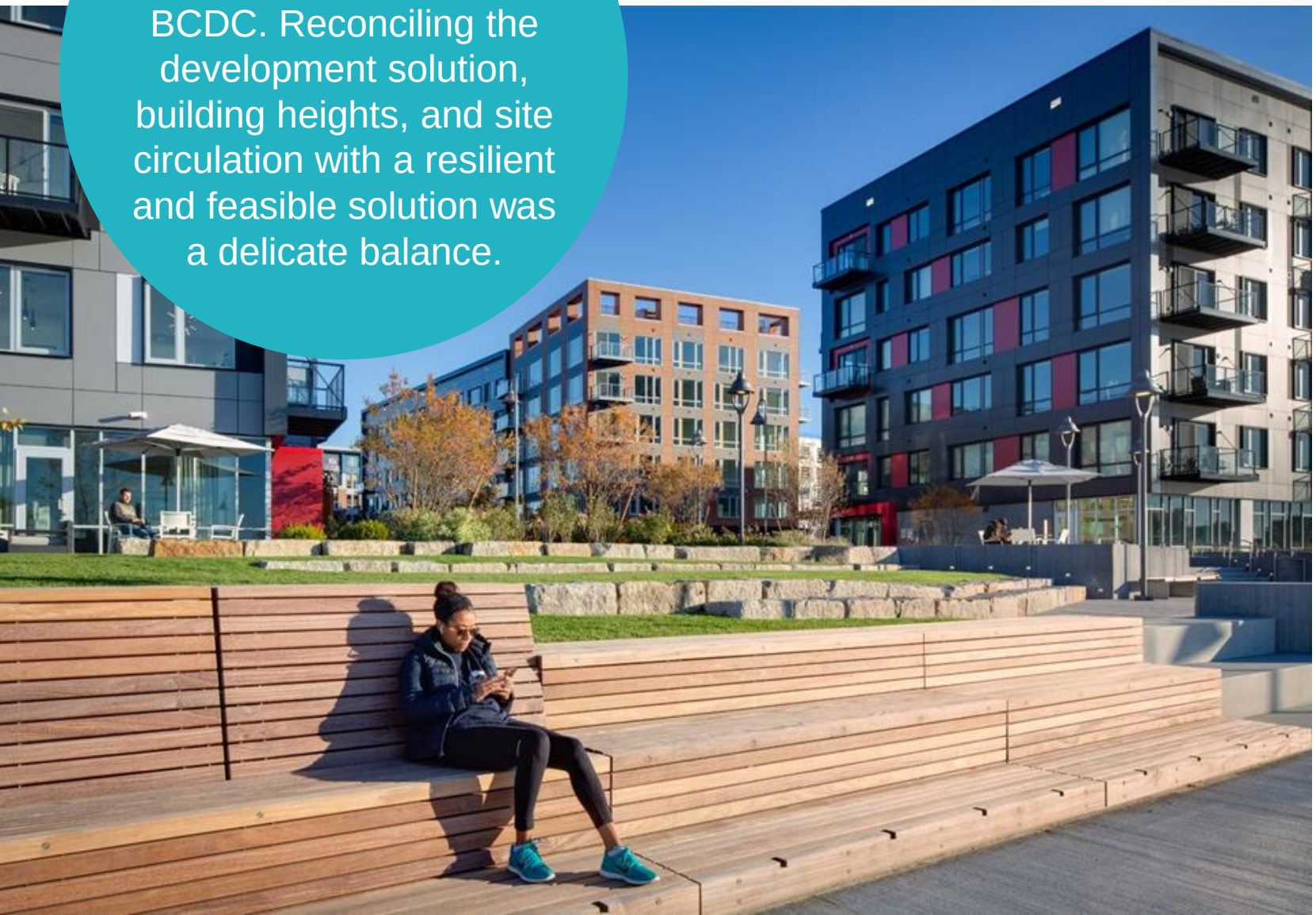
Access to the water should not be a privilege, but a requirement. The goal is to create a waterfront experience around real access, not just viewing behind bollards and chains?



3 Practical Challenges

- **Creating Winners and Losers**
  - Removing DPA designation unlocks opportunities, adds value
  - Not all sites can solve all problems
- **Zoning can solve *some* problems**
  - Article 25a a good start
  - Special Permit process where compromise can be achieved
  - Density bonus an option to help defray cost
- **Use Common Sense**
  - Ch. 91 and MHPs tie Developers' hands
  - Aspirations not always a fit with regulations
  - Encourage flexible thinking around what a ground floor is

An “anti-urban” solution was the consensus at BCDC. Reconciling the development solution, building heights, and site circulation with a resilient and feasible solution was a delicate balance.



Permitting a Resilient Solution

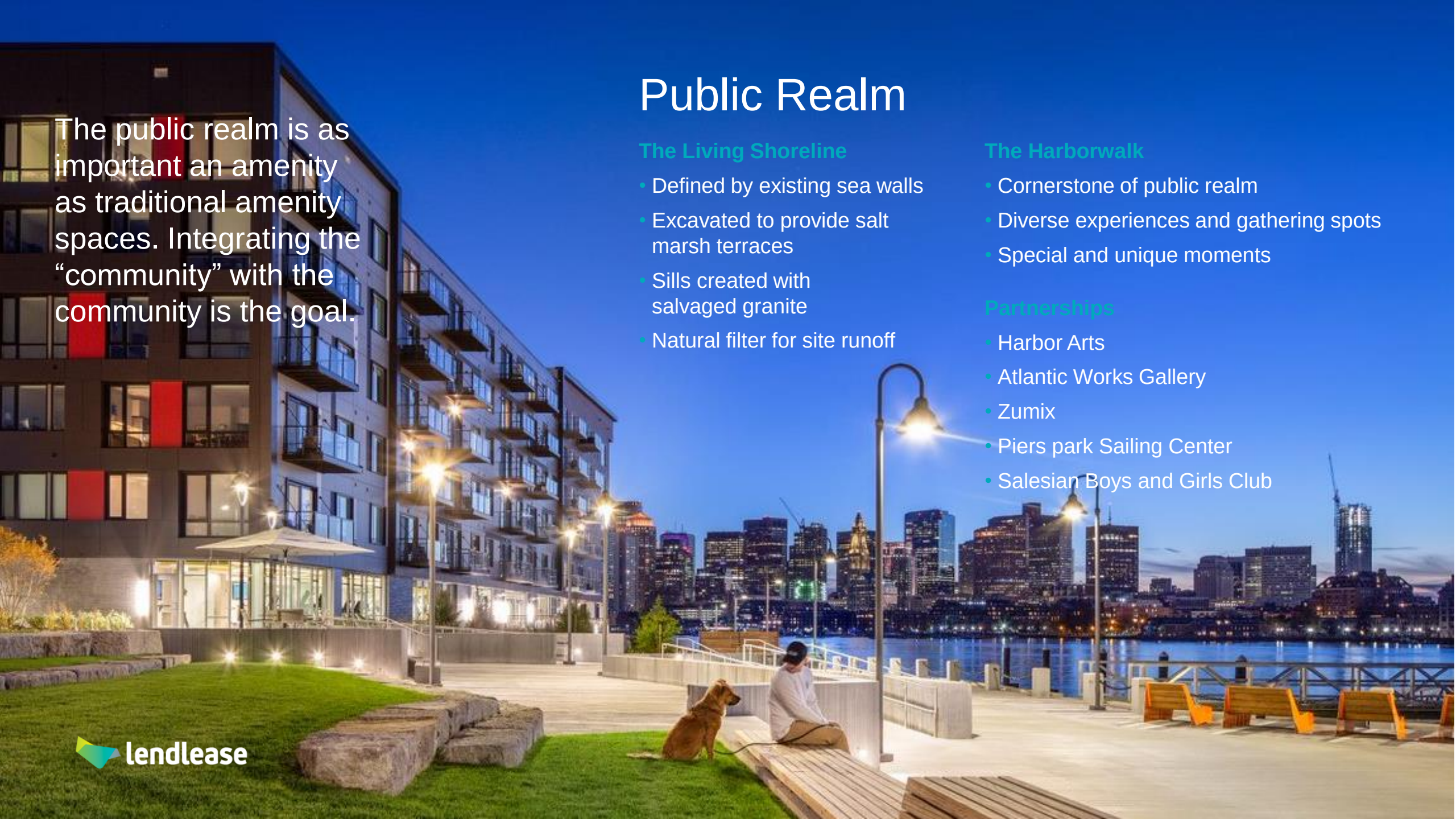
- Use the unique attributes of the site to create a resilient place (size, configuration, and setbacks)
- Raise the ground floor but provide experiences at grade
- Manage transitions from the street level to the podium and from the podium to the Harborwalk
- **Calculate building height in a way that doesn’t penalize a resilient solution**
- Account for flooding and sea level rise in appropriate and seamless ways
- Trade-offs/larger urban moves can unlock the box

Final Site Plan

4 Re-define Developer Relationships

- **Equity**
  - Access is currency in resilient design
  - Partner with the community to deliver comfortable, inclusive places
- **Stewardship**
  - Entrust developers to execute on resilience planning
  - Enlightened developers are invested in good outcomes
- **Financing**
  - Market does not always support desirable outcomes
  - Co-investment can solve timing and infrastructure problems

Footnote



The public realm is as important an amenity as traditional amenity spaces. Integrating the “community” with the community is the goal.

Public Realm

The Living Shoreline

- Defined by existing sea walls
- Excavated to provide salt marsh terraces
- Sills created with salvaged granite
- Natural filter for site runoff

The Harborwalk

- Cornerstone of public realm
- Diverse experiences and gathering spots
- Special and unique moments

Partnerships

- Harbor Arts
- Atlantic Works Gallery
- Zumix
- Piers park Sailing Center
- Salesian Boys and Girls Club

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Clippership Wharf Resiliency Measures

- Raising the ground floor level
- Flood barriers where uses hit the ground
- Wave dissipation features
- Native plantings
- Redundant systems
- Renewable energy sources
- Egress paths/refuge above flood plain

5 Learn the Lessons

- **District-wide resiliency plans a must**
  - City is trailing the development community
  - Not just Ch. 91 jurisdiction that will flood in 2070
- **Incentivize, don't penalize**
  - Markets respond to incentives, not impossibilities
  - Developers want certainty and clarity
  - Set standards, notstrategies, to determine compliance
  - Extra credit for protecting communities
- **Development *is* the key**
  - Acknowledge where the opportunities lie
  - Developers with vision and patience will respond
  - Resilience goes way beyond climate action

Footnote

District Wide Resiliency Solutions

CONSULTANT TEAM

Kleinfelder

Stoss Landscape Urbanism

ONE Architecture

Woods Hole Group

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Summary

- Resilient solutions are expensive
- Targeted financing sources are not available for resilient infrastructure
- Policy and codes should account for resilient solutions
- Real challenge is not for sites like Clippership but for lot-line developments and existing buildings
- District-wide solutions are more powerful than one-offs
- Need to design for tomorrow’s climate events, not today’s


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RESPONSES
JILL VALDÉS HORWOOD
BARR FOUNDATION
MARC MARGULIES
MARGULIES PERRUZZI ARCHITECTS

QUESTIONS & ANSWERS


CLOSING REMARKS
JOHN CLEVELAND
BOSTON GREEN RIBBON COMMISSION


THANK YOU
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