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WELCOME!

CLIMATE READY DOWNTOWN AND NORTH END OPEN HOUSE

STOISS



GREENOVATE
CITY of BOSTON

B

Mayor Martin J. Walsh

Want to learn more about how the City of Boston is reducing the emissions that cause climate change and preparing its city and residents for the impacts of climate change? Visit boston.gov/environment and connect with Mayor Walsh's initiative to engage all residents in climate action called Greenovate Boston [Facebook] /GreenBoston [Twitter] /GreenovateBos

CLIMATE PREPAREDNESS PLANNING TO DATE & IN PROGRESS



As Boston's first citywide plan in 50 years, Imagine Boston 2030 will create a framework to preserve and enhance Boston, while embracing growth as a means to address our challenges and make the city stronger and more inclusive.



2014 Climate Action Plan Update



Go Boston 2030



Open Space and Recreation Plan 2015-2021



Housing a Changing City



2016 Climate Ready Boston Full Report



Resilience Strategy: The Blueprint

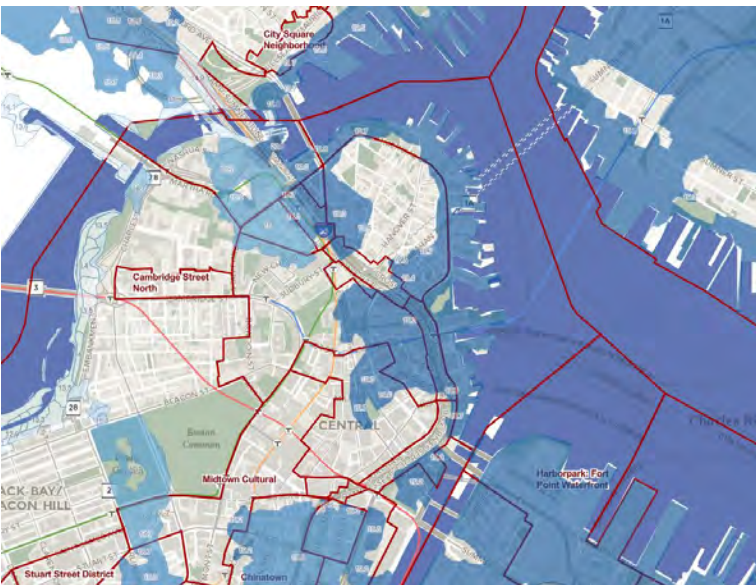
CLIMATE READY BOSTON



Climate Ready East Boston / Charlestown (2017)
Identifying short- and long-term solutions to protect East Boston and Charlestown from coastal flooding.



Resilient Boston Harbor (2018)
A comprehensive Boston Harbor-wide vision of coastal resilience that recommends open space opportunities for flood protection.



Boston Flood Resiliency Zoning Overlay District and Resiliency Design Guidelines (in progress)
Designating vulnerable areas of the City and establishing building design and guidelines that promote resiliency standards.



Moakley Park Vision Plan (in progress)
Addressing recreational needs, park opportunities, and coastal and stormwater flooding concerns.



Climate Ready South Boston (2018)
Identifying short- and long-term solutions to protect South Boston from coastal flooding.



Climate Resilient Design Standards & Guidelines (2018)
Providing engineers and designers with climate design adjustments and a standardized climate resilient design process for flood barriers.



Climate Ready Boston is Mayor Walsh's initiative to help the City prosper and grow in the face of long-term climate change. In Downtown, our priority is to develop solutions to protect the neighborhood from coastal flooding caused by sea level rise and storms. These solutions can create equitable development and job creation, improve transit and community service, increase access to open spaces and enhance health and security in the community.

Layers of Climate Resilience

1

Updated Climate Projections



Ensure that decision making in Boston is informed by the latest Boston-specific climate projections.

2

Prepared and Connected Communities



Support educated, connected communities in pursuing operational preparedness, adaptation planning, and emergency response.

3

Protected Shores



Reduce Boston's risk of coastal and riverine flooding through both nature-based and hard-engineered flood defenses.

4


Resilient Infrastructure



Prepare the infrastructure systems that support life in Boston for future climate conditions and create new resilient systems.

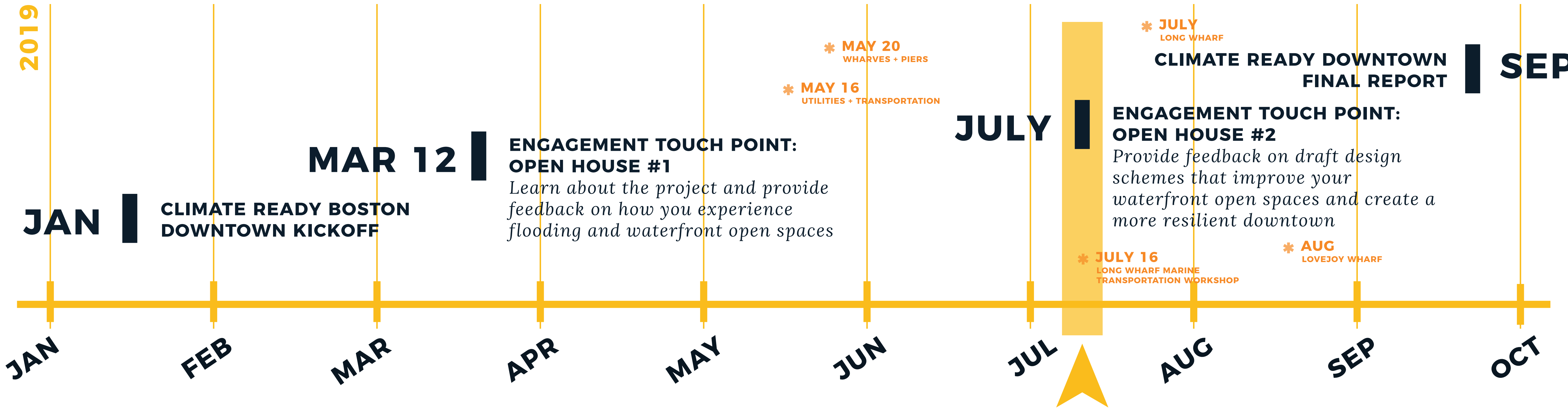
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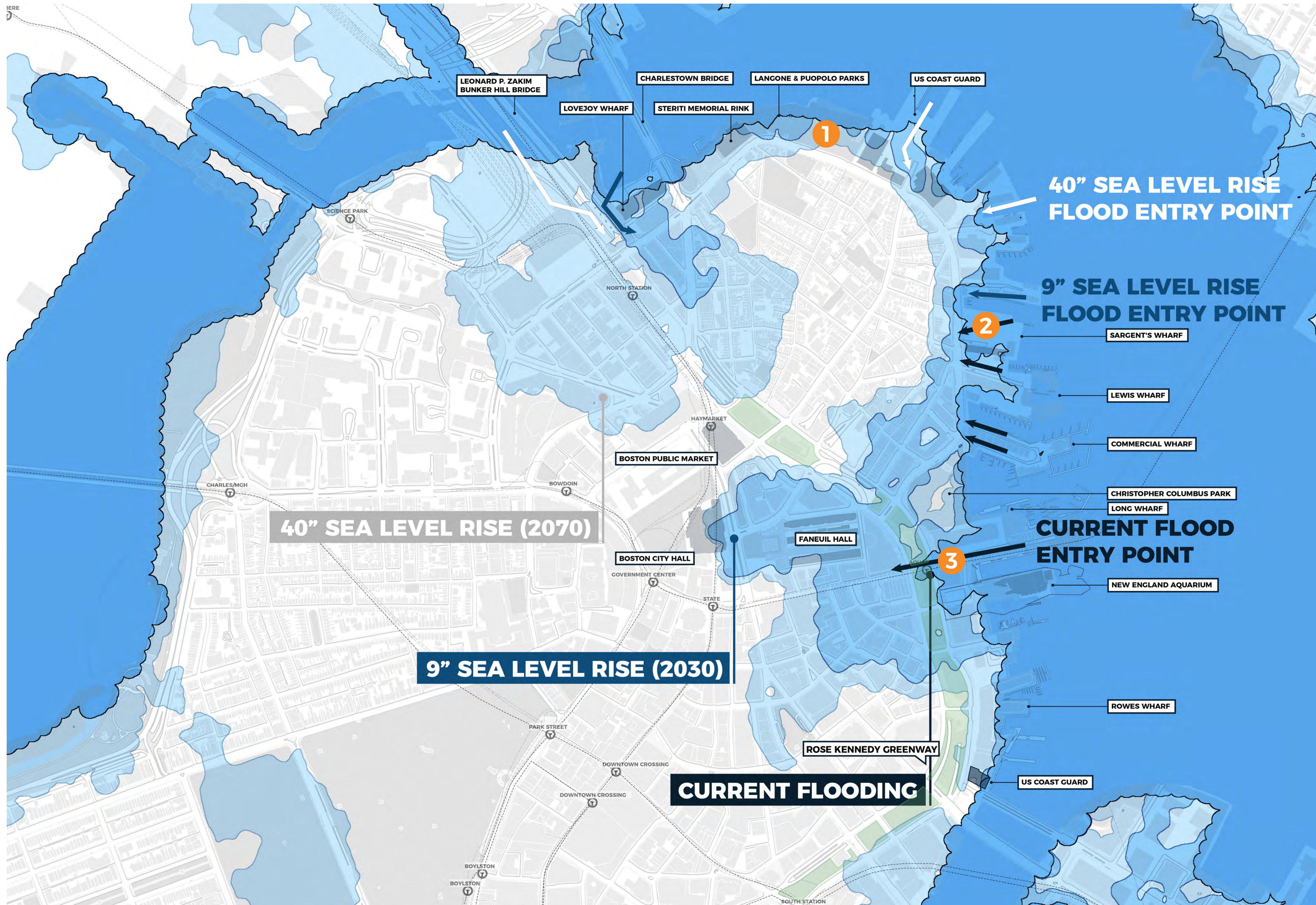
Adapted Buildings



Create a regulatory environment and use financial and tools to promote new and existing buildings that are climate ready.

WHERE DO WE FIT IN?



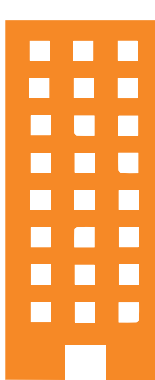


RECENT FLOOD EVENTS

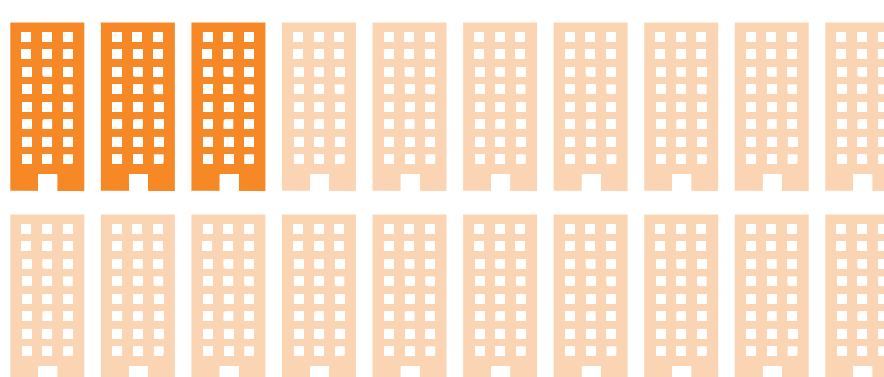
**numbers correlate to locations on map*PUOPOLO PARK
MARCH 2018SARGENT'S WHARF
MARCH 2018MARRIOTT LONG WHARF
JANUARY 2018

Flood extents shown above have been developed with consideration to climate change, projected sea level rise, and potential increase to storm intensity and frequency. These conditions, in addition to numerous other factors, differentiate these maps with flood maps released by FEMA.

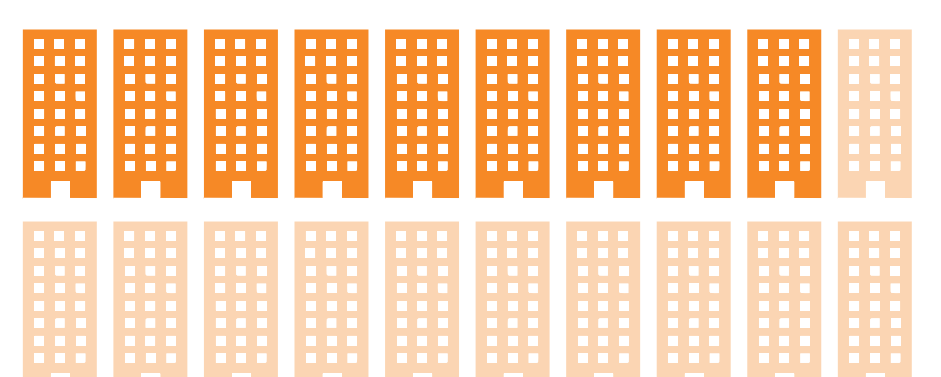
KEY FACTS + FIGURES

**DOWNTOWN BOSTON IS
CURRENTLY HOME TO
30,000 RESIDENTS****THERE ARE 2,900 BUILDINGS
IN DOWNTOWN****\$58.9 BILLION MARKET VALUE****200,000 PEOPLE EMPLOYED**

2030+ 1% ANNUAL STORM

**28 % OF POPULATION EXPOSED****13 % OF BUILDINGS EXPOSED****8 % OF MARKET VALUE EXPOSED****+ \$ 500 M
ECONOMIC LOSSES**

2070+ 1% ANNUAL STORM

**85 % OF POPULATION EXPOSED****42 % OF BUILDINGS EXPOSED****28 % OF MARKET VALUE EXPOSED****+ \$ 3 B
ECONOMIC LOSSES**

* PLEASE NOTE THAT NUMBERS SHOWN HERE INCLUDE CHINATOWN, NOT SHOWN ON MAP.

3

WHAT WE'VE HEARD

THROUGH RECENT COMMUNITY ENGAGEMENT

STOSS



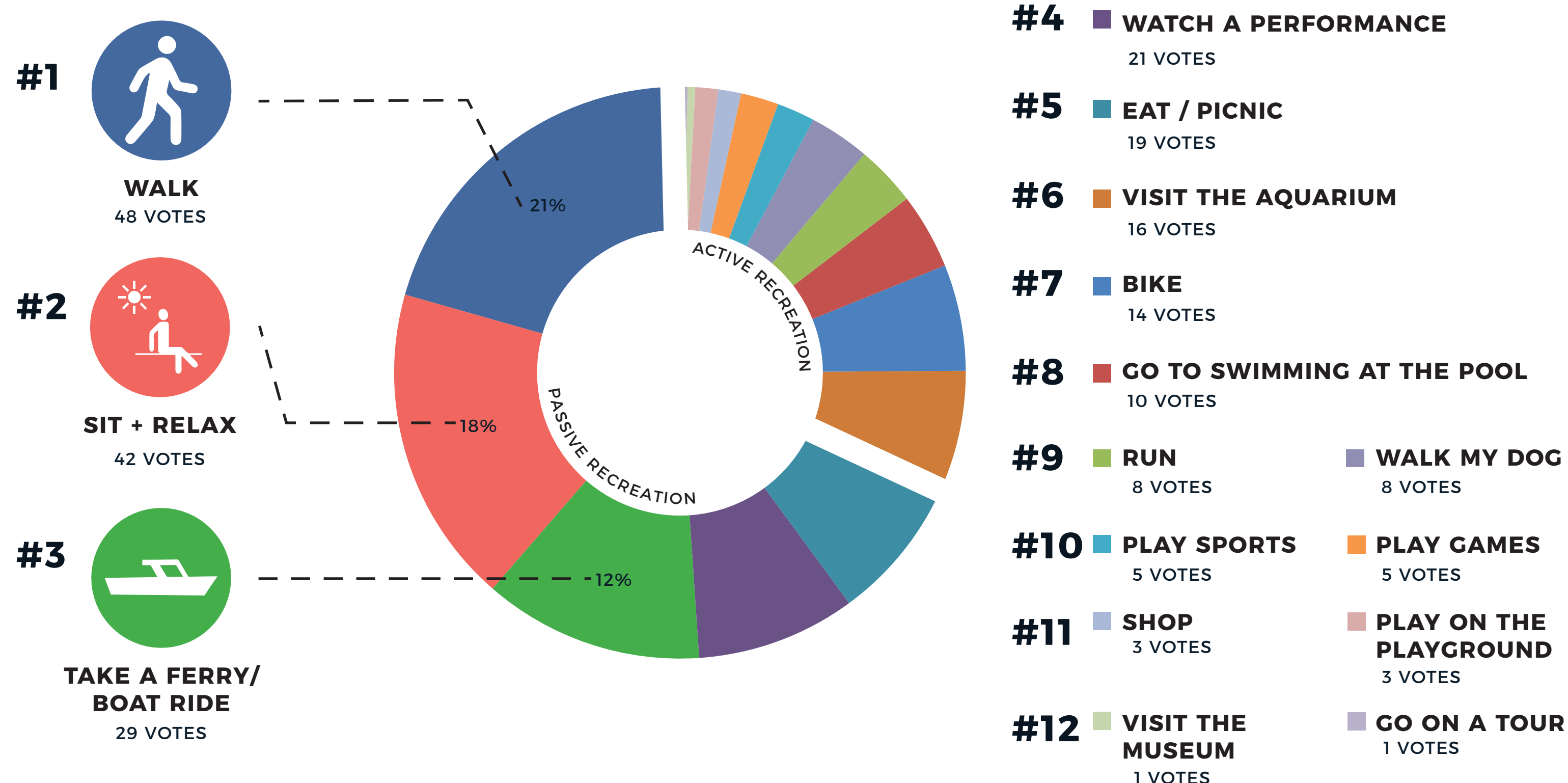
GREENOVATE
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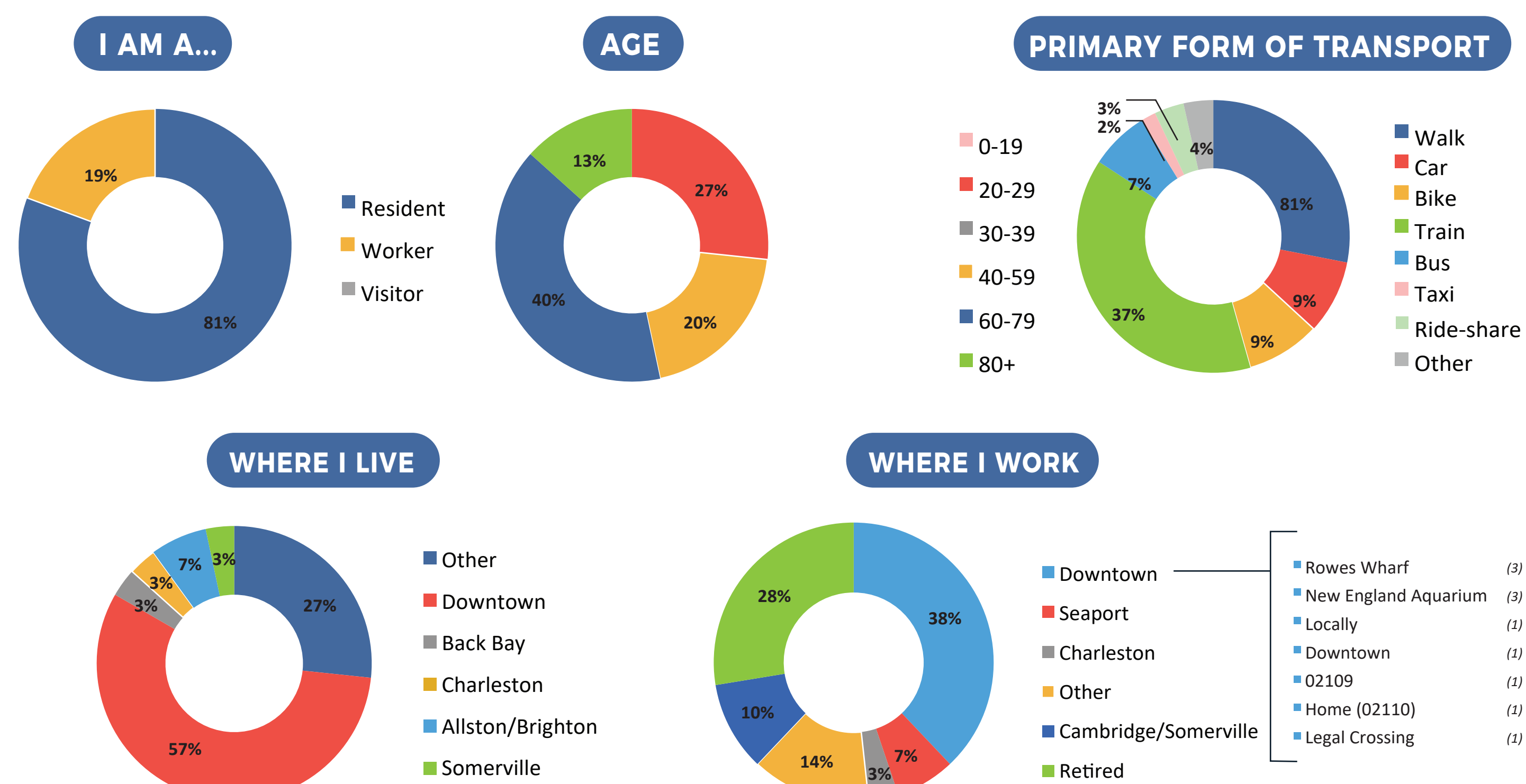
HOW DO YOU USE WATERFRONT OPEN SPACES TODAY?

233 VOTES TOTAL



WHO ARE BOSTON'S LOCAL WATERFRONT USERS...

APPROX 31 TOTAL PARTICIPANTS



WHAT DO PEOPLE VALUE IN BOSTON'S EXISTING WATERFRONT?

PARTICIPANTS VARY

PEOPLE WANT...
MORE EVENTS, IMPROVED
DRAINAGE, DOG MANAGEMENT

PEOPLE LIKE...
TO SIT, WALK, PICNIC WITH
FAMILY, WATCH ENTERTAINMENT

PEOPLE LIKE...
WATCH WATER, SIT, GO TO CONCERTS,
EAT AT FOOD TRUCKS

PEOPLE WANT...
TO IMPROVE CLEANLINESS
AND ACCESSIBILITY

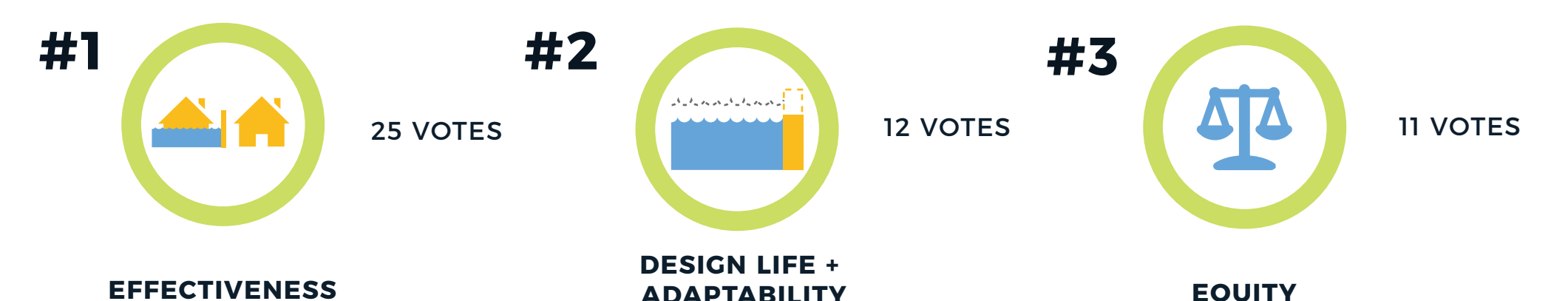
PEOPLE WANT...
INFRASTRUCTURE AND
SIGNAGE IMPROVEMENTS

PEOPLE LIKE...
TO RUN, WALK, MEET, EAT

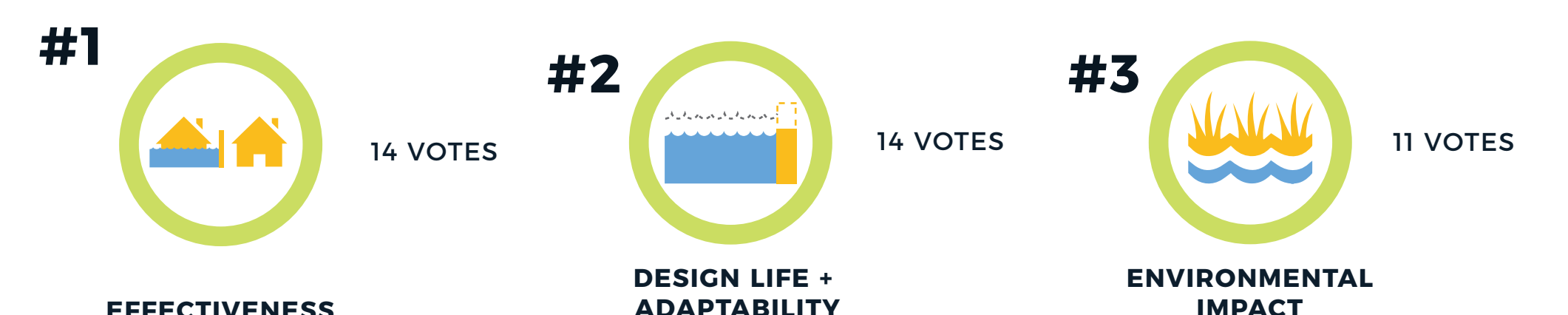
WHAT RESILIENT SOLUTIONS ARE YOUR PRIORITY?

PARTICIPANTS VARY

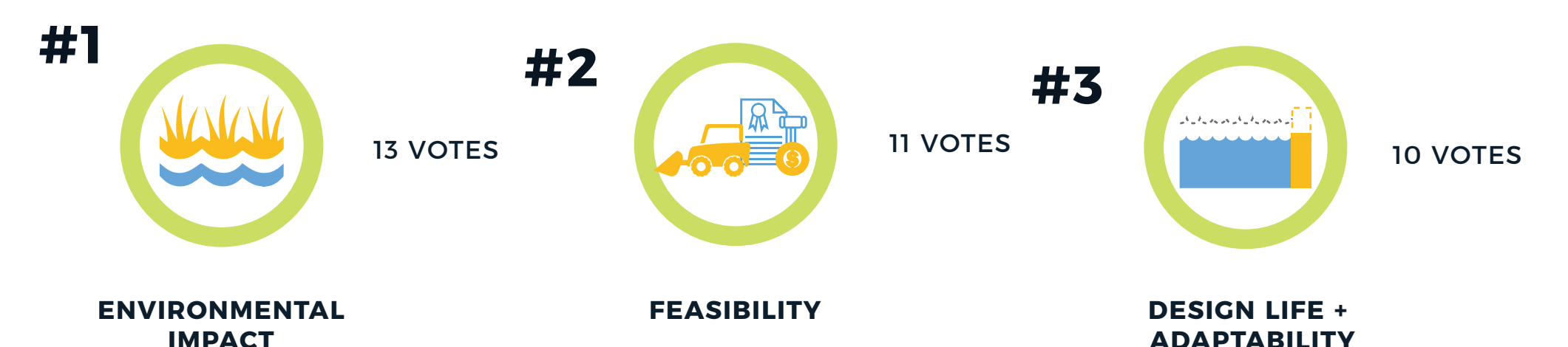
1ST PRIORITY



2ND PRIORITY



3RD PRIORITY

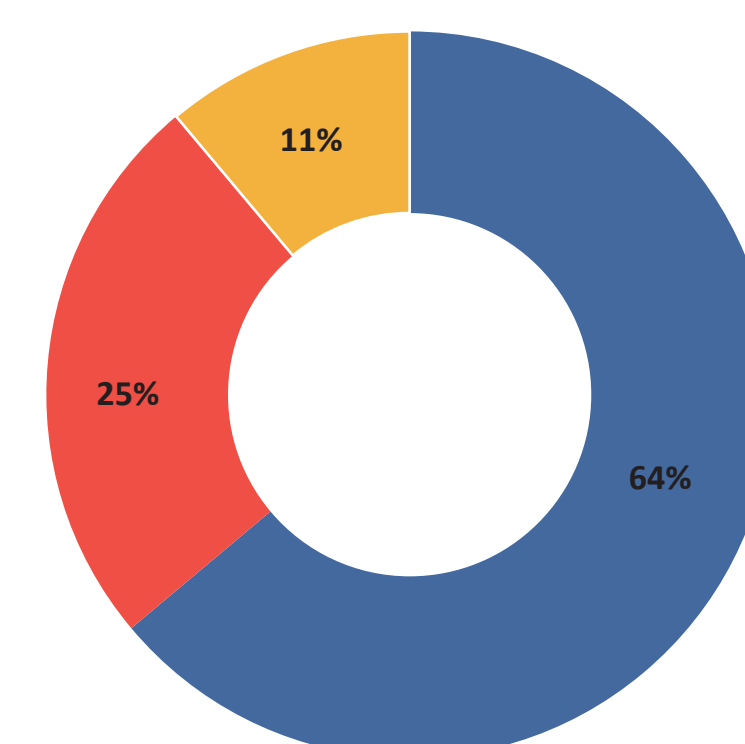


WHAT ARE YOU CONCERNED ABOUT?

PARTICIPANTS VARY

CLIMATE CHANGE CONCERN?

24 TOTAL PARTICIPANTS



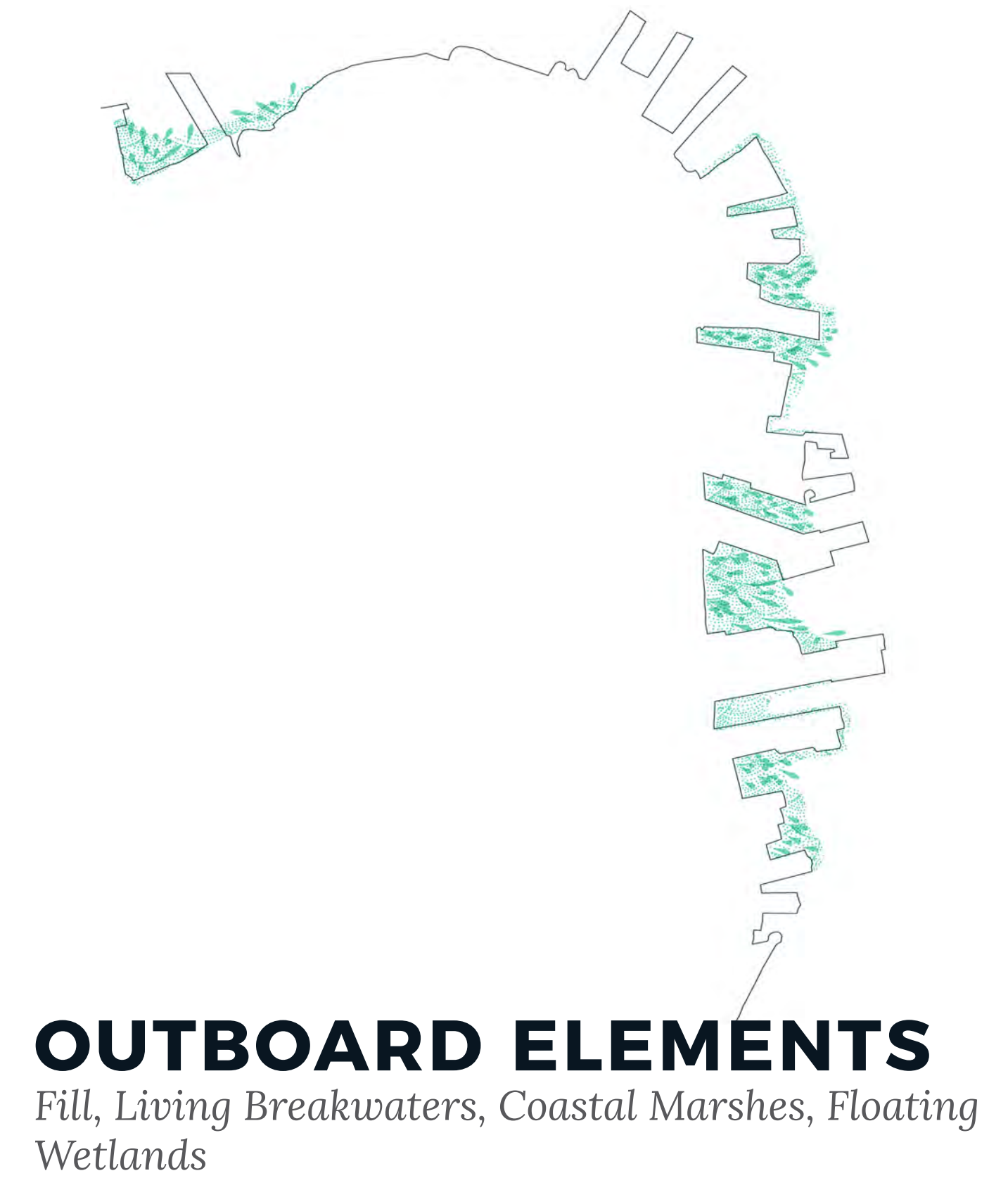
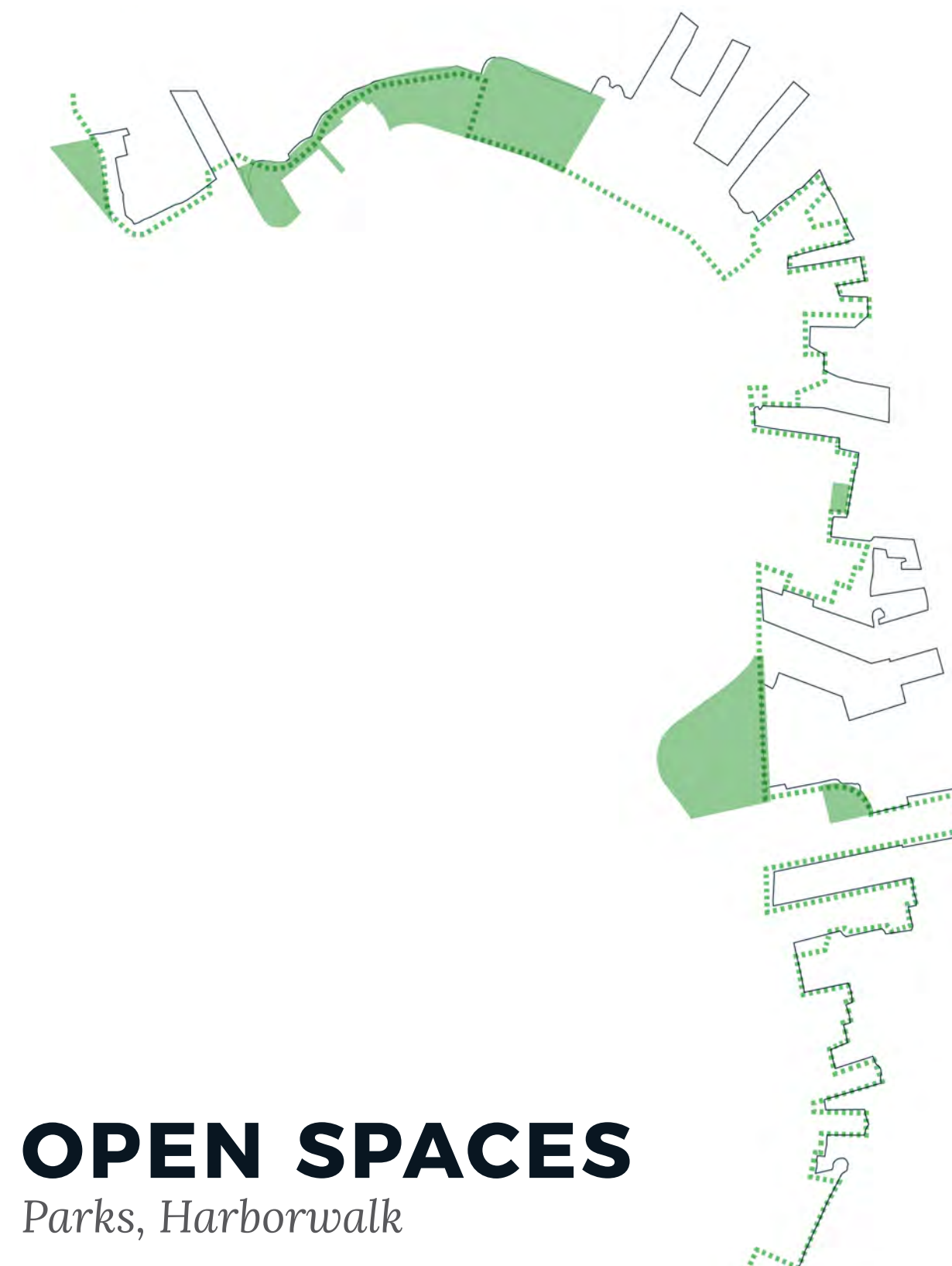
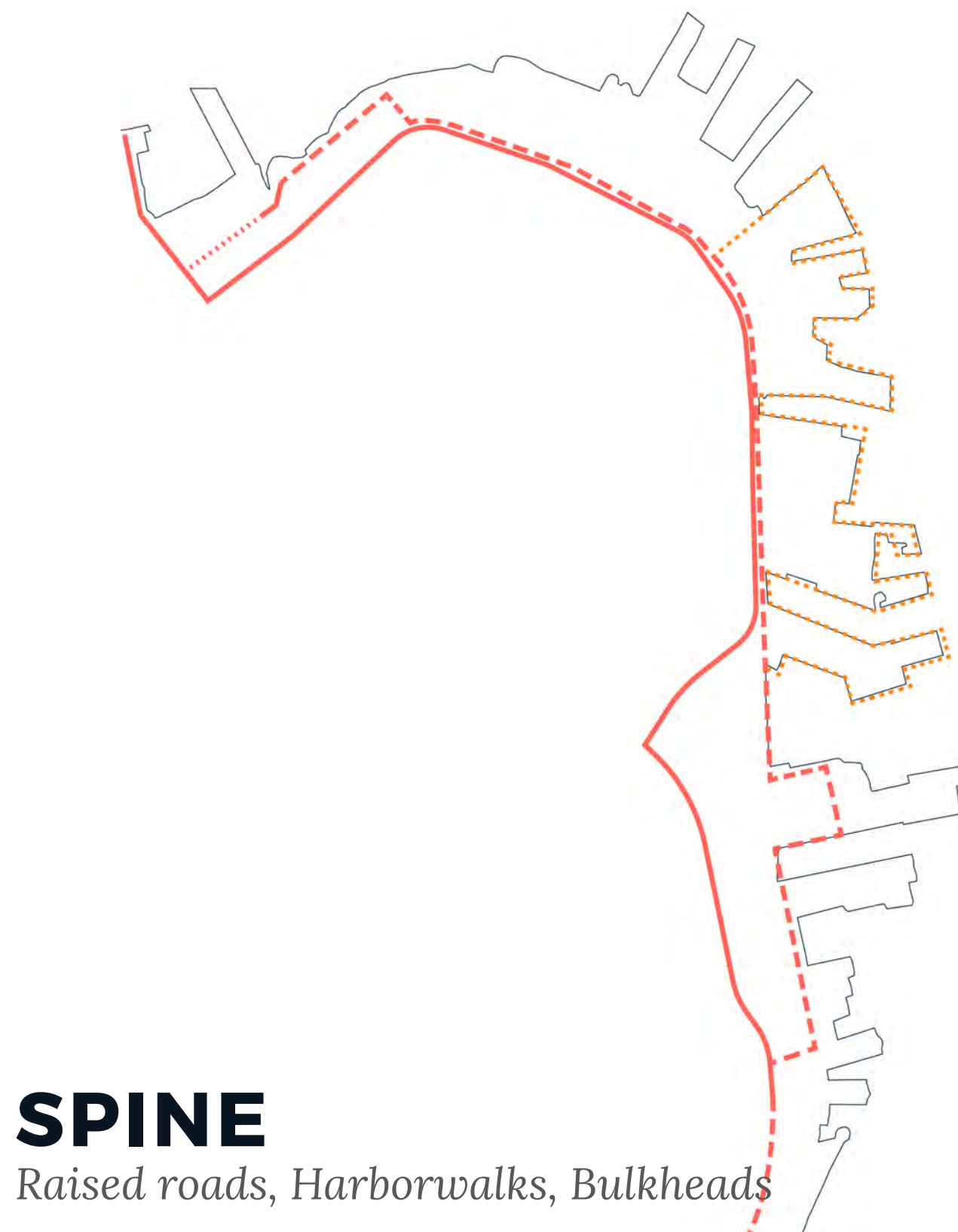
COASTAL FLOODING CONCERNS?

12 TOTAL PARTICIPANTS

- #1 Damage to My Property**
Average Score: 4.3
- #2 Flooding of Roads and Infrastructure**
Average Score: 3.9
- #3 Access to Waterfront**
Average Score: 3.4
- #4 Damage to Historical Landmarks**
Average Score: 3.3
- #5 Access to Public Space**
Average Score: 3.2
- #6 Financial Impacts of Flooding + Flood Insurance**
Average Score: 2.8

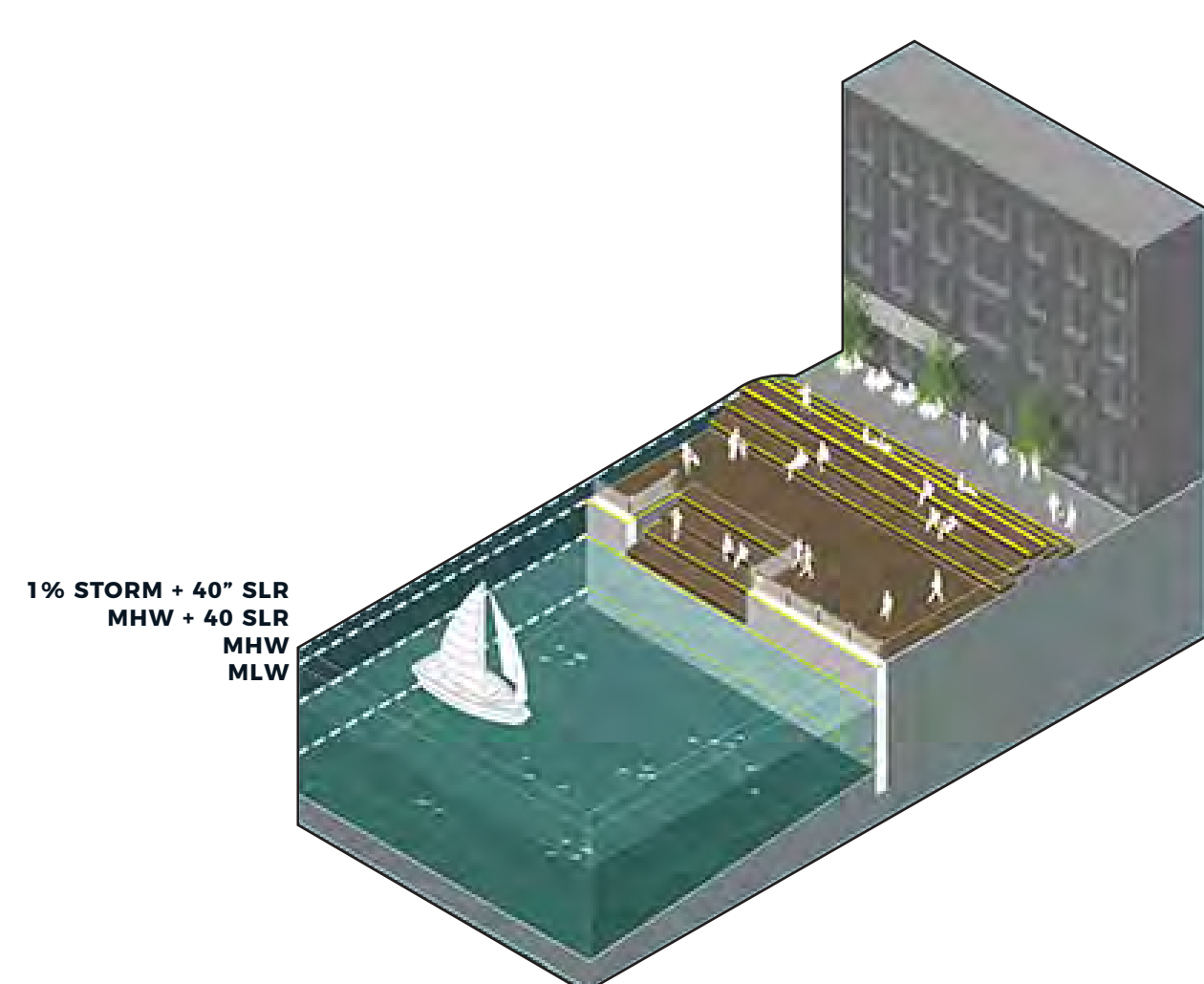
ALIGNMENT TOOLKIT

Climate Ready Boston is investigating options in Downtown to locate resiliency elements. The toolkit below illustrates three general strategies including linear elements, such as harborwalks, open spaces, such as parks, and opportunities for outboard elements, such as living breakwaters.

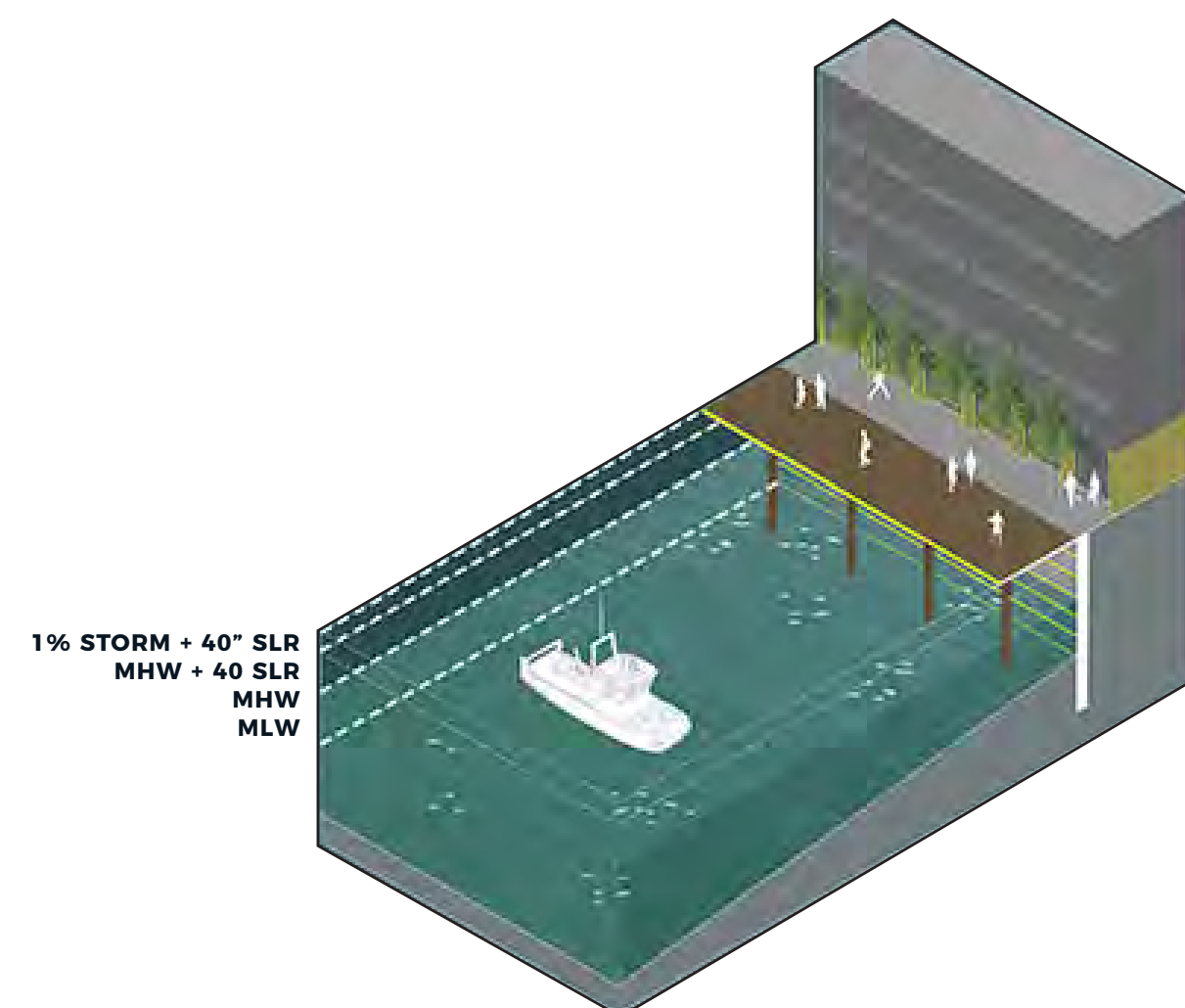


TOOLKIT TYPOLOGIES (as shown in Resilient Boston Harbor)

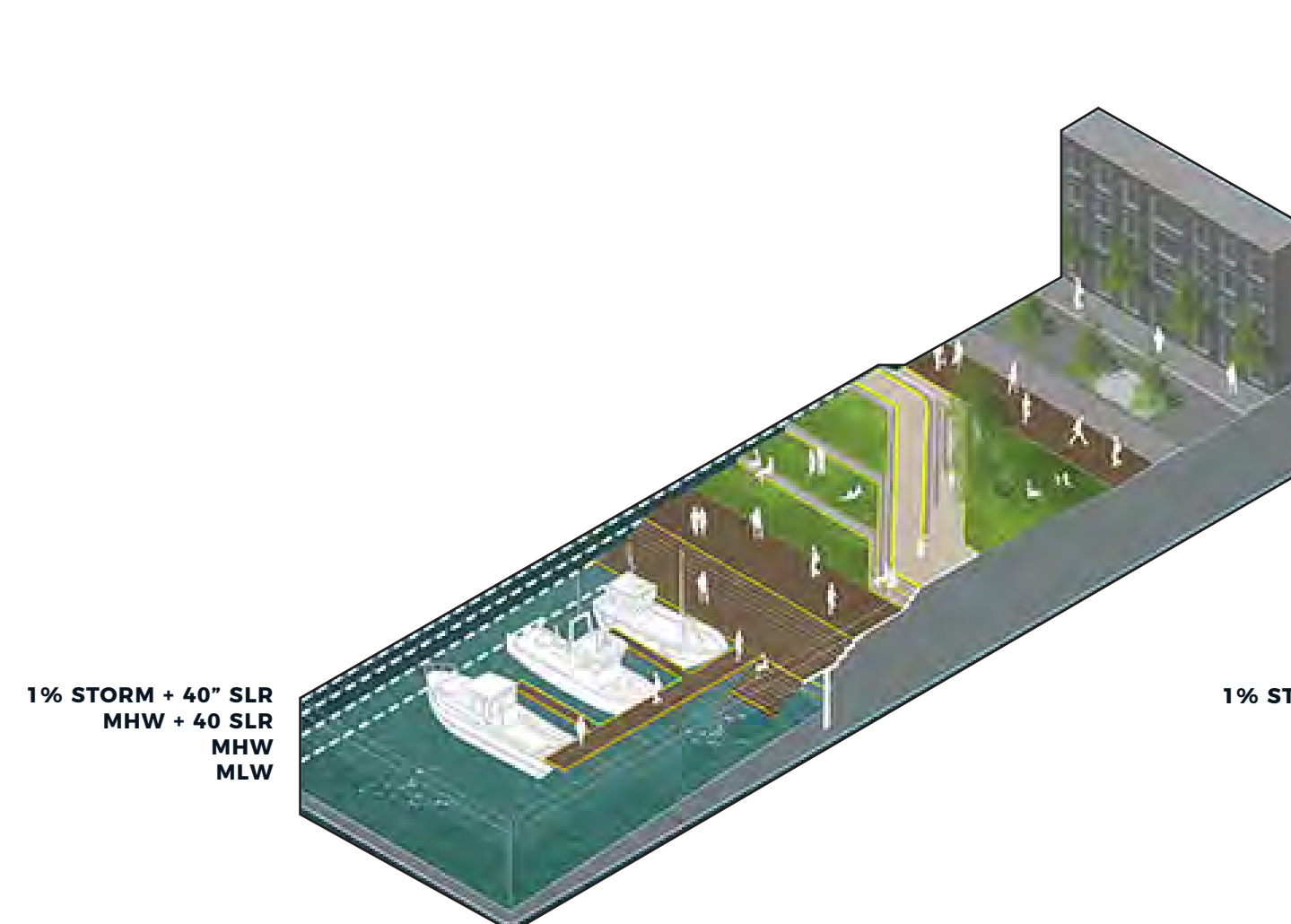
Depending on site conditions, the alignment toolkit shown above can manifest itself in many different ways. Below are typical examples, taken from Resilient Boston Harbor, of how the toolkit can be applied. Understanding the value and appropriate location of each typology is an important part of the process.



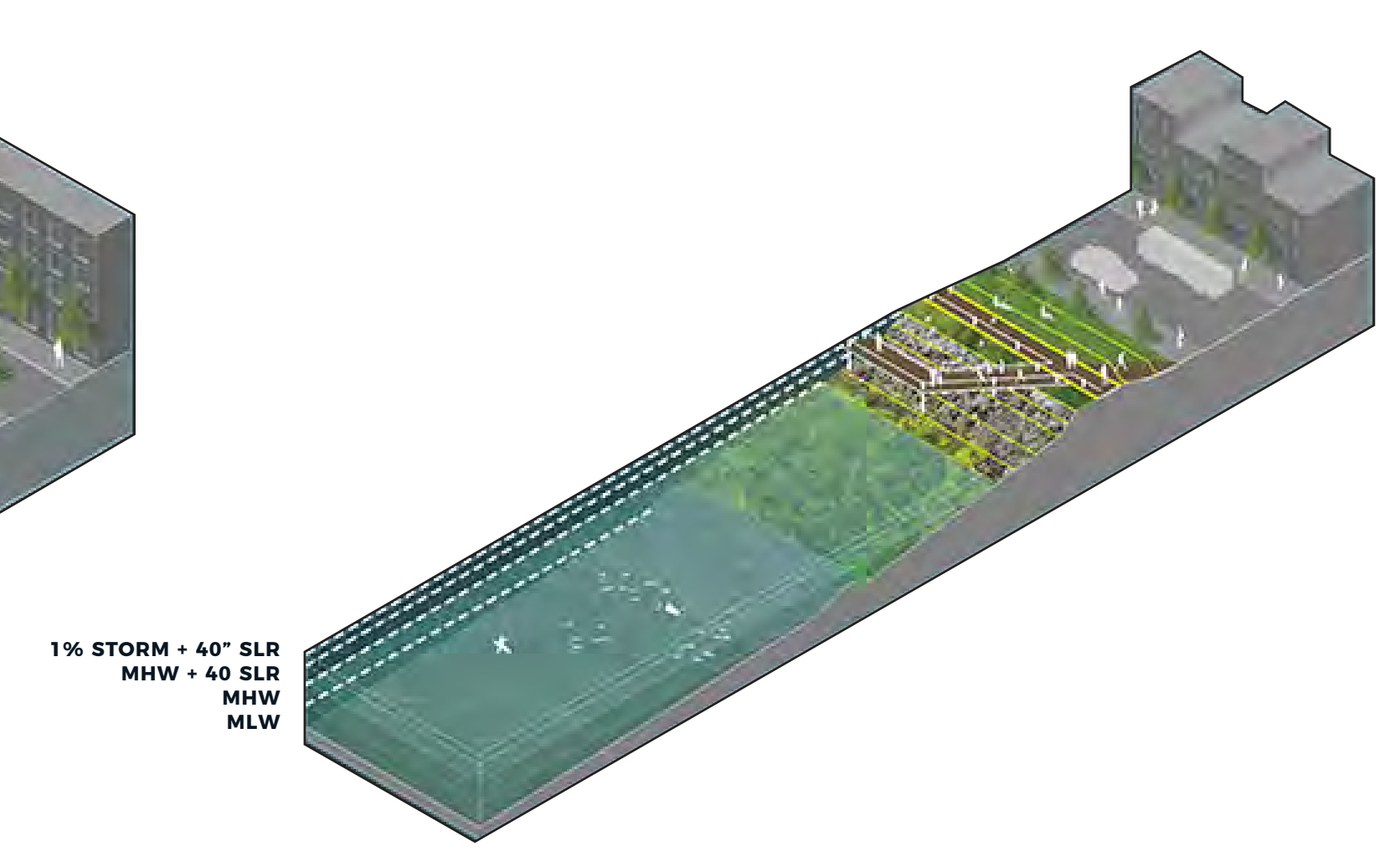
STEPPED HARBORWALK



ELEVATED HARBORWALK



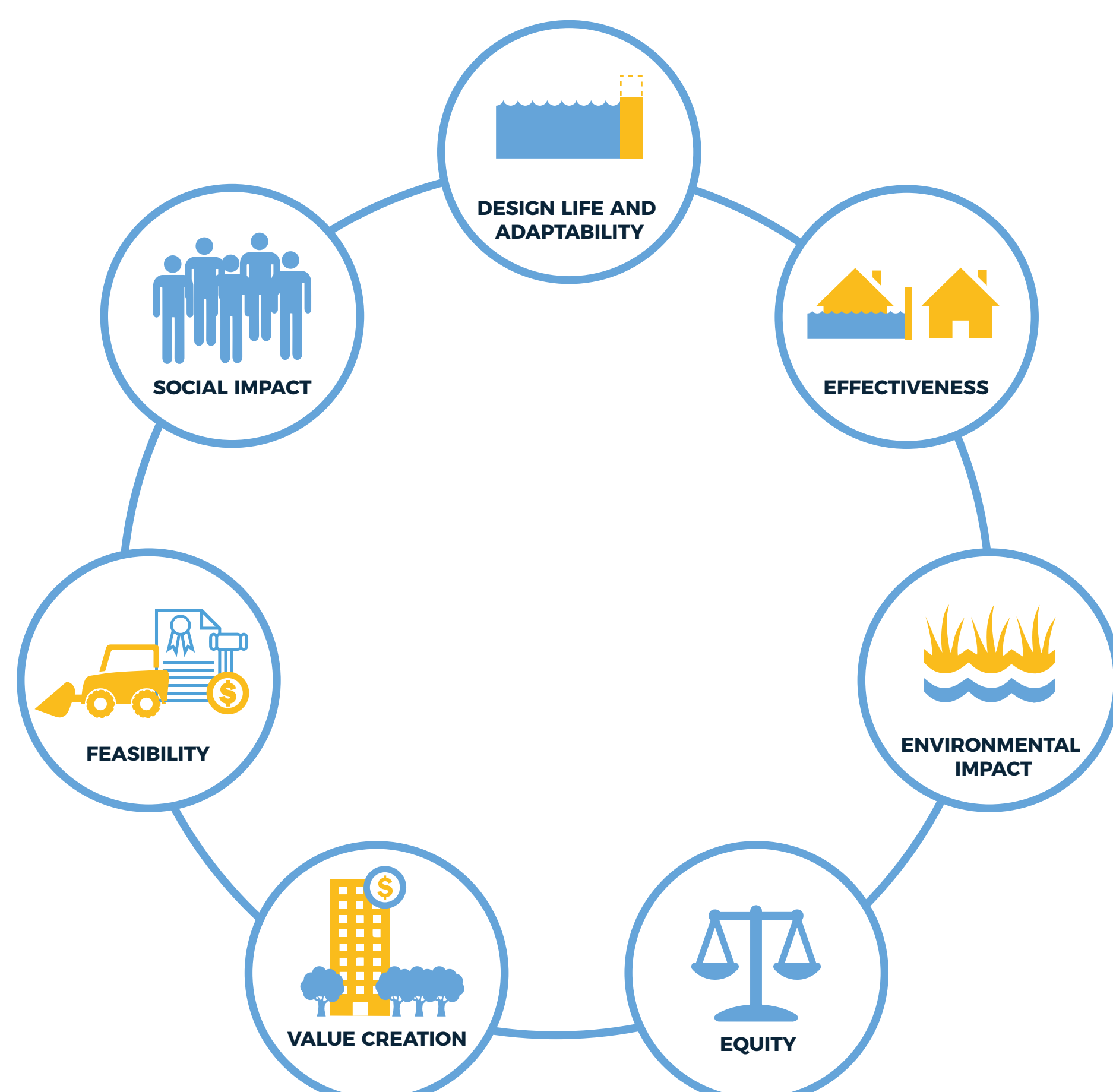
WATERFRONT GATEWAYS



LIVING EDGES

RESILIENT METHODS EVALUATION CRITERIA

These criteria are used to evaluate performance of flood protection elements in the plan. This process helps us to prioritize options and determine the best fit for each site.



DESIGN LIFE AND ADAPTABILITY

- Design Life
- Performance Horizon
- Adaptability/Flexibility
- Phase-ability and Time to Implementation
- Maintenance Requirements

SOCIAL IMPACT

- Recreational
- Cultural
- Aesthetic

FEASIBILITY

- Stakeholder acceptance
- Constructibility
- Permitting Requirements and Regulatory Considerations
- Affordability: Cost of Construction + Cost of Maintenance
- Replicability
- Funding Strategy

VALUE CREATION

- New Value Created on Sites or Adjacent Sites
- Capacity to Catalyze Future Funding and Investment
- The extent to which the project will increase quality of life and the desire to be in the area for living, work or play purposes.

EFFECTIVENESS

- Maximum level of protection (% probability / SLR scenario)
- Reduction in flood extent
- Avoided damage and loss
- Residents protected
- Critical assets protected

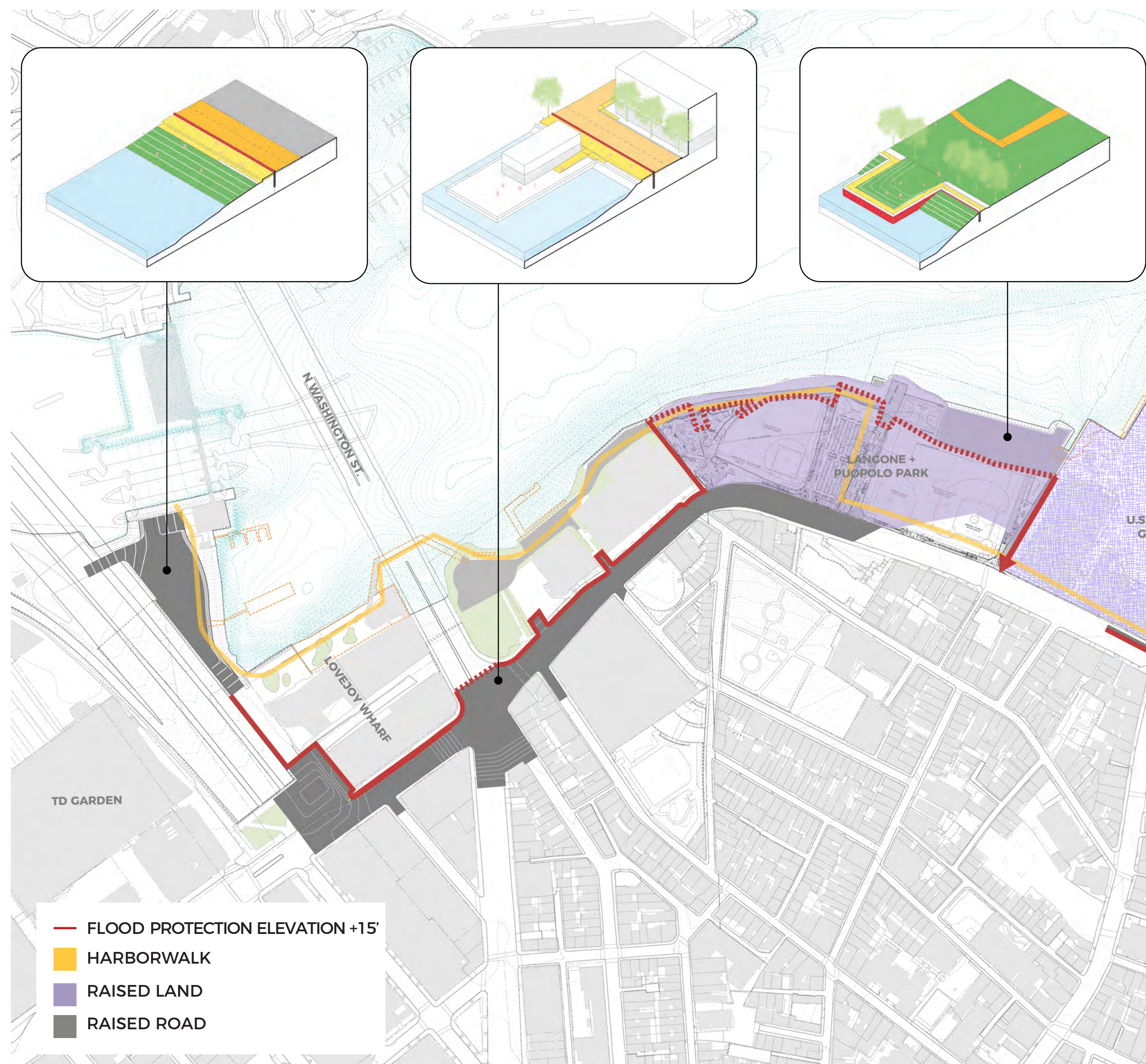
ENVIRONMENTAL IMPACT

- Water and air quality
- Habitat value
- Human health benefits

EQUITY

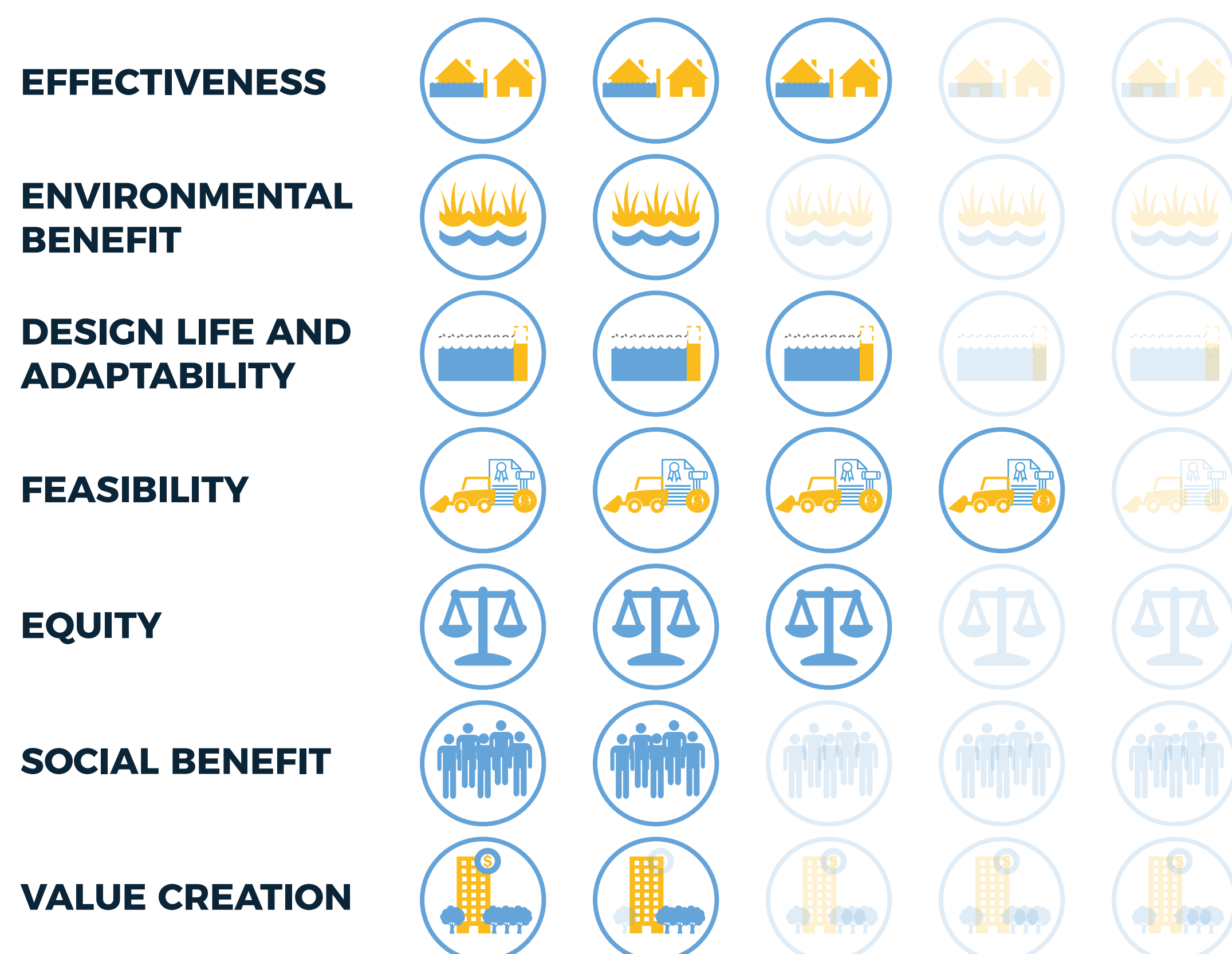
- New and equitable access to water
- Educational opportunities
- Community partnerships
- Preservation /addition of affordable housing

ROADWAY OPTION



PROVIDES FLOOD PROTECTION WITHIN THE CITY'S RIGHT-OF-WAY BY RAISING THE ROAD

EVALUATION CRITERIA PERFORMANCE

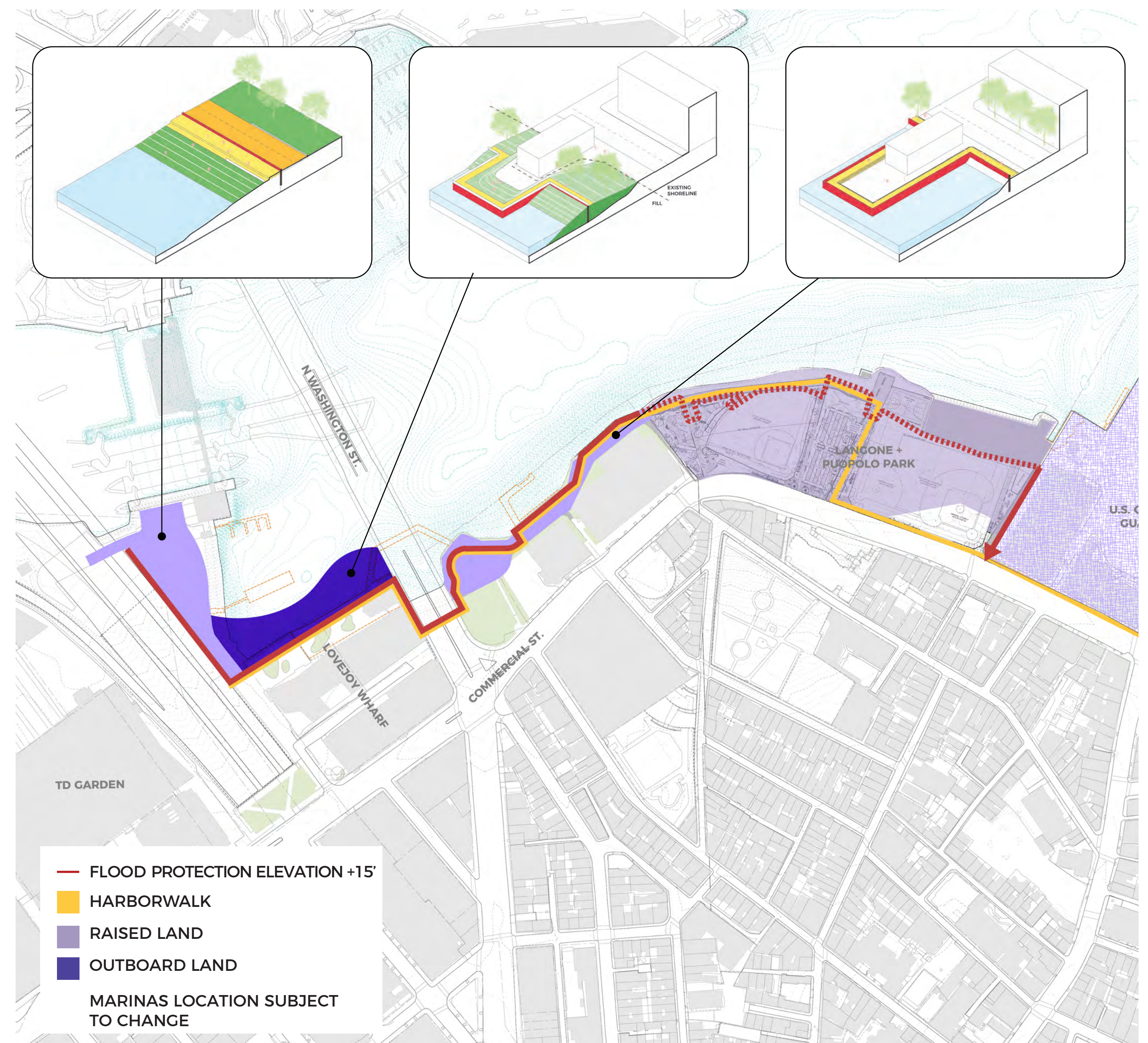


KEY CONSIDERATIONS



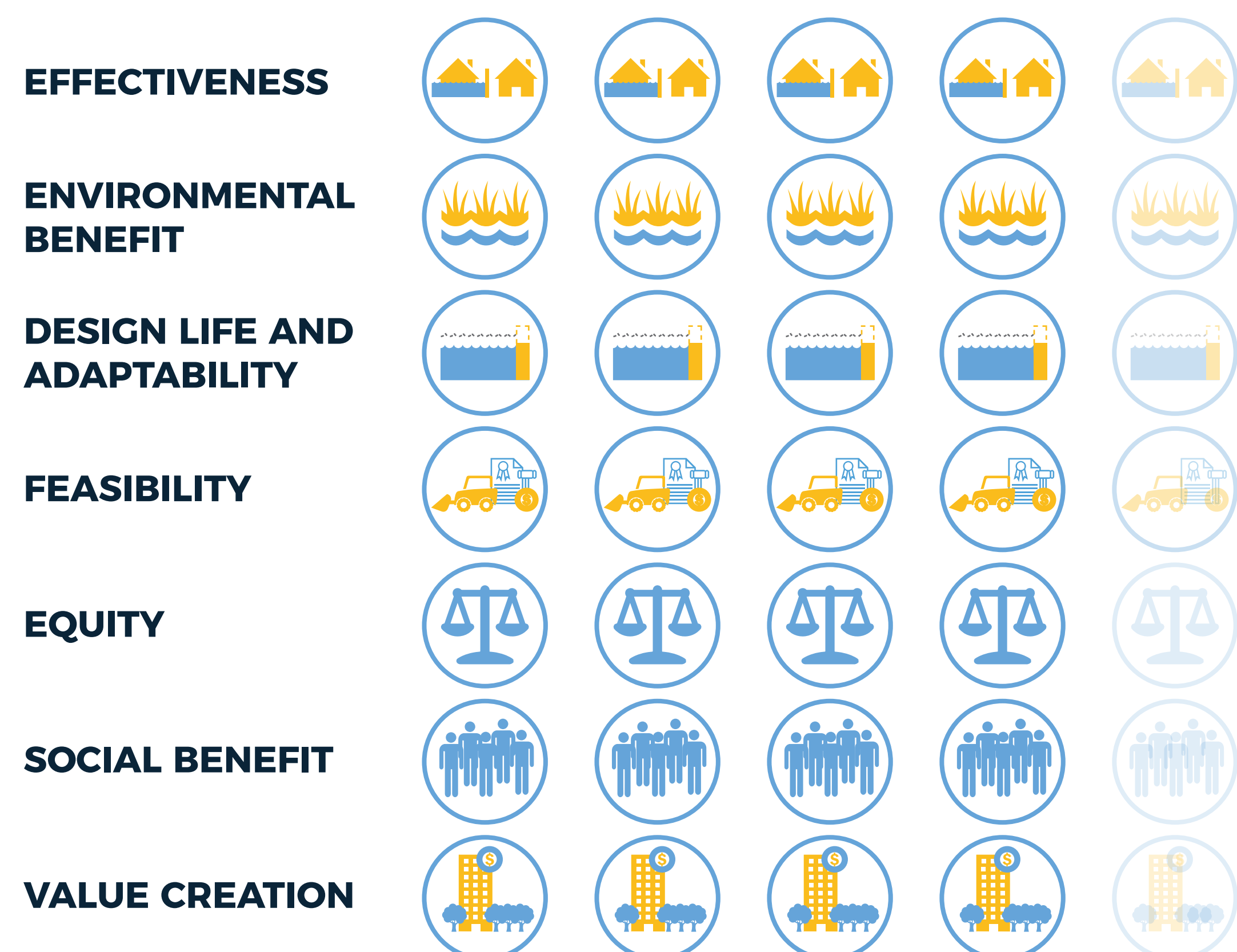
- RAISING THE ROAD CREATES CONFLICT WITH NEIGHBORING BUILDINGS GROUND FLOORS
- SETTING FLOOD PROTECTION BACK FROM SHORELINE EXPOSES WATERFRONT AREAS

WATERFRONT OPTION

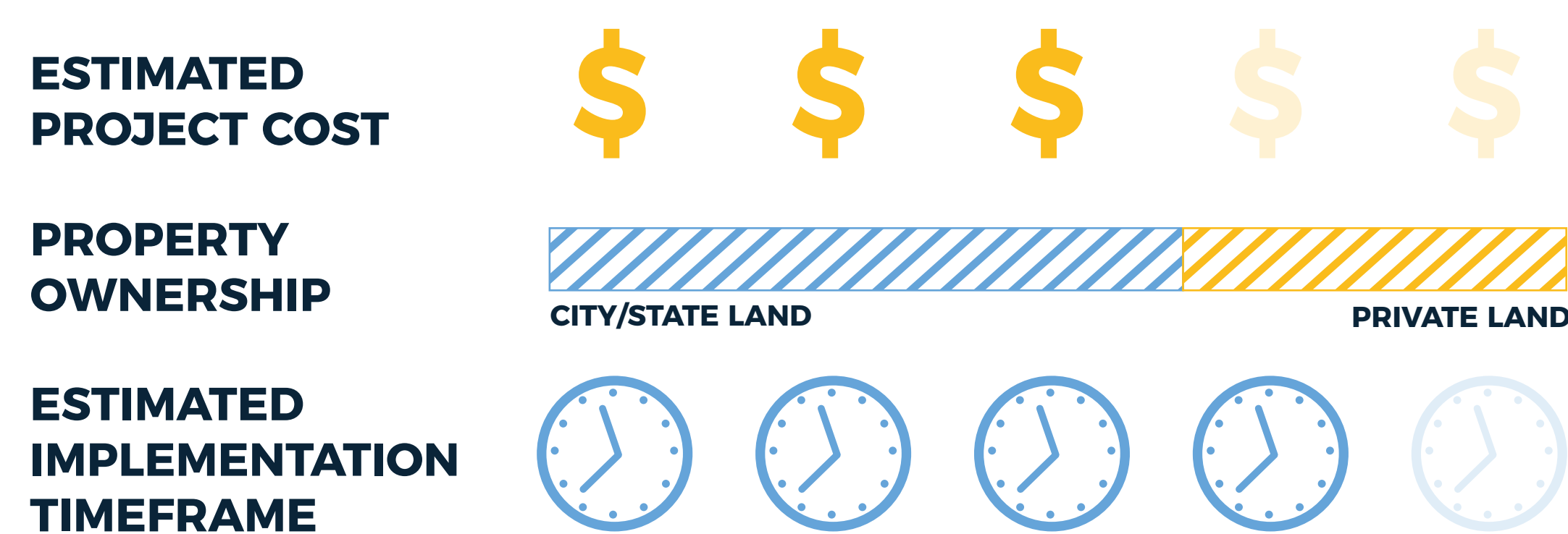


FLOOD PROTECTION ALONG THE WATER'S EDGE THAT INCORPORATES EXISTING PLANS FOR PARK REDEVELOPMENT

EVALUATION CRITERIA PERFORMANCE

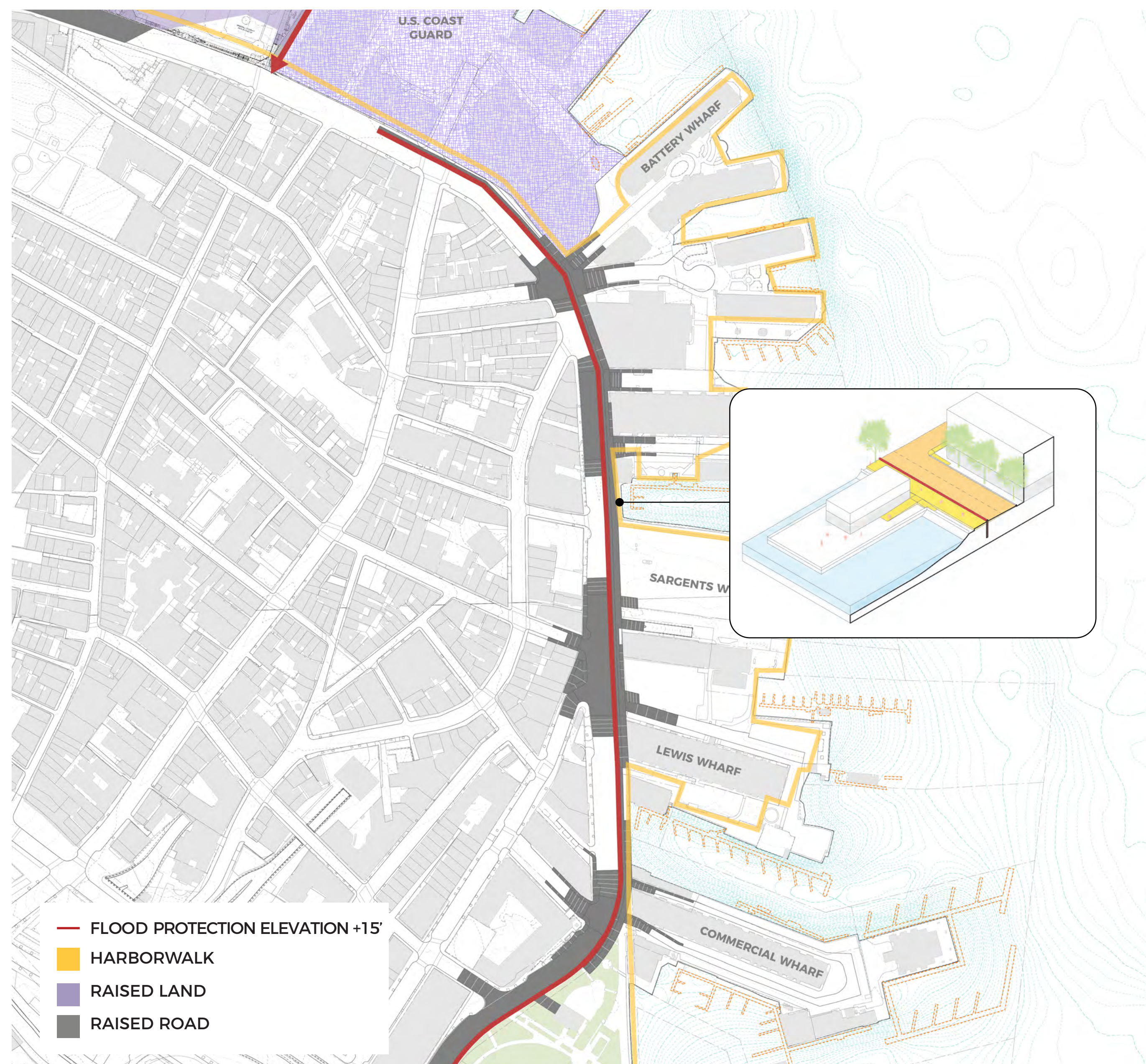


KEY CONSIDERATIONS



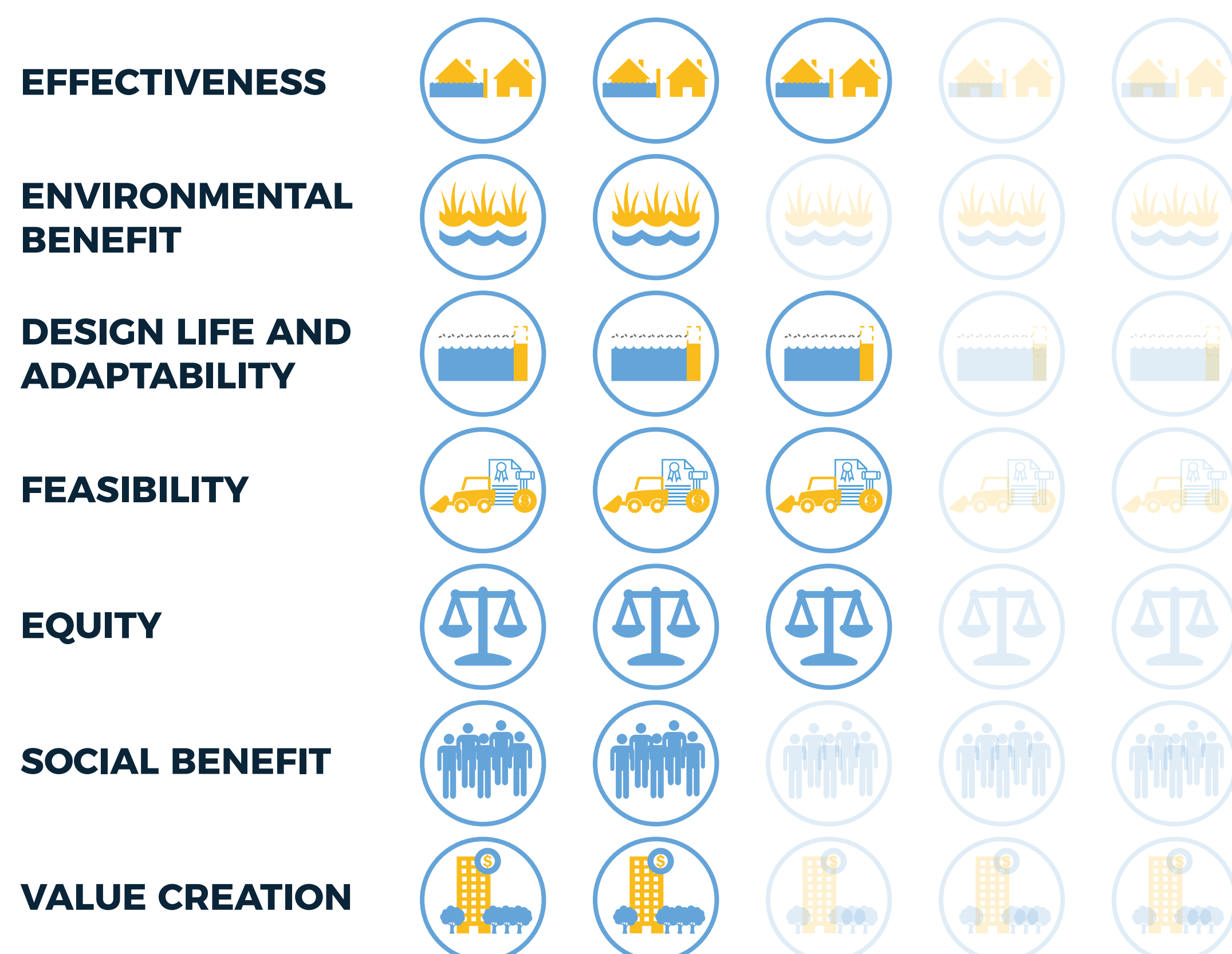
- INVOLVES CREATION OF NEW LAND THROUGH FILL ADJACENT TO LOVEJOY AND THE CHARLES RIVER DAM ABUTMENT
- PARTNERSHIPS BETWEEN PRIVATE AND PUBLIC LAND OWNERS IS NECESSARY
- WILL REQUIRE COORDINATION AND REORGANIZATION OF MARINAS; CONVERSATIONS ARE CURRENTLY UNDERWAY.

ROADWAY OPTION

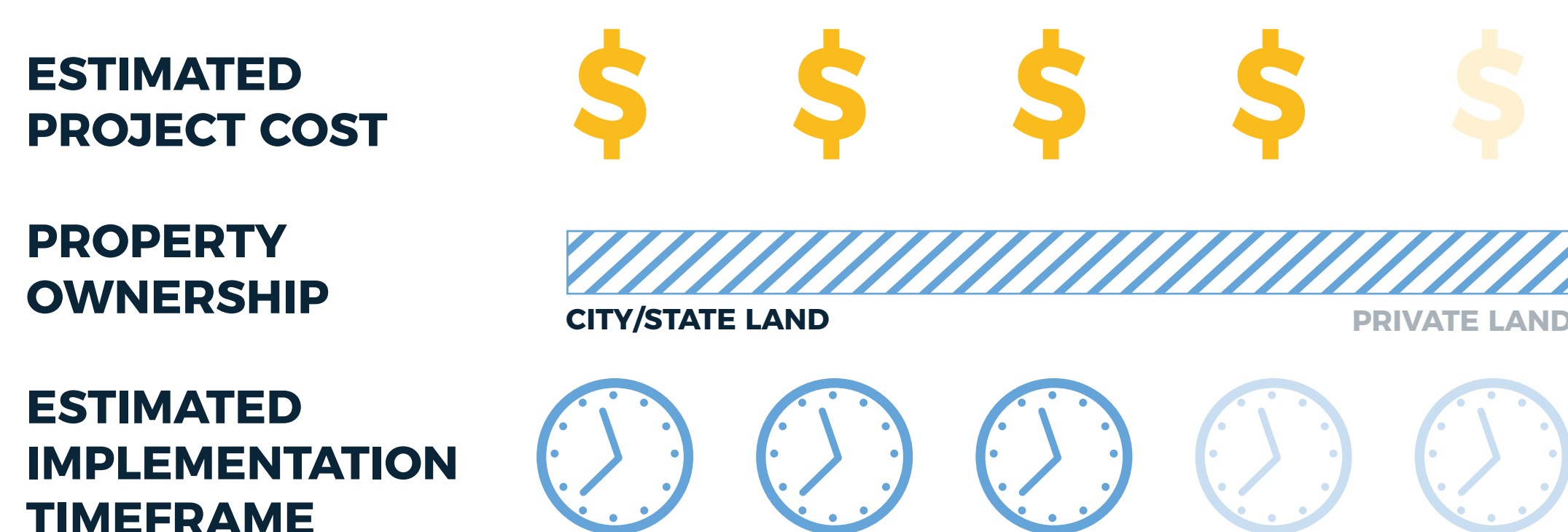


PROVIDES FLOOD PROTECTION WITHIN THE CITY'S RIGHT-OF-WAY BY RAISING THE ROAD

EVALUATION CRITERIA PERFORMANCE

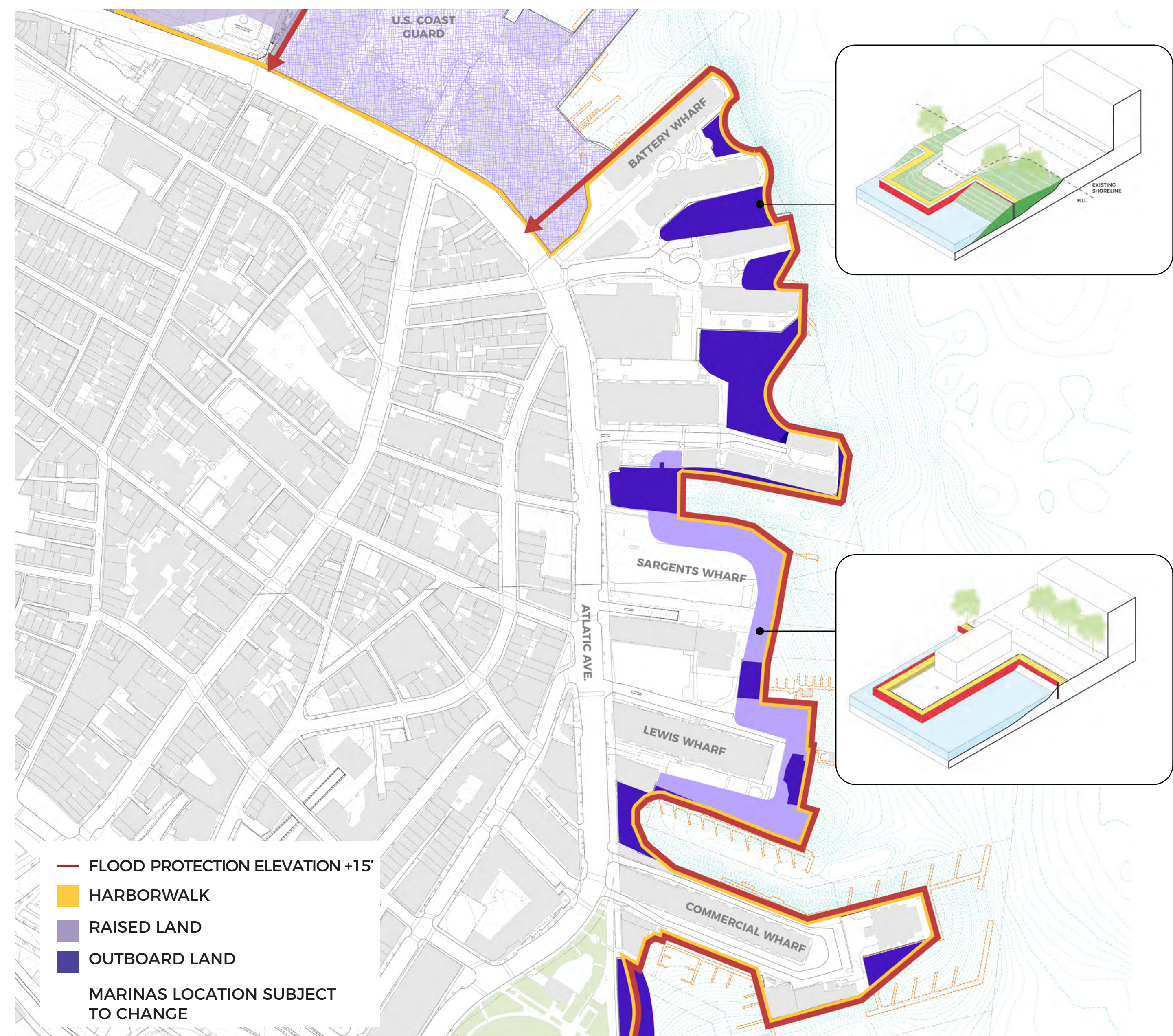


KEY CONSIDERATIONS



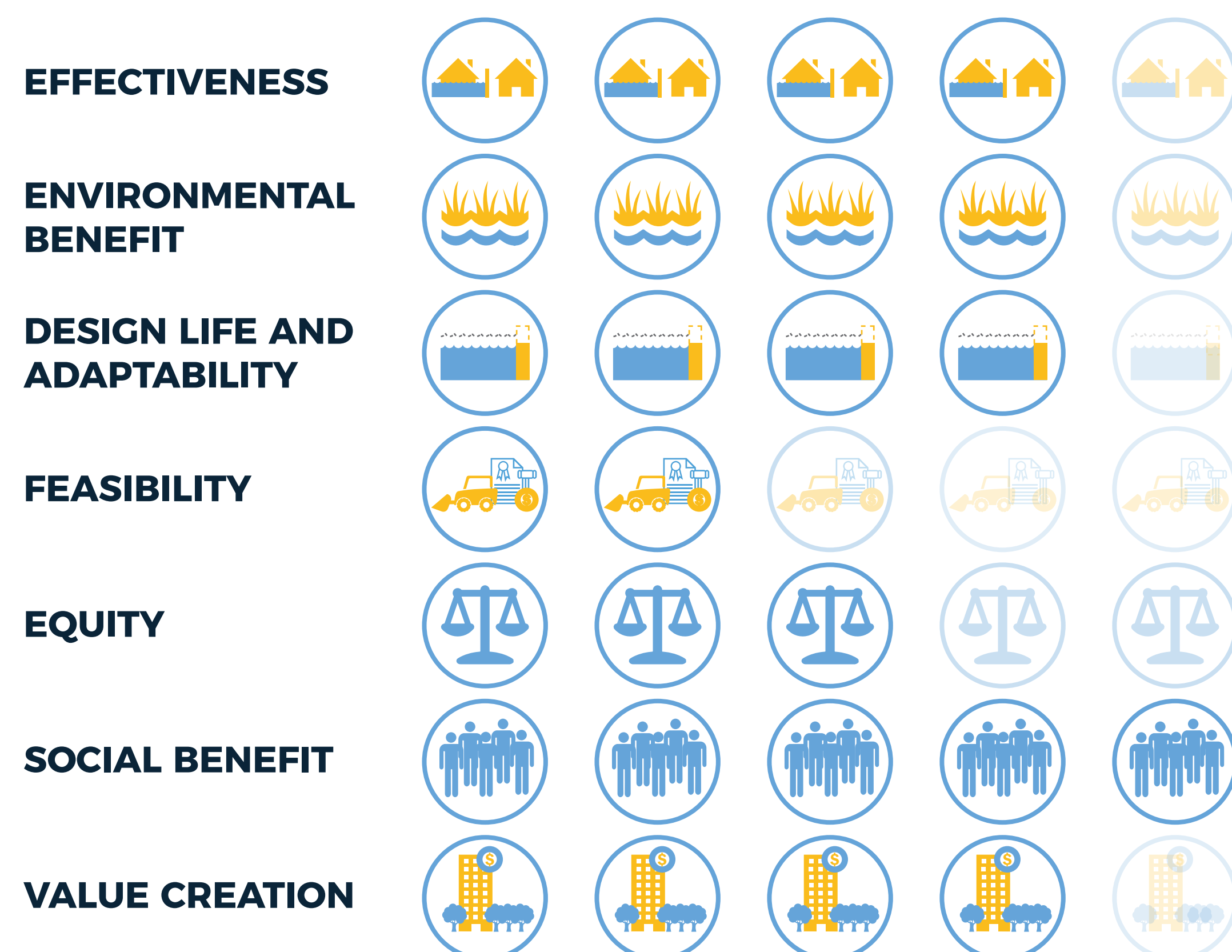
- RAISING THE ROAD CREATES CONFLICT WITH NEIGHBORING BUILDINGS GROUND FLOORS
- SETTING FLOOD PROTECTION BACK FROM SHORELINE EXPOSES WATERFRONT AREAS
- WILL CONFLICT WITH UTILITIES RUNNING PERPENDICULAR TO ROAD

WATERFRONT OPTION



USES EXISTING WATERFRONT AND NEW FILL FOR FLOOD PROTECTION WHILE ALSO CREATING NEW OPEN SPACES

EVALUATION CRITERIA PERFORMANCE

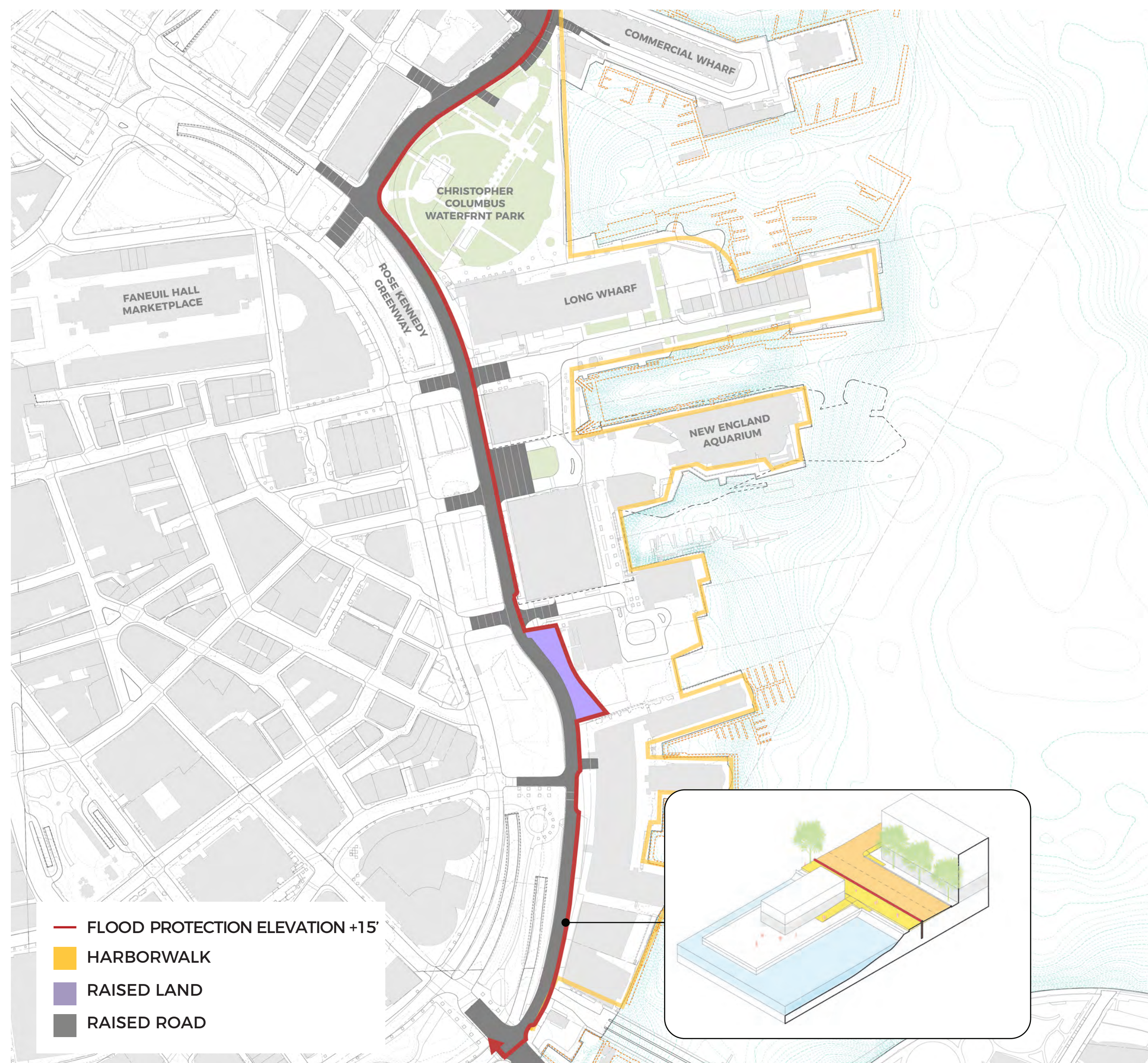


KEY CONSIDERATIONS



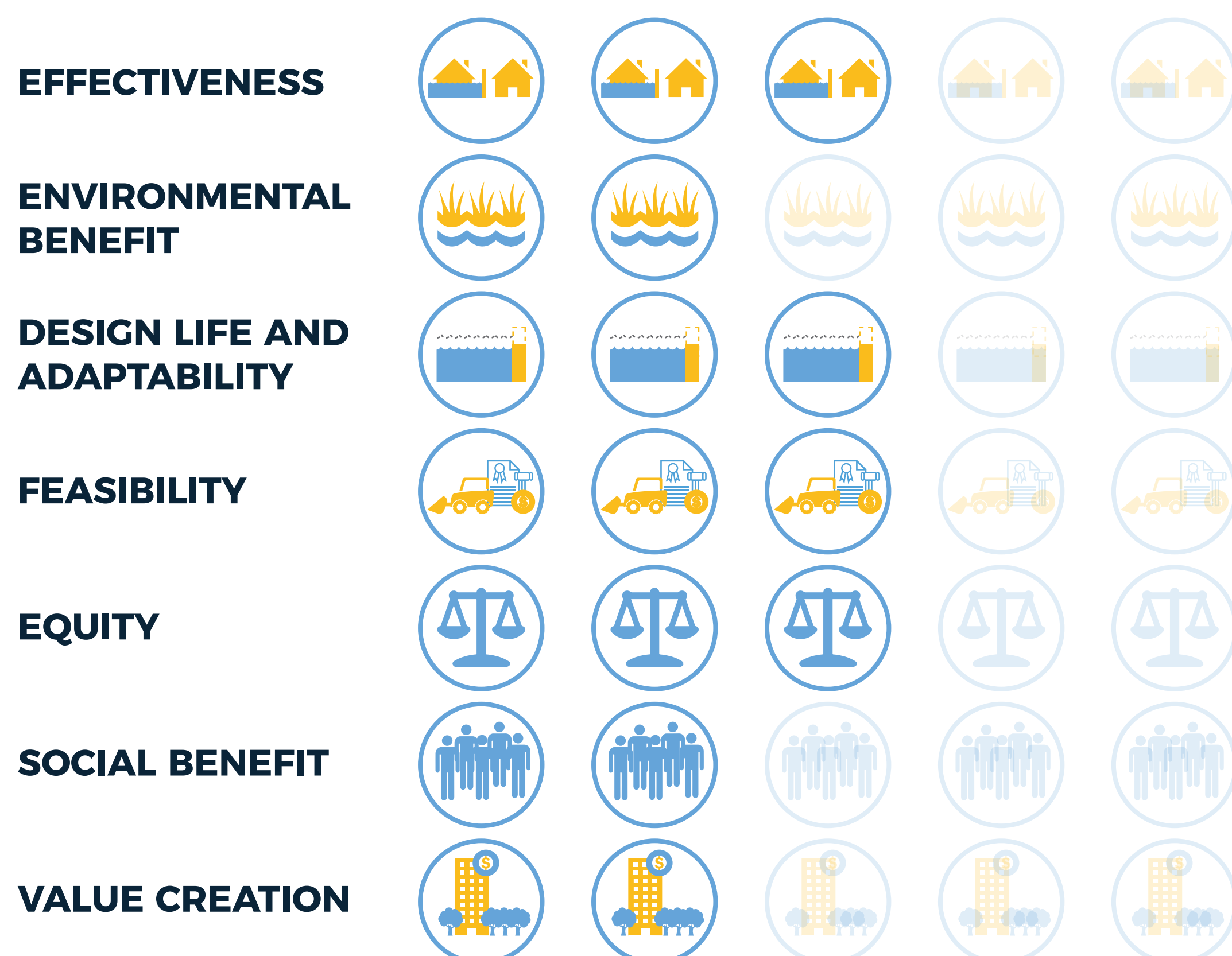
- INVOLVES CREATION OF NEW LAND IN CERTAIN AREAS. WILL REQUIRE COORDINATION AND REORGANIZATION OF MARINAS; CONVERSATIONS ARE CURRENTLY UNDERWAY.
- PARTNERSHIPS BETWEEN PRIVATE AND PUBLIC LAND OWNERS IS NECESSARY

ROADWAY OPTION

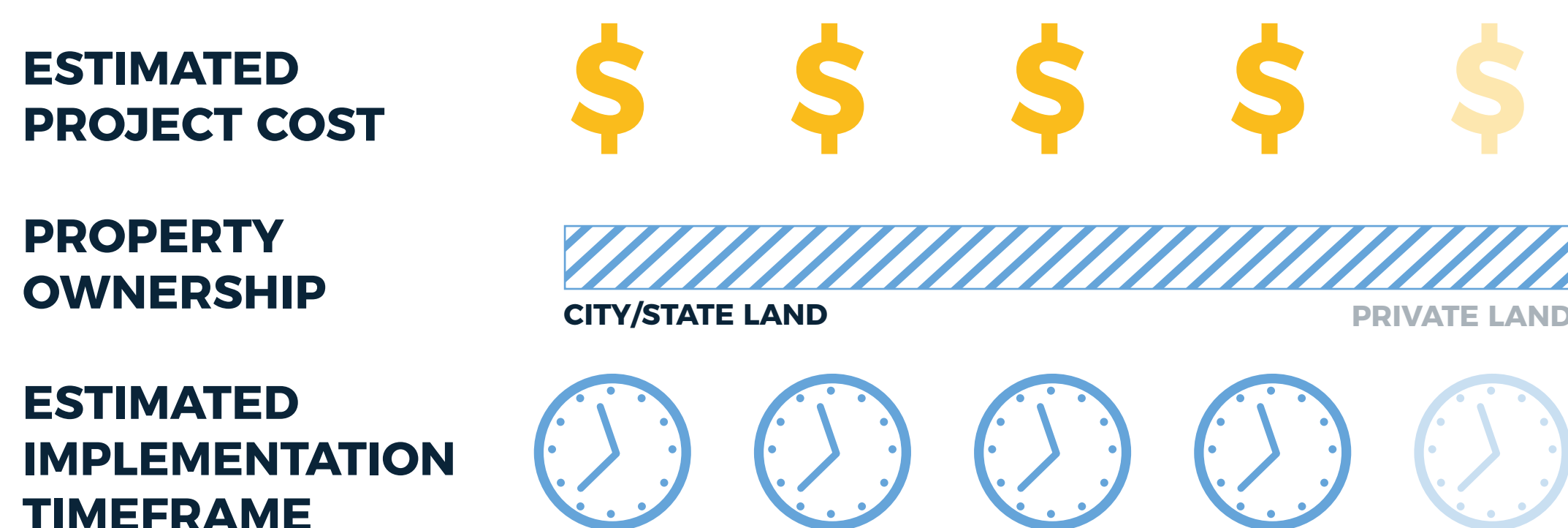


PROVIDES FLOOD PROTECTION WITHIN THE CITY'S RIGHT-OF-WAY BY RAISING THE ROAD

EVALUATION CRITERIA PERFORMANCE



KEY CONSIDERATIONS



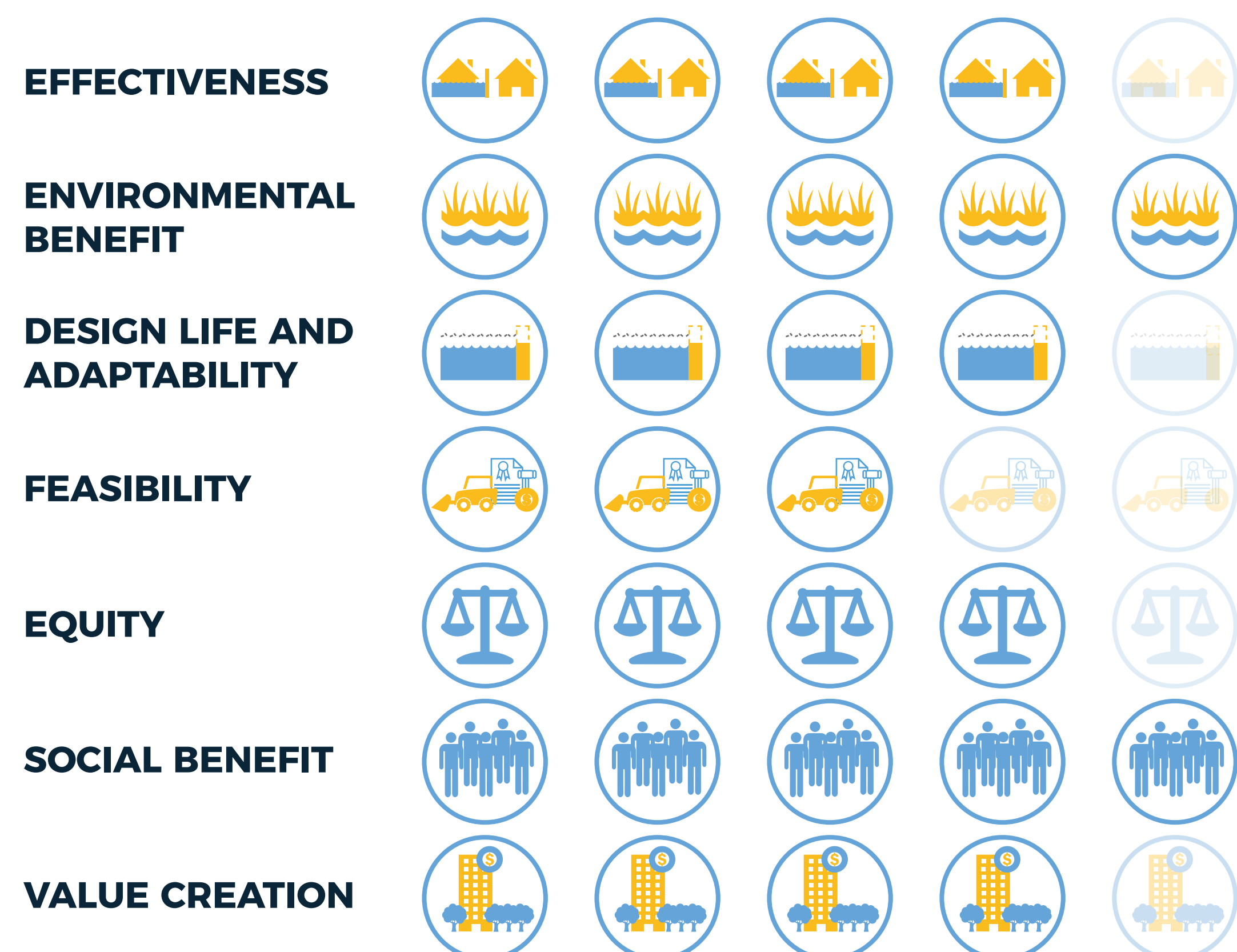
- RAISING THE ROAD CREATES CONFLICT WITH NEIGHBORING BUILDINGS GROUND FLOORS
- SETTING FLOOD PROTECTION BACK FROM SHORELINE EXPOSES WATERFRONT AREAS.
- FEASIBILITY ISSUES DUE TO TUNNEL UNDER ATLANTIC AVE.

WATERFRONT OPTION



USES EXISTING WATERFRONT AND NEW FILL FOR FLOOD PROTECTION WHILE ALSO CREATING NEW OPEN SPACES

EVALUATION CRITERIA PERFORMANCE



KEY CONSIDERATIONS



- INVOLVES CREATION OF NEW LAND IN CERTAIN AREAS. WILL REQUIRE COORDINATION AND REORGANIZATION OF MARINAS; CONVERSATIONS ARE CURRENTLY UNDERWAY.
- PARTNERSHIPS BETWEEN PRIVATE AND PUBLIC LAND OWNERS IS NECESSARY

NICE TO MEET YOU!

PLEASE HELP US BY FILLING IN THE INFORMATION BELOW. *required

WHERE I LIVE (ZIP CODE)*

WHERE I WORK (ZIP CODE)*

I AM A...

☐ RESIDENT ☐ WORKER ☐ VISITOR

AGE

☐ 0-19 ☐ 20-29 ☐ 30-39 ☐ 40-59 ☐ 60-79 ☐ 80+

NAME: _____

OVERALL COMMENTS?



3

DOWNTOWN WHARF DISTRICT

PLEASE SHARE YOUR THOUGHTS ON THE OPTIONS SHOW ON THE BOARD

ROADWAY OPTION

RATE THIS OPTION!

NEEDS WORK

LOVE IT!

1 2 3 4 5

WHAT DO YOU LIKE ABOUT THIS OPTION, WHY?

WHAT CONCERNS YOU ABOUT THIS OPTION, WHY?

WATERFRONT OPTION

RATE THIS OPTION!

NEEDS WORK

LOVE IT!

1 2 3 4 5

WHAT DO YOU LIKE ABOUT THIS OPTION, WHY?

WHAT CONCERNS YOU ABOUT THIS OPTION, WHY?

WEST END - NORTH END

PLEASE SHARE YOUR THOUGHTS ON THE OPTIONS SHOW ON THE BOARD

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RATE THIS OPTION!

NEEDS WORK

LOVE IT!

1 2 3 4 5

WHAT DO YOU LIKE ABOUT THIS OPTION, WHY?

WHAT CONCERNS YOU ABOUT THIS OPTION, WHY?

WATERFRONT OPTION

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LOVE IT!

1 2 3 4 5

WHAT DO YOU LIKE ABOUT THIS OPTION, WHY?

WHAT CONCERNS YOU ABOUT THIS OPTION, WHY?

NORTH END WATERFRONT

PLEASE SHARE YOUR THOUGHTS ON THE OPTIONS SHOW ON THE BOARD

ROADWAY OPTION

RATE THIS OPTION!

NEEDS WORK

LOVE IT!

1 2 3 4 5

WHAT DO YOU LIKE ABOUT THIS OPTION, WHY?

WHAT CONCERNS YOU ABOUT THIS OPTION, WHY?

WATERFRONT OPTION

RATE THIS OPTION!

NEEDS WORK

LOVE IT!

1 2 3 4 5

WHAT DO YOU LIKE ABOUT THIS OPTION, WHY?

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