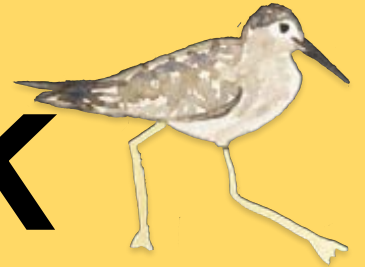
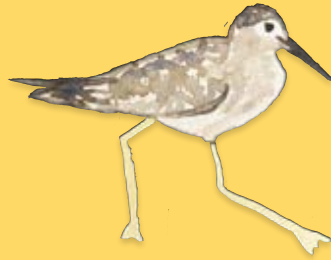


The Belle Isle Marsh Walk



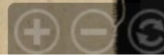
Increasing Public Access to Nature + Waterfronts and Protecting
Critical Facilities in East Boston



This is the **Lesser Yellowlegs** of Belle Isle Marsh and our guide for the rest of this adventure.

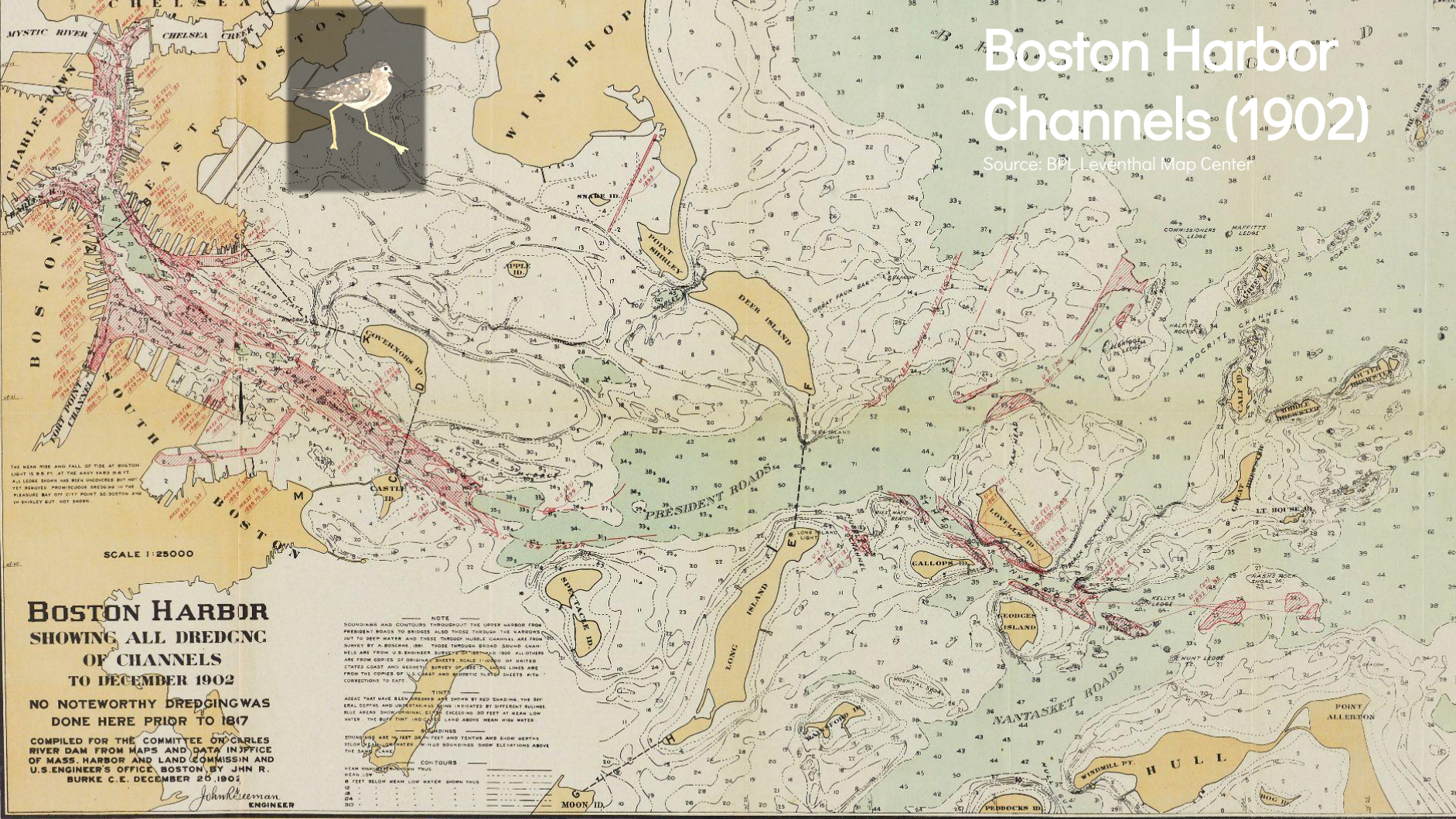
She is also joined by her Belle Isle Marsh friends
the **Dark Glossy Ibis**, the **Green Crab**, and the **Mummichog**





Boston Harbor Channels (1902)

Source: BPL Leventhal Map Center



THE BEAN WIND AND FALL OF TIDE AT BOSTON LIGHT IS 8.5 FT. AT THE NAVY YARD 8.6 FT. ALL LEADS SHOWN AND BEEN OBSERVED BY THE U.S. NAVY. PROVISIONAL SOUNDINGS IN THE REAR BAY OFF CITY POINT SO DOSTON AND IN SHIPLEY CUT NOT SHOWN.

SCALE 1:25000

BOSTON HARBOR SHOWING ALL DREDGING OF CHANNELS TO DECEMBER 1902

NO NOTEWORTHY DREDGING WAS
DONE HERE PRIOR TO 1847

COMPILED FOR THE COMMITTEE ON CHARLES RIVER DAM FROM MAPS AND DATA IN THE OFFICE OF MASS. HARBOR AND LAND COMMISSION AND U.S. ENGINEER'S OFFICE, BOSTON, BY JHN R. BURKE C.E. DECEMBER 20, 1902

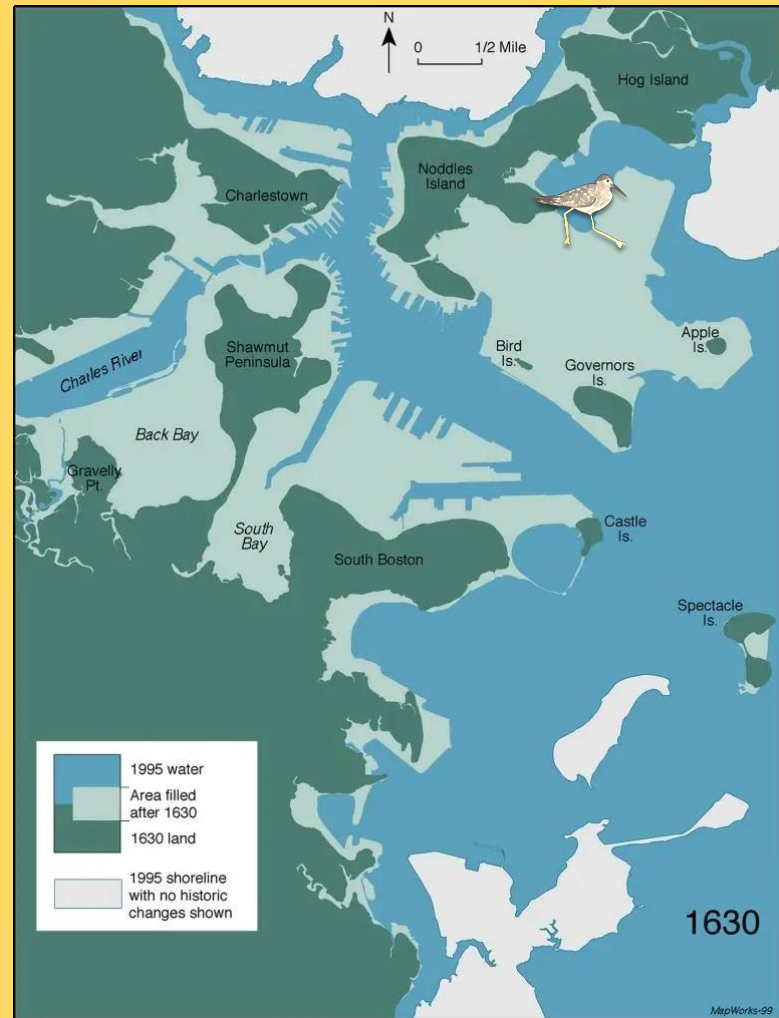
John R. Burke
ENGINEER

NOTE
SOUNDINGS AND CONTOURS THROUGHOUT THE UPPER HARBOR FROM PRESIDENT ROADS TO BRIDGE ALSO THOSE THROUGH THE HARBORS CUT TO DEEP WATER AND THOSE THROUGH NARROW CHANNELS ARE FROM SURVEY BY A BOULDER. THE THOSE THROUGH BROAD SOUND CHANNELS ARE FROM U.S. ENGINEER SURVEY OF 1867 AND 1868. ALL OTHERS ARE FROM COPIES OF ORIGINAL SURVEY SCALE 1:6250 OF UNITED STATES COAST AND GEODETIC SURVEY OF 1867. SOUND LINES ARE FROM THE COPIES OF U.S. NAVY AND BOULDER PLAIN SHEETS WITH CORRECTIONS TO DATE.

TINTS
AREAS THAT HAVE BEEN DREDGED ARE SHOWN BY RED SHADING. THE SEVERAL DEPTHS AND UNDRATED ARE SHOWN INDICATED BY DIFFERENT BULNES. BLUE AREAS SHOW UNDRATED DEPTHS EXCEEDED 10 FEET BY MEAN LOW WATER. THE BLUE TINT INDICATES LAND ABOVE MEAN HIGH WATER.

BOUNDARIES
BOUNDARIES ARE IN RED. DOTTED AND DASHED BOUNDARIES BELOW MEAN LOW WATER. IN BLUE SOUNDINGS SHOW DEPTHS ABOVE THE MEAN LOW WATER.

CONTOURS
MEAN HIGH WATER 10 FEET DEPTHS
MEAN LOW WATER 10 FEET DEPTHS
10 FEET BELOW MEAN LOW WATER SHOWN THUS



Historic Marshlands and Filled Wetlands

4/1995

Belle Isle Marsh / East Boston



1995



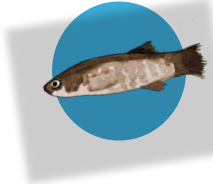


Site Ownership

Key Actors

- **City of Boston**
- **MBTA**
- **MDC / DCR** : Department of Conservation and Recreation
- **Tobia Family** (1141 Bennington Street Owner)

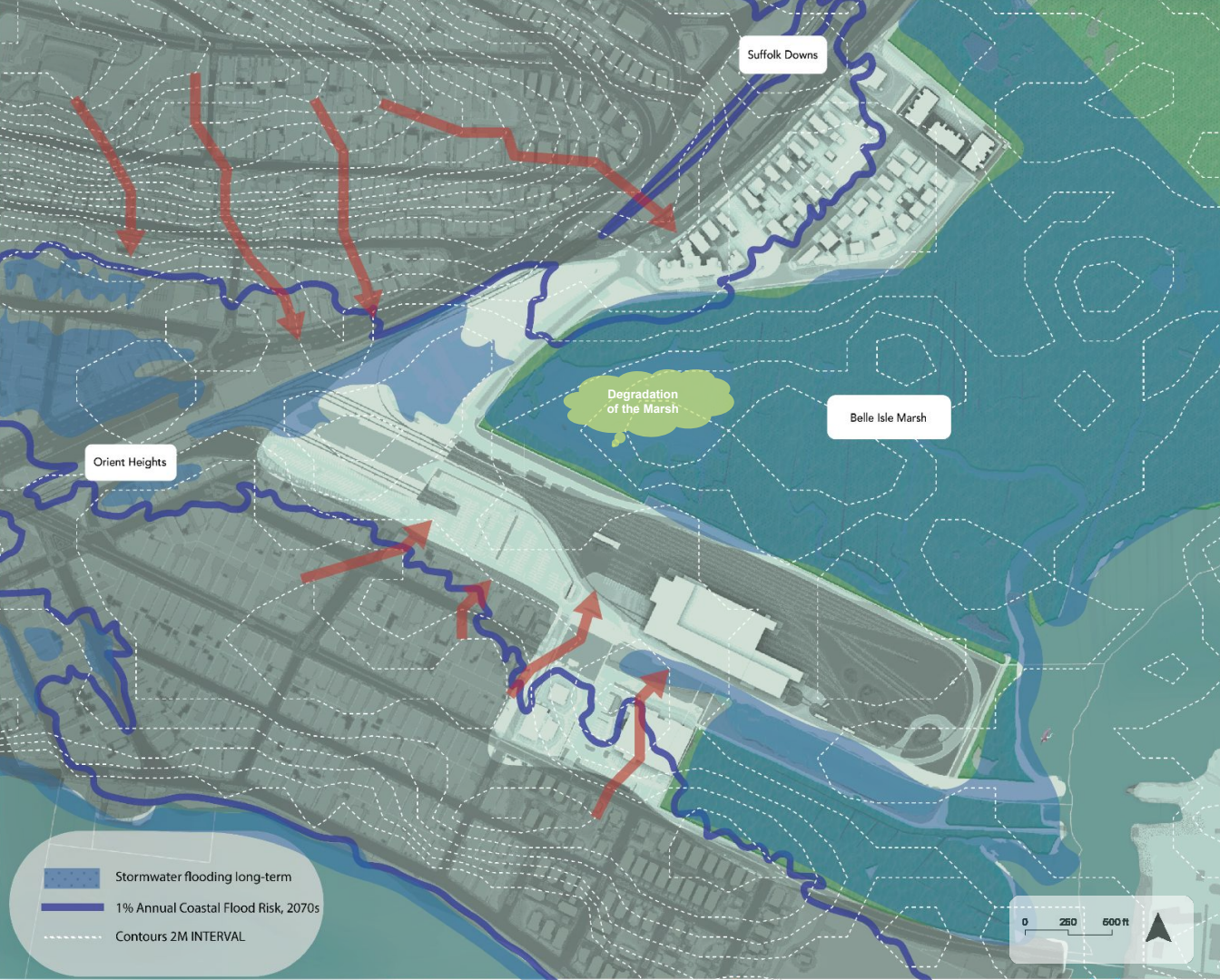
Understanding ownership allows us to better understand the coordination necessary to put forward our plan.

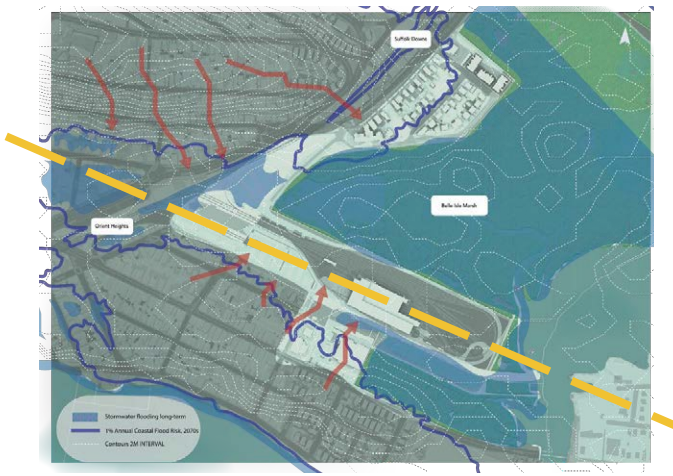
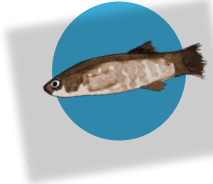


Environmental Considerations:

Watersheds and Stormwater Runoff

- The terrain of the land, combined with the % of permeability creates areas of water pooling
- The precarious condition of the marsh towards the casket site
- The coastal flood risk are the key environmental considerations our proposal is looking at



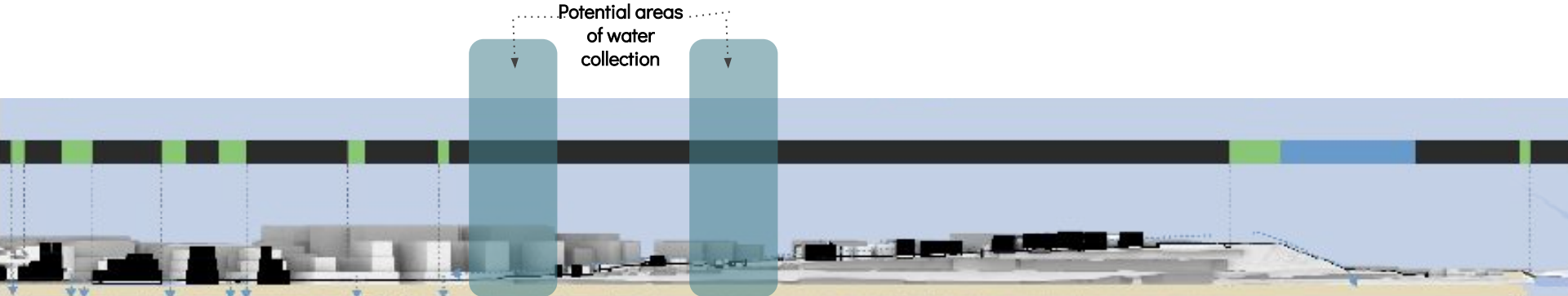


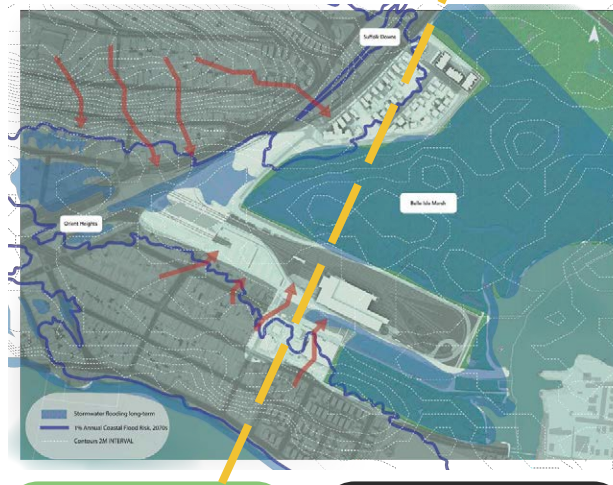
15%
Permeable
Surface

85%
Impermeable
Surface

Environmental Considerations:

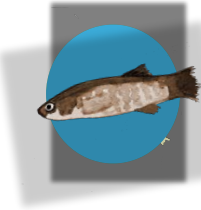
Impermeable
Surfaces





50%
Permeable
Surface

50%
Impermeable
Surface



Environmental Considerations:

Impermeable
Surfaces





BUILDING AGE: AN INDICATOR OF FLOOD RISK

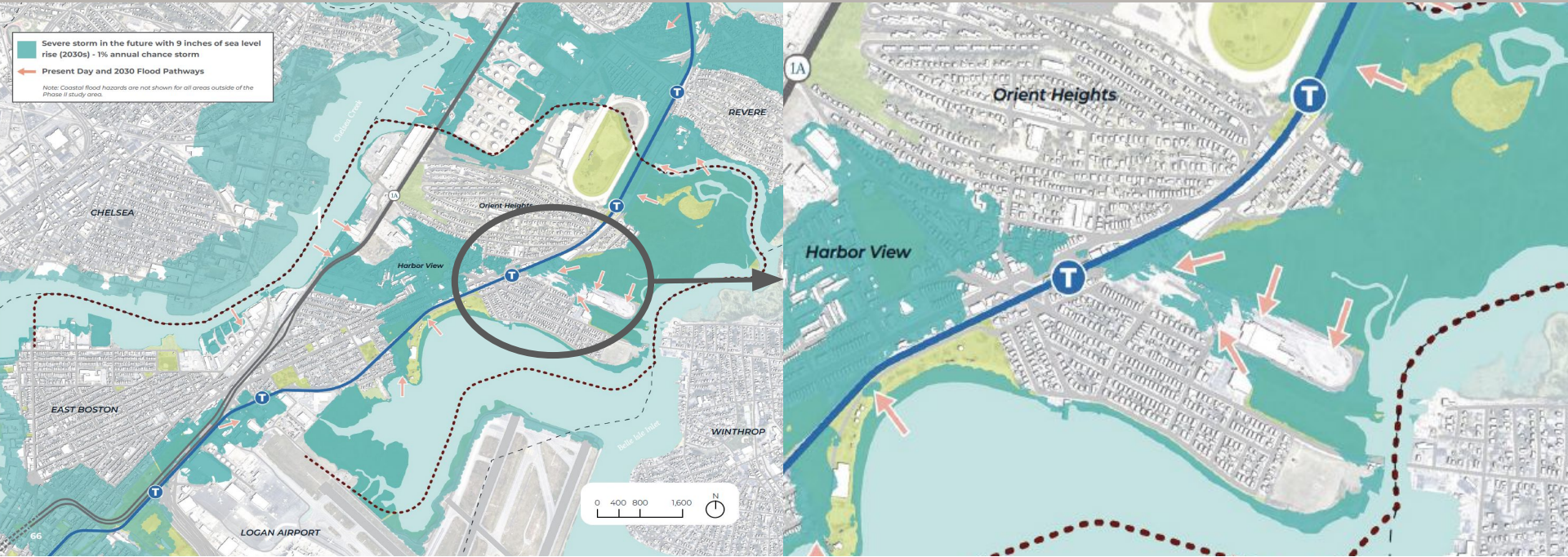


In a recent MAPC report “Water, Water Everywhere” (2023) points:

- **Flood will increase costs for the most vulnerable, especially for houses built before 1980.**
- **Flood history disclosures should be required** Massachusetts, 1 of only 15 states with no disclosure requirements for potential home buyers. **Renters should be aware of risks to their properties.**
- **Funding needed for stormwater management using green and gray infrastructure** to meet the increasing flood risks

Source: <https://www.mapc.org/wp-content/uploads/2023/05/Stormwater-ReportFINAL.pdf>; <https://www.mapc.org/resource-library/stormwater-flooding/>

Flood Risk : Climate Ready Boston

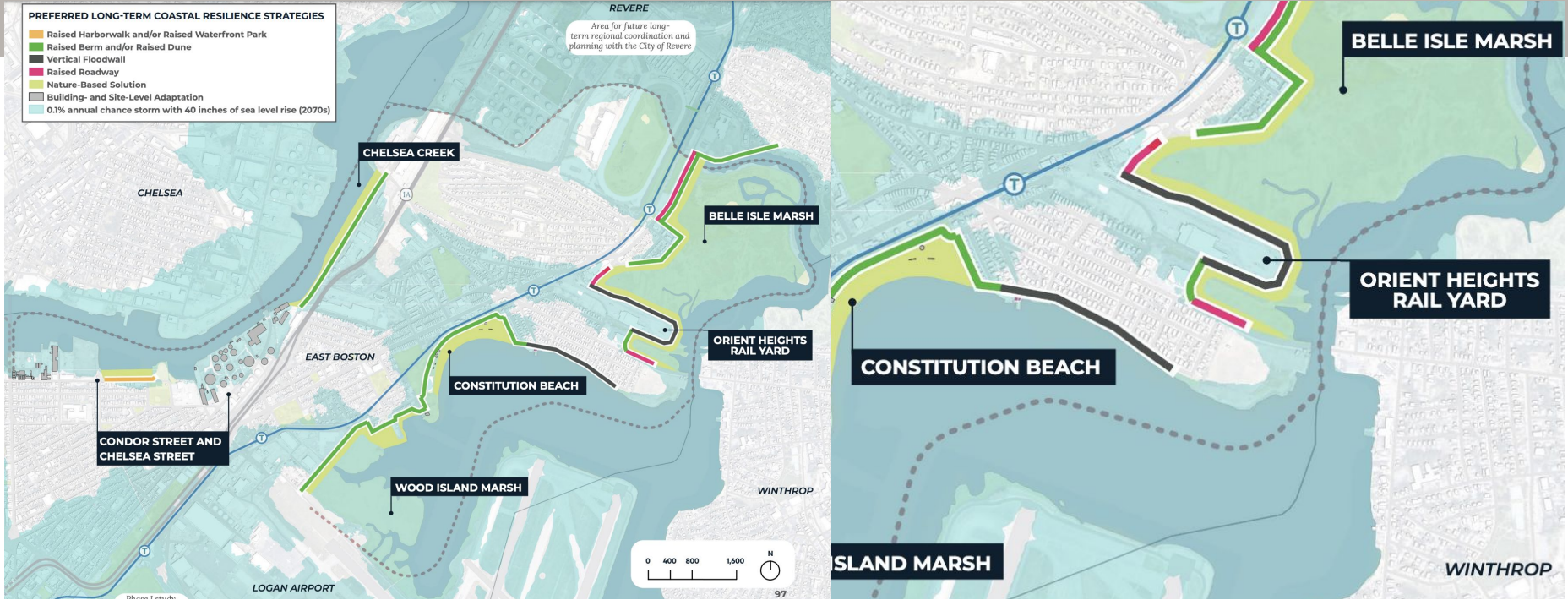


Stormwater Flooding in East Boston

Severe Storm with 9 inches (ca. 23 cm) of sea level rise (2030s), 1% annual chance storm

Source: Coastal Resilience Solutions for East Boston and Charlestown Phase II, <https://www.boston.gov/sites/default/files/file/2022/08/Coastal-Resilience-Solutions-for-East-Boston-and-Charlestown-Phase-II-August-2022.pdf>

Countering Flood Risk : Climate Ready Boston Phase II



City of Boston Preferred Long-Term Coastal Resilience Strategies

(Left) Strategies for the North of East Boston

(Right) Close-up of Strategies for Orient Heights Rail Yard and Belle Isle Marsh

Source: Coastal Resilience Solutions for East Boston and Charlestown Phase II, <https://www.boston.gov/sites/default/files/file/2022/08/Coastal-Resilience-Solutions-for-East-Boston-and-Charlestown-Phase-II-August-2022.pdf>

Current Re-zoning Proposal: 1141 Bennington St. Development



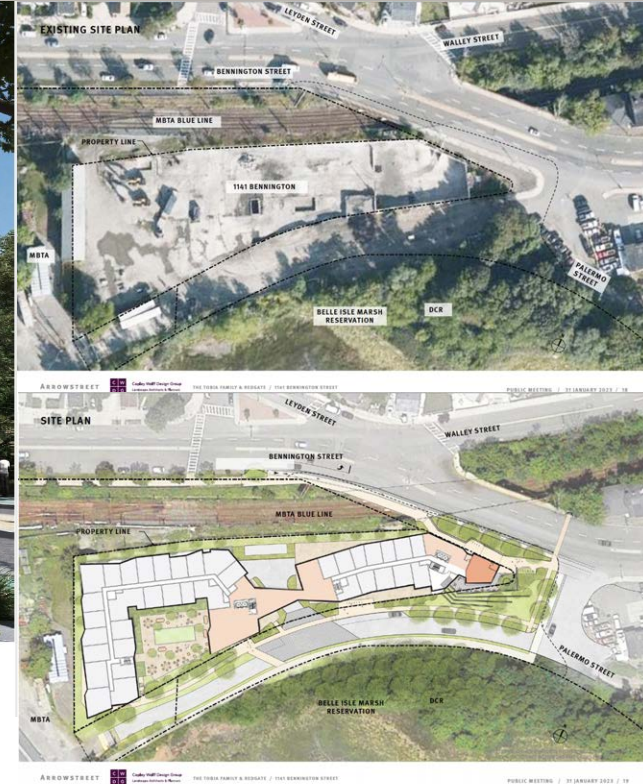
ARROWSTREET CW Copydy Wolff Design Group
DG Landscape Architects & Planners

THE TOBIA FAMILY & REDGATE / 1141 BENNINGTON STREET

PUBLIC MEETING / 31 JANUARY 2023 / 28

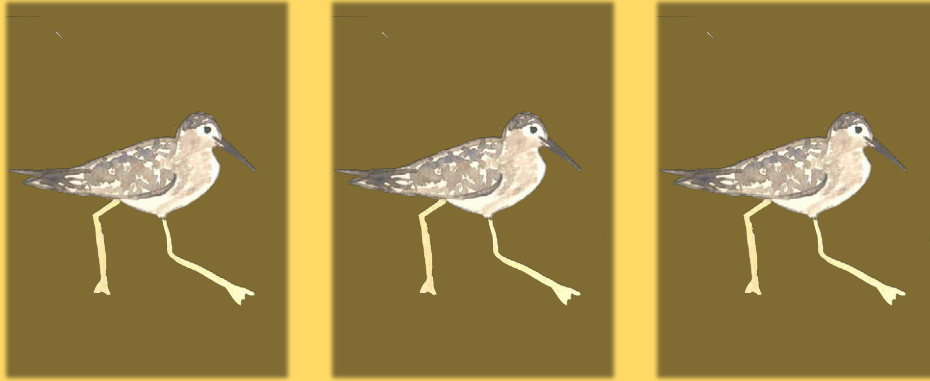
Current Proposal to Re-zone from **Industrial** to **Residential**

The 1141 Bennington St. Development is a Redgate Real Estate and Tobia Family (owners of the New England Casket Factory) joint development.



ARROWSTREET CW Copydy Wolff Design Group
DG Landscape Architects & Planners

PUBLIC MEETING / 31 JANUARY 2023 / 19



**A WALK ALONG THE BELLE ISLE MARSH THAT PROVIDES
NEEDED FLOOD PROTECTIONS AND EXTENDS WATERFRONT
ACCESS TO EAST BOSTON RESIDENTS**

Belle Isle Marsh Walk



LAND USE/LEGAL

ENVIRONMENT

FLOOD RISK

TRANSPORTATION

EDUCATION

FACTORS

Proposed land-use change from industrial to residential is not sufficient for mid-range climate planning; and can be used to support Chp. 91 (Waterfront Access).

The Marsh is a lung for East Boston as a carbon sink and a refuge / bird airport for 250+ bird species

Climate Ready Boston has Proposed Floodwalls, Berms + Nature-based Solutions

Blue Line is a Critical Resource for the East Boston Community, + Flooding puts the whole line at Risk

Land Stewardship begins with Community Buy-in + Public Education Campaigns



APPROACH

Leveraging multiple public landowners to purchase Casket Factory Parcel and create a comprehensive low-cost flood mitigation strategy to protect critical infrastructure

Promoting Marsh health/growth, community stewardship, and investing in restorative actions

Landscaped Marsh walk along Floodwall, Raised Berm, Rain Garden, and Playground

Protecting the critical facilities / railyard of the Blue Line and Increasing Circulation in the Area

Grounding visitors and community members with knowledge around the area through graphics about its inhabitants with an educational center

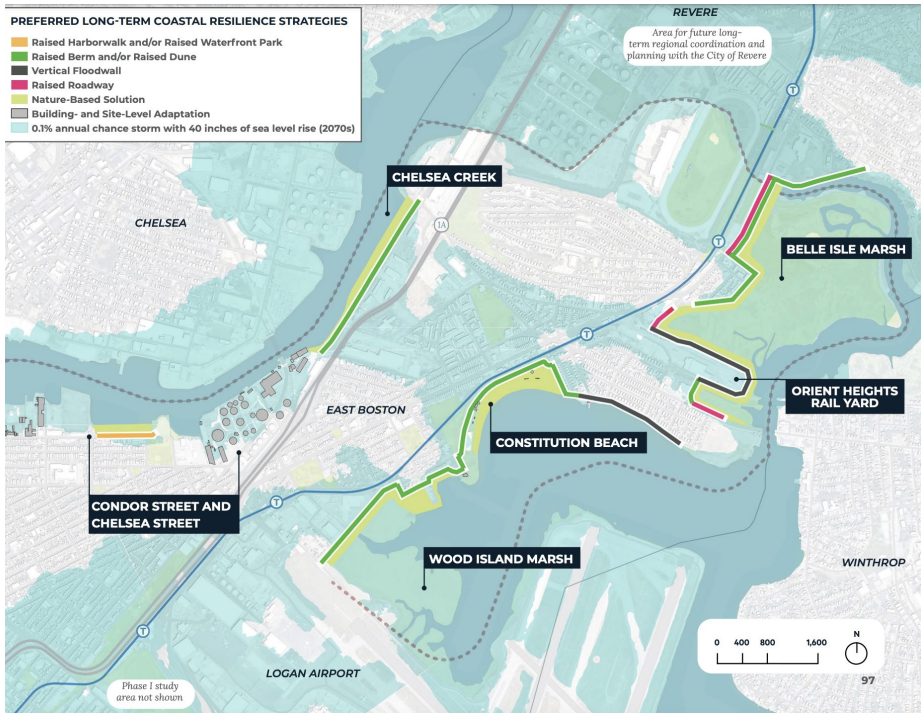
Site Plan

- Education Center
- Walkable Berm
- Landscaped Flood Wall
- Gravel Lok Access Route
- Flood Wall
- Public Park, Playground + Storm Water Catchment Area



- **Colors** indicate different proposed structural features
- The Site is **located** between Belle Isle Marsh, Saratoga Street, Orient Heights (T Stop) and Suffolk Downs (T Stop)

As a **comprehensive proposal**, this site plan aims to increase public waterfront access, validate existing land use in many of the sites, and implement low-cost, necessary flood mitigation strategies.



Climate Ready Boston Phase II

- Vertical Floodwall
- Raised Roadway
- Raised Berm
- Nature Based Solution

Belle Isle Marsh Walk

- Vertical Floodwall + Walkway
- Landscaped Floodwall
- Raised Walkable Berm
- Nature Based Solution
- Gravel Access Route
- Public Playground and Rain Garden

Design Principles



ACCESS TO NATURE + WATERFRONTS

Promote a safe, accessible waterfront designed to engage both community members and nature enthusiasts (bird watchers and more), while also informing stewardship.

.....



FLOOD RESILIENCY + MINIMIZING DAMAGES

Decrease impervious surfaces, introduce flood walls and walkable berms to provide flood and water damage reduction strategies that are able to help from rainstorms to more extreme weather events.

.....



PROTECTING CRITICAL MOBILITY FACILITIES

Consider known & expected developments – including local & regional development patterns & land use changes.

.....



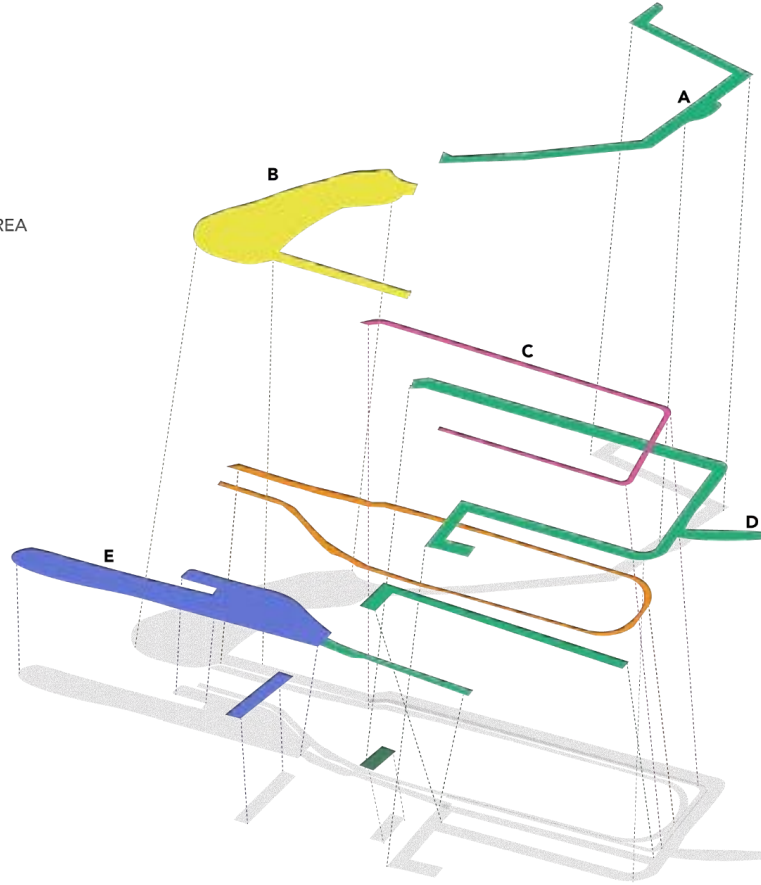
MARSH RESTORATION

Shift development to support Marsh health by filtering groundwater, revitalizing edges, and generating possibility.

THE BELLE ISLE MARSH WALK

PLAN DIAGRAM

- A — MARSH WALK + BIRD OBSERVATION DECK
- B — WALKABLE LANDSCAPE PARK + RAIN CATCHMENT AREA
- C — MARSH WALK CORRIDOR
- D — MARSH WALK + NATURE OBSERVATION DECK
- E — PLAYGROUND, PARK + RAIN CATCHMENT AREA

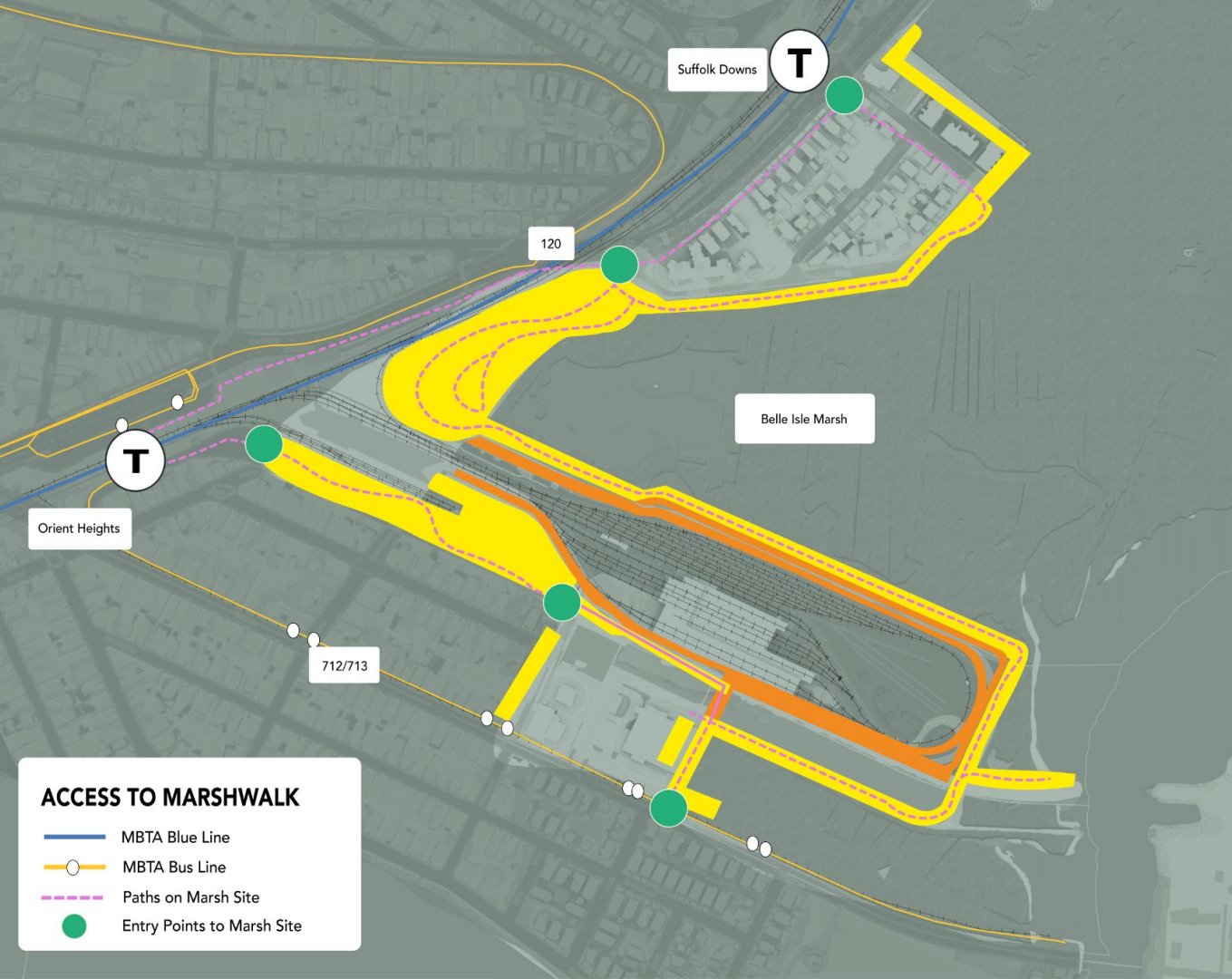


- Education Center
- Walkable Berm
- Landscaped Flood Wall
- Gravel Lok Access Route
- Flood Wall
- Public Park, Playground
+Storm Water Catchment Area



WALK WITHIN EXISTING MOBILITY NETWORK

- **Line Colors** indicate different proposed mobility paths
- The Site is **located** between Belle Isle Marsh, Saratoga Street, Orient Heights (T Stop) and Suffolk Downs (T Stop)
- There are two bus routes that operate in this site:
 - **Bus 712/713** to Winthrop
 - **Bus 120** to Maverick and Brandywyne Village



ACCESS TO MARSHWALK

- MBTA Blue Line
- MBTA Bus Line
- - - Paths on Marsh Site
- Entry Points to Marsh Site

CIRCULATION

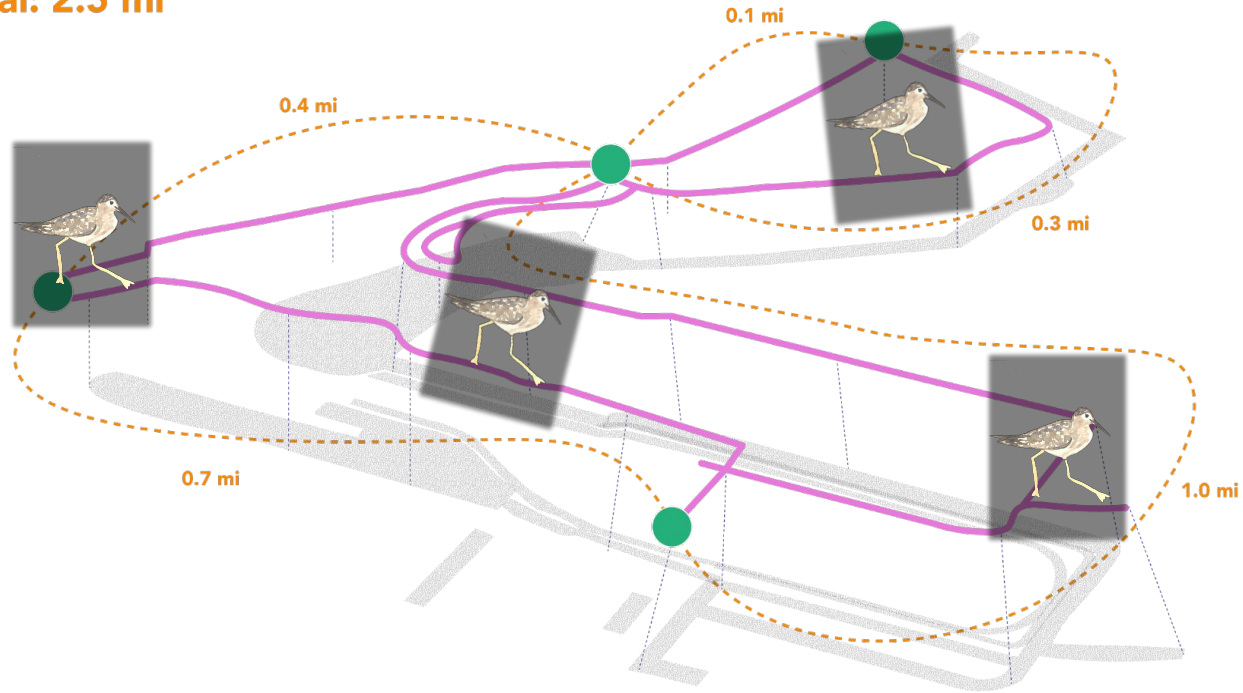


Mobility around the marsh is intended to encourage East Boston community members and visitors from around Boston to not only **gain access to the marsh**, but also to **learn about its essential role** in protecting both human and non-human communities.

THE BELLE ISLE MARSH WALK

ON-SITE CIRCULATION

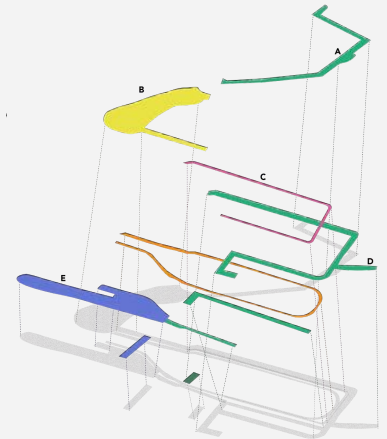
Total: 2.5 mi



Let's go on a walk!

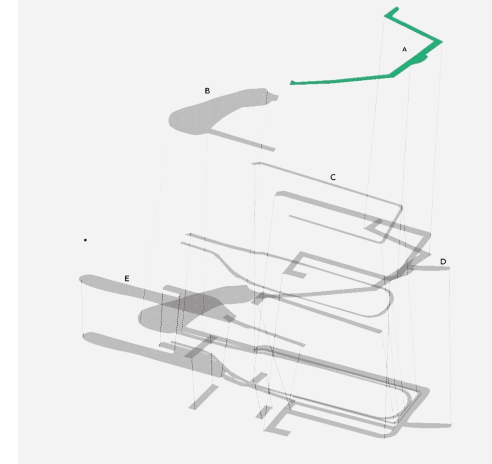
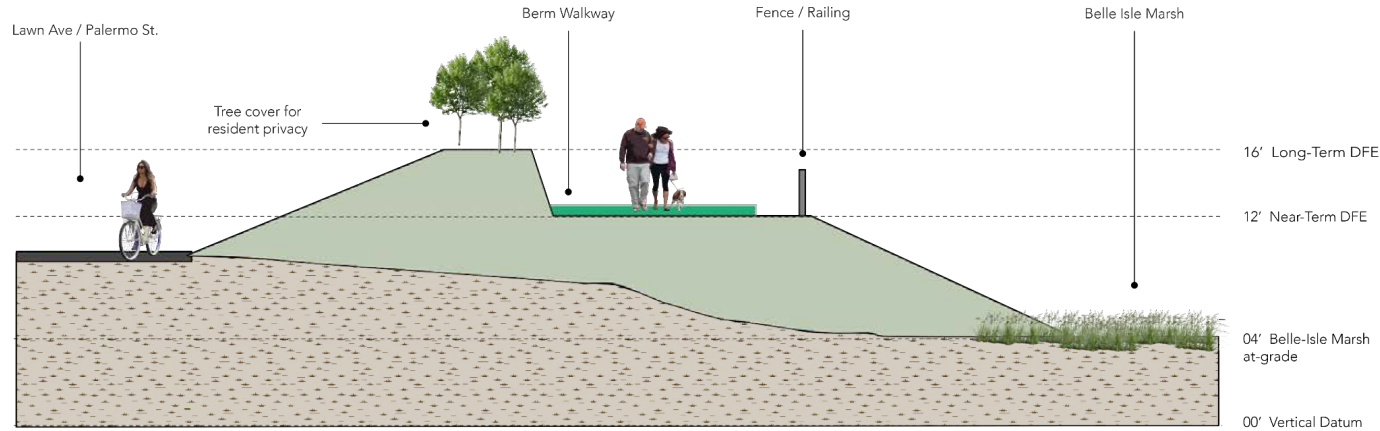


Locator Maps for the Walk



Bella starts the walk at the **Orient Heights** Blue Line T Stop, while **Isla** starts at **Suffolk Downs**. They'd like to meet in the middle of the Belle Isle Marsh Walk, at the lookout point.

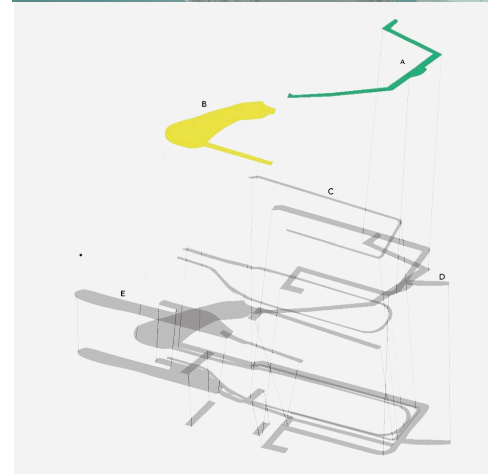
Transect: Lawn Ave / Palermo St Berm, Facing Orient Heights



Isla enters the walk from the Palermo St. berm and heads to the Landscape Park.

[EMILY]

Elevation: Landscape
Park Entrance, Facing
Orient Heights



Isla then enters the Landscape Park.

THE BELLE ISLE MARSH WALK

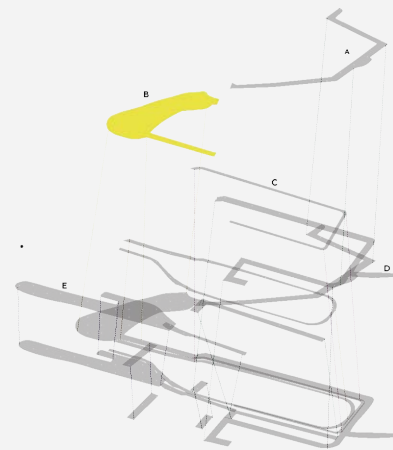


Orient Heights

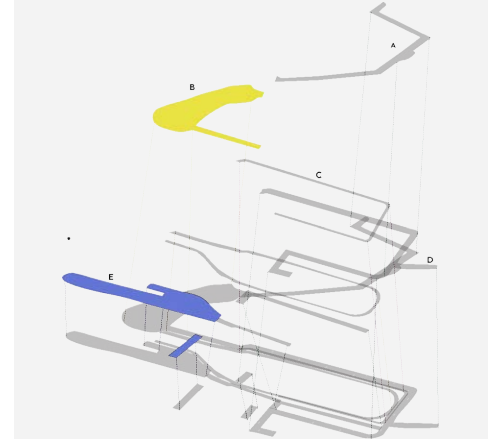
Belle Isle Marsh



View: Landscape
Park on Austin Ave,
Facing Northeast



Plan: Playground / Rain Garden Landscape Park

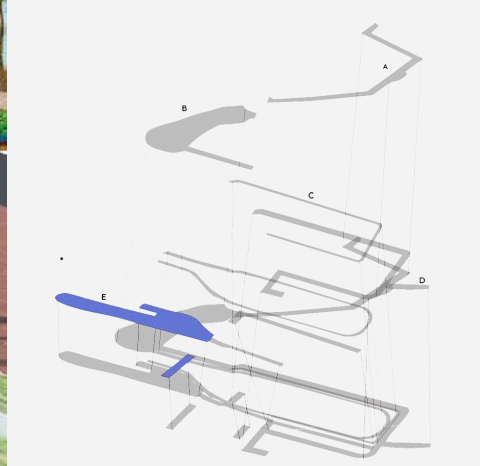


Meanwhile, **Bella** enters Playground and Rain Garden through the Orient Heights Station.

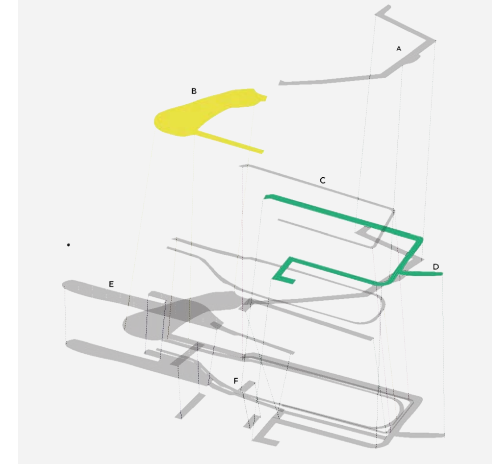
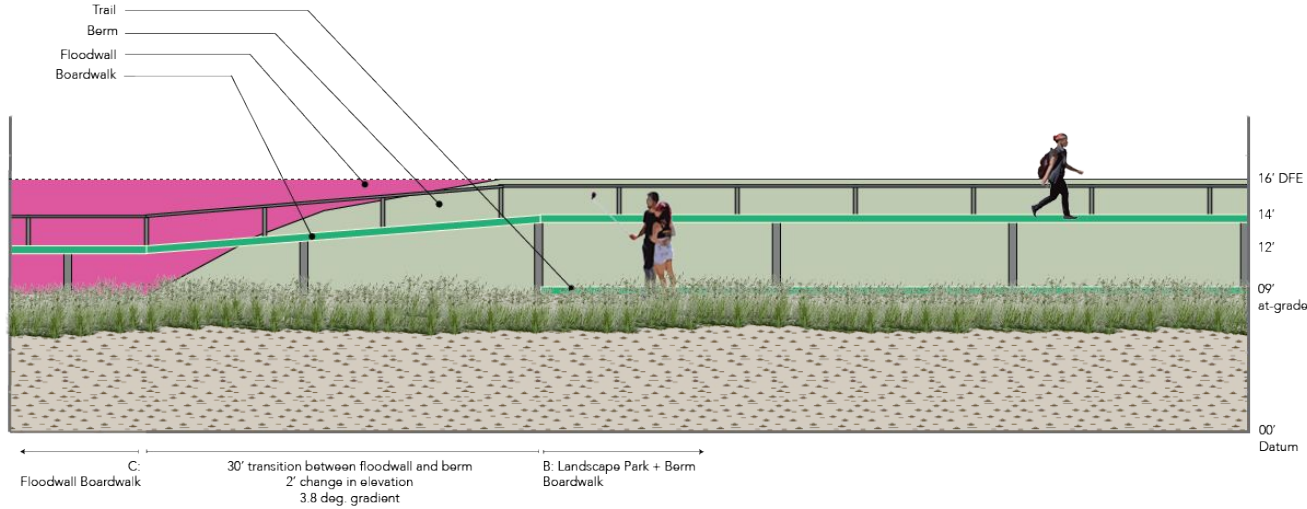
THE BELLE ISLE MARSH WALK



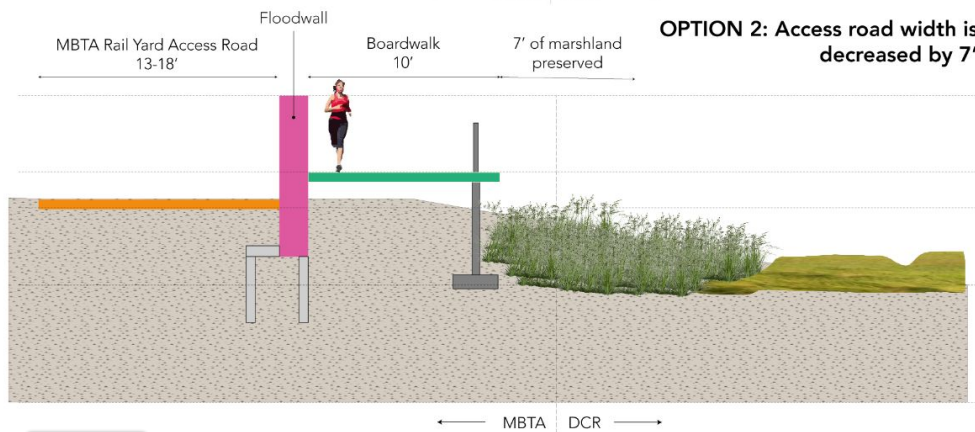
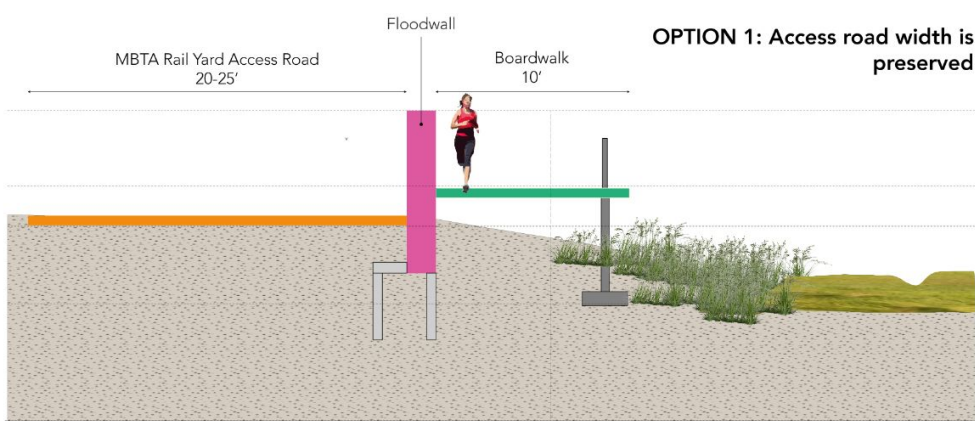
View: Playground /
Rain Garden Facing
Winthrop



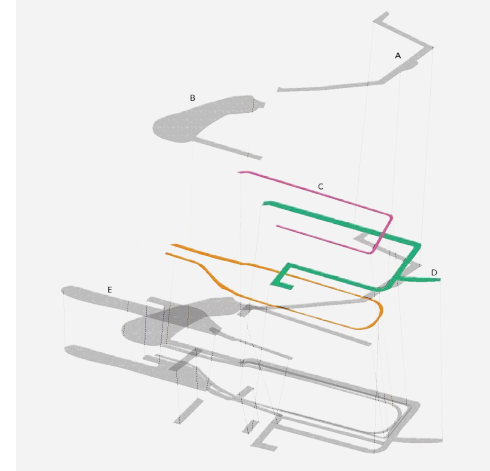
Elevation: Walkway from Landscape Park, Facing Southwest



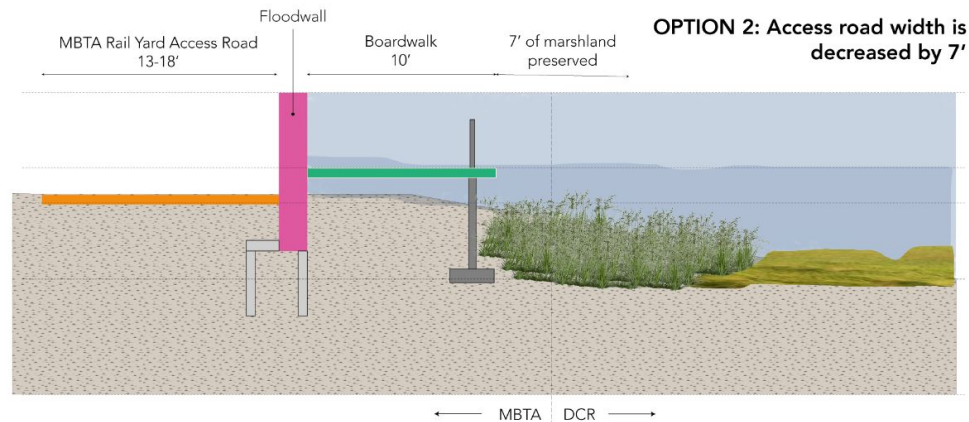
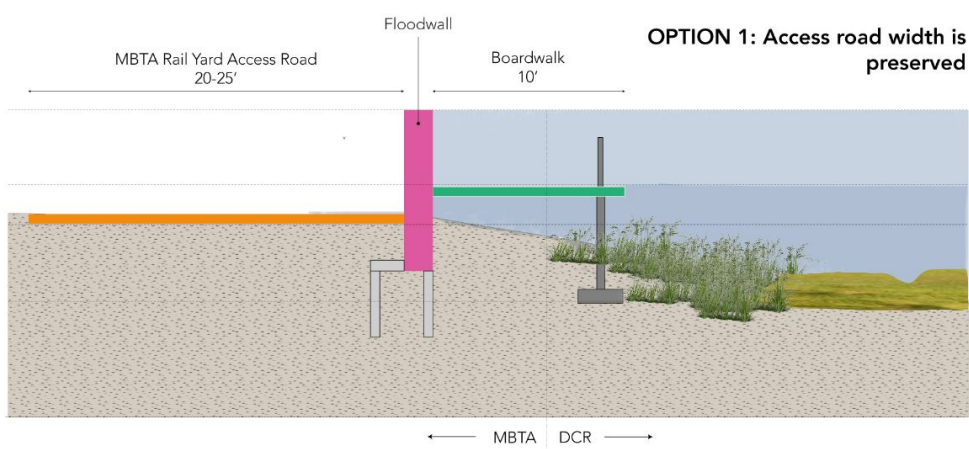
Isla then crosses from the Landscape Park to the walkable floodwall boardwalk.



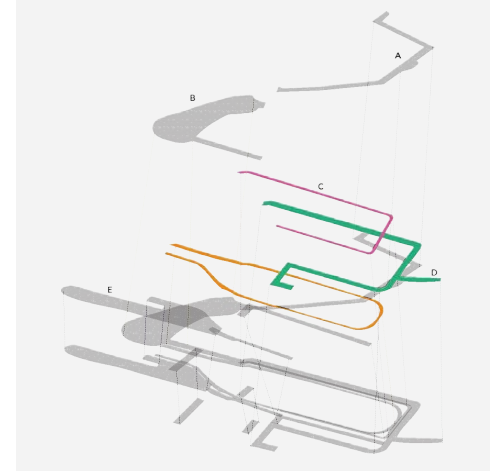
Transect: Flood Wall Boardwalk w/ Variation for Marsh Growth + Redacted Access Road



Isla continues along the walkable floodwall boardwalk.

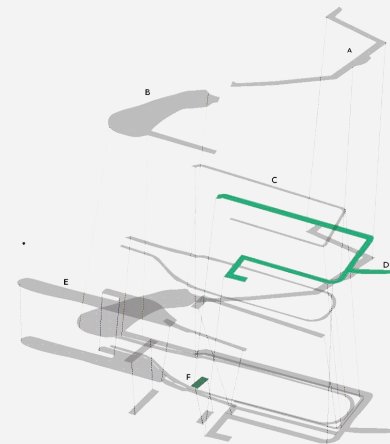
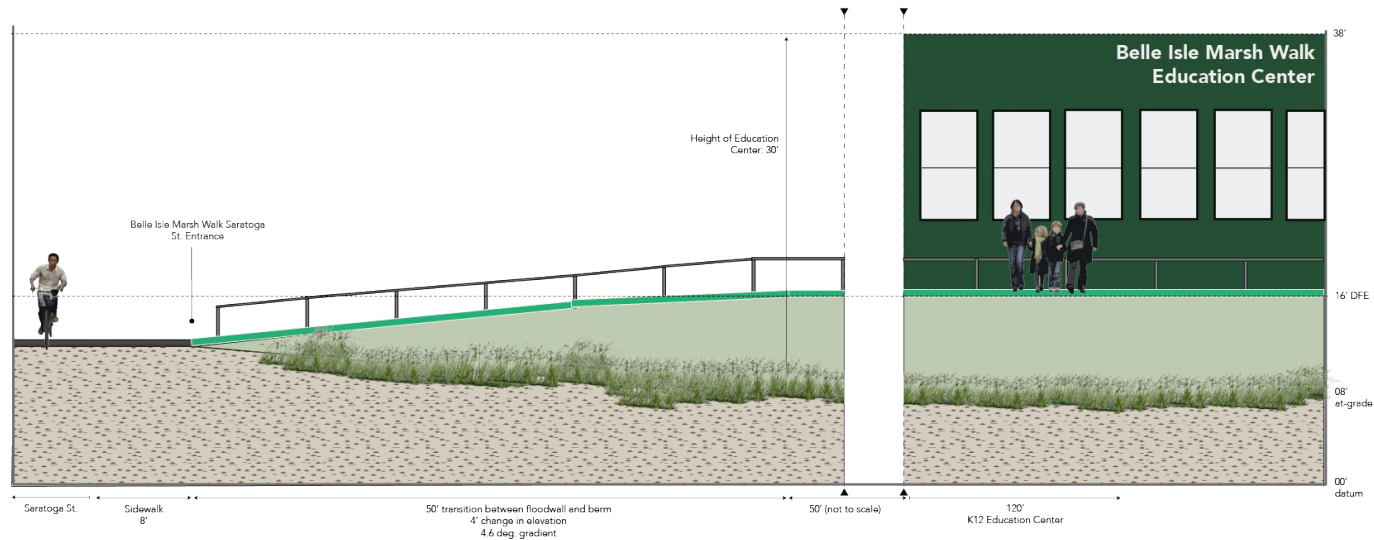


Transect: Flood Wall Boardwalk w/ Variation for Marsh Growth + Redacted Access Road



This is what the boardwalk looks like during a flood event.

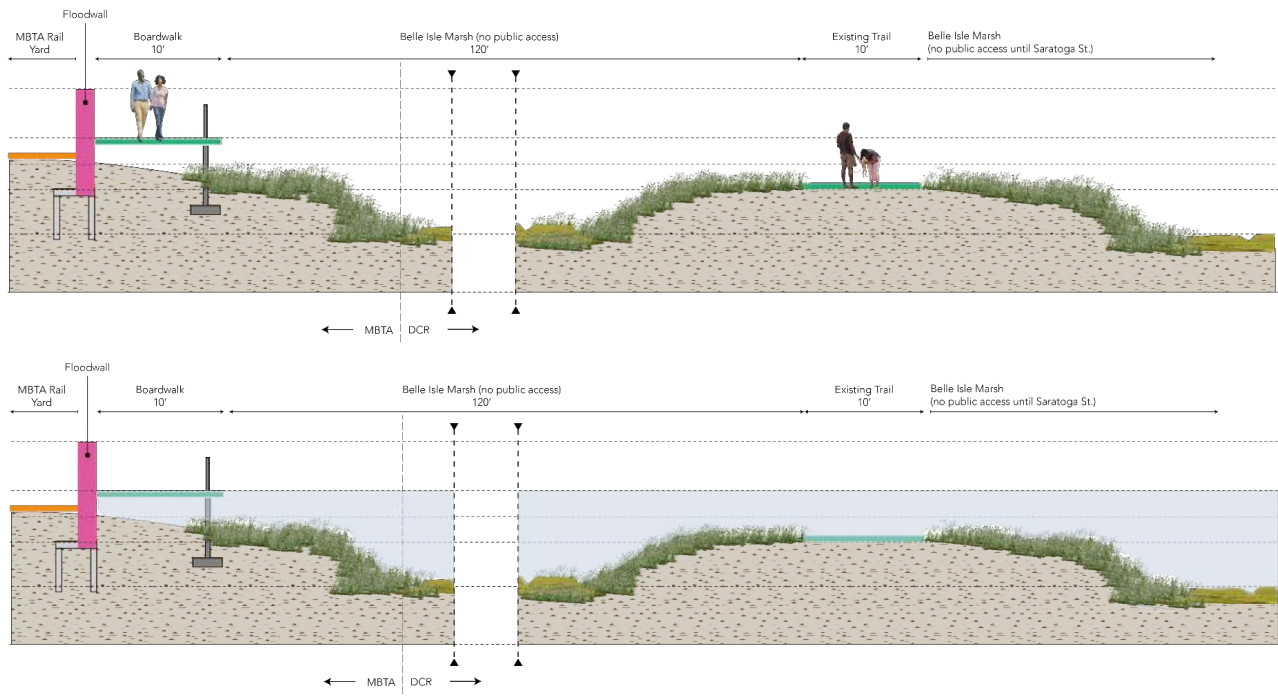
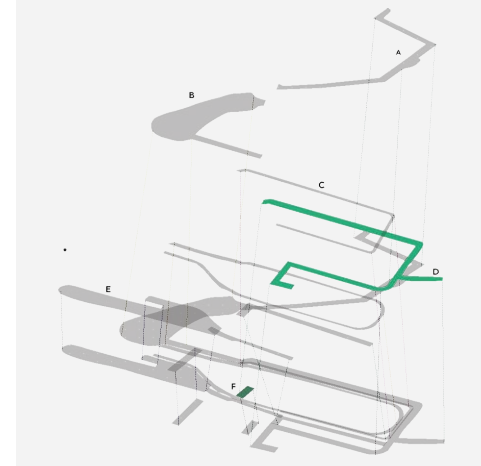
Elevation: Berm Boardwalk near Saratoga St / CVS, Facing Orient Heights



On the way, **Bella** spots the Belle Isle Marsh Walk education center, along with the Walk's Saratoga St. entrance.

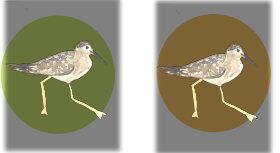
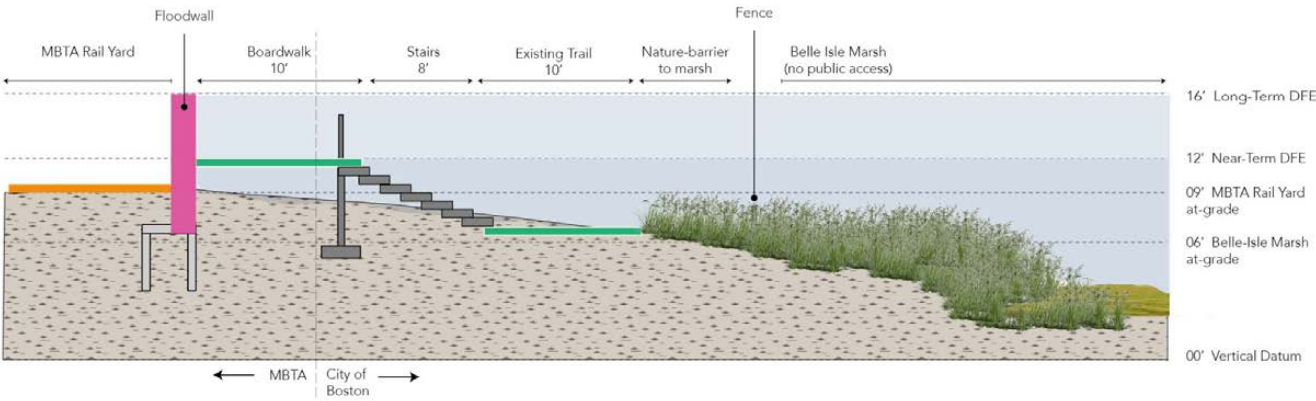
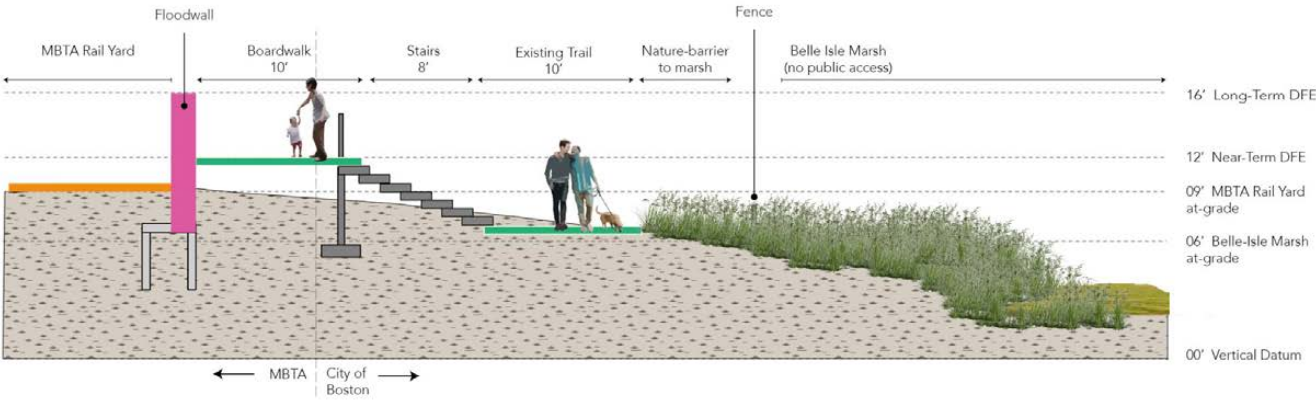
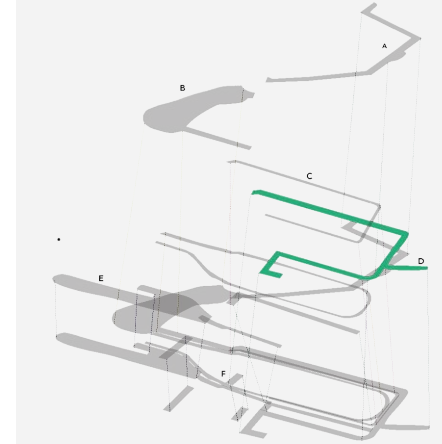
Transect: Flood Wall Boardwalk near Saratoga St / CVS, Facing Northeast

- 16' Long-Term DFE
 - 12' Near-Term DFE
 - 09' rail yard at-grade
 - 07' trail at-grade
 - 04' marsh at-grade
 - 00' Vertical Datum
-
- 16' Long-Term DFE
 - 12' Near-Term DFE
 - 09' rail yard at-grade
 - 07' trail at-grade
 - 04' marsh at-grade
 - 00' Vertical Datum



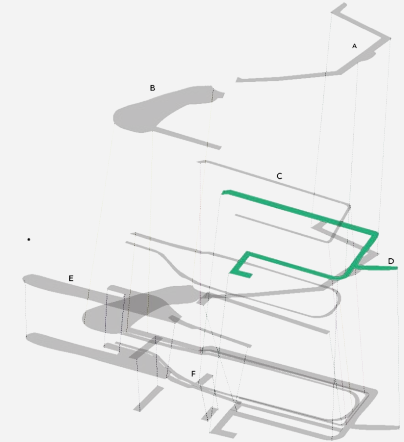
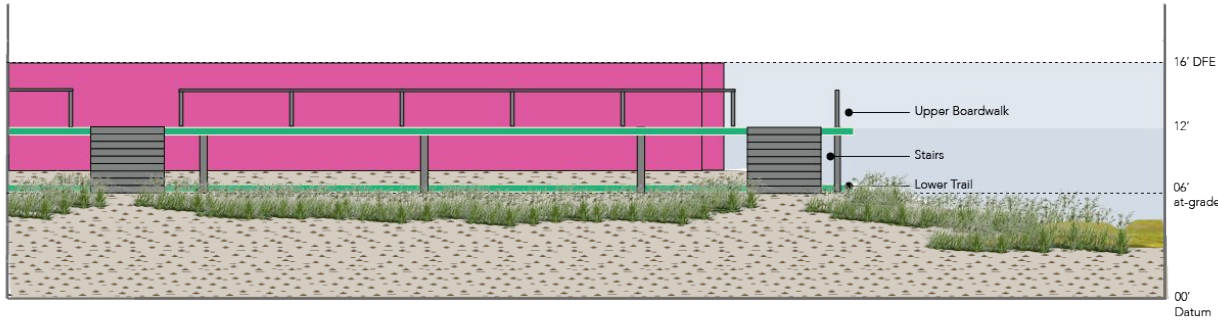
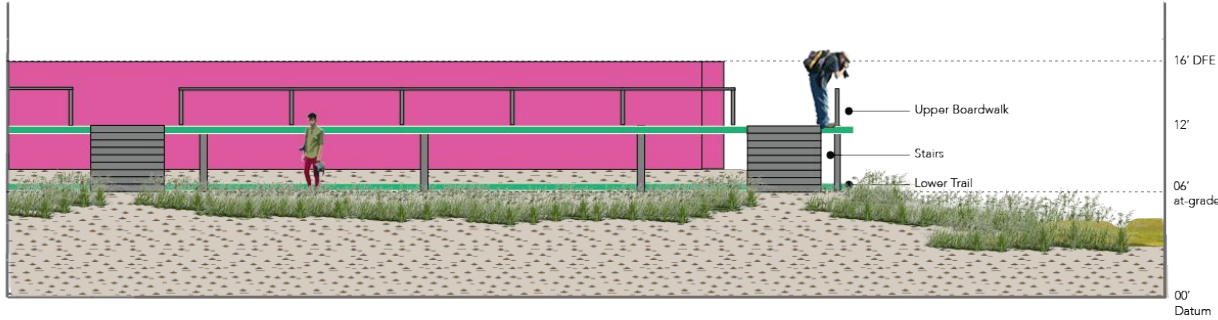
Here, **Bella** has two options: walking on the floodwall boardwalk or taking the lower trail. When the lower trail floods in the near-term, park-goers can still walk on the higher boardwalk.

Transect: Lookout Spot, Facing Northeast



Finally, **Bella** and **Isla** meet at the lookout spot!

Transect: Lookout Spot, Facing Northeast

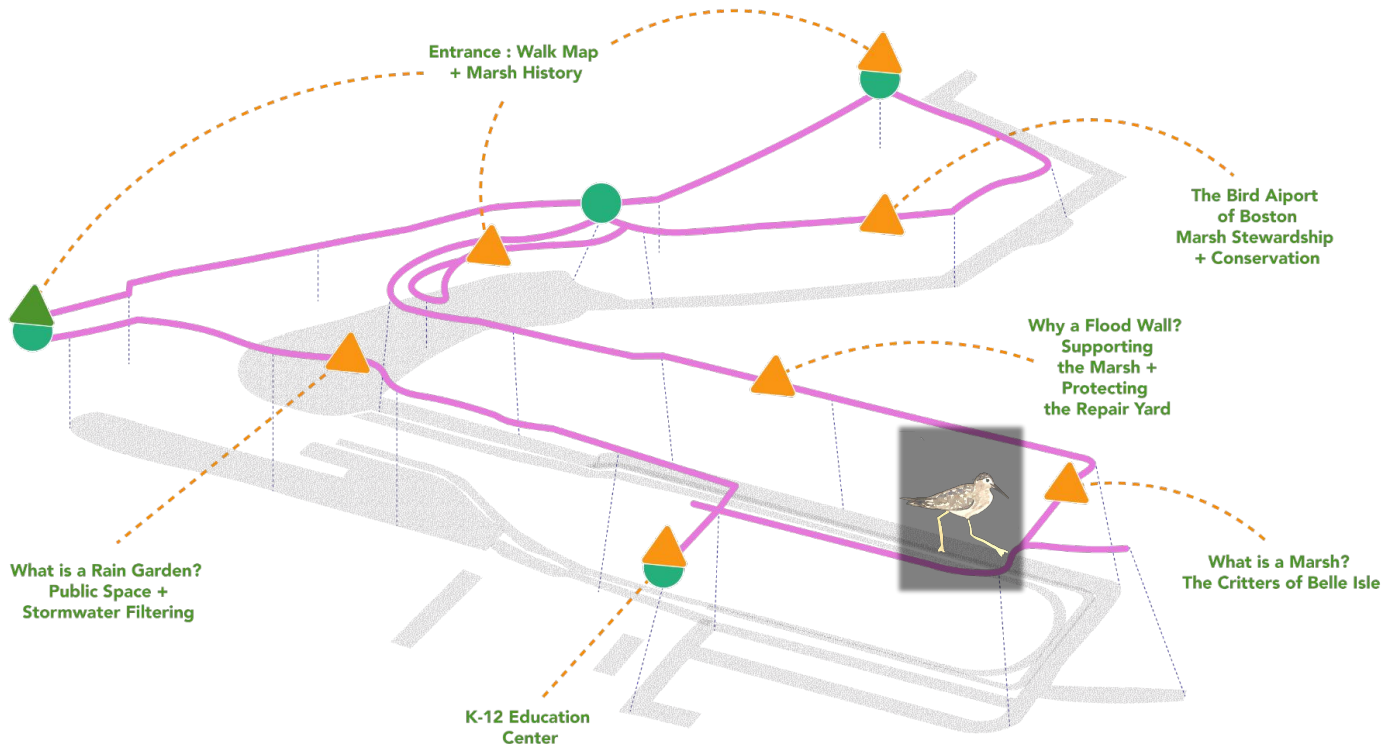


Bella and **Isla** end today's journey by looking out onto the Marsh.

THE BELLE ISLE MARSH WALK

EDUCATIONAL PANELS

A BIRD WITH
A VIEW!

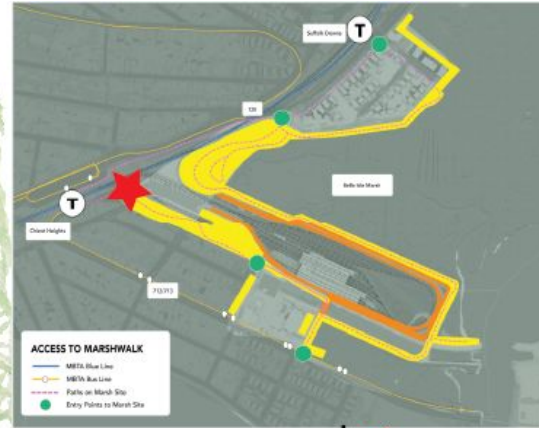


Welcome: Walk + Marsh History



WELCOME TO THE BELLE ISLE MARSH

Located in Northeast, East Boston, MA, the Belle Isle Marsh is Boston's last remaining salt marsh. The Belle Isle Marsh Walk helps to educate and immerse communities into the history of the marsh, its living organisms and its innovative green technologies.



HISTORY OF MARSH

With its beginnings as an island (Hogg/Breeds Island), the Belle Isle Marsh was predominately a place of agriculture.

With the Department of Conservation and Recreation acquiring it in 1975, Belle Isle Marsh Reservation opened in 1986 and was declared as an Area of Critical Concern in 1988, with the push for protecting the site stemming from the efforts of The Friends of Belle Isle Marsh. It is Boston's last remaining surviving saltwater marsh.

After years of neglect, the Belle Isle Marsh was restored in 2002, reviving the ecosystem and bringing people in. This serves as the last effort made to restore the marsh.

THE MARSH TODAY

With over 300 acres of land, the marsh is home to thousands of species of wildlife (see the right). It serves as the major "lung" to the region, providing vital resources to many endangered species and wildlife, and serving as a buffer against hurricanes and extreme weather.



Brown Mosquito



Green Crab



Saltmarsh Sparrow



Minnow



Osprey



Glossy Ibis

K12 Education Center



THE BELLE ISLE MARSH EDU. CENTER

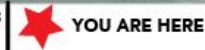
Located in Northeast, East Boston, MA, the Belle Isle Marsh is Boston's last remaining salt marsh. The Belle Isle Marsh Education Center serves as a hub for the community and marsh onlookers, providing Boston youth (K-12) with a place to learn more about what makes Belle Isle so unique and beautiful.

FACTS ABOUT EDUCATION CENTER

- Constructed in 1960
- Former Lot of Excel Academy Orient Heights
- Lot Size: 15,900 SQFT - 2 Floors, FAR: 2.0
 - Wifi Center
 - Belle Isle Cafe + Market
 - Belle Isle Gift Store
 - Belle Isle Marsh Exhibit
 - MBTA Railway Exhibit
 - MBTA Ticket Hub
 - Bike Storage
 - Parking Lot (connected with CVS)
 - Rooftop View of Belle Isle Marsh + Orient Heights + Winthrop
- Next to CVS Pharmacy
- 8 Minute Walk or 3 Minute Bike from Orient Heights Blue Line T Stop
- Access to 712/713 Bus to Orient Heights and Winthrop



Address: 1150 Saratoga St, Boston, MA 02128
HOURS: MON-SUN 9AM to 5PM

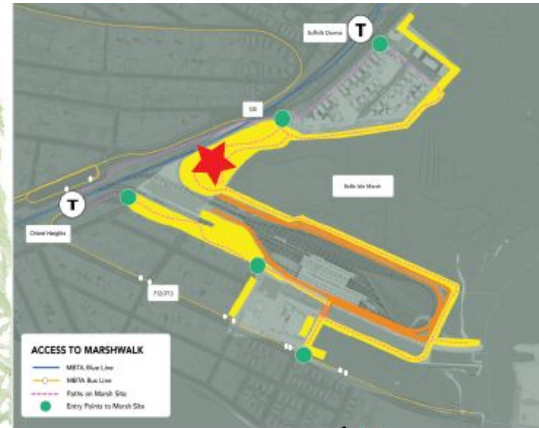


Belle Isle Marsh Rain Garden



BELLE ISLE MARSH RAIN GARDEN

Located in Northeast, East Boston, MA, the Belle Isle Marsh is Boston's last remaining salt marsh. The Belle Isle Marsh Rain Garden is an integral part of the marsh walk, providing community members with some green public space, and serving as a catchment/filtration area for stormwater and flooding.

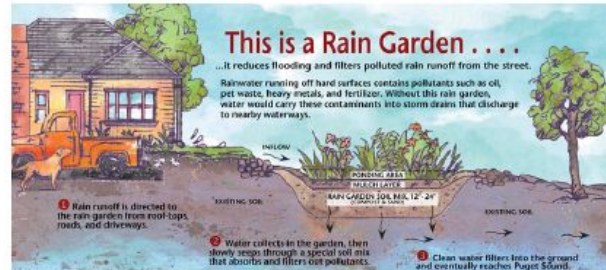


WHAT IS A RAIN GARDEN?

A rain garden is a natural technology that reduces flooding and filters otherwise contaminated/polluted rain and floodwater. This is especially impactful in this location, because it is the central most point of the site between the Orient Heights Repair Shop, the Belle Isle Marsh and the two residential areas of Orient Heights and Suffolk Downs.

WHY A RAIN GARDEN?

In addition to its features, we designed this garden to be a key area of greenspace for the public. This is possible in particular with the concept of a rain garden because the neighborhood as a whole lacks public access to green infrastructure, with the only access point currently being at the Northeast section of the Belle Isle Marsh, or where the current reservation is. We hope to promote access to nature, and play, through the vision of this rain garden.



(from Washington State University)

Belle Isle Marsh Floodwall



Policy Recommendations by Stakeholder



Eastie Community

Advocate against the 1141 Bennington St. development.

MBTA

Purchase and convert former Casket Factory parcel, with DCR and City of Boston, to push forward Marsh Walk as Flood mitigation strategy.

BPDA

Aid to explore possibility of Marsh Walk site plan, connect with community, and reconsider Casket Factory Parcel re-zoning.

Tobias Family

Consider Marsh Walk as alternative for parcel, see role in community preservation and participation beyond their site alone.

DCR

Push forward goals for the Marsh and work with the MBTA around the site plan. Purchase the former Casket Factory Site with MBTA and City of Boston, as well as empty building 1150 Saratoga Street (former Excel Academy)

City of Boston

Purchase and convert former Casket Factory parcel with MBTA and DCR to push forward Marsh Walk as Flood mitigation strategy.

THANK YOU!



Colors

#66cc99

#ffdf8f

#778c63ff

#3baad7ff

#50b048ff

#d0e577ff

#fac668ff

#e5beffff



#4b9ca0



#264e33



#427d5d



#4d942c



#dd589e



eae242



f28b0f



6376d6



25af7a

Heading 1

72px Didactic

Heading 2

36px Didactic

Heading 3

24px Didactic

Body Text

18px Didactic

Scale Guidelines

Site Plan: 1":30'

Section: 1":10'



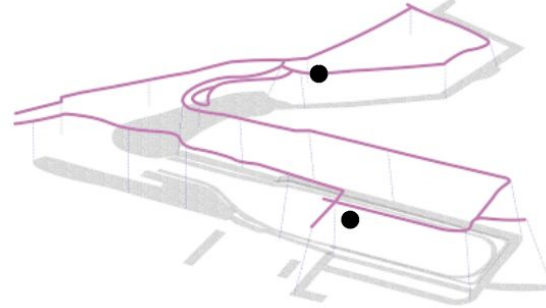
0 0.1 0.2 mi



MARSH LAND OWNERSHIP

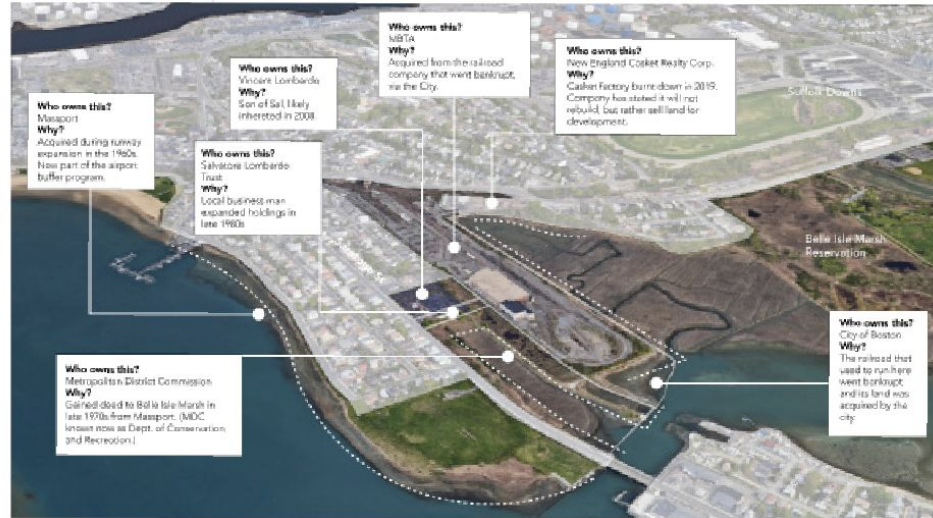


THE BELLE ISLE MARSH WALK CIRCULATION DIAGRAM



List of Owners

Tobias Family
MBTA
DCR
Salvatore Lombardo
Massport
Vincent Lombardo
City of Boston
Metropolitan District
Commission



Satellite Imagery

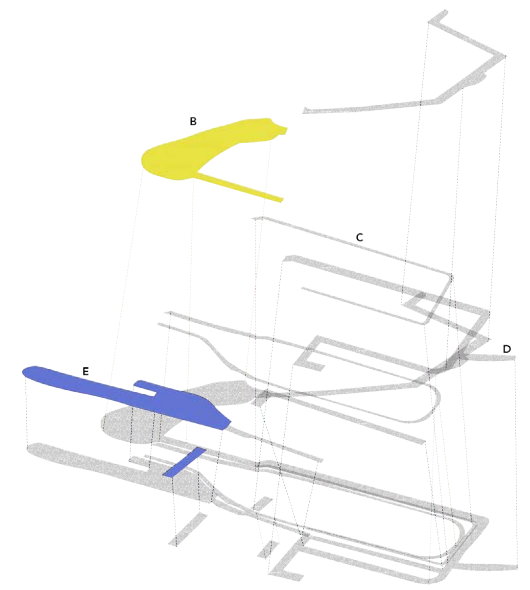


Customization Settings

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- Brightness: 0
- Contrast: 100
- Gamma: 0.75
- Saturation: 0
- Greyscale: Off



Plan for Public Playground + Rain Garden



Plan for Public Playground + Rain Garden

