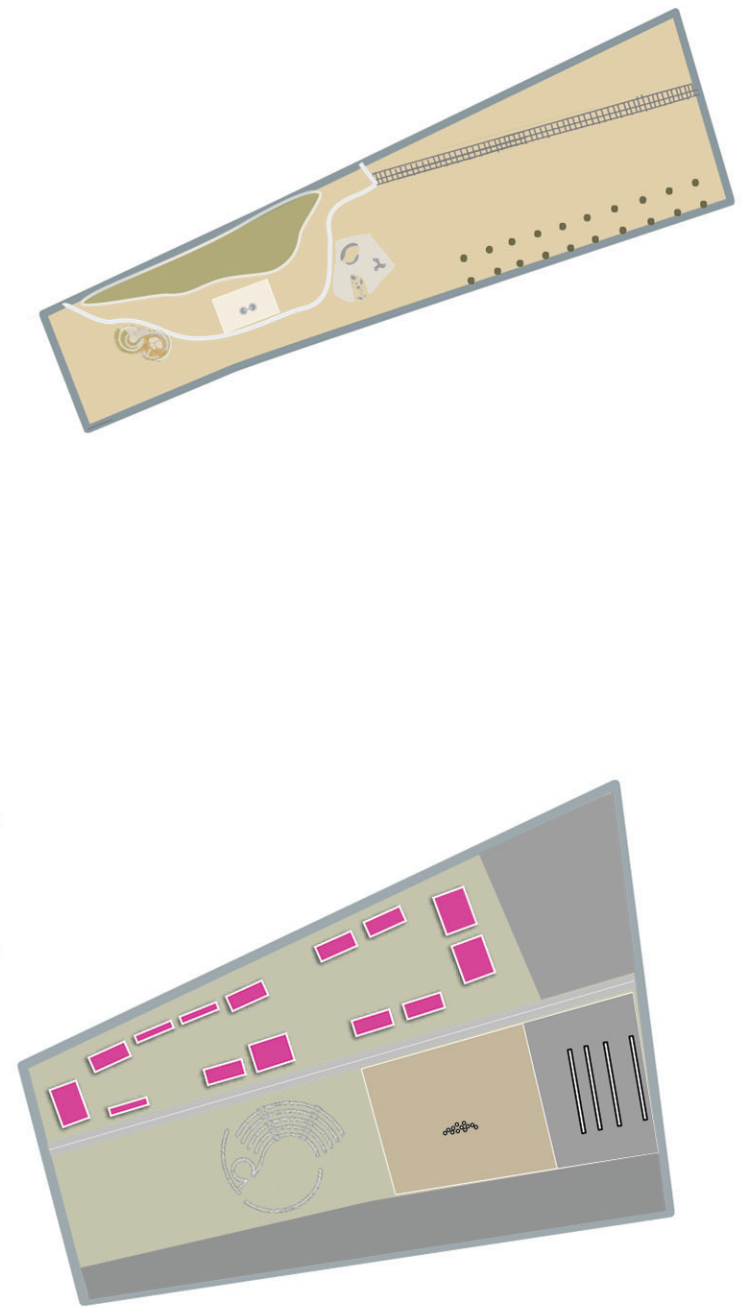
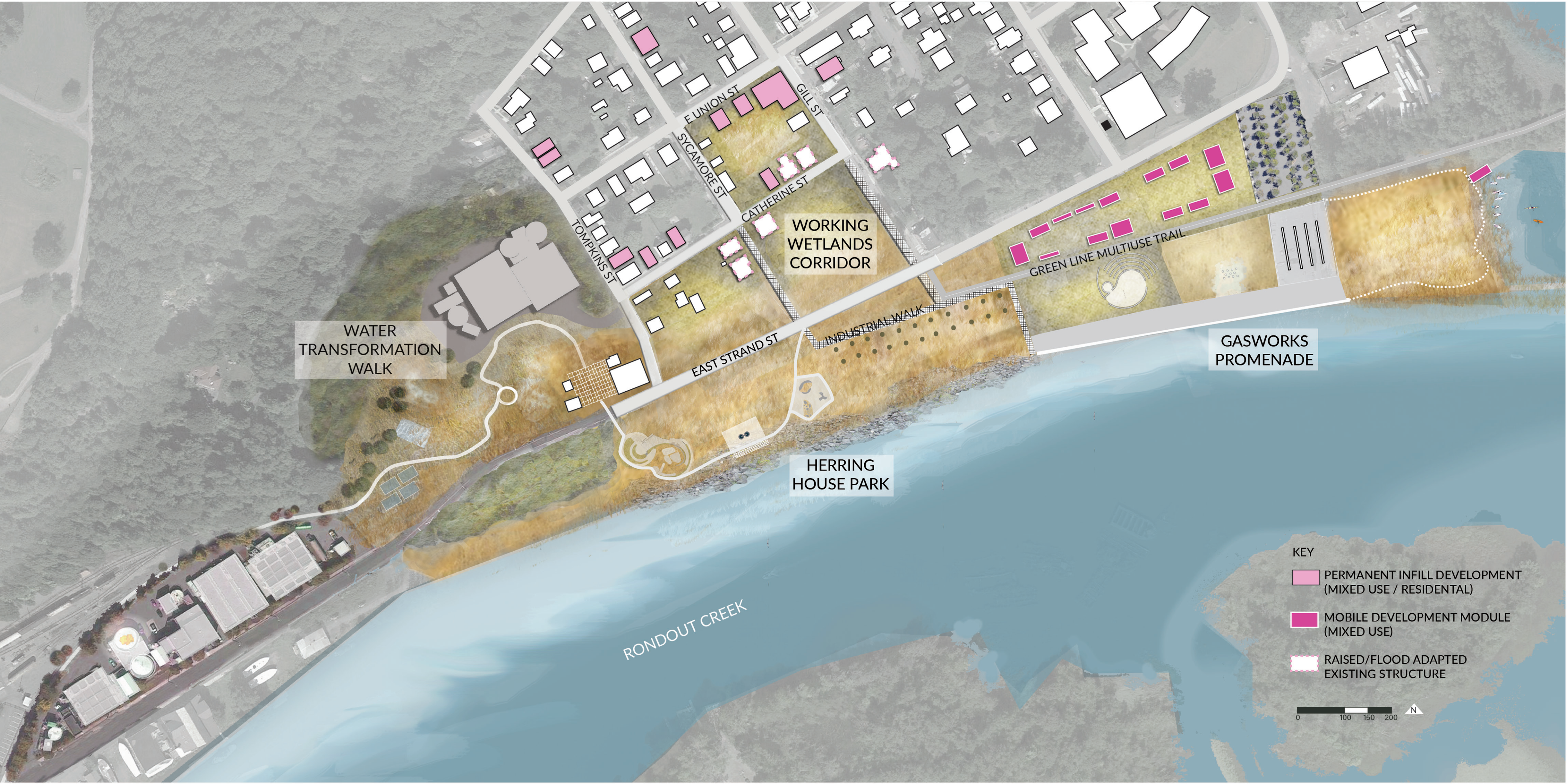


# PONCKHOCKIE'S WORKING WATERFRONT: PIONEER ECOLOGIES OF THE PAST, PRESENT, AND FUTURE

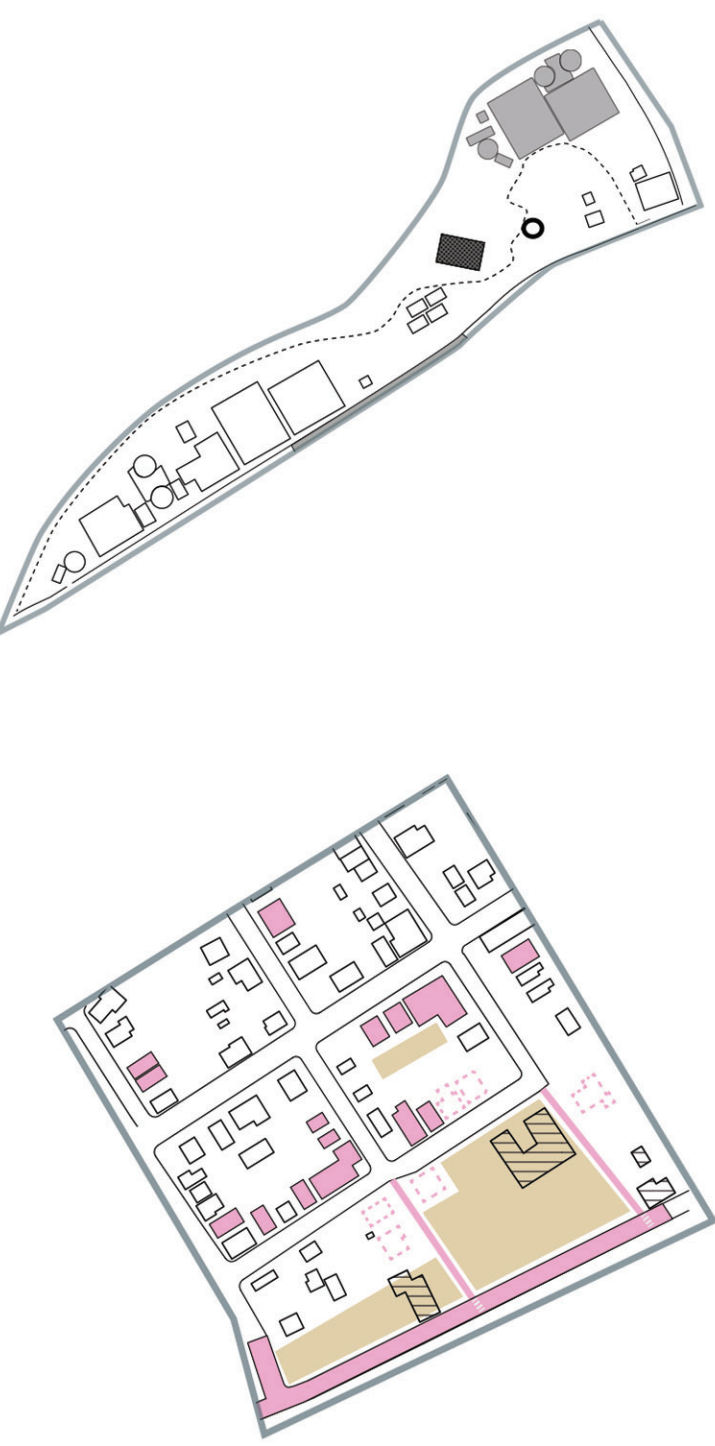
Eve Anderson and Liz Fabis

Ponckhockie's Working Waterfront repurposes past and current industrial waterfront infrastructure to create a more climate adaptive community. In this project, Ponckhockie's cement legacy becomes a bridge between the neighborhood's material history and a future where industrial, recreational, and ecological functions of the waterfront coexist.



- HERRING HOUSE PARK**
- habitat creation
  - ecorelatory children's play
  - brownfield cleanup
  - industrial heritage preservation

- GASWORKS PROMENADE**
- multi-function park combining industrial functions and climate adapted recreation
  - economic development opportunities, including in partnership with local organizations
  - habitat creation
  - water access

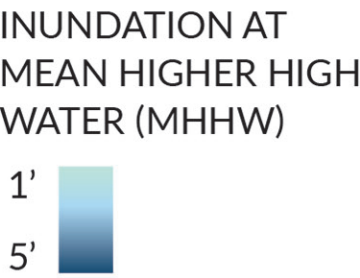


- WATER TRANSFORMATION WALK**
- multi-function landscape combining industrial functions and ecorelatory education
  - sea level rise resiliency
  - water quality improvements
  - invasive plant removal and reuse

- WORKING WETLANDS CORRIDOR**
- adaptive retreat: 5 buildings relocated, 6 buildings raised
  - infill development of up to 15 structures on vacant lots
  - East Strand Street raised 4 feet above existing grade
  - 2.1 acres of neighborhood public space created

## PHASING

	PHASE 1 (2020-2030)	PHASE 2 (2030-2035)	PHASE 3 (2035-2050)	PHASE 4 (2050-2080)
RESILIENCE	Land bank acquires vacant parcels and WWTP expansion site Raising and relocation of frequently flooded structures	Upland mixed use and affordable housing development Strand is partially raised	Wastewater treatment plant migration	Additional raising of E. Strand or development of new access route to Ponckhockie
ECONOMIC	Retrofit trolley line as Green Line trail Gasworks Promenade	Pedestrianization of Gill and Sycamore Street	Relocation of trolley museum	Upland migration of mobile development modules
ECOLOGIC	Bulkhead modification WWTP improvements Brownfield cleanup	Wetland installation Herring House Park	Eastern portion of Green Line trail rerouted through Ponckhockie	Cleanup and removal of former WWTP structures



## 2050



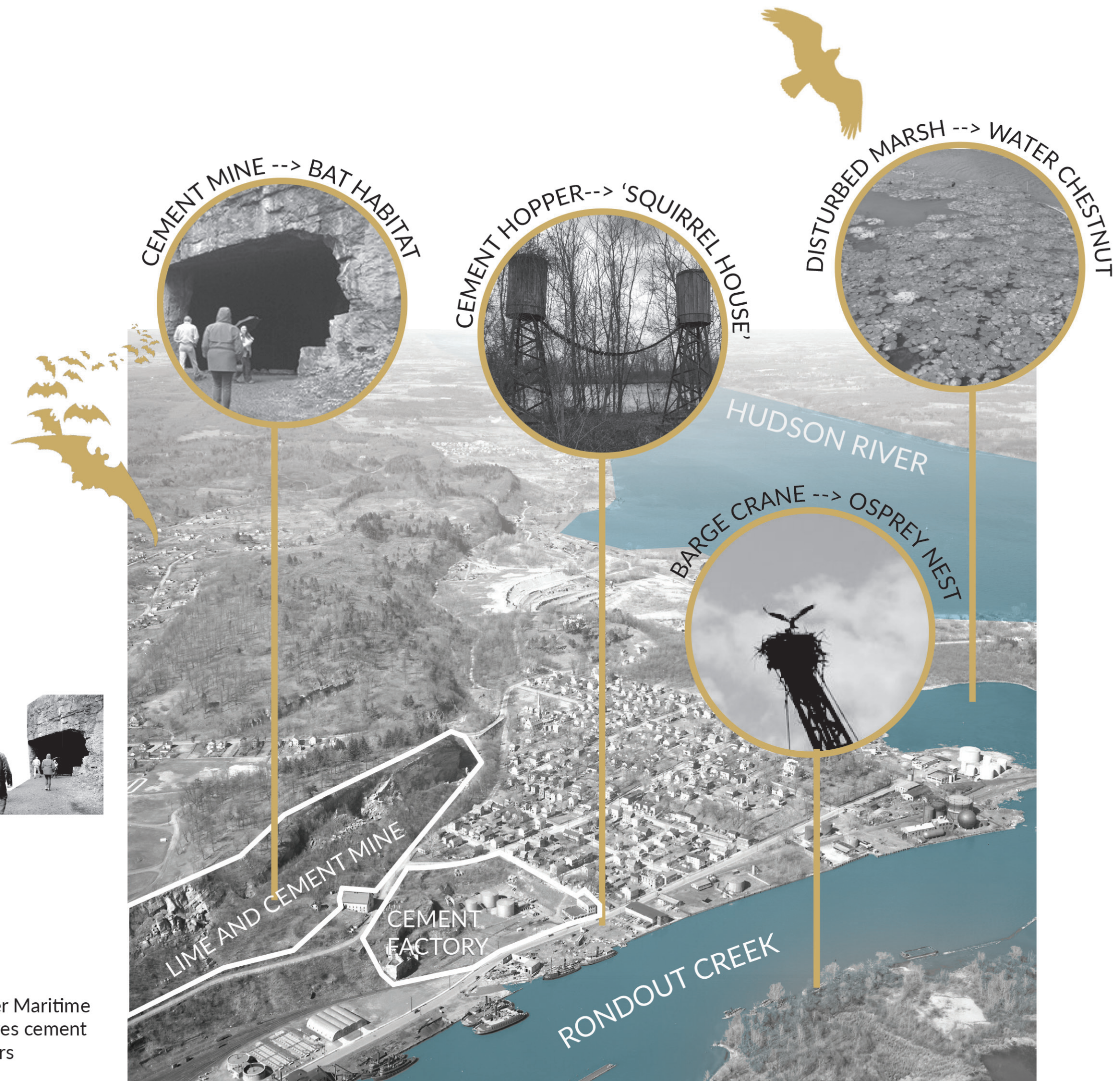
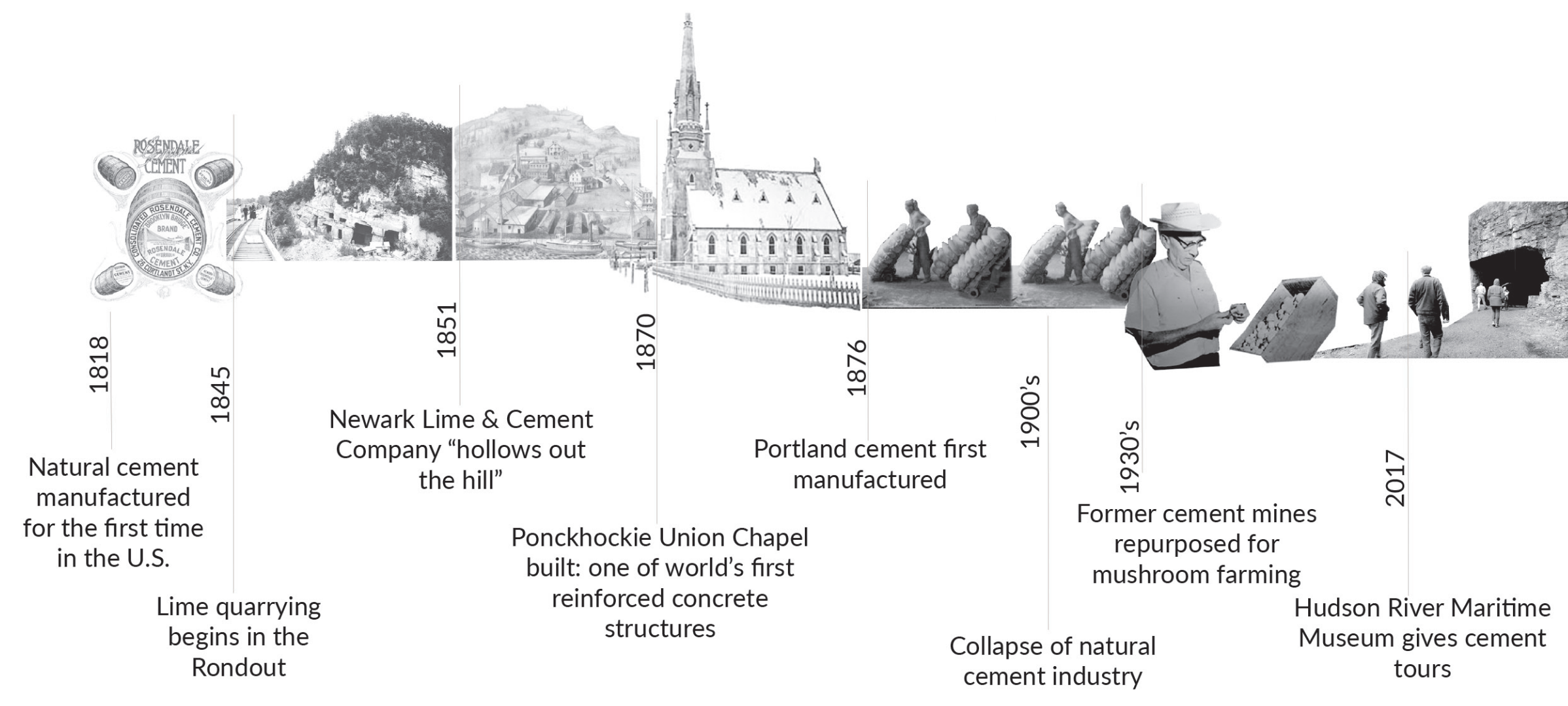
## 2080



GENERATING PIONEER ECOLOGIES

PIONEER ECOLOGY: a nonhuman organism that begins to opportunistically adapt human infrastructure for its own needs

Once the “Cement Capital of the World,” pioneer ecologies have adapted Kingston’s cement relics as habitat. Eco-concrete is an emerging concrete technology that manipulates concrete’s components, including cement, as well as texture and form, to increase the potential for human infrastructure to serve as habitat. Used as part of a strategy to build more ecologically rich ecosystems, ecoconcrete structures can serve as a bridge between Kingston’s material past and its future.



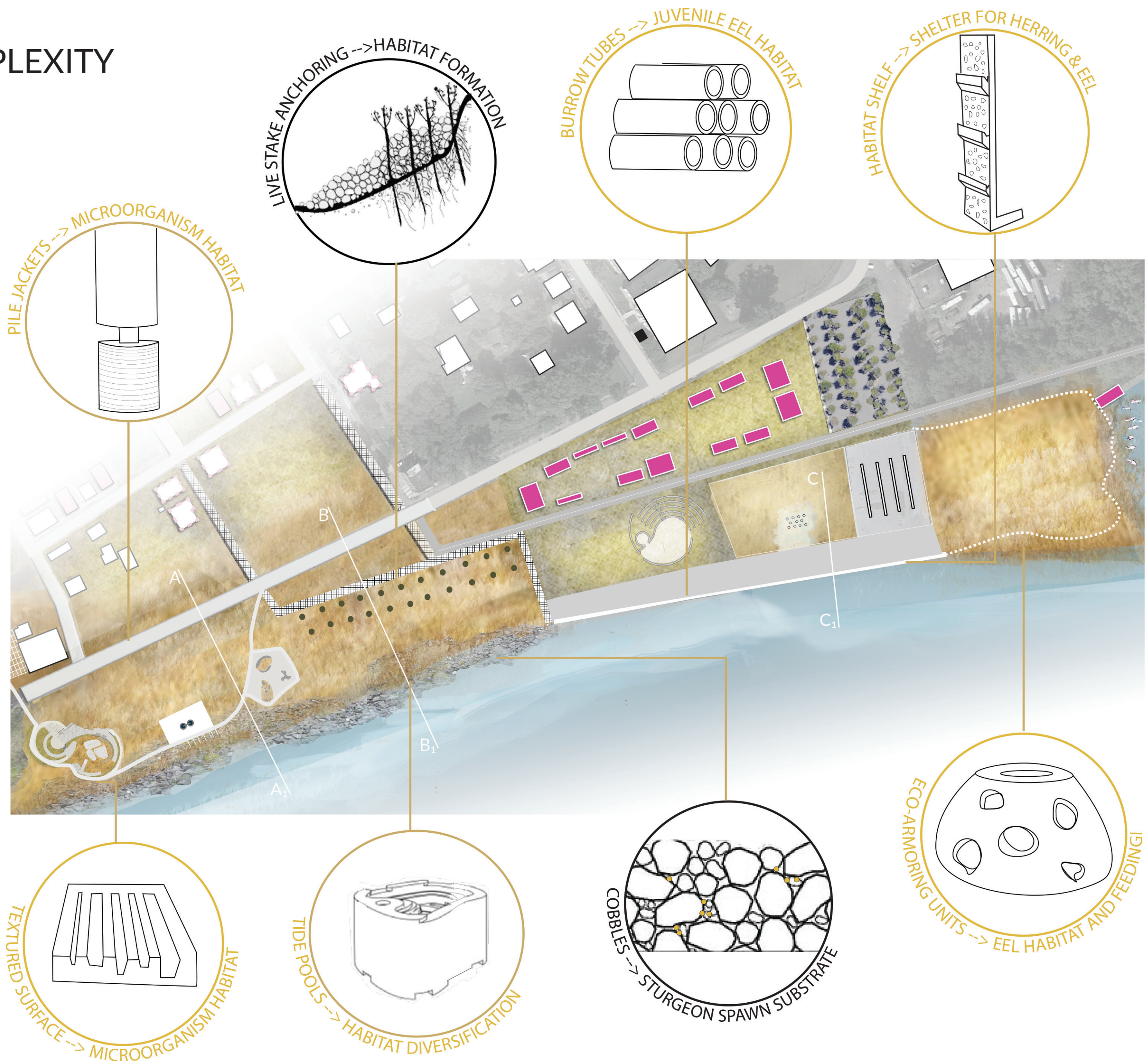
STRATEGIES FOR HABITAT COMPLEXITY

Our design utilizes a series of site-specific strategies that stabilize the shoreline while encouraging the proliferation of future pioneer ecologies. Executed in tandem with flood-adaptive projects, these strategies may encourage wetland migration and create opportunities for increased habitat diversity, beginning at the microorganism level. To supplement traditional shoreline stabilization techniques, our concept draws on new eco-concrete technology to texturize existing & future hard infrastructure.

WHAT IS ECO-CONCRETE?

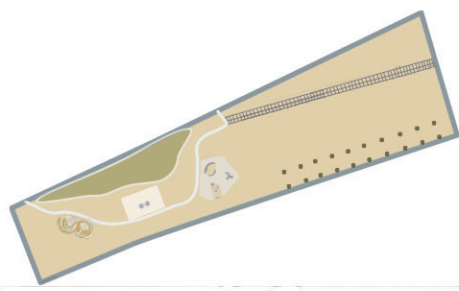
CONCRETE TECHNOLOGY THAT ALLOWS FOR ECOLOGICAL COMPLEXITY BY MODIFYING:

- CHEMICAL COMPOSITION** for improved biological opportunities
- SURFACE TEXTURE** to mimic natural features & enhance ecological complexity
- STRUCTURAL FORMS** with specific designs that target and match biological needs



SHORELINE TYPOLOGIES





# HERRING HOUSE PARK



- 1

STRAND RAISED TO 4 FEET ABOVE GRADE ON ECOCONCRETE PILINGS
- 2

SQUIRREL HOUSE PLAZA AND OBSERVATION DECK
- 3

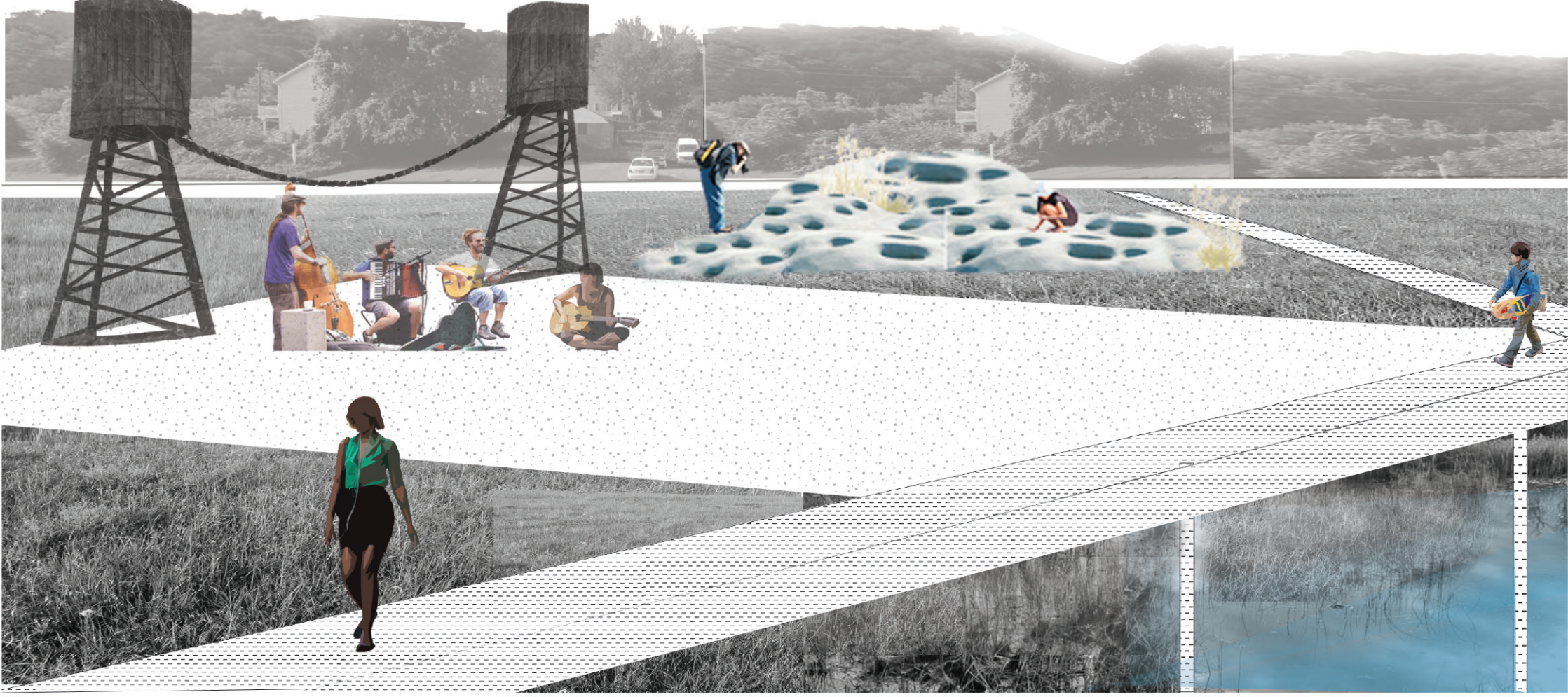
ECOCONCRETE PLAY STRUCTURES ('HERRING HOUSES')
- 4

WETLAND RESTORATION
- 5

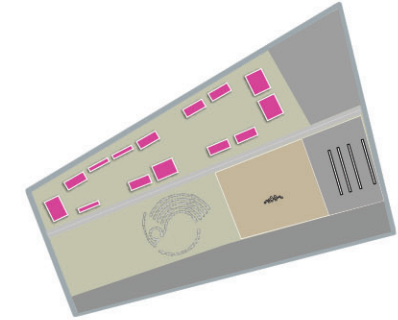
BOARDWALK
- 6

PEDESTRIAN RAMP TO PONCKHOCKIE
- 7

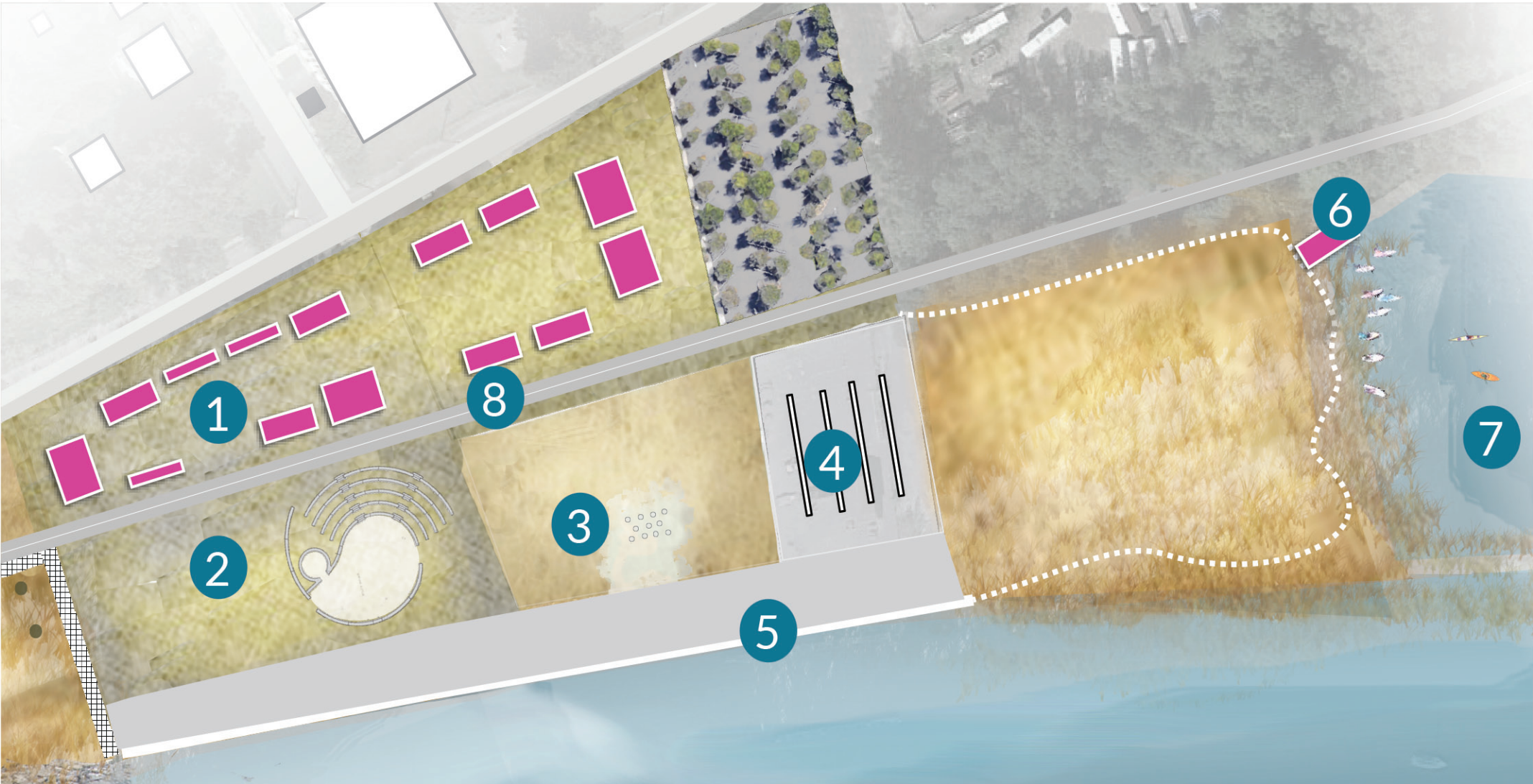
GREEN LINE TRAIL



Anchored by the historic cement hopper Ponckhockians call “The Squirrel House”, this plaza and playground unites cement history and new ecoconcrete technologies.



# GASWORKS PROMENADE



- 1

MOBILE DEVELOPMENT MODULES (MDMS)
- 2

EVENT SPACE
- 3

STEAM FEATURE
- 4

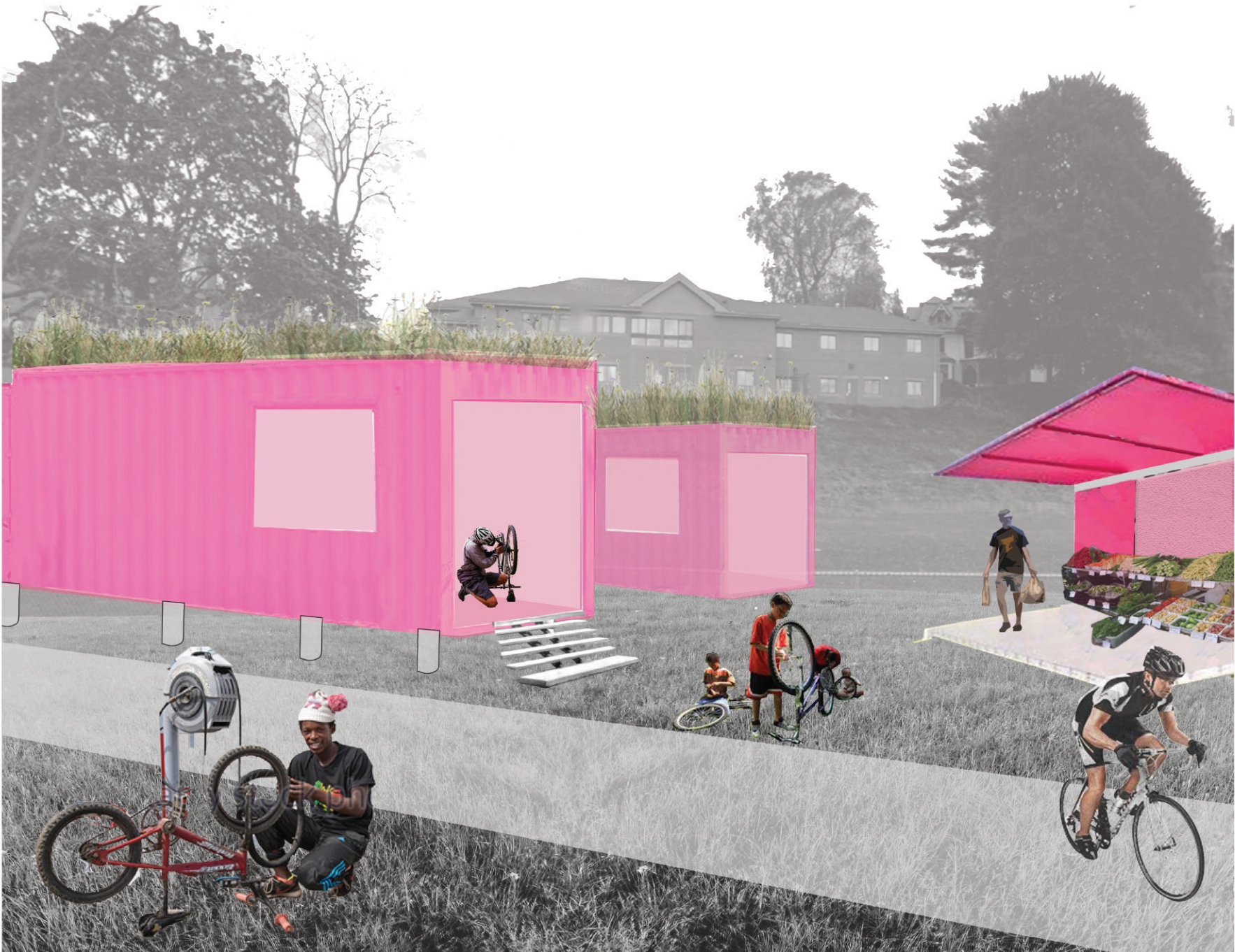
CENTRAL HUDSON GAS REGULATOR STATION
- 5

PROMENADE
- 6

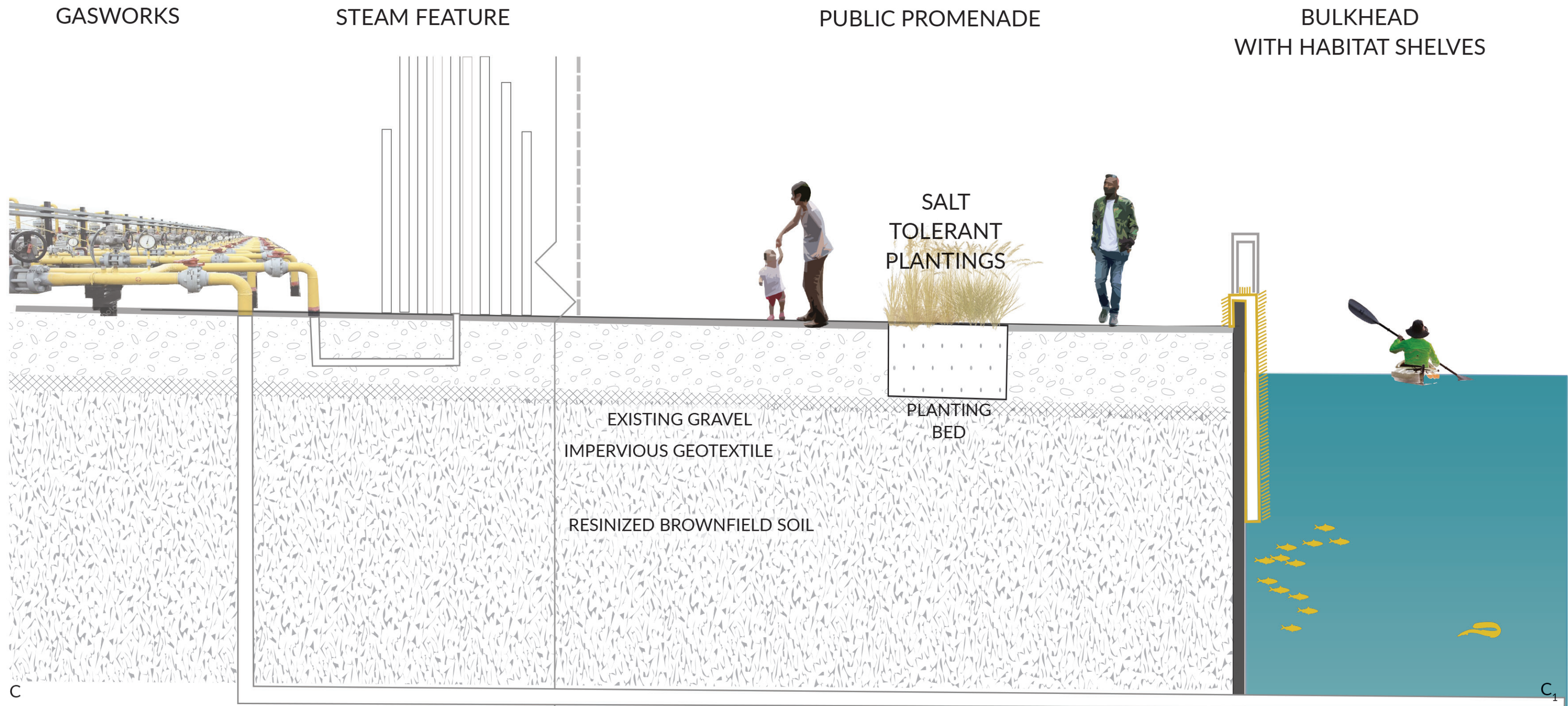
FLOODABLE KAYAK LAUNCH
- 7

WATER CHESTNUT REMOVAL
- 8

TROLLEY LINE RETROFITTED AS MULTIUSE TRAIL (GREEN LINE)



Mobile Development Modules, or MDMs, are short-term structures that can be moved upland as flooding becomes more frequent. Renovated shipping containers are one design option. We envision MDMs as a way for Ponckhockians to take part in sustainable economic development of the waterfront. Some of these enterprises could be in partnership with nonprofit organizations in Ponckhockie. A bike repair MDM could be run by The Children's Home of Kingston, which currently offers bike programming for its residents. Another option could be a food market MDM supported by Community Action Ulster, as Ponckhockie is a food desert.



# WATER TRANSFORMATION WALK

The wastewater treatment plant is an impediment to development and one of Kingston's assets most vulnerable to sea level rise. The Water Transformation Walk allows the public to observe tertiary treatment processes that improve water quality, and the plant's increased visibility starts a conversation about the plant's eventual need to relocate.



## CONCEPTUAL SITE PLAN

- 1 EXISTING WASTEWATER TREATMENT PLANT
- 2 RETROFITTED TROLLEY LINE TRAIL
- 3 METHANE FLARE
- 4 STORMWATER FILTRATION WETLAND
- 5 WATER CHESTNUT FILTRATION MODULES
- 6 ECOCONCRETE AERATOR
- 7 NATIVE HUDSON WETLAND
- 8 MONUMENTAL CONCRETE VIEWING DECK
- 9 TREATMENT PLANT EXPANSION AREA
- 10 VISITORS PLAZA & WASTEWATER INNOVATION RESEARCH LAB

