

High Tide

Low Tide



Courtesy: Interboro Rebuild by Design Team



Courtesy: Interboro Rebuild by Design Team



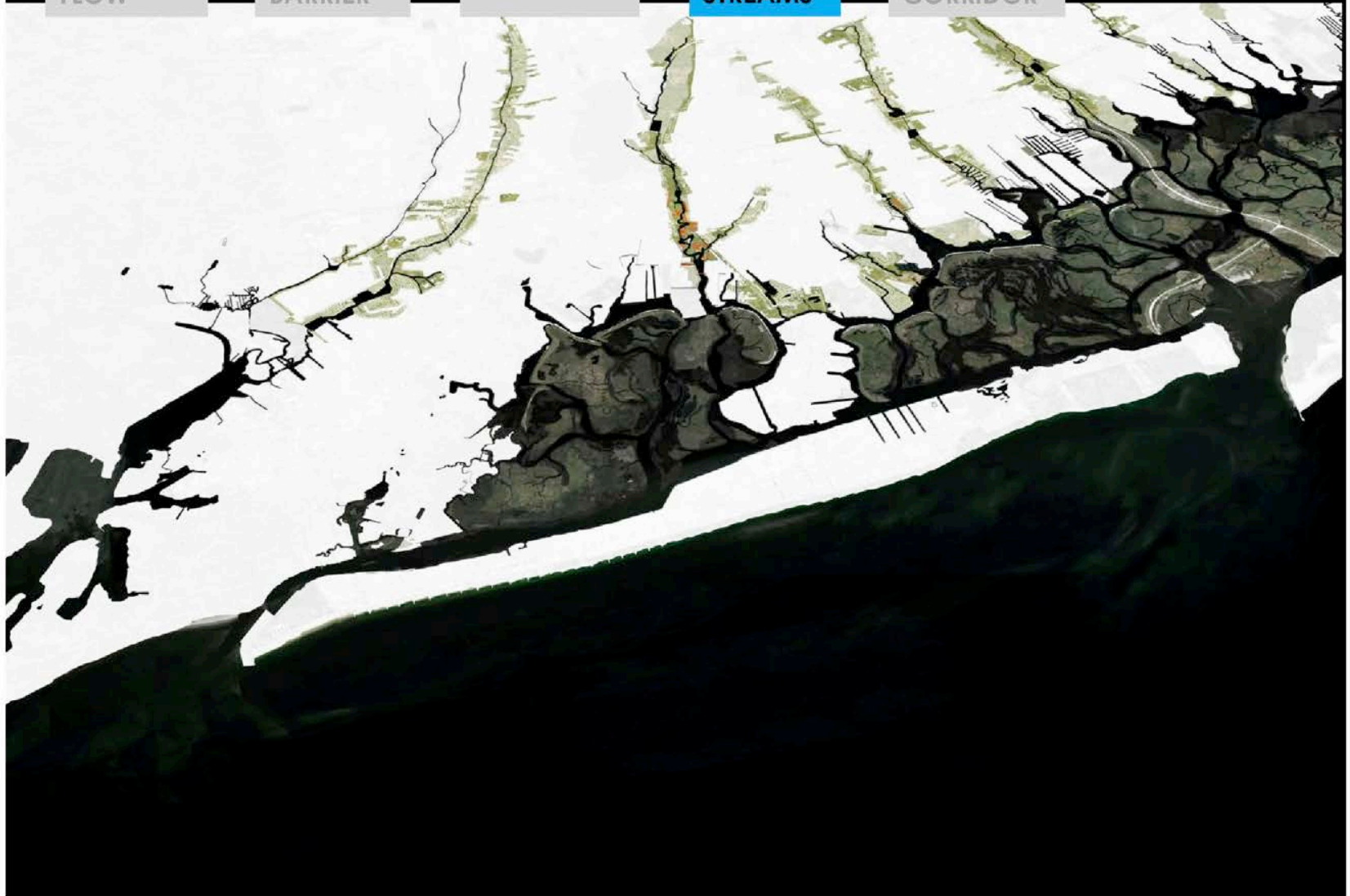
SEDIMENT  
FLOW

SMART  
BARRIER

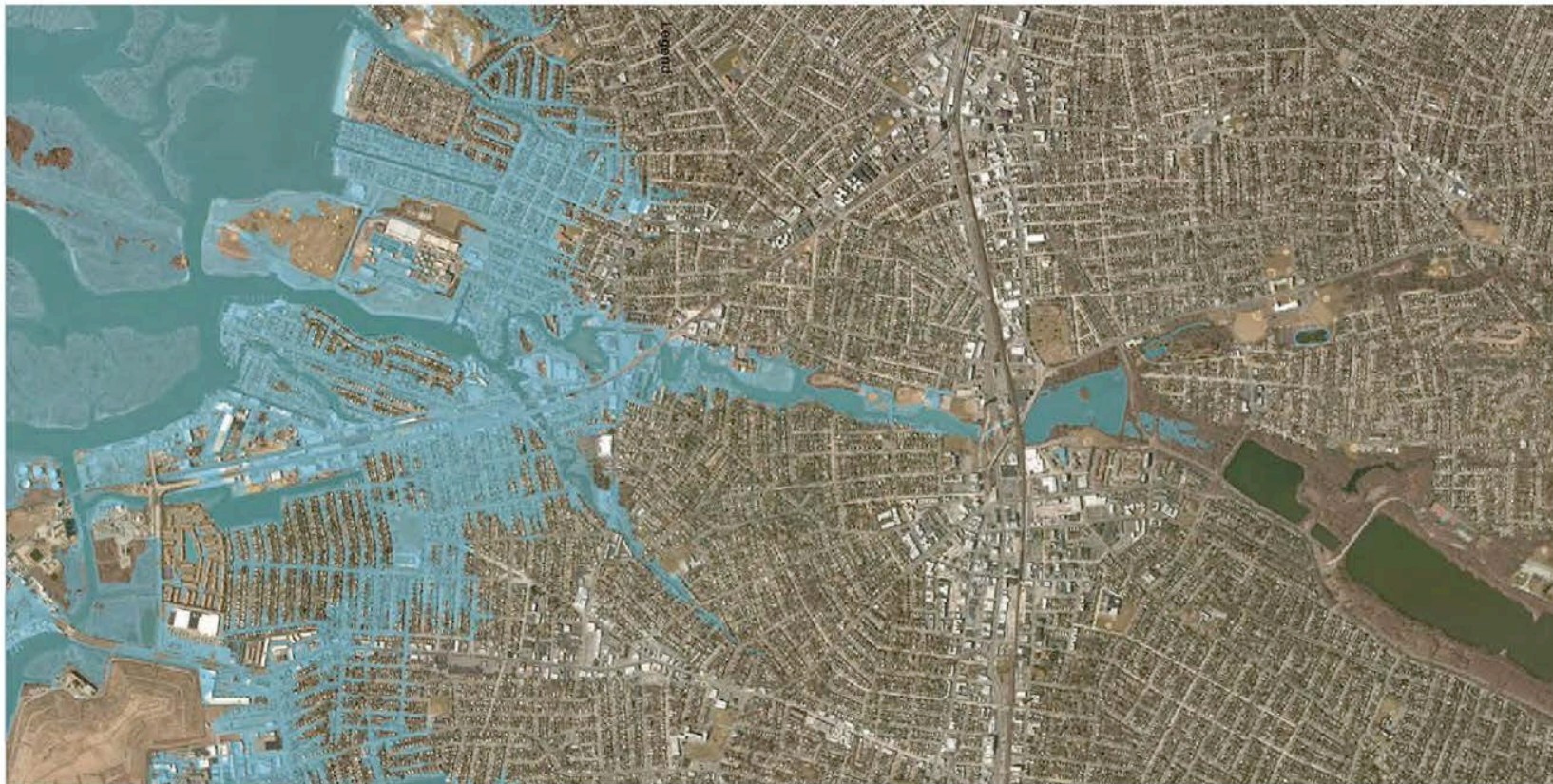
ECO-EDGE

SLOW  
STREAMS

GREEN  
CORRIDOR



# Surge



# Transforming Mill River



# Mill River as Slow Stream



# Everyday Conditions











**New  
Meadowlands**

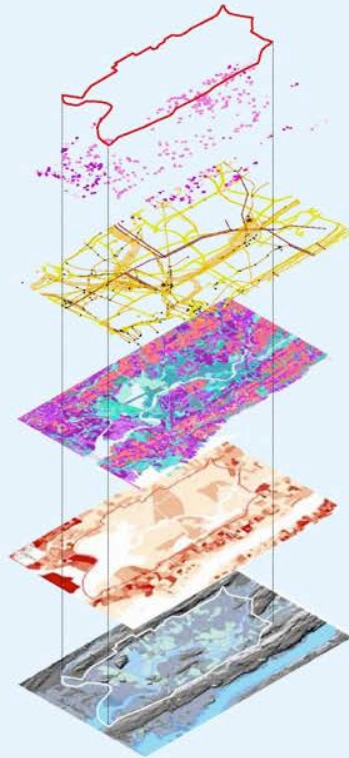
project by:  
MIT CAU + ZUS + URBANISTEN  
Deltares + Volker Infradesign + 75B

commissioned by:  
Rebuild by Design  
An Initiative of the President's  
Hurricane Sandy Rebuilding Taskforce



**N**  
New  
Meadowlands

# Mapping Risk: Pilot Priorities



## **PUBLIC HEALTH**

Polluted sediment disturbance is a regional health hazard.

## **TRANSPORT**

Movement of goods are at constant risk of being cut off from the region.

## **ENERGY**

3 power plants and 21 substations remain at risk of flood-related damage and interruption.

## **LAND USE**

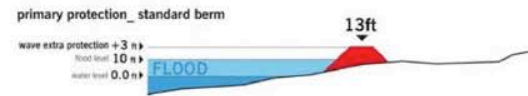
\$2 billion of physical damage will occur from inundation of the district's residential, commercial, and industrial structures every year.

## **SOCIAL VULNERABILITY**

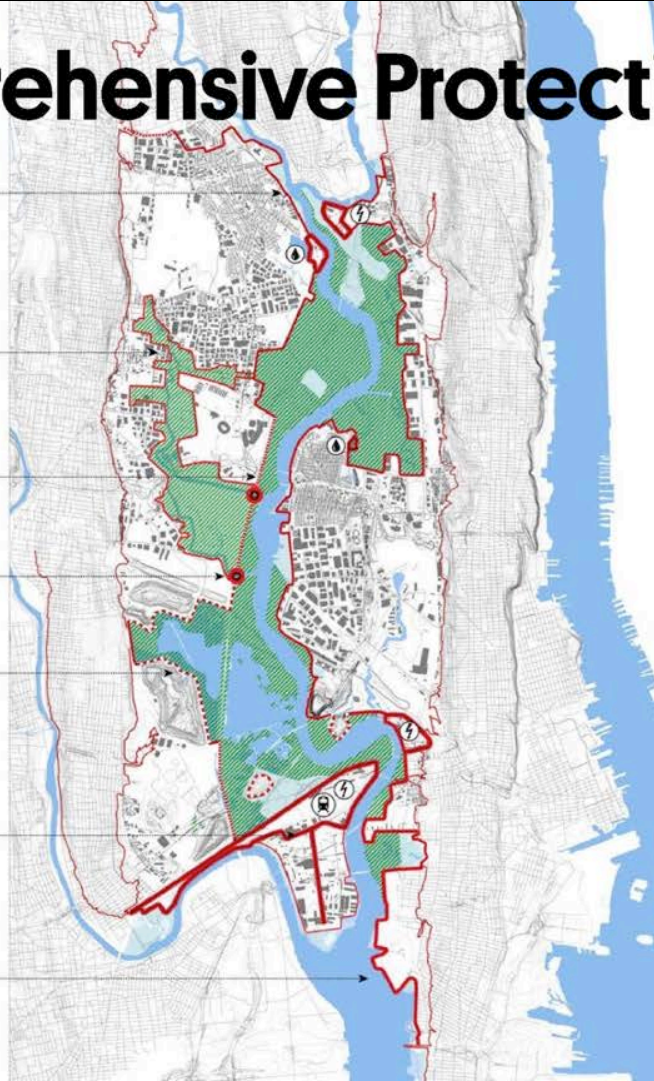
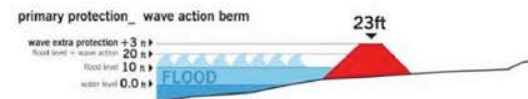
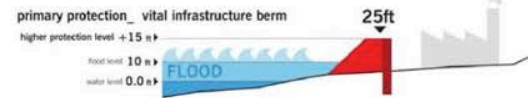
\$1 billion worth of salaries from commercial and industrial jobs within the district are likely to be lost in the long term as a result of flooding vulnerability.

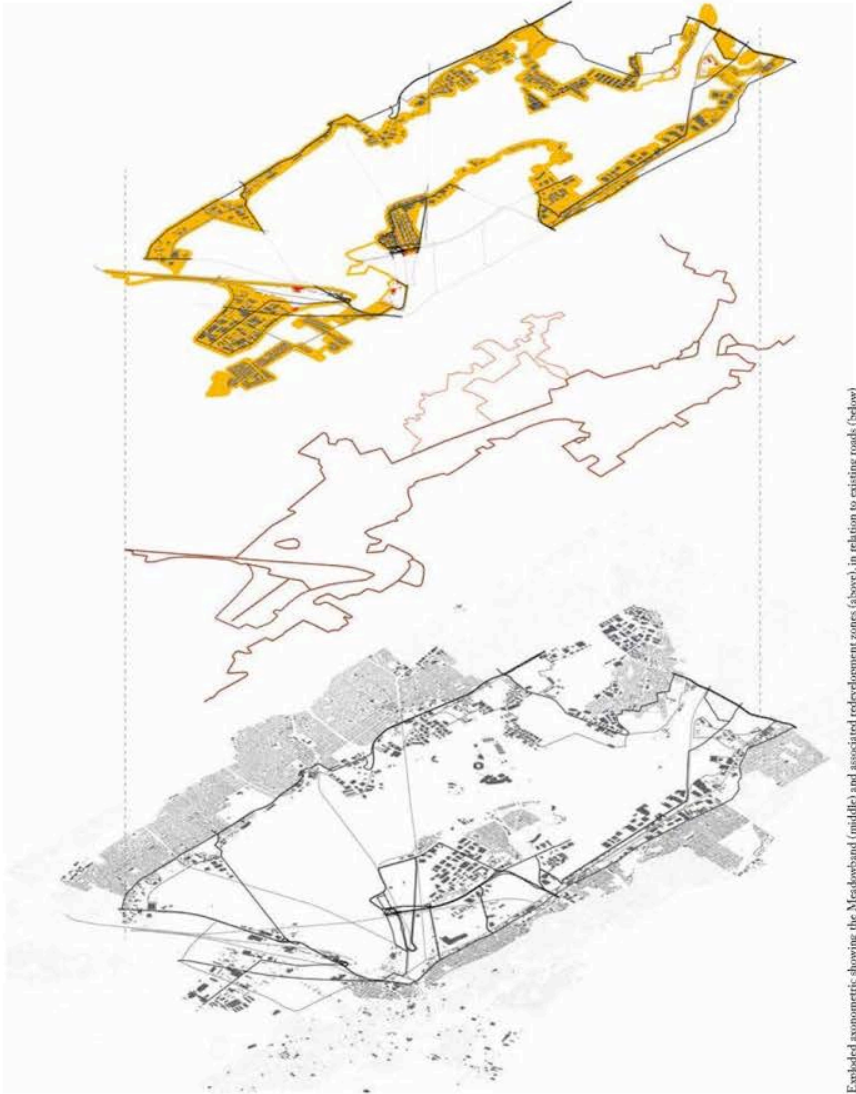


# Comprehensive Protection Plan



primary protection\_ tidal gate





Exploded axonometric showing the Meadowband (middle) and associated redevelopment zones (above), in relation to existing roads (below)

# The Meadowband

**Lack of intermediate connectivity and associated public space**  
 The existing automobile transportation systems in the Meadowlands are reasonably efficient at connecting regionally, using I-95, Routes 3, 46, 1 and 9. Most of above-mentioned corridors are designed as limited-access highways, with access regulated by on-and-off ramps or cloverleaves. There is also a reasonable connectivity at the most local level, within each municipality.

However, the team found that an intermediate scale of connectivity was absent. Each town or development area connects directly to a regional limited-access corridor, but it does not connect to any other town or adjacent development area. As a result, short distances within the Meadowlands end up requiring detours and connecting from a local to a supra-regional road without intermediation. This is problematic for various reasons.

First, many of the towns, development areas, and green spaces within the Meadowlands should be able to enjoy from the 'proximate principle'. This term describes a multiplier effect that occurs in the value of two programs that, when placed in close proximity to each other, increase each other's worth. A good example is a park and a residential district; or a residential

area and local retail; or a hotel and a mass transit station. In these examples, proximity of both terms reinforces all. However, the lack of an intermediate connectivity destroy the value add promised by their location. In this sense, the Meadowlands as a whole is performing far below value. The biggest multiplier of the proposal is between the newly created regional park, and the (re)development areas and towns abutting it.

Second, even short local connections within the Meadowlands require automobile access. These result in a much greater traveling distance than strictly necessary since cars have to travel via regional transportation corridors for very local connections. Pedestrian, bicycle and other local connections are almost impossible.

Third, there is a notable lack of public spaces and regional destinations in the Meadowlands. At the occasion of the 2014 Superbowl, the dominant iconography used images from Manhattan, and most events were at public spaces in Manhattan. New Jersey towns and inhabitants understandably complained about their lack of recognition. However, the entire basin lacks both public spaces and iconic elements that highlight the positive identity of the area as a whole.

Ideally, this takes the form of a space that brings audiences and publics of adjacent localities together beyond their town, and intermingles them with visitors from the region and other states. Such a space would correspond to the definition of a public space as proposed by its most eminent scholar, Richard Sennett. If it were to be possible to use the proposal to help create such a space, it will yield and compound substantial benefits to the area over time. Most importantly, it will be an instrumental feature in the re-branding of the Meadowlands basin as a regional destination that instills pride and encourages participation of its constituents.

Fourth, the lack of intermediate connectivity is driving up costs for developers. There are examples of local developments, where the developer has been asked to include private shuttle services to the nearest mass transit station.

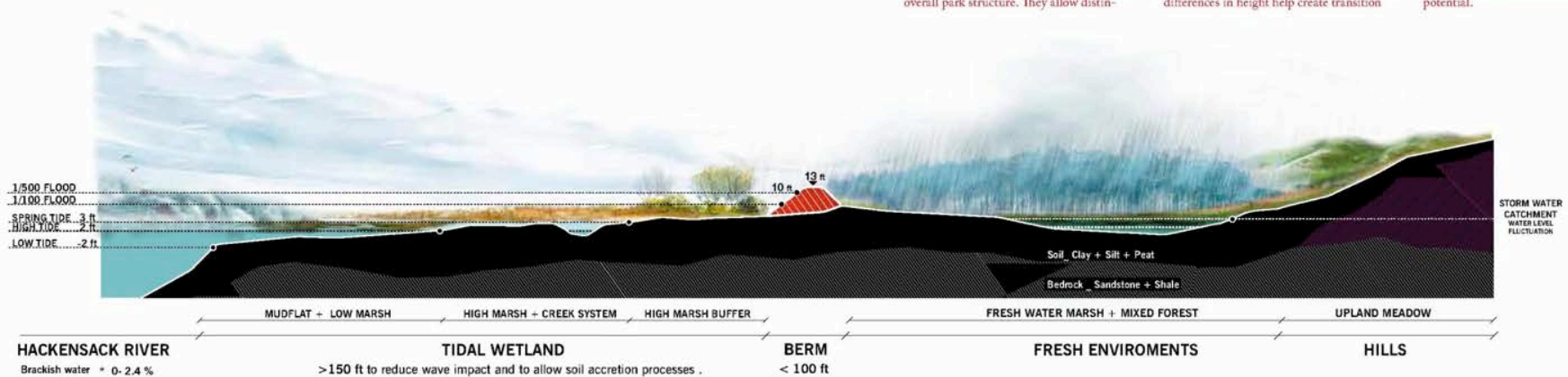
Fifth, and perhaps most important – the lack of access between adjacent fragments limits options for individuals caught in an extreme weather event to evacuate or find help, or others.

# The Meadow Park

The Meadowpark is to a large degree composed of 7,800 existing acres of wetland already present in the Meadowlands. A large part of this wetland is tidal, but it also includes freshwater marshes. The Meadowpark is bordered by Meadowband (see next chapter). Since the Hackensack river is dammed upstream it is mostly a saline estuary. The low-lying urbanized part of the area needs to be protected from flood events. A protective berm is critical but not sufficient. By integrating green berms into the wetland system they become more resilient and participate in the overall park structure. They allow distin-

guishing between high and low marshes, a distinction which is useful for active wetland restoration. High marshes break waves and add substantial stability to the berms. On top of the berms bike paths or emergency access can be allowed. Such berms connect marshes and towns. But there is more to the Meadowpark than just tidal wetland and protective berms. Behind the primary protection berm fresh water marshes and forests can be found. These can play an active role in storm water management of the park and are highly enjoyable places at the same time. Even subtle differences in height help create transition

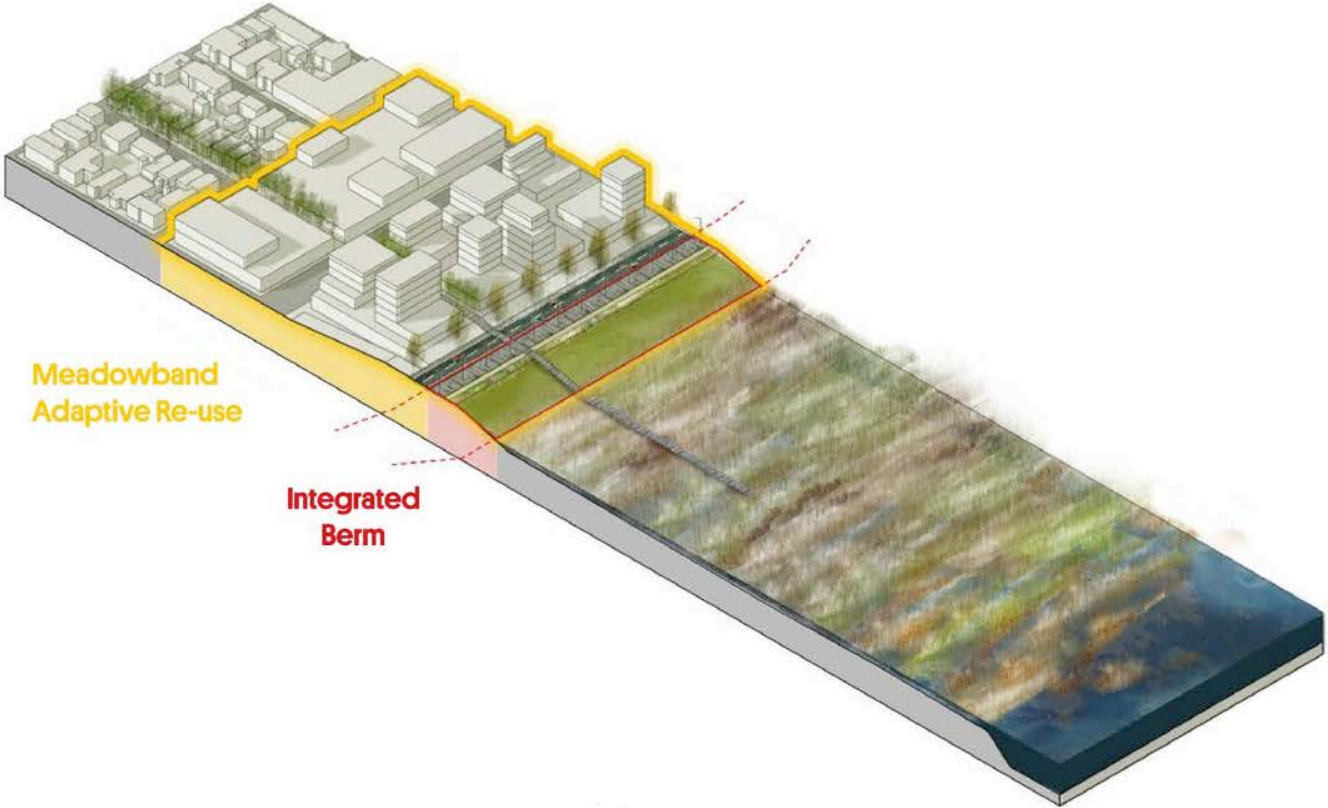
areas between high and low habitats, as well as between salt and freshwater habitats. These create a great potential for biodiversity, the Meadowpark is a place for recreational sports, engaging with nature, and we also foresee cultural events – sculpture parks – to bring visitors to the park. Finally, the landfills offer opportunities for recreational use as well, with bicycle paths and trails circulating across all elements in an integrated fashion. The Meadowpark can be thematically deconstructed into a flood protection berm, tidal wetland, fresh water basins, biodiversity and recreational potential.



Sectional diagram with flood protection berm in red in the middle. Freshwater basins or contaminated chamber wetlands to the right.



# Integrated Berm Protection

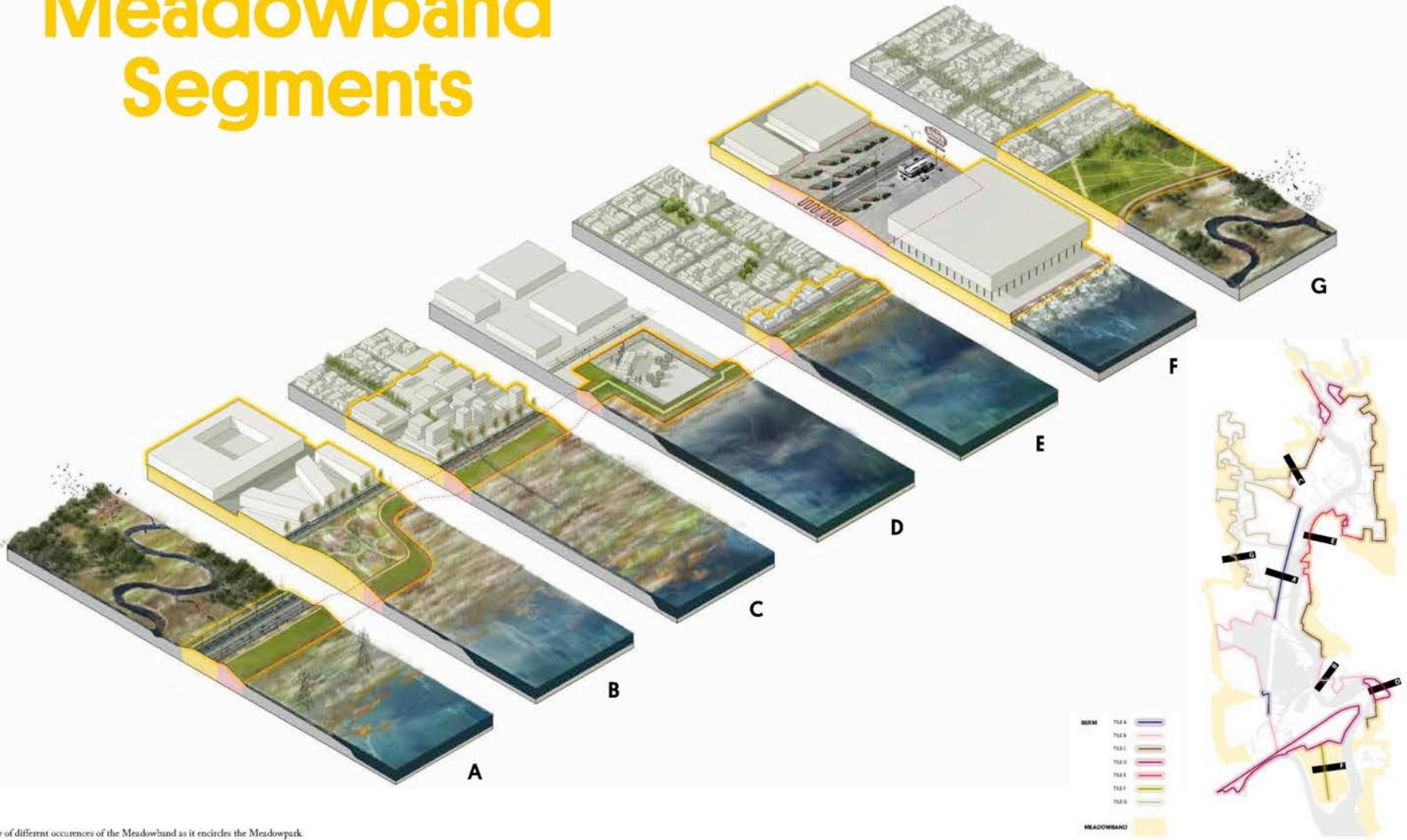


Meadowband  
Adaptive Re-use

Integrated  
Berm

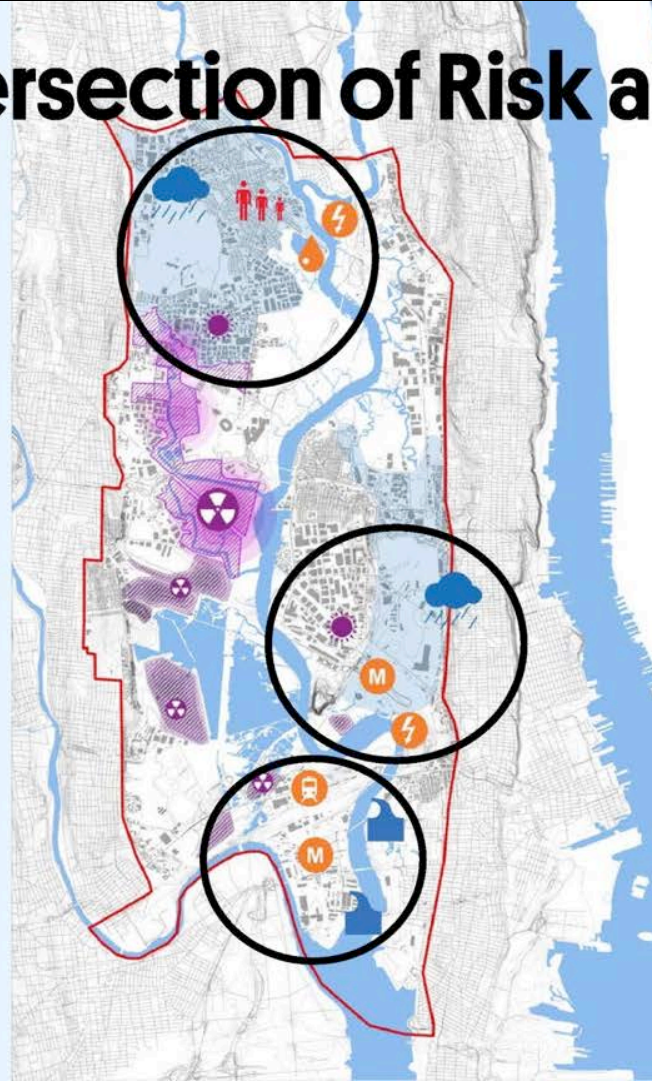


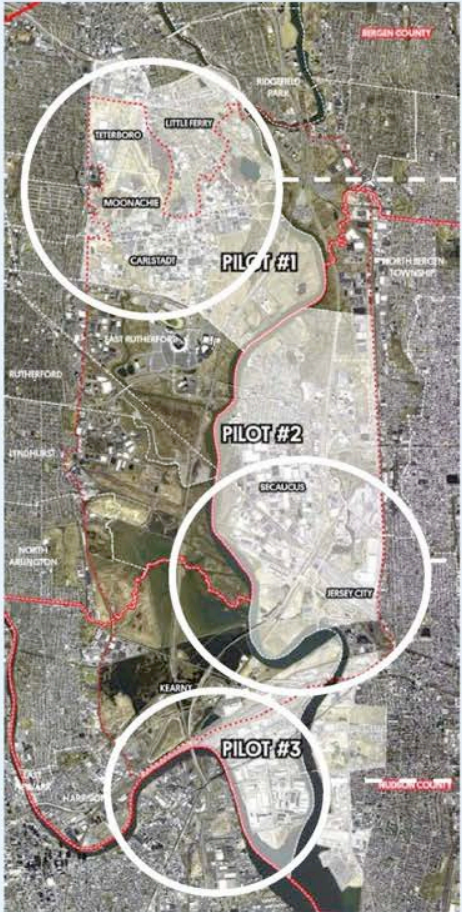
# Meadowband Segments



Overview of different occurrences of the Meadowband as it encircles the Meadowpark.

# Pilots at the Intersection of Risk and Opportunity





**Pilot Area #1**  
**Little Ferry, Moonachie,**  
**Carlstadt, Teterboro**

**Pilot Area #2**  
**Secaucus - Jersey City**

**Pilot Area #3**  
**South Kearny - Jersey City**