

REBUILD BY DESIGN

Promoting Resilience
Post-Sandy
Through Innovative
Planning and Design

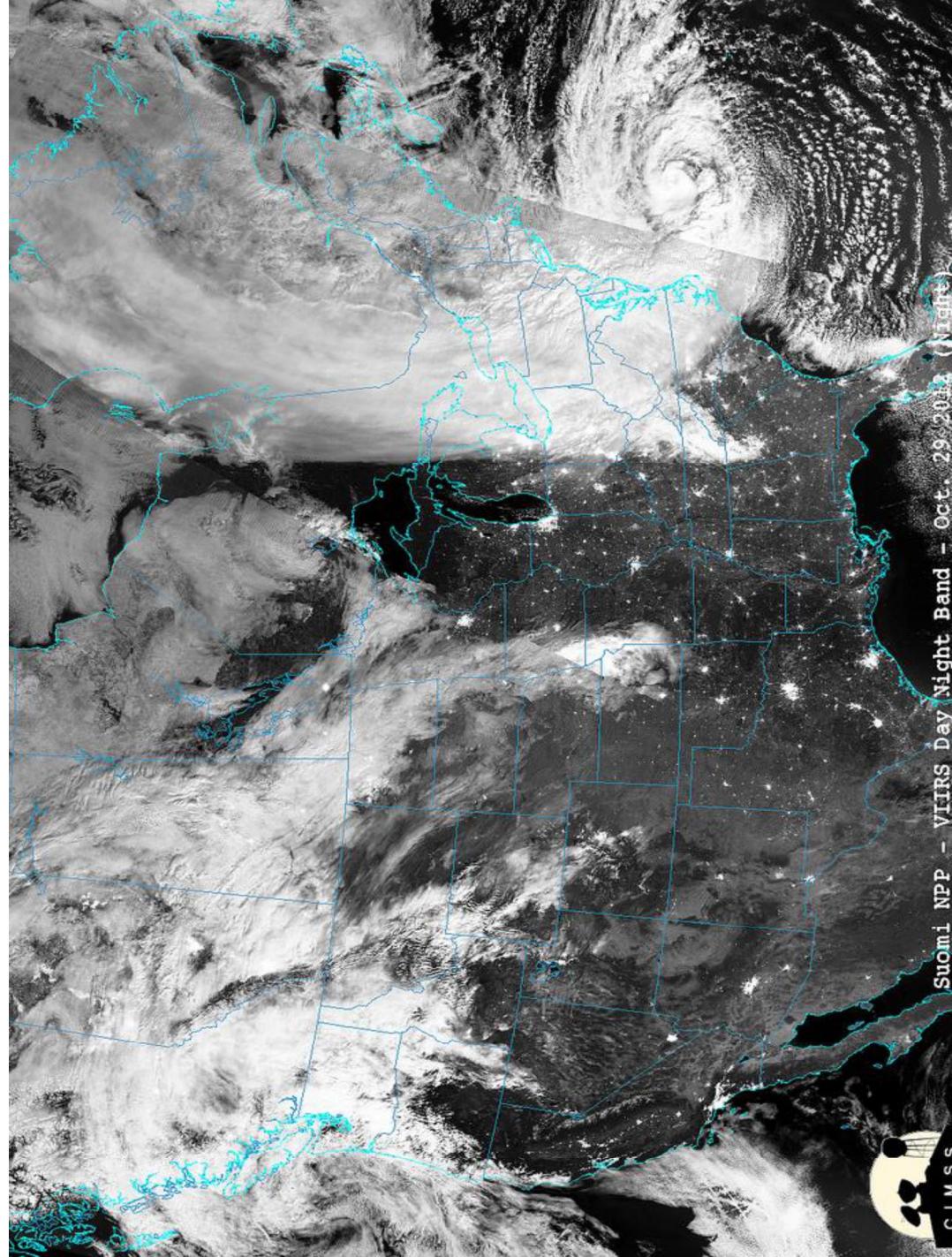
An Initiative Of
The President's
Hurricane Sandy
Rebuilding Task Force

No plan, it is about us...

In Collaboration With
Institute for Public Knowledge, NYU
Municipal Art Society
Regional Plan Association
Van Alen Institute

Lead Supporter
The Rockefeller Foundation

With Additional Support From
Deutsche Bank Americas Foundation
The JPB Foundation
The New Jersey Recovery Fund



Climate Change

“Climate change is the worst kind of problem for the human brain to cope with – something that is too slow moving to give us the rush of adrenaline that signals ‘emergency’, something that is so diffuse in its causes that it requires collective action at a scale that humanity has never managed. We all put it out of our minds most of the time. We all live life as normally as we can under the shadow of an increasingly uncertain ‘long run’.”

Gabriel Metcalf



"You can ignore the facts; you can't deny the facts."

“So the question is not whether we need to act. The overwhelming judgment of science, accumulated and measured and reviewed and sliced and diced over decades, has put that to rest. The question is whether we have the will to act before it's too late. Because if we fail to protect the world we leave our children, then we fail in the most fundamental purpose of us being here in the first place.”

- climate change
 - water crises
 - biodiversity loss
 - extreme weather
 - natural catastrophes
 - man-made environmental damage

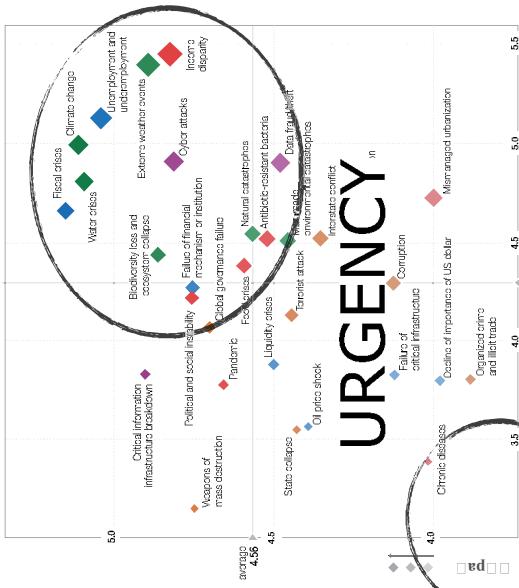


Figure 1.1: The Global Risks Landscape 2014

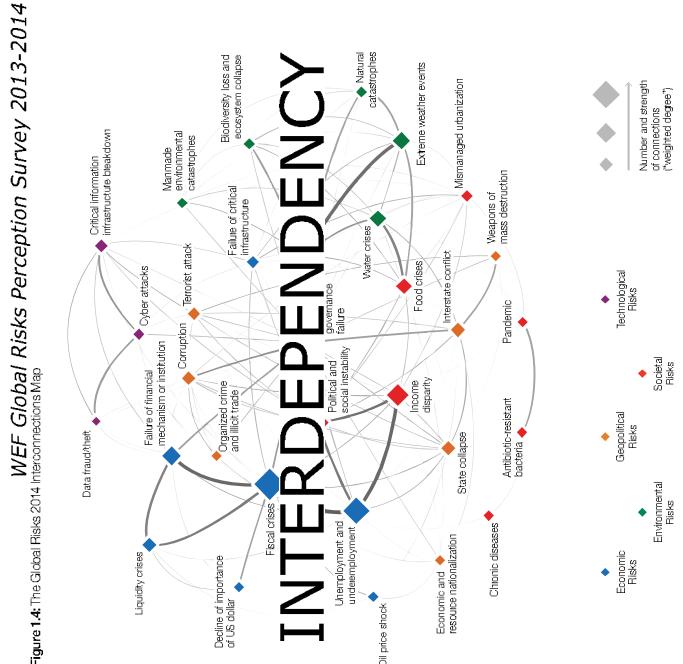


Figure 14: The Global Risks Perception Survey 2013-2014

SOURCE: Global Rights Perception Survey 2013-2014
NOTE: The survey asked respondents to rate the likelihood and impact of their individual risks on a scale of 1 to 7, representing risk that is not likely to happen or has not yet happened, to risk that is very likely to happen and devastating in its impact. See Appendix B for more details.

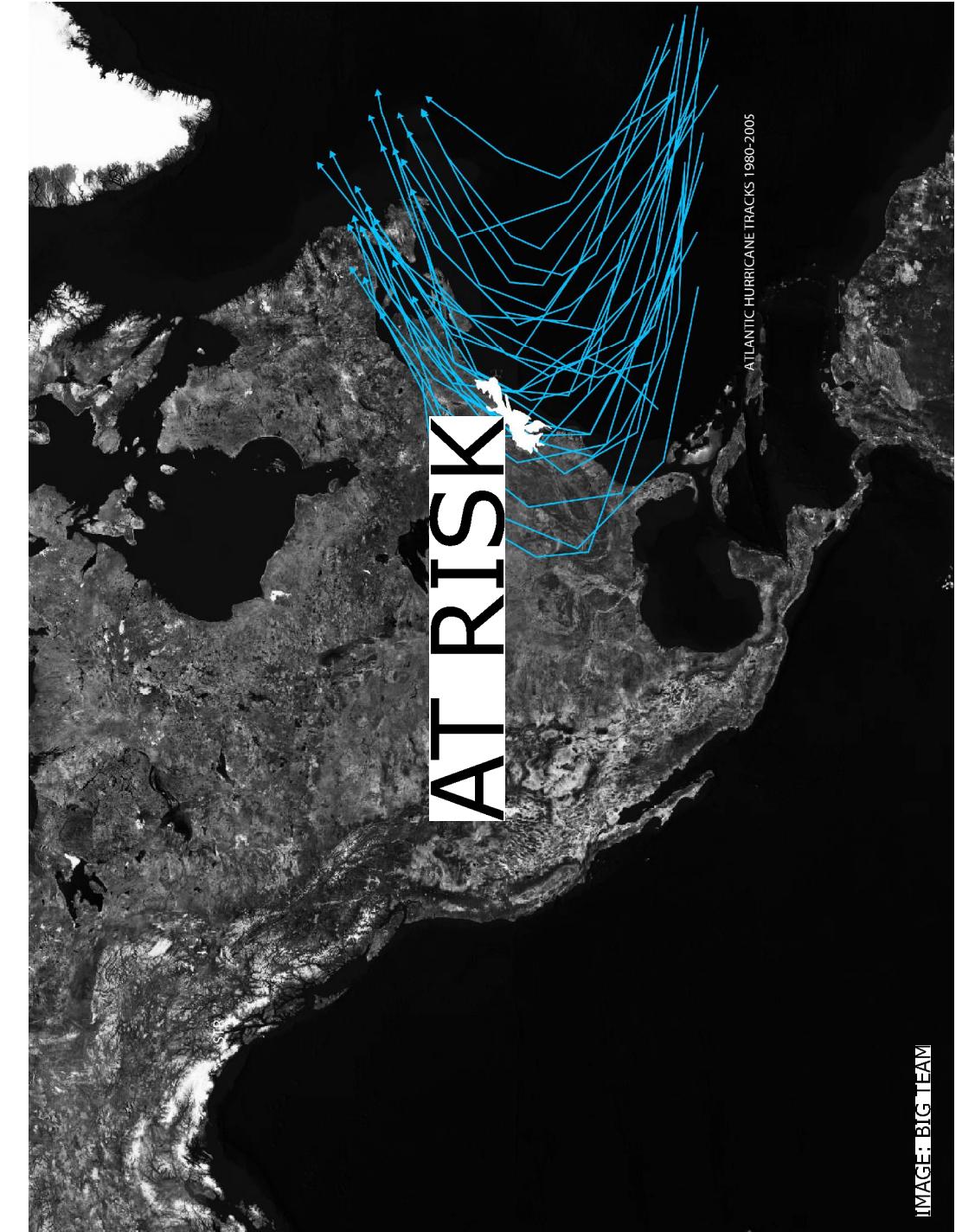


IMAGE: BIG TEAM

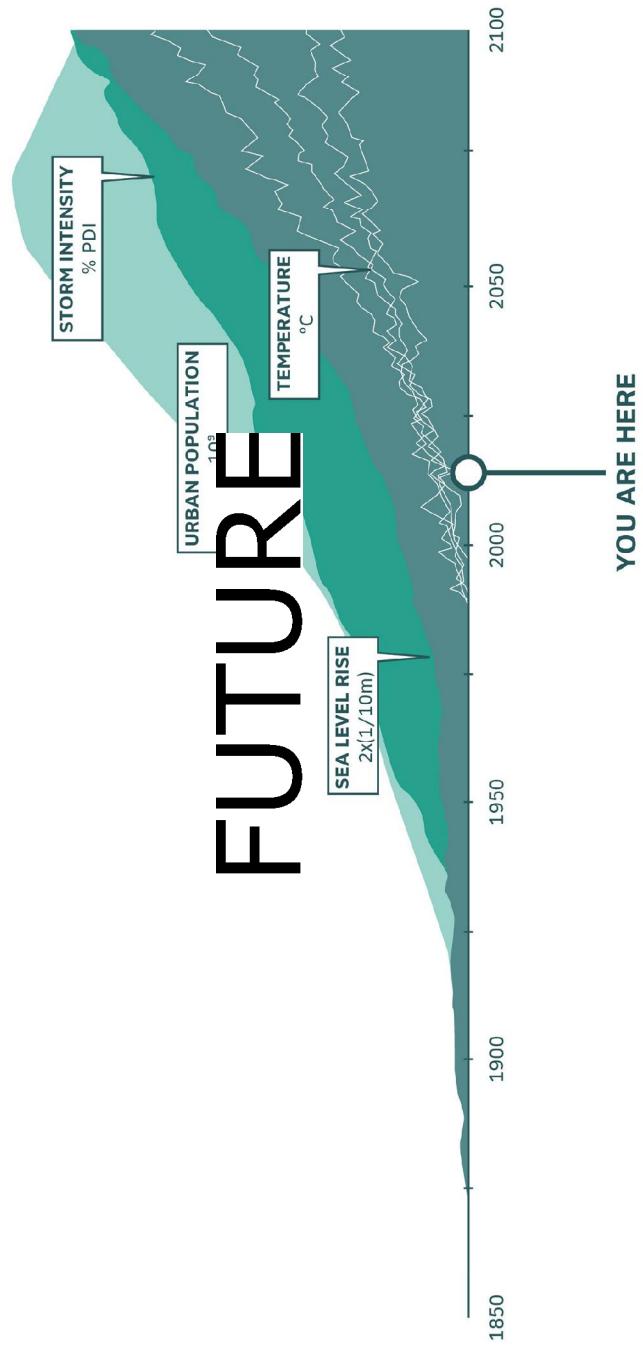


IMAGE: SCAPE/LANDSCAPE ARCHITECTURE



Disastrous spending: Federal disaster-relief expenditures rise amid more extreme weather

In 2011 and 2012 the United States experienced an onslaught of floods, storms, droughts, heat waves, and wildfires. We estimate that the federal government spent \$136 billion total from 2011 to 2013 on disaster relief, which adds up to nearly \$400 per household per year. These costs will continue to increase as extreme weather becomes more frequent and/or severe due to climate change. We must act now to reduce the industrial carbon pollution responsible for climate change and help communities become more resilient to extreme weather.

Funding for disaster recovery and relief for 3 major events (in billions of dollars)

Flooding in Mississippi and Missouri rivers
Disaster Supplemental Appropriations 2012



Superstorm Sandy
Disaster Supplemental Appropriations 2013



Federal spending on disaster recovery and relief by department (in billions of dollars)

FY 2011–2013

Homeland Security

\$55.4

Housing and Urban Development

\$16.4

Transportation

\$14.7

Defense

\$7.3

Small Business Administration

\$1.9

Interior

\$1.5

Other

\$2.7

Federal Crop Insurance (2011–2012 only available)

\$27

Department of Agriculture Spending (over three years)

\$36.4

Widespread drought

\$27

Total federal spending on disaster recovery and relief:

\$136 BILLION

Total cost, per household per year:

\$396

Billion-dollar-damage extreme weather events increasing in frequency and cost, 1980–2012

Average total cost of billion-dollar-damage events per year (in billions of 2012 dollars)

\$10

Average number of billion-dollar-damage events per year

8

6

4

2

0

1980–1989

1990–1999

2000–2009

2010–present

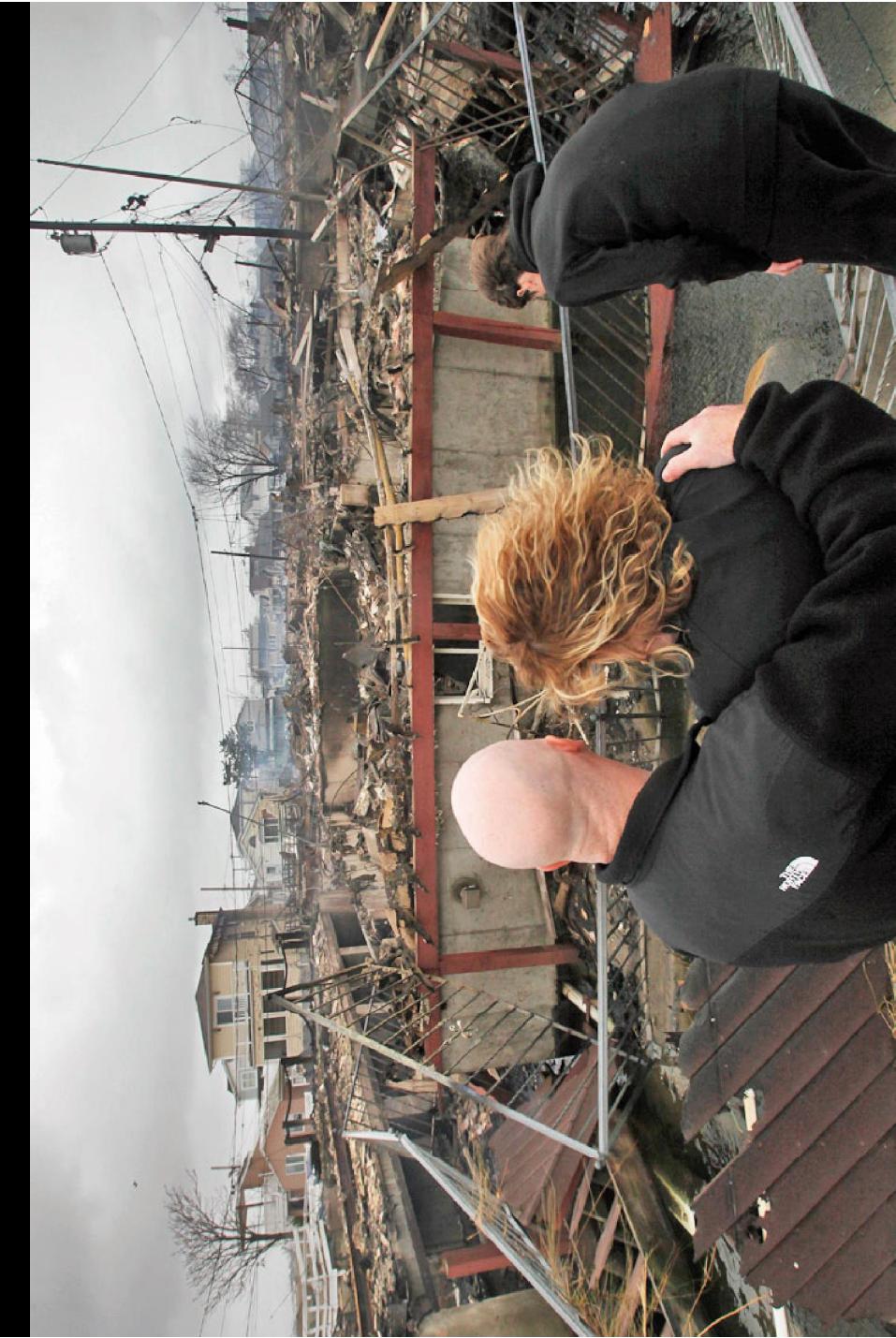
Investments in resiliency pay off

Every \$1 spent on disaster resiliency yields \$4 in future benefits

\$4

\$1

Sandy proved that rebuilding copy-paste is no option



ALL ISSUES, social, economic, cultural, ecological, HAVE A SPATIAL IMPACT



... AND MEET, INTERACT AND CAN BE MITIGATED ON THE REGIONAL SCALE

LIQUID FUEL STORAGE POWER SUPPLY

63 Power generation stations are in the immediate New York City/Northern New Jersey area

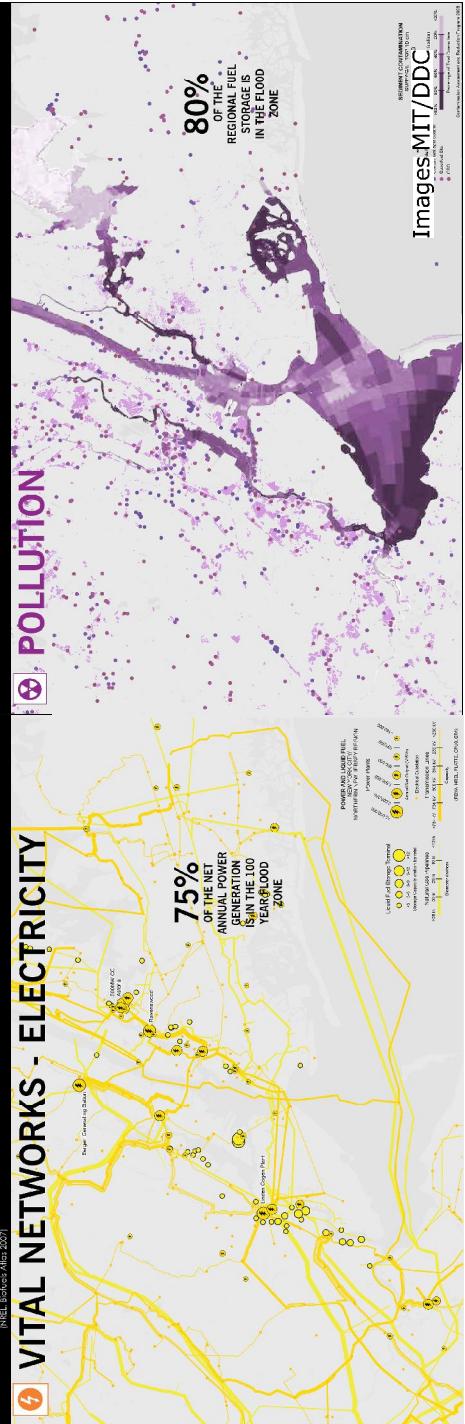
27 of these are located WITHIN the 100-year flood plain
75% of the total net annual generation (MWh) from these 63 stations comes from these 27

1 IN 4 Electric substations are located in the flood plain
 **CRITICAL NODES ON THE GRID**
Approximately 44,000,000 MWh
in 100-year flood plain
= 1,000,000 MWh
INSEL Survey (After 2001)

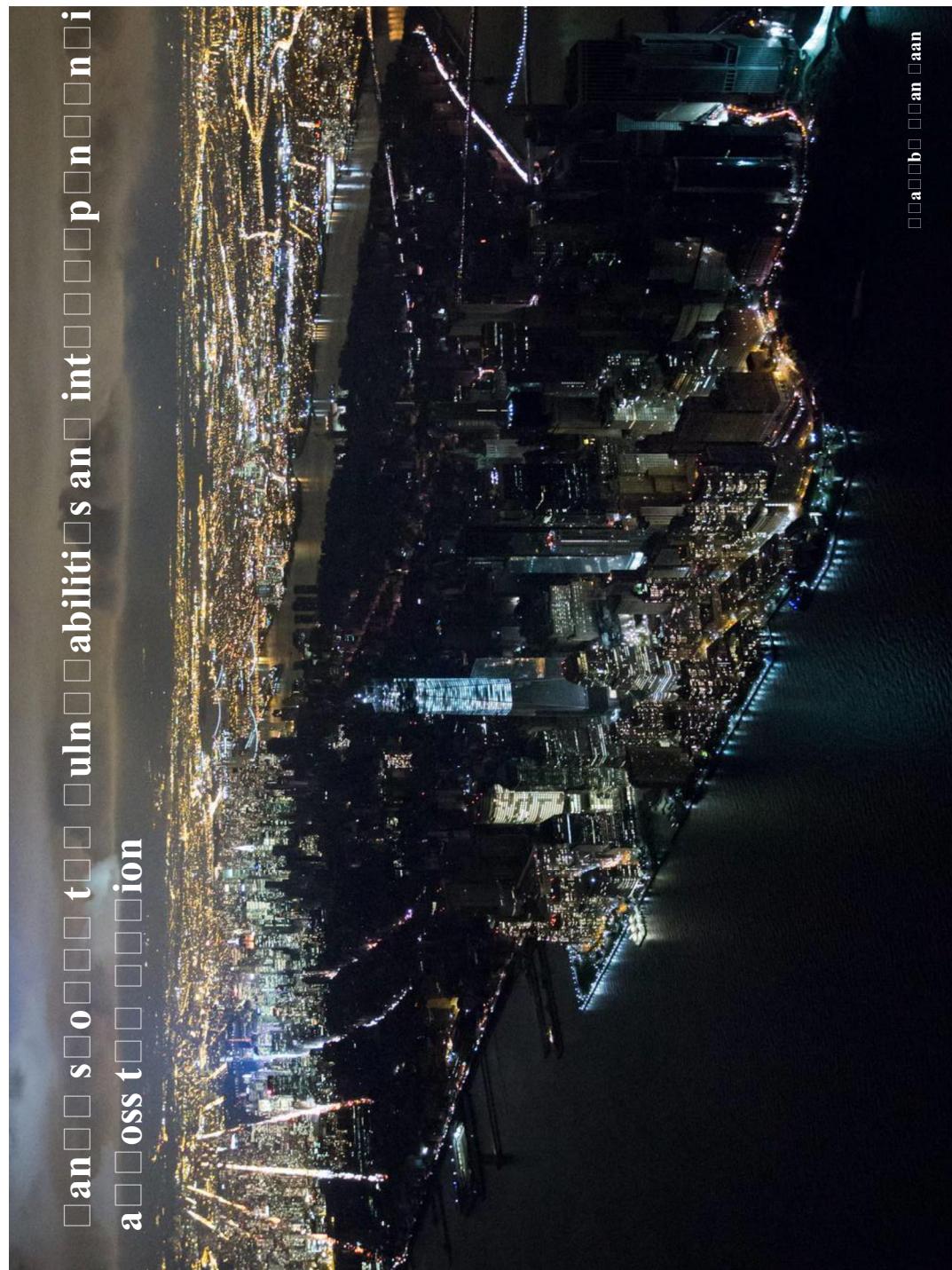
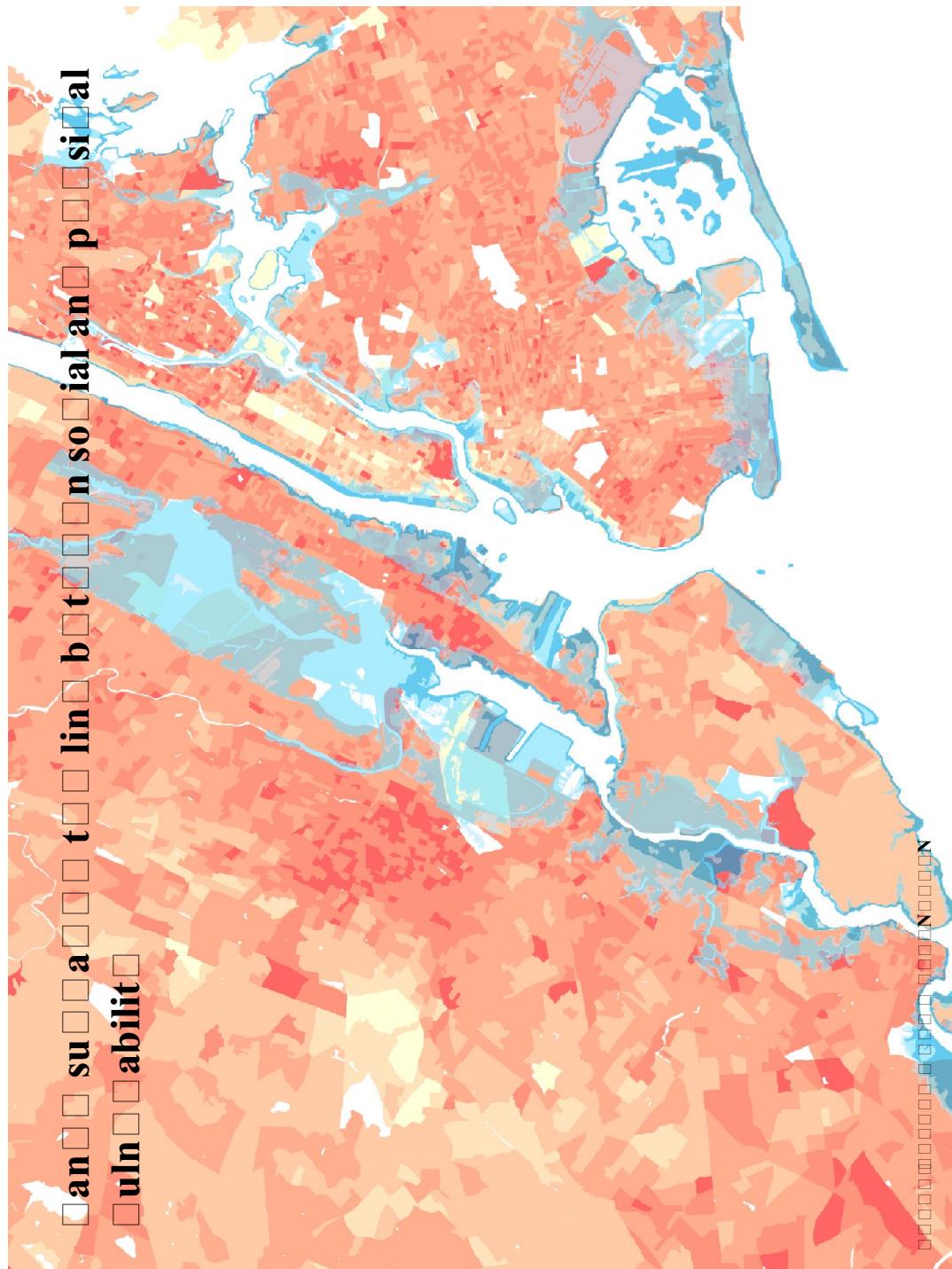
52 Liquid Fuel Storage Terminals are in the New York/ New Jersey area
39 are located WITHIN the flood plain
and they contain roughly **80%** of the total area fuel



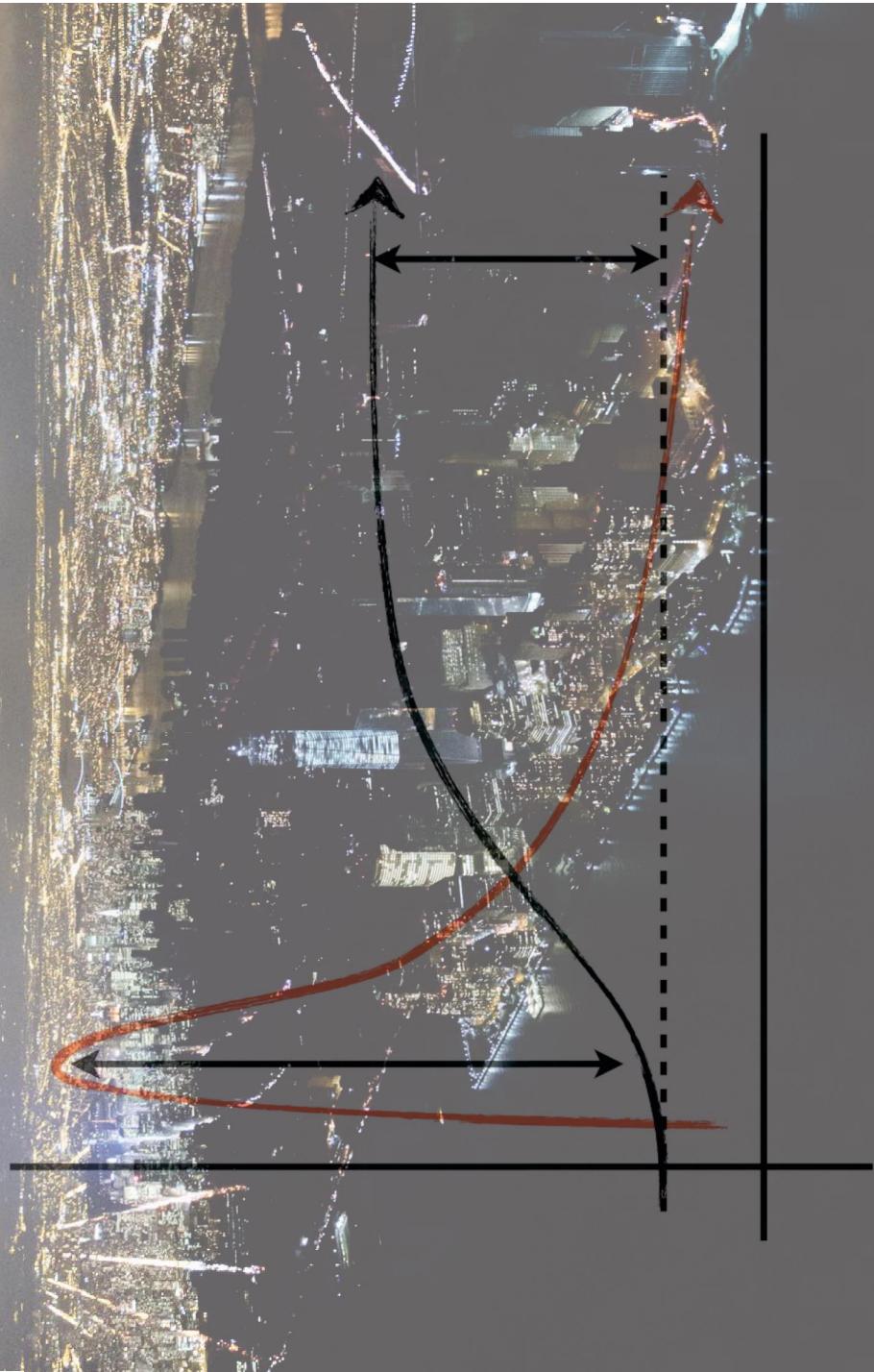
POLLUTION



Images: MIT/DDC



MOMENTUM



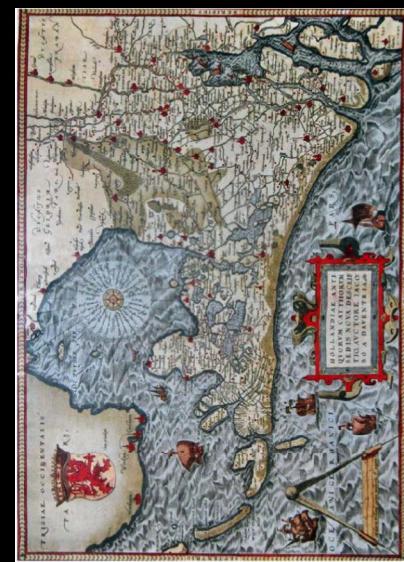


HOLLAND - culture of living with water

Trade, negotiations and crafts
Stubbornness, luck and faith

Managing risks and uncertainties.

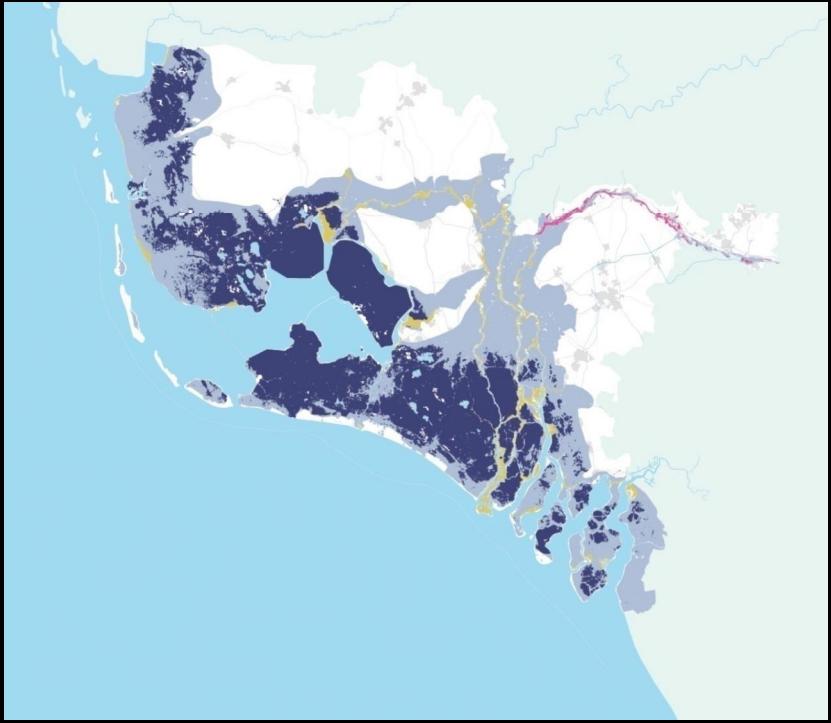
The Netherlands is made out of water



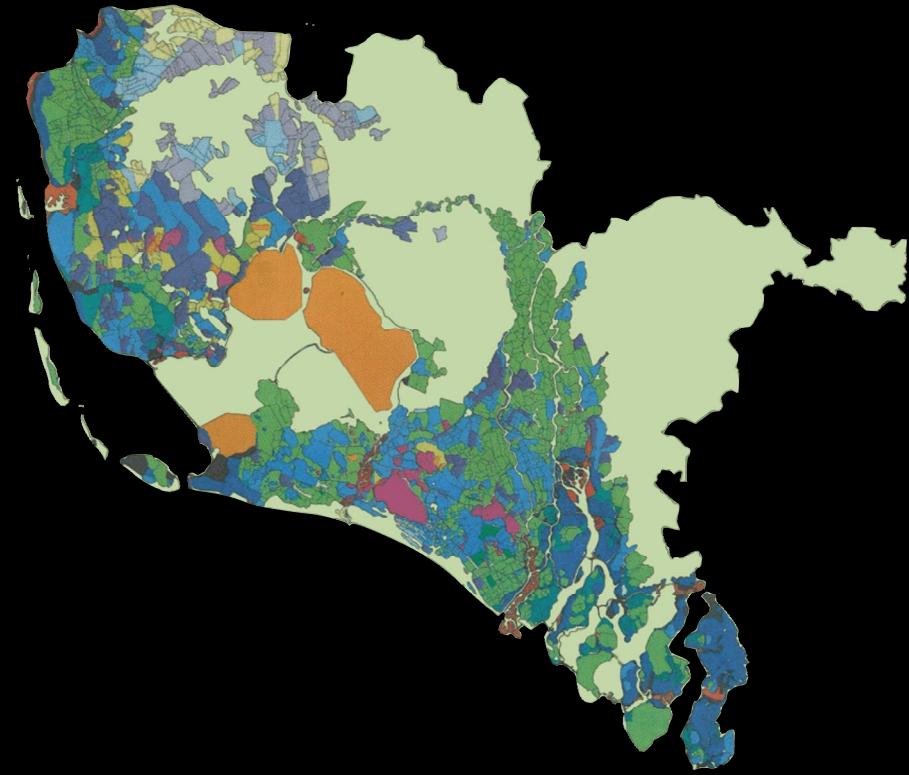
THE NETHERLANDS - FACTS

□□lo□ s□a l□□□l□□□
□bo□ s□a l□□□l□□□
□utsi□ t□□□□s□□□
□□us□ outsi□ t□□□□s□□□
□abl□ to □loo□in□□□□

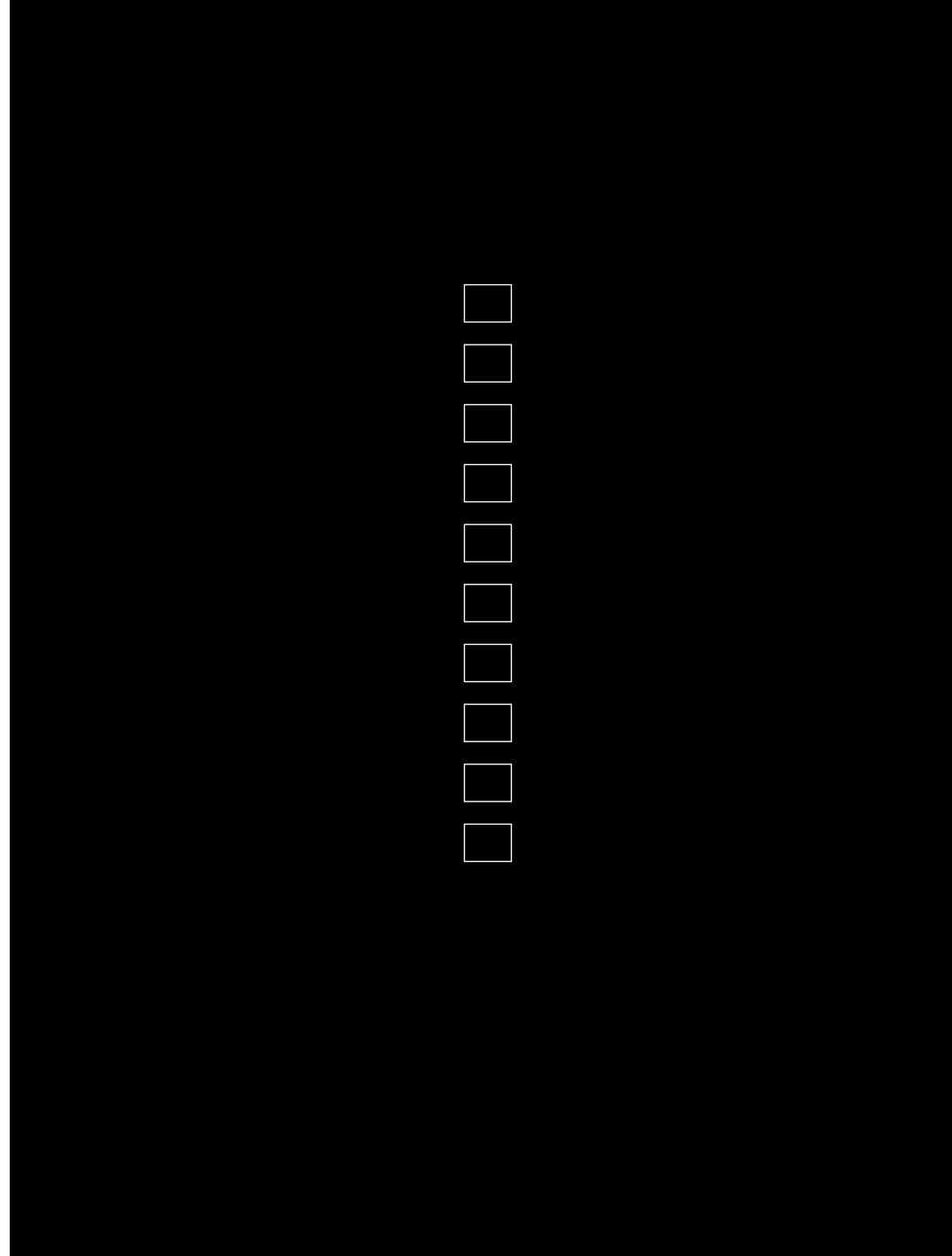
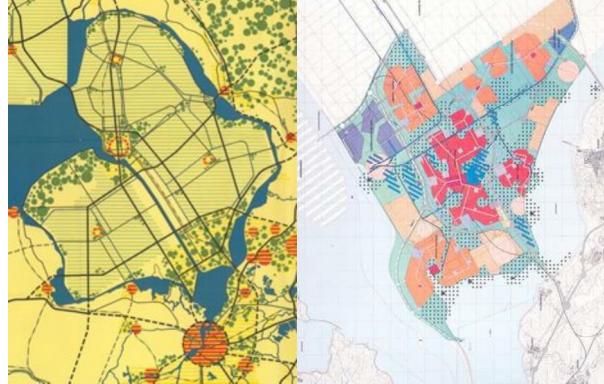
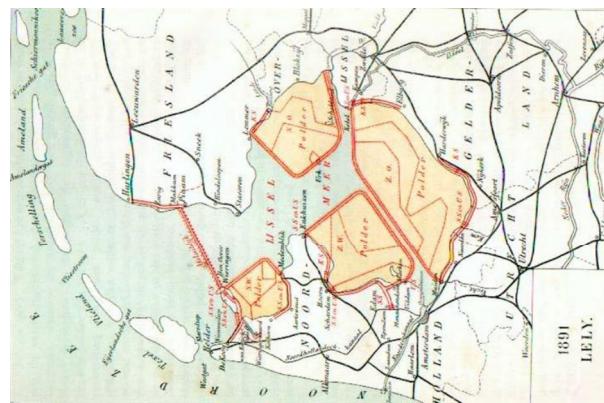
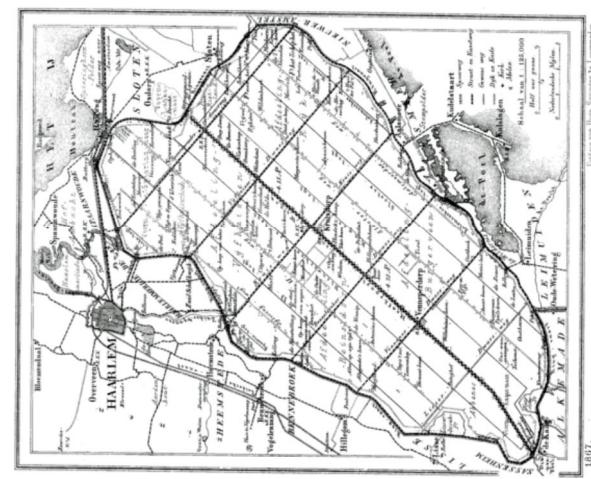
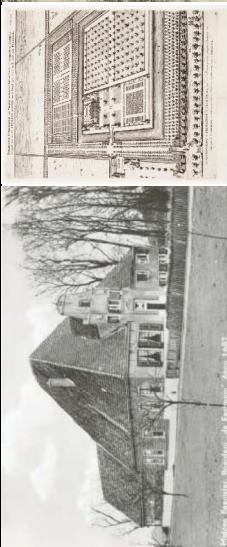
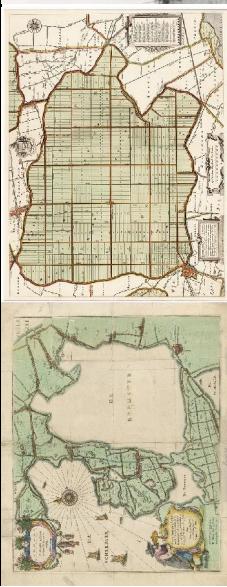
□□□ N□t□□□lan□s is t□□□□ita o□
□□in□, □□us□, □□□□l□t an□□□□s□□□



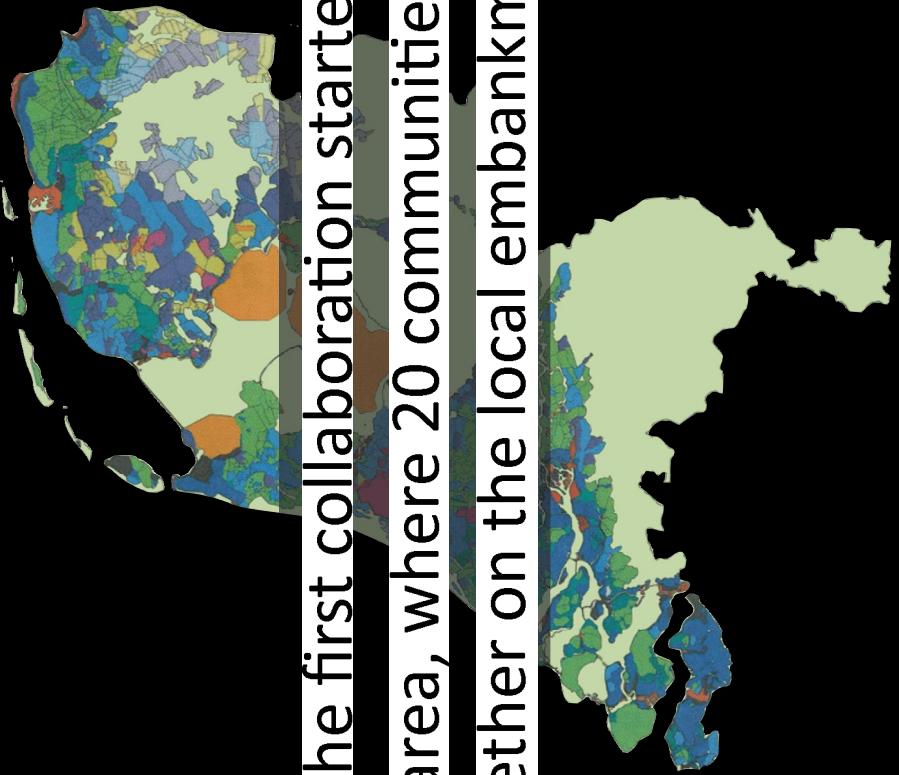
MAKING LAND: 3500+ DUTCH POLDERS



□ □ □ □ N □ □ □ □ N □ □ □ □



MAN MAKING LAND: 3500+ DUTCH POLDERS



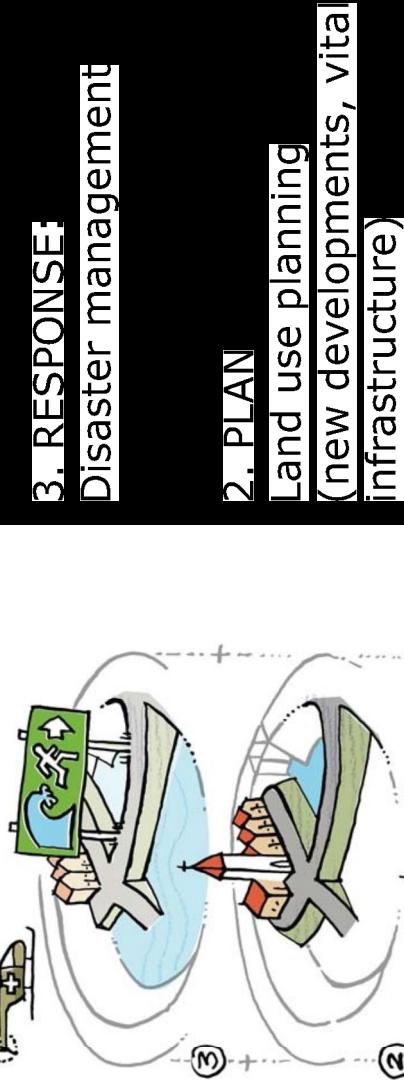
1222 - the first collaboration started in the Utrecht area, where 20 communities worked together on the local embankment

1953



153 MADE US REMEMBER - DUTCH APPROACH

Multi-layered approach:



[Home](#) [Nieuws](#) [Onderwerpen](#) [Organisatie](#) [Nationale Deltacongres](#) [zoek](#)



[Home](#) > [Onderwerpen](#) > [Deltaprogramma](#)

Deltaprogramma

Het Deltaprogramma heeft als doel ons land nu en in de toekomst te beschermen tegen hoog water en de zoetwatervoorziening op orde te houden. Daarbij spelen veel aspecten een rol, zowel op het gebied van leefomgeving en economie als op het vlak van natuur, landbouw en recreatie.

Nederland is een laaggelegen, welvarende en dichtbevolkte delta, die kwetsbaar is voor overstromingen. Als er iets gebeurt, zijn het leed en de schade - ook economisch - niet te overzien. Onze delta is te kostbaar om niet de benodigde maatregelen te treffen. We zijn in het verleden al een paar keer verrast door dat we onze veiligheid niet goed op orde hadden. Het Deltaprogramma moet ervoor zorgen dat we niet nog een keer verrast worden. Daarnaast is de zoetwatervoorziening van belang voor onze economie en ook die moet voor de toekomst op orde blijven.

Zie ook

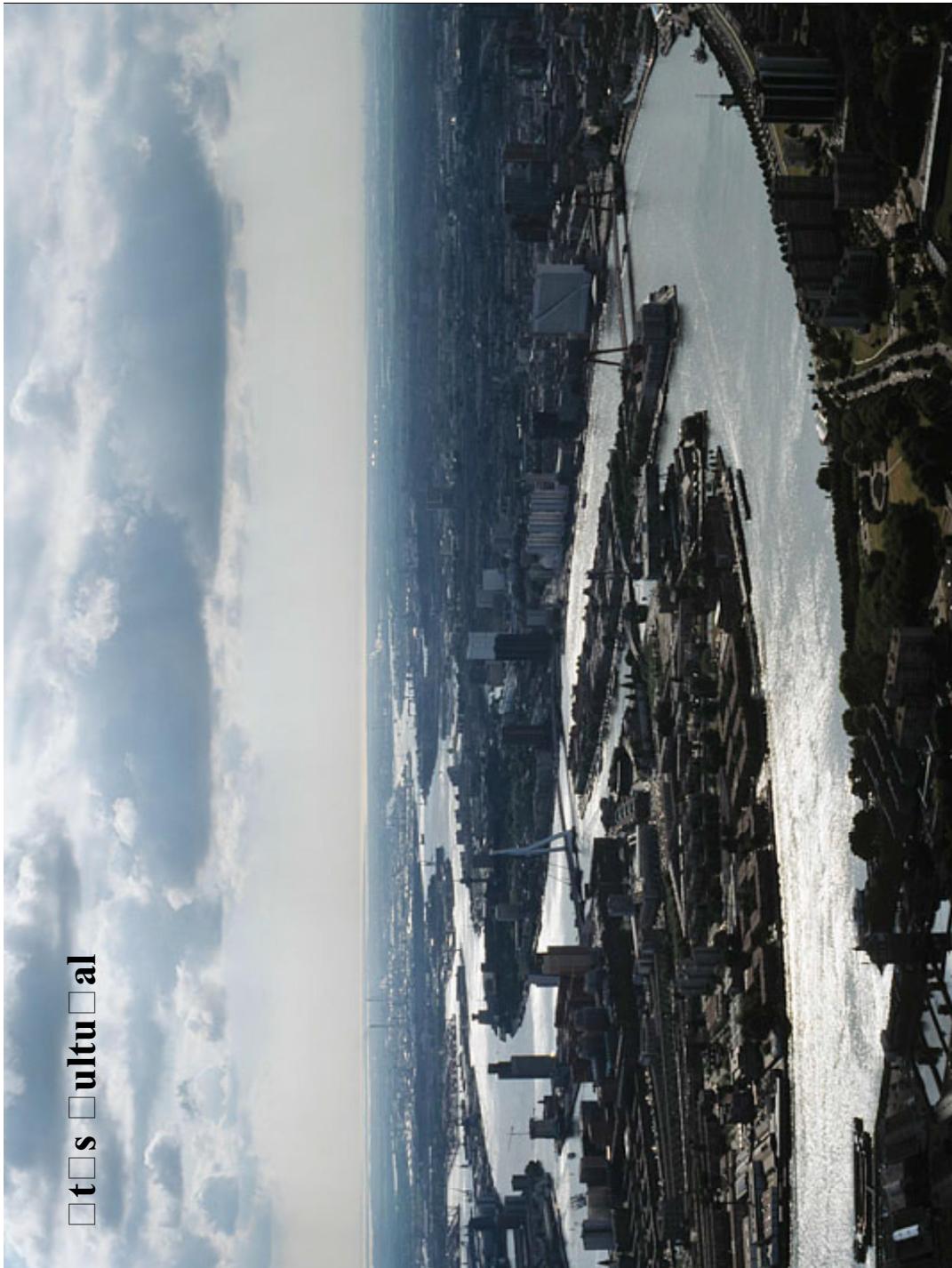
- < Deltaprogramma op Rijksoverheid.nl



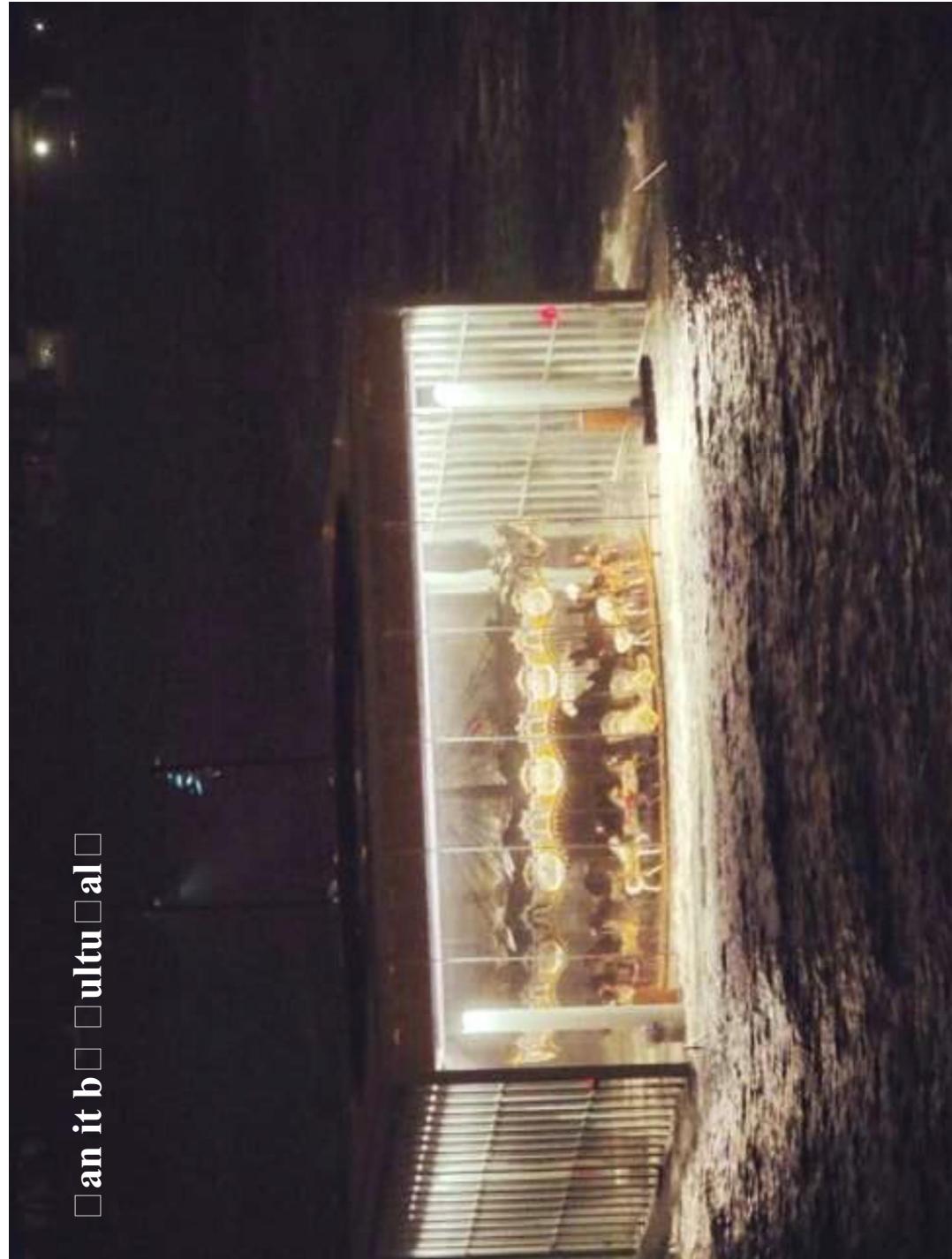


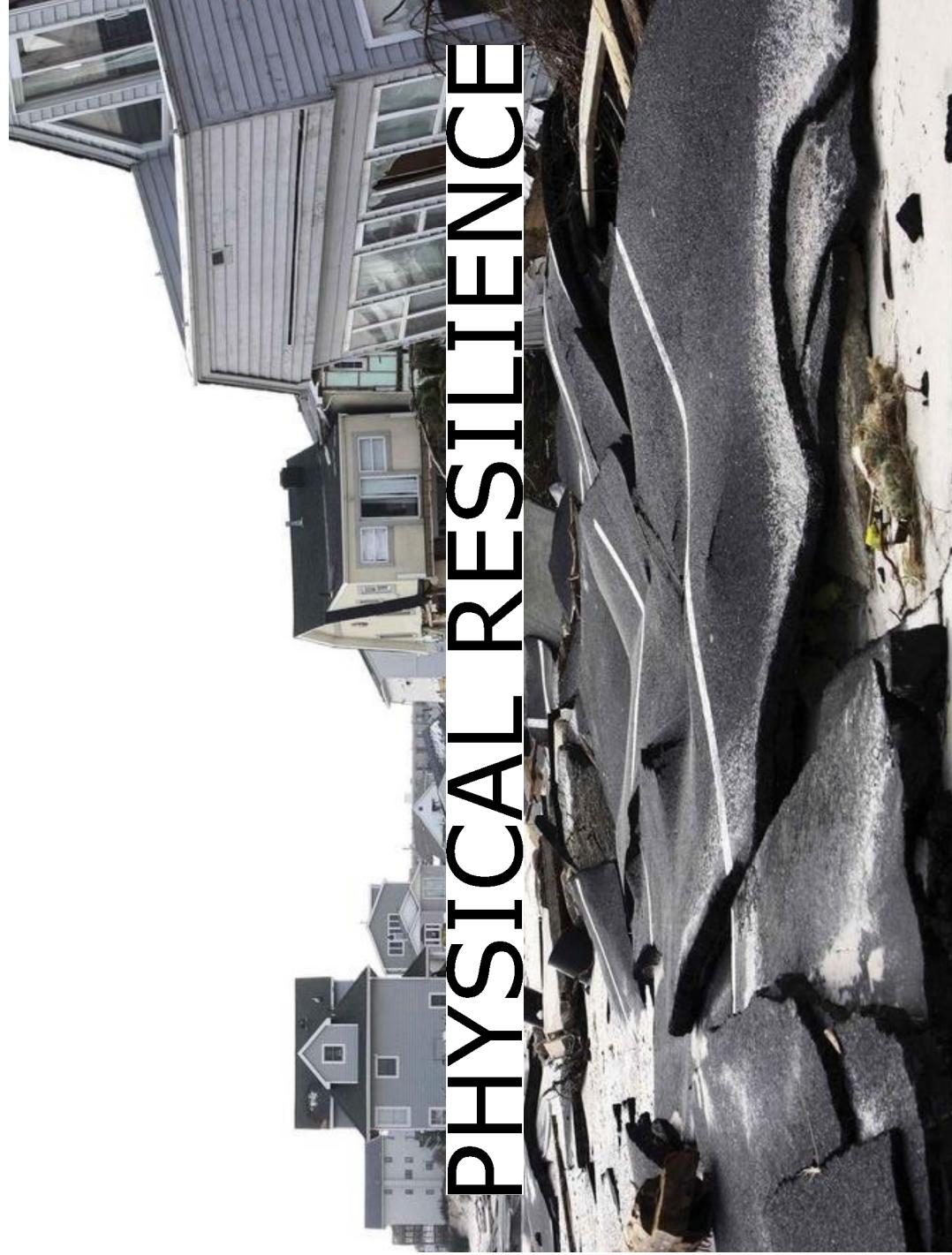
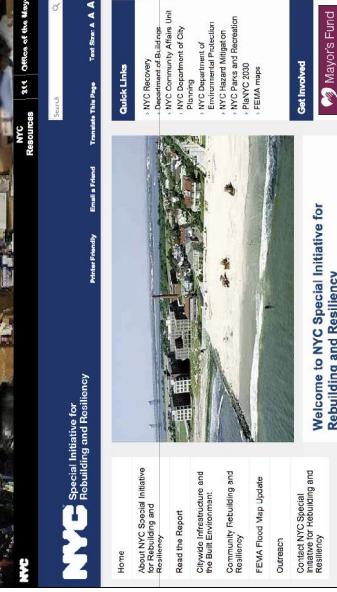
Het Deltaprogramma wordt uitgevoerd onder regie van de deltacommissaris. De Deltawet is op 1 januari 2012 in werking getreden.

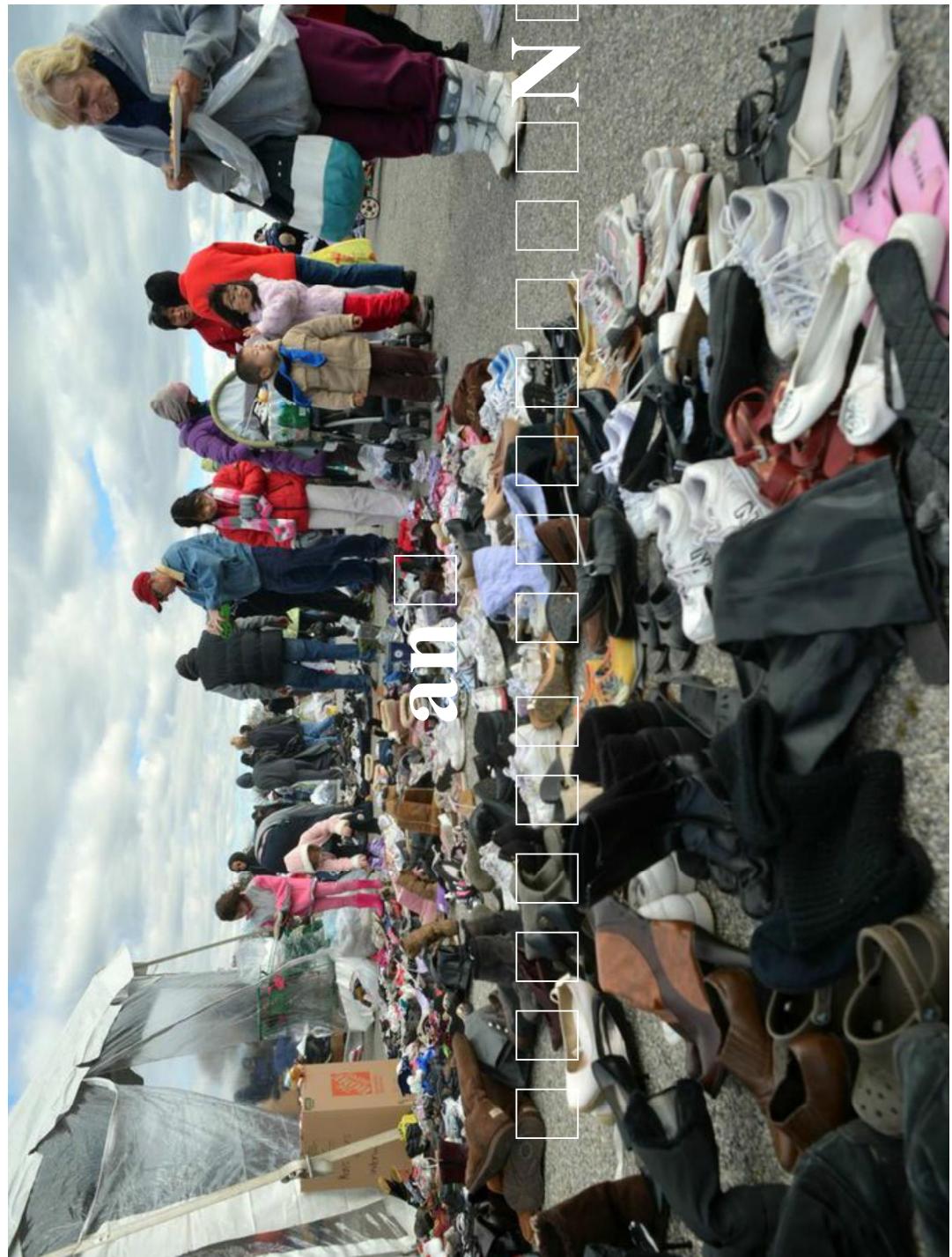
t s ultu al

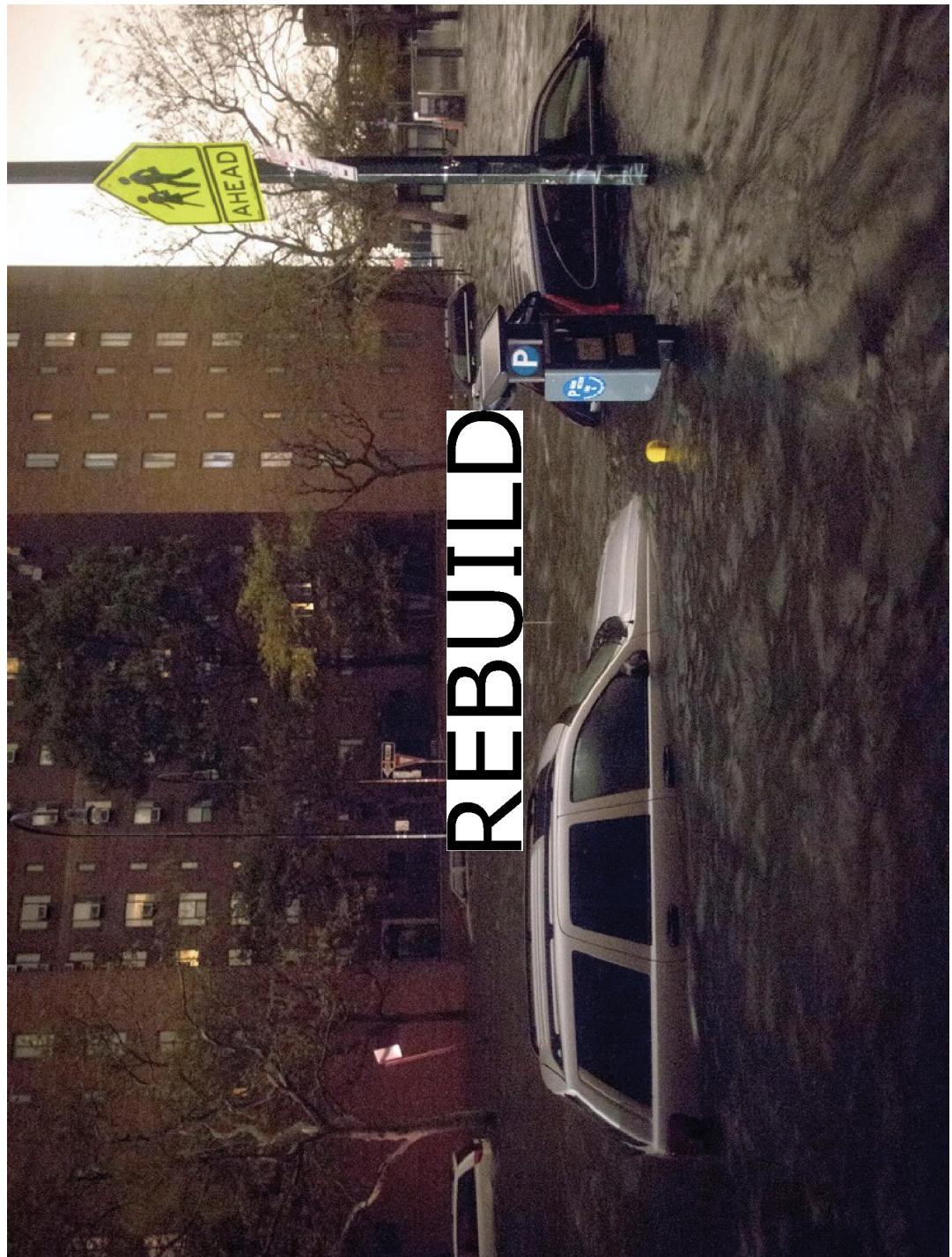


an it b ultu al









REBUILD



TIME TO THINK



INVESTING IN THINKING

The cover of the Hurricane Sandy Rebuilding Strategy report. It features a blue map of the affected area, the title "HURRICANE SANDY REBUILDING STRATEGY" in large white letters, and the subtitle "Stronger Communities, A Resilient Region". It also includes small images of people working on a building and a destroyed structure, and the White House logo with the text "THE WHITE HOUSE WASHINGTON".

Hurricane Sandy
Rebuilding Task Force

HURRICANE SANDY
REBUILDING
STRATEGY

Stronger Communities, A Resilient Region

INVESTING
IN
THINKING

Executive Office of the President

June 2013

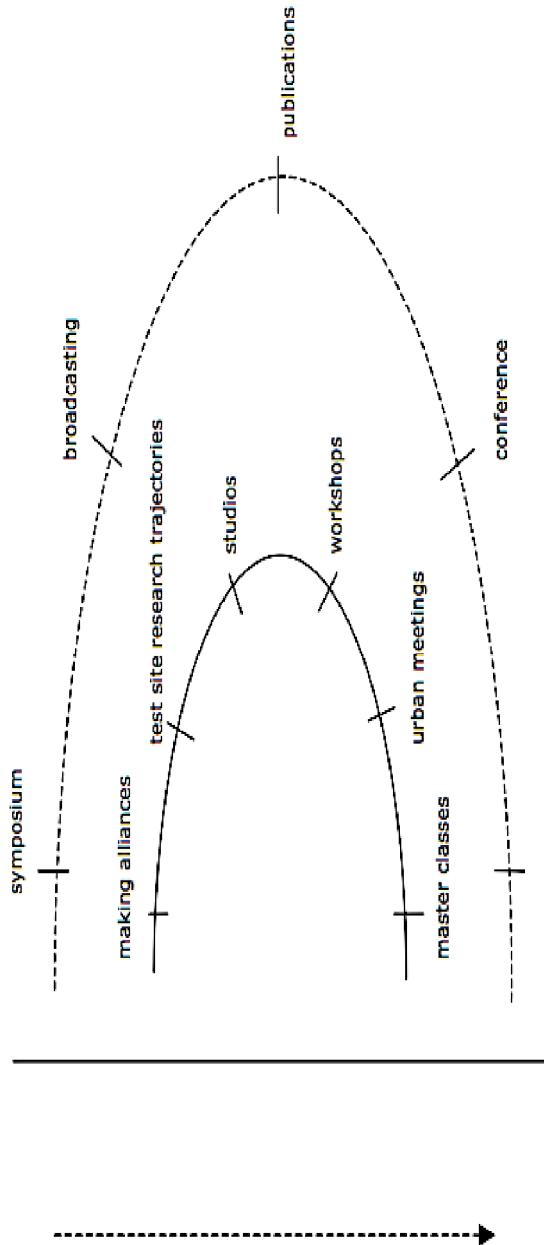
THE WHITE HOUSE
WASHINGTON

August 2013

Time to think - SABBATICAL DETOUR MODEL

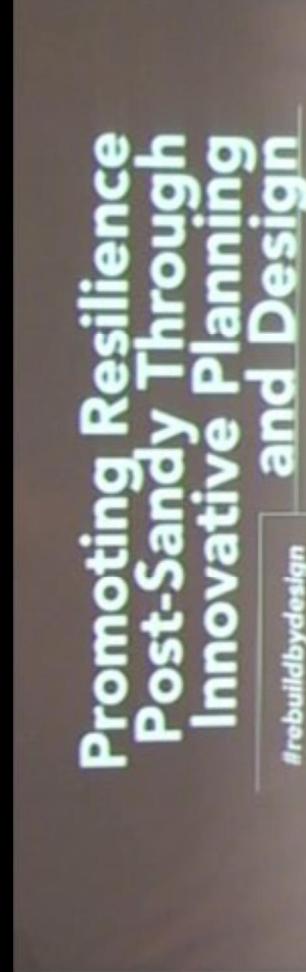
REGULAR PROCESS

SABBATICAL DETOUR



ALLIANCES

By definition an alliance is formed by parties with common interests who are making everyone focus on implementing the common. They initially tend to minimize their differences in the alliance.



HD

00:00

II

REBUILD BY DESIGN

Promoting Resilience
Post-Sandy
Through Innovative
Planning and Design

An Initiative Of
The President's
Hurricane Sandy
Rebuilding Task Force

What is Rebuild by Design?

Innovating Together to Create a Resilient Region



REBUILD BY DESIGN

...one of CNN's 10 Best Ideas of 2013

Process, Talent, Funding

BIG Team
HR&A Advisors / Cooper
Robertson Partners
Interboro Team
MIT+ZUS+Urbanisten
OMA Team
PennDesign/Olin
Sasaki, Rutgers, Arup
Scape Team
WB Unabridged w/Yale&Arcadis
WXY/West8

**An Initiative of the
President's
Hurricane Sandy Rebuilding
Task Force**
In Collaboration With
**NYU's Institute for Public
Knowledge**
Municipal Art Society
Regional Plan Association
Van Alen Institute

Lead Supporter
The Rockefeller Foundation
With Support From
Deutsche Bank Americas
Foundation
Hearst Foundation
Surdna Foundation
The JPB Foundation
The New Jersey Recovery
Fund

REBUILD
BY
DESIGN

PROCESS
FUNDING
TALENT

Hurricane Sandy exposed complex, interdependent, regional problems throughout the Northeast: infrastructural governmental, economical, ecological, and social.

Complex problems need innovative solutions. Through innovation, we are building to a new standard, both on the ground and in policy design.

Compete

Federal

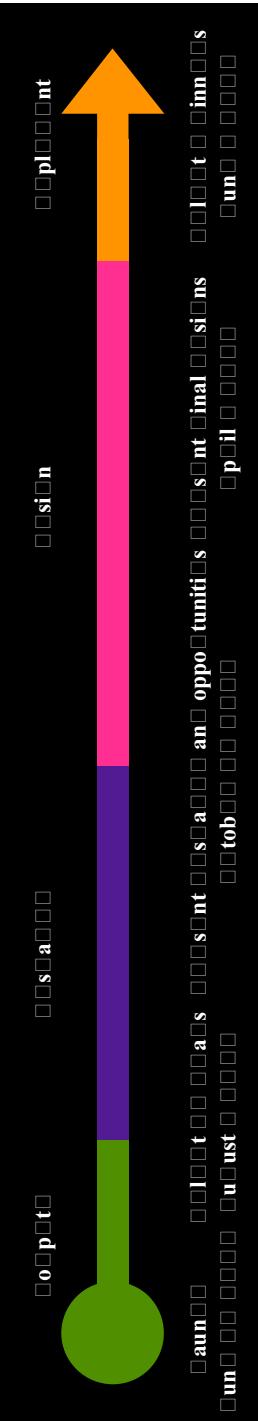
Research

- + Institute for Public Knowledge, NYU
- + Municipal Art Society
- + Van Alen Institute
- + Regional Plan Association
- + Research Advisory

Design

- 2019...
+ State & Local Gov
+ Community Orgs
+ Local Stakeholders
\$ Philanthropy

+All
\$ Federal
\$ Other Partnerships



MODIFIED SHALLOWING JAMAICA BAY, NY

LANDSCAPE



IMAGE: SCAPe TEAM

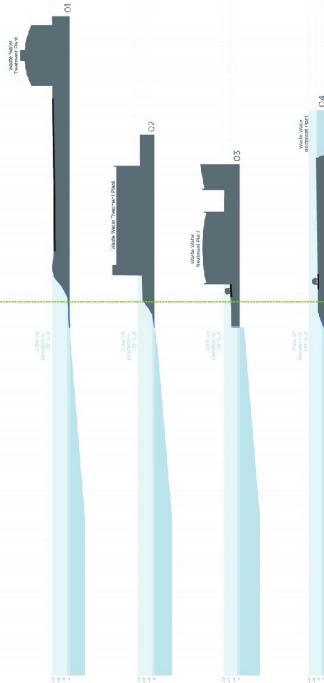
ARCHITECTURE



IMAGE: OMA TEAM

EXISTING CONDITIONS AND FUTURE RISK | $1''=40'$

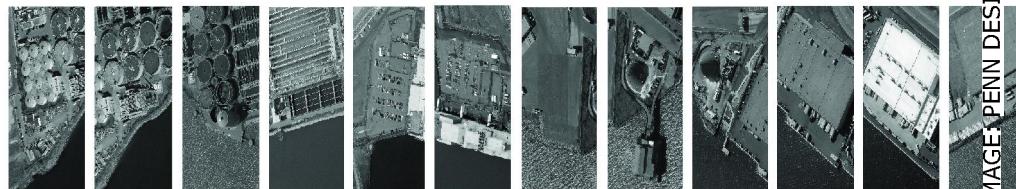
2050 SEA LEVEL RISE (0.6% - 3")
100 YEAR FLOOD ELEVATION
3D ELEMENTS
EDGE BREACH/UNPROTECTED GENTLE SLOPE
EDGE BREACH/UNPROTECTED STEEP SLOPE
EDGE VERTICAL BULKHEAD
EDGE RELIEVING PLATFORM
FLOOD MITIGATION AND STRUCTURE
Top edge coordinates as of 2006



URBAN DESIGN

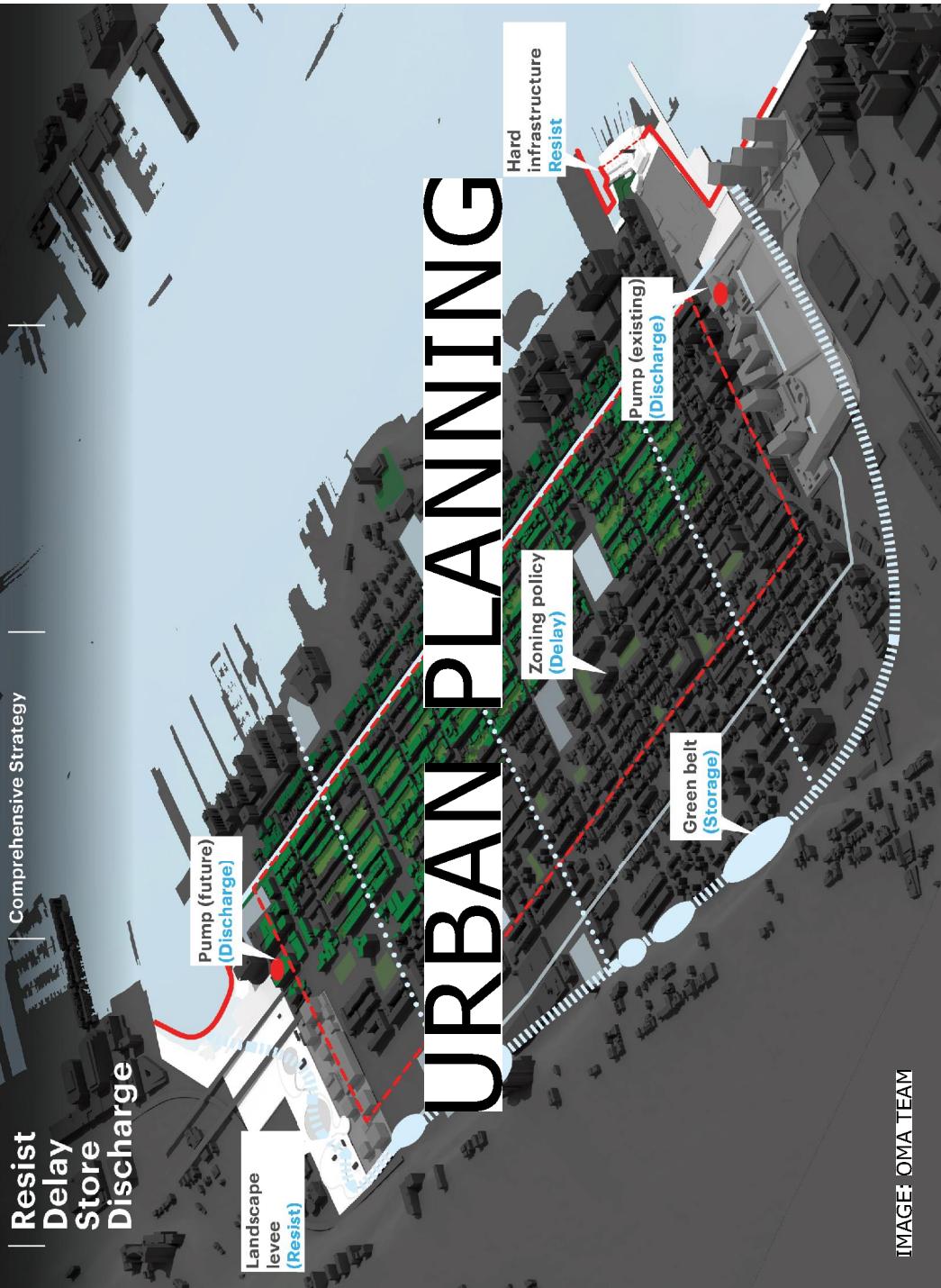


IMAGE: PENN DESIGN / OLIN



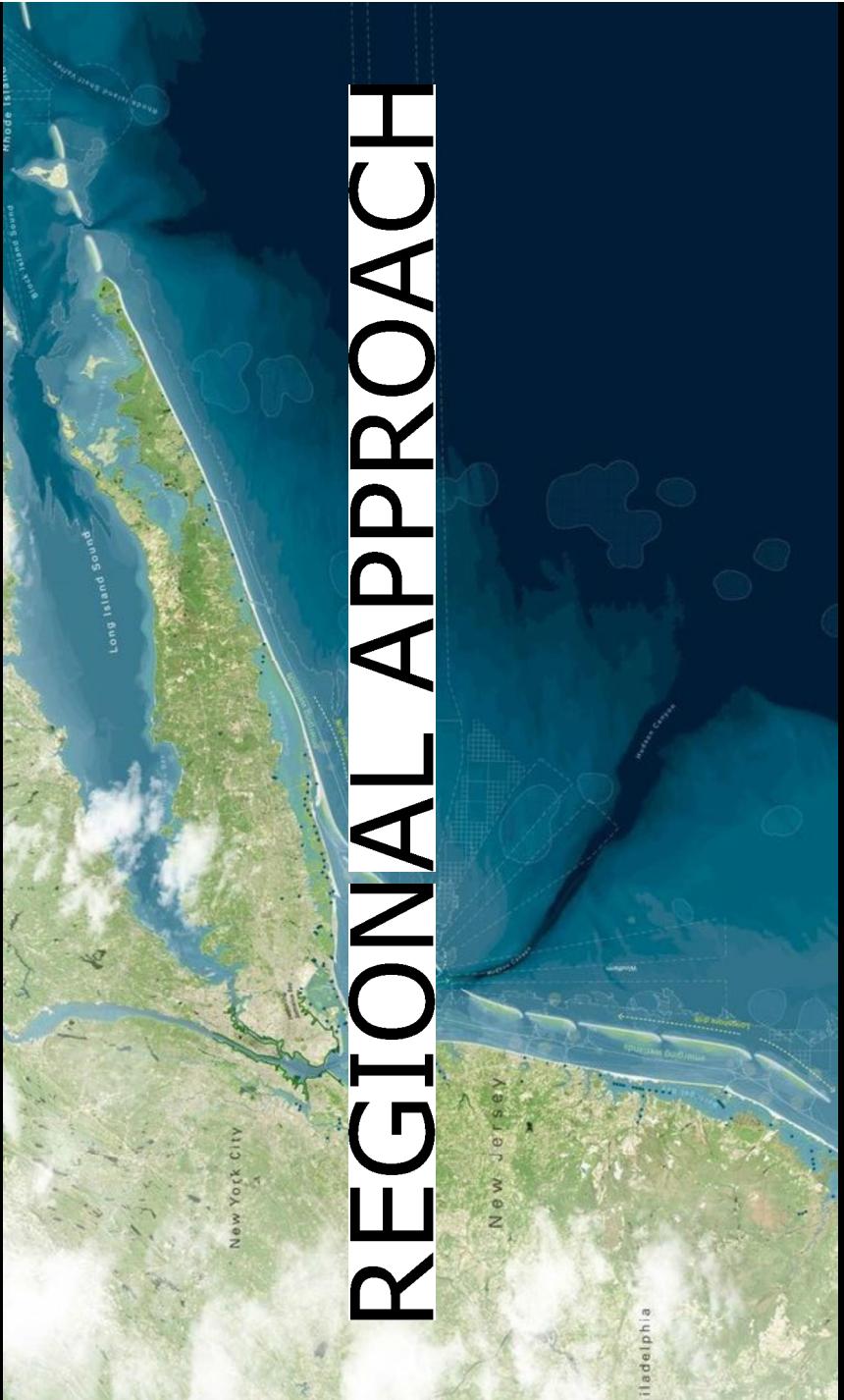
Comprehensive Strategy

Resist
Delay
Store
Discharge



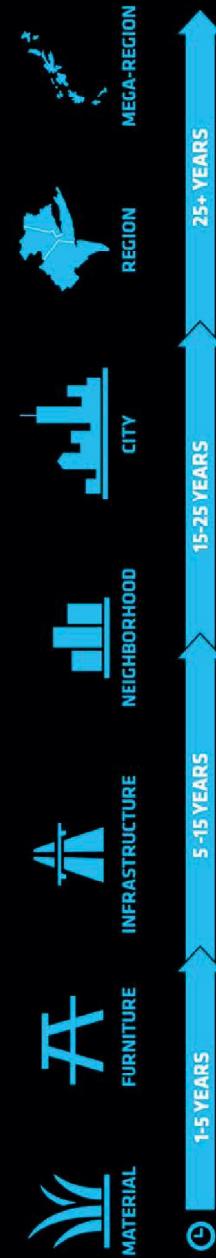
URBAN PLANNING

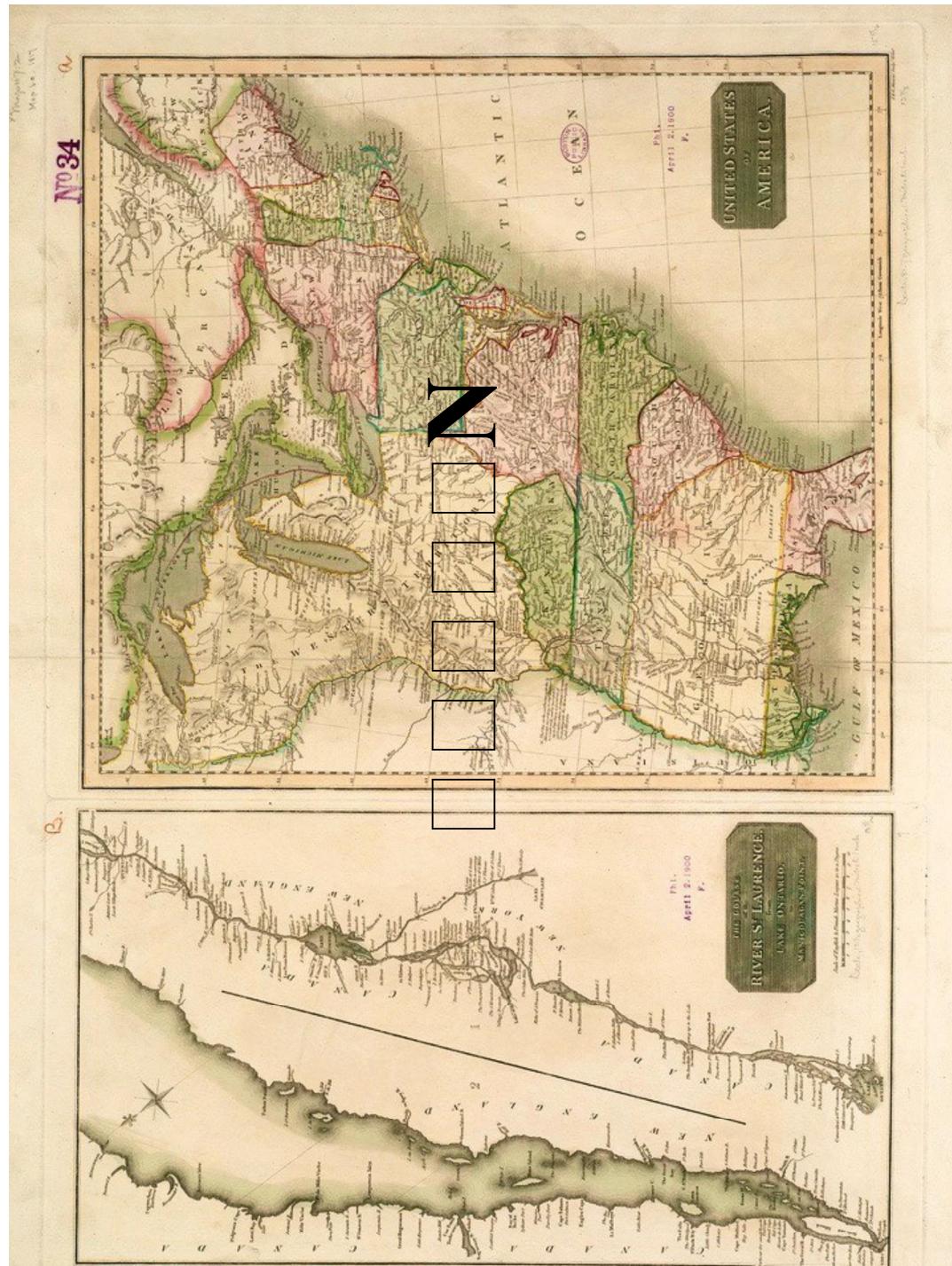
IMAGE: OMA TEAM

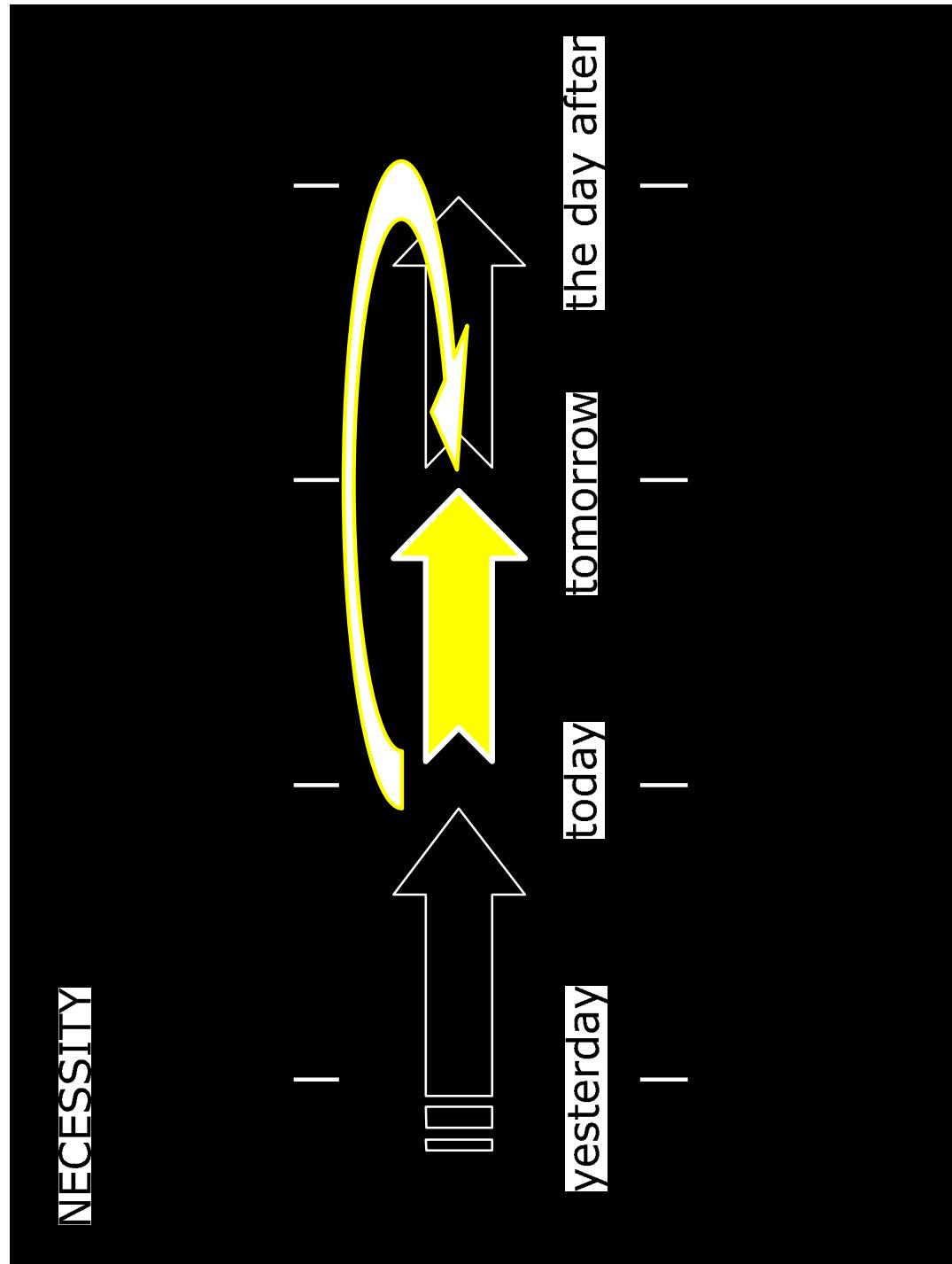


REGIONAL APPROACH

SCALES and TIME







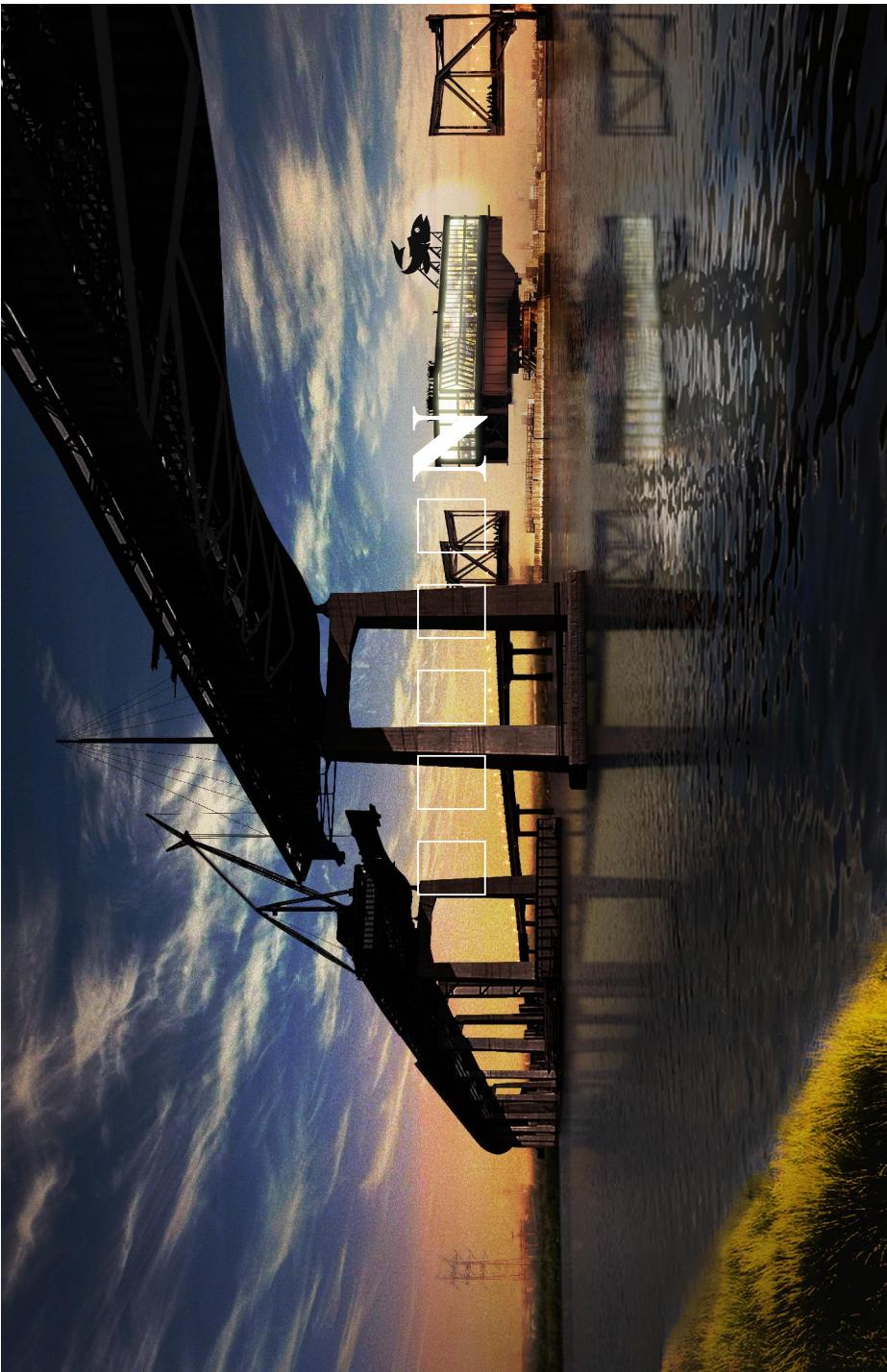


THE POLITICS AND

MIT + ZUS + Urbanisten



IMAGE: MIT, ZUS, URBANISTEN



isolate, **nonstop**, **oops**, **it's**, **bother**, **anson**, **a tenth**

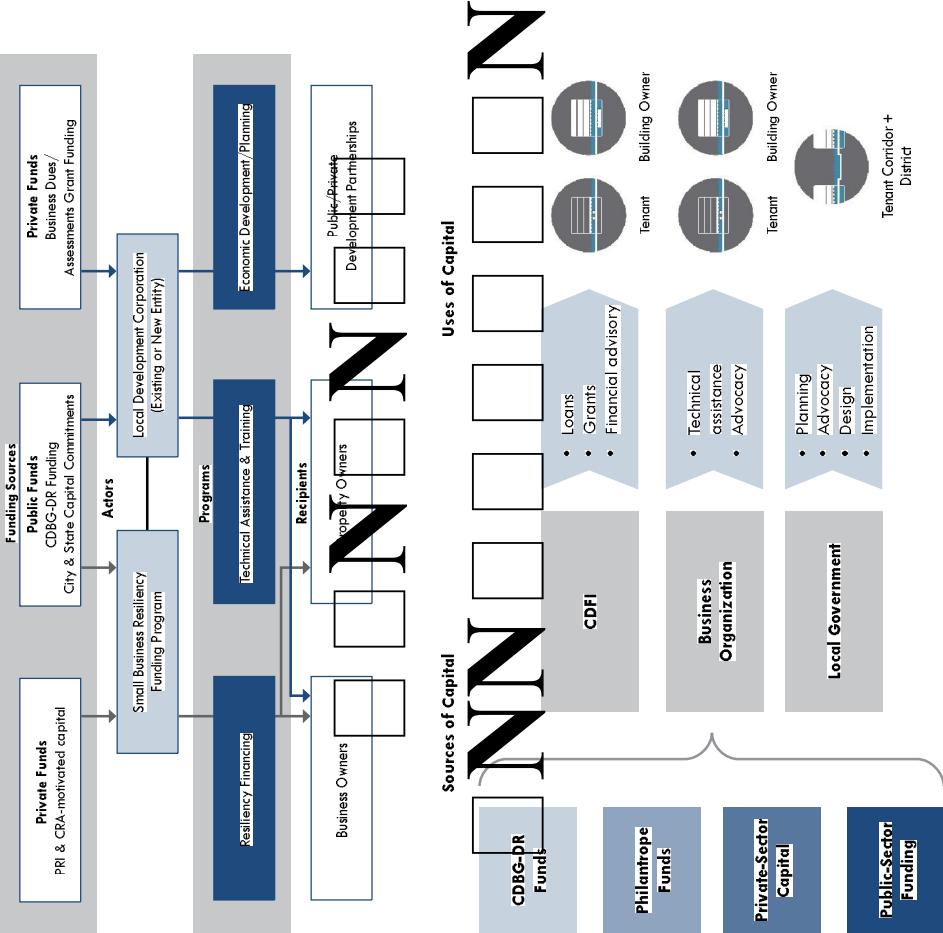
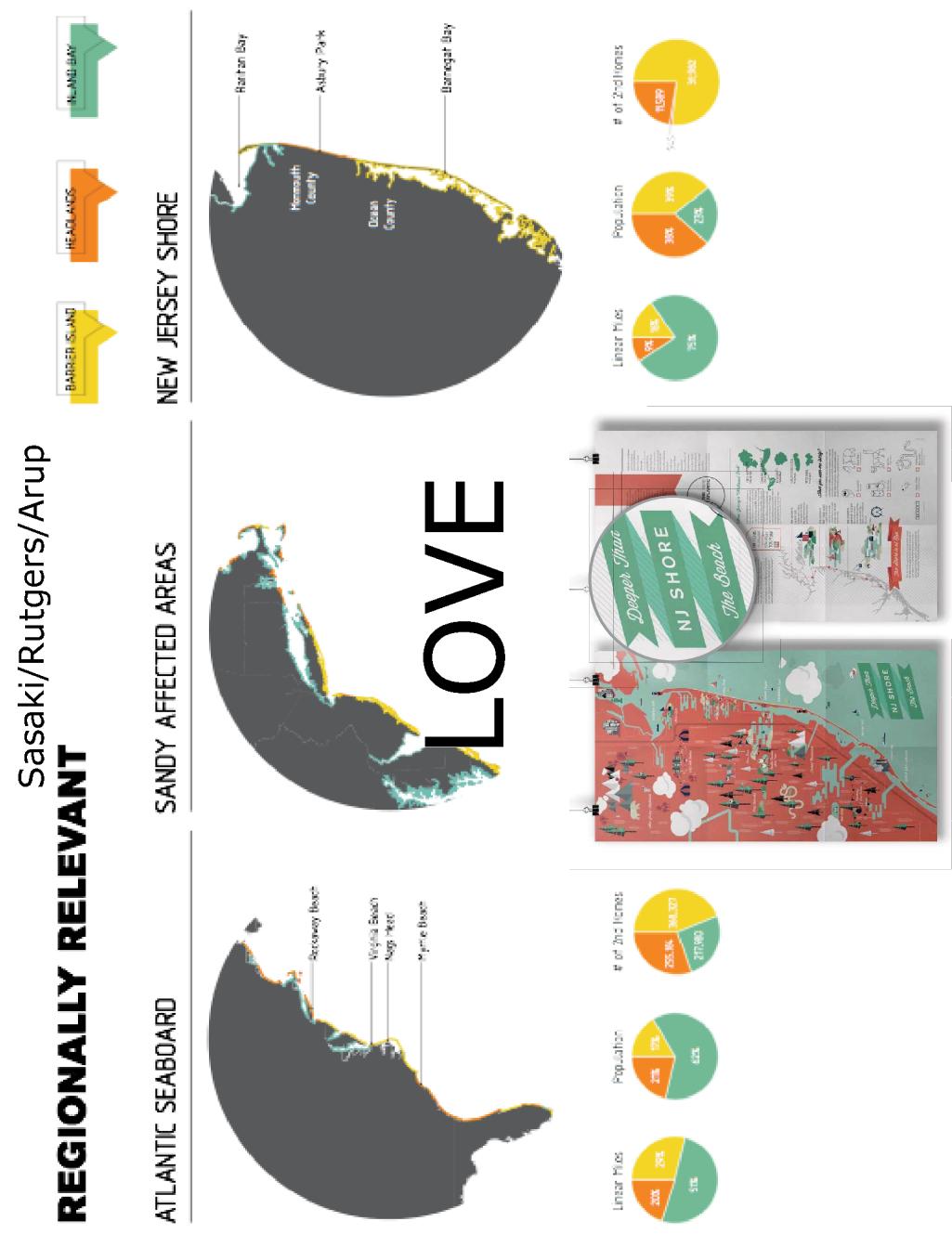
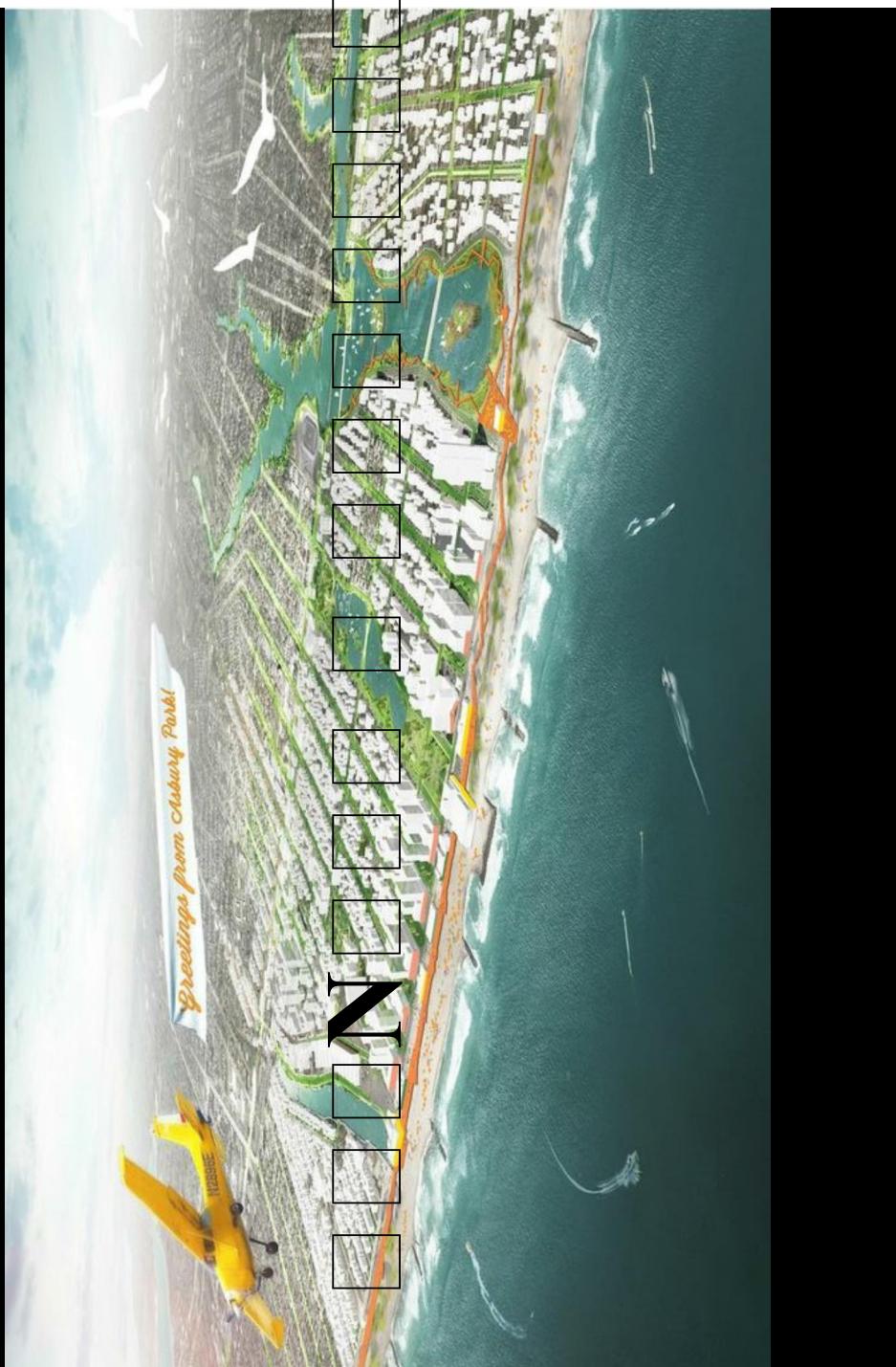




IMAGE: HR&A

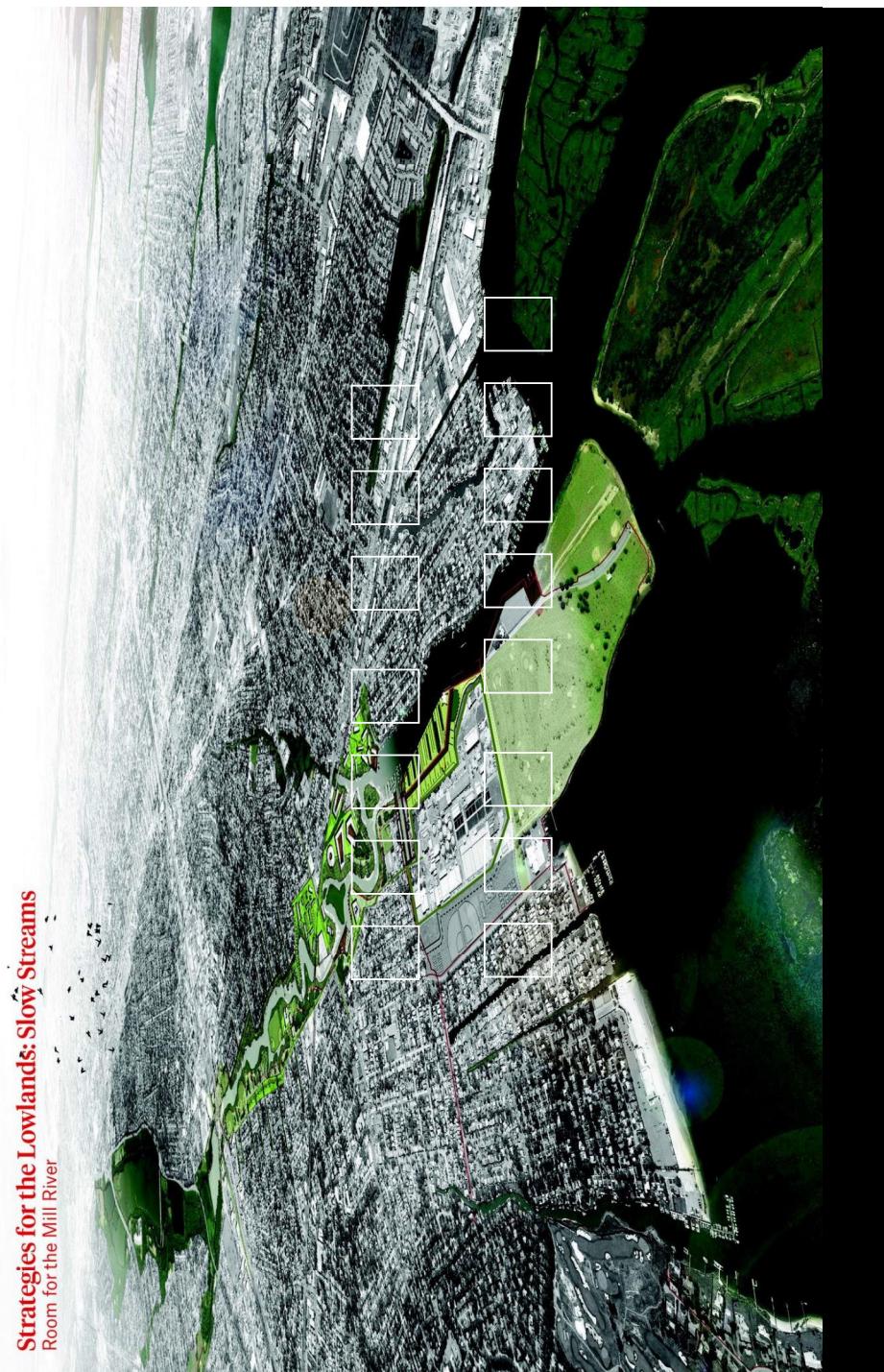


asa i ut s up



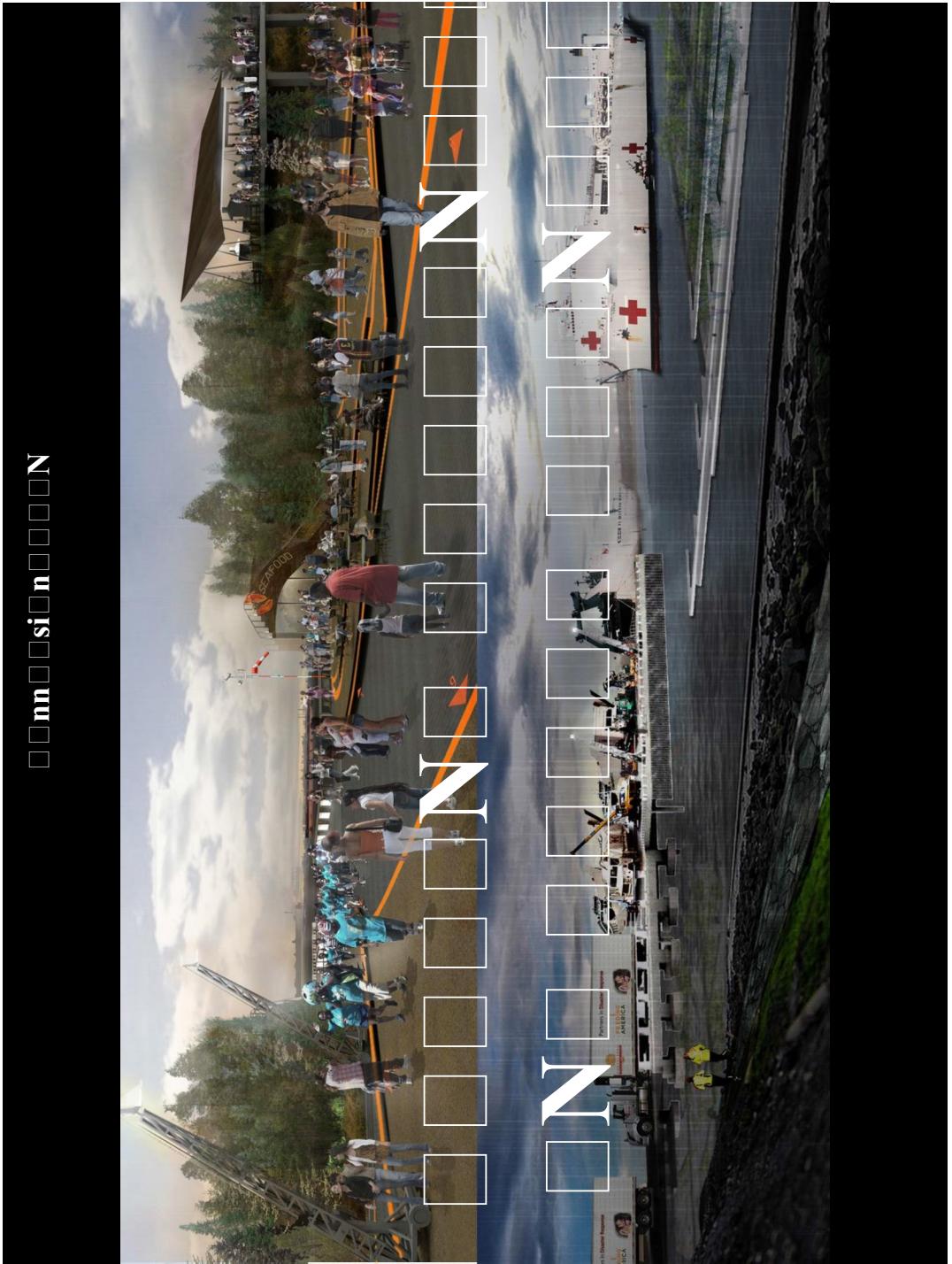
nt bo o a

Strategies for the Lowlands: Slow Streams
Room for the Mill River

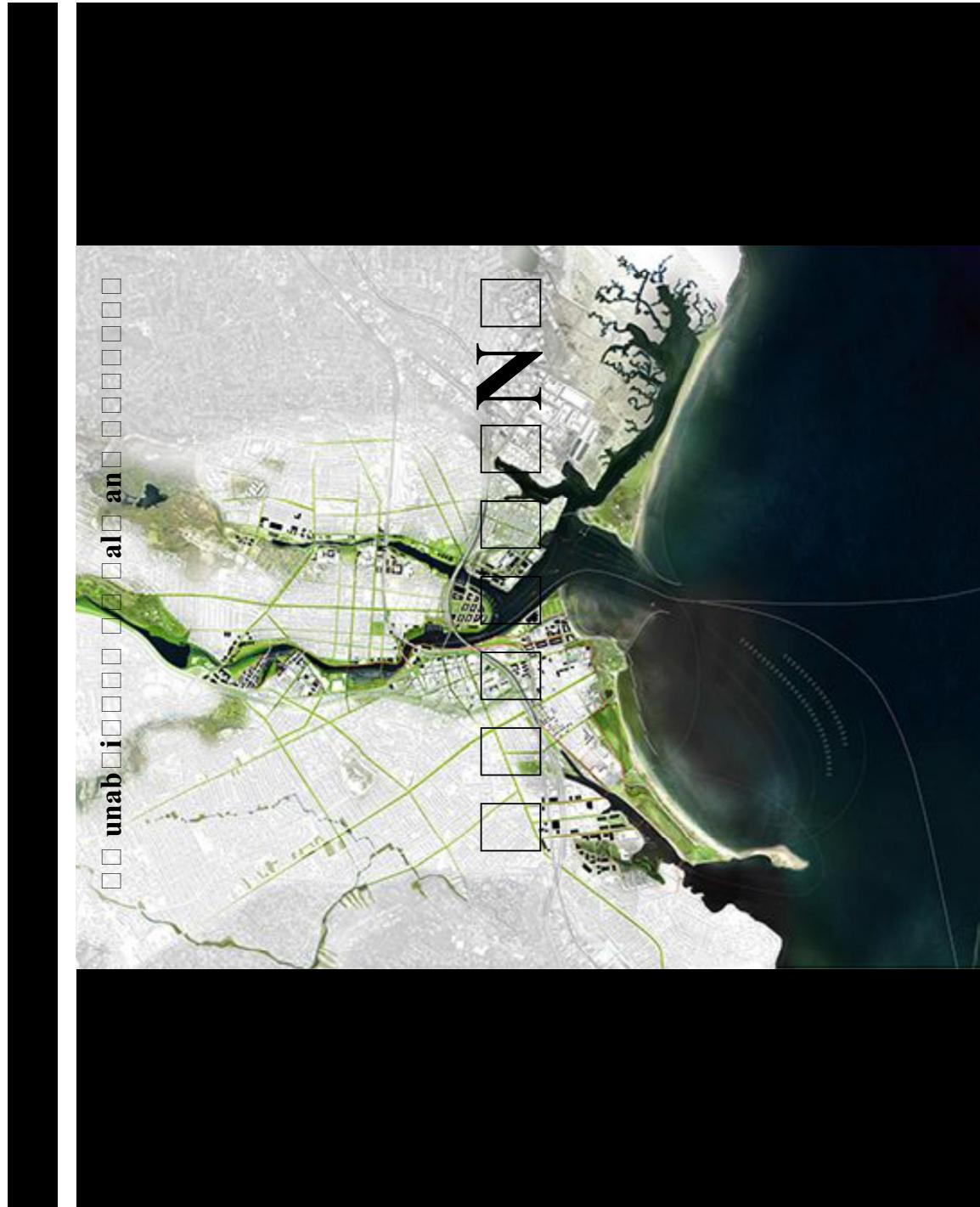


nt bo o a

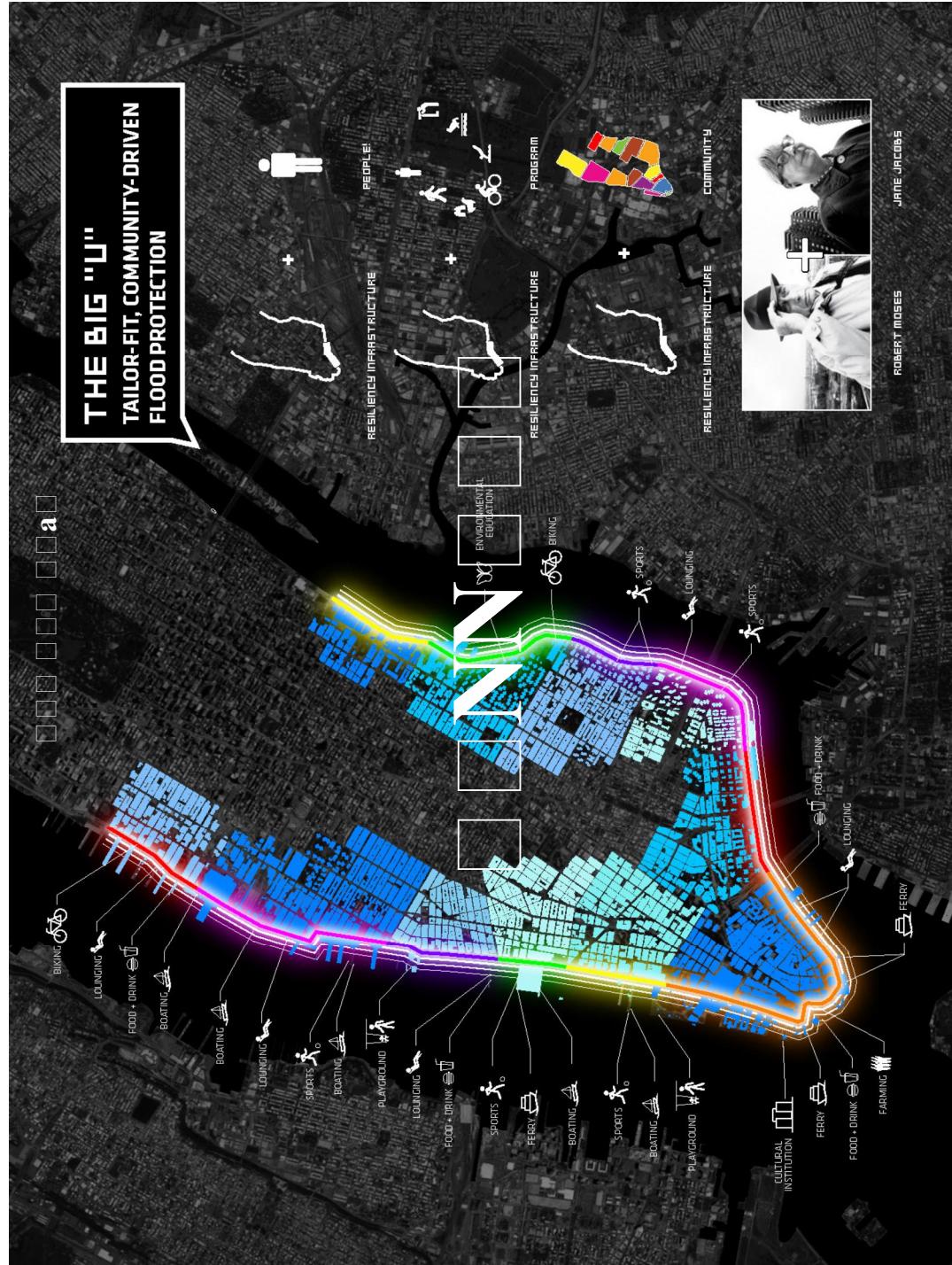
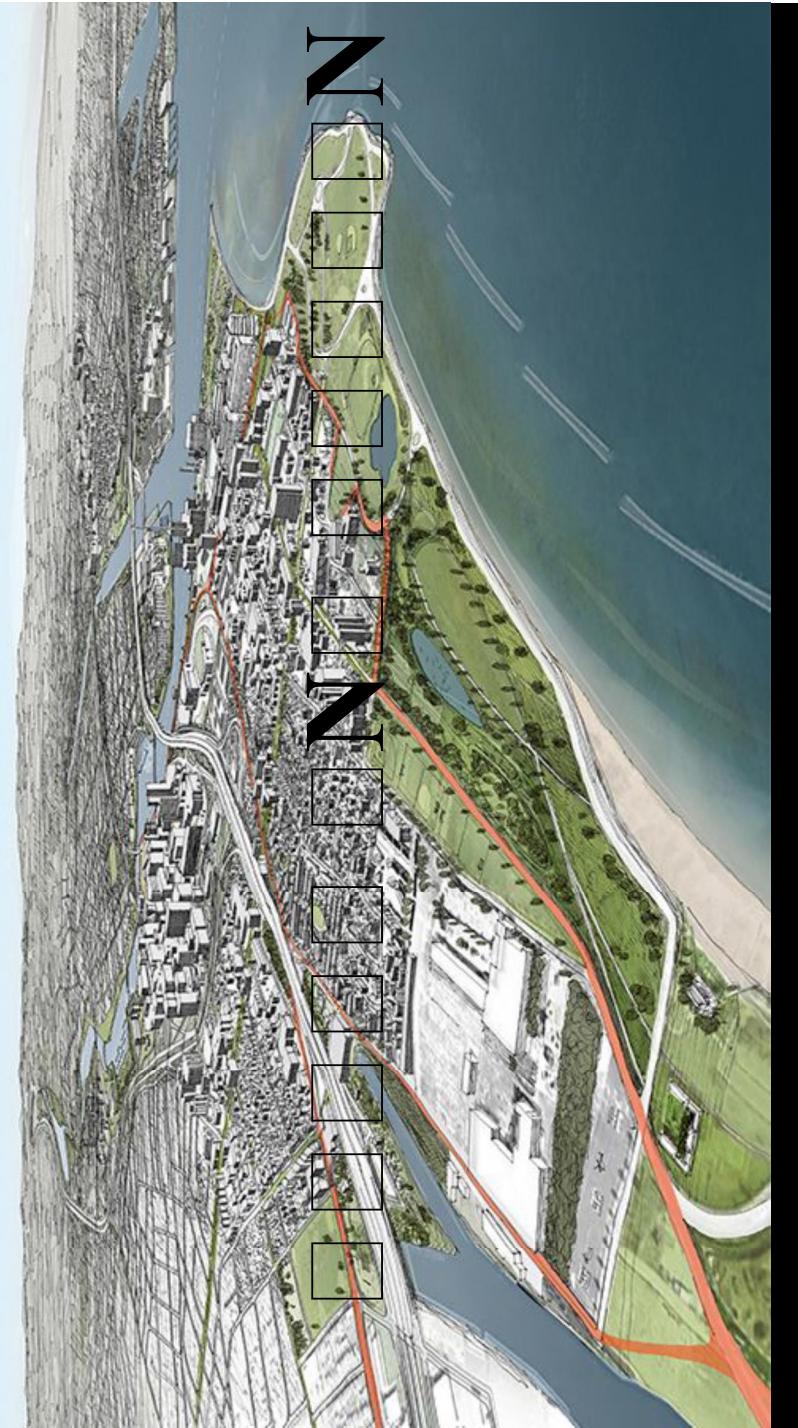
Strategies for the Marsh: The Eco-Edge

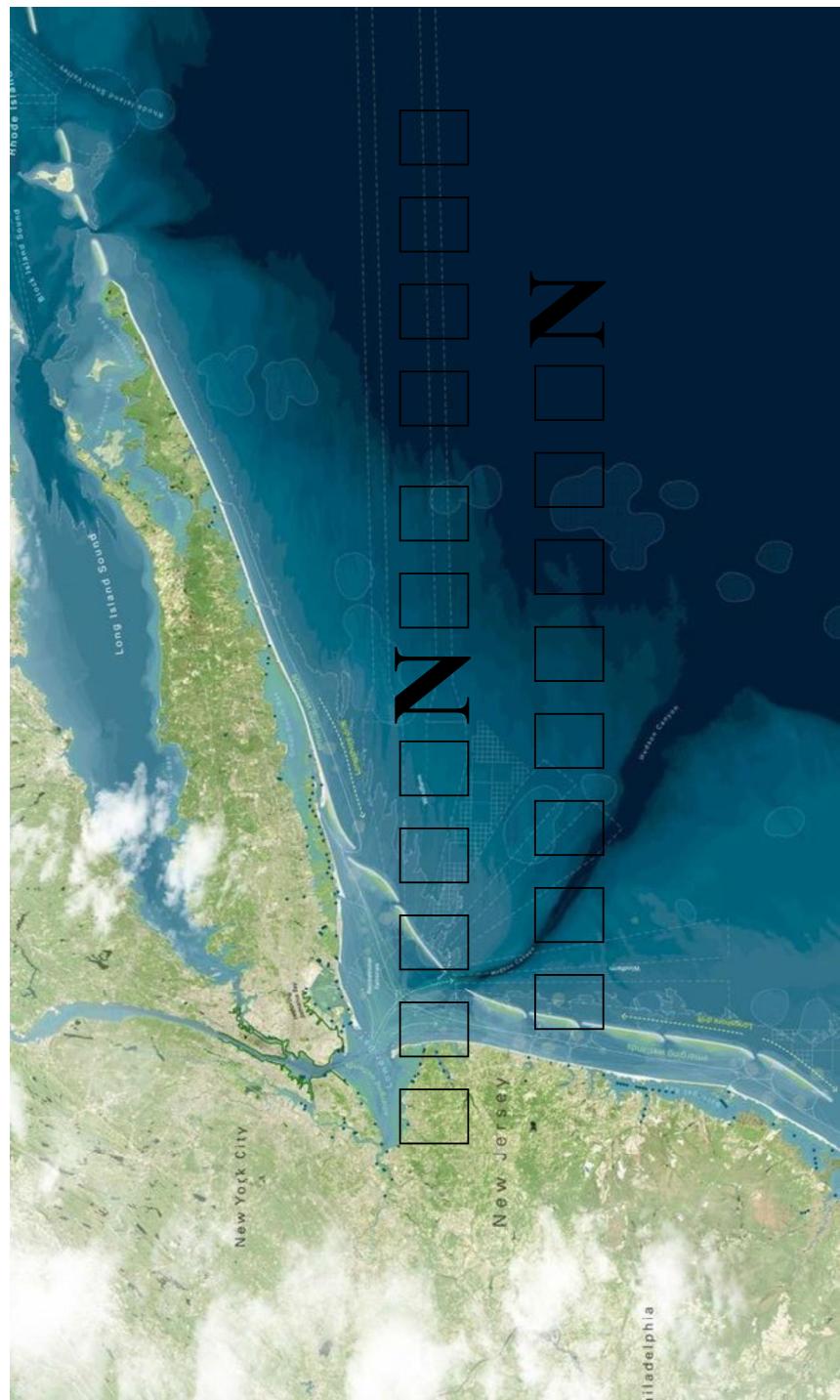
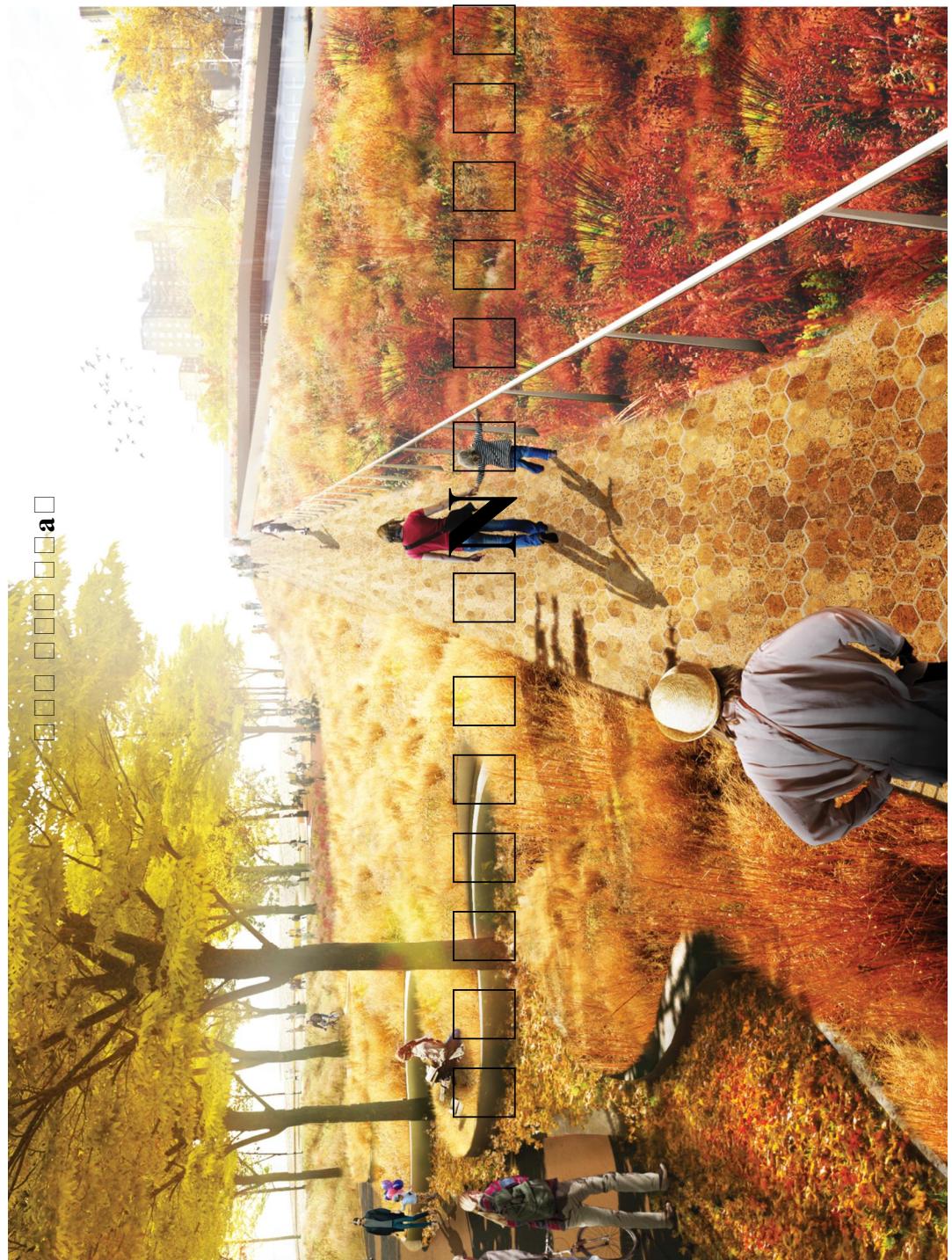


□□mn□□si□n□□□□N

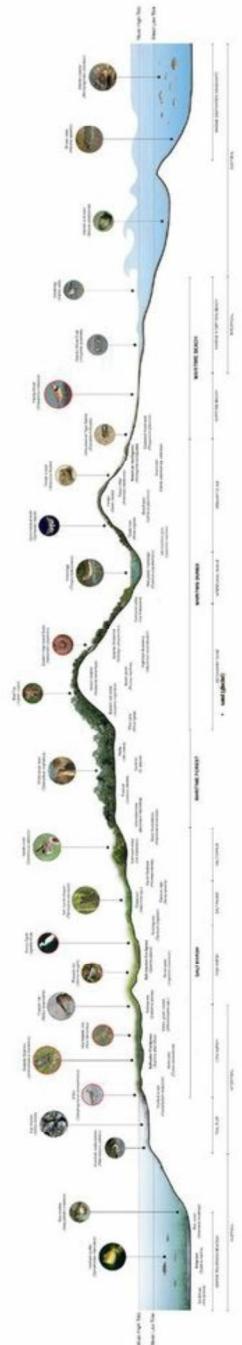


□□ unab□i□□□□□□□al□an□□□□□□□□□

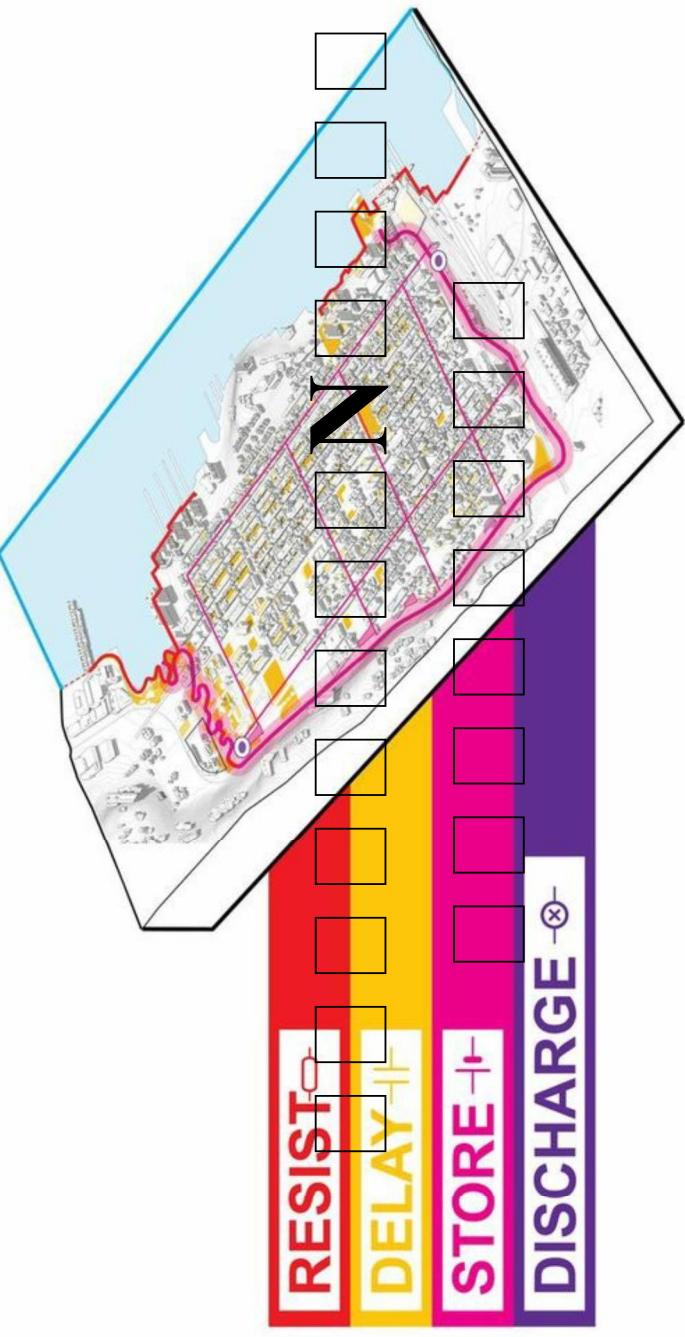


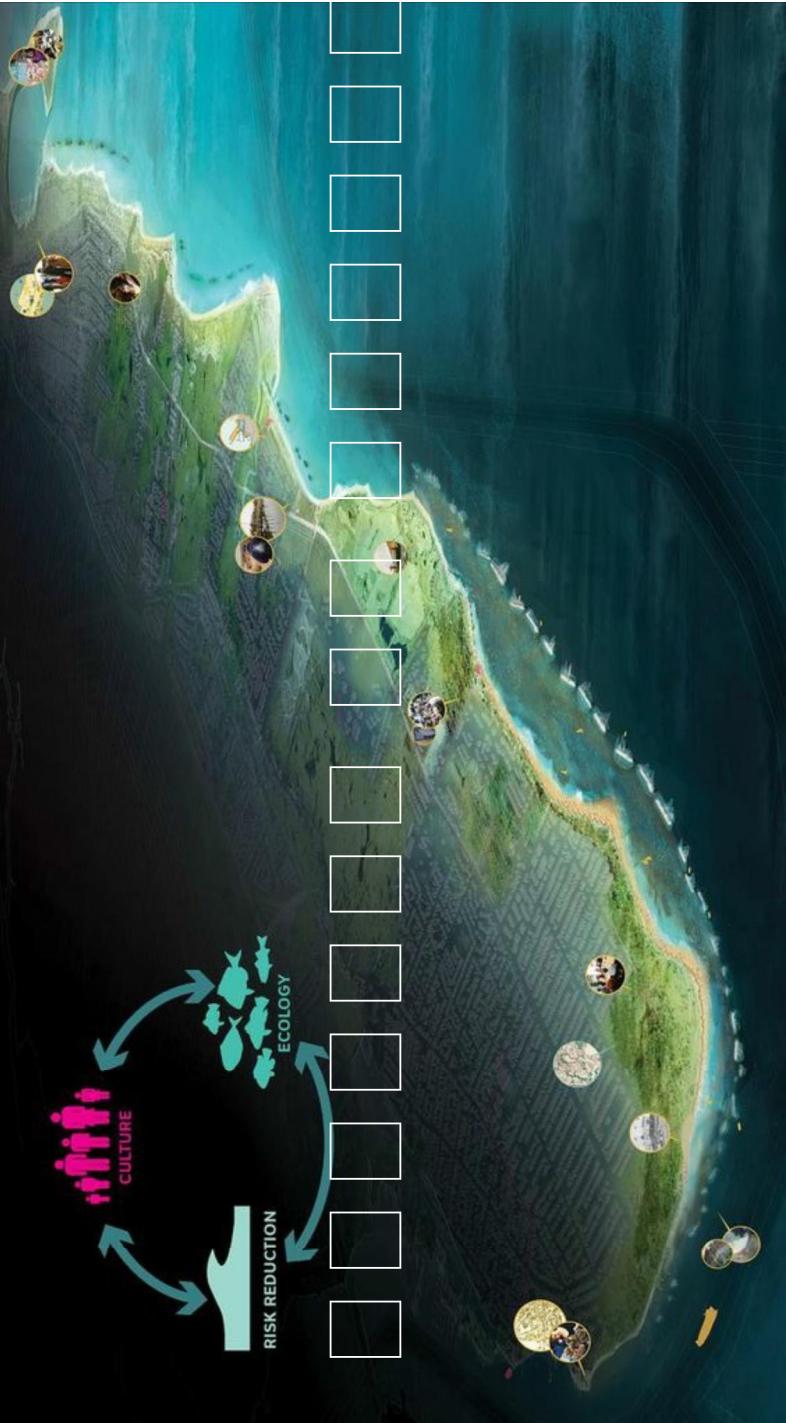
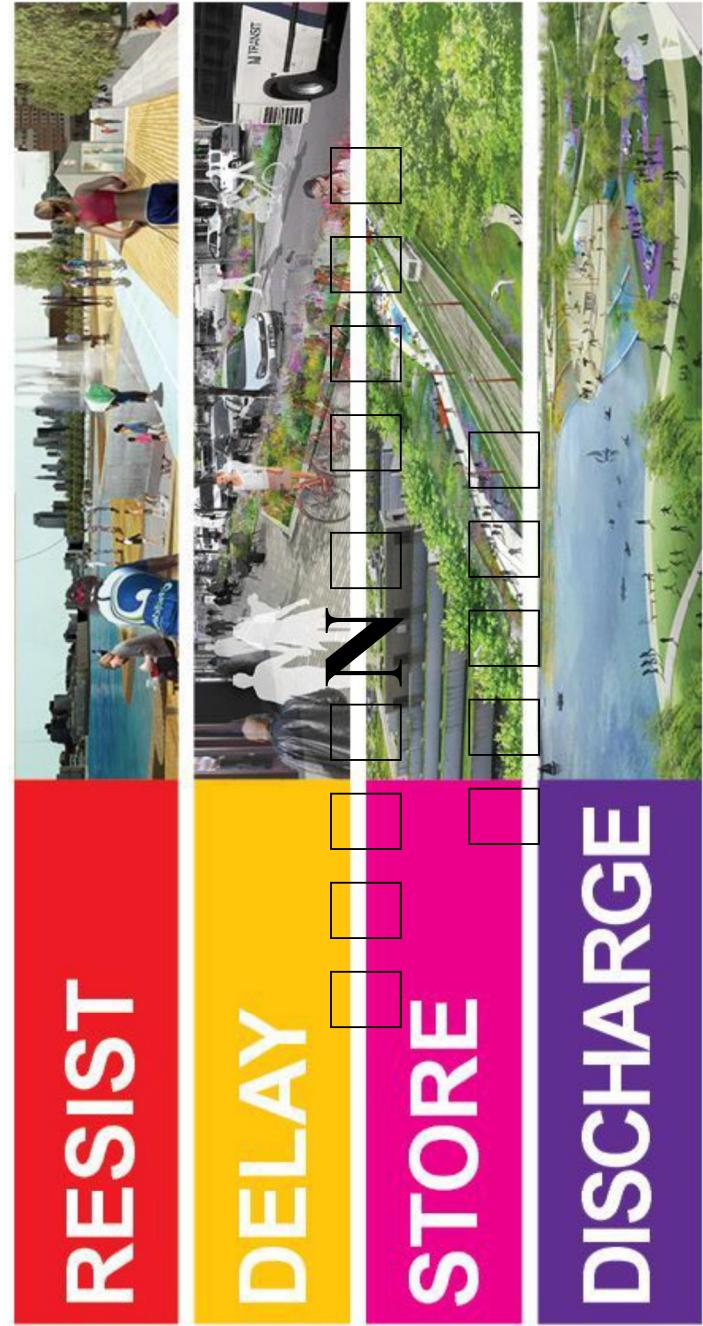


□ □ □ □ □ □ □



st







LEADERSHIP



COLLABORATION

IMAGE: CAMERON BLAYLOCK PHOTOGRAPHY

The graphic features a collage of images related to the competition, including a woman in a kitchen, a bowl of soup, and structural beams. Text on the right side reads:

**Wednesday, March 19
5:00 PM - 8:30 PM
banknote building**
3rd Floor Event Space, 1231 Lafayette Avenue

**Presentation of Dishes to Judges 5:00 PM
SlamBake Public Tasting at 5:30 PM
Judges Announce Winners at 6:30 PM
Rebuild by Design Public Meeting 7:00 PM**
Childcare, dinner, and Spanish-language translation will be provided.

**Rebuild by Design:
plans for new
infrastructure to protect
Hunts Point from the
next Superstorm**

**first annual hunts point
slam bake**

Hosted by the
Cooking Channel's
Baron Ambrosia

The RONWT Community Development Corp
Sustainable South Bronx, Mothers on the P
Point Terminal Produce Cooperative Assoc
Hunts Point Cooperative Market, New Fulton Fish
Market, the Risk Project, Hunts Point Economic
Development Corporation, NYC Environmental Justice
Alliance, John & Lucyary Whistler Charter School and Taconic
Management Company LLC

Specifically invite you to an

**Cooking
Competition
featuring the
Bounty, Talent and
Tastes of Hunts Point**

A. DeRosa

REBUILD BY DESIGN

[Press](#)[Events](#)[Teams](#)[Final Proposals](#)[Research](#)[About](#)[Subscribe](#)[Search ...](#)

Lead Supporter
The Rockefeller Foundation

With Support From
Deutsche Bank Americas Foundation
Heart Foundation
Sardna Foundation
The JPB Foundation
The New Jersey Recovery Fund

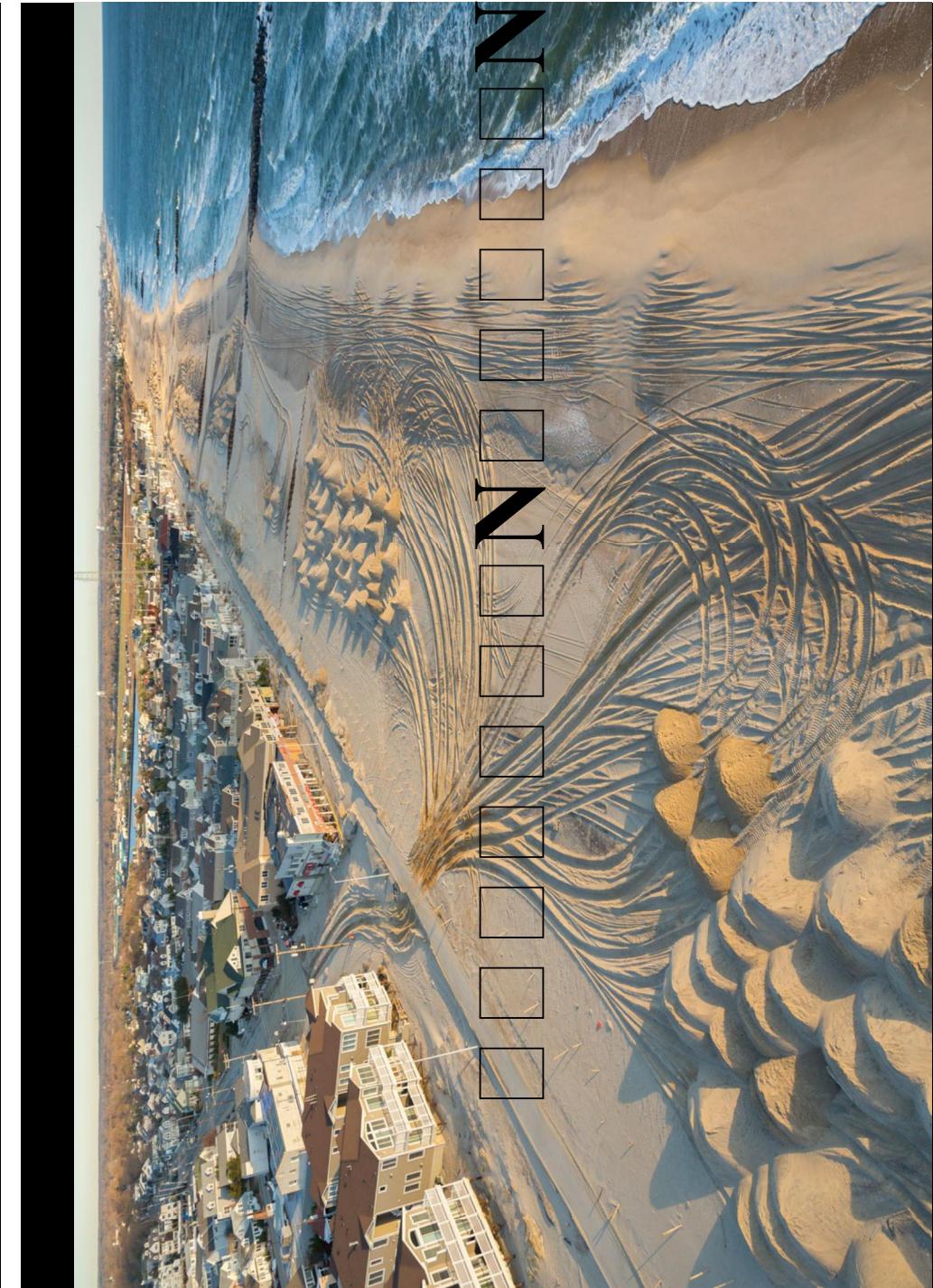
An Initiative of the President's
Hurricane Sandy Rebuilding Task Force

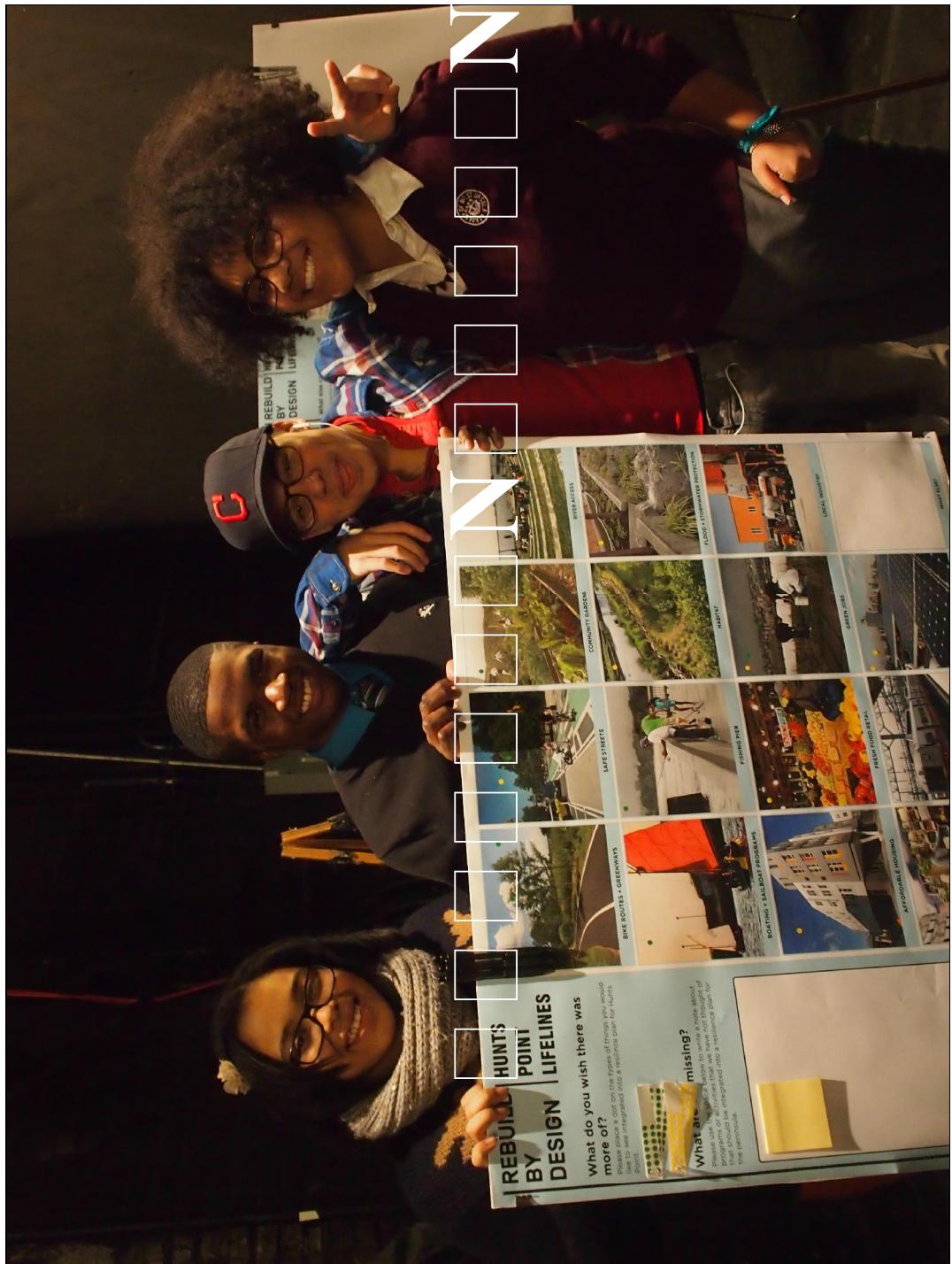
In Collaboration With
NYU's Institute for Public Knowledge
Municipal Art Society
Regional Plan Association
Van Alen Institute

Rebuild by Design: Innovating Together to Create a Resilient Region



After three months of research and conversation with communities in New York, New Jersey, Connecticut, and beyond, the Department of Housing and Urban Development (HUD) has selected 10 projects across the Sandy-affected region to be pursued in the next and final stage of the Rebuild by Design competition. Share your views on these thoughtful, unique visions for a more resilient region, and check out streaming video of the October 28 morning program or evening program in which all of the Design





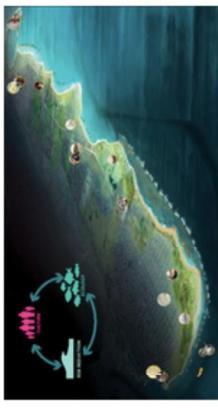
Working Together to Build a More Resilient Region

Secretary Donovan announces the winners of Rebuild by Design.



REBUILD
BY
DESIGN

Winning Proposals



LIVING BREAKWATERS

SCAPE / Landscape
Architecture
Staten Island, New York



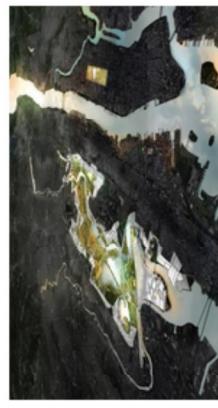
Hunts Point Lifelines

PennDesign/OLIN
Bronx, New York



**Resist, Delay, Store, Discharge:
A Comprehensive Strategy for
Hoboken**

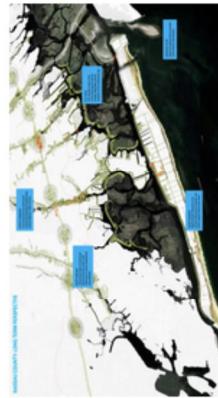
OMA
Hoboken, New Jersey



New Meadowlands: Productive
City + Regional Park

MIT CAU + ZUS +
URBANSTEN

The Meadowlands, New Jersey



Living with the Bay: A
Comprehensive Regional
Resiliency Plan for Nassau
County's South Shore

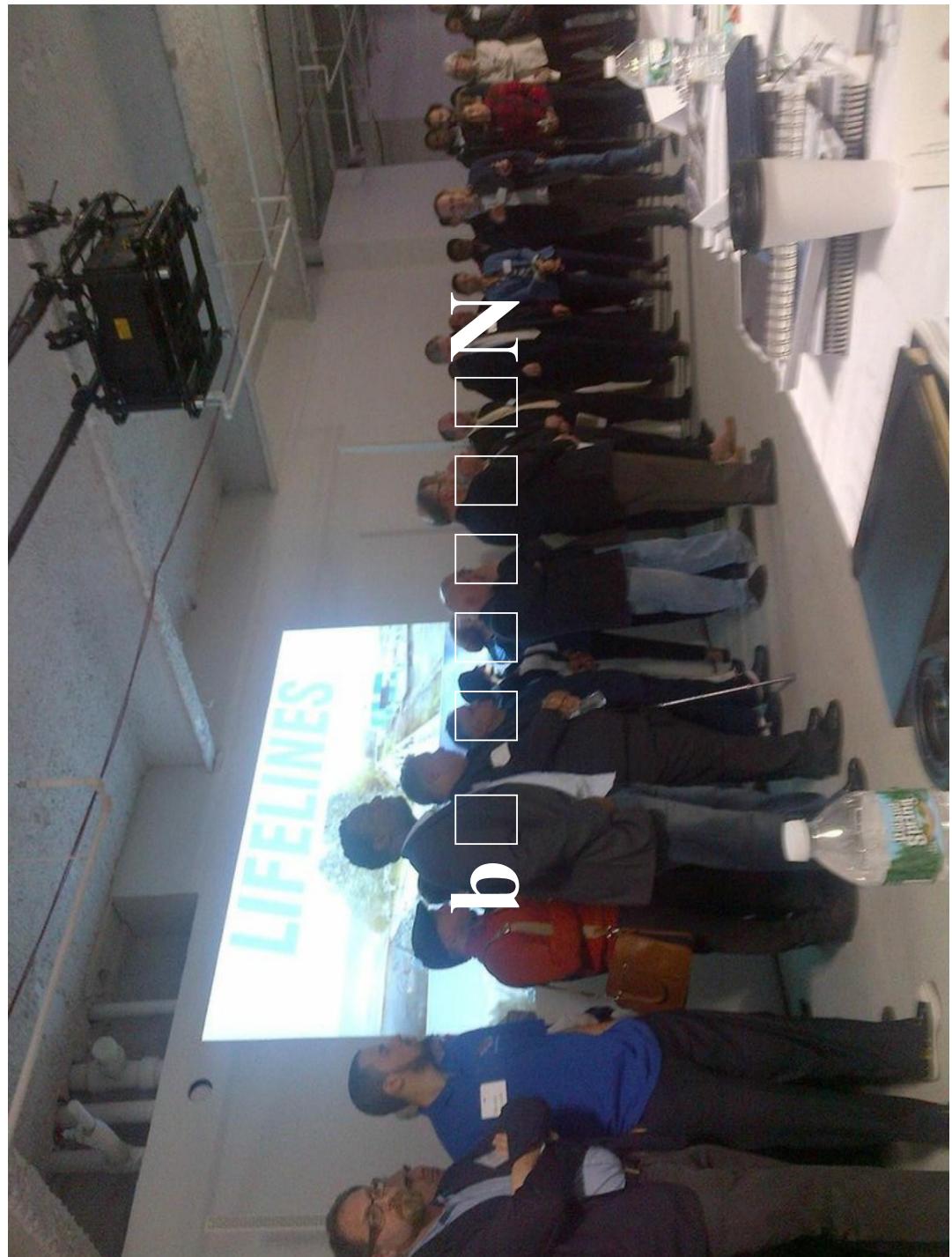
Interboro Team
Long Island, New York



Asbury Park Capacity Building: The City of Asbury Park

REBUILD
BY
DESIGN





REBUILD BY DESIGN

Promoting Resilience
Post-Sandy
Through Innovative
Planning and Design

An Initiative Of
The President's
Hurricane Sandy
Rebuilding Task Force

□ □ □ is not about □ a □ in □ a plan, t □ is is
about □ □ an □ in □ a □ ultu□□□

In Collaboration With
Institute for Public Knowledge, NYU
Municipal Art Society
Regional Plan Association
Van Alen Institute

Lead Supporter
The Rockefeller Foundation

With Additional Support From
Deutsche Bank Americas Foundation
The JPB Foundation
The New Jersey Recovery Fund