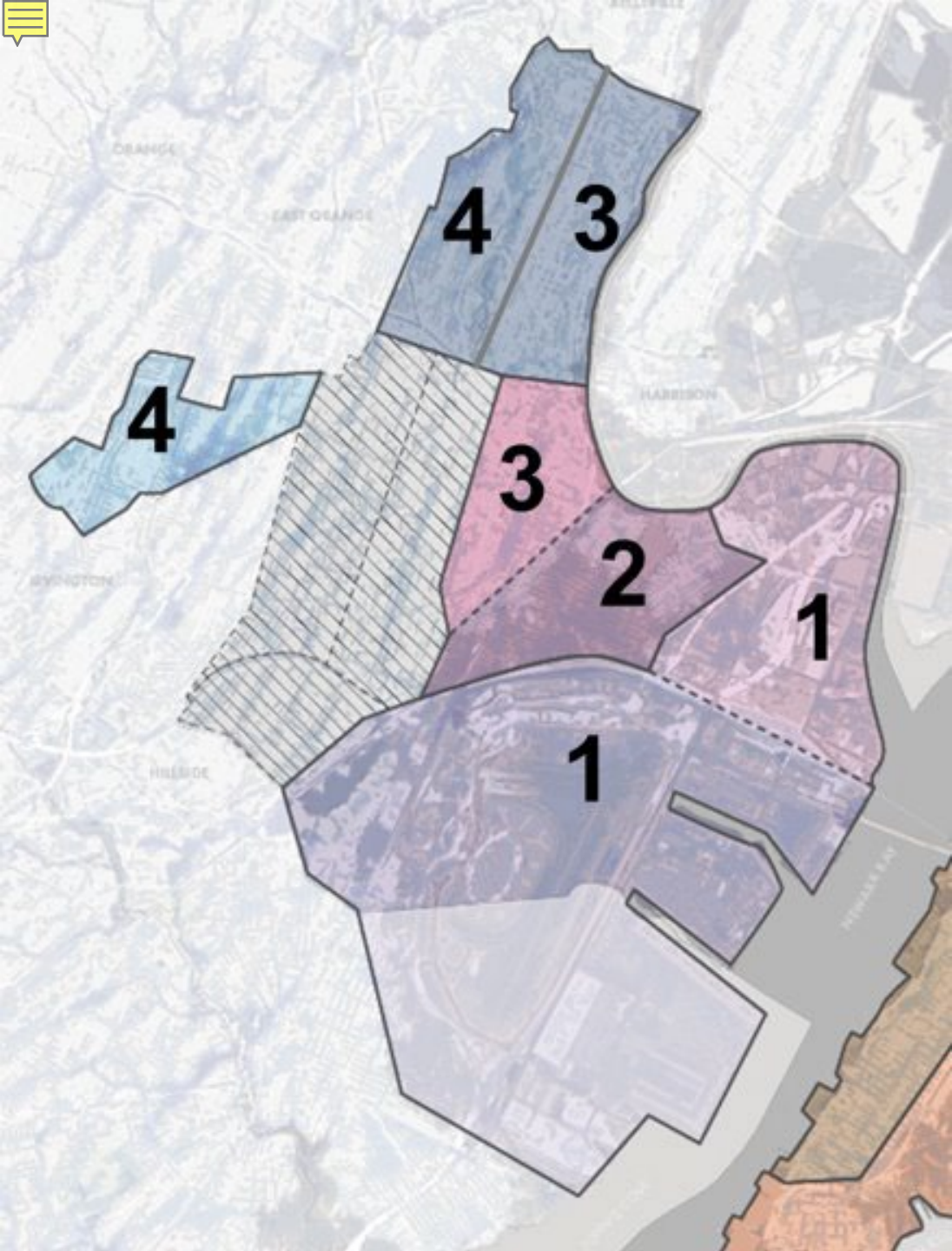




# WELCOME TO THE RESILIENT NORTHEASTERN NJ BREAKOUT 2 - IRONBOUND *April 7, 2022 4:30 – 5:30 PM and 7 – 8 PM*

If you are viewing on livestream and want to join the breakouts, please go to  
<https://tinyurl.com/nenj-nwk-mtg>





# BREAKOUT 2

Ironbound



# Community Meeting Guidelines

TO ENSURE THAT WE ARE ABLE TO MAXIMIZE OUR TIME TOGETHER AS A GROUP

- **Please remain on mute unless speaking**
- **During the main presentation:**
  - Please submit questions in the chat
  - Please turn off video to allow for ASL accessibility
- **During the breakouts:**
  - If you are able and willing to, please consider turning on your camera
  - Use one mic and stack
  - Acknowledge everyone's voice and time. If you find yourself speaking frequently, consider opening the floor to your group members. We look forward to hearing what everyone has to say!
  - Please speak from your own experience
  - If there are several group members with things to share, please use the 'raise hand' function, the chat, or gesticulating in Zoom and a facilitator will call on you
- **Please save discussion for the breakouts and report out**



**Join the conversation!**

**Please use the chat function to ask questions as we go!**

**If the meeting abruptly ends, please be patient and re-join using the same Zoom link. You will also receive an email with the meeting link.**

# TOPICS

- What's important and at risk in this neighborhood?
- For each solution scenario:
  - Possible actions
  - How the area might change
  - Key considerations
  - What do you think?
- Discussion
  - Of everything we discuss, what is most important to advance?
  - What do you want to not happen?

All content working DRAFT for planning and discussion purposes



***“We have tools and ideas, like a carpenter, but this is your house”***

***For this regional level plan, we have broken the community down into geographic areas. This means that there is nuance and community boundaries that might not always be honored. Let us know when we don't get it right.***

# AREA CONTEXT

- Desire to see more green space, trees, and green infrastructure
- Importance of neighborhood parks
- Treasured restaurants and shops
- Proximity of residential areas to industry is concerning for health and the environment

## Land Use

### Residential

- High Density
- Medium to Low Density (Single Unit)

### Commercial & Industry

- Commercial/Services
- Cultural Attractions
- Industrial & Commercial Complexes
- Industrial
- Transportation, Services & Utilities
- Other Urban/Built-Up Land

### Natural & Open Space

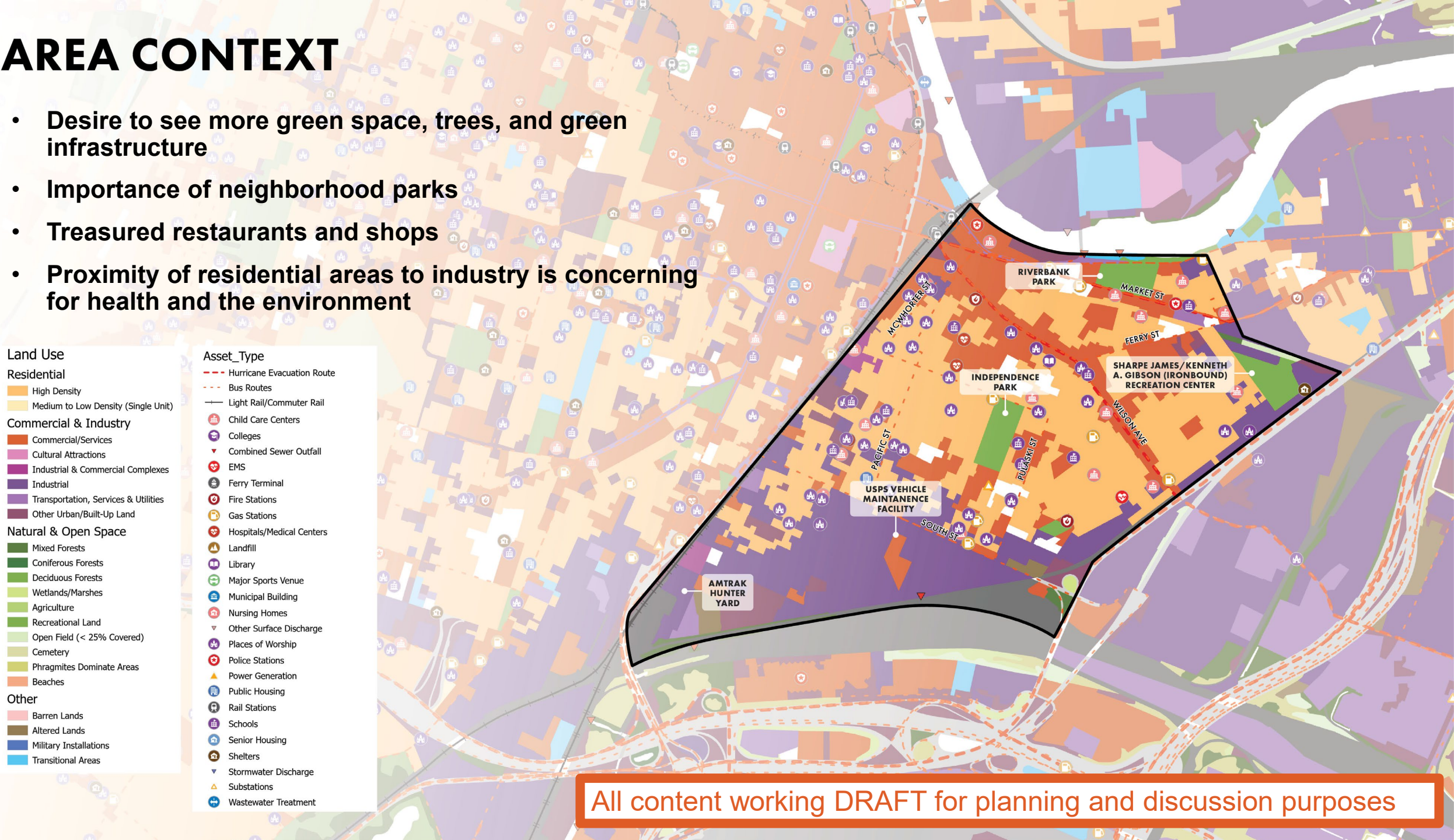
- Mixed Forests
- Coniferous Forests
- Deciduous Forests
- Wetlands/Marshes
- Agriculture
- Recreational Land
- Open Field (< 25% Covered)
- Cemetery
- Phragmites Dominate Areas
- Beaches

### Other

- Barren Lands
- Altered Lands
- Military Installations
- Transitional Areas

## Asset\_Type

- Hurricane Evacuation Route
- Bus Routes
- Light Rail/Commuter Rail
- Child Care Centers
- Colleges
- Combined Sewer Outfall
- EMS
- Ferry Terminal
- Fire Stations
- Gas Stations
- Hospitals/Medical Centers
- Landfill
- Library
- Major Sports Venue
- Municipal Building
- Nursing Homes
- Other Surface Discharge
- Places of Worship
- Police Stations
- Power Generation
- Public Housing
- Rail Stations
- Schools
- Senior Housing
- Shelters
- Stormwater Discharge
- Substations
- Wastewater Treatment



All content working DRAFT for planning and discussion purposes

# RISK CONTEXT

Both rainfall flooding and coastal flooding can impact large swaths of this area. Tidal flooding shown here impacts fewer areas but would be at a nearly constant frequency. Parks, transportation infrastructure, homes, streets, and community buildings are all at risk.

## 24 HOUR, 100 YEAR STORM

2070 MODEL (HIGH TIDE + SLR + 10% RAINFALL INCREASE)

## STORM SURGE

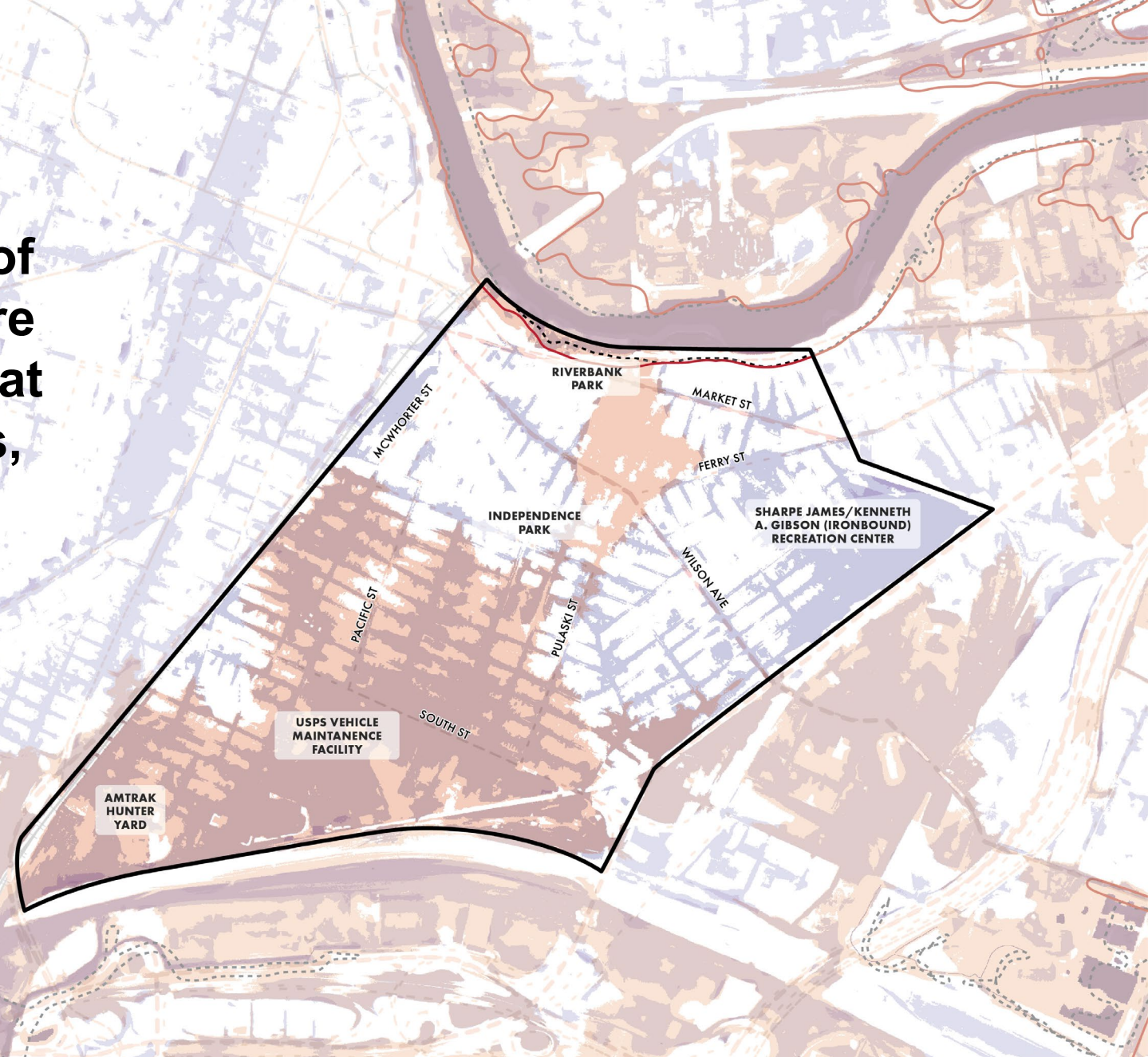
2070 EXTENT (HURRICANE SANDY + SEA LEVEL RISE)

AREAS OF OVERLAP

## SEA LEVEL RISE

..... 2070 MHHW + 2.4' SLR

— 2070 MHHW + 5.0' SLR



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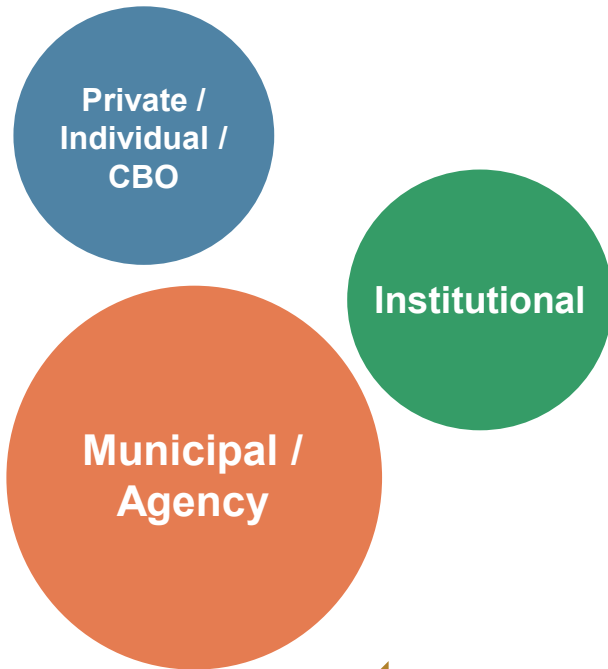


# SCENARIOS

*The scenarios are not alternatives.  
The action plan could be a combination  
of actions from the different scenarios.*

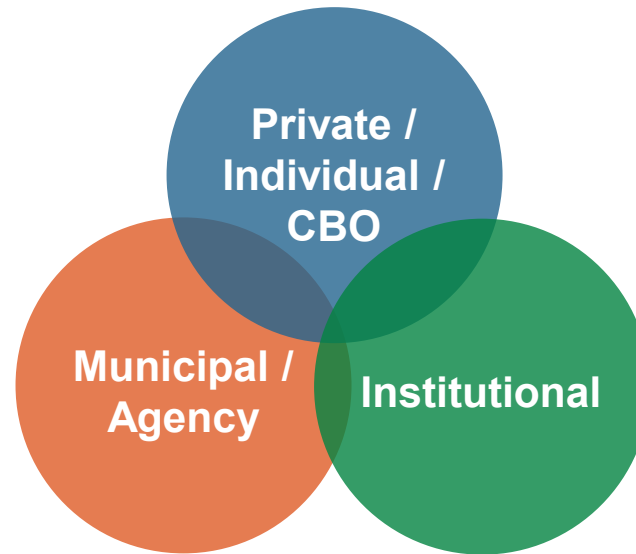
## Scenario 1

Individual Initiative



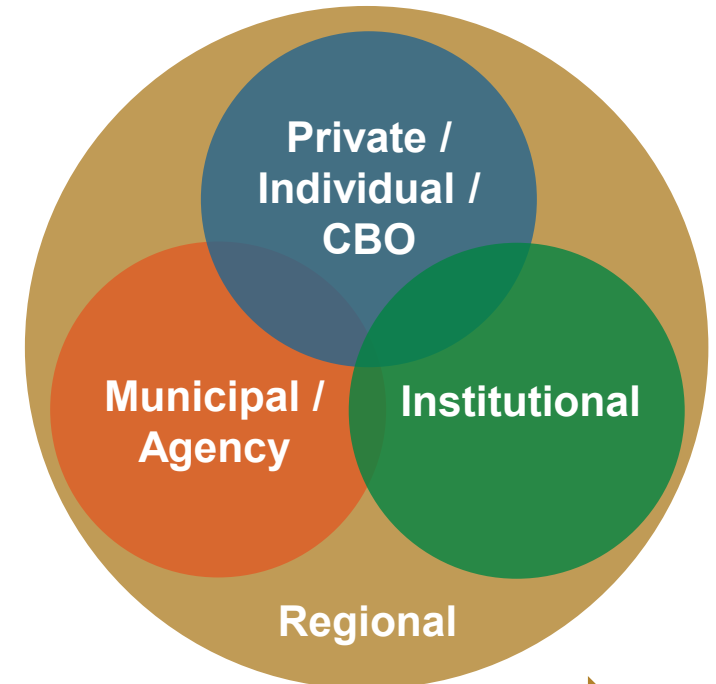
## Scenario 2

Shared Responsibility



## Scenario 3

Regional Coordination



**CBO's are  
community-based  
organizations**

← **ENGAGEMENT WITH RESIDENTS AND OTHER STAKEHOLDERS ACROSS ALL** →

# KEY CHANGES, SCENARIO 1 – INDIVIDUAL INITIATIVE



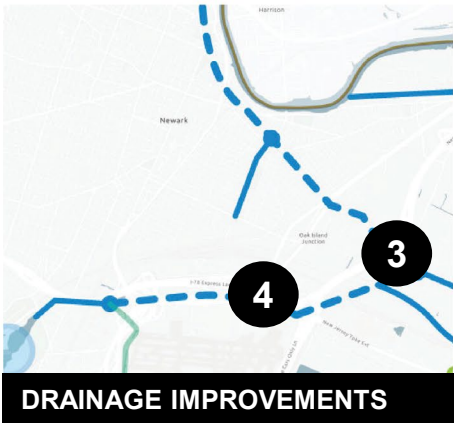
## 1. INDIVIDUAL BUILDING PROTECTIONS

Reading, United Kingdom



## 2. INLAND ROAD ELEVATION

Miami Beach, Florida



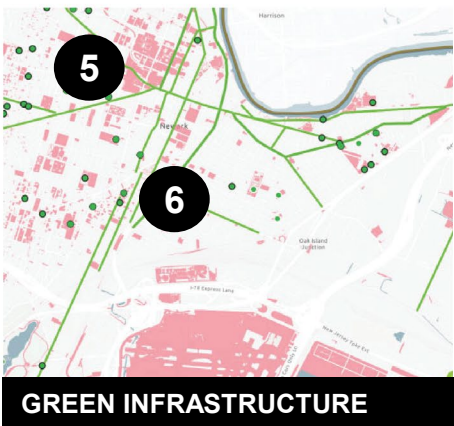
## 3. IMPROVED STORMWATER SURFACE CONVEYANCE

Waterplein Bentemplein  
Rotterdam, Netherlands



## 4. URBAN STORMWATER RETENTION PARKS

Venice Island  
Philadelphia



## 5. PERMEABLE PARKING SURFACES

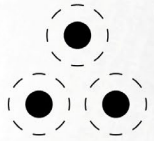
TU Delft  
Netherlands




## 6. R.O.W GREEN INFRASTRUCTURE

Queens, New York City





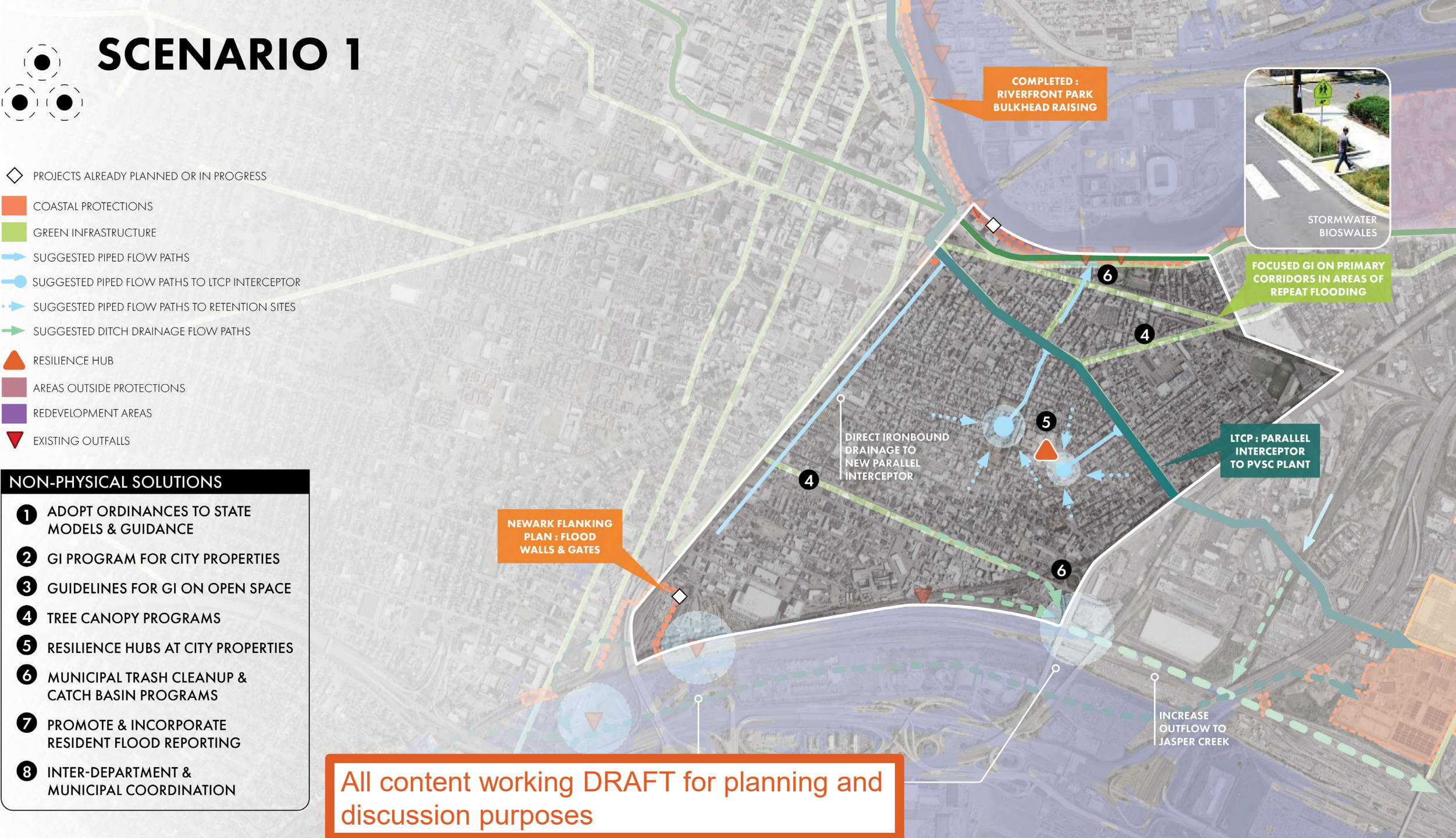
# SCENARIO 1

-  PROJECTS ALREADY PLANNED OR IN PROGRESS
-  COASTAL PROTECTIONS
-  GREEN INFRASTRUCTURE
-  SUGGESTED PIPED FLOW PATHS
-  SUGGESTED PIPED FLOW PATHS TO LTCP INTERCEPTOR
-  SUGGESTED PIPED FLOW PATHS TO RETENTION SITES
-  SUGGESTED DITCH DRAINAGE FLOW PATHS
-  RESILIENCE HUB
-  AREAS OUTSIDE PROTECTIONS
-  REDEVELOPMENT AREAS
-  EXISTING OUTFALLS

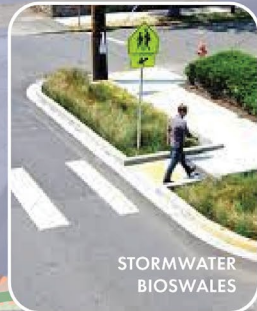
## NON-PHYSICAL SOLUTIONS

- 1 ADOPT ORDINANCES TO STATE MODELS & GUIDANCE
- 2 GI PROGRAM FOR CITY PROPERTIES
- 3 GUIDELINES FOR GI ON OPEN SPACE
- 4 TREE CANOPY PROGRAMS
- 5 RESILIENCE HUBS AT CITY PROPERTIES
- 6 MUNICIPAL TRASH CLEANUP & CATCH BASIN PROGRAMS
- 7 PROMOTE & INCORPORATE RESIDENT FLOOD REPORTING
- 8 INTER-DEPARTMENT & MUNICIPAL COORDINATION

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COMPLETED : RIVERFRONT PARK BULKHEAD RAISING



STORMWATER BIOSWALES

FOCUSED GI ON PRIMARY CORRIDORS IN AREAS OF REPEAT FLOODING

DIRECT IRONBOUND DRAINAGE TO NEW PARALLEL INTERCEPTOR

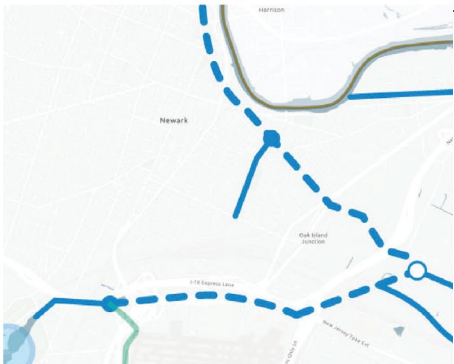
LTCP : PARALLEL INTERCEPTOR TO PVSC PLANT

NEWARK FLANKING PLAN : FLOOD WALLS & GATES

INCREASE OUTFLOW TO JASPER CREEK



**COASTAL PROTECTIONS**



**DRAINAGE IMPROVEMENTS**



**GREEN INFRASTRUCTURE**

**OBJECTIVES, SCENARIO 1**

Close infrastructure and topography gaps by advancing coastal protection plans such as the USACE Newark Flanking Plan and incorporating improvements to Riverfront Park.

Improve drainage along existing pathways, directing additional stormwater to the expanded interceptors as part of the LTCP.

Expand green infrastructure installations on public property targeting key primary corridors and lots with significant impervious area.

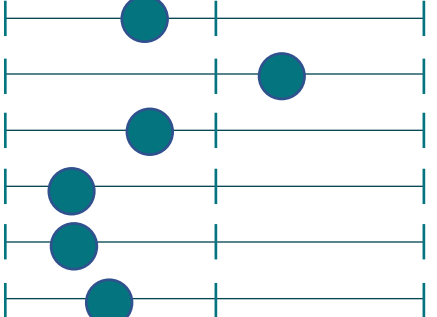
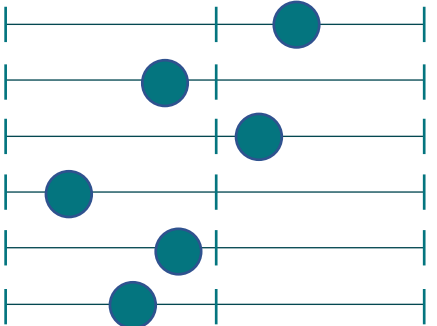
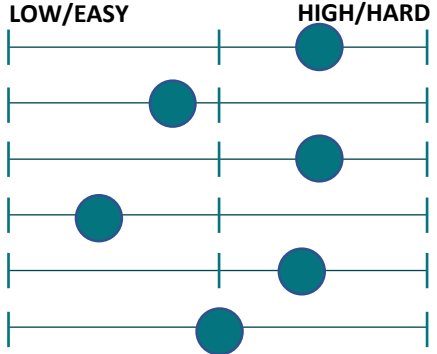
**KEY CONSIDERATIONS, SCENARIO 1**

- CONSTRUCTION TIME
- IMPACT TO PUBLIC ACCESS & USE
- COSTS
- PERMITTING
- CONSTRUCTABILITY
- LEVEL OF PROTECTION

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**ISSUES TO CONSIDER**



Closing key flood pathways can be an extremely efficient method of providing protection from coastal surge **BUT** piecemeal protection can result in other areas becoming potential flood pathways.

Upgrades to the current system can be phased to facilitate construction and provide immediate benefit **BUT** upgrades to the existing system will not greatly expand the existing sewer capacity and could exceed treatment plant capacity.

Green infrastructure projects can treat stormwater at the source and add other benefits to the city **BUT** will compete with other needs in the public right of way and is limited in treating large storm events.

# NON-PHYSICAL SOLUTIONS, SCENARIO 1



**COASTAL PROTECTIONS**

Policy based coastal measures are needed for areas outside of protections & for areas integrated with inland alignments.



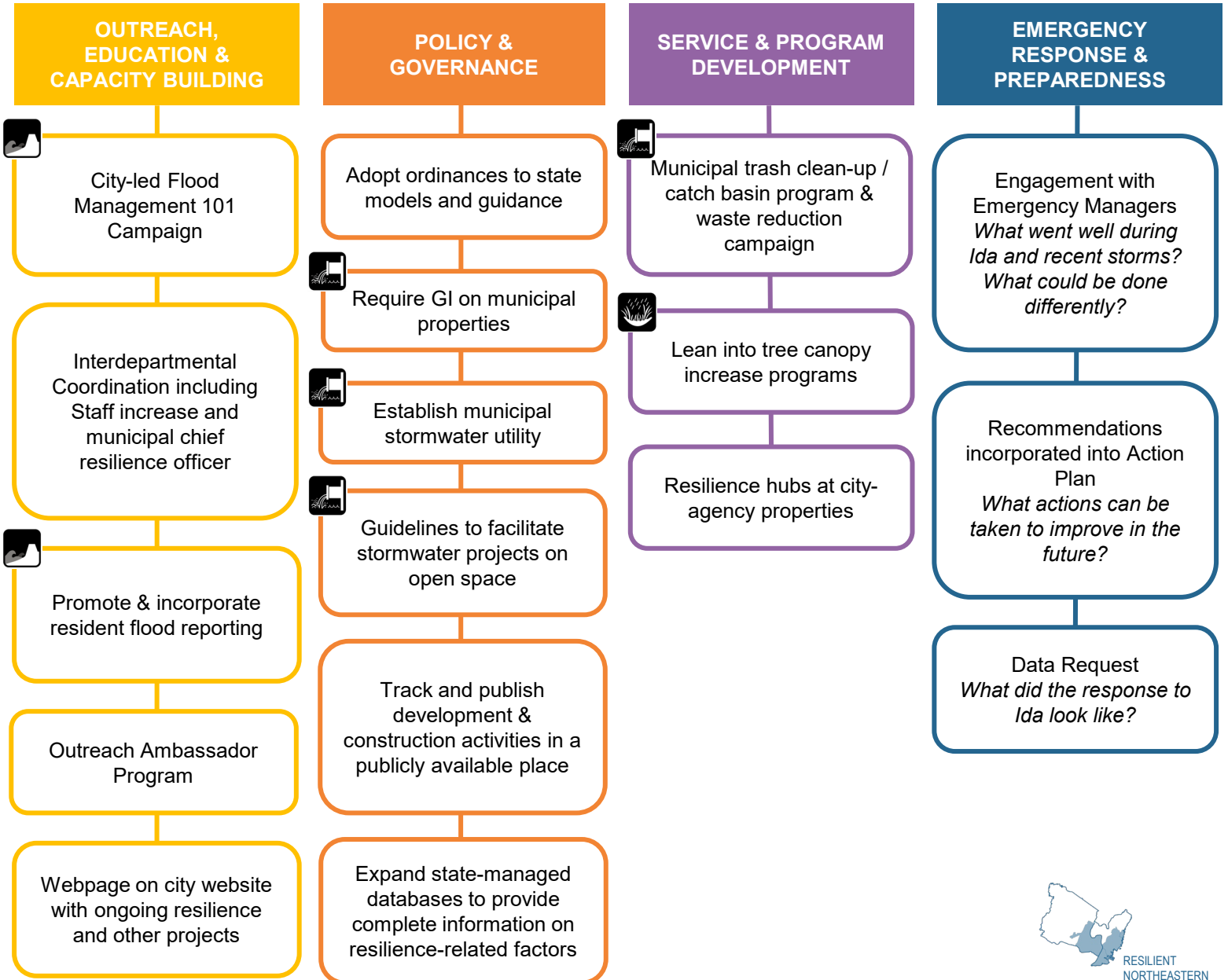
**DRAINAGE IMPROVEMENTS**

Policy based measures like trash clean-up & catch basin programs help with drainage efficiency while larger measures like a Municipal Stormwater utility increase resilience equity.



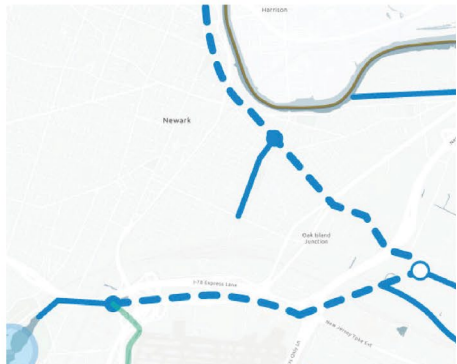
**GREEN INFRASTRUCTURE**

Measures like tree programs and Green Infrastructure requirements on public open-space are essential to meeting resilience goals in Scenario 1.





**COASTAL PROTECTIONS**



**DRAINAGE IMPROVEMENTS**



**GREEN INFRASTRUCTURE**

**QUESTIONS TO CONSIDER**

- Which streets or city properties do you want to see transformed?
- What Greening projects would appeal to you most?
- Where would you like to see Resilience Hubs?

**WHAT DO YOU LIKE ABOUT SCENARIO 1?**

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**WHAT DO YOU DISLIKE ABOUT SCENARIO 1?**

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# KEY CHANGES, SCENARIO 2 – SHARED RESPONSIBILITY



**COASTAL PROTECTIONS**



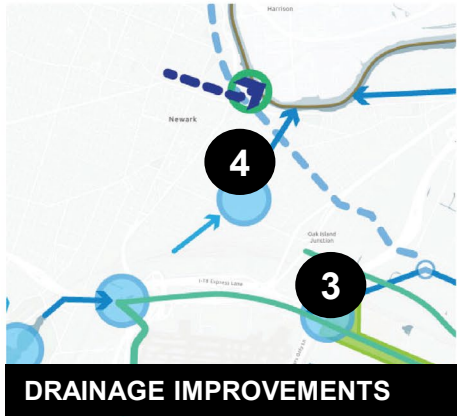
## 1. INDIVIDUAL BUILDING PROTECTIONS

Reading, United Kingdom



## 2. RAISED AND REINFORCED ROADWAY

Mount Cotton Road  
Queensland, Australia



**DRAINAGE IMPROVEMENTS**



## 3. URBAN STORMWATER RETENTION PARK

Qunli Stormwater Wetland Park  
Haerbin, China



## 4. BLUE & GREEN INFRASTRUCTURE INTEGRATED WITH ELEVATED HIGHWAY

Via Verde  
Mexico City

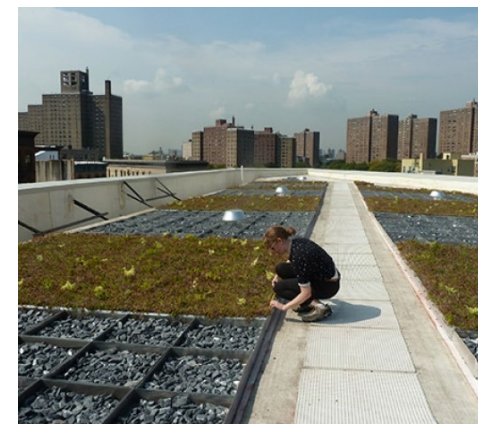


**GREEN INFRASTRUCTURE**



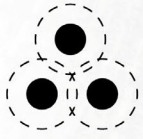
## 5. GREEN INFRASTRUCTURE ON PRIVATELY OWNED SPACES

First Avenue Water Plaza  
Manhattan, New York City



## 6. BLUE & GREEN ROOFS

Osbourne Association  
South Bronx, New York City



# SCENARIO 2

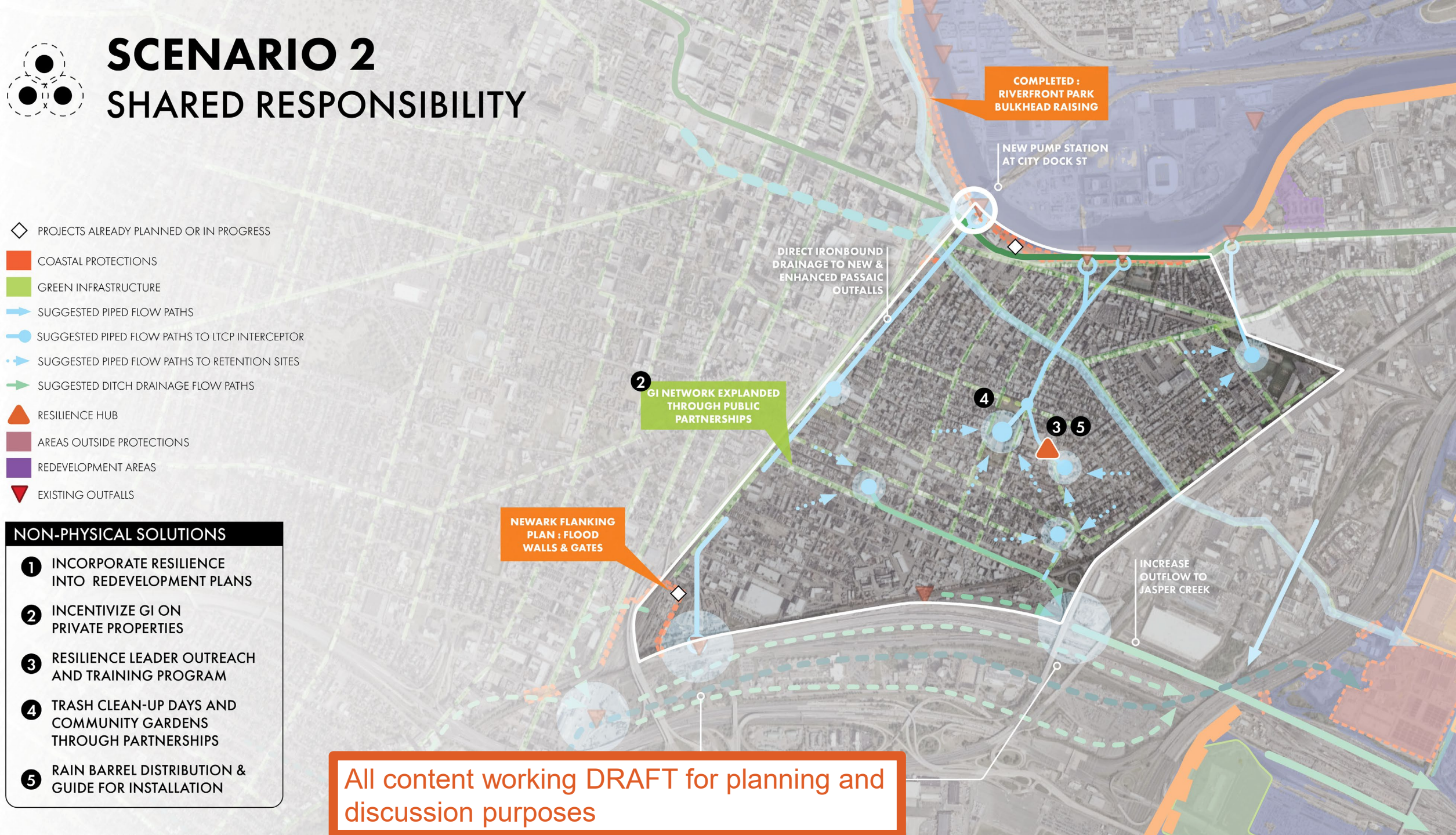
## SHARED RESPONSIBILITY

- ◇ PROJECTS ALREADY PLANNED OR IN PROGRESS
- COASTAL PROTECTIONS
- GREEN INFRASTRUCTURE
- SUGGESTED PIPED FLOW PATHS
- SUGGESTED PIPED FLOW PATHS TO LTCP INTERCEPTOR
- SUGGESTED PIPED FLOW PATHS TO RETENTION SITES
- SUGGESTED DITCH DRAINAGE FLOW PATHS
- ▲ RESILIENCE HUB
- AREAS OUTSIDE PROTECTIONS
- REDEVELOPMENT AREAS
- ▼ EXISTING OUTFALLS

### NON-PHYSICAL SOLUTIONS

- 1 INCORPORATE RESILIENCE INTO REDEVELOPMENT PLANS
- 2 INCENTIVIZE GI ON PRIVATE PROPERTIES
- 3 RESILIENCE LEADER OUTREACH AND TRAINING PROGRAM
- 4 TRASH CLEAN-UP DAYS AND COMMUNITY GARDENS THROUGH PARTNERSHIPS
- 5 RAIN BARREL DISTRIBUTION & GUIDE FOR INSTALLATION

All content working DRAFT for planning and discussion purposes





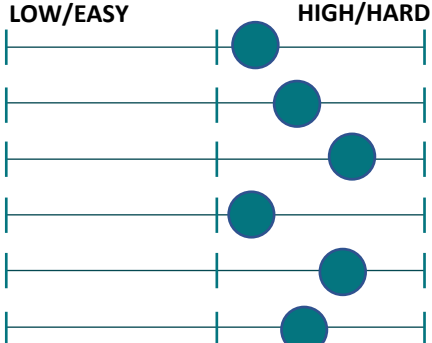
**COASTAL PROTECTIONS**

**OBJECTIVES, SCENARIO 2**

Tie in expanded barriers to the Newark Flanking Plan and Riverfront Park protection elements, extending across private property and property managed by other agencies.

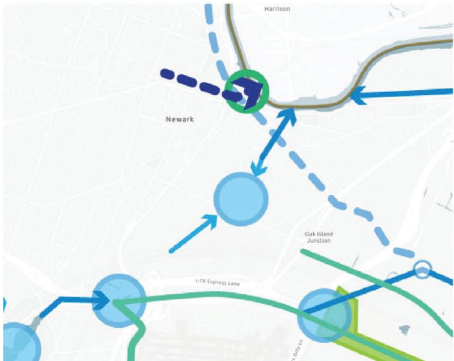
**KEY CONSIDERATIONS, SCENARIO 2**

- CONSTRUCTION TIME
- IMPACT TO PUBLIC ACCESS & USE
- COSTS
- PERMITTING
- CONSTRUCTABILITY
- LEVEL OF PROTECTION



**ISSUES TO CONSIDER**

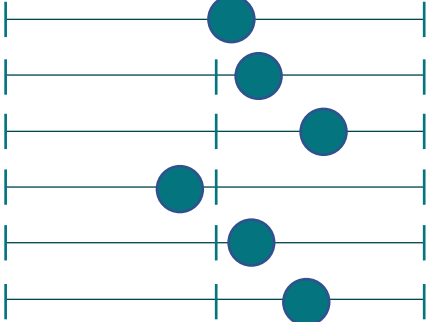
Expanding protection using existing corridors results in more comprehensive and cohesive protection **BUT** extending protection will require additional coordination with agencies and other property owners.



**DRAINAGE IMPROVEMENTS**

Consolidate drainage infrastructure to create new and expanded conveyance pathways, taking advantage of centralized retention areas and pump stations in conjunction with partners.

- CONSTRUCTION TIME
- IMPACT TO PUBLIC ACCESS & USE
- COSTS
- PERMITTING
- CONSTRUCTABILITY
- LEVEL OF PROTECTION



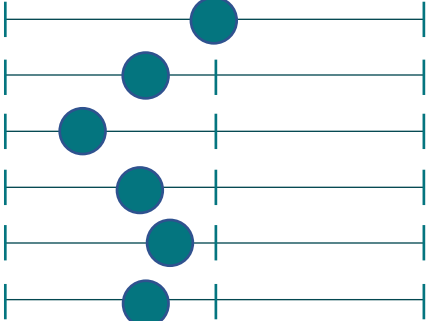
Consolidating stormwater allows for more cost-effective storage and pumping solutions **BUT** requires significant investment and coordination before benefits can be realized.



**GREEN INFRASTRUCTURE**

Expand green infrastructure to secondary corridors and beyond public sites to incentivize additional GI on private properties. Target large parcels to implement regional GI practices.

- CONSTRUCTION TIME
- IMPACT TO PUBLIC ACCESS & USE
- COSTS
- PERMITTING
- CONSTRUCTABILITY
- LEVEL OF PROTECTION



Expanding GI to private properties provides broader watershed management **BUT** results in a greater number of assets that need to be inspected and maintained to provide protection.



**COASTAL PROTECTIONS**

# NON-PHYSICAL SOLUTIONS, SCENARIO 2

Resilience advancements deepened through collaboration with community members, schools, and community-based organizations



**DRAINAGE IMPROVEMENTS**

Partnerships in composting and trash clean-up help reduce drainage system clogging



**GREEN INFRASTRUCTURE**

Public private partnerships expand green infrastructure benefits

## OUTREACH, EDUCATION & CAPACITY BUILDING

Resilience leader outreach and training program

Flood Management 101 campaign in partnership with schools and community groups

Engage deaf and non-English speaking community advocates to collaborate on needs

Crowd-source flood reports (and other input) in coordination with CBOs and academia

## POLICY & GOVERNANCE

Incorporate resilience into Redevelopment Plans

Flood overlay zone

Incentivize Green Infrastructure on private properties

Support/coordinate funding for key projects (e.g., transformation of contaminated sites)

Development of municipal or regional climate risk assessment and action plan for contaminated & remediated sites

Standardize process between municipal & infrastructure entities

## SERVICE & PROGRAM DEVELOPMENT

Rain barrel distribution & guide for installation

Partner with non-profits to manage resilience hubs and offer climate related programming

Municipal composting program in partnership with housing complexes

Trash clean-up days and community gardens through partnerships

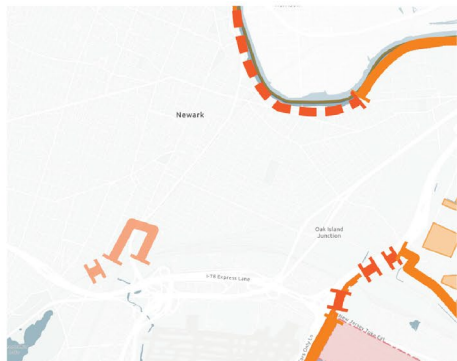
## EMERGENCY RESPONSE & PREPAREDNESS

Engagement with Emergency Managers  
*What went well during Ida and recent storms? What could be done differently?*

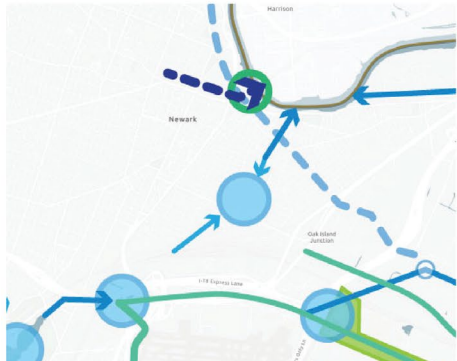
Recommendations incorporated into Action Plan  
*What actions can be taken to improve in the future?*

Data Request  
*What did the response to Ida look like?*





**COASTAL PROTECTIONS**



**DRAINAGE IMPROVEMENTS**



**GREEN INFRASTRUCTURE**

**QUESTIONS TO CONSIDER**

- Which streets or city properties do you want to see transformed?
- What Greening projects would appeal to you most?
- Where would you like to see Resilience Hubs?

**WHAT DO YOU LIKE ABOUT SCENARIO 2?**

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**WHAT DO YOU DISLIKE ABOUT SCENARIO 2?**

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## KEY CHANGES, SCENARIO 3 – REGIONAL COORDINATION



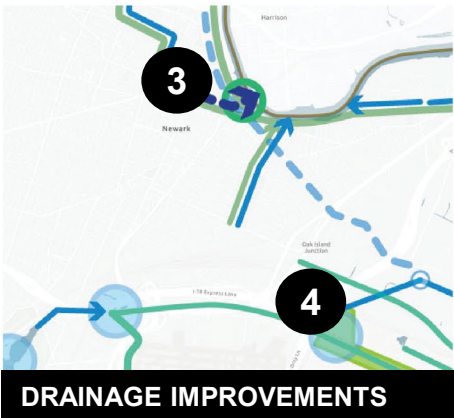
### 1. RIVERWALK WITH COASTAL PROTECTIONS

Newark Riverfront Park



### 2. FLOODABLE PUBLIC INFRASTRUCTURE

Domino Park  
Brooklyn, New York City



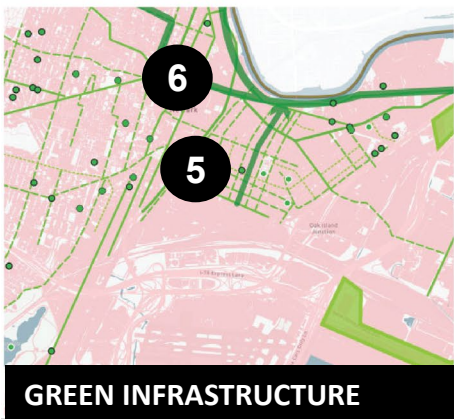
### 3. DEEP TUNNEL STORMWATER CONVEYANCE & STORAGE

DigIndy  
Indianapolis, Indiana



### 2. STORMWATER RETENTION AT COASTAL WETLAND

Hunter's Point  
Brooklyn, New York City



### 5. REGIONAL URBAN GREENWAY

The BeltLine  
Atlanta, Georgia













### 6. R.O.W GREEN INFRASTRUCTURE FOR STORMWATER MANAGEMENT

Swale on Yale  
Seattle, Washington



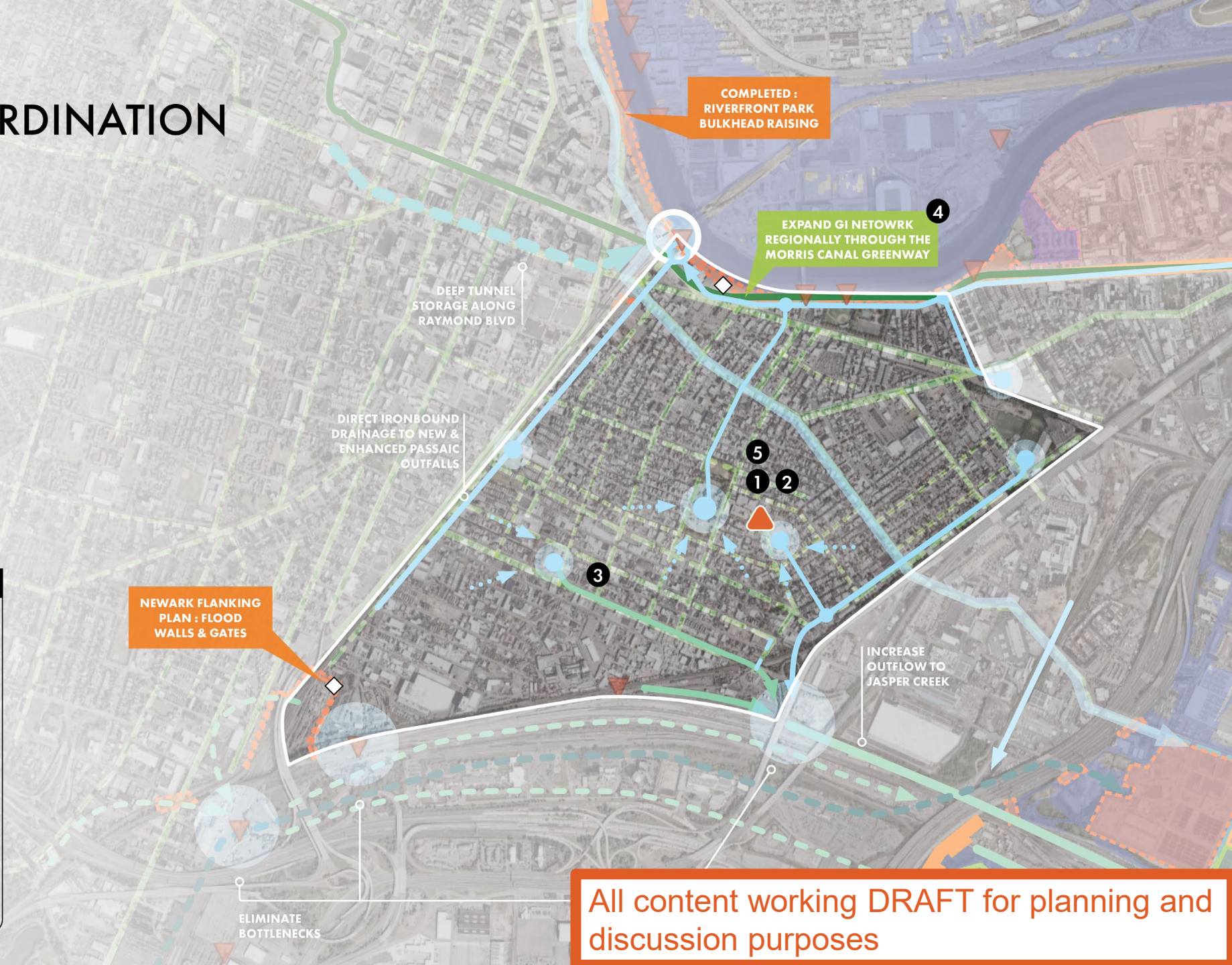
# SCENARIO 3

## REGIONAL COORDINATION

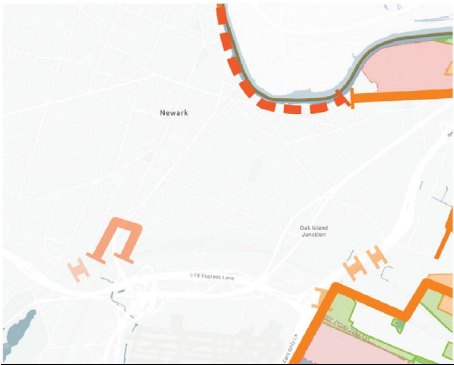
-  PROJECTS ALREADY PLANNED OR IN PROGRESS
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-  SUGGESTED DITCH DRAINAGE FLOW PATHS
-  RESILIENCE HUB
-  AREAS OUTSIDE PROTECTIONS
-  REDEVELOPMENT AREAS
-  EXISTING OUTFALLS

**NON-PHYSICAL SOLUTIONS**

- 1** CREATE A "SINGLE SOURCE OF TRUTH" FOR RESILIENCE-RELATED INFORMATION AND RESOURCES
- 2** REGIONAL GI CHAMPIONS TRAINING PROGRAM
- 3** DEVELOP PIPELINE OF SITES FOR STORMWATER MANAGEMENT / RESILIENT TRANSFORMATION OF BROWNFIELDS & CONTAMINATED SITES
- 4** REGIONAL TREE PLANTING PROGRAM
- 5** REGIONAL NETWORK OF RESILIENCE HUBS
- 6** REGIONAL PROGRAM DEVELOPMENT AND SUPPORT FOR COMPOSTING AND WASTE REDUCTION CAMPAIGNING



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**COASTAL PROTECTIONS**



**DRAINAGE IMPROVEMENTS**



**GREEN INFRASTRUCTURE**

**OBJECTIVES, SCENARIO 3**

Utilize existing highway infrastructure and public ROW to place a continuous barrier closer to the coast.

Drainage is integrated with greenway corridors & additional local detention and deep tunnel storage is incorporated in conjunction with consolidated conveyance and pumping.

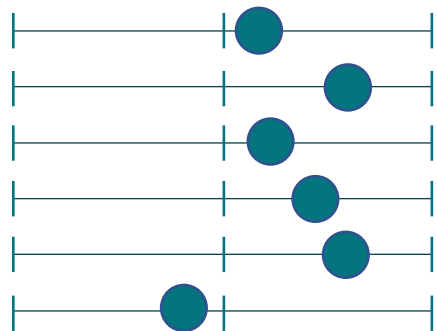
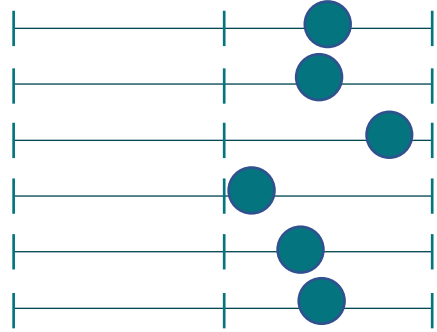
Build additional green infrastructure improvements into drainage corridors and other projects to promote a “dig once” approach.

**KEY CONSIDERATIONS, SCENARIO 3**

- CONSTRUCTION TIME
- IMPACT TO PUBLIC ACCESS & USE
- COSTS
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**ISSUES TO CONSIDER**

A continuous barrier can provide more reliable protection and protect more areas **BUT** would greatly impact the connectivity within those areas and would require significant coordination.

Integrating additional storage further leverages the benefits of consolidating drainage infrastructure **BUT** will be considerably costly with limited co-benefits.

Incorporating additional GI into drainage corridors and other projects improves cost-effectiveness **BUT** requires conversion of existing uses to natural stormwater management.



**COASTAL PROTECTIONS**



**DRAINAGE IMPROVEMENTS**



**GREEN INFRASTRUCTURE**

**NON-PHYSICAL SOLUTIONS, SCENARIO 3**

Continuing and expanding the Resilient NENJ program could allow the region to learn from, build on, and advance work completed to date

A regional infrastructure coordination council help maximize resilience in planned infrastructure improvements and limit disruption to communities

A regional network of resilience hubs could help CBOs and municipalities coordinate and share resources and information in times of disaster

**OUTREACH, EDUCATION & CAPACITY BUILDING**

Continuation of Resilient NJ Program

Expansion of sustainability measures of livability

Regional-scale distribution of Flood Management 101 campaign

Leverage RNJ as a coordinated engagement platform around resilience-related issues

Create a 'single source of truth' and go-to resource/messaging for all things resilience-related

**POLICY & GOVERNANCE**

Ensure LTCP projects incorporate climate change

Regional coordination to increase standards beyond minimum

Regional GI champions training program

Develop pipeline of sites for stormwater management/resilient transformation process

State/regional climate risk assessment for contaminated/ remediated areas

Create regional Infrastructure Coordination Council (and dig once)

Regional stormwater utility

**SERVICE & PROGRAM DEVELOPMENT**

Regional tree planting program

Regional network of resilience hubs

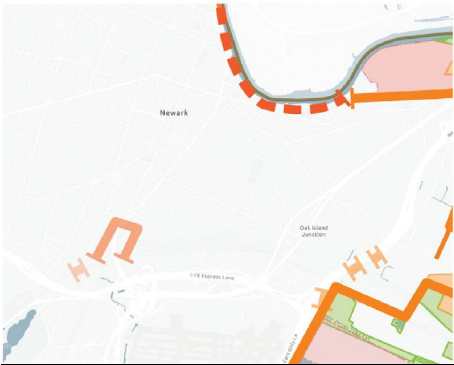
Regional program development and support for composting and waste reduction campaigning

**EMERGENCY RESPONSE & PREPAREDNESS**

Engagement with Emergency Managers  
*What went well during Ida and recent storms? What could be done differently?*

Recommendations incorporated into Action Plan  
*What actions can be taken to improve in the future?*

Data Request  
*What did the response to Ida look like?*



**COASTAL PROTECTIONS**



**DRAINAGE IMPROVEMENTS**



**GREEN INFRASTRUCTURE**

**QUESTIONS TO CONSIDER**

- Which streets or city properties do you want to see transformed?
- What Greening projects would appeal to you most?
- Where would you like to see Resilience Hubs?

**WHAT DO YOU LIKE ABOUT SCENARIO 3?**

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**WHAT DO YOU DISLIKE ABOUT SCENARIO 3?**

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# DISCUSSION & QUESTIONS

*Of everything we've discussed, what is the most important thing to advance in this area?*

*What do you want to make sure does not happen?*

