CLOUDBURST
KISSENA HUB

NYC Environmental Protection

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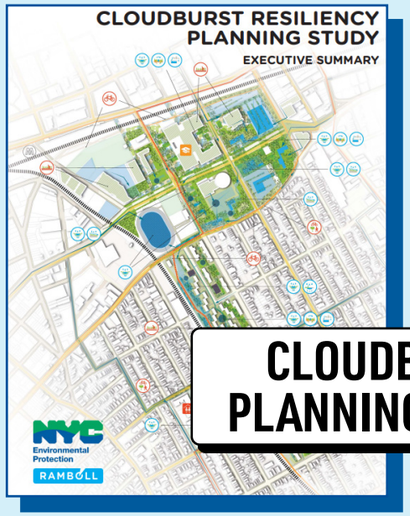
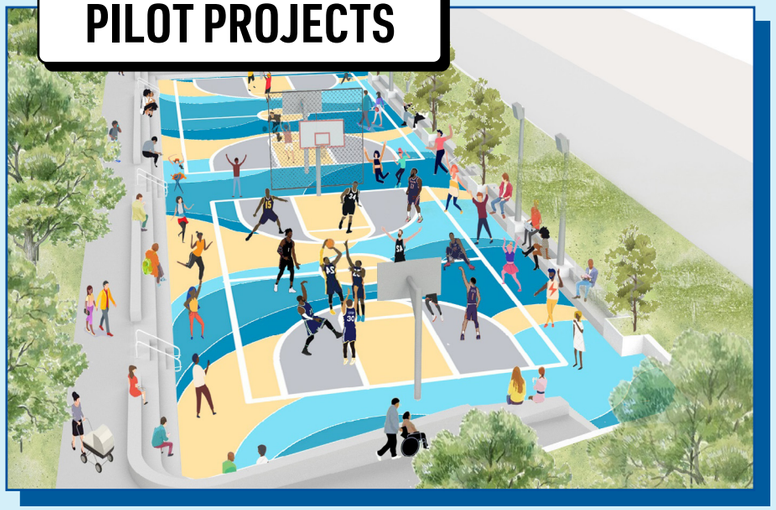
CLOUDBURST PROGRAM & AGENCY PARTNERS

SISTER CITY PARTNERSHIP

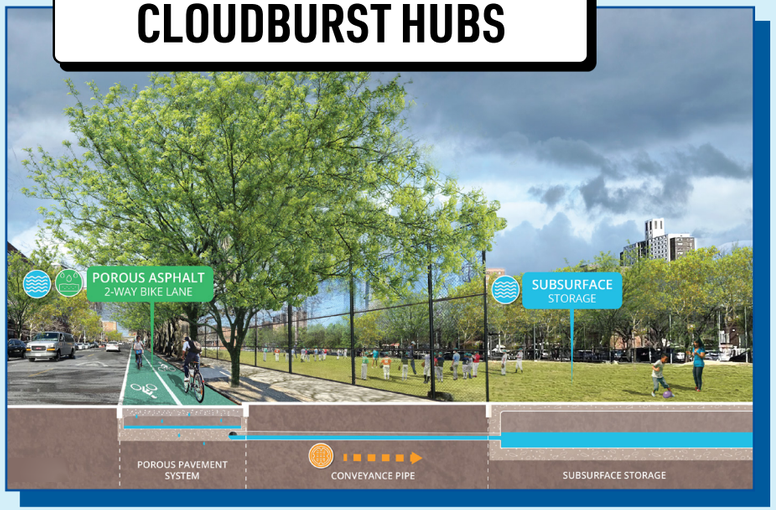
CLOUDBURST PLANNING STUDY



PILOT PROJECTS



CLOUDBURST HUBS



NEW YORK CITY DOT

NYC Parks

NYC DDC Department of Design and Construction

NEW YORK CITY DEPARTMENT OF SANITATION

NEW YORK CITY HOUSING AUTHORITY

NYC Emergency Management

NYC Mayor's Office of Climate & Environmental Justice

AGENDA

INTRODUCTION

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OUR TEAM

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PROJECT MANAGER

MARK TEPPER
PLACEMAKING LEAD

VALERIA CEDILLOS
DESIGN TEAM

PENG YE
DESIGN TEAM

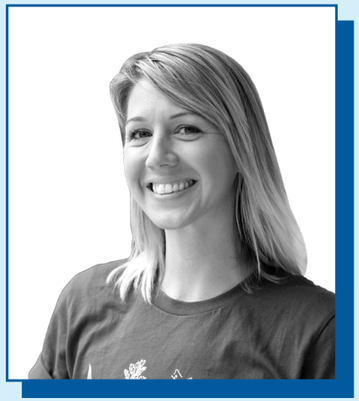
ALAN VIERA
PROJECT ENGINEER

RICK BELL
COMMUNITY ENGAGEMENT

DAVID PACHECO
COMMUNITY ENGAGEMENT

ALEX RENNER
NATURAL SYSTEMS

AMANDA BAYLEY
NATURAL SYSTEMS



AMY MOTZNY
SECTION LEAD, CLIMATE & EQUITY, NYC DEP

ELISIA LANGDON
RESILIENCY PROJECT MANAGER, NYC DEP

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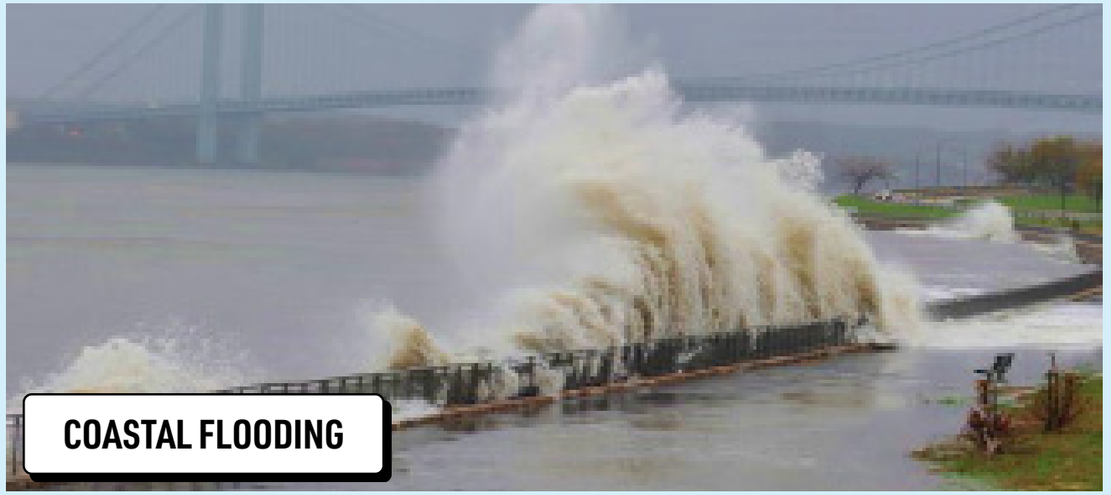
CLOUDBURST IMPACTS

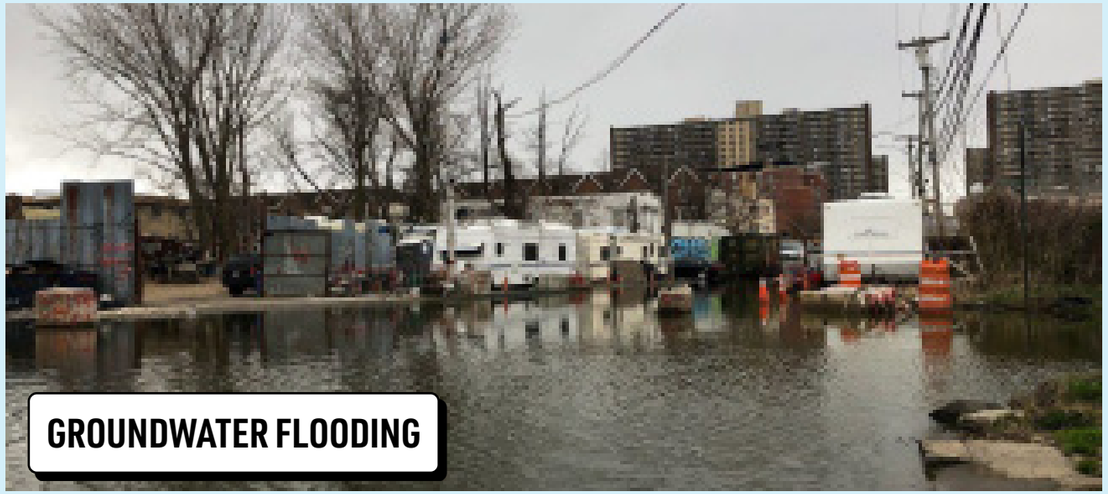
A Cloudburst is a sudden, heavy downpour that drops a lot of rain in a short amount of time.

Cloudbursts can overwhelm the sewer system and cause flooding.

Cloudburst impacts are causing more localized flooding across NYC.

TYPES OF FLOODING

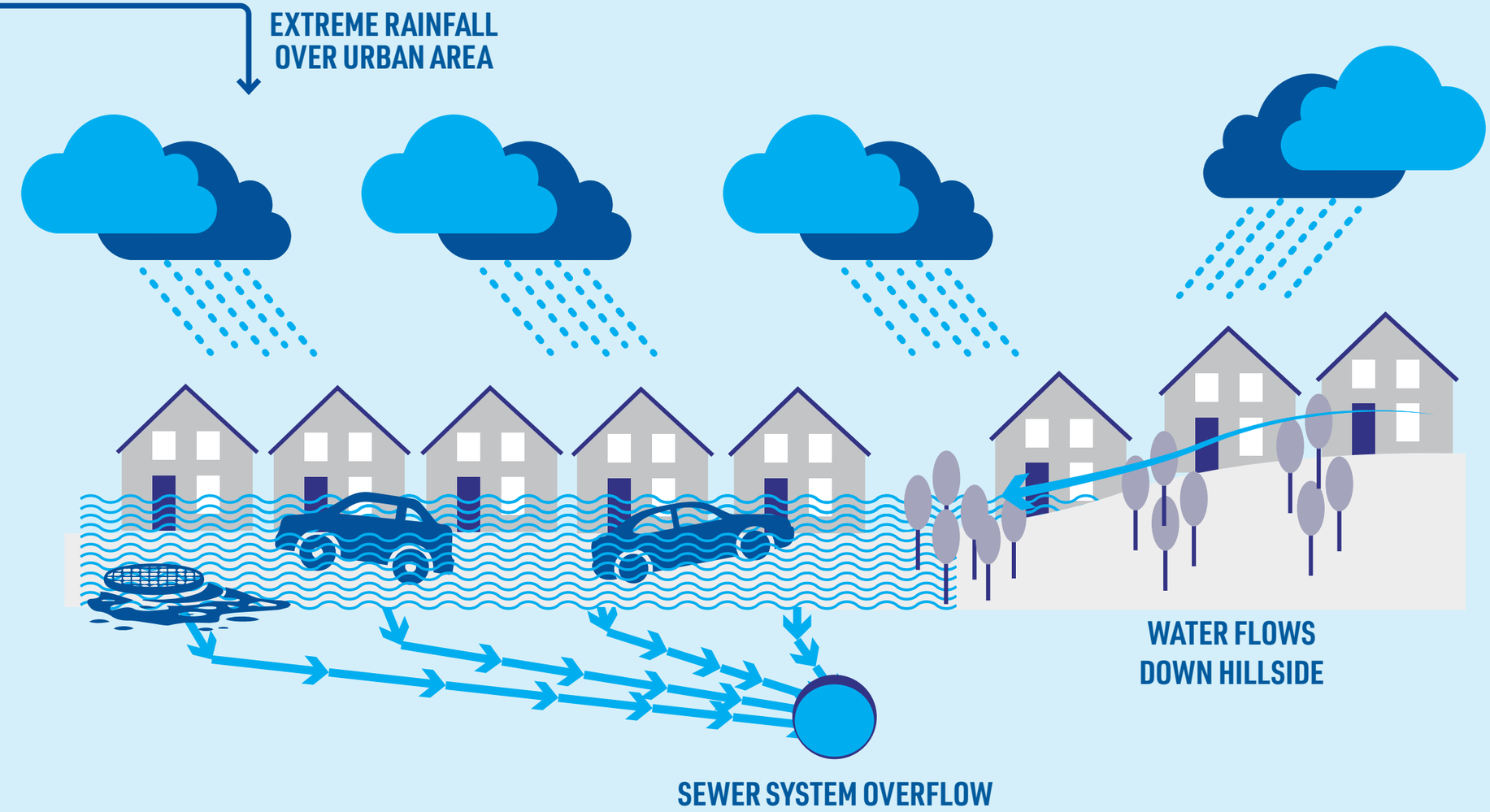




OVERLAND FLOODING

OVERLAND FLOODING

Occurs when rainwater flows downhill over the land and collects in low-lying areas



CLOUDBURST IN NYC

The New York City Department of Environmental Protection (DEP) committed to advancing innovative cloudburst solutions in the Mayor's "The New Normal: Combating Storm-Related Extreme Weather in New York City" report issued in November 2021. The City committed funding to initiating cloudburst mitigation projects in four neighborhoods in 2025, while pursuing State and federal funding to implement additional projects.

CLOUDBURST FLOOD MITIGATION GOALS

The Cloudburst project will address flooding caused by a selected Design Storm.

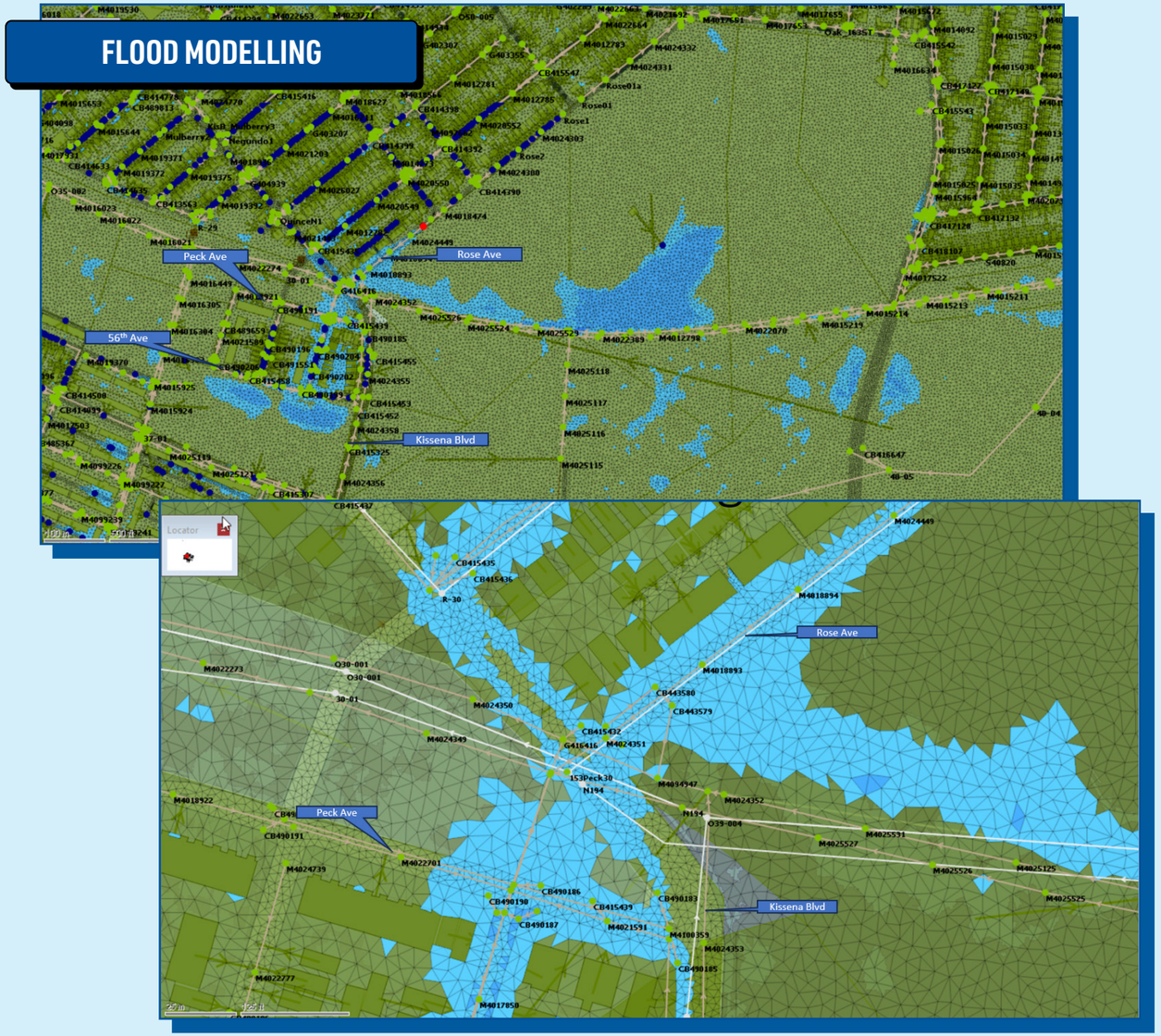
DEP is planning for future extreme weather by considering projected rainfall between 2040-2069.


Source: Mark Roberts

CLOUDBURST DESIGN CRITERIA

The Cloudburst Design Storm has a 10% chance of happening annually between 2040-2069

CLOUDBURST DESIGN STORM = 2.3 IN/HR



CLOUDBURST STRATEGIES

Porous pavement and on-site open space storage.

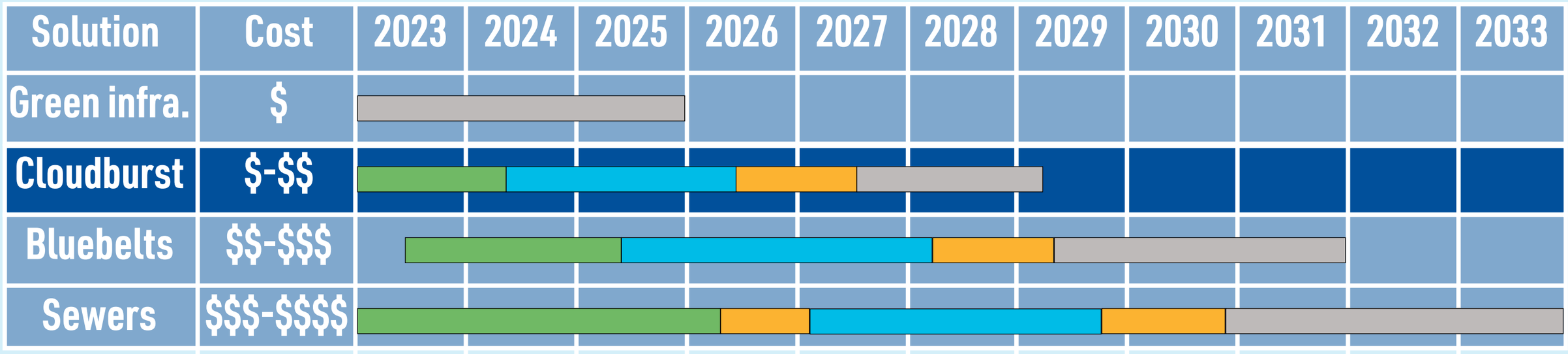
LAYERED FLOOD MITIGATION APPROACH

DEP is implementing multiple short-and long-term solutions with different costs, timeframes, and degrees of intervention.

The Cloudburst Program is only one of these solutions.

Key

- Planning Phase
- Design Phase
- Procurement
- Construction



KISSENA HUB PROJECT AREA

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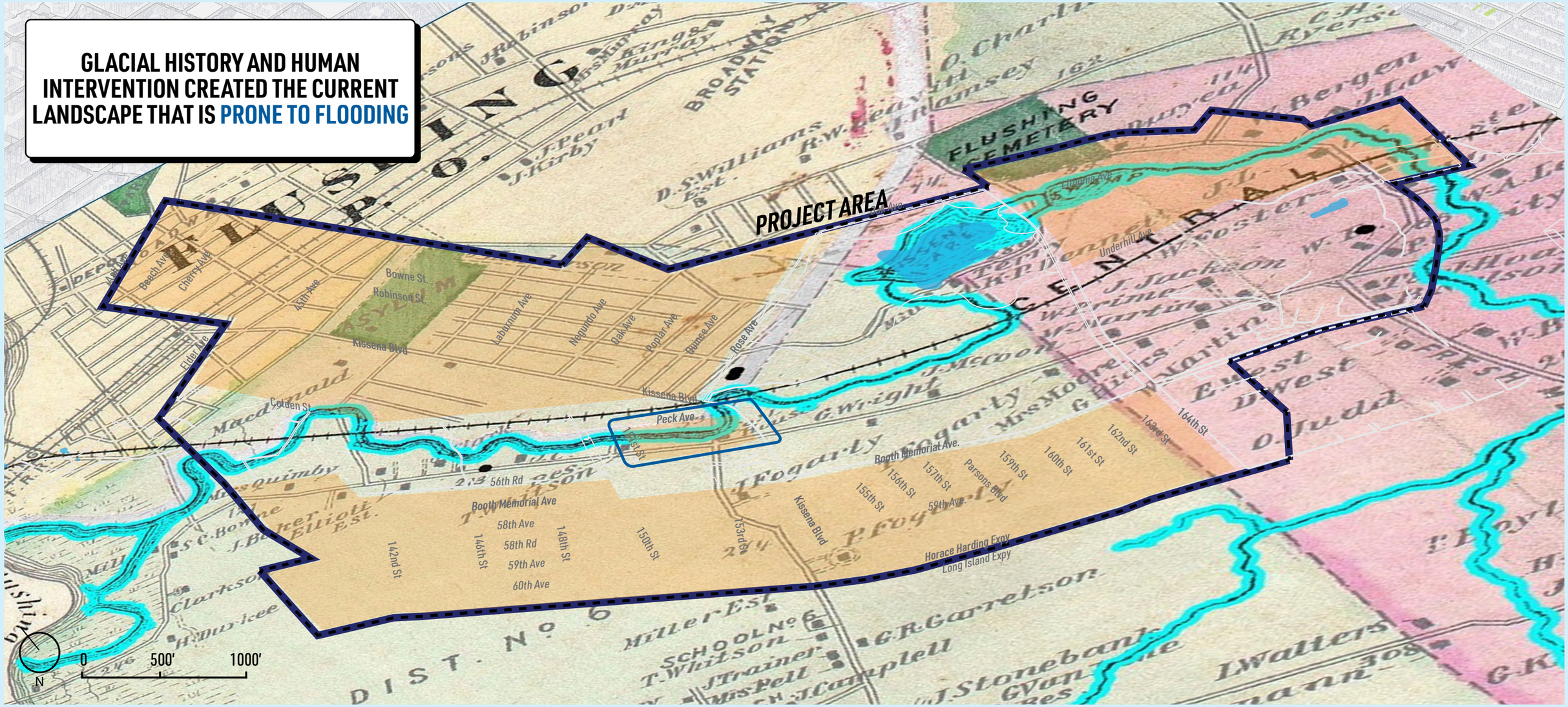
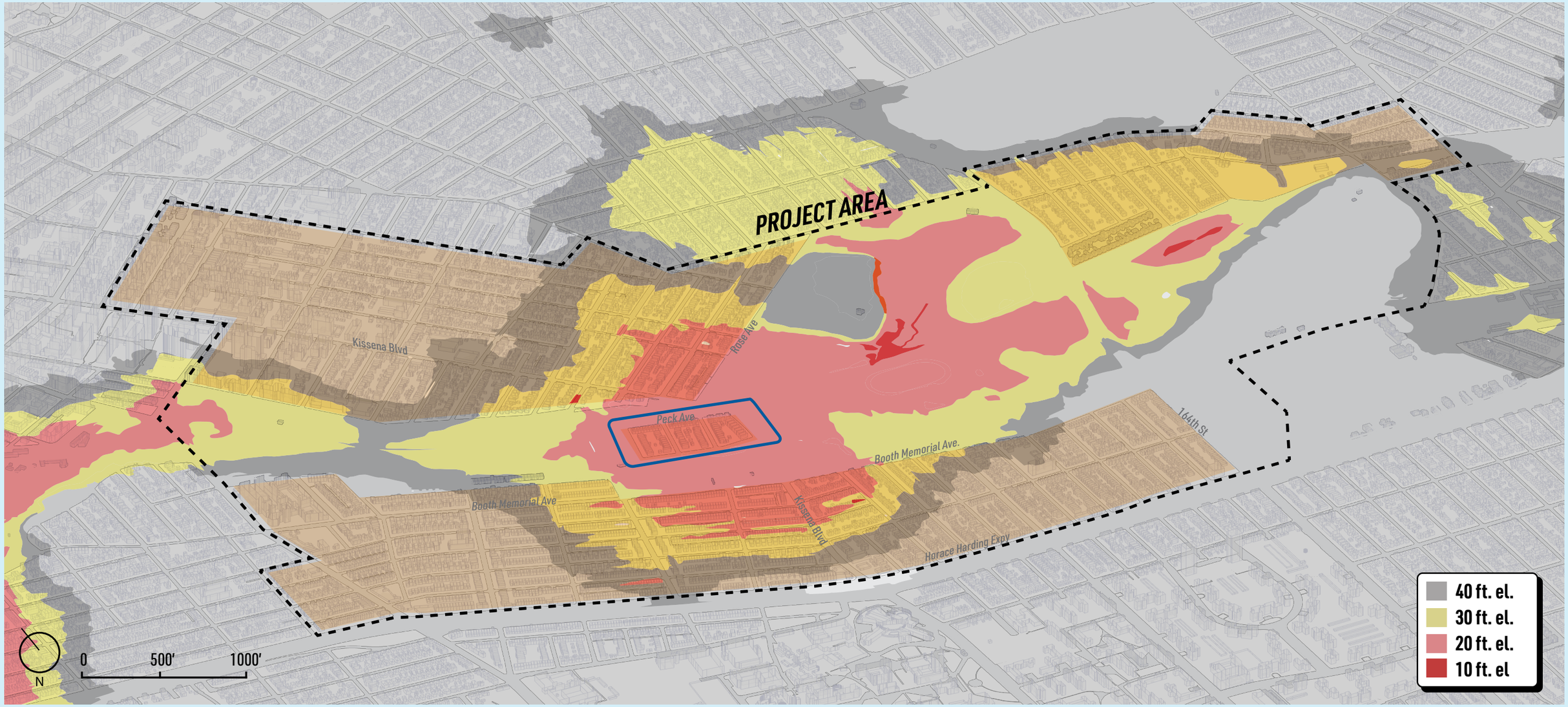
EXISTING PROJECT AREA

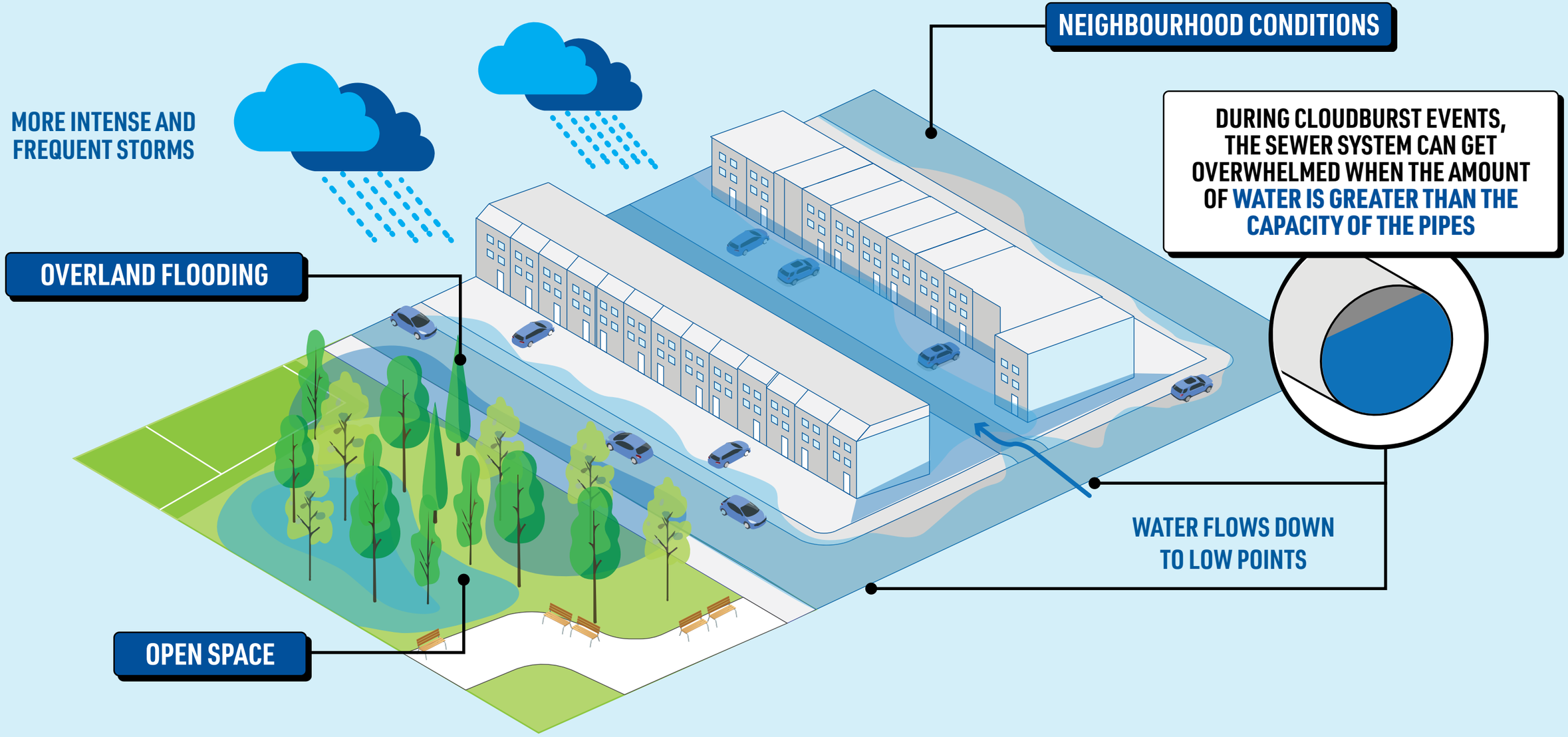
HISTORIC HYDROLOGY



TOPOGRAPHY


PROJECT AREA
Kissena Blvd
Rose Ave
Peck Ave
Booth Memorial Ave.
Booth Memorial Ave
Kissena Blvd
164th St
Horace Harding Expy
40 ft. el.
30 ft. el.
20 ft. el.
10 ft. el
N
0
500'
1000'

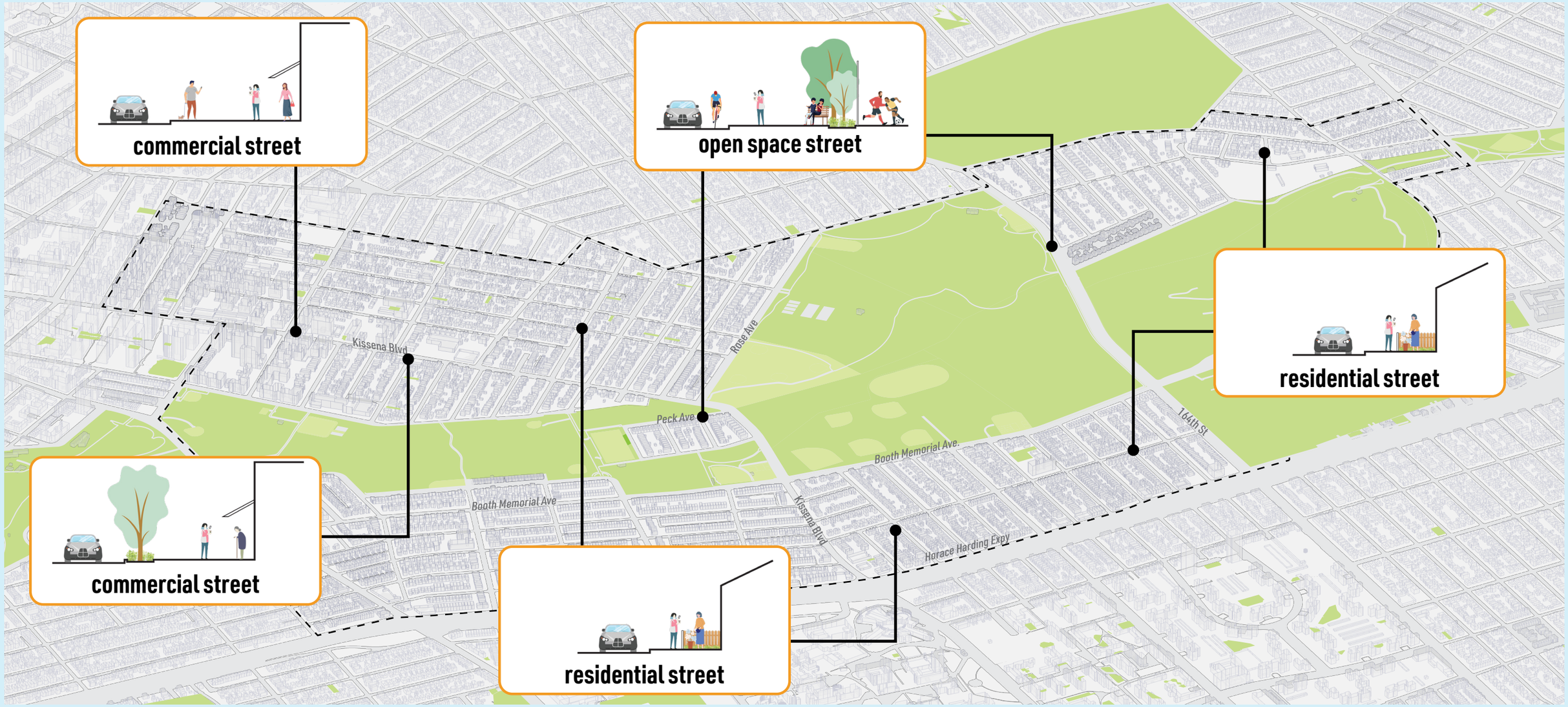
LOW POINTS & LOCALIZED FLOODING



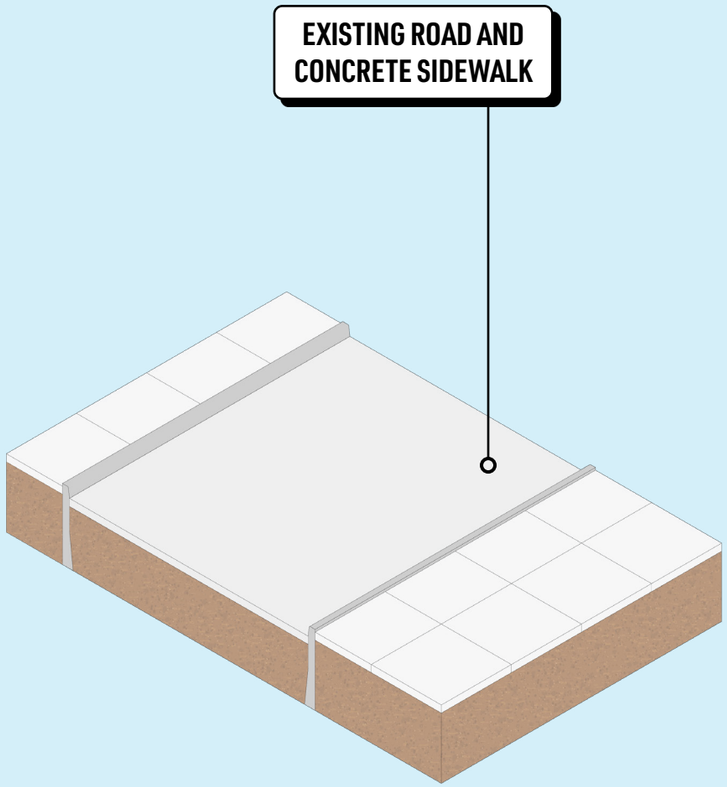
PROJECT AREA CONDITIONS

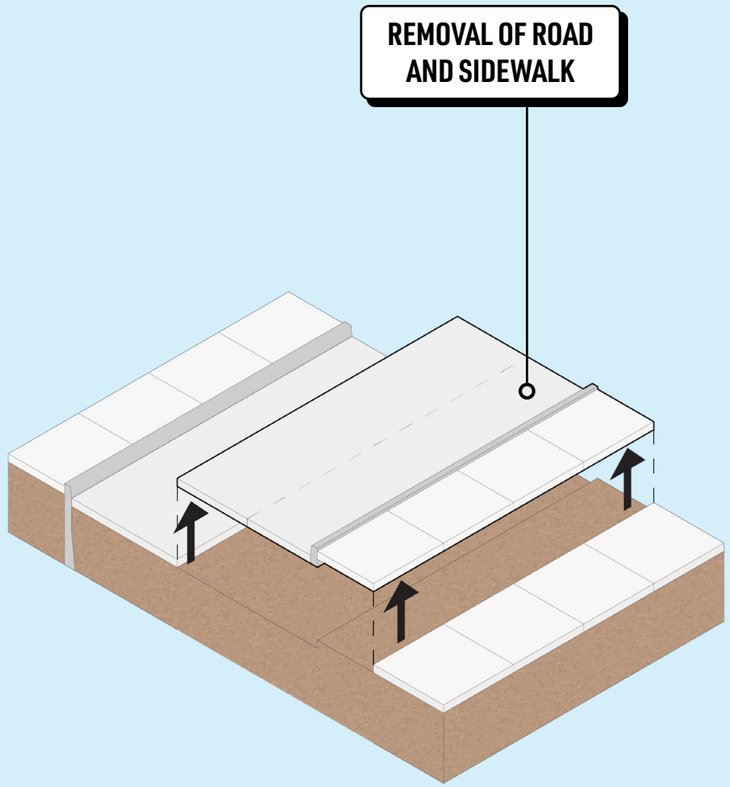
PROJECT AREA RIGHT OF WAY ZONES

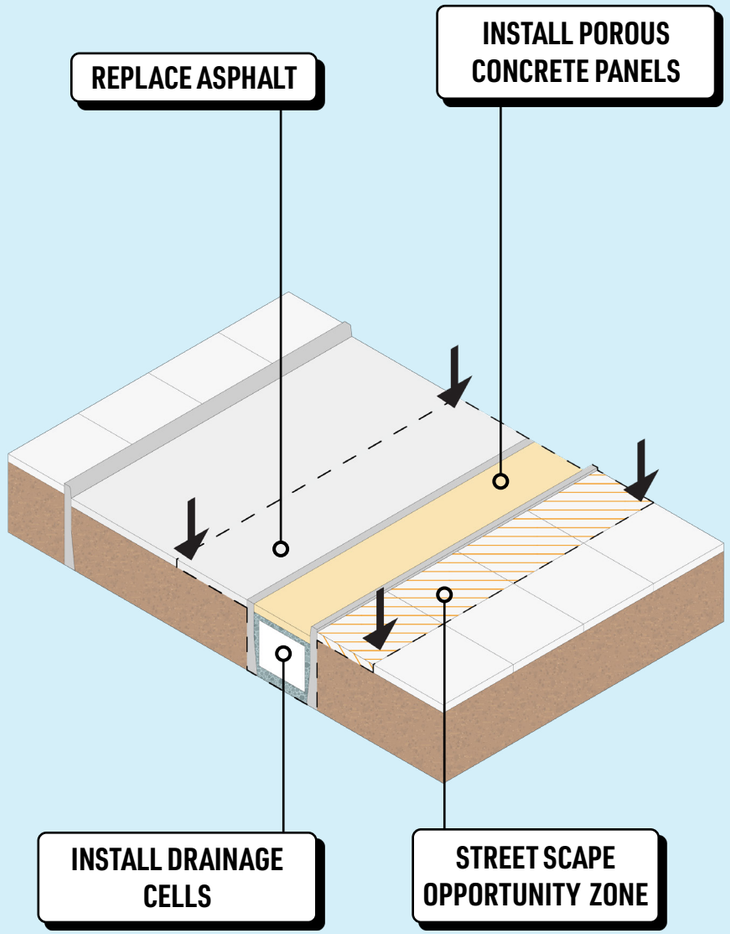
RIGHT OF WAY EXISTING CONDITIONS



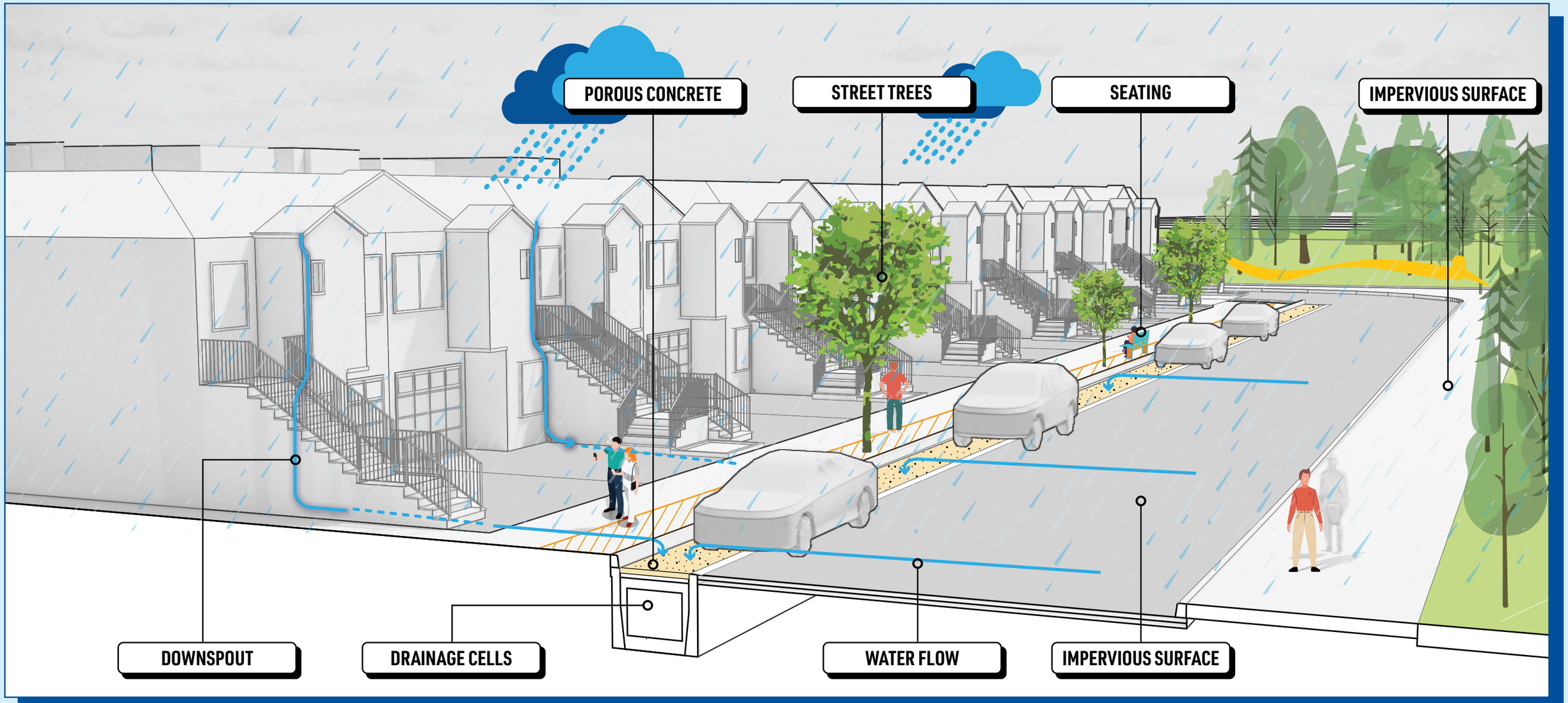
RIGHT OF WAY TYPICAL SEQUENCE OF WORK





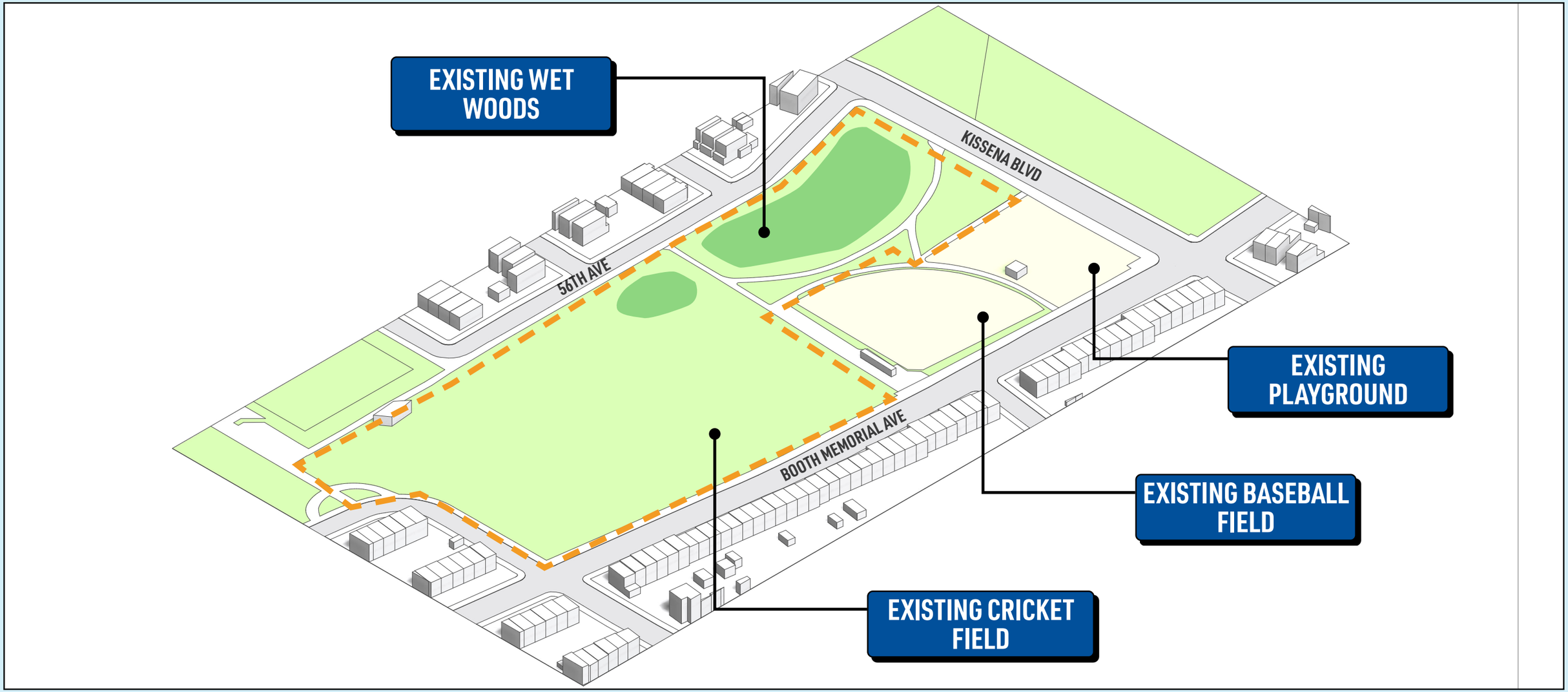


TYPICAL FUTURE PARKING LANE



PROJECT AREA OPEN SPACE ZONE

OPEN SPACE EXISTING CONDITIONS



PROJECT VISIONING

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VISIONING FRAMEWORK

STORMWATER| OPEN SPACE

WETLANDS

Reservoir to provide additional stormwater storage.

SUB SURFACE DRAIN LAYER

Layer of porous material below the ground surface that intercepts stormwater.

STORMWATER SYSTEMS

Subsurface storage that can hold stormwater.

PERMEABLE PAVERS

Porous pathway material that allows for the absorption of stormwater.

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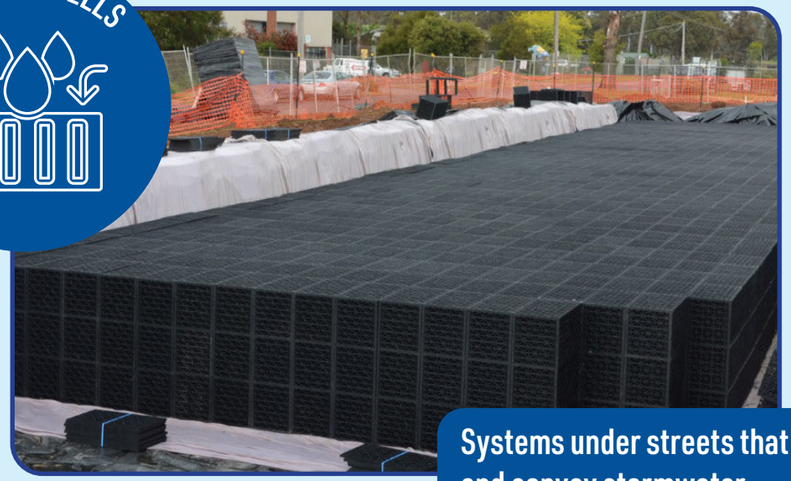
STORMWATER| STREET SCAPE

POROUS CONRETE

Paving that intercepts water from the street reducing runoff.

DRAINAGE CELLS



Systems under streets that receive and convey stormwater.

SEWER SYSTEM IMPROVEMENT

Overall sewer system improvements to increase stormwater flow.

DEPRESSED GUTTER

Deeper gutter to collect additional stormwater.

NATURAL SYSTEMS | OPEN SPACE

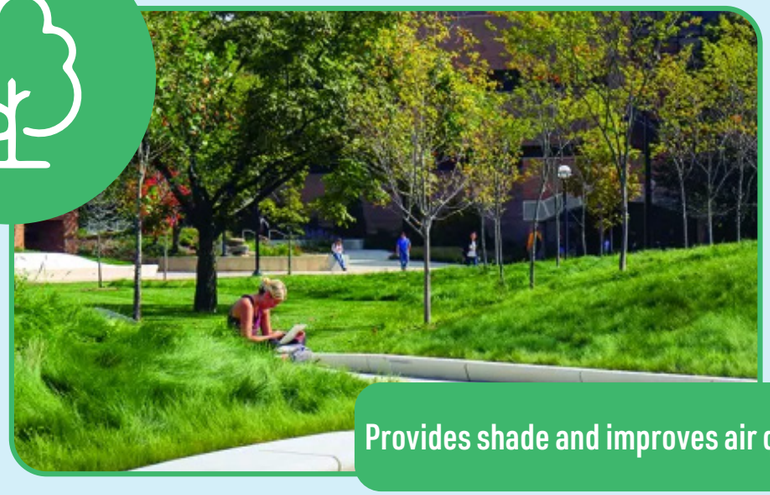
WETLANDS

Filters sediment and creates habitat and natural stormwater storage.

UPLANDS

Directs stormwater and creates habitat.

SHADE TREES



Provides shade and improves air quality.

NATIVE PLANTING

Restores local flora and encourages biodiversity.

NATURAL SYSTEMS | STREET SCAPE

POROUS CONRETE

Improves water quaility through sediment removal.

TREE PLANTING

Provides shade, creates habitat, and reduces CO2 and heat island effect.

SOIL IMPROVEMENTS

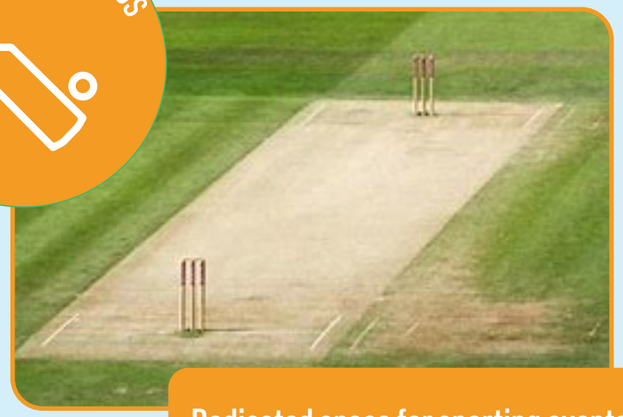
Restores soil health along streets.

POLLINATOR GARDENS

Fosters biodiversity and creates habitat for pollinators.

PLACEMAKING| OPEN SPACE

RECREATIONAL FIELDS



Dedicated space for sporting events.

TRAILS AND PATHS

Walkways that increase accessibility to natural areas.

STEPPED SEATING

Multi-use seating and gathering space.

NATURE OUTLOOK

A serene spot to observe nature.

PICNIC AREA

A tranquil retreat with shaded seating and tables.

SHADE STRUCTURE

A structure providing respite from the sun.

PLACEMAKING| STREET SCAPE OR OPEN SPACE

SEATING

Resting spots inviting the community to pause and socialize.

EDUCATIONAL SIGNAGE

Markers informing the community about local history, ecology and cloudburst infrastructure.

STREET LIBRARY

A community book share offering books to passersby.

PUBLIC ART

Weaving cultural narratives into the neighborhood landscape through local artists' work.

TREE PLANTING

Providing shade and a pleasant streetscape environment.

SHADE STRUCTURE

A structure providing respite from the sun.

WORKSHOP DESIGN OBJECTIVES

1. Active engagement with interactive tools.

2. Provide educational materials.

3. Develop key design objectives for each project layer.

LISTENING WORKSHOP TONIGHT

STORMWATER INFORMATION TABLE

NATURAL SYSTEMS INFORMATION TABLE

PLACEMAKING INFORMATION TABLE

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PROJECT TIMELINE & ENGAGEMENT PROCESS

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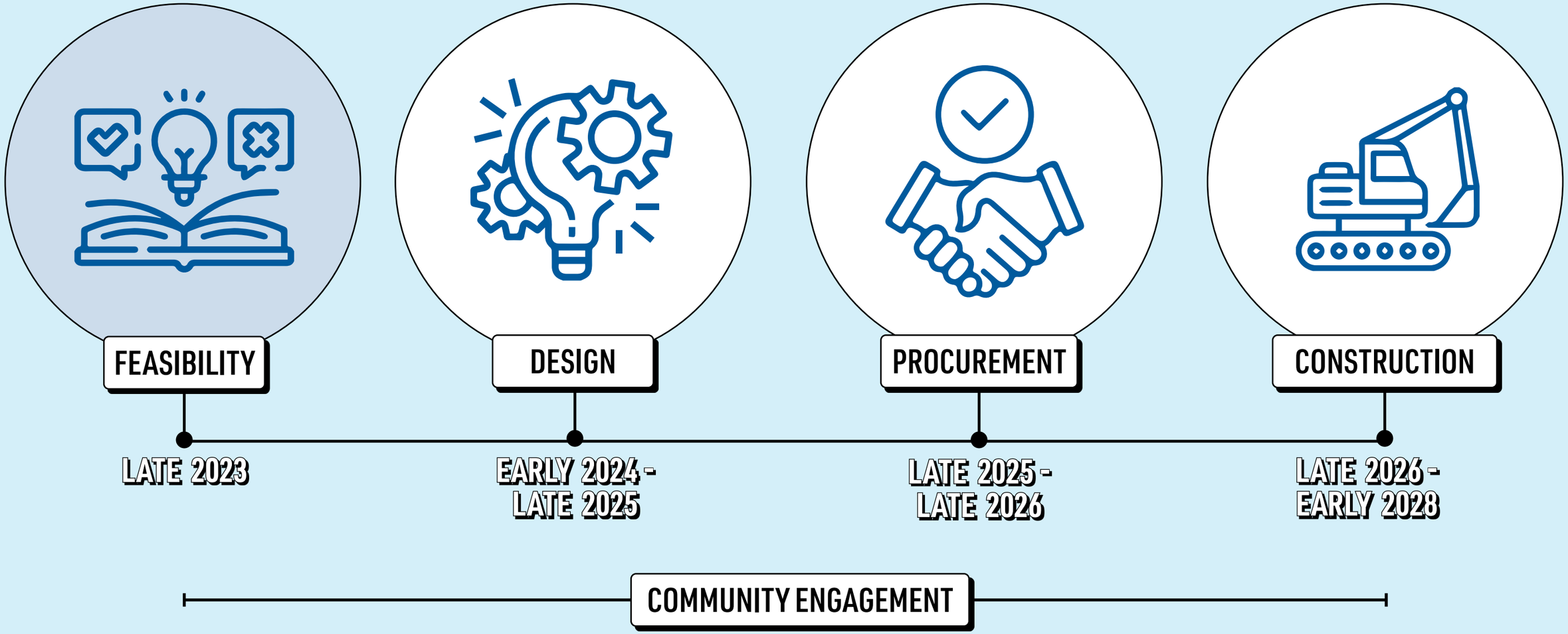
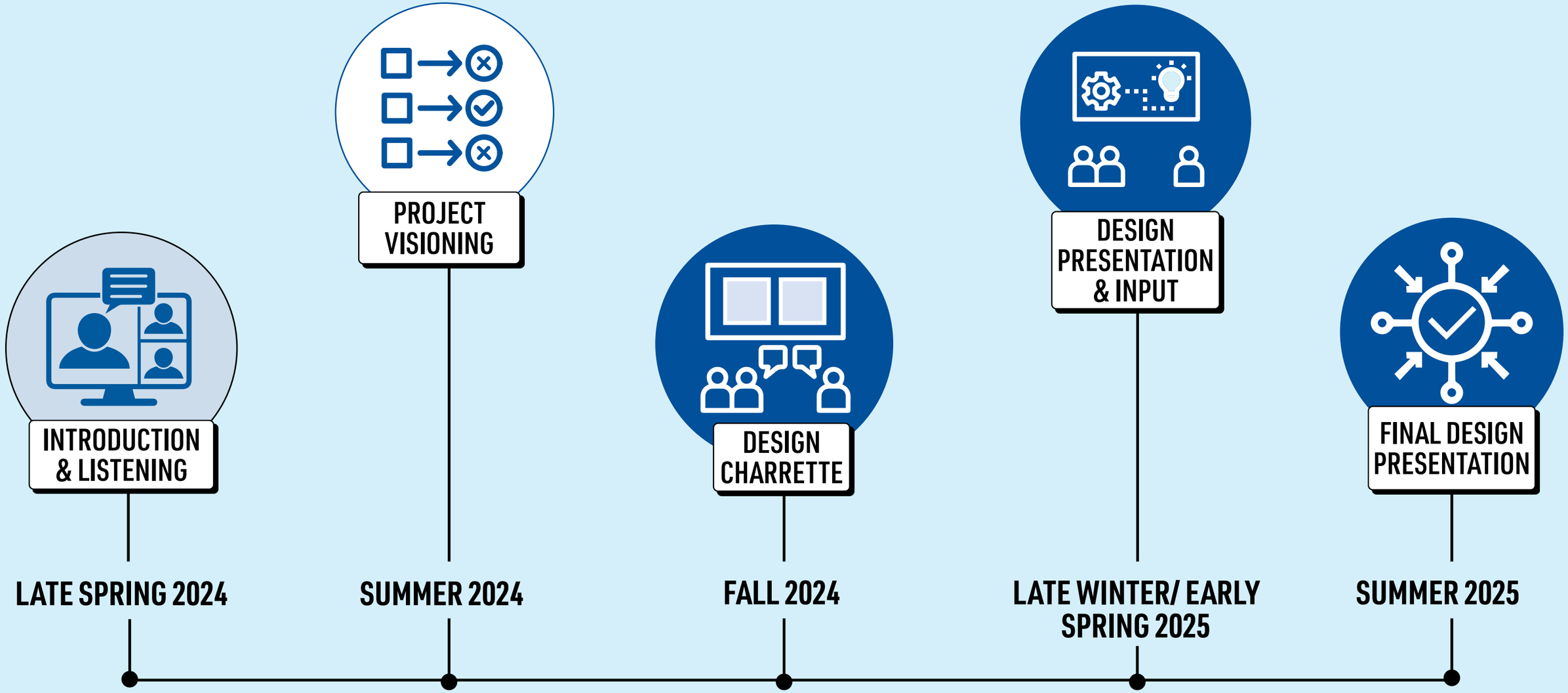
PROJECT TIMELINE



COMMUNITY ENGAGEMENT EVENTS



LISTENING PHASE | COMMUNITY MEETINGS 1 & 2

TO COMMUNICATE:

- Types of flooding and Cloudburst background
- Kissena Hub historical and existing context
- Project goals and design objectives

TO LEARN:

- Community's lived experience with flooding
- Community's understanding of flooding issues and causes
- Local knowledge that can strengthen projects

DESIGN PHASE | COMMUNITY MEETINGS 3 & 4

TO COMMUNICATE:

- Flood model results
- Flood mitigation design strategies
- Placemaking opportunities

TO LEARN:

- Community design preferences
- Community public space priorities
- Synergies for community benefits

NEXT STEPS

HOW CAN YOU INFLUENCE OUTCOME?

01

If you live or work within the Kissena Hub, sign up for the mailing list through the link below:

https://nyc.gov/dep/newsletters

02

Post-meeting survey codes:

Simplified Chinese

English

Spanish

PRESENT DESIGN OPTIONS

03

Next meeting: COMMUNITY MEETING #3

FALL 2024

DESIGN CHARRETTE

THANK YOU!

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