



# Welcome!

*We will begin the meeting shortly*





# Flood Mapping and Green Infrastructure Planning



*Public Meeting*

*January 15, 2025 (hybrid meeting)*

# Zoom Interpretation Services

(Credit: San Joaquin Valley Air District)



## On your cellphone

## On your computer

1

Click on the "More" icon with three dots.

More

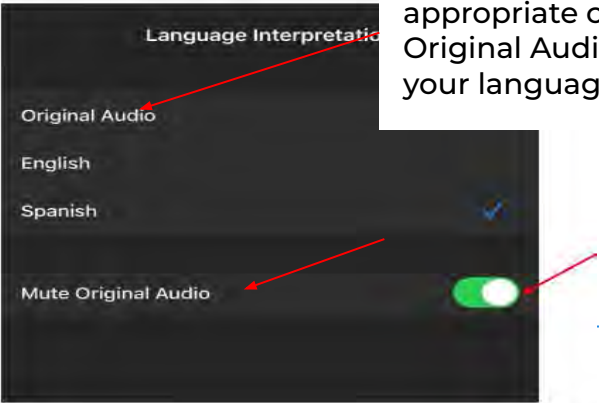
2

Look through the menu for the "Language Interpretation" option.

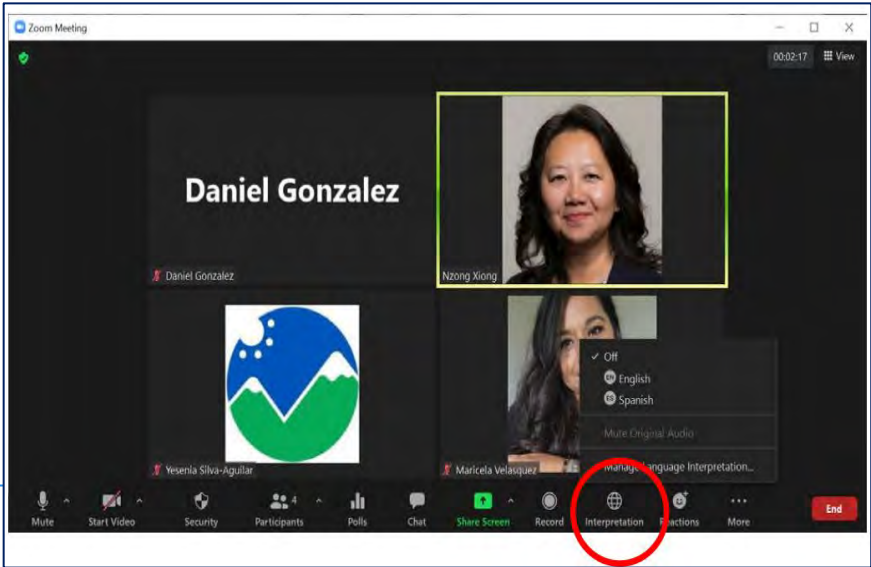


3

Click your language to go to the appropriate channel. Then, select "Mute Original Audio" to ensure you only hear your language.



You will see the interpretation options at the bottom of the screen, as seen below. Click the interpretation icon (globe) to view language options (English, Russian).







# Welcome to Nubian Square

*Nubian Square (Streets | Roxbury)*



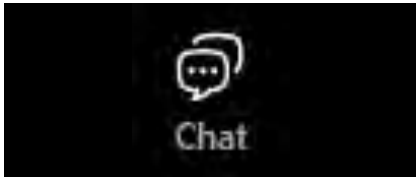
# MEETING AGENDA

- WELCOME
- STORMWATER & GREEN INFRASTRUCTURE
- PROJECT OVERVIEW
- DATA COLLECTION AND USE
- GET TO KNOW THE FLOOD SURVEY
- QUESTIONS?

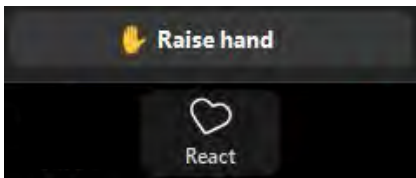
# MEETING FORMAT

During the presentation, all microphones will be muted.

Once the presentation is over, we will take questions and comments in two ways:



Through the **Chat tab** at the bottom of your screen; or



You can **raise your hand** and we will take your questions in the order that hands were raised.

# PROJECT TEAM

## The Public

Providing flood data

- Boston residents
- Commuters
- Students
- Visitors

*We want to hear from you!*



### Project Lead:

- Office of Green Infrastructure  
(Kate England, Director of Green Infrastructure)

### Support:

- Office of Neighborhood Services
- Community Engagement Cabinet

*Although not a direct project team member, BWSC will also be engaged*

## CBOs and Nonprofits

Leading outreach and engagement



Supporting data aggregation and green infrastructure screening





# Stormwater & Green Infrastructure

*Nubian Square (Streets | Roxbury)*





# What is stormwater?

Stormwater is generated when rain falls on impervious surfaces, like roads, roofs, driveways or sidewalks and “runs off,” rather than absorbing into the ground.

Catch basins in our roadways capture stormwater and convey runoff to our water bodies.



# So, what's the problem?

## Quality

- As stormwater travels along hard, impervious surfaces, it picks up pollutants and litter along the way.
- Storm drains then release pollutant laden stormwater into receiving waters, which creates impaired water bodies, damages ecosystems and closes beaches.

## Quantity

- During “typical” storm events, stormwater is largely captured and conveyed by storm drains.
- During large storm events, the storm drain system can become overwhelmed and outfalls can be blocked by storm surge and higher than normal tides, resulting in stormwater flooding.





# Expected Stormwater Impacts



- Stormwater Inundation Mapping shows the projected “Long Term” impacts of stormwater
- Flooding in every neighborhood
- This affects us all!

Source: Climate Ready Boston Map Explorer



**Green Infrastructure (“GI”)** uses plants, soil and other natural materials to mimic or restore the natural water cycle. GI can capture, purify, store and infiltrate stormwater back into the ground.



**Harambee Park (BPRD | Dorchester)**

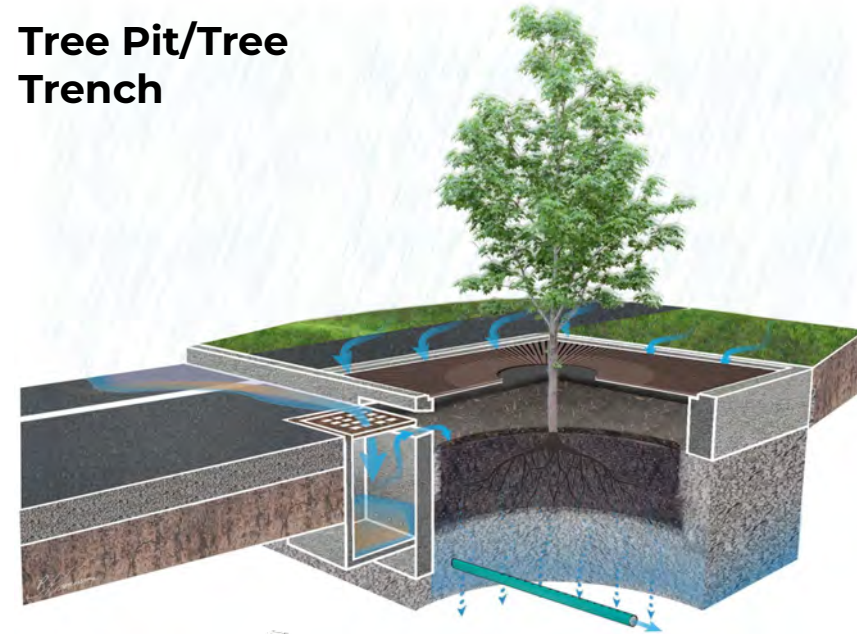


# Green Infrastructure Features

**Bioretention  
(Bioswale; Rain Garden)**



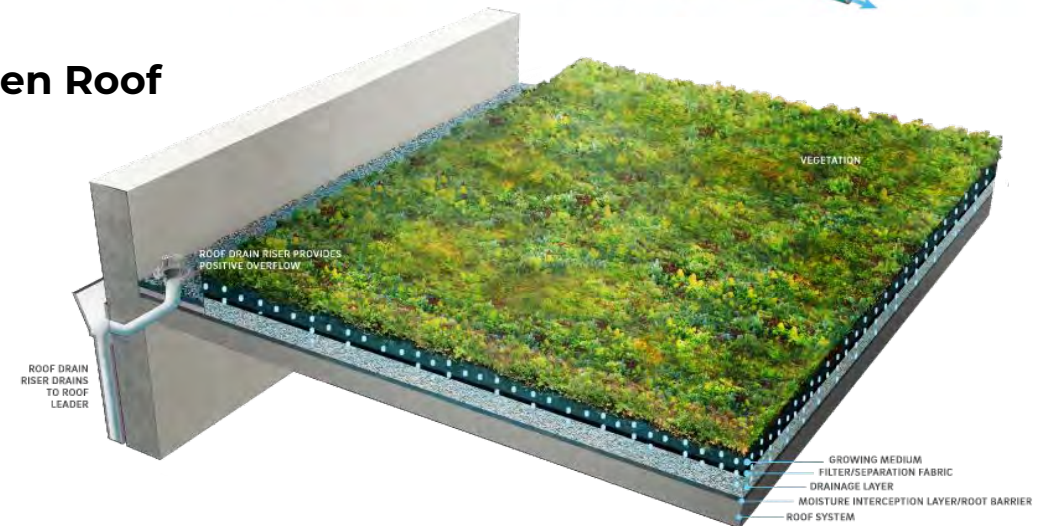
**Tree Pit/Tree  
Trench**



**Constructed  
Wetland**



**Green Roof**





# Co-Benefits



- Increased urban green space / tree canopy
- Reduced urban heat island effect
- Slower streets / improved pedestrian & cyclist safety
- More biodiversity / pollinator habitat
- Reduced energy usage
- Improved Environmental Justice  
(e.g. air quality, access to nature, food security, etc.)
- Opportunities for environmental education





# Green Infrastructure in Boston



*Mary Ellen Welch Greenway (BPRD | East Boston)*





*Franklin Field (BHA | Dorchester)*





New England Avenue (Streets | Dorchester)





*Cassidy Playground (BPRD | Brighton)*





West Street Urban Wild (BPRD | Hyde Park)





*Early Education Center (BPS | East Boston)*





Nubian Square (Streets | Roxbury)



# PROJECT OVERVIEW

October 2024 - June 2025

July 2025 - June 2026



## Inland Flooding Database

Collect data,  
design database



## Data Display

Crowd source  
data, share data  
publicly



## Site Prioritization + Initial Design

Prioritize flooding areas,  
design concepts, get  
feedback



## Concept Designs

Prioritize, visit  
sites, collect data,  
refine designs,  
identify next steps  
and costs



## Interactive Display + Resources

Make a data  
viewer, share  
resources



## Community Engagement

Meetings and events, crowd sourcing, capacity building, survey, video

submit your  
data through  
June 2026  
and beyond!



# WHAT IS THE MVP PROGRAM?



***Municipal Vulnerability Preparedness*** (MVP) is a grant program offered by the Massachusetts Executive Office of Energy and Environmental Affairs (EEA)



MVP provides support for cities and towns in Massachusetts to:

- 1** ***Plan for climate change*** resiliency during the Planning Grant phase of work, and
- 2** ***Implement priority projects*** during the Action Grant phase of work.

Source: [Municipal Vulnerability Preparedness \(MVP\) program | Mass.gov](https://www.mass.gov/mvp)

Boston Community-Based  
Flood Resilience and Green  
Infrastructure Planning  
**FY25/FY26 MVP Action  
Grant**

**Total Grant:** \$449,710

**In-Kind Match:** \$14,000

**Cash Match:** \$36,000

Providing \$90,000 of grant  
to community partners



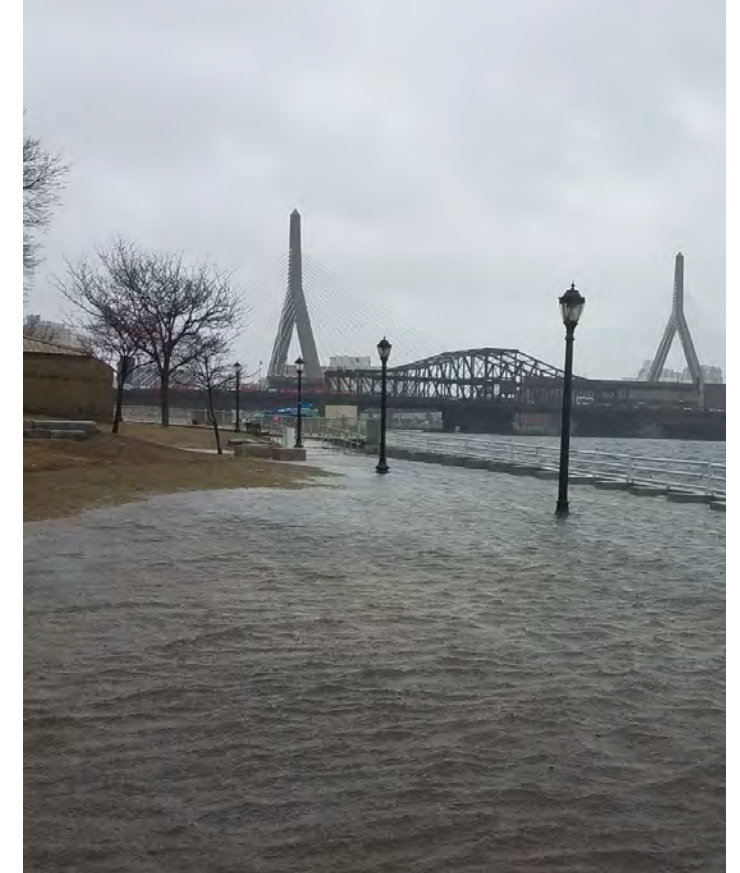
# FLOODING CAN MEAN DIFFERENT THINGS TO DIFFERENT PEOPLE!



*Flooding along a Boston road in 2023, during a heavy rainfall.  
Photo by Weston & Sampson*



*King Tide flooding in Boston in 2021, blocking access to a curb cut.  
Photo by Weston & Sampson*



*Flooding in the North End during a Nor'easter in March 2018.  
Photo by Weston & Sampson*



# DATA OVERVIEW



## DATA COLLECTION

- 1** *Flood Incident Public Survey*
- 2** *Flood-related data from the City and stakeholders*, such as 311 calls, police and fire, and existing models
- 3** *Local & State-wide resources*, such as planned roadway projects, lessons from past GSI installs, property ownership, EJ communities, urban heat islands + green deserts

## USE OF EXISTING DATA

Data review



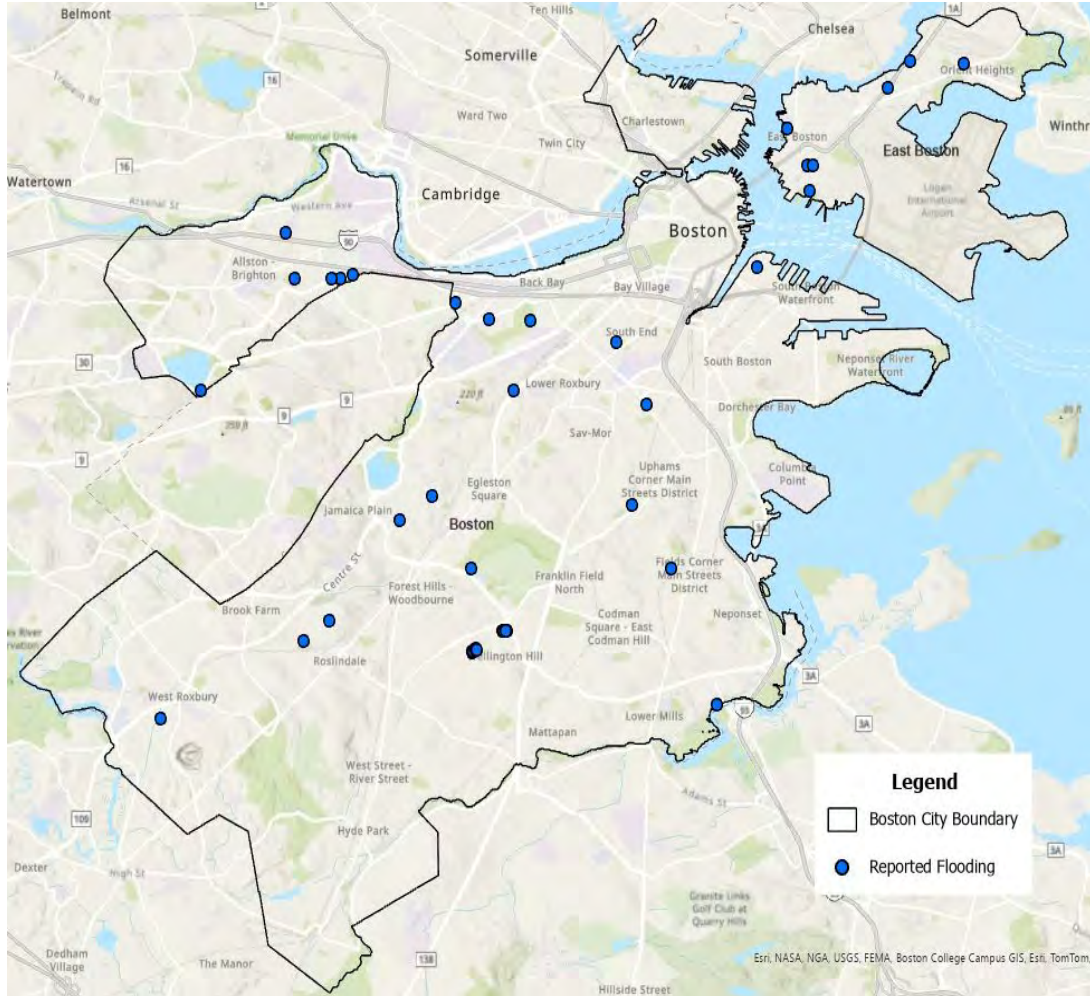
Evaluation &  
Prioritization



*Green infrastructure  
concepts*



# OVERVIEW OF DATA REPORTING TO-DATE



44 *survey responses* to-date

Reported dates range from *June 2023* to *January 2025*

23 instances of reported flooding in *December 2024, across several neighborhoods*

Impacts of reported flooding include *longer drive/walk times, inaccessible destinations, and property damage*

Map of Inland Flooding Impact Survey responses as of January 14, 2025



# EXAMPLES OF DATA REPORTING



Flooding along Breed St in East Boston in December 2024. Ponding reportedly remains long after rain event.



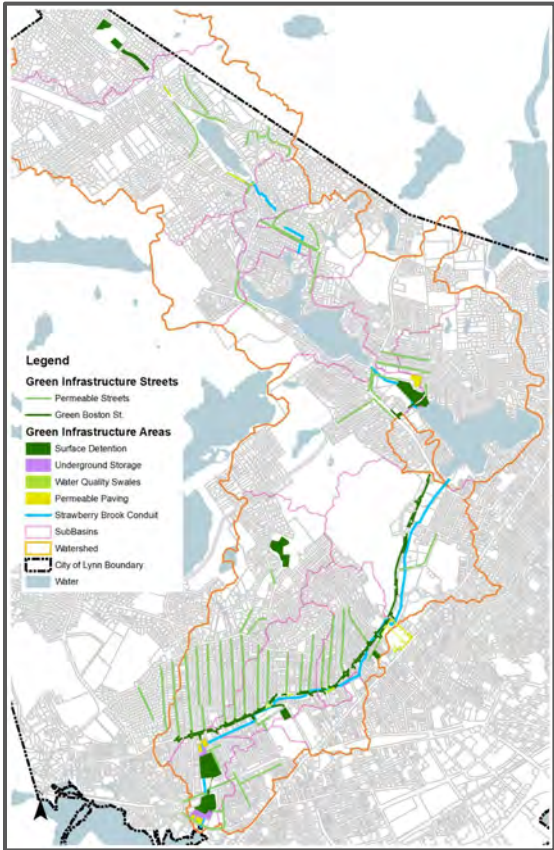
Flooding along Commonwealth Ave in Allston after rain event in January 2025. Road reportedly takes days to drain completely.



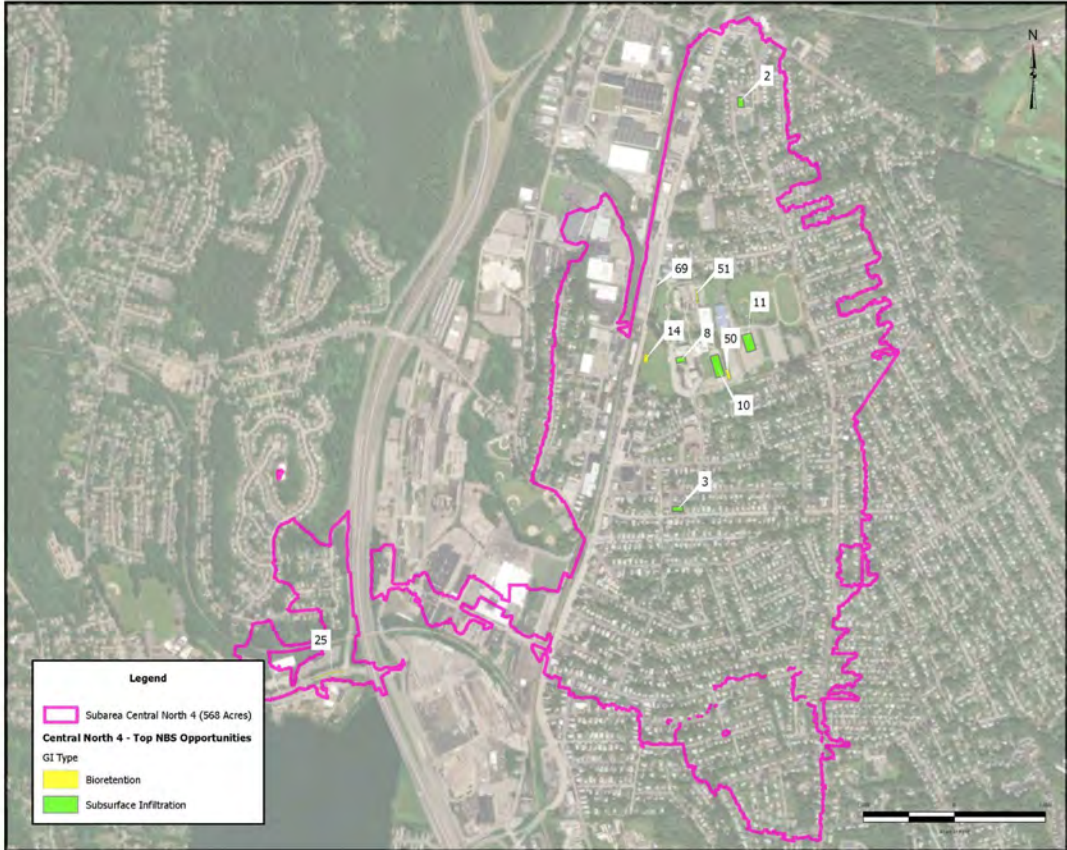
Flooding along East Boston Greenway in December 2024.



# FINDING LOCATIONS FOR NEW GREEN INFRASTRUCTURE LOCATIONS



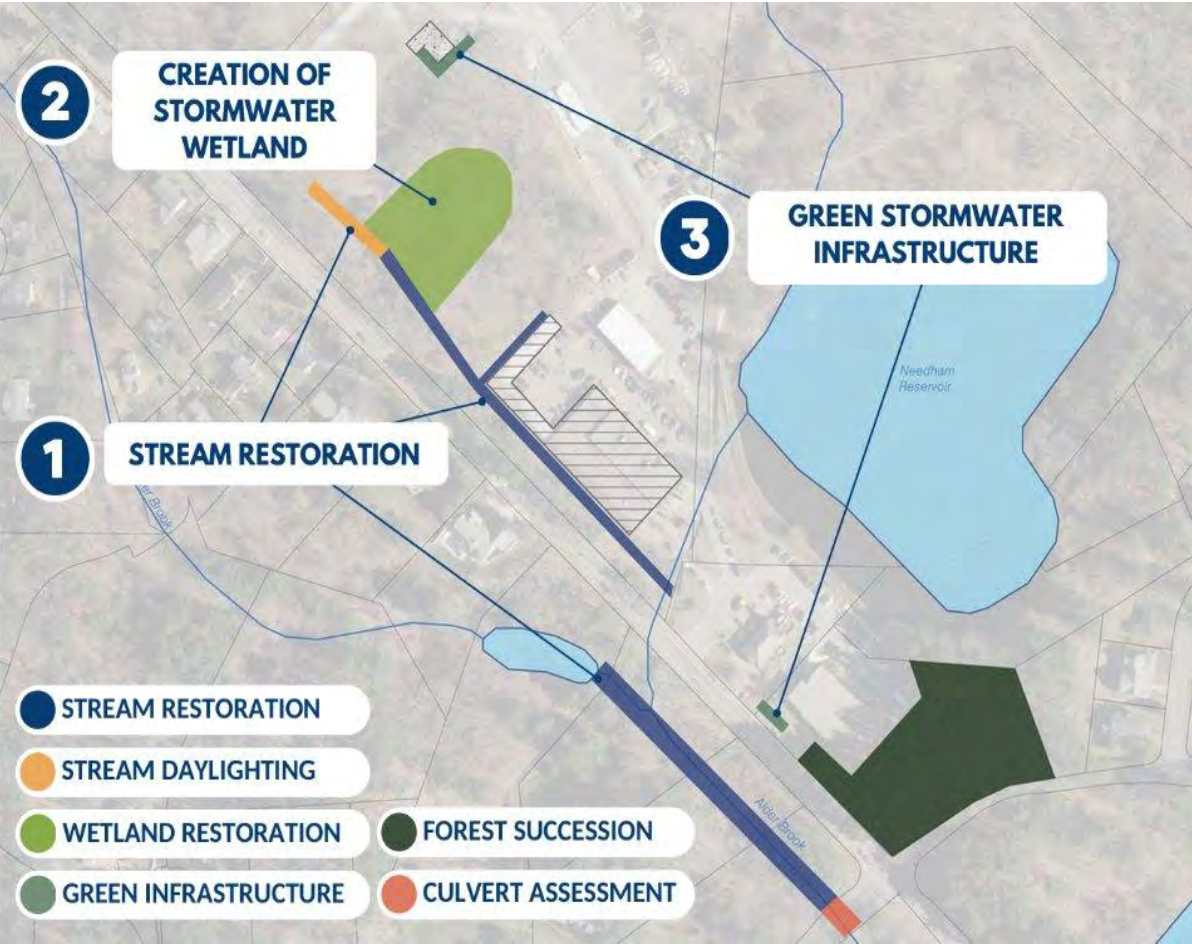
Overview of green infrastructure project locations  
Lynn, MA



Overview of green infrastructure project locations  
Worcester, MA



# EXAMPLE GREEN INFRASTRUCTURE CONCEPTS



Site-scale green infrastructure concepts  
Needham, MA



Site-scale green infrastructure concepts and roadway redesign  
Fitchburg, MA



# WHY CROWD-SOURCED FLOOD IMPACT?

- Real-time reports
- Access local/historical knowledge
- City-wide data collection
- Engage residents, students, commuters, etc. in flood planning





# SUBMITTING YOUR OBSERVATIONS

- Take a picture!
- Make a note of where you are and previous weather conditions
- Can you see anything causing the flooding?
  - *Clogged catch basin*
  - *Massive pothole/roadway deterioration*
  - *High tide*
- Form is intended to be quick & easy
- Don't know an answer - leave blank and go to next question
- Survey available in 8 languages: English, Spanish, Traditional Chinese, Russian, Brazilian Portuguese, Haitian Creole, Vietnamese, Cabo Verdean Creole
- [SHARE YOUR OBSERVATIONS!](#)



# SELECT YOUR LANGUAGE



The screenshot shows a web form titled "Green-Based Flood Resilience and Green Infrastructure". A language selection dropdown menu is open, showing options: English-US (highlighted), Español-México, Português-Brasil, Русский, Tiếng Việt, and 繁體中文-香港. The form includes a section titled "Flood in Boston?" with a paragraph: "The City wants to hear from you about flood issues! We want to know about past, ongoing flooding problems across the City. The information you share will help us prioritize projects to reduce flooding." Below this is a note: "Please submit one form per location and flooding occurrence." and an "Email" section with the text: "Please add your email address if you want to receive follow up information about this project." and an email input field with an envelope icon.

**English-US**

English-US

Español-México

Português-Brasil

Русский

Tiếng Việt

繁體中文-香港

## Green-Based Flood Resilience and Green Infrastructure

### Flood in Boston?

The City wants to hear from you about flood issues! We want to know about past, ongoing flooding problems across the City. The information you share will help us prioritize projects to reduce flooding.

*Please submit one form per location and flooding occurrence.*

### Email

Please add your email address if you want to receive follow up information about this project.



# SUBMITTING YOUR OBSERVATIONS



## Community-Based Flood Resilience and Green Infrastructure

### Where does it flood in Boston?

The City of Boston wants to hear from you about flood issues! We want to know about past, current, and ongoing flooding problems across the City. The information you share will help Boston plan and prioritize projects to reduce flooding.

*Please submit one form per location and flooding occurrence.*

### Email

Please add your email address if you want to receive follow up information about this project.





# SUBMITTING YOUR OBSERVATIONS



## Location of Flooding\*

Please zoom in and move the pin on the map to where you have seen flooding during or after rain or snow. You can also select 'Find My Location' if you are currently at the flooding site.

City of Boston boundary shown in blue.

Find address or place

Lat: 42.329025 Lon: -71.068670

## Date of Flooding Observed\*

MM yyyy

## Briefly describe the flooding you observed...\*

Details are very helpful!

## How deep is/was the water?\*

☐ Around my ankle or lower

☐ Around my calf

☐ Around my knee

☐ Higher than my knee

☐ I don't know/remember



# SUBMITTING YOUR OBSERVATIONS

Is/was the water "flowing" or still?\*

☐ Stagnant/not moving

☐ Moving/flowing

Attach a Photograph of the Flooding (Recommended)

1

Drop image here or select image



What caused the flooding?

Check all that apply

☐ Rain event

☐ Coastal storm/the ocean

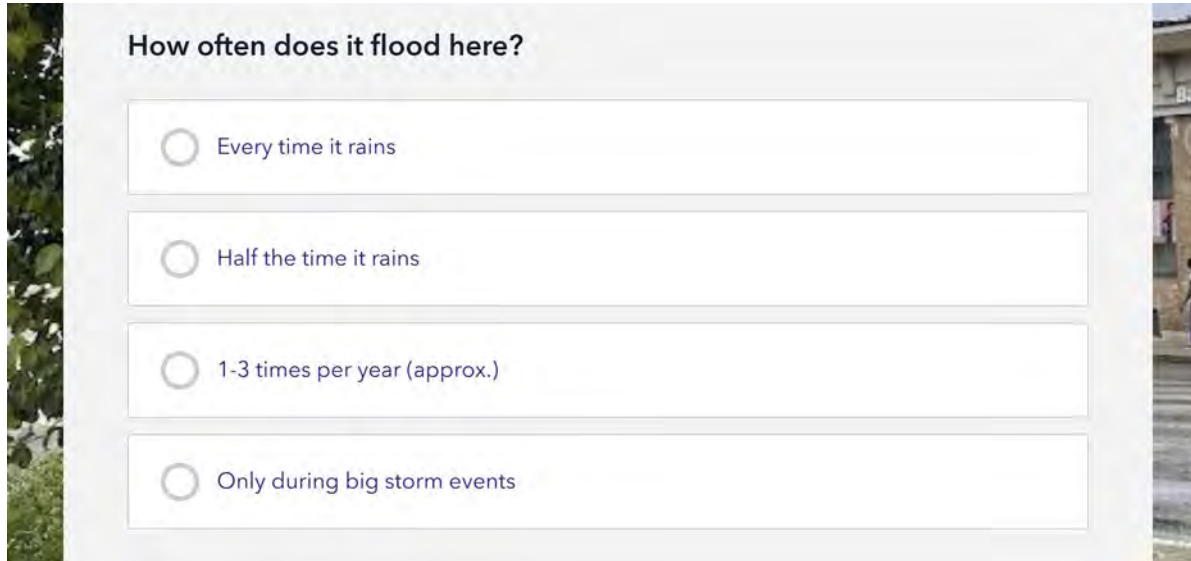
☐ Snowmelt

☐ Don't recall

☐ Other



# SUBMITTING YOUR OBSERVATIONS

A background image showing a flooded street with water reflecting the surrounding buildings and trees.

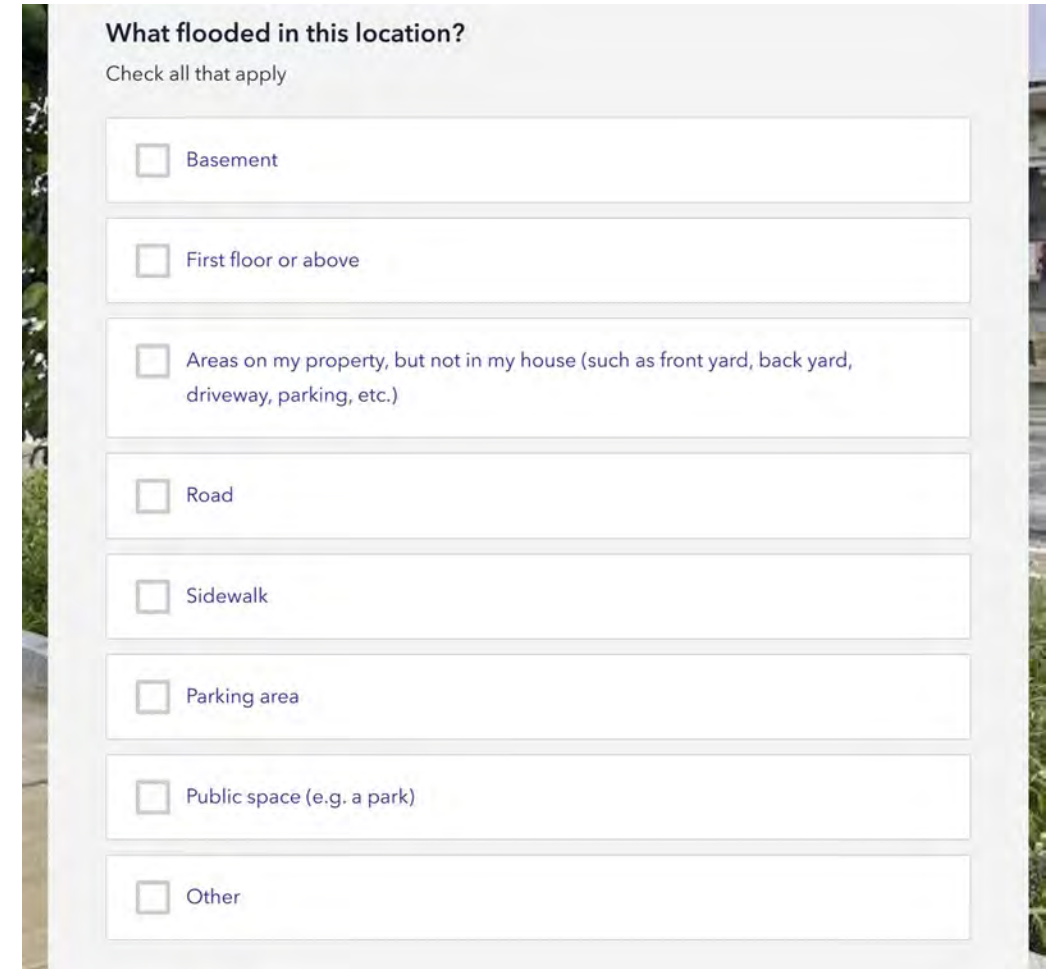
How often does it flood here?

☐ Every time it rains

☐ Half the time it rains

☐ 1-3 times per year (approx.)

☐ Only during big storm events

A background image showing a flooded street with water reflecting the surrounding buildings and trees.

What flooded in this location?

Check all that apply

☐ Basement

☐ First floor or above

☐ Areas on my property, but not in my house (such as front yard, back yard, driveway, parking, etc.)

☐ Road

☐ Sidewalk

☐ Parking area

☐ Public space (e.g. a park)

☐ Other



# SUBMITTING YOUR OBSERVATIONS



## How did this flooding impact you?

Check all that apply

- ☐ Property Damage
- ☐ Had to drive/walk a longer distance around the flooding
- ☐ Could not access destination/home
- ☐ Had to change my shoes/socks/clothes
- ☐ Personal Injury
- ☐ It didn't impact me
- ☐ Other

If you know of multiple sites that flood, submit this form and then click the "submit another entry" link on the confirmation page.

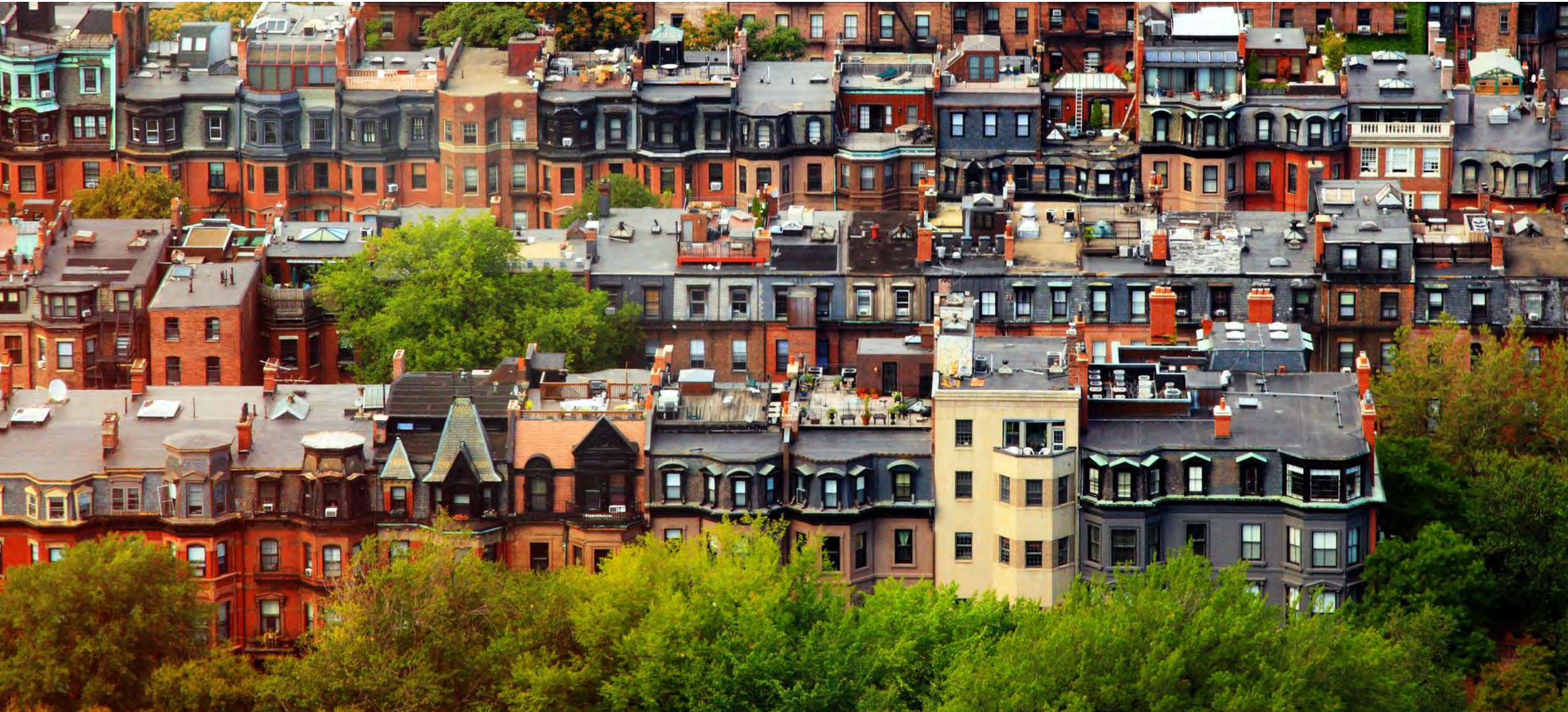
This survey is intended to help identify areas throughout the City of Boston that experience flooding. This is not an incident report, nor will it result in immediate follow-up actions.

Submit

## Thank you!



# THANKS FOR YOUR HELP!





# QUESTIONS OR COMMENTS

THANK YOU FOR COMING! *Please report your observations!*





# CONTACT INFORMATION



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Kerry Snyder, Neponset River Watershed Association, [snyder@neponset.org](mailto:snyder@neponset.org)