



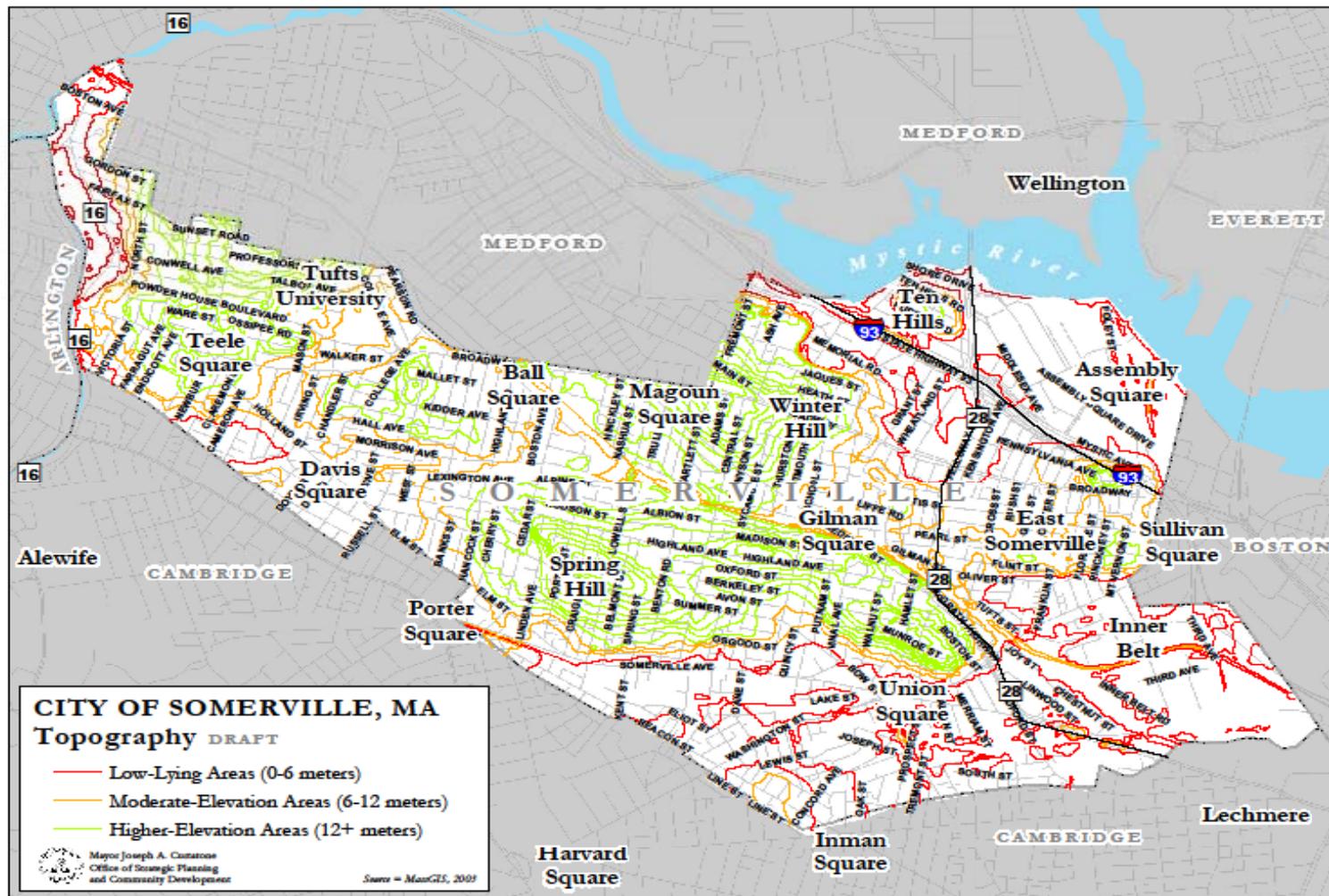
# CEDAR STREET FLOOD MITIGATION PROJECT

July 31, 2013

# PRESENTATION OVERVIEW

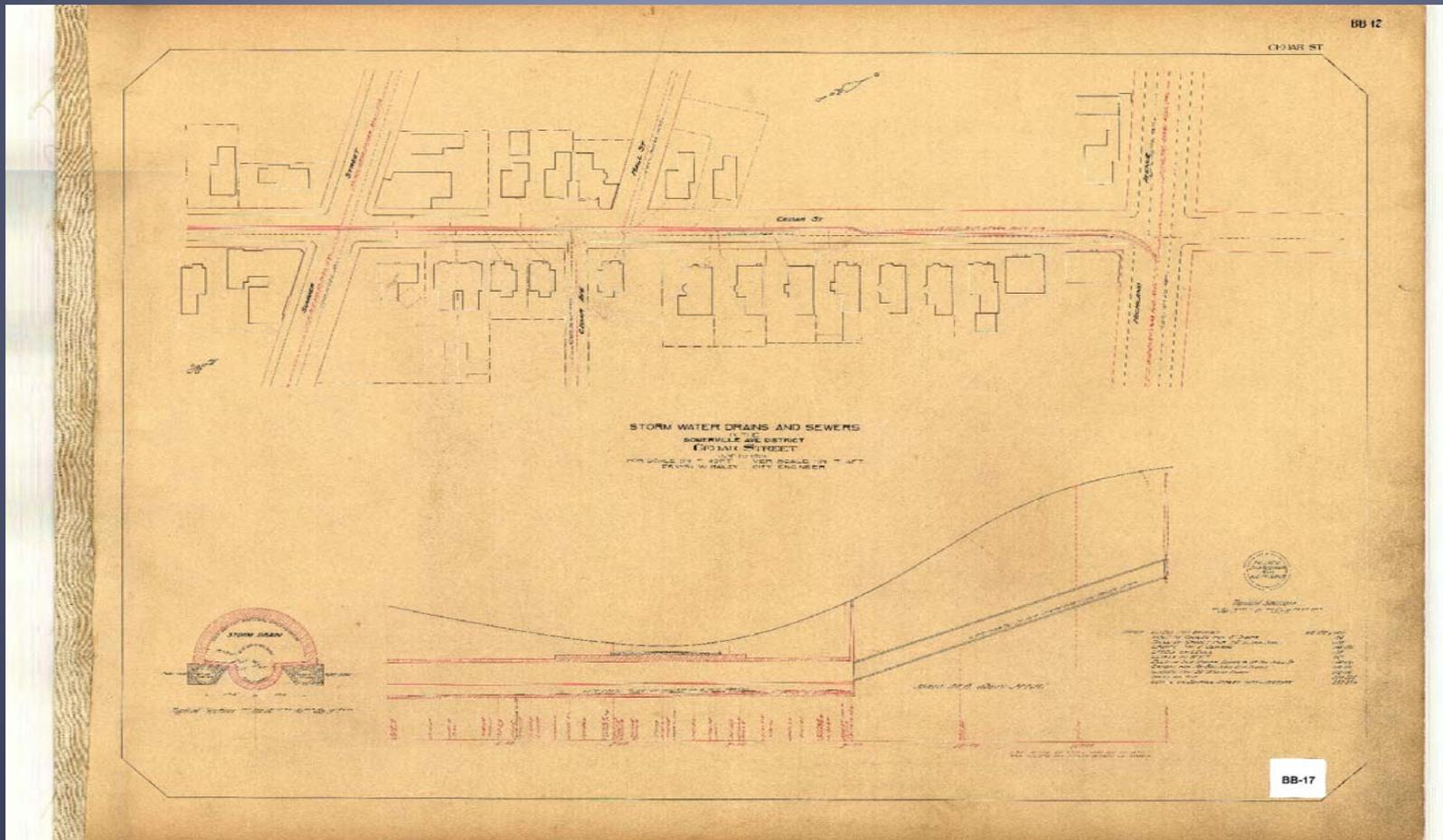
- ◉ History
- ◉ What has Somerville done?
- ◉ Process
- ◉ Scope of Work
- ◉ Implementation of creative stormwater solutions
- ◉ How will this project impact me?
- ◉ How can I get involved?
- ◉ Construction
- ◉ Questions

# REFERENCE MAP - TOPOGRAPHY



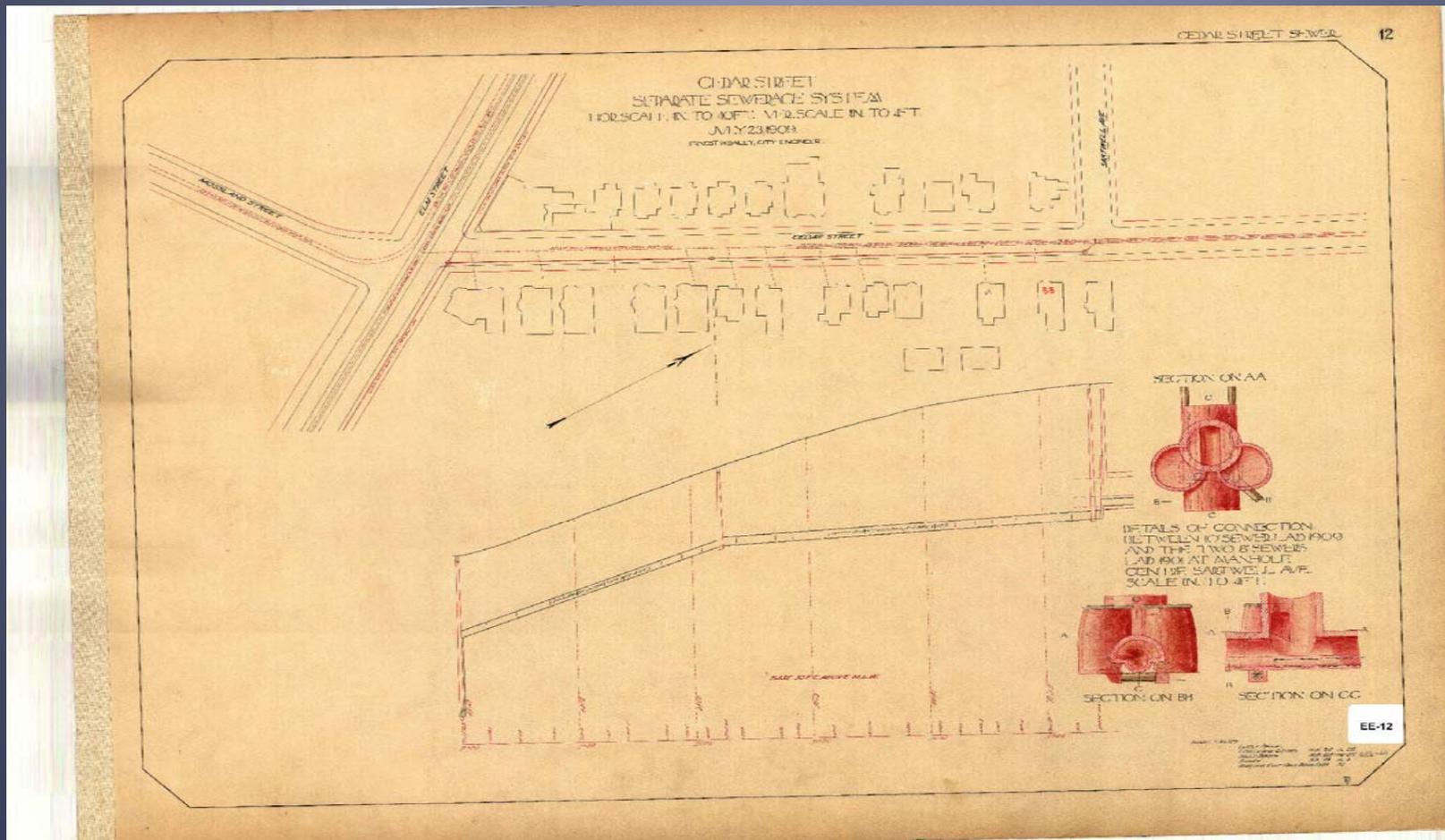
# HISTORY

- ◉ Drain system constructed in 1901.



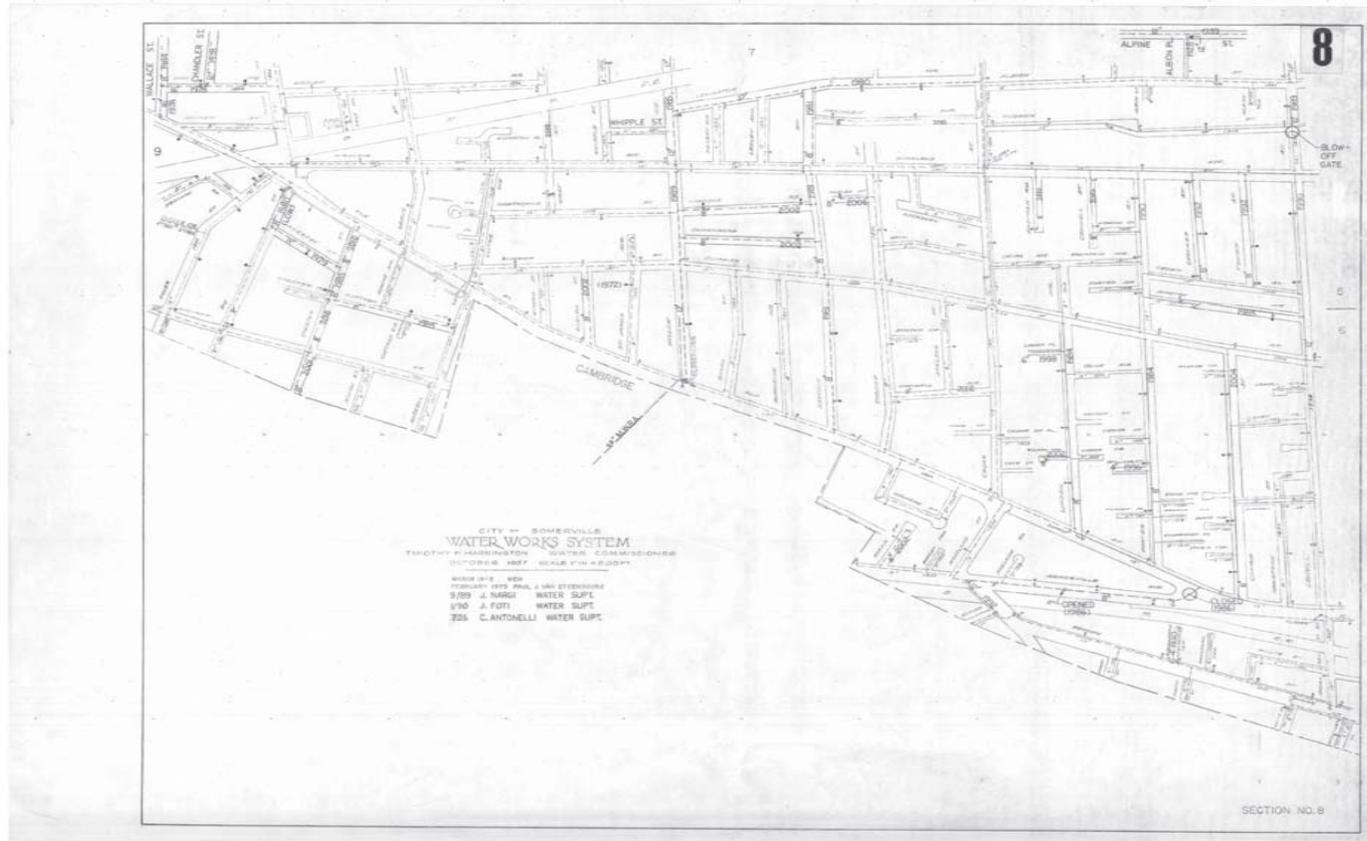
# HISTORY

- ◉ Dedicated sewer system constructed in 1909.



# HISTORY

- Water mains constructed in 1891.



# HISTORY

- ◉ Infrastructure is at or near the end of its lifecycle.
- ◉ Capacity issues exist in the drainage system.
- ◉ Structural issues exist in the separated sewer system (old clay pipe).
- ◉ Water mains are (over/near) 100-years old.
- ◉ While the City continues to maintain these systems, it is time to replace/upgrade them.

# WHAT HAS SOMERVILLE DONE?

- Somerville relies on our connections owned and operated by the MWRA.
- This administration has worked closely with MWRA requiring adjustments to their system in place:
  - Removed weirs - increasing hydraulic capacity of existing system.
  - “Activating” combined sewer overflows earlier to reduce opportunity for surges in our system.
  - Having back-up pumping equipment on hand for emergencies.

# WHAT HAS SOMERVILLE DONE?

## ◎ Somerville Ave Drain Improvements

- \$25 million project
- Upgraded Water, Sewer and Drain System
- Two large combined sewer lines increased capacity

# PROCESS

## 1. RFP 14-11

- Advertised: July 10, 2013
- Proposals Due: August 2, 2013
- Award Contract: Week of August 26, 2013
- Contract Commences: September 1, 2013

## 2. Design

- 1) 25% Design
- 2) 75% Design
- 3) 100% Design
- 4) P S & E (Plans, Specifications & Estimate)

## 3. Construction

# SCOPE OF WORK

- Alleviate Flooding

- Caused by capacity constraints in combined sewer in the area between Hall Street and Somerville Avenue.
- Cedar Street at Hall Street is a localized low spot.

- Consultant

- Study sub-catchment area (Spring Hill)
- Prepare bid documents (plans, specifications, schedule, cost estimate, etc.) to achieve sewer separation.

- New drain to convey runoff to new separated drain in Somerville Avenue via Elm Street and Mossland Street.

- Pedestrian and Bicycle Accommodations

# IMPLEMENTATION OF CREATIVE STORMWATER SOLUTIONS

## ◎ Infiltration

- The process by which water on the ground surface enters the soil.

## ◎ Factors Affecting Infiltration

- Soil Permeability
- Soil Saturation
- Vegetation type
- Ground cover (asphalt vs. grass)
- Temperature (Frozen, saturated ground is impermeable)

# IMPLEMENTATION OF CREATIVE STORMWATER SOLUTIONS

## ◉ Biofiltration Swales

- ◉ Biofiltration Swales are vegetated channels that receive and direct the concentrated flow of stormwater.
- ◉ Biofiltration Swales use plants in channels to capture and biologically degrade pollutants carried by stormwater runoff. As an additional benefit, biofiltration swales also reduce the velocity and volume of stormwater runoff.
- ◉ Used for air, water and wastewater since 1893.
- ◉ When properly implemented, biofiltration swales are aesthetically pleasing. Due to vegetation, biofiltration swales look like a landscaped roadside.
- ◉ Cost effective

# IMPLEMENTATION OF CREATIVE STORMWATER SOLUTIONS

## ○ Detention System

- Collects and stores stormwater
- Slowly released at a controlled rate
- Effective for flood control
- Water treatment is limited
- Detention system currently used in Somerville in Beacon Street

# HOW WILL THIS PROJECT IMPACT ME?

## ◎ Impacts could include:

- Sections of roadway shut down during the day.
  - Detours will be posted.
- Parking restrictions/elimination during the day.
  - City will request parking enforcement be relaxed during this time in this area.
- Temporary loss of water/sewer/drain during service connection work.
  - Interruption would be short in duration.

**\*NOTICE WILL BE GIVEN PRIOR TO ANY INTERRUPTIONS\***

# HOW CAN I GET INVOLVED?

- ◎ First step
  - Attending this informational meeting
- ◎ 25% Design
- ◎ 75% Design
- ◎ 100% Design
- ◎ P S & E (Plans, Specifications & Estimate)
- ◎ Construction Kick-Off Meeting

# QUESTIONS



Melissa A. Miguel, P.E.  
Somerville Department of Public Works  
Assistant Director of Engineering  
1 Franey Road  
Somerville, MA 02145  
617-625-6600 x5412  
[mmiguel@somervillema.gov](mailto:mmiguel@somervillema.gov)