RESILIENT DANBURY

Citizen & Technical Advisory Committee Meeting #1

February 21, 2023
MEETING AGENDA

12:00 – 1:00 PM

Introduction 10 mins
- Welcome
- Team Introductions
- Advisory Committee Role

Project History 15 mins
- Project Background & Goals
- East Ditch Flooding & Extreme Heat
- History of Proposed Solutions

Project Outlook 15 mins
- Project Overview
- Current and Future Conditions Analysis

Wrap-Up 20 mins
- Project Schedule & Next Steps
- Discussion
HOUSEKEEPING

- MS Teams
  - “Raise Hand”
  - Put Questions in “Chat Box”

- Planned breaks for discussion

- Meeting will be recorded for CTAC members
INTRODUCTIONS

- **Project Team**
  - **CIRCA**
    - David Murphy – Director of Resilience Engineering
    - John Truscinski – Director of Resilience Planning
  - **City of Danbury**
    - Matt Cassavechia – Director of Emergency Management and Emergency Medical Services
    - Antonio Iadarola – Director of Public Works / City Engineer

- **Consultant Team**
  - Fuss & O’Neill
  - Dewberry

- **Citizen and Technical Advisory Committee (CTAC)**
CTAC MEMBERS

- Cpt Thomas Corbett, Community Emergency Response Team, Team Coordinator
- Sharon B. Calitro, AICP, City of Danbury Planning and Zoning, Director
- Susan M. Tomanio, City of Danbury Elderly Services, Director
- Kara Prunty, MPA, MPH, City of Danbury Health and Human Services, Director
- Jeff Rieck, City of Danbury Housing Authority, Executive Director
- Tim Nolan, City of Danbury Highway Services, Superintendent
- Warren Levy, City of Danbury City Council - At Large, Council Member
- Joseph Cavo, City of Danbury City Council - At Large, Council Member
- Vinny DiGilio, City of Danbury City Council - 2nd Ward, City Council President, Council Member
- Duane E. Perkins, City of Danbury City Council - 5th Ward, Council Member
- Fred Visconti, City of Danbury City Council - 5th Ward, Council Member
- Paul T. Rotello, City of Danbury City Council - 6th Ward, Council Member
- Dr. Derek DeLeon, Nuvance Health, Chief Academic Officer
- Joseph DaSilva, Affordable Housing Development, Developer
- Marlene Moranino, CT Institute for Communities Greater Danbury Community Health Center, Board Chair
- Bill Diamond, Danbury Ice Arena
- Jenny Guerra, Danbury War Memorial
- Mike Seelig, Danbury School District, Superintendent
COMMUNITY + TECHNICAL ADVISORY COMMITTEE (CTAC)

WHAT IS THE CITIZEN AND TECHNICAL ADVISORY COMMITTEE (CTAC)?
• Reflects a broad cross-section of stakeholders
• Represents expertise and experience in the neighborhood

IF I JOIN, WHAT IS MY COMMITMENT?
Together with the City, CIRCA, and the consultant team, the CTAC will attend four (4) dedicated project meetings between now and September.

WHAT WILL MY IMPACT BE?
You will be actively engaged in the development of design solutions.
Resilient Connecticut Phase II
Regional Adaptation/Resilience Opportunity Areas

Name: Downtown Danbury
Location: Danbury

Considerations     Characteristics of Area
Flood Vulnerability
Heat Vulnerability
Social Vulnerability

The center of Danbury is characterized by zones of shared risk associated with the confluence of Padanaram Brook, Kohanza Brook, and the Still River. Despite many flood risk reduction projects undertaken over decades, TOD and planned development areas are located in close proximity to—or within—these zones of shared risk. Numerous critical facilities, historic resources, and the terminus of the MetroNorth Danbury line are also located in the area. Downtown Danbury is a regional center for northern WestCOC.

Almost all of the downtown area is moderately vulnerable to heat, with the highest vulnerable area concentrate along route 53 commercial properties. Presenting few opportunities for shade or street trees, the area has high heat emittance. In addition, there is high social sensitivity throughout the area.

City Hall
Fire headquarters
Hose Co. 3, 9, 7, and 9
Danbury Hospital
Danbury Health and Housing Dept.
Western CT State College Police

Assisted living facilities
War Memorial
Substation
Power plant
Museums
RESILIENT CONNECTICUT PHASE III
PROJECT GOALS

IDENTIFY RESILIENCY MEASURES
- Improve flood and heat resilience
- Leverage Nature-Based Solutions

COMMUNITY CO-BENEFITS
- Develop community amenities
- Improve aesthetics
- Support vulnerable communities

Work collaboratively with stakeholders in downtown Danbury to select strategies and projects

Develop Conceptual Designs

Position projects for funding
RESILIENCE MEASURES
- Flood Mitigation
  - Improve drainage system
  - GI/LID Implementation
  - Daylight East Ditch
  - Reduce risk to critical facilities and egress routes
- Extreme Heat Reduction
  - Mitigate impacts of extreme heat
  - Identify cooling centers

COMMUNITY FOCUSED
- Add amenities, improve aesthetics, reduce vulnerability
EAST DITCH FLOODING & EXTREME HEAT

- **Flooding**
  - Dating back to the 1980s
  - Undersized culvert system
  - Regular flooding at the intersection of Wooster Street, Main Street, and Park Place per the HMPs

- **Extreme Heat**
  - High social vulnerability
  - Absence of formal cooling centers/shelters
  - Downtown heat monitoring
HISTORY OF PROPOSED SOLUTIONS

- **2002** - Design by Roald Haestad
  - 42" near Main St
  - 4'x10' box culvert near State St
  - 5'x10' box culvert from State St to Liberty St

- **2011** - 370 LF of 5'x10' box culvert installed

- **2012** - Danbury Hazard Mitigation Plan

- **2017** - Danbury Hazard Mitigation Plan Update

- **2021** - Multi-Jurisdiction Hazard Mitigation Plan + Municipal Annex for Danbury
PROJECT SCOPE

1. **Data Collection and Review**
   Collect and review existing data and perform constructability review of existing designs.

2. **Survey**
   Field survey for critical drainage structure locations and elevations.

3. **Current & Future Conditions Analysis**
   Model existing stormwater system and proposed Haestad system under current and future conditions. Establish baseline for extreme heat impacts.

4. **Adaptation Options and Concept Design**
   Identify flood- and heat-risk mitigation options and select preferred alternatives. Develop conceptual designs and renderings for the selected alternatives.

5. **Cost/Benefit Analysis**
   Develop cost estimates and potential benefits for preferred alternatives based on FEMA BCA methodology.
EXISTING DRAINAGE SYSTEM

- Flood Mitigation
  - Improve drainage system
  - GI/LID Implementation
  - Daylight East Ditch
  - Reduce risk to critical facilities and egress routes

- Extreme Heat Reduction
  - Mitigate impacts of extreme heat
  - Identify cooling centers
- **100-ft** elevation change in project area

- **40-ft** elevation change from Town Hill to proposed affordable house at State St / Center St
HEAT RESILIENCY

Approach:
- Siting Cooling Center
- Identify heat interventions to complement/leverage flood interventions

Analysis:
- Impervious cover
- Tree canopy
- Social Vulnerability
- Distance to transit/schools/parks

Green Infrastructure – review City-owned parcels
Cooling Centers – evaluate public buildings, churches, War Memorial
DISCUSSION
CURRENT AND FUTURE FLOOD CONDITIONS ANALYSIS

- **Data collection** – field and GIS
- **Drainage System Modeling** – PCSWMM
- **Current Conditions** = Current measured rainfall
  - Based on historic conditions
- **Future Conditions** = Future predicted rainfall
  - CIRCA Connecticut Physical Climate Science Assessment Report (PCSAR) for the mid-century planning horizon (2040-2069)
- Model results agree with observed flooding
EXISTING SYSTEM INUNDATION
CURRENT AND FUTURE 1-YR FLOOD EXTENT

LEGEND
- Ex. Conduits
- Ex. Outfalls
- Current 1-YR Flood Extent
- Future 1-YR Flood Extent
- Critical Parcels
- City of Danbury Parcels
- Watershed Boundary
- Critical Roadways
RESILIENT CONNECTICUT PHASE III

RESILIENT DANBURY

Proposed Haestad drainage system reduces flood depth and extent for all storm events

Greatest improvement:
- Between State St and Park Pl
- South of Park Place
- Intersection of Liberty Street and Keeler Street

Additional measures required to reduce flooding along/at:
- Main Street between Center St and Park Pl
- State St between Main St and Town Hill Ave
- Existing and proposed affordable housing sites
VALIDATION OF FLOOD MODELING

- **Flood Date**: June 2\textsuperscript{nd}, 2022

2.12 inches / 2 hours

**5-Year Storm**

2 Hour Storm Duration

- Modeled Flood Depth: 1.6 feet
- Modeled Flood Depth: 1.2 feet
- Modeled Flood Depth: 0.4 feet
VALIDATION OF FLOOD MODELING

5-Year Storm Modeled Flood Extents

June 2nd, 2022, 5-Year Storm, Observed Flood Extents
RESILIENT DANBURY

The CTAC is an opportunity to:
• Stay informed about project progress
• Have a voice in the solution
• Having a lasting, positive impact on the Community
## OVERALL PROJECT SCHEDULE

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# Stakeholder Engagement Schedule

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<th>Task 2 Stakeholder Engagement Meeting</th>
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<td><strong>Advisory Committee</strong></td>
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<td>Advisory Meeting #1</td>
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<td>Advisory Meeting #2</td>
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**CTAC#1** Existing and Future Analysis

**CTAC#2** Adaptation Option Visioning

**CTAC#3** Presentation of Initial Options

**CTAC#4** Presentation of Preferred Option
NEXT STEPS

Public Meeting – EXISTING CONDITIONS
Visioning – ADAPTATION OPTIONS
• CTAC#2 May 2023
Analysis – ADVANCE OPTIONS
• CTAC#3 July 2023
Design – DEVELOP OPTIONS
• CTAC#4 September 2023
RECOMMENDED OPTION
Solicit Funding

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WEBSITE
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QUESTIONS?