MERIDEN GREEN
From Flood Control to Downtown Redevelopment
Harbor Brook Flood Control Plan and Expansion of the Linear Trail

Addresses historic flooding problems through the

- Construction of critical bridge and channel improvements along the length of Harbor Brook

- Completion of the Linear Trail system along Harbor Brook from Hanover Pond to the Meriden Green.

- Result will be the removal from the floodplain of
  - 147 residential properties
  - 80 commercial properties
  - 25 buildings acquired and demolished (to date)

- $75+ million in flood control projects over ten years.
  - City, State and federal funds
Numerous 100-Year storm events that have led to significant financial harm to the City

11 major flooding incidents have occurred since the late 1800’s

$14 million in damage in 1992 led to development of Flood Control Implementation Agency in 1994
Floodwaters coursed through downtown Meriden streets in 2008 before the flood mitigation project.
The Why and Who

Why
Chronic Flooding - Downtown flooded in 1992 during redevelopment
Insurance cost and lag in redevelopment

Who
Flood Control Implementation Agency (FCIA)
City Council Members (Parks and Finance Committee)
Commissioners from City Boards (IWWC, Planning, Conservation)

Hub Re-use Committee
Council, Staff from City Departments, Select Citizens
<table>
<thead>
<tr>
<th>Project Goals</th>
<th>Project Strategy</th>
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<tbody>
<tr>
<td>Flood Mitigation</td>
<td>Reduce Peak Flows</td>
</tr>
<tr>
<td>Erosion Control</td>
<td>Increase Hydraulic Capacity</td>
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<tr>
<td>Water Quality</td>
<td>Lower Water Elevations</td>
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<tr>
<td>Linear Park</td>
<td>Create Greenway Corridor</td>
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<tr>
<td>Aquatic Habitat</td>
<td>Enhance Downtown</td>
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<tr>
<td>Economic Redevelopment</td>
<td>Ecologic Improvements</td>
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<tr>
<td></td>
<td><strong>No Downstream Impacts</strong></td>
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</table>
Initial Procedure

• Inventory Existing Conditions

• Hydrology Study

• Water Elevation Study

• Alternatives Analysis
  • Peak Flow Reduction
  • Hydraulic Improvements
  • Public Participation
  • Economic Evaluation

• Meet Regulatory Agencies
Watershed Analysis

Legend
- Project Limit
- Harbor Brook Watershed
- Streams

Falcon Park
Jordan Brook
Harbor Brook
Hanover Pond
Baldwin's Pond
Watershed comprises 12.3 square miles & approximately 50% of Meriden’s total land area.

3.5-mile Harbor Brook is subject to chronic flooding.

Harbor Brook drains into Hanover Pond and the Quinnipiac River.

FEMA 100-year floodplain comprises 225 acres including over 300 properties/structures.

Harbor Brook runs through the Historic City Center, HUB and Factory H sites.

(source map: https://msc.fema.gov)
Flood Water Profiles

Harbor Brook Flood Control Project
Existing vs Proposed Conditions Water Surface Profile for the 100 Year Storm Event

River Station - ft

- Channel Invert
- Existing WSEL
- Proposed WSEL
- Bridge Top Chord
- Finished Floor Elevation
- Channel Slope 2A/2B
• Seek Funding Assistance
  External agencies + City Bonds (removal of cap)

• Secure Land Rights

• Design

End Flooding  Final Design  Economic Development
(Linear Design Process)  (End Goal)

• Utility Coordination

• Regulatory Permits
Construction will commence after all funds have been secured. Funding secured to date includes:

- $3.5 million Urban Act funds (12/2011)
- $2 million State Bond Funds (PA 7-07, 9/2011)
- $500,000 OBRD funds (3/2012)
- $7 million State Bond funds (PA 7-07), legislatively authorized; $3.8 million awarded June 2013; remainder awaiting State Bond Commission Approval.

According to him, this $2 million follows other recent gains by the city toward redeveloping downtown, including a $1 million from a HUD Sustainable Communities Challenge grant for the city to buy property, $600,000 from the state for HUB site engineering and traffic work, a $300,000 grant to develop brownfields, a $1.8 million Section 108 HUD loan for work on the International Silver Company’s abandoned Factory H site and the $121 million given to the State of Connecticut for the proposed New Haven-Hartford-Springfield rail line, which will have a Meriden stop.

Meriden has had eight major "100-year" floods in just the last 70 years, Kendzior told Patch in a September interview. A 1992 flood caused damage to the tune of $14 million, according to the city's [website](http://www.meridenct.gov).

Since 2011, the Malloy administration has allocated over $19 million to Meriden for flood control, housing, and redevelopment efforts - including the Colony Street complex/project - aimed at facilitating TOD around the Meriden Intermodal Center.

Rell Promises $2 Million for Meriden Flood Control

State Bond Commission to vote on funding December 10
Flood Control Methods

Hoosic River
Adams, MA

Trout Brook Flood Control
West Hartford, CT
Typical Floodway Cross Section
Numerous design alternatives

- Flood storage (no downstream impacts)
  
  24 areas analyzed
  
  Regulatory field trip (EPA, DEEP, Army Corps, FCIA)
  
  DEEP Constraints (no wetland inundation)
  
CONCLUSION: Construct new storage areas at Falcon Field and Hub Site and expand in stream storage
Harbor Brook Flood Control Plan Key Projects

- Property Acquisition, Demolition and Flood Proofing
- 6 Bridge Replacements
  - 1 Bridge Removal
  - 2 Relief Culverts
- Harbor Brook Channel Improvements
- Floodwater Detention at HUB (Meriden Green) and Falcon Field
Summary of Impacts to 100-year floodplain

Reduces 100-year floodplain from 225 to 95 acres

Removes over 150 properties/structures from the 100-year floodplain

50 structures remaining in the 100-year floodplain will have to be flood proofed

25 Buildings acquired and demolished to date

Street flooding where noted will be one foot or less
NOTE: STREET FLOODING IN THIS AREA WILL CONTINUE AS A RESULT OF BACKWATER FROM HARBOR BROOK AND CLARK BROOK.

PROPOSED BFRRM AT HUB PARK PROVIDES PROTECTION IN MORE FREQUENT STORM EVENTS

NOTE: STREET FLOODING IN THIS AREA WILL CONTINUE AS A RESULT OF BACKWATER FROM HARBOR BROOK AND JORDAN BROOK.
Meriden 1875 map by C.H. Vogt

Map image reversed relative to north
Master Plan

Legend:
1. Great Lawn
2. Pedestrian Bridge
3. Harbor Brook
4. Amphitheater with Covered Stage
5. Future Mixed-Use Development Parcels
6. Stream Channel Overlook
7. Bridge Access
8. Meriden Greenway
9. Rail Station
Meriden “Hub” and Underground Conduits
Conduit Inspection Under Existing Site
Pre-Demolition
Interim Post Demolition
Flood Control

Photo simulation of Flooded Area
Habitat Restoration

PLANT RESTORATION LIST

<table>
<thead>
<tr>
<th>TREES</th>
<th>QTY</th>
<th>KEY</th>
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<th>COMMON NAME</th>
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<td>BETULA NIGRA</td>
<td>HERITAGE BIRCH</td>
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<td>PLATANUS X ACERFOLIA</td>
<td>LONDON PLANE TREE</td>
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<td>QUERCUS PALUSTRE</td>
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<td>1</td>
<td>CORNUS AMMONIUM</td>
<td>SILKY DOGWOOD</td>
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<td>CORNUS SERICEA</td>
<td>RED TWIG DOGWOOD</td>
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<td>SALIX DISCOLOR</td>
<td>PUSSY WILLOW</td>
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<td>1</td>
<td>1</td>
<td>SALIX EXIGUA</td>
<td>SANDBAR WILLOW</td>
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SPECIES LIST:
- Virginia Wild Rye (Elymus virginicus)
- Little Bluestem (Schizachyrium scoparium)
- Big Bluestem (Andropogon gerardii)
- Deer Tongue (Panicum clandestinum)
- Ox Eye Sunflower (Helianthus Echinocereus)
- Common Milkweed (Asclepia syriaca)
- Spotted Joe Pye Weed (Eupatorium maculatum)
- Grass Leaved Goldenrod (Euthamia graminifolia)
- Swamp Beggartick (Bidens cernua)
Programmed Events
Connecting the Neighborhood
Pedestrian Connections
Future Development Opportunities
Thank You.