

**Livingston Manor, NY  
Flood Risk Management &  
Ecosystem Restoration  
Feasibility Study –  
Public Meeting- May 9, 2013**



**US Army Corps  
of Engineers**  
Philadelphia District



# Tonight's Meeting Agenda

- Project Presentation (20 minutes)
- Question and Answer Session (25 minutes)
- Individual Questions with Team Members

# Partners/Stakeholders

Non-Federal Sponsor (cost share partner):



Key Stakeholders include:



TOWN *of* ROCKLAND

Beaverkill • Lew Beach • Livingston Manor • Roscoe

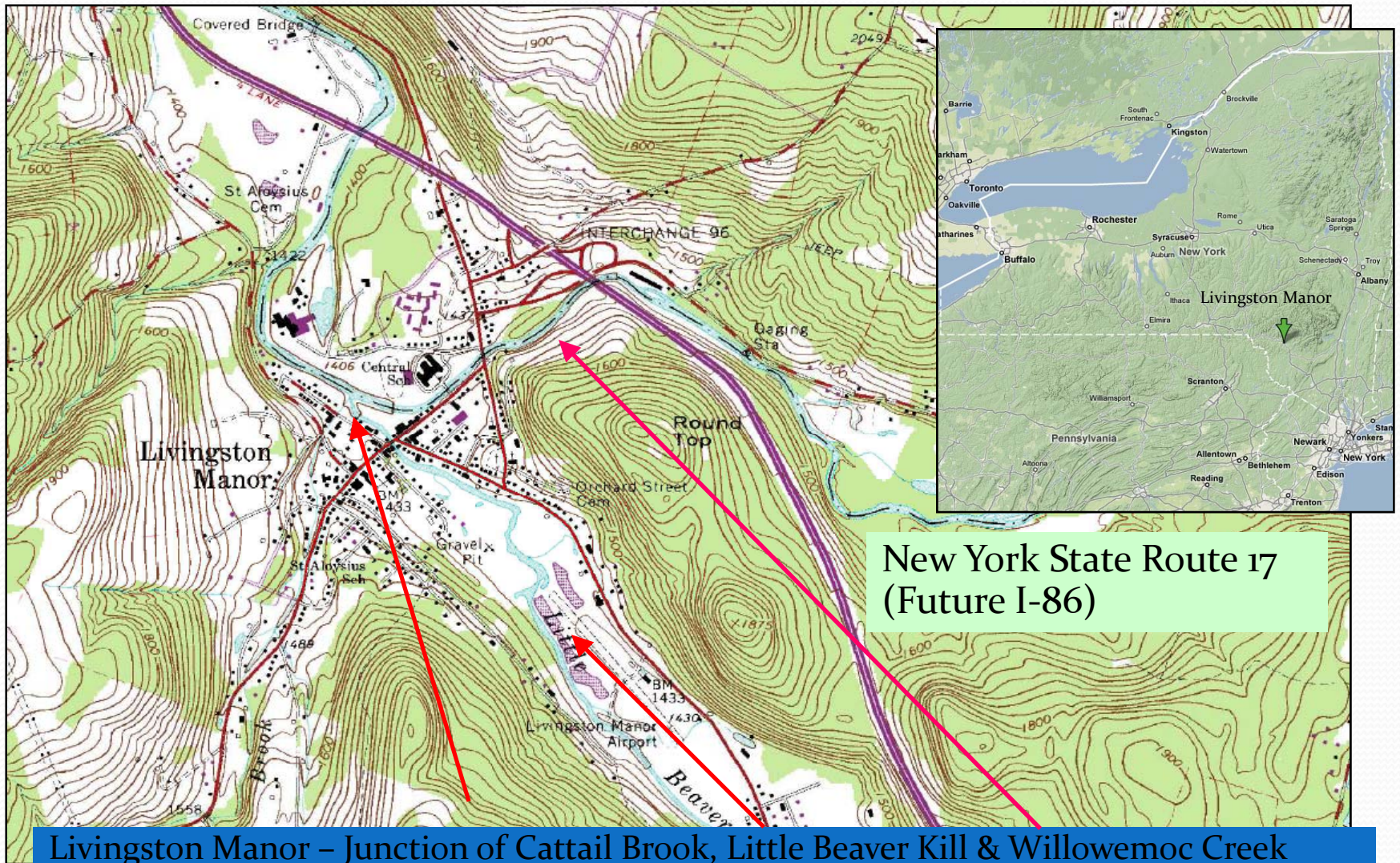


The Nature Conservancy   
Protecting nature. Preserving life.™



Open Space Institute

# Location & Vicinity Map





School Levee

Renaissance Park

Willowemoc Creek

Pearl Street

Main Street

Little Beaver Kill

Cattail Brook



# FEMA Flood Zone Map





## *Problems...*

- Most of community is within the floodplain
- Catastrophic floods cause widespread damage to private & public property
- Channel migration threatens public facilities, utilities, residential/commercial structures
- Stream instability from increased runoff, straightening channels, removing gravel bars, cutting off meanders, altering sediment size and quantity, armoring banks, eliminating floodplain
- Erosion and scour damaging retaining walls, roads, bridges and abutments after major floods.
- Floods and/or post event clean-up and repair efforts impact trout habitat
- Road/railroad fill in narrow floodplain/berms/levees cut off floodplain
- Borrow pits trap gravel/alter sediment balance
- Destruction of in-stream habitat and increased turbidity from eroding banks degrading fishery habitat



## *Opportunities...*

### Implement a systems based approach to solutions

- Flood Damage Reduction
  - Reduce flooding impacts/damage to property.
  - Develop combination flood risk management/environmental restoration.
- Ecosystem Restoration
  - Area is famous for excellent fishing/supports thousands of fishing trips.
  - Trout fishing industry is among the largest source of jobs in the area and makes a significant contribution to the local economy.

# Completed Tasks to Date for Study

- NEPA Agency Coordination
- HTRW Investigation
- Structural Inventory
- Stream Profile Surveys
- US Fish and Wildlife Service - Planning Aid Report
- NEPA Scoping Coordination
- Cultural Resource Investigation
- Preliminary Designs of Some Alternatives
- Preliminary Buyout Analysis /Mapping
- HEC-RAS/HMS Flood Modeling
  - ✓ Existing Conditions
  - ✓ Run Model for Proposed Alternatives (LBK)
  - ✓ Cattail Brook Analysis
- Economic Analysis of Alternatives
- Upstream Impoundment Investigation to Reduce Flood Damages
- Completed Interim Feasibility Report with Recommendations for Flood Damage Reduction and Ecosystem Restoration.



# Alternatives We Looked at for the Study...

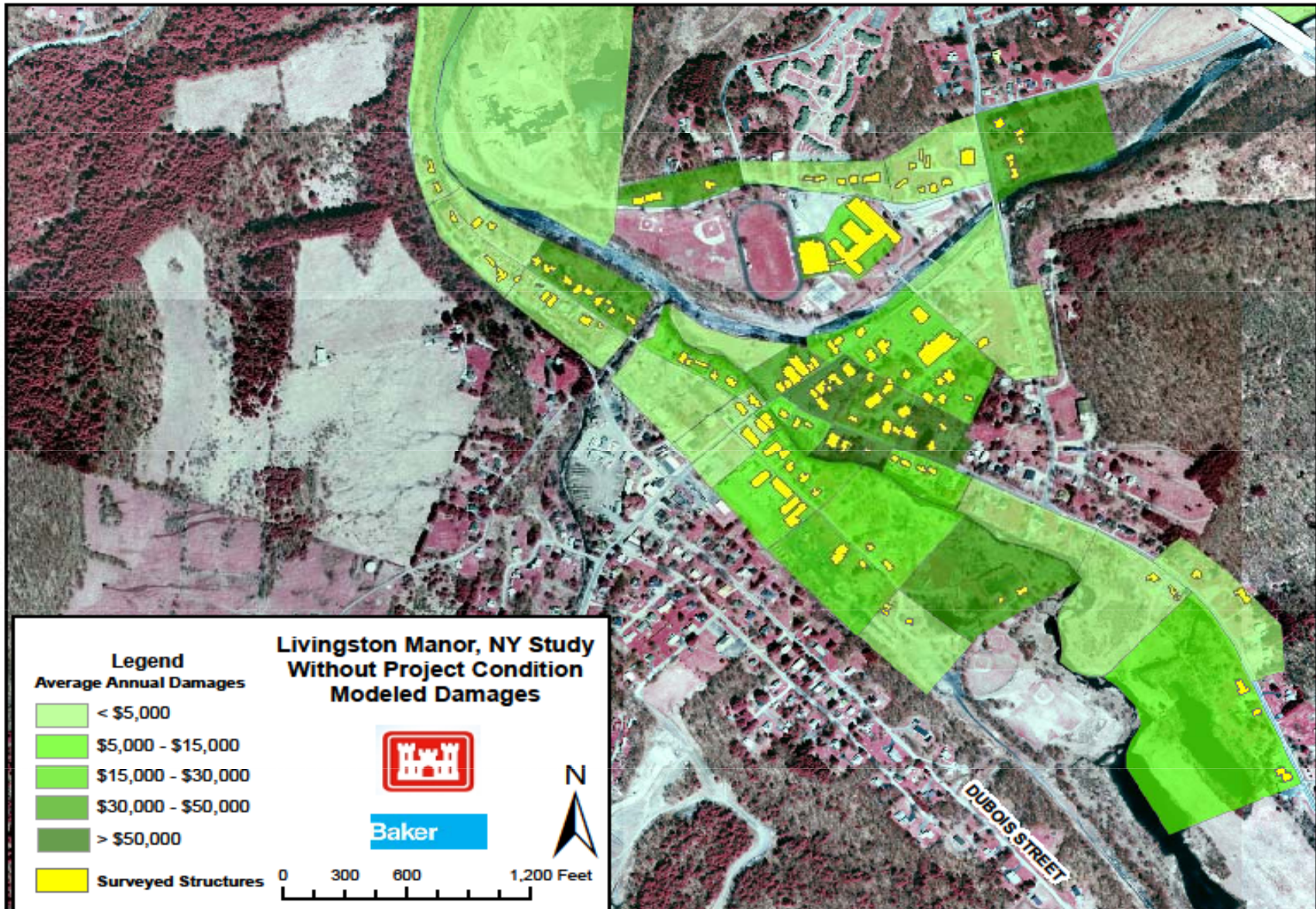
## Little Beaver Kill (LBK) Watershed

- Expand Main Street Bridge.
- Widen Little Beaver Kill Floodway.
- Relocate Ball Field Levee.
- Remove 30-ft width of Route 17 road embankment
- Variations of the Fulton Plan (old Airport site).
- Combinations of the Above Alternatives

## Additional Investigations Included:

- Modify Upstream (LBK) Impoundment (Matawa Lake) for Flood Storage.
- Cattail Brook Solutions.

# Economics of Study - Damage Reach Map





# Recommended Plan from the Interim Study

**Recommendation:**

**Widening of the Little Beaver Kill floodplain below the Main Street Bridge (Plan H).**





**Recommendation: Fulton Plan (Plan F) involving a water detention structure, open channel, and wetland restoration at the old airport property.**



# Benefits of Recommended Plan

- For every \$1 spent in federal funds, taxpayers would save \$1.23.
- Taxpayers would receive an economic benefit of \$41,935 per year over the project life.
- Reduces the depth of the 10 year storm (up to 18 inches)(see posters).
- 3200' Linear Feet of Stream Channel Restored.
- Approx. 12 Acres of Riparian Buffer Restored.
- Approx. 11 Acres of Wetlands Created.



# Path Forward Options

# Option #1 - Continue Study

- Federal Funding Currently Available.
- Non-federal Matching Funds Required to Proceed.
- Would Complete Feasibility Study.
  - Additional items investigated could be:
    - Poultry plant for floodplain storage and ecosystem restoration.
    - Sewage treatment plant and relocating out of the floodplain.
    - Feasibility of a floodwall/levee at Pearl Street.
    - Expanding floodway in the area of former Lazy Beagle site.
    - Further investigation on potential property buyouts.
    - Analysis additional plan combinations.
    - Explore restoration options as stand alone projects (e.g., Fulton Plan without the berms).



# Option #2 – Move Forward on Recommend Plan

- Would be implemented under the Corps - Continuing Authorities Program (CAP).
- Would need to secure federal funding.
- Additional design work on the recommended plans would have to be completed.
- Permitting/NEPA process would need to be completed.
- Non-federal matching funds required and a signed cost share agreement must be executed to proceed.
- Estimated time frame – 3 years to construction.
- Non-Federal Sponsor and Twp. would be responsible for operation and maintenance of completed project.

# Question and Answer Session





# Extra Slides

