

TO: Halcott Flood Advisory Committee  
FROM: Milone & MacBroom, Inc.  
RE: Halcott LFA Public Meeting #2  
DATE: October 21, 2019  
MMI #: 5197-16

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A final meeting for the Halcott Local Flood Analysis (LFA) was held on the morning of Saturday, October 19, 2019 at the Grange Hall. In attendance were Mark Carabetta and Matt Trueheart from Milone and MacBroom (MMI), as well as members of the Halcott Flood Advisory Committee (FAC) and several members of the public. FAC members in attendance included representatives from the Halcott Town Board, and the Catskill Watershed Corporation (CWC). A sign-in sheet and the presentation slides are appended.

The purpose of the meeting was to:

- Review the LFA process
- Present recommendations for upgrading several culverts and the Town Highway Garage
- Solicit feedback and answer questions from members of the public
- Outline the next steps for Halcott to implement LFA recommendations

The meeting began with a recapitulation of the LFA process, and its application to Halcott. The Town's experiences with recent flood events were discussed, followed by MMI's presentation of recommendations for the five culverts assessed in the LFA area. Afterwards, MMI presented alternatives and recommendations for the Town Highway Garage on Ursum Way. Finally, MMI provided general recommendations regarding community flood resiliency.

The Draft LFA Report will be posted to Halcott's web page when Greg Beechler, the Halcott webmaster, returns from vacation. Members of the FAC and Halcott residents are encouraged to read this draft, and will have the opportunity to provide input before it is finalized. Comments from the public should be directed to the Halcott Town Board for synthesis and transmission to MMI. Those who wish to comment are asked to please do so by no later than November 11.

## MEETING SIGN-IN SHEET



MILONE &amp; MACBROOM

**Meeting Date:**

October 19, 2019, 10:00AM


### Project:

#5197-16 Halcott LFA

**Place/Room:**

Halcott Grange Hall

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## Local Flood Analysis

Town of Halcott, NY

Mark Carabetta  
Matt Trueheart

Public Meeting #2 | October 19, 2019



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### Purpose of Tonight's Meeting

- Review LFA process
- Present alternatives and recommendations
  1. Culverts and upgrade prioritization
  2. Ursum Way and Highway Garage
  3. Homes in flood hazard area
  4. Satellite emergency facility
- Additional feedback
- Final Report
- Next Steps

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### LFA Meeting Schedule

Halcott Fair (July 20)

Public Meeting #1 (July 22)

FAC Kick-off (April 15)

FAC #2 (August 19)

FAC #3 (September 16)

Public Meeting #2 - present results and gather feedback (October 19)

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## Steps of the LFA

**Public Input** – Help us understand flooding patterns and problems

**Engineering Analysis** – Hydraulic modeling of flood mitigation scenarios

**Benefit Cost Analysis** – To understand viability

**Funding** – Identification of potential funding sources

**LFA Report and Plan** – Blueprint for near- and long-term flood mitigation

**Implementation** – Halcott seeks funding to implement recommended projects




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## Halcott LFA Area



LFA Study area focuses on the Hamlet of Halcott

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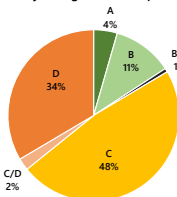
## Vly Creek Watershed



Watershed :  
18.2 square miles  
(measured at county line)

~90% forested  
~7% agricultural  
~2% developed

Hydrologic Soil Groups




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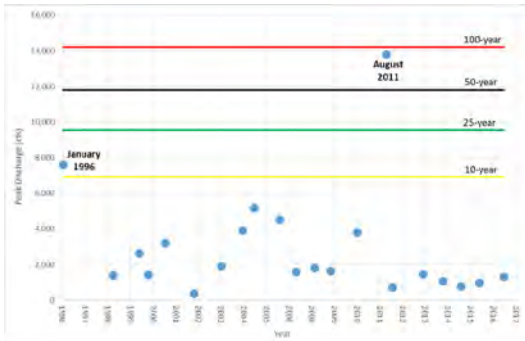
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## Recent Peak Flows – Bush Kill near Arkville



- Graph created using annual peak flow data from USGS gauge 01413398 and discharges from FEMA FIS, June 2016
- Drainage Area: 46.7 square miles
- Period of Record: 1996 – 2017

MILONE & MACBROOM

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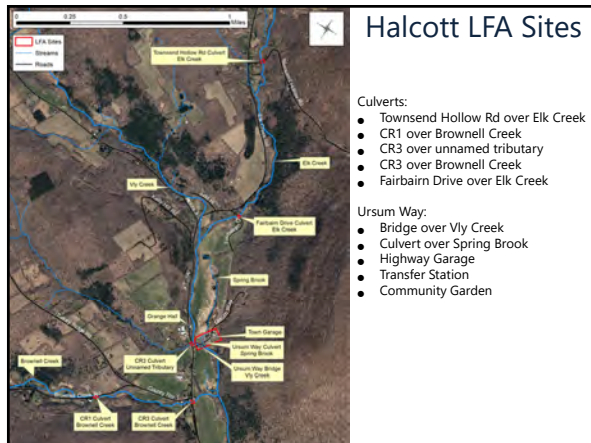
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## Halcott LFA Sites

- Culverts:
- Townsend Hollow Rd over Elk Creek
  - CR1 over Brownell Creek
  - CR3 over unnamed tributary
  - CR3 over Brownell Creek
  - Fairbairn Drive over Elk Creek

- Ursum Way:
- Bridge over Vly Creek
  - Culvert over Spring Brook
  - Highway Garage
  - Transfer Station
  - Community Garden

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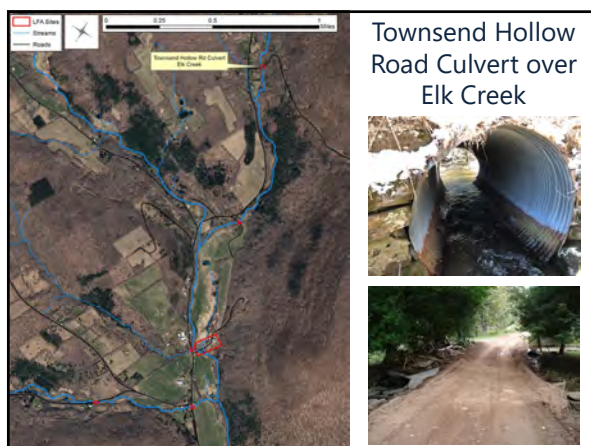
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## Townsend Hollow Road Culvert over Elk Creek




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### Townsend Hollow Road Culvert over Elk Creek

- Significantly undersized structure
- History of repeated damage
- Long, seasonal detour
- Damaged culvert may leave residents stranded



- Recommend replacement with 18-foot x 5-foot concrete box culvert to pass 50-year flow

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### County Route 1 Culvert over Brownell Creek

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### County Route 1 Culvert over Brownell Creek

- Inadequate hydraulics
- Frequently flanked and overtopped by floods
- Very poor alignment with stream
- Access to western Halcott



- Recommend 26-foot x 5-foot concrete box culvert to pass 100-year flood with road grade raised by 1ft
- Requires channel modification to eliminate constriction just downstream

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### County Route 3 Culvert over Tributary to Vly Creek

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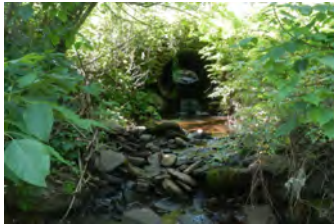
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### County Route 3 Culvert over Tributary to Vly Creek

- Adequate hydraulics
- No reported problems
- Downstream scour hole
- Partially occluded by aggraded sediment



Recommend maintaining existing culvert

- Minor upgrades to improve fish passage; stabilize scour hole
- Maintain capacity with regular debris removal

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### County Route 3 Culvert over Brownell Creek

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### County Route 3 Culvert over Brownell Creek

- Inadequate hydraulics, structurally deficient
- Primary access to Town
- Critical for emergency services
- High priority for replacement



Recommend 24-foot x 5-foot concrete box culvert to pass 100-year flood.

Structural inspection recommended in near future

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### Fairbairn Drive Culvert over Elk Creek

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### Fairbairn Drive Culvert over Elk Creek

- Inadequate hydraulics, deteriorating structure
- Only alternative access to Town Highway Garage
- Assessed as part of Garage relocation alternatives



Recommend replacement if Town Garage will remain on current parcel.

24-foot x 6-foot concrete box culvert to pass 100-year flow.

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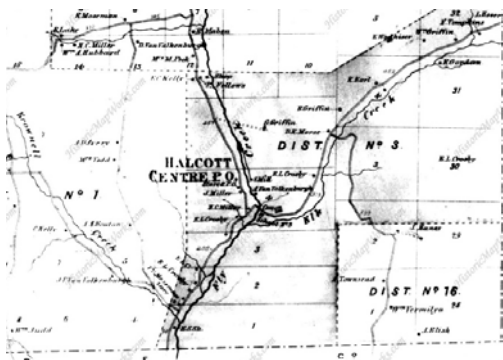
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Historical Map – Halcott, 1867




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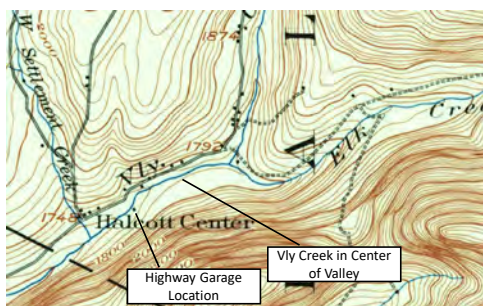
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Historical Map – Halcott, 1900




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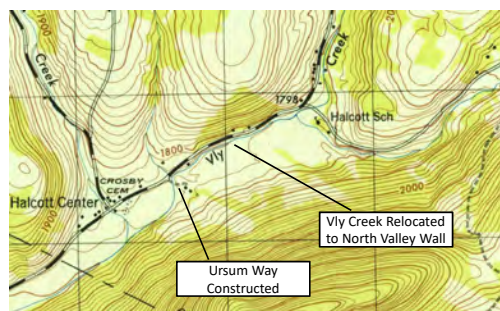
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Historical Map – Halcott, 1945




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Aerial Imagery – 1960



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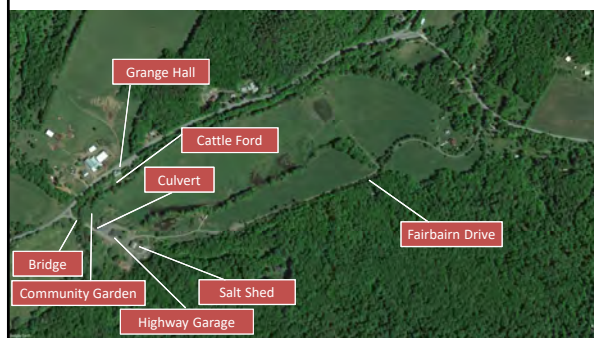
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Ursum Way & Highway Garage



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Ursum Way & Highway Garage



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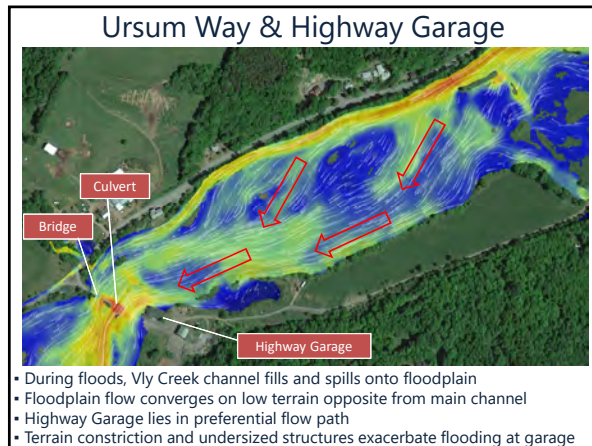
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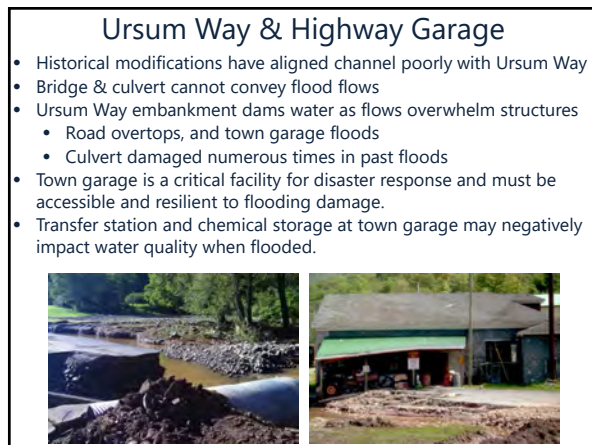
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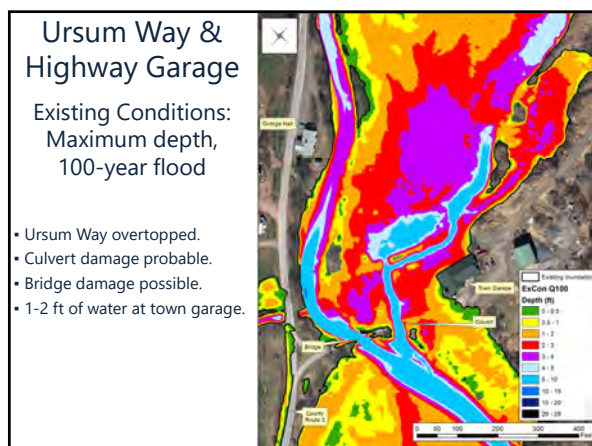
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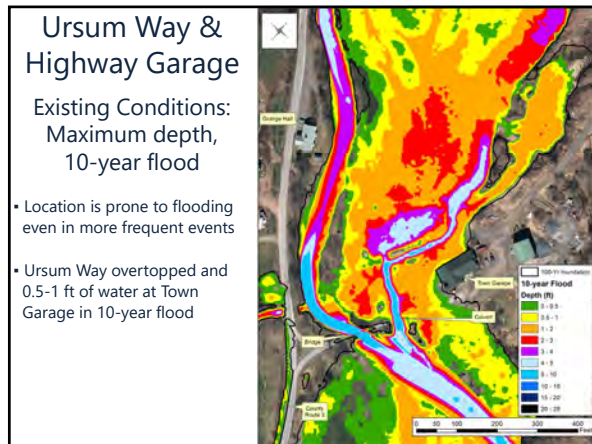
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### Ursum Way & Highway Garage

Goals:

- Maintain access to Town Highway Garage during and after floods
- Reduce/eliminate flooding of Town Highway Garage

High ground on current parcel:

- Continue to maintain/repair Ursum Way
- Improvements to Fairbairn Drive for reliable emergency access

or,

Acquire new parcel, out of flood-prone area:

- Strategic disinvestment of Ursum Way

Either relocation option is more practical and less expensive than other alternatives that both maintain access and reduce flooding damages to the garage in its current location.

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### Ursum Way & Highway Garage

**Recommendation is to relocate the Town Highway Garage.**

- New parcel and building requires initial investment, but avoids long-term, repetitive flood damages
  - Must locate appropriate property from willing seller
  - May remove Ursum Way culvert proactively to provide relief to bridge, or wait until flooding damage
  - Floodplain enhancements may provide additional relief to bridge
- High ground on existing parcel would require more maintenance, and investment in emergency alternate access
  - Repairs to Ursum Way following floods
  - Upgrades to Fairbairn Drive for reliable emergency access is a large portion of this alternative's cost

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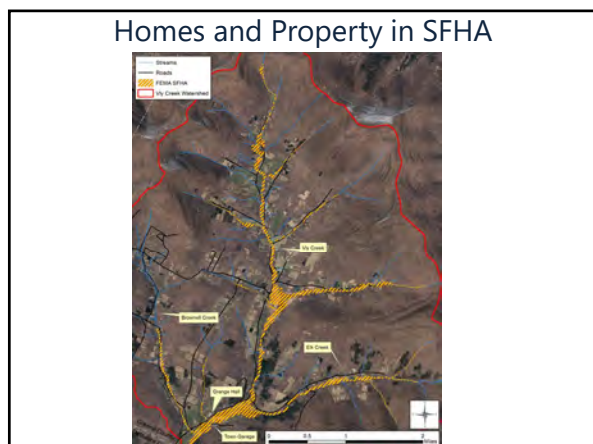
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- ### Homes and Property in SFHA
- Several buildings in the Town of Halcott are in the special flood hazard area (SFHA), both within and outside the LFA project area
  - Reports from Halcott residents of flood damage to homes and property in the past
  - Depending on their history of flooding damages and owner interest, these property owners should consider buyouts or relocation (FEMA, NYC, CWC) or floodproofing measures (CWC, ESD)
  - Encourage property owners to purchase NFIP flood insurance and make claims when damage occurs
  - Upgrading undersized culverts in certain cases may reduce floodwater elevations at upstream homes and property

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### Potential Funding Sources

Detailed in LFA Report

Recommendation	Potential Eligibility		
	Federal	State	Other
Replace undersized culverts	FEMA	Bridge NY	SMIP-FHM
Debris removal following floods	USACE		CWC
Relocate Town Highway Garage out of SFHA	FEMA		CWC, NYC
Relocate transfer station	US EPA	NYS Dept. of State; NYSDEC-MWRRP	CWC
Floodplain enhancements at Garage site			SMIP-FHM
Install floodproofing at critical facilities	FEMA		CWC
Floodproof or relocate the most flood-vulnerable properties where there is owner interest	FEMA	ESD	CWC, NYC
Anchor fuel tanks			CWC

Important to identify combinations of funding sources to reduce requirement to provide matching funds.

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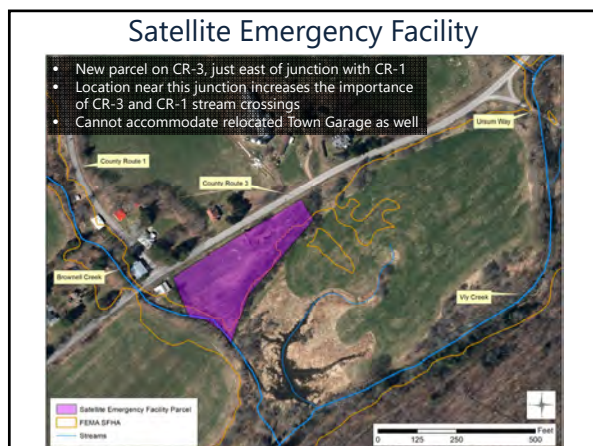
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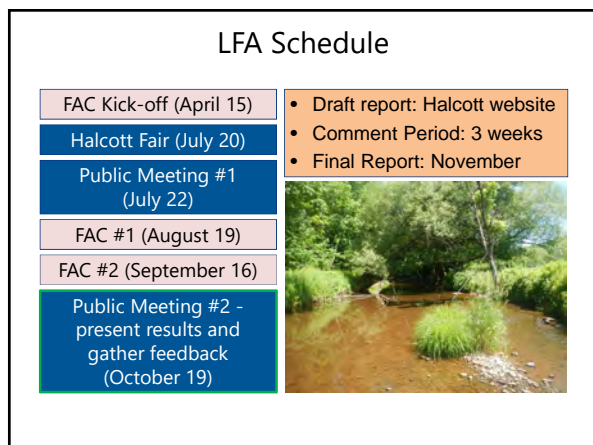
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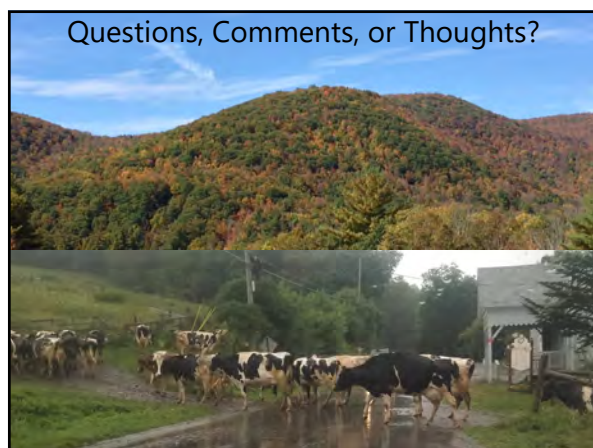
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