



Tompkins County Hazard Mitigation Plan

2021 Update



Prepared By:
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Parsippany, NJ 07054

APPENDIX A. ADOPTION RESOLUTIONS

The Tompkins County and municipal adoption resolutions will be included in this appendix upon receipt of the Federal Emergency Management Agency (FEMA) Approval Pending Adoption (APA) status. Please refer to Section 8 (Planning Partnership) for additional information on plan adoption procedures.

This appendix also includes an example resolution to be submitted by Tompkins County and participating jurisdictions authorizing adoption of the Tompkins County Hazard Mitigation Plan Update.



RESOLUTION NO. XXXX-XX

A RESOLUTION OF THE Governing Body OF THE Jurisdiction Name

AUTHORIZING THE ADOPTION OF THE

2021 TOMPKINS COUNTY, NY HAZARD MITIGATION PLAN UPDATE

WHEREAS, all jurisdictions within Tompkins County have exposure to natural hazards that increase the risk to life, property, environment, and the County and local economy; and

WHEREAS; pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established new requirements for pre and post disaster hazard mitigation programs; and

WHEREAS; a coalition of Tompkins County municipalities with like planning objectives has been formed to pool resources and create consistent mitigation strategies within Tompkins County; and

WHEREAS, the coalition has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy;

NOW, THEREFORE, BE IT RESOLVED that the [jurisdiction name]:

- 1) Adopts in its entirety, the 2021 Tompkins County Hazard Mitigation Plan Update (the "Plan") as the jurisdiction's Natural Hazard Mitigation Plan, and resolves to execute the actions identified in the Plan that pertain to this jurisdiction.
- 2) Will use the adopted and approved portions of the Plan to guide pre- and post-disaster mitigation of the hazards identified.
- 3) Will coordinate the strategies identified in the Plan with other planning programs and mechanisms under its jurisdictional authority.
- 4) Will continue its support of the Mitigation Planning Committee as described within the Plan.
- 5) Will help to promote and support the mitigation successes of all participants in this Plan.



- 6) Will incorporate mitigation planning as an integral component of government and partner operations.
- 7) Will provide an update of the Plan in conjunction with the County no less than every five years.

PASSED AND ADOPTED on this Xst, Xnd, Xrd, Xth day of MONTH, YEAR, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

Mayor, City/Town/Village of _____

ATTEST: _____

Clerk, City/Town/Village of _____



APPENDIX B. PARTICIPATION MATRIX

The matrix in Appendix B is intended to give a broad overview of FEMA, New York State, county, municipal and stakeholder personnel that participated in the Tompkins County HMP update planning process. Meeting attendees and input provided are also included. All participants were encouraged to attend the kick-off meeting and mitigation workshop. During the planning process the consultant contacted each participant to offer support, explain the process, and facilitate the submittal and review of critical documents.

The participating jurisdictions agreed to abide by the Planning Partner Expectations and Planning Committee Guidelines which established a Steering Committee. Letters of Intent to Participate indicating municipal planning efforts are included in this appendix. The Steering Committee served as the core of the working group. Participation is defined as having input to the hazard analysis (providing critical facility, hazard event, vulnerability data), and as having participated in the mitigation workshop or alternate annex meetings as described in the HMP for the purpose of creating a mitigation strategy to be included in each municipalities annex in Section 9.



Table B-1. Jurisdictions Notified of the Mitigation Plan Development and Invited to Participate

Agency - Municipality - Stakeholder	Name	Title / Position	Attended Meeting(s)	Attended Steering Committee Meeting #1 (May 18, 2020)	Attended Planning Partnership Kick-Off Meeting #1 (July 13, 2020)	Attended Steering Committee #2 (June 30, 2020)	Attended Steering Committee Meeting #3 (August 24, 2020)	Attended Planning Partnership #2- Risk Assessment (September 16, 2020)	Attended Planning Partnership #3- Mitigation Strategy Workshop (October)	Attended Steering Committee Meeting #4- Draft Plan Review (November 19, 2020)	Attended Municipal Annex Support Meetings - (Various Dates)	Completed Information Gathering Worksheets / Surveys	Provided Data and Information	Reviewed/Updated Inventories (e.g. Critical Facilities)	Identified vulnerabilities	Identified progress on original Mitigation Strategy	Identified Locations for Shelters, Temporary Housing, and Long-Term	Supported update of Mitigation Strategy	Created Action Worksheets	Facilitated/Supported public and stakeholder outreach	Supported Integration / Coordination with other Planning Mechanisms	Reviewed / Approved Draft and Final Plan Sections	Designated Project Point of Contact
Caroline (T)																							
	Barry Goodrich	Council Person	X		X						X	X	X	X	X			X	X			X	
	Mark Witmer	Supervisor	X		X			X	X		X	X	X	X	X	X	X	X	X	X	X	X	X
	Cory Williams	Code Officer and Stormwater Manager / Local Floodplain Administrator	X						X			X	X										
Cayuga Heights (V)																							
	Brent Cross	Village Engineer	X		X			X	X		X	X	X	X	X	X	X	X	X				X
	Jerry Wright	Police Chief									X		X							X	X	X	
Danby (T)																							
	Steve Cortright	CEO	X		X			X	X		X	X	X			X	X	X	X	X	X	X	X
	Matt Ulinski	Town Councilperson/ Deputy Supervisor										X	X				X	X					
Dryden (T)																							
	David Sprout	CEO	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Nancy Munkenbeck		X		X		X	X	X		X	X	X	X	X	X	X	X				X	
Dryden (V)																							

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	Michael Murphy	Mayor	X		X			X			X	X	X	X	X								
	Paul Sabin, Jr.	Supt. Of Public Works	X		X				X			X	X										
	David Sprout	Code Enforcement Officer / Local Floodplain Administrator	X		X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X
Enfield (T)																							
	Beth McGee	Town Supervisor	X		X			X			X	X	X	X	X	X	X		X	X		X	X
	Ellen Woods	Town Clerk	X		X			X	X		X	X							X	X	X		
Freeville (V)																							
	Jason Cuykendall	Deputy Mayor	X		X			X			X	X	X	X	X	X	X	X					X
	David Fogel	Mayor										X	X				X				X		
Groton (T)																							
	Don Scheffler	Supervisor	X		X			X	X		X	X	X	X	X	X	X		X		X	X	X
	Dan Carey	Agricultural Advisory Committee										X	X				X	X		X	X		
	W. Rick Fritz	Code Officer/ Local Floodplain Administrator	X		X			X			X	X		X	X	X		X				X	
Groton (V)																							

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	Nancy Niswender	Clerk	X		X			X	X		X	X	X	X	X	X	X	X	X	X	X	X	X
	Mike Anderson	Code Enforcement Officer									X		X	X			X	X			X	X	
Ithaca (C)																							
	Mike Thorne	Public Works Dept	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Julie Conley Holcomb	Town Clerk	X					X	X				X	X	X								
Ithaca (T)																							
	Dan Theeate	Dept of Engineering	X		X			X	X		X	X	X	X	X	X	X	X	X		X	X	X
	Sue Ritter		X		X				X		X	X											
	Marty Moseley		X		X				X		X	X	X					X	X	X			
Lansing (V)																							
	Don Hartill	Mayor	X		X			X	X		X	X	X	X	X	X	X						X
	Mike Scott	CEO	X					X	X														
	Ronny Hardaway	Deputy Mayor	X					X	X		X	X	X			X	X	X	X	X	X	X	X
Lansing (T)																							
	CJ Randall	Planning Dept	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Newfield (T)																							

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	Christine Laughlin	Deputy Supervisor	X		X						X	X	X	X	X	X	X	X		X			
	Alan Teeter	Code Officer / Local Floodplain Administrator	X					X	X		X	X	X	X	X	X	X	X	X	X			
	Michael Allinger	Supervisor	X		X			X	X		X	X	X					X	X	X	X	X	X
Trumansburg (T)																							
	Tammy Morse	Clerk	X		X			X			X	X	X		X	X	X	X			X	X	
	Rordan Hart	Mayor	X		X			X	X		X		X	X				X	X	X		X	X
Ulysses (T)																							
	John Zepko	Planner	X		X			X	X		X		X	X	X	X	X	X	X	X	X	X	X
	Mark Washburn	Code Enforcement Officer	X		X						X	X	X	X	X							X	

APPENDIX C. MEETING DOCUMENTATION

Appendix C includes meeting agendas, sign-in sheets and minutes (where applicable and available) for meetings convened during the development of the Tompkins County Hazard Mitigation Plan Update.

STEERING COMMITTEE MEETING MAY 18, 2020



**TOMPKINS COUNTY RESILIENCY AND RECOVERY PLAN - HAZARD MITIGATION
PLAN UPDATE**
Steering Committee #1 – AGENDA
Zoom Call – Log In Instructions Emailed Separately
MEETING DATE/TIME: May 18, 2020 – 10 am – 11:30pm



1. **Welcome and Introductions - Scott Doyle and All**
2. **Resiliency and Recovery Plan Context - Scott Doyle**
 - History
 - Purpose
 - Funding
 - Resiliency Plan Components
3. **New York State (NYS) Agency Perspectives**
 - NYS Division of Homeland Security and Emergency Services (DHSES) – Kevin Clapp
 - NYS Department of State (DOS) – Jaime Eithier
4. **Project Organization - Scott Doyle**
 - Resiliency Committee Composition
 - Planning Partnership
 - i. Municipal Participants
 1. Letters of Intent to Participate (LOIPs)
 - ii. Key agencies and organizations
5. **Hazard Mitigation Planning and Update Overview – Cynthia Bianco**
 - Purpose and Expected Outcomes of the Hazard Mitigation Plan
 - 2020 enhancements
6. **Schedule – Cynthia Bianco**
 - Overview and Milestones
 - Meeting Schedule
7. **Data Collection Status – Cynthia Bianco**
 - NFIP Data Request
 - GIS Data
 - Critical Facility Inventory
 - Reports and Plans
 - Shared Site (One Drive)
 - Template Data Gathering/Update Tools
 - Municipal Information Sheets
 - Annex Instructions
 - Worksheets
8. **Planning Process Status/Actions – Scott Doyle and Cynthia Bianco**
 - LOIPs
 - Transmittal of Municipal Annexes
 - i. Feedback from Dryden Regarding Annex Work
 - Background Profile/Data Analysis
9. **Mission Statement, Goals, and Objectives – Cynthia Bianco**
10. **Hazards of Concern Identification – Cynthia Bianco**
11. **Public and Stakeholder Outreach – Cynthia Bianco**
 - Strategy and Tracking
12. **In-Kind Services Tracking – Cynthia Bianco and Scott Doyle**
13. **Next Meeting Framework – All**
14. **Other Items and Questions - All**





Tompkins County Resiliency and Recovery Plan

Hazard Mitigation Plan Update Component

Steering Committee Kick-Off Meeting | May 18, 2020



Agenda

- Welcome and Introductions
- Resiliency and Recovery Plan Context
- Agency Perspectives
- Project Organization
- Committee Composition
- Hazard Mitigation Planning Overview
- Schedule
- Data Collection
- Mission Statement & Goals
- Hazards of Concern ID
- Public and Stakeholder Outreach
- In-Kind Services Tracking
- Next Steps
- Wrap-Up



2

Introductions

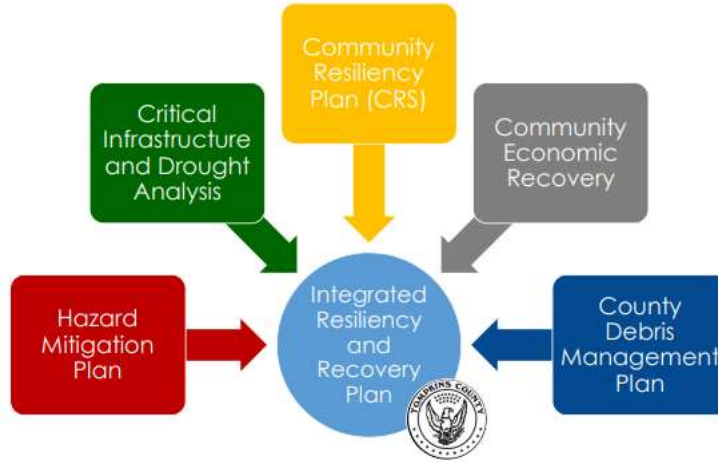
- Tell us...
 - Your name.
 - Agency you represent.



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Resiliency and Recovery Plan Context



TETRA TECH

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Relationship between Recovery and Mitigation Planning

Emergency Preparedness Planning Process STEPS	Recovery Pre-Disaster Planning Guidance KEY ACTIVITIES	Local Mitigation Planning Handbook TASKS
STEP 1. FORM A COLLABORATIVE PLANNING TEAM	1. Define the Core Recovery Planning Team and Scope of Planning Activities 2. Develop and Implement a Stakeholder and Partner Engagement Strategy	1. Determine Planning Area and Resources 2. Build the Planning Team 3. Create an Outreach Strategy
STEP 2. UNDERSTAND THE SITUATION	3. Determine the Community's Risks, Impacts, and Consequences 4. Assess Community's Capacity and Identify Capability Targets	4. Review Community Capabilities 5. Conduct a Risk Assessment
STEP 3. DETERMINE GOALS AND OBJECTIVES	5. Determine Leadership Positions and Define Operations 6. Establish Processes for Post-Disaster Decision-Making and Policy Setting	5. Conduct a Risk Assessment 6. Develop a Mitigation Strategy
STEP 4. DEVELOP THE PLAN	7. Write the Local Pre-Disaster Recovery Plan	6. Develop a Mitigation Strategy
STEP 5. PREPARE, REVIEW, AND APPROVE THE PLAN	8. Approve the Pre-Disaster Recovery Plan and Associated Regulations	8. Review and Adopt the Plan
STEP 6. IMPLEMENT AND MAINTAIN THE PLAN	9. Identify Ongoing Preparedness Activities	7. Keep the Plan Current 9. Create a Safe and Resilient Community



TETRA TECH

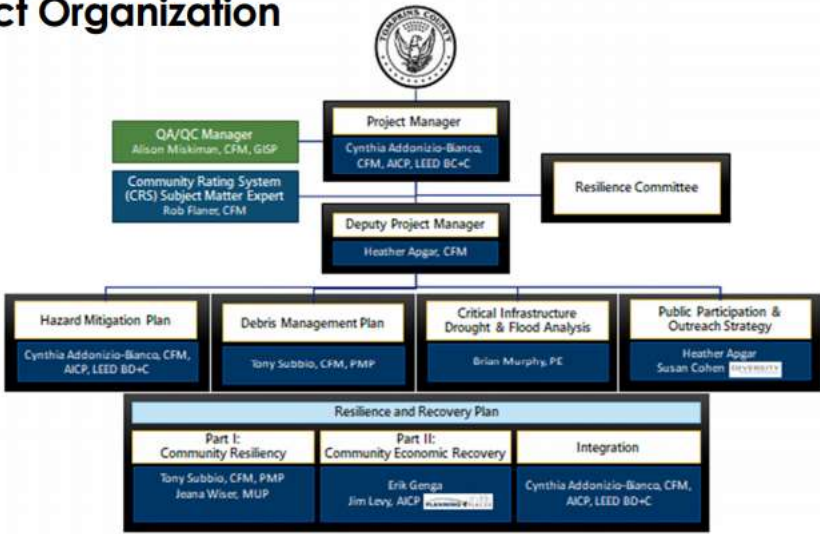
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Agency Perspectives



Project Organization



Resilience Committee Composition

Resilience Committee Members

- **County Agencies**
 - Emergency Response and Communications
 - Planning
 - Health
- City of Ithaca Department of Public Works
- Town of Dryden Planning Department
- Town of Lansing Planning Department
- Tompkins County Soil and Water Conservation District
- Ithaca College Office of Public Safety
- Cornell University Environmental Health and Safety



**Added Agency Representatives for Plan Components



Hazard Mitigation – What is it?

Mitigation is a sustained action taken to reduce or eliminate long-term risk to life and property from a hazard event

-OR-

Any action taken to reduce future disaster losses

“provides the blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and local ability...” (CFR).



Hazard Mitigation Planning Overview

- What is hazard mitigation?
- How does this support resiliency and recovery?
- Why update the plan?
- What is our focus?
 - Clearer communication of risk
 - Stronger connection between risk assessment and mitigation strategy
 - Integration of plan into county and municipal policies, procedures and decision-making
 - Relationship and support of Resilience and Recovery

- ✓ Authorized by the Disaster Mitigation Act of 2000
- ✓ Provides an overview of the impacts of natural hazards on communities
- ✓ Provides a roadmap to reducing the impact of these hazards
- ✓ Requires a FEMA-approved natural hazard mitigation plan to be eligible for Pre-Disaster Mitigation Funding
- ✓ 5 year updates required to maintain eligibility



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Mitigation Process

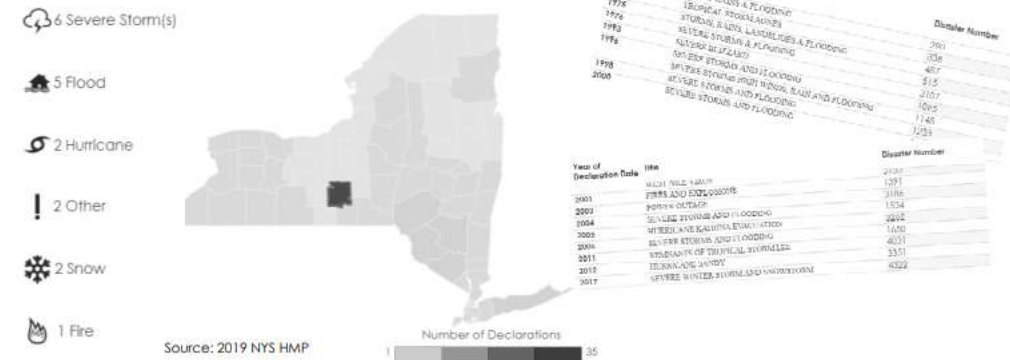


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Hazard Mitigation – What’s at Risk?

FEMA Disaster Declaration history in Tompkins County



Why Update?

- The mitigation plan update will:
 - Help the County prepare for and mitigate the effects of disasters
 - Continue to allow the county and participating partners to be eligible for pre- and post-disaster mitigation funding
 - Support CRS participation/rating of municipalities
- What is at risk in Tompkins County?





Hazard	Losses
Avalanche	\$0
Coastal Storm	\$0
Cold wave	\$0
Drought	\$0
Earthquake	\$0
Flooding	\$23 million
Hail	\$1.08 million
Heat Wave	\$0
Hurricane	\$0
Ice Storm	\$0
Landslide	\$0
Lightning	\$104,000
Snow Storm	\$0
Tsunami/Seiche	\$0
Tornado	\$125,000
Volcano	\$0
Wildfire	\$0
Wind	\$1.15 million
TOTAL	\$25.42 million

Source: 2019 NYS HMP



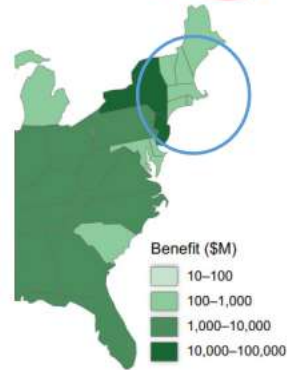
Hazard Mitigation Works!

According to the January 2019 National Institute of Building Sciences Natural Hazard Mitigation Saves: 2018 Interim Report, federal mitigation grants save \$6 for every \$1 spent!

National Benefit-Cost Ratio Per Peril <small>*BCR numbers in this study have been rounded</small>		Federally Funded
Overall Hazard Benefit-Cost Ratio		6:1
 Riverine Flood		7:1
 Hurricane Surge		Too few grants
 Wind		5:1
 Earthquake		3:1
 Wildland-Urban Interface Fire		3:1



Mitigation saves in every in state!
New York State has saved at least \$10 billion in benefits.



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Schedule

OVERVIEW AND MILESTONES

- **Planning Process**
 - Steering Committee Kick-Off – TODAY!
 - Planning Partnership Kick-Off – To be advised
 - Currently working on reviewing plans, studies, and codes/ordinances
- **Update Risk Assessment**
 - Data collection is underway
 - Need to confirm hazards of concern; once confirmed, begin vulnerability assessment for each
- **Public Involvement Strategy – ongoing throughout the planning process**
- **Mitigation Strategy**
 - Begin working with the municipalities after the Planning Partnership kick-off
 - Mitigation Strategy Workshop with FEMA and NYS DHSES – December 2020
- **Draft Plan to Steering Committee by late fall**
- **Final draft plan to NYS DHSES and FEMA by January 2021**



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HMP Project Schedule



Data Collection Status

- NFIP Data Request & ISAA sharing agreement
- Critical Facility Inventory and Lifelines
- Reports and Plans – Tt began compiling reports, plans, and codes available online (see handout)
 - FEMA Flood Mapping Q3 data, FIRMs in progress
 - City of Ithaca Local Flood Analysis
- Template Data Gathering/Update Tools and Annex Template Approach
 - Municipal Information Sheets
 - Capability Assessments
 - Mitigation Strategy Updates



Critical Facilities and Lifelines

- Review 2014 CF inventory to ensure complete
- Crosswalk and identify lifelines

Critical Facilities are those facilities considered critical to the health and welfare of the population and that are especially important following a hazard. As defined for this HMP, critical facilities include essential facilities, transportation systems, lifeline utility systems, high-potential loss facilities, and hazardous material facilities.

Essential facilities are a subset of critical facilities that include those facilities that are important to ensure a full recovery following the occurrence of a hazard event. For the County risk assessment, this category was defined to include police, fire, EMS, schools/colleges, shelters, senior facilities, and medical facilities.

Lifelines provide indispensable service that enables the continuous operation of **critical business and government functions**, and is critical to **human health and safety, or economic security**



Mission Statement

- ✓ Per FEMA guidance (386-1), a mission statement or guiding principle describes the overall duty and purpose of the planning process and serves to identify the principle message of the plan.
- ✓ A mission statement was not included in the 2014 plan.
- ✓ What is the broad scope and direction for this mitigation plan?
- ✓ Brainstorm with committee ...
 - Reduce impact of hazards?
 - Create safe and resilient communities?
 - Support social equity?
 - Incorporate climate change and future conditions in decision-making process?



Mission Statement, Goals, and Objectives

2014 County Goals	Goal Evaluation – Keep as is? Change? Add another goal?
Goal 1: Protect Life and Property	
Goal 2: Increase Public Education, Outreach, and Partnerships	
Goal 3: Protect and Restore Natural Ecosystems	
Goal 4: Enhance Emergency Services	
New Goals?	



EXERCISE – Identifying Hazards of Concern

- The 2014 plan included:
 - Drought
 - Earthquake
 - Epidemic
 - Extreme Temperature
 - Fire (Urban and Wild)
 - Flood (riverine/fresh, lake, ice jam)
 - Hurricane, Tornado
 - Infestation
 - Landslides
 - Severe Storm (hail, wind, lightning, thunderstorm, tornado, tropical storm)
 - Severe Winter Storm (cold, ice storm, Nor'Easters, snow storm)
 - Civil Unrest, Fuel Shortage, Hazardous Materials in Transit, Terrorism, Transportation Accident, Utility Failure, Water Supply Contamination
- In review...
 - Have additional hazards impacted the County since 2014?
 - Have hazard been mitigated and no longer cause damage?
 - Should hazards be regrouped to align with the 2019 State HMP?
 - Should additional hazards be included? Pandemic? HABs?

2014 Hazard	Identified Hazard in the 2019 Tompkins County HMP	2019 HMP Rating	2014 HMP Rating	2019 HMP Rating	2019 HMP Rating	2019 HMP Rating
Earthquake	Not included	-	-	-	-	-
Extreme Temperature	Extreme Temperature	Low	Low	Low	Low	Low
Drought	Drought	Medium	Medium	Medium	Medium	Medium
Earthquake	Earthquake	Medium	Medium	Medium	Medium	Medium
Flooding	Lake Flood, Ice Jam	High	High	High	High	High
HAB	Severe Storms	High	High	High	High	High
Heat Wave	Extreme Heat	Low	Low	Low	Low	Low
Hurricane	Hurricane	High	High	High	High	High
Ice Storm	Ice Storm	High	High	High	High	High
Landslide	Landslide	Medium	Medium	Medium	Medium	Medium
Lightning	Lightning	Medium	Medium	Medium	Medium	Medium
Nor' E	Nor' E	High	High	High	High	High
Severe	Severe	High	High	High	High	High

What are the natural hazards that present the most risk to your jurisdiction?

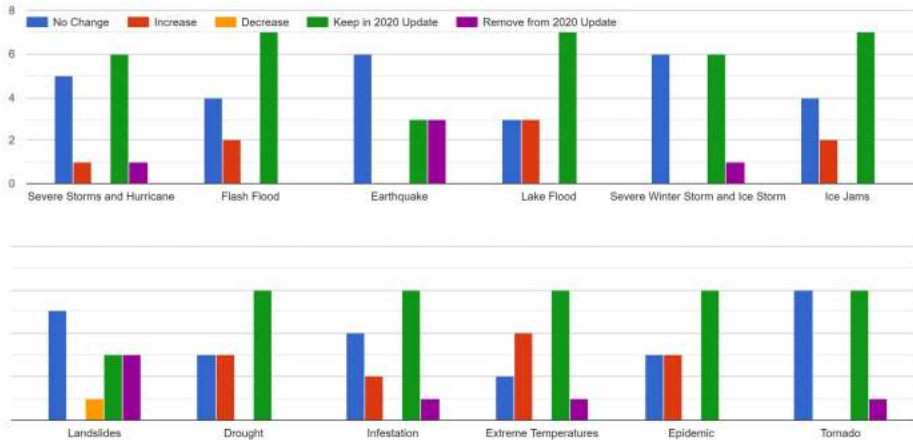
- Extreme Temperature
- Drought
- Earthquake
- Extreme Temperature (heat/cold)
- Flood (riverine, fresh water, storm surge)
- Strong lightning, cold/warm fronts
- Severe Weather (high wind, tornado, flood/drought)
- Severe Storms (heavy rain, snow, ice)
- Hurricane (storm surge, high winds, rain)
- Heat Wave
- Ice Storm
- Landslide
- Lightning
- Other



Hazards of Concern – Natural Hazard Results

Looking at the hazards from the last plan...

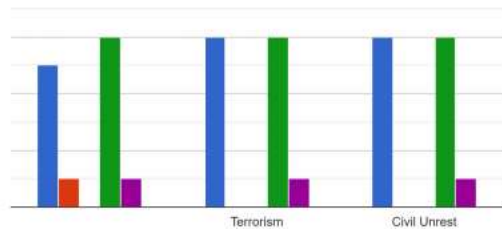
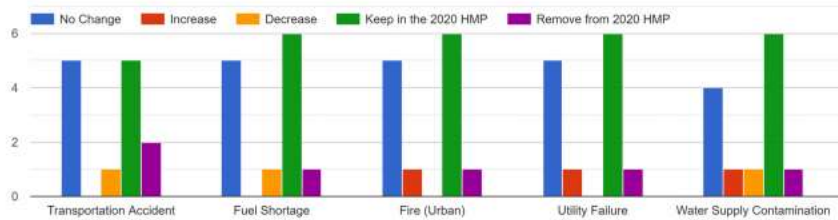
- **Severe Storms**
 - Majority said there has been no change in frequency/severity/location; one stated an increase
 - Majority said to keep in the 2020 Update; one said to remove
- **Flash Flood**
 - Majority indicated no change in frequency/ severity/ location; two stated an increase
 - All said to keep in the 2020 Update
- **Earthquake**
 - Majority indicated no change in frequency/ severity/ location
 - Three said to keep in the 2020 Update; three said to remove
- **Lake Flood**
 - Half of the responses said there has been an increase while the other half said no change in frequency/ severity/ location
 - All responses said to keep in the 2020 Update
- **Severe Winter Storm**
 - Majority indicated no change in frequency/ severity/ location
 - Majority said to keep in the 2020 Update; one said to remove
- **Ice Jams**
 - Majority said no change in frequency/ severity/ location; two indicated an increase
 - All responses said to keep in the 2020 Update
- **Landslide**
 - Majority said no change in frequency/ severity/ location; one indicated a decrease
 - Three said to remove from the 2020 Update; three said to keep in the 2020 Update
- **Drought**
 - Half said there has been an increase in frequency/ severity/ location; the other half indicated no change
 - All responses said to keep in the 2020 Update
- **Infestation**
 - Majority indicated no change in frequency/ severity/ location; however, two noted an increase.
 - Majority said to include in the 2020 Update; one said to remove from the plan
- **Extreme Temperature**
 - Majority indicated an increase in frequency/ severity/ location; two noted no change
 - Majority said to include in the 2020 Update; one said to remove from plan
- **Epidemic**
 - Half of the responses said there has been an increase in frequency/ severity/ location; the other half said no change
 - All responses said to keep in the 2020 Update
- **Tornado**
 - All responses said there has been no change in frequency/ severity/ location
 - All but one said to keep in the 2020 Update



Hazards of Concern – Non-Natural Hazard Results

Looking at the hazards from the last plan...

- **Transportation Accident**
 - Majority said there has been no change in frequency/severity/location; one stated a decrease
 - Majority said to keep in the 2020 Update; two said to remove
- **Fuel Shortage**
 - Majority indicated no change in frequency/ severity/ location; one stated a decrease
 - Majority said to keep in the 2020 Update; one said to remove
- **Fire (Urban)**
 - Majority indicated no change in frequency/ severity/ location; one stated an increase
 - Majority said to keep in the 2020 Update; one said to remove
- **Utility Failure**
 - Majority indicated no change in frequency/ severity/ location; one stated an increase
 - Majority said to keep in the 2020 Update; one said to remove
- **Water Supply Contamination**
 - Four indicated no change in frequency/ severity/ location; one said an increase and one said a decrease
 - Majority said to keep in the 2020 Update; one said to remove
- **Hazardous Materials**
 - Majority said no change in frequency/ severity/ location; one indicated an increase
 - Majority said to keep in the 2020 Update; one said to remove
- **Terrorism**
 - All said no change in frequency/ severity/ location; one indicated a decrease
 - Majority said to keep in the 2020 Update; one said to remove
- **Civil Unrest**
 - All said no change in frequency/ severity/ location; one indicated a decrease
 - Majority said to keep in the 2020 Update; one said to remove



Hazards of Concern – Natural Hazard Summary

Based on feedback received, the natural hazards of concern to be considered for inclusion in the 2020 Update are:

- Severe Storms and Hurricane (combine to include tornado)
- Severe Winter Storm and Ice Storm
- Flood (combine to include flash flood, lake flood, [dam failure](#) and ice jams)
- Extreme Temperatures
- Epidemic
- Drought
- [Harmful Algal Bloom \(HAB\)](#)
- [Wildfire](#)
- [Invasive Species](#)

Based on feedback received, the natural hazards of concern we might want to eliminate from the update:

- Earthquake
- Landslides



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Hazards of Concern – Non-Natural Hazard Summary

Based on feedback received, the non-natural hazards of concern to consider for inclusion in the 2020 Update are:

- Water Supply Contamination
- Terrorism
- Hazardous Materials In Transit
- Fuel Shortage
- Fire (Urban)
- Civil Unrest
- [Food Security](#)

Based on feedback received, the non-natural hazards of concern we might want to eliminate from the update:

- Transportation Accident



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Creative Public and Stakeholder Outreach

- Strategy
- Tracking



In-Kind Services

Name of Team Member:							
Correspondence Type	Meeting Name, Municipality	Date	Start Time	End Time	# of Hours	Agenda/Sign In?	Notes (include meeting topic, how HMP was discussed, etc.)
Meeting	Chiefs and Fire Advisory Board Meeting	2/26/2020				Yes - sign-in	Discussed the HMP update
Meeting	Town of ?? Board Meeting	3/9/2020	7:00 pm	9:00 pm	2		Discussed the HMP update
Phone Call	Town of ?? phone call	3/10/2020			1	No	Spoke with the Town about the HMP process and their responsibilities in participating
Meeting	Town of ?? Board Meeting	3/12/2020	6:30 pm			Yes - agenda	



Next Steps

- Attend Planning Partnership Meeting – *thoughts and input on format*
- Determine Hazards of Concern to include in the HMP
- Review Hazard Profiles
- Review Risk Assessment Results
- Identify Problems and Problem Areas
- Develop Mitigation Strategy
- Review Draft Plan
- Submit Draft Plan for NYSDHSES/FEMA Review
- Adopt FEMA-Approved Plan
- Implement Projects and Maintain the Plan → Increase Resilience!



Questions?







Tompkins County Hazard Mitigation Plan Update Minutes of Meeting



Purpose of Meeting: Steering Committee Meeting #1		
Location of Meeting: Zoom Remote Meeting		
Date/Time of Meeting: 5/18/2020, 10:00 am to Noon		
Attendees:		
Scott Doyle, Tompkins County Planning Katie Borgella, Tompkins County Planning Kevin Clapp, Department of Homeland Security NY Shannon Clarke, Tidal Basin Group Nina Saeli, Tompkins County Public Health Jessica Verfuss, Tompkins County Emergency Response Mike Thorne, City of Ithaca Public Works Jamie Ethier, NYS DOS Paul Beyer, NYS DOS	David Sprout, Town and Village of Dryden CJ Randall, Town of Lansing Dan Maas, Cornell University Office of Emergency Management Tim Ryan, Ithaca College Office of Public Safety & Emergency Management Jon Negley, Tompkins SWCD Cynthia Addonizio-Bianco, Tetra Tech Heather Appgar, Tetra Tech Osamu Tsuda, Tetra Tech	
Agenda Summary: Steering Committee meeting to provide an overview of the hazard mitigation planning process portion of the Tompkins County Resiliency and Recovery Plan, to define roles and responsibilities of the committee, to discuss next steps and project update, to present results of the hazards of concern survey, and to introduce all stakeholders to be involved in the process.		
Item No.	Description	Action By:
1.	Welcome and Introductions – (Tompkins County/Scott Doyle, All) <ul style="list-style-type: none"> • Scott Doyle led introductions and provided an overview of the agenda. Had everyone joining the call provide their name and role within the HMP process for Tompkins County. 	
2.	Resiliency and Recovery Plan Context – Scott Doyle and Cynthia Bianco give a brief introduction and overview of the HMP process for the county: <ul style="list-style-type: none"> • Tompkins County Scott Doyle <ul style="list-style-type: none"> - History: Scott Doyle provided a background and the context around the Integrated Resiliency and Recovery Plan that provides a comprehensive county-wide planning framework. Prior plans have specifically focused on just hazard mitigation. However, with funding from the state, Tompkins County is looking to work with Tt on creating a more comprehensive resiliency and mitigation plan that will be integrated into the County's larger sustainability and resiliency vision. - Purpose and Components: The resiliency plan will cover topics from hazard mitigation as well as other topics such as CRS, Economic Recovery, Critical Infrastructure Analysis, and Debris Management. As such the County's HMP planning effort will be integrated into the larger resiliency planning effort that will help guide the county and its future projects. - Funding: The HMP is funded by a grant from FEMA, while the resiliency aspects are funded by NYS DOS grant. 	
3.	New York State Agency Perspectives – James Ethier/ Paul Beyer from Department of State and Kevin Clapp from NYS Homeland Security gave introduction on how they will be paying a role during this HMP process and what services they can offer the County and the steering committee: <ul style="list-style-type: none"> • Kevin Clapp: federal standards must be met and that we aspire to address goals that are most important to the communities. As a representative from NYS DHSES, he will support the County throughout the entire process and will assist in obtaining data and any additional information as necessary. NYS DHSES will provide personnel 	NYS DOS/Paul will be following up with a phone conversation with the County to further discuss the integration of the resiliency plan with the





Tompkins County Hazard Mitigation Plan Update Minutes of Meeting



	<p>to support strategy development during the mitigation workshop. In addition, they will look to assist in conducting public outreach for the county in the future around hazard mitigation and resilience.</p> <p>⇒ Cynthia Bianco: Kevin Clapp has been actively engaging planners from the State and FEMA to be engaged in HMP process</p> <ul style="list-style-type: none"> • James Ethier/ Paul Beyer – NYS DOS is funding the resiliency planning element and expects this to be a great opportunity to integrate smart growth principles into the HMP. Two of the five communities awarded this funding are currently developing and incorporating smart growth principles their plans. This work is a pilot project to see how successful counties and municipalities can integrate their planning efforts around climate resilience and hazard reduction. NYS DOS is looking forward to seeing how these principles compliment the HMP planning process plays out. 	<p>HMP</p>
<p>4.</p>	<p>Project Organization – Scott Doyle and Cynthia Bianco discussed the process of the project, its timeline, and its overarching goals and objectives in the short- and long-term future:</p> <ul style="list-style-type: none"> • Tompkins County Scott Doyle <ul style="list-style-type: none"> - Will have core group representing the county – this will include the steering committee (this group) which will be in charge of guiding the HMP process and creating priorities; as well as individual representatives representing each municipality. Each member of this municipal representative group will be responsible for providing necessary information requested by the County or Tetra Tech, completing assignments and homework given by Tetra Tech, and attending meetings and participating in workshops. - Will be incorporating County HMP with other planning efforts like FEMA CRS, developing a debris management Plan, Community Economic Recovery, Critical Infrastructure and Drought Analysis. This work will also be done by Tetra Tech but will be headed by different individuals within Tetra Tech; as noted on slide 7. - Scott Doyle: Tetra Tech Team provided Tompkins County with Depth Grid for flood hazard risk for HAZUS Analysis, • Tetra Tech Cynthia Bianco <ul style="list-style-type: none"> - The core partners are the planning partnership reps from each municipality – all municipalities will be participating -as per HMP requirements – the steering committee is a subset of the planning partnership and will act as main point of contact, primary decision makers, and leadership during this process. - Additional agency representatives include a mix of individuals from around the county – examples of these stakeholders include the following – Highway Department, Local Chamber of Commerce, Northeast Regional Climate Center. - For those on the steering committee, responsibilities include, guidance and leadership for planning process, act as points of contact for communities, would encourage each steering committee member to have an alternate member in event members cannot attend - Question around method of communication for Steering Committee: Tetra Tech can send email, google forms, zoom. Are there any further requests regarding to mode of communication? <p>John Negley: would like Tetra Tech to stay consistent with communication method (<i>and in email subject header keep it consistent in order to make it easily searchable</i>). As for polling, survey monkey/ google forms are good.</p> <p>Cynthia Bianco: Would also like to have steering committee contribute to plan (based on NYS planning standards) based on their individual communities, and provide hazards of concern, help provide stakeholder outreach methods for communities, and developing hazard mitigation strategies with Tetra Tech.</p>	<p>NYS DOS Paul Beyer will be sending Tompkins County/Scott Doyle follow up information on how to attain points for FEMA CRS for tasks that the County already completed</p>





Tompkins County Hazard Mitigation Plan Update Minutes of Meeting



5.	<p>Hazard Mitigation Planning and Update Overview – this section, addressed by Cynthia Bianco, is meant to provide an overview and update on the existing project(s) that have been completed and are planned in the near future:</p> <ul style="list-style-type: none"> • Tetra Tech Cynthia Bianco <ul style="list-style-type: none"> • Phase 1: What is Hazard Mitigation Planning: the process is meant to identify risks and solutions (both sustained and short-term measures projects and solutions). The process will identify specific facilities, actions that need to be taken within the community to identify short- and long-term hazards and solutions based on risk assessment and collaboration with community entities. • Phase 2: There is an emphasis on natural hazards since the Stafford Act wants communities to be looking more specifically at natural hazard mitigation. However social and human-caused hazards are also addressed, though not as strong as natural hazards. • In order to qualify for hazard mitigation grant opportunities, counties need to have an updated HMP. Tetra Tech is planning to complete the Hazard Mitigation Planning process next year in time for Tompkins County to apply for state and federal grants. The format of HMP will be developed to meet the federal HMP requirements and to integrate into the Q3 phase process. • Tetra Tech has already been actively working with the Tompkins GIS department to collect necessary GIS data for the analysis which is about to begin. Will now be conducting data analysis to develop a scenario-based loss (monetary) using a program called HAZUS. • Phase 3: Another important component to the HMP process is the community engagement. Tetra Tech will like to put out a press release to involve public, that once approved by the steering committee. • Phase 3/ Phase 4: Analyzing and presenting results of data analysis that will culminate a workshop that will be open to the public – this workshop will be meant to facilitate mitigation strategy development and prioritization. • Phase 5: Plan maintenance is important to understand the community's current projects and whether they are meeting their goals thus far • Submission to the state: state will review of draft plan and provide feedback. <u>Kevin Clapp will be involved in planning review process and will provide feedback. Currently working with 20 counties, so need process to be efficient as possible. Highly encourage municipalities to submit for review as each component of the plan is developed in order to streamline the process and to mitigate lag time.</u> • There is a never-ending list of projects that can be costly and while we know what our problems are; we need to prioritize and build capacity to take advantage of state and federal funding for project. • Previous success stories where funding was utilized includes Ludlowville stream restoration project. • By Using HAZUS, we can better document and understand how to prioritize actions – will prioritize mitigation project importance and urgency based on monetary loss. • Last thing to note is that hazard mitigation works! It has been noted that it is a great return on investment: 6 dollars returned for every dollar invested local planning efforts 	
6.	<p>Schedule – this section goes over the schedule of the project in addition to the current progress and next steps that will be taken by Tetra Tech, the Steering committee, and the rest of the planning partnership:</p> <ul style="list-style-type: none"> • Tetra Tech Cynthia Bianco <ul style="list-style-type: none"> • Tetra Tech team has been working with Scott to review county plans which is now in a spreadsheet to populate community annexes • Public involvement strategies have not yet been established; will need to first get communities to complete their community draft annexes before 	<p>TT will be deploying local planners to help with community participation process for each municipality</p>





Tompkins County Hazard Mitigation Plan Update Minutes of Meeting



	<p>establishing engagement outreach. So far the Town of Dryden has been the only municipality that has actively been filling out the annex.</p> <p>Town of Dryden Dave Sprout: <u>Everyone should start ASAP. So far only one planning board member from the town has reviewed the document. Difficult to get community involvement. Also difficult to differentiate between municipality specific and intermunicipal priorities. Afraid that most communities will be on their own for annexes.</u></p> <ul style="list-style-type: none"> • Cynthia Bianco: Tetra Tech is committed to assisting municipalities who might not know exactly what to do. It is important to keep in mind that Tetra Tech is more than willing to assist municipalities and its officials who are having trouble filling out their annexes. • As for the overall timeline, the project has experienced a delay due to COVID-19 so will modify existing timeline to match existing circumstances. • Currently behind schedule, plan to submit plan officially in February with a final presentation in December. 	<p>Mitigation workshop is tentatively scheduled for November</p>
<p>7.</p>	<p>Data Collection Status - this section is an overview and update on current data collection between the County and Tetra Tech. The data will be used to conduct hazard assessments:</p> <ul style="list-style-type: none"> • Tetra Tech Cynthia Bianco: <ul style="list-style-type: none"> • GIS risk assessors from Tetra Tech have been able to create depth grid for Q3 areas - will now be able to highlight analysis potential and provide a quantitative justification for project prioritization, etc. using HAZJUS. • NFIP data is still needed to conduct vulnerability assessment - ISAA request to FEMA has been sent out by the county but no response yet. Will provide update when response is received. • Scott and County GIS has provided shapefile on critical facilities in County. Will use this to conduct further analysis for upcoming meetings and community workshops. 	<p>It will support the Steering Committee in the development of the lifeline/critical facility crosswalk</p>
<p>8.</p>	<p>Planning Process Status/ Action - this section is meant to provide an update on the planning process of the project and what needs to be done by the steering committee at this time:</p> <ul style="list-style-type: none"> • Tetra Tech Cynthia Bianco <ul style="list-style-type: none"> • Tetra Tech will be asking communities for any missing or additional planning documents and materials that might be missing from the current excel spreadsheet list. • Essential and critical facilities list is crucial to understand in order to plan for resilience measure for recovery - have already received from county - will be conducting analysis and will follow up with county when identified facilities are fully reviewed and evaluated. • Lifeline facilities - to include or not? These are important facilities that are needed to continue operation process of county. Lifeline facilities that have not been included in critical facilities list include grocery stores, gas stations, and other necessary operations that are crucial for community wellbeing. - Should they be included? Community needs to decide if they want to include them in the list of lifeline facilities - while the list of facilities identified is purely subjective based on the county's characteristics and circumstances, keep in mind that by identifying these facilities in advance can help the county be better prepared for applications for future FEMA BRIC program • Scott Doyle: Previous identification of critical facilities has not been comprehensive enough; it would be good to create a more defined and nuanced list of such facilities • Kevin Clapp: Government/ non-government owned is important to differentiate in order to develop response strategy - and weather data can be provided to develop plans for facilities located in Flood Zone. • The City of Ithaca has not identified critical facilities in flood zones at this time. 	





Tompkins County Hazard Mitigation Plan Update Minutes of Meeting



9.	<p>Mission Statement, Goals, and Objectives - this section is dedicated to reviewing the various option around whether the county should have multiple mission statements for each plan, or a combined and integrated mission statement:</p> <ul style="list-style-type: none"> • Tetra Tech Cynthia Bianco <ul style="list-style-type: none"> -According to FEMA guidance, Tompkins County needs to develop a mission statement for the community to orientate goals and plans for the HMP process. Community can decide what community specific topics they want to include in this HMP to provide more context. - Dave Sprout: a little dry - Scott Doyle: It would help provide definition of what the plan is and is NOT meant to be used for in order to reduce confusion. -Cynthia Bianco: Can be useful to have this HMP mission in order to clarify the roles of this HMP versus other plans. Would be better to have one mission statement for recovery and resilience plan. -The plan also needs up to date community goals for the plan. Should there be new goals/ standalone goals/ and or update existing goals for plan? It would be best if goals were quantifiable in order to be able to measure their success over the years. 	<p>Steering committee to determine mission statement and to update plan goals</p> <p>Tt to brainstorm to create mission statement</p> <p>Tt to send out goals and objectives worksheet to get committee input</p>
10.	<p>Hazards of Concern Identification - this section goes over the survey results that each steering committee member was asked to complete in order to identify hazards and vulnerabilities within the county:</p> <ul style="list-style-type: none"> • Tetra Tech Cynthia Bianco <ul style="list-style-type: none"> -Results: Majority of areas of concern have not changed thus far. Some indicated that there is an increase in severity in weather events -Do we need to keep existing natural hazards, add new, or combine existing hazards? So far, having many hazards has been difficult to motivate community to figure out goals and objectives. Thus, it might be a good idea to narrow down our options. - Non-Natural Hazards of Concern: Hazardous materials already has a developed plan; Fire is currently taken care of by municipal partners. Comprehensive emergency management plan: while it does not provide detailed response, it does discuss these topics. Cornell and Ithaca College has fire prevention program a(mitigation effort), as well as hazardous materials for Labs, response to spill incidents, and civil unrest. -Cynthia Bianco: Should new topics such as civil unrest be addressed? Shannon Clarke: topics such as civil unrest is especially apparent in a pandemic – yet they overlap. -Tompkins County Scott Doyle: to reduce unnecessary detail; it might be worth just acknowledging their existence and referencing other plans. Many human-caused hazards overlap with one another. Therefore, it might be best if there was a way to identify these hazards in order to reduce length and redundancy. -For identified hazards, might take out earthquakes and landslides. -Mike Thorne: have seen some gorge erosion – might want to swap landslides with erosion. Dan (CU), agrees with Thorne – might be good to include a profile on ground failure – rather than just landslides -Shannon Clarke: have not seen many resilience measures for Extreme Storms – should they be included in plan or identified as a hazard? While it is not a vulnerability the damage it causes is a vulnerability -Cynthia Bianco : extreme weather events is addressed in severe windstorms and extreme precipitation. -Conclusion: will have long list of hazards and will incorporate landslides with ground failure. -Transportation accident and food insecurity have been voted to be taken out. 	





Tompkins County Hazard Mitigation Plan Update Minutes of Meeting



11.	<p>Public and Stakeholder Outreach - This section discusses the various stages of community engagement and methods to interact with the county and municipalities that are participating in the HMP process:</p> <ul style="list-style-type: none"> • Tetra Tech Cynthia Bianco -Public and stakeholder outreach is important in this HMP process and it crucial in order for this process to satisfy the FEMA requirements and guidelines. It is important to document all outreach conducted including press releases, meetings, workshops, forms, and other community engagement exercises. -Southern Tier is expected to be opening up soon from shutdown. Public library in Groton is active with community – maybe a good source to reach out to, in addition to conducting vital meetings? 	
12.	<p>In-Kind Service Tracking - This section is intended to provide an overview on what Tetra Tech will provide communities that will help facilitate community engagement:</p> <ul style="list-style-type: none"> • Tetra Tech Cynthia Bianco - Will be sending out a form for community engagement tracking; because it is necessary for communities to track all their community engagement during this process, a tracking system has been established to keep record of the amount of community engagement. Following this meeting, Tetra Tech will be sharing One drive link, which will provide all materials used during this process 	<p>It will be sending out a form for community engagement tracking for the steering committee</p>
13.	<p>Next Meeting Framework - Providing an opportunity for community steering committee members to provide any feedback regarding concern or frustration:</p> <ul style="list-style-type: none"> • Tetra Tech Cynthia Bianco -Any thoughts for making this process easier? No comments Cynthia encourages community members to reach out with any questions; esp. from steering committee. 	
14.	<p>Other Items and Questions:</p> <ul style="list-style-type: none"> • Scott Doyle: Thinks this process will be helpful, encourages people to provide feedback on what needs to be done to make process more helpful • Kevin Clapp: will need documentation of community participation not just for FEMA requirements but also for getting FEMA CRS points. 	



C.2 STEERING COMMITTEE MEETING JUNE 30, 2020



**TOMPKINS COUNTY RESILIENCY AND RECOVERY PLAN - HAZARD MITIGATION
PLAN UPDATE**
Steering Committee #2 – AGENDA
Zoom Call – Log In Instructions Emailed Separately
MEETING DATE/TIME: June 30, 2020 – 3:00 pm – 4:30 pm



1. Welcome
2. Project Status
 - Where are we in the process/schedule
 - Municipal Engagement
 - i. Annex updates from Tetra Tech
 - ii. Annex updates from Tompkins County
 - Public outreach
 - Tracking time
3. Confirmation of Hazards of Concern
 - Hazards of Concern as well as what hazard sub-categories they include -definition
4. Critical Facilities Identification/Confirmation
 - Definition for both critical and lifeline facilities
 - Lifeline Crosswalk Hazard Mitigation Planning and Update Overview
5. Update/Revise Mission Statement and Goals/Objectives
6. SWOO (Strengths, Weaknesses, Obstacles and Opportunities) Exercise
7. Next Steps
8. Other Items and Questions - All

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Tompkins County Resiliency and Recovery Plan Hazard Mitigation Plan Update Component

Steering Committee #2 Meeting | June 30, 2020

Agenda

- Welcome
- Project Status
- Hazards of Concern
- Confirm Critical Facility Types and Lifelines
- Mission Statement, Goals, and Objectives
- Strengths, Weaknesses, Obstacles and Opportunities Exercise (SWOO)
- Next Steps



Project Status



Data Collection Status

- NFIP Data Request Approved and Awaiting Data
- Critical Facility Inventory and Lifelines – currently being reviewed by community
- Reports and Plans – No feedback on list of plans collected
- Template Data Gathering/Update Tools and Annex Template Approach
 - Most municipalities have had in person meetings with the County or Tetra Tech to go over the annex
 - Expected to complete all annex revisions in July.

Local Municipal Annex Support Status

- To date, we have received Letters of Intent to Participate (LOIP) from all municipalities (though 2 are in paper form and need to be digitalized by the county). Annex assistance status is as follows:

Municipality Name	Responsible Party	Annex Meeting Status
Caroline, T	Tetra Tech	Annex Meeting Complete
Cayuga Heights, V	Tetra Tech	Meeting Scheduled for 6/30
Danby, T	Tetra Tech	Annex Meeting Complete
Dryden, T	Tompkins County	Annex Communication Complete
Dryden, V	Tompkins County	Annex Communication Complete
Enfield, T	Tetra Tech	Meeting Scheduled for 7/3
Freeville, V	Tompkins County	Annex Meeting Complete
Groton, T	Tetra Tech	Annex Meeting Complete
Groton, V	Tetra Tech	Annex Meeting Complete
Ithaca, C	Tompkins County	Annex Communication Complete
Ithaca, T	Tompkins County	Annex Communication Complete
Lansing, T	Tompkins County	Annex Communication Complete
Lansing, V	Tompkins County	STATUS UNKNOWN
Newfield, T	Tetra Tech	Annex Meeting Complete
Trumansburg, V	Tetra Tech	Annex Meeting Complete
Ulyses, T	Tetra Tech	Annex Meeting Complete



What's the Status?

• Data Collection

- ✓ Plan Collection - Complete
- ✓ General Building Stock – Complete
- ✓ Critical Facility Inventory - In Progress

• Risk Assessment - In Progress

- ✓ Hazard Profile Drafts – In Progress
- Next Step: Vulnerability Assessment

• Public Involvement - In Progress

- Requesting individual communities to encourage public involvement

• Mitigation Strategy

- Confirm Goals And Objectives - In Progress with conducting survey
- SWOO - In Progress via Survey link
- Municipal Annex Updates - In Progress
- Identify Problem Areas - In Progress
- Develop Mitigation Strategy – Not Started



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Citizen Survey and Brochure Discussion

• Press Release and Social Media

- Tetra Tech will provide samples for the County and municipalities to use

• Surveys (citizen and stakeholder) and information flyer created

- Citizen survey and brochure will be deployed
- Next step – distribute survey links and flyers
- Joint SC and PP Meeting will be held August 26th at 1pm
 - all links to be distributed to the appropriate people
 - all municipalities to post an HMP project link and flyer on their website; press release sent to newspapers



• Outreach: Present key info on HMP process at local meetings



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2020 Hazards of Concern

- Drought
- Epidemic
- Extreme Temperatures
- Flood (combine to include flash flood, lake flood, dam failure and ice jams)
- Ground Failure
- Harmful Algal Bloom (HAB)
- Invasive Species
- Severe Storms and Hurricane (combine to include tornado)
- Severe Winter Storm and Ice Storm
- Wildfire



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Critical Facilities and Lifelines

- Review CF inventory to ensure completion
- Crosswalk and identify lifelines

Critical Facilities are those facilities considered critical to the health and welfare of the population and that are especially important following a hazard. As defined for this HMP, critical facilities include essential facilities, transportation systems, lifeline utility systems, high-potential loss facilities, and hazardous material facilities.

Essential facilities are a subset of critical facilities that include those facilities that are important to ensure a full recovery following the occurrence of a hazard event. For the County risk assessment, this category was defined to include police, fire, EMS, schools/colleges, shelters, senior facilities, and medical facilities.

Lifelines provide indispensable service that enables the continuous operation of critical business and government functions, and is critical to human health and safety, or economic security



TETRA TECH



Lifelines in Tompkins

- What are lifelines?
 - A lifeline enables the continuous operation of critical government and business functions and is essential to human health and safety or economic security.
 - Lifelines are the most fundamental services in the community that, when stabilized, enable all other aspects of society to function.
 - When disrupted, decisive intervention (e.g., rapid re-establishment or employment of contingency response solutions) is required to stabilize the incident.
- Tetra Tech conducted a preliminary review of the critical facilities and assigned the lifeline categories to each
- The County and each municipality need to identify which of their facilities are considered lifelines.



TETRA TECH



Lifeline Facilities

Row Labels	Count of Life Line Category
Aviation	1
Facilities with Hazardous	
Material	42
Fire Services	31
Food	2
Fuel	35
Government Services	204
HAZMAT, pollutants, and	
contaminants	5
Infrastructure	1
Mass Transit	2
Medical Care	168
Medical Supply Chain	1
Patient Movement	8
Power Grid	33
Public Health	5
Responder	
Communications	35
Water	516
(blank)	
Grand Total	1,089



Critical Facilities in Tompkins County

- What types of facilities are considered critical?
 - Aviation – airports, landing zones
 - Bank
 - Bridges
 - Church
 - Communication – broadcast facility, cell tower, radio system
 - Dam (High hazard only?)
 - Daycare
 - DPW – DPW, highway garage
 - Electric/Power
 - EOC
 - Fire
 - Gas Station
 - Government – government, municipal hall
 - Hazmat
 - Hospital/Medical – emergency service, hospital, medical
 - Library
 - Park/Recreation – park, recreation
 - Police
 - Post Office
 - School/Education – school, university
 - Senior Facility
 - Transportation – boat launch, rail bridge
 - Wastewater – wastewater, wastewater treatment
 - Well

Row Labels	Count of Critical Facility Type
Dam	14
DPW	6
Education	640
Fire Station	26
Fire/EMS	8
Government	93
Healthcare	163
Hospital	1
Library	1
Municipal Hall	28
Police	13
Post Office	9
Potable Water	26
Religious	121
Substation	10
Utility	94
Wastewater	10
Well	462
Grand Total	1725



Mission Statement

- ✓ Per FEMA guidance (386-1), a mission statement or guiding principle describes the overall duty and purpose of the planning process and serves to identify the principle message of the plan.
- ✓ A mission statement was not included in the 2014 plan.
- ✓ What is the broad scope and direction for this mitigation plan?
- ✓ Brainstorm with committee ...
 - Reduce impact of hazards?
 - Create safe and resilient communities?
 - Support social equity?
 - Incorporate climate change and future conditions in decision-making process?



Mission Statement for Tompkins

The mission of the Tompkins Hazard Mitigation Plan is to develop a pathway for increasing capacity for ALL individuals, communities, institutions, businesses and systems within the County to adapt and thrive in the face of chronic stresses and acute shocks as a result of economic and natural hazard events in Tompkins County.



HMP Goals: Compatibility with Other Plans

Tompkins County goals should be compatible with the needs and goals expressed in other available community planning documents as well as the NYS HMP. These goals and objectives should be reasonably in-line with goals established in other related planning documents and mechanisms including:

- 2019 New York State Hazard Mitigation Plan
- Tompkins County Comprehensive Plan
- Other municipal and regional comprehensive and emergency management plans



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2019 New York State HMP

- **Goal 1:** Promote a comprehensive state hazard mitigation policy framework for effective mitigation programs that includes **coordination among federal, state, and local organizations for planning and programs**
- **Goal 2: Protect existing property** including public, historic, private structures, state-owned/operated buildings, and critical facilities and infrastructure.
- **Goal 3: Increase awareness of hazard risk and mitigation capabilities** among stakeholders, citizens, elected officials, and property owners to enable the successful implementation of mitigation strategies.
- **Goal 4:** Encourage the development and implementation of **long-term, cost effective, and resilient mitigation projects to preserve or restore the functions of natural systems.**
- **Goal 5: Build stronger by promoting mitigation actions** that emphasize sustainable construction and design measures to reduce or eliminate the impacts of natural hazards now and in the future



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Revisit the 2015 Plan Goals and Update if Needed

- Do the goals and objectives address current and expected conditions?
- Do the goals and objectives reflect current natural hazard risk?
- Did the goals and objectives lead to mitigation projects and/or changes in policy that helped jurisdictions to reduce vulnerability?
- Do the goals and objectives support changes in mitigation priorities?
- Do the goals and objectives reflect updated State goals?
- Do the goals incorporate a focus on resiliency?



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HMP Goals

According to CFR 201.6(c)(3)(i): "The hazard mitigation strategy shall include a description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards."

- Goal 1: Protect and Improve Resiliency of Public Health and Economy
- Goal 2: Increase Community and Institutional Partnerships and Knowledge of Hazard Risk and Mitigation Options
- Goal 3 Goal 3: Protect and Restore Natural Ecosystems to Reduce Flood Risk
- Goal 4: Enhance Relationship Between Mitigation and Emergency Services to Support Life Safety and Economic Resiliency
- Goal 5: Create a Healthy and Equitable Environment Including Those Socially and Physically Vulnerable



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Objectives

- **Objectives** are short-term aims which, when combined, form a strategy or course of action to meet a goal. Unlike goals, objectives are specific and *measurable-they answer the question, "How?"*.
- **Objectives were not included during the 2015 planning process. We should determine whether or not objectives should be included in the 2020 update.**

Examples of objectives include:

- Integrate the recommendations of this plan into existing regional and local programs.
- Implement mitigation actions that enhance the capabilities of the County and communities to better profile and assess exposure of hazards.



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HMP Objectives

Objective 1-1: Promote resilient and sustainable land development practices to improve the ability to recover from the impacts of natural hazard events.
Objective 1-2: Develop and maintain adequate services and utilities to serve the County's population and business.
Objective 1-3: Develop business and government continuity plans to decrease potential local economic losses.
Objective 1-4: Reduce or eliminate hazard risks throughout the county.
Objective 1-5: Encourage building and rebuilding practices that address resiliency through higher standards and sustainable design to resist impacts of natural hazards.
Objective 1-6: Address repetitive and severe repetitive loss properties throughout the County.
Objective 1-7: Protect and maintain critical facilities and infrastructure.
Objective 1-8: Improve detection, warning and communication systems.
Objective 1-9: Pursue federal and state assistance toward the improvement of facilities and infrastructure.
Objective 1-10: Develop, maintain, strengthen and promote enforcement of ordinances, regulations and other mechanisms that facilitate sustainable construction standards.
Objective 1-11: Integrate risk reduction concepts, policies, and projects into existing local and regional planning and implementation mechanisms, such as comprehensive plans, codes, and capital improvement plans.

Objective 2-1: Implement mitigation actions that enhance the capabilities of the County and communities to better profile and assess exposure of and participate in focus on practices that support or enhance resiliency.
Objective 2-2: Provide tools, partnership opportunities, funding resources, and current government initiatives to assist in implementing mitigation activities.
Objective 2-3: Encourage property owners to take preventive actions in areas that are especially vulnerable to hazards.



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HMP Objectives

Objective 3-1: Promote the continued use of natural systems to reduce long-term hazard related costs and maximize hazard mitigation.

Objective 3-2: Protect and preserve environmentally sensitive and critical areas.

Objective 3-3: Continue to preserve, protect and acquire open space.

Objective 3-4: Incorporate hazard considerations into land-use planning and natural resource management.

Objective 4-1: Create, maintain and enhance collaborative efforts including inter-jurisdiction and inter-agency communication, coordination, and partnerships and other identified stakeholders involved with natural hazard management to promote resiliency.

Objective 4-2: Engage public agencies, citizens, neighborhood groups, non-profit organizations, businesses, and industry to implement mitigation actions more effectively.

Objective 4-3: Encourage shared services in acquiring maintaining and providing emergency services and equipment.

Objective 4-4: Enact policies to prioritize and implement mitigation actions and/or projects designed to benefit essential facilities, services, and infrastructure.

Objective 4-5: Coordinate and integrate hazard mitigation actions with existing local emergency operations plans.

Objective 4-6: Identify the need for, and acquire, any special emergency services, training, equipment, facilities and infrastructure to enhance response capabilities for specific hazards.

Objective 4-7: Review and improve, if necessary, emergency traffic routes and evacuation routes; communicate such routes to the public and communities via the County's emergency notification system, social media, and news media outlets.

Objective 4-8: Ensure continuity of governmental operations, emergency services, and essential facilities at the local level during and immediately after disaster and hazard events.

Objective 4-9: Support County Emergency Management function as the central venue for community preparedness requirements and response efforts.

Objective 5-1: Develop and implement additional education and outreach programs to increase public awareness of hazard areas and to educate the public on specific, individual and household preparedness activities.



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Strengths, Weaknesses, Obstacles, and Opportunities (SWOO)

The purpose of the SWOO is to identify mitigation strategies and capabilities that will meet the goals and objectives of the plan update. It is also used to develop potential mitigation actions for the participating jurisdictions.

- **Strengths** – what we do well
- **Weaknesses** – what could we do better
- **Obstacles** – things that stand in the way, and either prevents you from doing something or something that need to be overcome
- **Opportunities** – used to develop mitigation strategies



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EXERCISE – Strengths, Weaknesses, Obstacles and Opportunities

Thinking about hazards of concern and any new hazards for this update...what are some strengths, weaknesses, obstacles and opportunities the County has for each? Complete the form.



Here are some examples to help brainstorm:

Hazard: Flood

S	Minimal exposure to flood risk
W	Silt and debris buildup in streams can lead to localized flooding
Ob	Funding for culvert and catch basin maintenance
Opps	Installing stream gages

Hazard: Severe Storms

S	Tree trimming programs are in place
W	Aging infrastructure; lack of underground utilities
Ob	Cost to retrofit existing utility infrastructure
Opps	Underground utilities; enhance public outreach program

Hazard: Severe Winter Storm

S	Municipalities have the resources and experience to deal with winter weather
W	Aging equipment
Ob	Funding; limited staff for prolonged events
Opps	Shared services



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2020 SWOO Discussion/Example

Flood	
Strengths	Weaknesses
<p>What do the County/Communities do well in terms of:</p> <ul style="list-style-type: none"> ➢ Plans and Regulations <ul style="list-style-type: none"> ➢ Codes, Ordinances, Planning Studies, Comprehensive Plans, Adaptation and Resiliency Plans ➢ Structure and Infrastructure Projects ➢ Natural Systems Protection ➢ Education and Awareness Programs? ➢ Preparedness ➢ Others? 	<p>What can the County/Communities do better or what are identified gaps in terms of:</p> <ul style="list-style-type: none"> ➢ Plans and Regulations <ul style="list-style-type: none"> ➢ Codes, Ordinances, Planning Studies, Comprehensive Plans, Adaptation and Resiliency Plans ➢ Structure and Infrastructure Projects ➢ Natural Systems Protection ➢ Education and Awareness Programs? ➢ Preparedness ➢ Others?



2020 SWOO Discussion/Example

Flood	
Obstacles	Opportunities
<p>What is preventing the County/Communities to implement:</p> <ul style="list-style-type: none"> ➢ Plans and Regulations <ul style="list-style-type: none"> ➢ Codes, Ordinances, Planning Studies, Comprehensive Plans, Adaptation and Resiliency Plans ➢ Structure and Infrastructure Projects ➢ Natural Systems Protection ➢ Education and Awareness Programs? ➢ Preparedness ➢ Others? 	<p>What can the County/Communities implement terms of:</p> <ul style="list-style-type: none"> ➢ Plans and Regulations <ul style="list-style-type: none"> ➢ Codes, Ordinances, Planning Studies, Comprehensive Plans, Adaptation and Resiliency Plans ➢ Structure and Infrastructure Projects ➢ Natural Systems Protection ➢ Education and Awareness Programs? ➢ Preparedness ➢ Others?



What is Next? Review Risk and Vulnerability



Schedule

OVERVIEW AND MILESTONES

- **Planning Process**
 - Steering Committee Meeting #2 - Today
 - Planning Partnership Kick-Off – Scheduled for July 13th
 - Currently finalizing municipal annexes, hazard ID, and Critical/ Lifeline Facility
- **Update Risk Assessment**
 - Data collection is underway
 - Now that hazards of concern are established, will be starting on vulnerability assessment
- **Public Involvement Strategy – ongoing throughout the planning process**
- **Mitigation Strategy**
 - Continue working with the municipalities after the Planning Partnership kick-off
 - Mitigation Strategy Workshop with FEMA and NYS DHSES – December 2020
- **Draft Plan to Steering Committee by late fall**
- **Final draft plan to NYS DHSES and FEMA by January 2021**



HMP Project Schedule



Creative Public and Stakeholder Outreach

- Strategy
- Tracking

Correspondence Type	Meeting Name, Municipality	Date	Start Time	End Time	# of Hours	Agenda/Sign In?	Notes (Include meeting topic, how HMP was discussed, etc.)
Press Release	Countywide						Press release issued to several local newspapers



In-Kind Services

Name of Team Member: _____							
Correspondence Type	Meeting Name, Municipality	Date	Start Time	End Time	# of Hours	Agenda/Sign In?	Notes (Include meeting topic, how HMP was discussed, etc.)
Meeting	Chiefs and Fire Advisory Board Meeting	2/26/2020				Yes - sign-in	Discussed the HMP update
Meeting	Town of ?? Board Meeting	3/9/2020	7:00 pm	9:00 pm	2		Discussed the HMP update
Phone Call	Town of ?? phone call	3/10/2020			1	No	Spoke with the Town about the HMP process and their responsibilities in participating
Meeting	Town of ?? Board Meeting	3/12/2020	6:30 pm			Yes - agenda	

Next Steps

- Review Hazard Profiles
- Review Risk Assessment Results
- Identify Problems and Problem Areas
- Develop Mitigation Strategy





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Tompkins County Hazard Mitigation Plan Update Minutes of Meeting



Purpose of Meeting:	Steering Committee Meeting #2	
Location of Meeting:	Zoom	
Date/Time of Meeting:	6/30/220	
Attendees:	Scott Doyle, Tompkins County Planning Katie Borgella, Tompkins County Planning Nina Saeki, Tompkins County Public Health CJ Randall, Town of Lansing Planning Mike Thorne, City of Ithaca DPW	Jessica Verfuss, Tompkins Emergency Response Dave Sprout, Town/ Village of Dryden Kevin Clapp, NYS DHSES Cynthia Bianco, Tetra Tech (Tt) Osamu Tsuda, Tetra Tech (Tt)
Agenda Summary:	Provide project status, review and confirm identified hazards of concern, review county critical/ lifeline facilities, discuss mission statement, goals, and objectives developed by county, perform SWOO exercise, and outline of following steps for the HMP process.	
Item No.	Description	Action By:
1.	Welcome (Scott/ Cynthia) Meeting topics to include: <ul style="list-style-type: none"> • Where we are in the process/ schedule • Municipal Engagement • Public Outreach • Tracking Time 	
2.	Project Status Initiating work with municipalities; risk assessment has started for flooding. Will be starting to do vulnerability assessment. Moving into municipal engagement stage. <ul style="list-style-type: none"> • NFIP data request approved for county and will be provided soon. <ul style="list-style-type: none"> - The critical facilities are being reviewed by communities - Municipal plans have been reviewed for county. - Have received various feedback on municipalities, except for the village of Lansing. – County reached out to village and is still waiting on response. • Waiting to confirm Critical Facilities and their accuracy – municipalities are sorting out their Lifelines and will inform mitigation strategies along with the assessment • Citizen survey has been delayed but will be deployed to Tompkins Citizens once final edits have been made. Scott: looking to get feedback to help guide the HMP process <ul style="list-style-type: none"> - Scott: current circumstances provide a great opportunity to receive feedback from residents who will probably be more willing to provide feedback on potential hazards - Tetra Tech will be using the FEMA guidelines for the survey but will have the SC review before deploying. - Katie: Now is a crucial time to think how we can figure out a way to do outreach to minority populations, especially communities of color - Scott: the language/ wording in the survey as well as in the announcement is very important to reach broad audience. - CJ Randall: Maybe use swift 911 to distribute link throughout the County – and connect with Dominick 	-County and Tt: Brainstorm methods of outreach for Planning Partnership meeting. -Tt and County top review inclusion of Wildfires/Urban Fires as a hazard of concern.





Tompkins County Hazard Mitigation Plan Update Minutes of Meeting



	<p style="text-align: center;">Reccio, TC communications director</p> <ul style="list-style-type: none"> Next meeting for the Steering Committee will be the Planning Partnership meeting on August 26 and will be virtual – will need to figure out a way to conduct outreach for this meeting (Planning Partnership will also meet next Monday 7/13) 	
3.	<p>Confirmation of Hazards of Concern</p> <ul style="list-style-type: none"> 10 Hazards have been identified as potential hazards in TC Scott: wildfires are not really of a concern for Tompkins. HABS might also not be relevant given it is an ongoing problem and no clear mitigation strategy has been identified. <ul style="list-style-type: none"> Jessica: wildfires are definitely not a concern for TC – Might not be worth including urban fires in the 10 top hazards of concern as IFD does get over 5000 calls annually Scott: might be worth limiting the number of hazards and instead concentrating on a smaller number of top priorities Kevin: County should look at the projections as well as current events and predict what hazards can potentially affect the TC region It will also look at the monetary value of potential damage and identify potential hazards based on the NYS plan which identified vulnerabilities Cynthia: will only be focusing on natural hazards as well as cascading hazards such as utility failure and dam failure as a result of extreme storms – will consider taking out Wildfires. 	<p>Will include additional resources in the cascading hazards for resources to mitigate cascading hazards.</p>
4.	<p>Critical Facilities Identification/ Confirmation</p> <ul style="list-style-type: none"> The County is looking to streamline the critical facilities list to include the most relevant facilities. Broadband internet, food facilities, and other broad ranged critical facilities may be considered. Discussion included the categorization of Cornell University which may not be a critical facility for the County but has critical operations that could be impacted by various hazard events. The County and OEM will review the existing facilities and consolidate the critical facility inventory Committee members are requested to complete the County Critical Facility Survey. 	<p>Scott/ County will review Critical Facility/Lifeline identify Lifelines.</p> <p>Committee members are urged to complete the Critical Facility survey before next meeting</p>
5.	<p>Update/ Revise Mission Statement and Goals/ Objectives</p> <ul style="list-style-type: none"> Based on previous meeting the county will include a mission statement, goals and objectives. Edits will need to be made to include “municipalities” and incorporate “an integrated and comprehensive approach” The County indicated that the term “thrive” could be replaced by the word “prosper” or “flourish”. Regarding the mission statement a more succinct statement is preferred, and to include the concept of “forging a partnership”. Goals and objectives summary: <ul style="list-style-type: none"> In general, the committee preferred reducing the number of objectives. Goal 5 has been included to address the issue of social vulnerability in Tompkins County. The County prefers rewording objectives to be 	<p>It and County to review goals and objectives with the intent of simplifying and consolidating.</p> <p>SC members to take Goals and Objectives survey ASAP to provide feedback . The survey is available at this link: https://forms.gle/bvG7-0x9Btwvud13z0H4</p>





Tompkins County Hazard Mitigation Plan Update Minutes of Meeting



less technical to increase overall clarity.		
6.	<p>SWOO Exercise</p> <ul style="list-style-type: none"> • By understanding the strength and weaknesses, we can figure out the resources that are available and the resources that are needed to figure out what obstacles the county and communities face. We can then also identify the potential opportunities based on this identification. • Overall, the feedback received so far is general and <u>more</u> specific SWOOs need to be identified. Items noted include: <ul style="list-style-type: none"> - The County has done a great job working with State agencies and conducting projects around mitigation. However, outreach and community engagement is definite area of improvement. We should think on more detail on the SWOOs - Swift 911 may be considered both a strength and a weakness as the County does not fully utilize this tool. - 	<p>SC members who have not completed SWOO exercise form to do so asap. The survey is available at this link: https://forms.gle/1tUkm5yR86tscFz8</p>
7.	<p>Next Steps</p> <ul style="list-style-type: none"> • In August, Tt is looking to complete Vulnerability Assessment. Now we need to wrap up critical facility list in order to measure vulnerability exposure. • Plan to submit plan (by sections) and complete by January • Scott: County has been talking with Municipalities around outreach and will make sure to keep documentation on this outreach that has been done. Everyone who conducts outreach should document it as it is required by FEMA. 	<p>Risk Assessment Meeting scheduled for August 26th.</p>
8.	<p>Other Items and Questions: All</p> <ul style="list-style-type: none"> • The County noted that the August meeting will be a collaborative workshop to help identify opportunities within this vulnerability effort. The City of Ithaca noted that it is a bit overwhelmed due to limited resources during the pandemic and have reduced capacity to address annex updates. The County will touch base and strategize on how to help the City and other communities update annexes in a timely manner. 	



C.3 PLANNING PARTNERSHIP MEETING JULY 13, 2020



TOMPKINS COUNTY RESILIENCY AND RECOVERY PLAN - HAZARD MITIGATION PLAN UPDATE

Planning Partnership #1 – AGENDA

Zoom Call – Log In Instructions Emailed Separately

MEETING DATE/TIME: July 13, 2020 – 3:00 pm – 4:30 pm



1. Welcome and Introductions
2. Hazard Mitigation Plan Overview
 - Purpose and Expected Outcomes of the Hazard Mitigation Plan
 - 2020 enhancements
3. Hazard Mitigation Planning Process
4. Participation and Schedule
 - Why participate?
 - Overview and Milestones
 - Meeting Schedule
5. Hazards of Concern Identification
6. Updating Sections of the HMP
7. Staying Engaged and Involved
8. Updating Jurisdictional Annexes
9. Next Steps and Questions
10. Project Contacts

Tompkins County Project Contacts

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Tompkins County Resiliency and Recovery Plan Hazard Mitigation Plan Update Component

Planning Partnership Kick-Off Meeting | July 13, 2020



Agenda

- 1 Welcome and Introductions
- 2 Hazard Mitigation Overview
- 3 Planning Process
- 4 Why Participate?
- 5 Schedule
- 6 Identifying Hazards of Concern
- 7 Updating Sections of the HMP
- 8 Staying Engaged
- 8 Jurisdictional Annexes
- 8 Wrap-Up



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Roll Call and Introductions

- Tell us...
 - What is your name?
 - What municipality do you represent and what is your role?
 - What is one thing you love about Tompkins County?

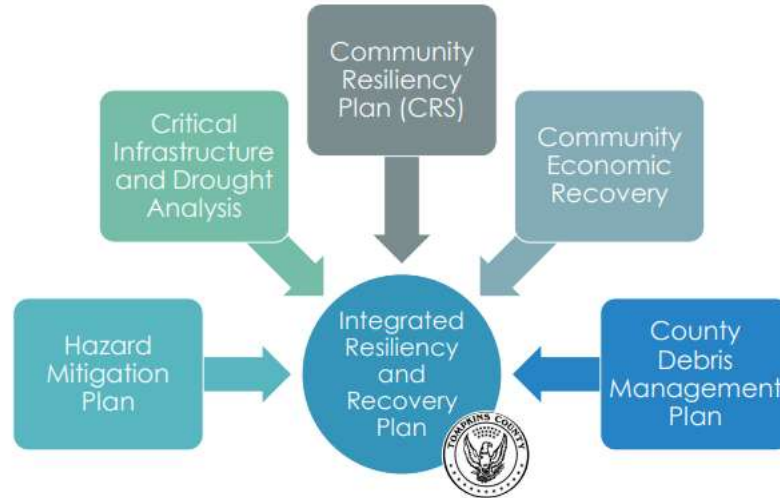


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Resiliency and Recovery Plan Context



Resilience Committee Composition

- **County Agencies**
 - Department of Emergency Response
 - Department of Planning & Sustainability
 - Health Department
- City of Ithaca Department of Public Works
- Town of Dryden Planning Department
- Town of Lansing Planning Department
- Tompkins County Soil and Water Conservation District
- Ithaca College Office of Public Safety and Emergency Management
- Cornell University Emergency Management

**Added Agency Representatives for Plan Components



Hazard Mitigation – What is it?

Mitigation is a sustained action taken to reduce or eliminate long-term risk to life and property from a hazard event

-or-

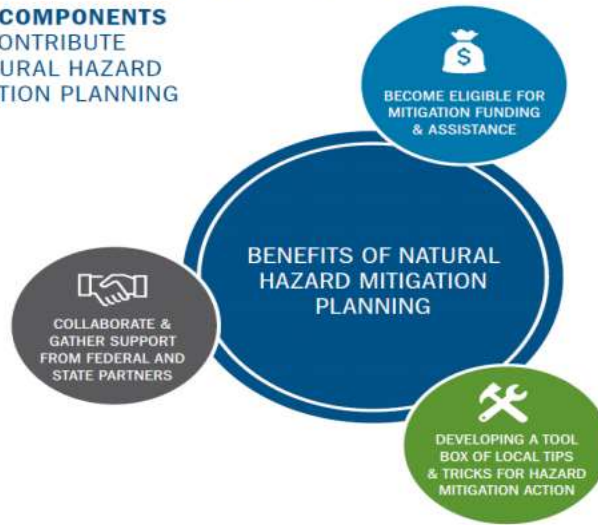
Any action taken to reduce future disaster losses

“provides the blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and local ability...” (CFR).



Key Components of Hazard Mitigation

3 KEY COMPONENTS
THAT CONTRIBUTE
TO NATURAL HAZARD
MITIGATION PLANNING



Hazard Mitigation Planning Process

- What is hazard mitigation?
- How does this support resiliency and recovery?
- Why update the plan?
- What is the process?

- ✓ Authorized by the Disaster Mitigation Act of 2000
- ✓ Provides an overview of the impacts of natural hazards on communities
- ✓ Provides a roadmap to reducing the impact of these hazards
- ✓ Requires a FEMA-approved natural hazard mitigation plan to be eligible for Pre-Disaster Mitigation Funding
- ✓ 5 year updates required to maintain eligibility



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Hazard Mitigation – What’s at Risk?

FEMA Disaster Declaration history in Tompkins County

- 6 Severe Storm(s)
- 5 Flood
- 2 Hurricane
- 2 Other
- 2 Snow
- 1 Fire



Year of Declaration Date	Title	Disaster Number
1970	HEAVY RAINS & FLOODING	290
1972	TROPICAL STORM AGNES	338
1975	STORMS, RAINS, LANDSLIDES & FLOODING	487
1976	SEVERE STORMS & FLOODING	515
1993	SEVERE BLIZZARD	3107
1996	SEVERE STORMS AND FLOODING	1095
	SEVERE STORMS HIGH WINDS, RAIN AND FLOODING	1148
1998	SEVERE STORMS AND FLOODING	1233
2000	SEVERE STORMS AND FLOODING	1335

Year of Declaration Date	Title	Disaster Number
	WIND, HAIL, VIBRO	2132
2001	FIRES AND EXPLOSIONS	1391
2003	POWER OUTAGE	2186
2004	SEVERE STORMS AND FLOODING	1504
2005	HURRICANE KATRINA EVACUATION	9242
2006	SEVERE STORMS AND FLOODING	1650
2011	REMNANTS OF TROPICAL STORM LEE	4031
2012	HURRICANE SANDY	3351
2017	SEVERE WINTER STORM AND SNOWSTORM	4322



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Why Update?

- The mitigation plan update will:
 - Help the County prepare for and mitigate the effects of disasters
 - Continue to allow the county and participating partners to be eligible for pre- and post-disaster mitigation funding
 - Support CRS participation/rating of municipalities
- What is at risk in Tompkins County?

Hazard	Losses
Avalanche	\$0
Coastal Storm	\$0
Cold wave	\$0
Drought	\$0
Earthquake	\$0
Flooding	\$23 million
Hail	\$1.08 million
Heat Wave	\$0
Hurricane	\$0
Ice Storm	\$0
Landslide	\$0
Lightning	\$104,000
Snow Storm	\$0
Tsunami/Seiche	\$0
Tornado	\$125,000
Volcano	\$0
Wildfire	\$0
Wind	\$1.15 million
TOTAL	\$25.42 million

Source: 2019 NYS HMP



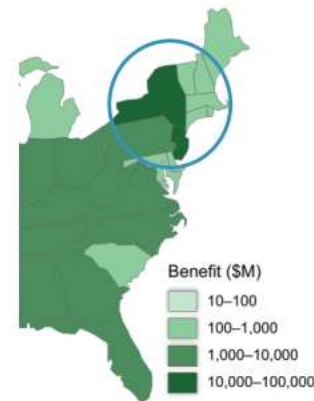
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Hazard Mitigation Works!

- According to the January 2019 National Institute of Building Sciences Natural Hazard Mitigation Saves: 2018 Interim Report, federal mitigation grants save \$6 for every \$1 spent!

National Benefit-Cost Ratio Per Peril <small>*BCR numbers in this study have been rounded</small>		Federally Funded
Overall Hazard Benefit-Cost Ratio		6:1
Riverine Flood		7:1
Hurricane Surge		Too few grants
Wind		5:1
Earthquake		3:1
Wildland-Urban Interface Fire		3:1

Mitigation saves in every in state!
New York State has saved up to
\$10 billion in benefits.



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NYS DHSES Requirements

- Establish Jurisdictional Teams
- Assess Critical Facilities
- **Plan for Displaced Residents**
 - Intermediate (Temporary Housing) and Long-Term (Permanent Housing)
- **Plan for Evacuation and Sheltering**
- Document Past Mitigation Accomplishments
- Include Jurisdictional Annexes
- Develop Mitigation Actions (minimum of 2 projects)
- Plan for Climate Change



Organizing the Planning Team

- County Lead (Department of Planning and Sustainability)
- Contract Consultant (Tetra Tech)
- Steering Committee
- Planning Committee – that's you!
- Stakeholders
- General Public



An effective planning process is essential in developing and maintaining a good plan.

44 CFR §201.4(b)



Municipal Planning Partnership

- All municipalities are encouraged to participate (and continue to be covered by the Countywide HMP)
- FEMA has greatly expanded their scrutiny of "participation"...

Municipalities are required to actively participate

- As of Today, all municipalities in Tompkins County are considered active participants in this Hazard Mitigation Planning Process.

NOTE: The ONLY municipality that has not been actively participating is the Village of Lansing – active outreach continues to be conducted by the County



14

How Do You Participate?

- Attend planning partnership meetings/workshops
- Provide data and information in a timely manner
- Support public and stakeholder outreach in your jurisdiction
- Development of your jurisdictional annex
- Review and provide feedback on Draft and Final Plan documents
- Facilitate the adoption process – governing body must pass an Adoption Resolution
- Implement and Maintain the Plan



15



Assemble Your Mitigation Team!

If you have not fully decided who should be on your municipal team, the following can provide you a better idea on who to invite:

- NFIP Floodplain Administrator
- Building Code Official
- Engineer
- Land Use Planner
- Clerk
- Mayor/Administrator
- Municipal CFO/Fiscal Representative
- Public Works Superintendent/Director
- Police/Fire Official



Update Your Municipal Annex with Assistance from Consultant and County

- Annex assistance status is as follows:

Municipality Name	Responsible Party	Annex Meeting Status
Caroline, T	Tetra Tech	Annex Meeting Complete
Cayuga Heights, V	Tetra Tech	Meeting Scheduled for 6/30
Danby, T	Tetra Tech	Annex Meeting Complete
Dryden, T	Tompkins County	Annex Communication Complete
Dryden, V	Tompkins County	Annex Communication Complete
Enfield, T	Tetra Tech	Meeting Scheduled for 7/3
Freeville, V	Tompkins County	Annex Meeting Complete
Groton, T	Tetra Tech	Annex Meeting Complete
Groton, V	Tetra Tech	Annex Meeting Complete
Ithaca, C	Tompkins County	Annex Communication Complete
Ithaca, T	Tompkins County	Annex Communication Complete
Lansing, T	Tompkins County	Annex Communication Complete
Lansing, V	Tompkins County	STATUS UNKNOWN
Newfield, T	Tetra Tech	Annex Meeting Complete
Trumansburg, V	Tetra Tech	Annex Meeting Complete
Ulysses, T	Tetra Tech	Annex Meeting Complete



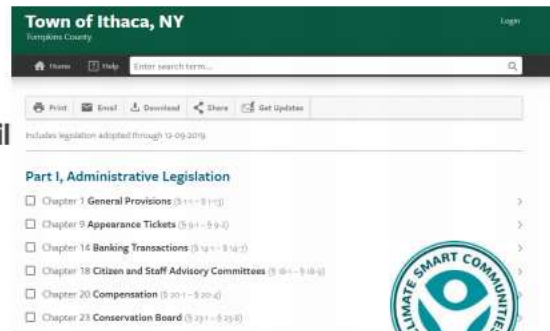
Consider Identified Hazards of Concern

- Identified Hazards of Concern for the 2020 HMP Update:
 - Drought
 - Epidemic
 - Extreme Temperatures
 - Flood (combine to include flash flood, lake flood, dam failure and ice jams)
 - Ground Failure
 - Harmful Algal Bloom (HAB)
 - Invasive Species
 - Severe Storms and Hurricane (combine to include tornado)
 - Severe Winter Storm and Ice Storm
 - Wildfire



Conduct Your Capability Assessment

- Planning and Regulatory Capability
- Building Code
- Administrative and Technical Capabil
- Fiscal Capability
- Education and Outreach
- Adaptive Capacity



Identify Critical Facilities and Lifelines in Your Community

- **Review CF inventory to ensure complete** – each municipality will be provided a list of critical facilities to review, modify and/or update
- **Identify lifelines and add to inventory**

Critical Facilities are those facilities considered critical to the health and welfare of the population and that are especially important following a hazard. As defined for this HMP, critical facilities include essential facilities, transportation systems, lifeline utility systems, high-potential loss facilities, and hazardous material facilities.

Essential facilities are a subset of critical facilities that include those facilities that are important to ensure a full recovery following the occurrence of a hazard event. For the County risk assessment, this category was defined to include police, fire, EMS, schools/colleges, shelters, senior facilities, and medical facilities.



What are FEMA Lifelines?

Lifelines provide indispensable service that enables the continuous operation of *critical business* and *government functions*, and is critical to *human health and safety*, or *economic security*

- What does this mean?
 - Lifelines are critical interdependent systems that enable continuous operation of government functions and critical business, and are essential to human health and safety or economic security.
 - FEMA's lifeline concept helps stabilize communities after a disaster by preventing lifelines from being disrupted
- How will lifelines be used?
 - Enhances situational awareness
 - Prioritizes focus areas for each operational period during response
 - Exposes destabilization factors
 - Unifies ability to standardize plans and unmet needs



Review the Updated the Risk Assessment

- Update assets
- Look at previous impacts
- Analyze risks
- Review with the Steering Committee
- Risk Assessment Meeting



Update Your Mitigation Strategy

- Determine Status of 2014 Mitigation Actions
- Identify Problems and Problem Areas
 - Areas that have been impacted
 - Recurring issues
 - Critical/Lifeline facilities in the floodplain
 - RL/SRL properties need mitigating?
- Identify Relevant Mitigation Actions/Projects
- Attend the Mitigation Strategy Workshop
- Engage Your Community



Mitigation Strategy

- Goals
 - What outcomes do you want to achieve?
- Actions
 - What specific actions will be taken to reduce hazard risk?
- Action Plan
 - How will the actions be prioritized and implemented?



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New Mitigation Actions for the 2020 HMP Update

- Opportunity to add new mitigation actions
- This includes all in-progress grant applications (HMGP generators, CDBG acquisitions, etc.)
- Tips for the 2020 update:
 - Quality NOT quantity
 - Specific not general
 - What can realistically be accomplished in 5 years?

- Plans and regulations** include government authorities, policies, or codes that encourage risk reduction, such as building codes and state planning regulations. This may also include planning studies.
- Structure and infrastructure** projects involve modifying existing structures and infrastructure or constructing new structures to reduce the impact of hazards.
- Natural systems protection** projects minimize losses while also preserving or restoring the function of natural systems.
- Education and awareness** programs include long-term, sustained programs to inform and educate citizens and stakeholders about hazards and mitigation options. This category could include...



"At the first sign of a flood, you just push this little button."



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Connection to the Mitigation Strategy

- Need a clear connection between vulnerability and proposed mitigation actions.
- Use the capability assessment to provide insight into challenges/opportunities for the mitigation strategy as well.
- Provide a factual basis for activities proposed in the mitigation strategy.



We Need YOU Engaged and Involved!

- Update your Municipal webpage and link to County's Resiliency Plan section of their website
<https://tompkinscountyny.gov/planning/climate-adaptation>
- Social Media Blasts – we can provide content and graphics
- Local Announcements of Resiliency Plan and HMP Update
- Local public meetings
- Draft Plan Review



Schedule

- Planning Process

- Planning Partnership Kick-Off – Today!!
- Municipal Annexes in progress...
- Currently County and municipalities in process for reviewing critical and lifeline facilities.

- Update Risk Assessment

- Hazards of concern have been identified
- Vulnerability Assessment is scheduled to be conducted over the coming month - Review meeting **August 26th**

- Public Involvement Strategy – ongoing throughout the planning process

- Mitigation Strategy

- Mitigation Strategy Workshop with FEMA and NYS DHSES – December 2020

- Draft Plan to Steering Committee by late fall

- Final draft plan to NYS DHSES and FEMA by January 2021



HMP Project Schedule



Next Steps

- Attend Planning Partnership Meeting – TODAY!
- Determine Hazards of Concern to include in the HMP
- Review Hazard Profiles
- Review Risk Assessment Results – Meeting **August 26th**
- Identify Problems and Problem Areas
- Develop Mitigation Strategy
- Review Draft Plan
- Submit Draft Plan for NYSDHSES/FEMA Review
- Adopt FEMA-Approved Plan
- Implement Projects and Maintain the Plan → Increase Resilience!





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Tompkins County Hazard Mitigation Plan Update Minutes of Meeting



Purpose of Meeting: Planning Partnership Meeting #1		
Location of Meeting: Zoom		
Date/Time of Meeting: 7/13/2020 3PM – 4:30PM		
Attendees:		
Cynthia Bianco, Tetra Tech	Mark Witmer, Town of Caroline	Nina Saeli, Tompkins County Public Health
Heather Appar, Tetra Tech	Christine Laughlin, Newfield	Dan Theeate, Town of Ithaca
Osamu Tsuda, Tetra Tech	Dan Theeate, Town of Ithaca	Jason Cuykendall, Freeville Village
Scott Doyle, Tompkins County Planning	Michael Allinger, Town of Newfield	Rordan Hart, Village of Trumansburg
Michael Murphy, Mayor of Dryden Village	Stephanie Redmond, Town of Enfield	Steve Cortright, Town of Danby CEO
Clay Converse, Village of Dryden Trustee	Steve Cortright, Town of Danby CEO	CJ Randall, Town of Lansing
Nancy Niswender, Village of Groton	Jessica Verfuss, County Emergency Response	Katie Borgella, County Planning
Barry Goodrich, Town of Caroline	Sue Ritter, Town of Ithaca	Kevin Clapp, NYSEHSES
Brent Cross, Village of Cayuga Heights, Village Engineer	John Negley, SWCD	John Negley, SWCD
Dan Maas, Cornell University	Tim Ryan, Ithaca College	Nancy Munkenbeck, Town of Dryden
Don Scheffler, Town Groton	Nancy Munkenbeck, Town of Dryden	Marty Moseley, Town of Ithaca
Mike Thorne, City of Ithaca		
John Zepko, Town of Ullyses Planning		
Michelle Wright, Deputy Supervisor Ullyses		
Beth McGee, Town Enfield		
Don Hartill, Village of Lansing		
Dave Sprout, Dryden CEO		
Tammy Morse, Village of Trumansburg		
Agenda Summary: Meet the project team, review roles and responsibilities of the planning partnership, timeline and key items in the process, discuss hazards of concern, benefits of mitigation planning for funding and project implementation.		
Item No.	Description	Action By:
1.	<p>Welcome and Introductions</p> <p>S. Doyle of Tompkins County provided an introduction to provide an overview of the relationship between the hazard mitigation plan and the integrated resilience and recovery plan:</p> <ul style="list-style-type: none"> - HMP - Critical infrastructure and drought analysis - Community Resilience/CRS - Community Economic Recovery - County Debris Management Plan <p>C. Bianco of Tetra Tech provided an overview of the Core Steering Committee team role versus Planning Partnership responsibilities.</p> <p>The Planning Partnership will support the development of a comprehensive community-based plan and vision to help the county and each municipality more resilient.</p>	
2.	<p>Hazard Mitigation Plan Overview (Tetra Tech)</p> <ul style="list-style-type: none"> • Tetra Tech provided an overview of mitigation as shown in the attached presentation. Per FEMA Mitigation is a sustained action to reduce or eliminate the impacts of a hazard event. Tompkins County is preparing and update to their hazard mitigation plan which will be an ongoing resource to connect the state and municipal government together to support the development of more resilient communities. • This is a planning process to gather community stakeholders and members together and identify existing resources in each community and documenting 	





Tompkins County Hazard Mitigation Plan Update Minutes of Meeting



	<p>the gaps to increase resilience; this is the first phase. By updating the plan communities remain eligible for FEMA pre disaster mitigation funding.</p> <ul style="list-style-type: none"> The second phase is the vulnerability assessment to identify and measure the magnitude of each hazard identified by the community. The third phase includes public engagement and community outreach to support the mitigation and resilience plans. 	
3.	<p>Hazard Mitigation Planning Process</p> <ul style="list-style-type: none"> Tompkins County has had a number of FEMA disaster declarations. Based on historical data, there has been approximately \$23 million damage caused by natural disasters. Therefore, it is important to approach planning through mitigation. Each community must update and identify key information during this process including critical facilities, hazards of concern, emergency evacuation planning (evacuation routes, shelters, and relocation property), documentation of existing mitigation actions that have been completed or are in progress since last HMP and those that can be done over the next 5 years (each community needs at least two projects), updating climate change projections, as well as identifying the hazards based on these projections. Municipal Planning Partnership – all communities are encouraged and are currently participating – participation requires the following: <ul style="list-style-type: none"> Attend planning workshops Provide data and requested information Support public and stakeholder outreach Develop municipal annex Review and provide feedback on draft and final plan Facilitate adoption process Implement and maintain the plan <p>Each municipality should engage a mitigation team to identify mitigation strategies and help develop their municipal annex. Often, Code Enforcement officers, Highway/DPW, Clerks, and Supervisors act as the primary point of contact for this project. The ultimate goal of this working group is to be able to complete the annex and verify all information.</p>	
5.	<p>Hazard of Concern Identification/ Critical Facilities</p> <ul style="list-style-type: none"> The capability assessment provides an understanding of the planning, technical and fiscal resources available in each community. Identification and review of capabilities provides insight into areas of improvement to reduce overall vulnerability to hazards of concern. The Steering Committee has identified 10 hazards of concern in Tompkins County, based on a review of previous historical occurrences and or projections from climate change models. This data will support the relative ranking of the hazards of concern to prioritize mitigation strategies and projects. Per Tompkins County, each community has different characteristics so the results of the capability assessment will be unique for each municipality. Critical Facilities, which include essential facilities for community operation, need to be identified for each community in Tompkins County. On the other hand, Lifelines are cross walked with the critical facilities list and are identified and categorized by each community. Those that are considered relevant Lifelines will then be eligible for BRIC funding. NYS DHSES noted that FEMA is looking to do more large-scale projects and the list of lifelines will help FEMA figure out where and who to provide funding. Tetra Tech will be using HAZUS to get a better understanding as to what will be damaged by certain hazards. This will help determine where investment and 	





Tompkins County Hazard Mitigation Plan Update Minutes of Meeting



	future projects will be planned.	
6.	<p>Updating Sections of HMP</p> <ul style="list-style-type: none"> The mitigation strategy will be updated once all annexes are updated. A workshop will be hosted by the County and Tetra Tech to help communities identify future projects as well as potential mitigation strategies. Project types that are considered in these workshops: Plans and regulation development, structure and infrastructure project, natural system protection, and education and awareness. These project categories are eligible for FEMA pre-disaster mitigation funding. 	
7.	<p>Tompkins County Hazard Mitigation and Resiliency Plan Website</p> <p>All committee members are encouraged to staying engaged and involved through the website at the following link: https://tompkinscountyny.gov/planning/climate-adaptation</p> <p>Tetra Tech will be creating social media content for municipalities to place on their websites. Proposes on other creative ways to connect with public virtually during COVID 19 are always welcome— individual municipal outreach is encouraged.</p>	All communities are urged to share this link on their website and to encourage residents to take the citizen's preparedness survey when it is available.
8.	<p>Updating Jurisdiction Annexes</p> <ul style="list-style-type: none"> The steering committee has convened twice. Municipal meetings/ annexes are in progress. Tetra Tech will present the results of the risk assessment to the planning partnership on August 26th. This will provide a solid basis of discussion to identify mitigation projects. within addition, during this meeting the Planning Partnership will participate in the Strength Weaknesses, Obstacles and Opportunities exercise to brainstorm issues related to the hazards of concern to identify potential solutions and projects... 	Strength Weaknesses, Obstacles and Opportunities survey: https://forms.gle/yvWkLUBo5GfV67vQr9
9.	<p>Next Steps and Questions</p> <p>All community representatives and stakeholders are strongly urged to complete the SWOD and survey and to distribute the stakeholder survey).</p> <p>All communities are requested to finalize Step 1 data in their annexes.</p> <p>All communities are urged to attend the Risk Assessment August 26th.</p>	Take and distribute stakeholder survey: https://forms.gle/zF6BhVF1c3Q5swF9A
10.	<p>Additional Info and Discussion</p> <p>NYS DHSES noted that each annex is a chapter for each community – it is good to start brainstorming what kind of projects can be done in the future.</p> <p>The Village of Dryden requested scheduling upcoming meetings earlier in the day to increase participation of town employees. The County agreed to schedule the next meeting earlier in the day.</p> <p>Q: Are volunteers eligible to provide assistance and be on the list of municipal team members? A: It is possible based on individual community characteristics. Volunteers can provide input into the plan. Should volunteers be considered an ongoing technical resource, this can be noted in the community's annex of the plan.</p> <p>Q: Would it be worth having a list of individuals that might be willing to volunteer within each municipality during a hazard event? A: This information is valuable and may be houses and updated at your municipal offices</p>	





Tompkins County Hazard Mitigation Plan Update Minutes of Meeting



<p>or perhaps in the community comprehensive plan or in your mitigation plan annex. The Town of Enfield suggested review communities' comprehensive plans which may include a SWOT assessment for the town – Beth McGee will send the link to the Town of Enfield SWOT in the municipal comprehensive plan. The Climate Smart Communities CSR planning tool is an additional resource to help identify areas of strength and weakness for the capability assessment.</p>	
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C.4 STEERING COMMITTEE MEETING AUGUST 24, 2020



TOMPKINS COUNTY HAZARD MITIGATION PLAN UPDATE
Risk Ranking Steering Committee Meeting – AGENDA
August 26, 2020; 9:00AM - 10:30AM



Virtual Meeting

Dial-in Phone Number: +1 6465588656 Conference ID: 933 3951 3912#

Join by Computer (password: 106057) : <https://tompkinscountyny-gov.zoom.us/j/93339513912?pwd=UUVTVWU1REQ2b05mWFhvQlI0R3dsdz09>

1. Welcome
2. Project Status
3. Risk Assessment Overview
 - Hazards of Concern and Risk Ranking
 - Results for each Hazard of Concern
4. Feedback and Inputs
 - Strengths, Weaknesses, Obstacles, and Opportunities Review
 - Goals and Objectives Review
5. Next Steps
 - How this information is used in the HMP
 - Update Mitigation Strategy/ Projects
 - Planning Partnership Meeting Reminder: September 2nd, 2020, 9AM – 11AM
Join by Computer (Passcode: 384983):
<https://tompkinscountyny-gov.zoom.us/j/92125956399?pwd=cVd1Q1M0Q3V0M1IwcnlYcVZoR2lpZz09>
Join by Phone:
+1 646 558 8656
Meeting ID: 921 2595 6399





Tompkins County Resiliency and Recovery Plan Hazard Mitigation Plan Update Component

Planning Together for a Resilient Tompkins County

Steering Committee Meeting – Risk Assessment Presentation

August 26, 2020



Today's Topics

- Introductions
- Project Status
- Risk Assessment Overview
- SWOO Review
- Risk Ranking
- Goals and Objectives Review
- Next Steps



Project Schedule Review

- | | |
|----------------------|---|
| ✓ July 2020 | Municipal Kick-Off Meeting |
| ✓ May-Aug | Data Collection |
| □ July-August | Update hazard profiles |
| □ August 26, 2020 | Risk Assessment Presentation to Steering Committee - TODAY! |
| □ September 2, 2020 | Risk Assessment Presentation to Planning Partnership |
| □ October | Develop problem statements with municipalities and County |
| □ October (date TBD) | Mitigation Strategy Workshop |
| □ December | Review draft plan |
| □ January | Submit plan to FEMA and NYSDHSES |

Project Status - Municipal Annex Updates

Municipality	LOIP?	Status
Caroline, T	X	Annex update underway - substantially completed
Cayuga Heights, V	X	Annex update underway - substantially completed
Danby, T	X	Complete
Dryden, T	X	Unknown
Dryden, V	No SCIP	Unknown
Eritha, T	X	Annex update underway - substantially completed
Franklin, V	X	Unknown
Genoa, T	X	Annex update underway - substantially completed
Groton, V	X	Complete
Ilwaco, C	X	Unknown
Ilwaco, T	X	Unknown
Lansing, T	X	Unknown
Lansing, V	X	Complete
Newark, T	X	Complete
Summit, V	X	Annex update underway - substantially completed
Utica, T	X	Complete




Public Outreach and Engagement

ACTION! Take and Distribute Surveys!

- Tompkins County Office of Planning and Sustainability has an updated website on the Hazard Mitigation and Resilience Plan: <https://tompkinscountyny.gov/planning/climate-adaptation>
- Citizen Survey to be opened! Please distribute!
- Stakeholder and Neighboring Counties Surveys have been distributed!



Public and Agency Feedback – to Date



Neighboring Counties


- Survey sent in August to: Broome, Cayuga, Cortland, Chemung, Seneca, Schuyler, and Tioga Counties
- Responses from Broome, Tioga, and Schuyler Counties (emergency management)

Stakeholders

- Survey sent to various businesses, academic institutions, non-profits, public authorities, etc.
- One response received (Village of Freelyville DOT: Creek Flooding is major concern) → Please distribute the survey!

Citizens




- Survey expected to go live in the beginning of September.
- Will be shared on Tompkins County website and via social media, and email: → Please spread the word and encourage your friends, neighbors, and family to participate!




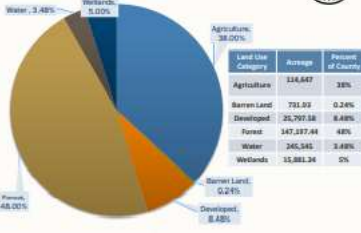

Tompkins County Overview




County Population Density

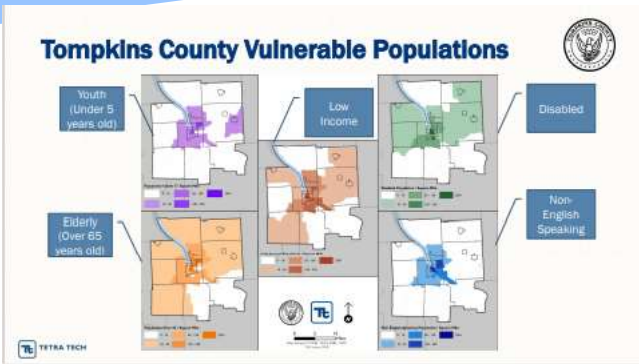




County Land Use

Land Use Category	Acreage	Percent of County
Agriculture	136,647	38%
Barren Land	731.02	0.24%
Developed	29,297.38	8.48%
Forest	147,137.64	48%
Water	245,585	3.48%
Wetlands	15,881.34	5%



TETRA TECH

Mission Statement Goals and Objectives Update

Numerous edits were made to simplify and clarify the objectives – with some eliminations, so the key changes are shown on the following slides in green font.

PROGRESS REPORT CLEAR SOLUTIONS

Mission Statement

A mission statement or guiding principle describes the overall duty and purpose of the planning process and serves to identify the principle message of the plan.

Updated Mission Statement for 2021 Update:

The mission of the Tompkins Hazard Mitigation Plan is to develop a pathway, using an integrated and comprehensive approach, to increase capacity for ALL individuals, communities, municipalities, institutions, businesses and systems within the County to adapt and thrive in the face of chronic stresses and acute shocks as a result of economic and natural hazard events in Tompkins County.

Mission Statement

Goals

Objectives

Projects

Principal message of the plan

General guideline on what is to be achieved

Measurable short-term actions

Implementable actions

TETRA TECH

Goals and Objectives Update

Goal 1: Improve the Resiliency of Systems that Support Public Health and Sustainable Development
(Formerly: Protect and Improve Resiliency of Public Health and Economy)

- Objective 1-1: Promote resilient and sustainable land use practices to increase overall natural resilience.
- Objective 1-2: Develop and maintain sustainable and resilient utility services that serve the County's population and businesses
- Objective 1-3: Develop continuity plans to decrease potential local economic losses.
- Objective 1-4: Promote higher building standards and sustainable design to resist impacts of natural hazards.
- Objective 1-5: Develop strategy to address recurring property loss due to natural hazards in the county .
- Objective 1-6: Pursue federal and state assistance toward the improvement of facilities and infrastructure.
- Objective 1-7: Protect and maintain critical facilities, *lifelines*, and infrastructure.
- Objective 1-8: Improve detection, warning and communication systems.
- Objective 1-9: Promote and enhance the enforcement of ordinances, regulations and other mechanisms that facilitate *resilient and sustainable* construction standards.
- Objective 1-10: Integrate risk reduction concepts, policies, and projects into existing local and regional planning and engagement efforts.

TETRA TECH



Goals and Objectives Update



Goal 2: Increase Partnerships that Improve Hazard Risk Knowledge and Mitigation

Objective 2-1: Enhance the capabilities of the County and communities by implementing actions ~~to better profile and assess~~ exposure of and participate in focus on practices that support or enhance resiliency ~~that support the development of data and information to better understand the effects of hazard events to support the projects to increase resiliency.~~

Objective 2-2: Develop government-led initiatives to assist communities in implementing mitigation activities.

Objective 2-3: ~~Share information and best practices with property owners and encourage property owners to take preventive actions in areas that are especially susceptible to hazards.~~



Goals and Objectives Update



Goal 3: Protect and Restore Natural Ecosystems to Reduce Flood Risk

Objective 3-1: Protect and preserve natural systems to reduce long-term ~~hazard impact-related costs due to damages~~ ~~caused by natural hazard events.~~

Objective 3-2: Incorporate hazard mitigation into land-use planning and natural resource management



Goals and Objectives Update



Goal 4: Enhance Mitigation Collaboration and Coordination Efforts with Emergency Service Agencies to Further Support Life Safety and Economic Resiliency

(Formerly: Develop and implement additional education and outreach programs to increase public awareness of hazard areas and to educate the public on specific, individual and household preparedness activities)

Objective 4-1: Enhance collaborative efforts ~~to support improved~~ ~~involved with~~ natural hazard mitigation management and disaster response to promote resiliency.

Objective 4-2: Engage a broad range of public agencies, citizens, neighborhood groups, non-profit organizations, businesses, and industries to ~~equitably~~ implement mitigation actions.

Objective 4-3: Encourage shared services in acquiring, emergency services and equipment.

Objective 4-4: Coordinate and integrate hazard mitigation actions ~~into~~ ~~with existing local~~ emergency operations plans.

Objective 4-5: Develop a strategy to ensure continuity of governmental operations, emergency services, and essential facilities and ~~lifelines~~ at the local level during and immediately after disaster and hazard events.

Objective 4-6: Support County Emergency Management's efforts ~~related to~~ ~~around~~ community preparedness requirements and response.



Goals and Objectives Update



Goal 5: Promote and Strengthen Healthy and Equitable Environments for all Residents with Special Considerations for Those Socially and Physically Vulnerable

(Formerly: Create a Healthy and Equitable Environment Including Those Socially and Physically Vulnerable)

Objective 5-1: Develop and implement additional education and outreach programs to increase public awareness of hazard areas and impacts.

Objective 5-2: Educate the public on specific, individual and household preparedness and recovery activities.

Objective 5-3: Work to identify those individuals and groups most physically and socially vulnerable to local hazard risk.

Objective 5-4: Work with vulnerable groups and individuals to clarify needs in relation to hazard events and design solutions to reduce risks.


Objective 5-5: Identify residents and business living and operating in high risk areas prone to negative impacts by disasters.





Hazards of Concern



-  **Drought** - including wildfire
-  **Disease Outbreak**
-  **Extreme Temperature**
-  **Flood** - including riverine/flash, ice jam, dam failure, and ground failure due to flooding
-  **Harmful Algal Bloom (HABs)**
-  **Invasive Species**
-  **Severe Storm** - including hail, wind, lightning, thunderstorms, tornadoes, hurricanes, tropical storms
-  **Severe Winter Storm** - including heavy snow, blizzard, sleet, freezing rain, ice storms, and Nor'easters

Tetra Tech logo in the bottom left corner.



Flood Event History and Impacts



1,807
Residents exposed to Flood Hazard Areas (100-year floodplains)
5.5% of total population

\$317,697,199
Estimated Potential General Liability for North Town Development's Capital City of Hudson 7th Floor East

Estimated Displaced Persons due to 1% annual flood event:

Tompkins County (total)	4,619
City of Ithaca	5,077
Town of Dryden	905


Flood History

30 events
(1150-2019)

NFP Statistics (2016)

Exposed	341
Insured	267

NATIONAL FLOOD INSURANCE PROGRAM

-  34.4% of residents within the City of Ithaca live within the 100-year floodplains
-  Probability of Occurrence for County is Flood is Frequent
-  15 Repetitive Loss Properties

Tetra Tech logo in the bottom left corner.



Flood Event Impacts (Exposure and Loss)



Jurisdiction	Total Replacement Cost Value (Buildings)	System A8 Disruption	
		Estimated Loss (\$CV)	% of Total
Canastota (T)	\$2,533,306,343	\$46,578,870	1.8%
Cayuga Heights (V)	\$1,548,665,969	\$0	0%
Deeds (T)	\$2,189,454,321	\$63,314,894	2.9%
Dryden (V)	\$9,769,966,102	\$202,642,718	2.1%
Dryden (V)	\$1,125,339,188	\$134,814,452	11.9%
Freeville (T)	\$1,791,466,211	\$0	0%
Freeville (V)	\$26,499,267	\$11,085,306	3.2%
Groton (T)	\$2,664,861,242	\$39,660,477	1.4%
Groton (V)	\$1,269,171,198	\$189,761,719	14.9%
Ulysses (T)	\$18,712,622,474	\$453,646,250	2.4%
Ulysses (V)	\$14,864,481,196	\$18,641,225	0.1%
Living (T)	\$6,781,991,093	\$114,871,349	1.7%
Living (V)	\$1,430,845,613	\$1,342,126	0.0%
Newfield (T)	\$3,448,244,873	\$27,189,609	0.7%
Freeborn (V)	\$1,241,549,976	\$2,899,267	0.2%
Ulysses (T)	\$3,272,946,448	\$388,176,440	11.9%

TETRA TECH

Regulatory Floodplains

Does this accurately represent the location of flood events?



TETRA TECH

Population Exposure-Flood

Top 5 Communities with Largest % of Population in the SFHA



1. City of Ithaca, 34.41%
2. Village of Dryden, 18.70%
3. Village of Freeville, 16.04%
4. Town of Ulysses, 13.11%
5. Village of Groton, 9.91%



What communities experience localized stormwater flooding?

SWOO - Flood



- Strengths
 - Proactive and organized resources with mutual aid assistance between municipalities.
- Weaknesses
 - Inconsistent municipal guidelines and regulations around flood response.
- Obstacles
 - Strained resources and outdated flood maps
- Opportunities
 - Collaboration with municipalities and local organizations to educate people around flooding and emergency response.

• Consider SWOO's in these areas:



TETRA TECH



Karst-Related Ground Failure

Jurisdiction	Total # Buildings	Total BIVT	Total BIVT (Percentage)			
			Percentage	BIVT Lossable Due to Mobility Loss		
				% Total	BIVT	% Total
Candor (CT)	2,001	\$2,364,243,000	10	2.0%	\$24,642,000	0.4%
Chazy (NY)	2,104	\$467,198,700	4	0.4%	\$1,864,000	0.4%
Delhi (CT)	1,875	\$277,178,607	19	1.0%	\$6,637,200	1.3%
Delton (NY)	129	\$220,042,000	20	1.2%	\$9,400,000	4.3%
Delmar (CT)	1,610	\$225,902,000	22	1.4%	\$10,400,000	4.6%
Delvidal (CT)	618	\$790,796,000	7	1.1%	\$1,514,000	0.2%
Delwood (CT)	1,039	\$662,292,000	13	1.3%	\$11,470,000	1.7%
Delwood (NY)	706	\$108,016,000	4	0.6%	\$1,464,000	1.3%
Delwood (NY)	201	\$388,016,100	2	0.7%	\$600,000	0.1%
Delwood (NY)	1,001	\$500,766,000	14	1.4%	\$10,712,000	2.1%
Delwood (NY)	1,040	\$1,020,000,000	22	2.1%	\$10,600,000	1.0%
Leeds (CT)	808	\$760,016,000	24	3.0%	\$11,231,700	1.5%
Leeds (NY)	100	\$307,000,000	17	1.7%	\$6,600,000	2.1%
Northville (NY)	100	\$100,000,000	0	0%	\$0,000,000	0%
Northville (NY)	307	\$273,000,000	7	2.3%	\$200,000	0.3%
Stowe (CT)	1,200	\$161,000,000	11	0.9%	\$1,600,000	0.9%
TomPKins County (Total)	6,710	\$677,000,000	18	0.3%	\$666,000	0.1%



SWOO - Ground Failure

Strengths

- Good preexisting building codes and regulations

Weaknesses

- Limited resources and options on gorge and land-slide prone areas

Obstacles

- Unknown solutions and multi-jurisdictional collaboration needed.

Opportunities

- Increase understanding of existing methods to reduce ground failure and knowledge of funding opportunities.

Consider SWOO's in these areas:

STRUCTURAL PROJECTS Structural bracing increasing Vegetation	PLANS and/or REGULATIONS Decreasing and restricting development in vulnerable areas	EDUCATION & OUTREACH Public awareness and school education programs	NATURAL RESOURCE PROTECTION Preserve naturally ground failure prone areas.
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Ground Failure Summary

Strengths -Equipment and material inventories -Staff availability -Strong email communication list	Weaknesses -Water quality issues related to landslide events -Lack of universal broadband
Obstacles -Funding?	Opportunities -Identify potential location of ground failure events -Identify projects to mitigation landslides due to flood events



Ground Failure Feedback

Strengths • We have equipment to fill a hole if necessary. • Village has staff of B-type crew that are all skilled in the operation of trucks and equipment • Strength- Good planning and building codes to limit activities near questionable areas. • Inspection by DPW and referred to engineer if required. • Highway dept can put up signs for road closures. Local gravel pits provide fill. • We have a pretty good email communication list with the village to notify residents of communications relating to this. • Email communication system set up with residents who want to be a part of it
Weaknesses • If defined as landslide - significant water quality issue and safety issue particularly with recreation and conservation entities. • Lack of universal broadband communication system
Obstacles • Funding?
Opportunities • Identify potential locations of ground failure • Identify projects to mitigate landslides due to flood events





Drought/Wildfire Hazard


www.tetra.tech CLEAR SOLUTIONS

Drought/ Wildfire Exposure





523
Number of farms



91,277
Acres of farmland



\$64.7 M
Market Value



94%
Percentage of family-owned farms


Droughts lead to dryer conditions which cause crops to die, and farmers losing money.

Drought conditions can lead to water supply shortages, impacting both ground water and surface water supplies.

Prolonged droughts can lead to wildfires.




Drought/ Wildfire



Estimated Building Stock Exposure

Municipality	Number of Buildings	Total Replacement Cost Value (RCV)	Number of Buildings with Fireplaces	Percentage of Total	Percentage of Total with Fireplaces	Number of Buildings with Fireplaces	Percentage of Total	Percentage of Total with Fireplaces	Total Replacement Cost Value (RCV)	Total Replacement Cost Value (RCV)
Albion	1,234	\$12,345,678	100	8.1%	8,123	6.6%	8.1%	\$10,000,000	\$10,000,000	
Chemung	2,345	\$23,456,789	200	8.5%	19,456	8.3%	8.5%	\$20,000,000	\$20,000,000	
... (Other municipalities)	
Total	523	\$64,700,000	450	86.2%	405	77.4%	86.2%	\$55,000,000	\$55,000,000	



Drought/Wildfire Summary



Strengths

- Multiple water sources
- Municipal water with emergency back-up reservoirs
- Academia to support a solution
- Email communication

Weaknesses

- Vulnerabilities not at forefront of County
- Failure of general population to address potential food shortages
- Aging water infrastructure
- Knowledge of local official roles

Obstacles


- Funding?

Opportunities

- Use of academia (students)




Drought/Wild Fire Feedback



Strengths

- We have multiple possible sources of water and the fire department has water trucks.
- With the experience of this country and its transportation capabilities, long-term emergency can be limited.
- Municipal water with emergency backup reservoirs.
- Water districts have good water sources, we have not heard of many dry wells from people in their own wells.
- Farmers have lots of water. Our urban wells are always flowing water even in the great droughts. If we are in a drought then other areas are much worse off and we have water to share from our two creeks and underground aquifer.
- Small communication system set up with residents who want to be a part of it.
- Higher Education: There are geologist professionals in our community who have traveled across the globe to assist construction in other countries that will benefit. Let's use what we have next time to see our success.

Weaknesses


- 2020 went pointed to important measures and vulnerabilities, remains a largely hidden concern throughout of County.
- Failure of the general population to address back storage in preparation for droughts.
- Lack of internet broadband communication system.
- Infrastructure for the water districts is aging and will need to be addressed in the near future.
- Local officials do not understand their role in responding to drought. In 2015 the public health director ignored several warnings of the impending drought, saying there was nothing he could do about the weather. A month later the health dept announced to organize an appropriate response when drinking water resources are in issue. Officials also failed to realize the town of Ulysses was one of the last to be affected in emergency when it came to agriculture and the drought.

Obstacles

- Funding?

Opportunities

- Student interns (undergrad and graduate projects) can be extremely helpful in conducting initial research, collecting data and preparing analytical products as part of the initial planning analysis step of a project.




Extreme Temperature Hazard




Extreme Temperature Risk





Reported events
2000 - April 2020

15



Total Property Damaged
2000 - April 2020

\$23,000




Climate Change Impact

High



SWOO - Drought/ Wildfire/Xtreme Temperature



Strengths

- Good back-up water supply and multiple water sources

Weaknesses

- Underdeveloped public water infrastructure

Obstacles


- Strained resources and general unfamiliarity to the topic.

Opportunities

- Develop education and mutual aid programs to reduce drought vulnerability

Consider SWOO's in these areas:

<p>STRUCTURAL PROJECTS</p> <ul style="list-style-type: none"> Retrofit water supply systems Upgrade water delivery systems 	<p>PLANS and/or REGULATIONS</p> <ul style="list-style-type: none"> Regularly monitor drought conditions Improve water supply monitoring 	<p>EDUCATION & OUTREACH</p> <ul style="list-style-type: none"> Water Saving technique education Soil and water conservation practices for farmers 	<p>NATURAL RESOURCE PROTECTION</p> <ul style="list-style-type: none"> Drought-tolerant landscape design
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Severe Storm Hazard

Severe Storm Event History and Impacts



205 Severe Storm Events
(1950 - April 2020)



Federally Declared Severe Storm
Events (1975 - 2019) 10

10

\$2.97 Million Property Damages
(1950 - April 2020)



Population Exposure to Severe
Storms 100%

100%



Severe Storm Event Impacts



Jurisdiction	Total Replacement Cost Value (All Occupancies)	Estimated Total Damages	
		100-Year	500-Year
Caroline (T)	\$2,522,186,347	\$0	\$259,239
Chemung (T)	\$1,589,893,819	\$0	\$0
Deshler (T)	\$1,188,434,211	\$0	\$127,897
Deerfoot (T)	\$6,209,948,102	\$0	\$26,493
Dresden (T)	\$1,135,383,000	\$0	\$42,188
Edinburg (T)	\$1,738,468,211	\$0	\$17,019
Hamlet (NY)	\$28,699,287	\$0	\$1,119
Geneva (T)	\$1,204,803,242	\$0	\$8,376
Hamden (NY)	\$1,263,172,486	\$0	\$5,973
Heard (T)	\$16,712,262,679	\$0	\$76,429
Ilwaco (T)	\$16,886,181,886	\$0	\$85,462
Lewing (T)	\$6,278,191,013	\$0	\$11,462
Loring (NY)	\$2,462,092,627	\$0	\$114
Northford (T)	\$3,244,224,671	\$0	\$146,376
Trumansburg (NY)	\$1,261,542,970	\$0	\$1,242
Union (T)	\$2,272,244,468	\$0	\$42,715
Tompkins County (Total)	\$71,986,484,876	\$0	\$863,794



SWOO – Severe Storm



- Strengths**
 - Local warning systems and adequate emergency equipment
- Weaknesses**
 - Inconsistent response time across the county.
- Obstacles**
 - Strained resources and climate projections.
- Opportunities**
 - Increase collaboration between schools, municipalities, and municipal organizations to prepare for future severe storms

Consider SWOO's in these areas:

STRUCTURAL PROJECTS Structural bracing Improving roofs	PLANS and/or REGULATIONS Protect critical facilities Wind-resistant building techniques	EDUCATION & OUTREACH Public awareness and school education programs	NATURAL RESOURCE PROTECTION Protect trees and forests
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Severe Storm Summary

Strengths <ul style="list-style-type: none"> -Strong DPW staff and resources -Experienced highway and volunteer fire departments Strong intermunicipal cooperation Email communication system 	Weaknesses <ul style="list-style-type: none"> -Proactive but inconsistent local regulations -Warning system and response -Need backup plan for 911 facilities
Obstacles <ul style="list-style-type: none"> -Limited resources -Lack of universal broadband 	Opportunities <ul style="list-style-type: none"> -Backup Power? Underground utilities? Tree Maintenance?

Severe Storm Feedback

Strengths

- Proactive but inconsistent local regulations help to reduce impacts with increased precipitation events.
- Equipment fleet when ready would help with future planning and help identify possible warning locations.
- Our Department is experienced in helping with large storms in many ways, being able to clean up trees and debris, be able to back a bucket truck to take down large trees.
- Fledge can staff or bring in staff that are an asset to the operation of trucks and equipment.
- Familiarity over municipal cooperation and sharing of personnel and equipment. Electric and DPW crews are on call with equipment and are willing to respond to mutual aid.
- Experienced, dedicated highway and volunteer fire departments.
- There are a number of water sources and DOT knows what roads/bridges are most susceptible from past experiences to close. Dealing with water and drainage is nothing new so that is a strength.
- Benefits - we have a email communication system set up with residents who want to be a part of it.

Weaknesses

- Proactive but inconsistent local regulations help to reduce impacts with increased precipitation events.
- Warning systems and response (number of available responders) which depends entirely on the severity of the storm.
- Need back up plan and facilities for 911 operations currently under development.

Obstacles

- Limited resources
- Lack of universal broadband communication system

Opportunities

- ??
- Backup power?
- Underground utilities?
- Tree maintenance?

Severe Winter Storm Hazard

Severe Winter Storms Event History and Exposure

64 Occurrences (1995-2008)	\$3.6 billion Estimated Potential GBS Loss 5%	\$670,000 Property Damage Estimated since 2000
2 FEMA Declarations (1995-2008)	Risk for Tompkins County: Medium	



Severe Winter Storm Impacts

Municipality	Total Equipment Cost	1-Percent Equipment Cost
Carleton (T)	\$5,523,189,347	\$5,523,189.3
Catskill (T)	\$1,246,627,500	\$1,246,627.5
Delhi (T)	\$2,358,658,272	\$2,358,658.2
Delton (T)	\$5,790,968,352	\$5,790,968.3
Delmar (T)	\$5,278,889,989	\$5,278,889.9
Delmar (C)	\$1,736,488,733	\$1,736,488.7
Delmar (C)	\$750,050,293	\$750,050.2
Delmar (C)	\$2,808,800,342	\$2,808,800.3
Delmar (C)	\$2,280,770,289	\$2,280,770.2
Delmar (C)	\$18,712,505,679	\$18,712,505.6
Delmar (C)	\$18,848,131,288	\$18,848,131.2
Delmar (C)	\$6,370,076,879	\$6,370,076.8
Delmar (C)	\$3,450,041,873	\$3,450,041.8
Delmar (C)	\$3,846,204,673	\$3,846,204.6
Delmar (C)	\$2,242,740,070	\$2,242,740.0
Delmar (C)	\$3,572,441,448	\$3,572,441.4
Tompkins County (Total)	\$75,086,888,876	\$75,086,888.8

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SWOO- Winter Storm

- Strengths**
 - Already established and good snow removal services and technology
- Weaknesses**
 - Public education around extreme snowstorms and behavior during an extreme snow event.
- Obstacles**
 - Continued problems with geographically inaccessible areas that congest during winter storms.
- Opportunities**
 - Educational opportunities to work with communities to increase awareness and mitigate existing extreme snowstorm

Consider SWOO's in these areas:

STRUCTURAL PROJECTS Protect power lines Retrofit buildings Maintain regular road clearing	PLANS and/or REGULATIONS Discouraging flat roofs Update building codes	EDUCATION & OUTREACH Assist vulnerable populations Safety strategies for heating homes	NATURAL RESOURCE PROTECTION "Living snow fences" Tree management
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TETRA TECH

Severe Winter Storm Summary

Strengths Experience dealing with snow events - Quick DPW crews - Electric and DPW on call - Experienced highway and volunteer fire department personnel	Weaknesses Lack of universal broadband Road salting and plowing is difficult in some areas Rt. 33 is a major connecting point for commuters (a lifeline?) and can be closed for long periods due to ice.
Obstacles Funding?	Opportunities ??

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Severe Winter Storm Feedback

Strengths <ul style="list-style-type: none"> Community history with winter hazard events has community well supported for these hazard events. The highway department is always on the front lines plowing and making sure roadways are safe for everyone. Village has staff of 8 dpe crew that are all skilled in the operation of trucks and equipment Delmar has plans in place to utilize municipal and school facilities, both with gas powered generators and gas heat, to temporarily house and feed people displaced by local disasters. Our Electric and DPW crews are on call with equipment and are willing to respond to mutual aid. Experienced, dedicated highway and volunteer fire departments. Good relationships with county and state, mutual aid coverage between neighboring towns. Dedicated staff which is a strength. We only have one plow truck which is a weakness (and a backup truck plow). Smart communication system set up with residents who want to be a part of it.
Weaknesses <ul style="list-style-type: none"> Lack of universal broadband communication system Route 33 is a major connecting point to Delmar and points south for commuters. During an ice event a few years ago it was impassable for hours. Road salt, plowing available, some areas too difficult to maintain in winter conditions.
Obstacles <ul style="list-style-type: none"> Funding?
Opportunities <ul style="list-style-type: none"> ??

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Harmful Algal Blooms

4 HAB reports in 2020 so far (Cayuga Lake):
6/25 Stewart Park
7/6 Ithaca Yacht Club
7/9 Taughannock Falls State Park
8/24 Stewart Park Boat Dock

SW00- Harmful Algal Bloom

- Strengths**
Well established water quality monitoring and sampling program for Cayuga Lake
- Weaknesses**
No community action plan has been developed with in-depth analysis. Thus, no sense of direction.
- Obstacles**
Still many unknowns around the root cause of HABs.
- Opportunities**
Increased local awareness and education. Will encourage intermunicipal collaboration.

Consider SW00's in these areas:

STRUCTURAL PROJECTS Develop green infrastructure to prevent excessive contaminated runoff.	PLANS and/or REGULATIONS Develop a stormwater management plan or a HABs management action plan.	EDUCATION & OUTREACH Develop regional and county education programs around HABs and resources to prevent and minimize incidents.	NATURAL RESOURCE PROTECTION Implement the use of shoreline management and restoring riparian buffers.
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Harmful Algal Bloom Summary

Strengths -Increased awareness -Strong email communication	Weaknesses -Unclear of mitigation measures -Monitoring of waterways -Lack of universal broadband system
Obstacles -Funding?	Opportunities -Determine impact of sanitizer chemicals discharged to lakes



Harmful Algal Bloom Feedback

Strengths

- Significant economic impacts may result, there is however some positives with increased awareness. We make sure that everyone is notified and caution signs are put up if this happens.
- Close monitoring and sampling of streams and waterways that link to the West Branch of the Cayuga inlet are done by the county and volunteers.
- Pretty good email communication list with the village to notify residents of communications relating to this. Most of our water that residents swim in and enjoy is moving.
- Email communication system set up with residents who want to be a part of it.

Weaknesses

- It is unclear what precise measures should be undertaken to reduce impacts.
- Better monitoring of waterways and regular maintenance would be required to improve mitigation of HABs further downstream.
- Lack of universal broadband communication system

Options

- Funding?

Opportunities

- Is there a need to address the millions of gallons of alcohol hand sanitizers, Clorox, Lysol, soap and other cleaning products being purged into Cayuga Lake due to the Covid 19 Pandemic have any effect on harmful algae blooms? Perhaps some events are well regulating?

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Invasive Species

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Invasive Species

Common Invasive Species in Tompkins:

<p>Garlic Mustard</p> 	<p>Asian Longhorned Beetle</p> 	<p>Mugwort</p> 
<p>Hydrilla</p> 	<p>Giant Hogweed</p> 	<p>Wild Parrotia</p> 






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Invasive Species

Invasive Species Disease Transmission:

- Harsh rash from species like Giant Hogweed
- Lyme Disease
- Lone Star Tick
- Eastern Equine Encephalitis (EEE)
- West Nile Virus
- Beech Leaf Disease
- Oak Wilt


647

*Total cases of Lyme disease submitted in Tompkins County (2007 to 2018)

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SW00 - Invasive Species



- Strengths**
 - Active mitigation education programs in place through organizations like CCE
- Weaknesses**
 - Increasing number of new species and difficulty to keep up.
- Obstacles**
 - Lack of administrative direction to reduce new invasive.
- Opportunities**
 - Increasing public awareness around the changing environment

Consider SW00's in these areas:

STRUCTURAL PROJECTS Physical Isolation of species and pest control.	PLANS and/or REGULATIONS Implement smart and climate adaptive land use methods	EDUCATION & OUTREACH Public awareness and school education programs	NATURAL RESOURCE PROTECTION Active community participation in reporting and removing potentially harmful invasive
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Invasive Species Summary




Strengths <ul style="list-style-type: none"> - Knowledge of invasives - Experience in knotweed management - Active citizenry 	Weaknesses <ul style="list-style-type: none"> - Challenges in dealing with known species
Obstacles <ul style="list-style-type: none"> - Negative mindset - Funding? 	Opportunities <ul style="list-style-type: none"> - Funding?



Invasive Species Feedback



Strengths <ul style="list-style-type: none"> - Community is well versed in range of invasives but doesn't necessarily connect this with hazard mitigation. - We would try and remove this safely if not then we would contact the DEC to help us. - The DPW crew has some experience with Knotweed management - Outside sources would be contacted. - Active interested citizenry. Though some invasive are too widespread to terminate - Good email communication list with the village to notify residents of communications relating to this. - Email communication system set up with residents who want to be a part of it.
Weaknesses <ul style="list-style-type: none"> - Challenges dealing with the invasive species we are aware of: beaver, coyote, multi-flora rose, ash bore, hog weed
Obstacles <ul style="list-style-type: none"> - A mindset that all change is bad. - Lack of universal broadband communication system
Opportunities <ul style="list-style-type: none"> - Funding?




Disease Outbreak Hazard





Disease Outbreak

Examples Include:

- COVID-19: Present
- Swine Flu: 2009-2010
- SARS Virus: 2003
- Asian Flu: 1957-1958

TOTAL COVID POSITIVE:

Village of Cayuga Heights	19
Town of Canaan	0
Town of Decatur	0
Town of Dryden	20
Village of Dryden	2
Town of Erden	3
Village of Freeville	5
Town of Gordon	8
Village of Gordon	3
City of Ithaca	58
Town of Ithaca	52
Town of Lansing	7
Village of Lansing	13
Town of Heathfield	3
Village of Trumansburg	1
Town of Lissen	8

TOMPKINS COUNTY COVID-19 DATA
As of 08/24/2020 to 09/23/2020 | Source: TCOE and Cayuga Health System

Date/Weekend	Positive Results	Positive Cases	Positive Tests	Recovered
02/04/20	42,189	375	282	11,918

Potential Sales Tax Loss

Location	Loss	% Lost
Town	(\$4,117,126)	(2.5)
Tompkins	(\$7,427)	(0.2)
Office	(\$4,743,866)	(9.8)
Warren	(\$15,962,272)	(13.2)
Washington	(\$9,943,563)	(12.1)
Wayne	(\$1,827,298)	(12.3)
Westchester	(\$4,062,488)	(9.1)
Worming	(\$1,054,213)	(12.1)
Sales	(\$1,424,817)	(12.2)
NY Outside NYC	(\$1,062,184,506)	(12.3)

COVID 19 Loss in Sales Tax Revenue Projection: www.tybac.org

SWOO- Disease Outbreak

Strengths

- Good response and mutual aid structure established on a county level.

Weaknesses

- Lack of resources and lack of knowledge around new disease outbreaks.
- Obstacles: Climate change will exacerbate already delicate response structure and communities will need to adapt.

Opportunities

- Increase mutual aid collaboration and social services.

Consider SWOO's in these areas:

- STRUCTURAL PROJECTS:** Create and improve Emergency Response Facilities
- PLANS and/or REGULATIONS:** develop municipal emergency management plan
- EDUCATION & OUTREACH:** Increase awareness around best practices during disease outbreaks.
- NATURAL RESOURCE PROTECTION:** Preserve and enhance public space

Disease Outbreak Summary

Strengths

- Already established response framework and relevant familiarity with this problem
- Recent large covert construction
- Experience in responding
- Mutual aid among law enforcement agencies

Weaknesses

- Lack of financial resources and personnel
- Waypoint coverts
- Developmental/strategic management
- Procedures for stress/panic in flooding

Obstacles

- Coordinating projects and intermunicipal collaboration to help serve residents
- Funding limitations
- Like Ontario levels are set by an international body

Opportunities

- Potential new grant opportunities and program development for community engagement
- More stakeholder outreach
- Pursue grant opportunities to improve bridges, coverts, and other structures
- Collaboration with Cayuga County
- Use the experience of the responders to determine what opportunities exist

Disease Outbreak Feedback

Strengths

- Recent experience closed businesses led by State to address
- Having the town and water plans in place to help keep continuity of operations
- Community support during difficult situations, when water is not available, has given us the blessing of a working and planning well life run through
- Managerial Review and Architecture & Utilities roles
- Local people are cooperative with direction from responsible people. A few are not. We have good systems to help respond to these personnel and people
- Strength: strong guidance from county health department has helped us through a current COVID-19 epidemic
- Obstacles: plan to improve to respond to the town to give context, call to the towns structure. Residents of people who have no options for high speed internet and social services
- We have a pretty good email communication that with the village to notify residents of communication meeting to this
- Obstacles: we have a small communication system set up with residents who want to be part of it
- Obstacles: Lack of a central broadcast or communication system
- Obstacles: Lack of support for Cayuga Health Personnel from both the health department leadership and local administration have failed to produce the appropriate support for public health preparation and planning for the past seven years. Because of this, it has been hard to produce the county departments to adequately prepare. That is why the health department personnel have had to be forced to respond to these agencies with the community, the college, OAC, NCI school districts, local businesses, and others, all of which have had the Tompkins County response through the efforts with the people to be organized and used to address the request for emergency preparedness and the residents need to be organized to understand it. You have the all of the other departments in the town getting involved in the planning, but it is not clear. Despite everyone getting involved in the task, things are not going in the direction and having to look for ways to help. As long as this continues, there is no issue for a better set plan for the county.
- County and Municipality Collaborations: Public health preparation and plans have been drafted as request for meetings with local elected officials to discuss preparation and plan of needs have been agreed to some extent.
- Strength: The County of Community There are people of strength throughout Tompkins County that provide strength and reliability. Strong elected leaders and officials in the county are in the county. The county has a number of people in the county and the county of community. When elected officials or county government can do response, there are groups of people that will stand up and only in support of the needs of the community.

Obstacles

Opportunities



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Hazard Ranking

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What is Risk?

Risk is defined as a function of :

- ✓ Hazard
 - Source of potential danger or adverse condition
- ✓ Exposure
 - Manmade or natural features that are exposed to the hazard
- ✓ Vulnerability
 - Damage susceptibility of the exposed features
- ✓ Adaptive Capacity (or capability)
 - Plans/policies
 - Response/recovery
 - Financial resources



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Hazard Ranking Approach

Hazard Ranking is determined by quantitative and qualitative factors including:

- The calculated probability of a hazard occurring based on historical data
- Impacts to people, property, and the economy based on GIS data and analysis of exposure.
- The degree to which *climate change* will affect future occurrences based on best available data.
- Capability- the ability of your community to respond to the hazard based on ordinances, mitigation strategies and procedures, and readiness.




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Hazard Ranking Formula



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Additional Input to Identify Strengths, Weaknesses, Obstacles, and Opportunities SWOO

INSPIRING IDEAS. CLEAR SOLUTIONS.

This is where we are heading....



Mitigation Toolbox → Mitigation Brainstorming → Updated Mitigation Strategy → Implementation

Inputs: 2020 Goals, 2015 Mitigation Strategy, Risk Assessment Results, Capability Assessment Results, Subject Matter Expertise, Stakeholder Public Input, Existing Plans/Integration, FEMA Resources

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Next Step: Problem Statements

- One worksheet needs to be completed per mitigation action
- **Focus on your problems**
- Quality, not quantity
- Provide details to support the issues and to help define solutions
- We will provide this information to NYSDHSES to prepare for our next meeting



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Any Questions?



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Tompkins County Hazard Mitigation Plan Update Minutes of Meeting



Purpose of Meeting: Steering Committee Meeting #3		
Location of Meeting: Virtual		
Date/Time of Meeting: August 26, 2020 9AM – 10:30AM		
Attendees:		
CJ Randall, Town of Lansing David Sprout, Town of Dryden Jessica Verfuss, Deputy Director of County Emergency Response Katie Borgella, Tompkins County Planning Kevin Clapp, NYS Department of Homeland Security and Emergency Services CJ Randall, Town of Lansing	Nina Saeli, Tompkins Health Department Nancy Munkenbeck, Town of Dryden Mike Thorne, City of Ithaca DPW Scott Doyle, Tompkins County Planning Cynthia Blanco, Tetra Tech Heather Apgar, Tetra Tech Osamu Tsuda, Tetra Tech	
Agenda Summary: Steering Committee meeting to review and obtain feedback on risk assessment results; finalization of mission statement, goals, and objectives input; and conduct strengths, weaknesses, obstacles, and opportunities (SWOO) exercise to obtain input.		
Item No.	Description	Action By:
1.	Welcome <ul style="list-style-type: none"> The primary purpose of this meeting is to review the risk assessment results which will help identify the primary risks and guide outcomes for the final hazard mitigation plan. The Steering Committee will be tasked to finalize the Mission Statement, Goals, and Objectives and to participate in the Strengths, Weaknesses, Obstacles, and Opportunities (SWOO) exercise. 	
2.	Project Status <ul style="list-style-type: none"> Tompkins County and Tetra Tech are working with communities on their annexes, but significant work has been complete. Tetra Tech is currently working on updating the hazard profiles and preparing for the Planning Partnership's risk assessment presentation. Tompkins County's Department of Planning and Sustainability updated their website to include information on the Hazard Mitigation and Resilience Plan. 	
3.	Mission Statement, Goals and Objectives <ul style="list-style-type: none"> The Steering Committee reviewed the updated mission statement, goals, and objectives which were adjusted based on committee input. Further adjustments include: <ul style="list-style-type: none"> Mission Statement: <ul style="list-style-type: none"> The ALL should be lowercased. It will be important that Tompkins emphasizes "help develop pathway" and "plan" rather than "guide" or "direct", as the county does not have specific jurisdictional authority over each municipality. In general, it is wordy and needs to be streamlined and simplified. Goals and Objectives: <ul style="list-style-type: none"> Objectives have been streamlined to simplify to better communicate the content and purpose. May look to update objectives to emphasize the aspect of working with population, rather than just municipalities. Objective 5-3 to be modified to just say "Identify" whereas 5-4 must be actual "outreach". 	Scott Doyle, as Committee Chair, will review and finalize the Mission Statement, Goals, and Objectives for approval by the Steering Committee
4.	Hazards of Concern <ul style="list-style-type: none"> Based on committee feedback since the last meeting, the committee considered a list of hazards including: Drought (including Wildfire), Disease Outbreak, Extreme 	





Tompkins County Hazard Mitigation Plan Update Minutes of Meeting



	<p>Temperatures, Flood (including ground failure), Harmful Algal Bloom, Invasive Species, Severe Storm, and Severe Winter Storm.</p> <ul style="list-style-type: none"> o It was noted that many ground failures are usually slow moving and are not usually immediate problems that are triggered by flooding, so pairing these two hazards would make sense. o Unlike previous plans, this plan focuses on only natural hazards, rather than non-natural hazards such as terrorism and transportation. Further, as emergency management planning mechanisms cover these man-made hazards, the committee confirmed that these will not be included as stand-alone hazards in the plan. However, where applicable, information concerning the existence of these hazards and their impacts and how local emergency management is involved with these efforts will be included in the plan. 	
<p>5.</p>	<p>Risk and Vulnerability Assessment Overview</p> <ul style="list-style-type: none"> • The risk and vulnerability assessment results were provided in a PowerPoint presentation. The outcome of the assessment was used to calculate a hazard ranking for each hazard of concern for the County and each municipality. • A hazard ranking has been prepared to help understand the County and each community's vulnerability to hazards and to prioritize projects and activities. <ul style="list-style-type: none"> o The hazard ranking is determined by quantitative and qualitative hazards including the calculated probability of the hazard occurring based on historical data; impacts to people, property, and the economy based on GIS (Geographical Information System) exposure analysis; the degree to which climate change will affect future occurrences; and the ability of a community to respond to or address the hazard. • Due to time limitations, only the flood hazard was reviewed. It was noted that although the flood hazard areas are centered around the City of Ithaca, the Village of Dryden and the Town of Lansing, this does not reflect the full impact of flood events throughout the County. Flood events in the County can have wide ranging effects on the transportation, accessibility, and economy of the entire region. • Information presented on slide number 21 showed the outcome of the 0.2% annual chance flood event instead of the 1% annual chance flood event. Tetra Tech will provide a revised presentation showing the 1% annual chance flood event information. • The committee agreed that those available will re-convene as available the week of 8/31 to further review the Risk Assessment results to support the identification of mitigation strategies. • The County-wide risk ranking results indicate 2 high ranked hazards (severe storm and harmful algal bloom). The committee noted that Tompkins County does not have significant issues with wildfire (though it is concern) and that due to the associated issues noted above, flood should be adjusted to high. The committee indicated that wildfire and drought should not be paired together as they are two very different things. • The specific municipal rankings will be reviewed at the upcoming meeting to enable further input before transmitting the results to municipalities. 	<p>Tetra Tech to correct information on the PowerPoint regarding flooding and provide slides to SC.</p> <p>Tetra Tech to provide SC with risk ranking methodology information</p>
<p>6.</p>	<p>Next Steps</p> <ul style="list-style-type: none"> • The Steering Committee will re-convene as available the week of 8/31 to further review the Risk Assessment result. • For the ranking, each municipality will need to review the rankings for their hazards of concern. This will be done after the next Planning Partnership meeting. • As the project moves forward, Tetra Tech will support and work with individual municipalities to review their hazard rankings. Tompkins County believes that the hazard rankings may not reflect the relative hazard risk and that the Steering Committee should re-assess the results with the intent of adjusting based on local information prior to the planning partnership meeting. 	<p>Scott Doyle to invite interested SC members to bi-weekly core planning team update meeting</p>





Tompkins County Hazard Mitigation Plan Update Minutes of Meeting



	<ul style="list-style-type: none">The next planning partnership will be postponed to 9/16 to enable the Steering Committee to review the results and adjust as necessary.	
7.	<p>Questions/ Discussion</p> <ul style="list-style-type: none">Extreme Temperatures: while many outlying communities are not significantly impacted by extreme temperatures, the overall effect from extreme temperatures can have a cascading effect on municipal utilities, and lead to a plethora of issues that might be indirectly linked to extreme temperatures. Thus, extreme temperatures are not only a public health concern, but also a social and economic concern.	
8.	<p>Adjournment</p> <ul style="list-style-type: none">The committee may reconvene in early September to discuss the Risk Assessment workshop for municipalities. The Planning Partnership meeting will be re-scheduled to September 16 at 9 am.	



C.5 PLANNING PARTNERSHIP MEETING SEPTEMBER 16, 2020



TOMPKINS COUNTY HAZARD MITIGATION PLAN UPDATE
Steering Committee and Planning Partnership Meeting – AGENDA
September 16, 2020 – 9 AM



Virtual Meeting

Dial-in Phone Number: +1 646 558 8656 Conference ID: 921 2595 6399# Passcode: 384983

Join by Computer:

<https://tompkinscountyny.gov.zoom.us/j/92125956399?pwd=cVd1Q1M0Q3V0M1hwcnlYcVZoR2lpZz09>

1. Welcome
2. Project Status
 - Community Homework/ Annex Updates
 - Project Schedule
 - Public Engagement/ Outreach
3. Risk Assessment
 - Overview
 - Hazards of Concern/ Risk Ranking
 - Results for each Hazard of Concern
4. Data Analysis
 - Strengths, Weaknesses, Obstacles, and Opportunities overview
 - Final Goals and Objectives for 2020 Plan
5. Next Steps
 - Where we are heading with this information
 - Update Mitigation Strategy/ Projects





Tompkins County Resiliency and Recovery Plan Hazard Mitigation Plan Update Component

Planning Together for a Resilient Tompkins County

Steering Committee Meeting – Risk Assessment Presentation

September 16, 2020

Today's Topics

- Introductions
- Project Status
- Ongoing Public Outreach
- Risk Assessment Overview
- Risk Ranking
- Next Steps



Project Schedule Review

- | | |
|----------------------|---|
| ✓ July 2020 | Municipal Kick-Off Meeting |
| ✓ May -Aug | Data Collection |
| ✓ July-August | Update hazard profiles |
| ✓ August 26,2020 | Risk Assessment Presentation to Steering Committee |
| ☐ September 16, 2020 | Risk Assessment Presentation to Planning Partnership– TODAY! |
| ☐ October | Develop problem statements with municipalities and County |
| ☐ October (date TBD) | Mitigation Strategy Workshop |
| ☐ December | Review draft plan |
| ☐ January | Submit plan to FEMA and NYSDHSES |



Project Status - Municipal Annex Updates



Municipality	LOIP?	Status
Caroline, T	X	Annex update underway- substantially completed
Cayuga Heights, V	X	Complete
Danby, T	X	Complete
Dryden, T	X	Complete
Dryden, V	X	Annex update underway- substantially completed
Enfield, T	X	Complete
Freeville, V	X	Complete
Groton, T	X	Complete
Groton, V	X	Complete
Ithaca, C	X	Complete
Ithaca, T	X	Complete
Lansing, T	X	Complete
Lansing, V	X	Complete
Newfield, T	X	Complete
Trumansburg, V	X	Complete
Ulvest, T	X	Complete



Public Outreach and Engagement



ACTION! Take and Distribute Surveys!

- Tompkins County Office of Planning and Sustainability has an updated website on the Hazard Mitigation and Resilience Plan: <https://tompkinscountyny.gov/planning/climate-adaptation>
- Citizen Survey to be opened! Please distribute!
- Stakeholder and Neighboring Counties Surveys have been distributed!



Purpose of Risk Assessment



CONSTRUA WHITE CLEAR SOLUTIONS

Purpose of Risk Assessment

- To get a better understanding of the risks you face
- Initial results based on available data
- Quantitative data (population/structures exposed, structural damages within hazard zones) used when available
- Qualitative community input (such as unmapped flood areas) integrated to adjust results
- *Local community input needed to adjust relative rankings*





Preliminary Hazard Ranking Methodology



Hazard Ranking is determined by quantitative and qualitative factors including:

- The calculated probability of a hazard occurring based on historical data
- Impacts to people, property, and the economy based on GIS data and analysis of exposure.
- The degree to which climate change will affect future occurrences based on best available data.
- Capability- the ability of your community to respond to the hazard based on ordinances, mitigation strategies and procedures, and readiness.

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Preliminary Hazard Ranking Formula



Local community input to adjust relative rankings

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Hazard Ranking Input



Impact on Population – Function of population exposed

- ✓ Low – 14% or less population exposed
- ✓ Medium – 15%–29% population exposed
- ✓ High – 30%+ population exposed

Impact on property – Function of structures exposed

- ✓ Low – 14% or less structures exposed
- ✓ Medium – 15%–29% structures exposed
- ✓ High – 30%+ structures exposed

Impact on economy – Function of damages to building stock

- ✓ Low – 9% or less estimate of total replacement cost
- ✓ Medium – 10%–19% loss estimate of total replacement cost
- ✓ High – 19%+ loss estimate of total replacement cost

Capability – Function of level of planning, policies, enforcement

- ✓ Low – outdated policies; limited to no deployable resources; limited capabilities to respond; long recovery
- ✓ Medium – minimum requirements; mitigation strategies identified but not implemented; moderate county capabilities
- ✓ High – exceed requirements; mitigation/protective measures in place; county/jurisdiction has ability to recover quickly because resources are readily available, and capabilities are high

Climate Change – Function of climate predictions

- ✓ Low – No local data is available; modeling projects are uncertain on whether there is increased future risk; confidence level is low (inconclusive evidence)
- ✓ Medium – Studies and modeling projections indicate a potential for exacerbated conditions due to climate change
- ✓ High – Studies and modeling projections indicate exacerbated conditions/increased future risk due to climate change

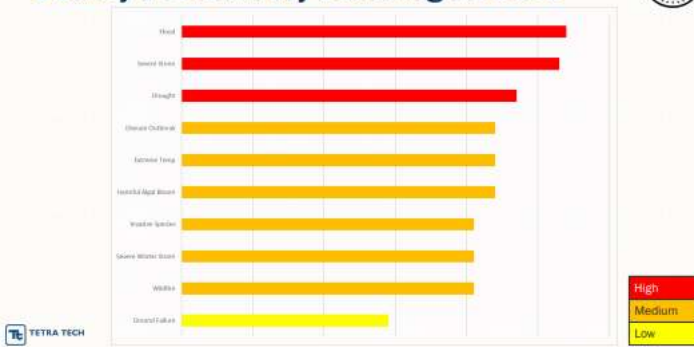
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Hazard Ranking Input

Hazard	Population	Property	Economy	Adaptive Capacity	Climate Change
Disease Outbreak	Calculated using the vulnerable population (65+ and <5)	Low	Medium	Medium	Medium
Drought	Low impact on population	Impact for property located in communities adjusted to High with a large proportion of farms in the municipality	Medium	Medium	Medium
Extreme Temperature	Calculated using the vulnerable population (65+ and <5)	Low	Low	Medium	High
Flood	Based on % population in the 1% flood area	Based on % building stock exposed in 1% flood area - increased impact for those with flood history and/or RL properties	Based on % damage (replacement cost) for buildings in 1% flood area	Medium	High
Invasive Species	Low	Medium	Medium	Medium	Medium
Harmful Algal Bloom	For those that have reported HABs, increased to medium	Low	For those that have reported HABs, increased to medium	Medium	Medium
Ground Failure	Low impact on population	Adjusted to medium for those located around Cayuga Lake and where flash flood related landslides have occurred	Low	Medium	Medium
Severe Storm	High	Low impact for all	Low	Medium	High
Severe Winter Storm	Medium	Low for all	Low	High	Medium
Wildfire	Adjusted to low	Adjusted to medium	Adjusted to medium	Medium	Medium

County Preliminary Ranking Results



Preliminary Municipal Level Risk Ranking

Municipality	Flood	Severe Storm	Drought	Disease Outbreak	Extreme Temp	Harmful Algal Bloom	Invasive Species	Severe Winter Storm	Wildfire	Ground Failure
Caroline (T)	M	M	M	M	M	L	M	M	M	L
Cayuga Heights (V)	M	M	M	M	M	M	M	M	M	M
Danby (T)	L	M	M	M	M	L	M	M	M	L
Dryden (T)	M	M	M	M	M	M	M	M	M	M
Dryden (V)	M	M	M	M	M	M	M	M	M	L
Earfield (T)	L	M	M	M	M	L	M	M	M	L
Freeville (V)	M	M	M	M	M	L	M	M	M	M
Groton (T)	M	M	M	M	M	L	M	M	M	M
Groton (V)	M	M	M	M	M	L	M	M	M	M
Heba (C)	M	M	M	M	M	M	M	M	M	M
Heba (T)	M	M	M	M	M	M	M	M	M	L
Leansing (T)	M	M	M	M	M	M	M	M	M	L
Leansing (V)	M	M	M	M	M	M	M	M	M	M
Newfield (T)	M	M	M	M	M	L	M	M	M	M
Trumansburg (V)	L	M	M	M	M	L	M	M	M	L
Ulysses (T)	L	M	M	M	M	M	M	M	M	M
Tompkins County	M	M	M	M	M	M	M	M	M	L

Flood

Preliminary Ranking High

Input

- ✓ Population - % population in 1-percent flood area
- ✓ Property - % building stock exposed to 1-percent flood area
- ✓ Economy - % damage (Replacement Cost Value) for buildings in 1-percent flood area
- ✓ Adaptive Capacity - Medium
- ✓ Climate Change - High

Assumptions

- ✓ Considered frequency of flooding
- ✓ Number of repetitive loss properties
- ✓ Total flood insurance claims paid

Outcome

- ✓ Communities with significant flood claims ranked high
- ✓ Steering Committee Supports Preliminary Ranking



Severe Storm



Preliminary Ranking	High
Assumptions	<ul style="list-style-type: none"> ✓ Population – entire population exposed and vulnerable ✓ Property – entire building stock exposed and vulnerable (but low impact) ✓ Economy – low impact for all municipalities ✓ Adaptative Capacity – Medium ✓ Climate Change – High
Input	✓ Considered frequency of severe storm events
Outcome	<ul style="list-style-type: none"> ✓ All municipalities ranked High ✓ Steering Committee Supports Preliminary Ranking



Drought



Preliminary Ranking	High
Assumptions	<ul style="list-style-type: none"> ✓ Population – low impact on population ✓ Property – municipalities with farmland at higher risk ✓ Economy – medium impact for all municipalities ✓ Adaptative Capacity – Medium ✓ Climate Change – Medium
Input	✓ Proportion of agricultural land area
Outcome	<ul style="list-style-type: none"> ✓ Communities with significant agricultural assets ranked high ✓ Steering Committee Supports Preliminary Ranking



Disease Outbreak



Preliminary Ranking	Medium
Assumptions	<ul style="list-style-type: none"> ✓ Population – calculated using the vulnerable populations ✓ Property – low impact for all municipalities ✓ Economy – medium impact for all municipalities ✓ Adaptative Capacity – Medium ✓ Climate Change – Medium
Input	<ul style="list-style-type: none"> ✓ Looked at vulnerable populations (65+ and <5) ✓ Considered areas that use well water
Outcome	<ul style="list-style-type: none"> ✓ All municipalities ranked Medium ✓ Steering Committee Supports Preliminary Ranking



Extreme Temperature



Preliminary Ranking	Medium
Assumptions	<ul style="list-style-type: none"> ✓ Population – calculated using the vulnerable populations ✓ Property – low impact for all municipalities ✓ Economy – medium impact for all municipalities ✓ Adaptative Capacity – Medium ✓ Climate Change – High
Input	✓ Vulnerable populations (65+ and <5 years of age)
Outcome	<ul style="list-style-type: none"> ✓ All municipalities ranked Medium ✓ Steering Committee Supports Preliminary Ranking



Harmful Algal Bloom



Preliminary Ranking	Medium
Assumptions	<ul style="list-style-type: none"> ✓ Population – increased for municipalities with reported HABs ✓ Property – low impact for all municipalities ✓ Economy – increased for municipalities with reported HABs ✓ Adaptative Capacity – Medium ✓ Climate Change – Medium
Input	<ul style="list-style-type: none"> ✓ Communities with documented blooms over the last year ✓ Higher risk for communities located around Cayuga Lake
Outcome	<ul style="list-style-type: none"> ✓ Municipalities ranked Medium and Low based on input ✓ Steering Committee Supports Preliminary Ranking



Invasive Species



Preliminary Ranking	Medium
Assumptions	<ul style="list-style-type: none"> ✓ Population – low Property – medium for all municipalities ✓ Economy – medium for all municipalities ✓ Adaptative Capacity – Medium ✓ Climate Change – Medium
Input	<ul style="list-style-type: none"> ✓ History of outbreaks
Outcome	<ul style="list-style-type: none"> ✓ All municipalities ranked Medium ✓ Steering Committee Supports Preliminary Ranking



Severe Winter Storm



Preliminary Ranking	Medium
Assumptions	<ul style="list-style-type: none"> ✓ Population – medium impact for all municipalities ✓ Property – low impact for all municipalities ✓ Economy – low impact for all municipalities ✓ Adaptative Capacity – High ✓ Climate Change – Medium
Input	<ul style="list-style-type: none"> ✓ History of events, estimated percent building stock damages (5%)
Outcome	<ul style="list-style-type: none"> ✓ All municipalities ranked Medium ✓ Steering Committee Supports Preliminary Ranking



Wildfire



Preliminary Ranking	Medium
Assumptions	<ul style="list-style-type: none"> ✓ Population – % population in Wildland Urban Interface (WUI); adjusted to low for all municipalities ✓ Property – % building stock in WUI; adjusted to medium for all ✓ Economy – % damage to RCV for buildings in WUI; adjusted to medium ✓ Adaptative Capacity – Medium ✓ Climate Change – Medium
Input	<ul style="list-style-type: none"> ✓ Communities with areas located in the Wildland Urban Interface
Outcome	<ul style="list-style-type: none"> ✓ All municipalities ranked Medium ✓ Steering Committee Supports Preliminary Ranking



Ground Failure (potentially to be included in the Flood Hazard)



Preliminary Ranking	Medium
Assumptions	<ul style="list-style-type: none"> ✓ Population – % population underlain by karst; adjusted to low ✓ Property – % building stock underlain by karst; adjusted based on location to lake ✓ Economy – % damage to replacement cost value for buildings underlain by karst; adjusted to low ✓ Adaptive Capacity – Medium ✓ Climate Change – Medium
Input	<ul style="list-style-type: none"> ✓ Areas underlain by karst ✓ Municipalities located around Cayuga Lake who experienced flash flood-related landslides
Outcome	<ul style="list-style-type: none"> ✓ Municipalities ranked Medium and Low based on input ✓ Steering Committee Supports Preliminary Ranking



Your Task: Review Results and adjust as necessary



Preliminary Municipal Risk Results Worksheet



Individual worksheets will be emailed to each community after this meeting.

Adjust if needed and explain Why.



Preliminary Municipal Risk Results Worksheet




Preliminary Municipal Risk Results Worksheet Resources

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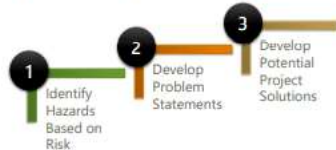
This is where we are heading....



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Action: Review and Adjust your Risk Ranking Next Step: Develop Problem Statements

- One worksheet needs to be completed per mitigation action
- **Focus on your problems**
- Quality, not quantity
- Provide details to support the issues and to help define solutions
- We will provide this information to NYSDHSES to prepare for our next meeting



TETRA TECH



Any Questions?



Tompkins County Project Contact
Scott Doyle, Associate Planner
(607) 274-5560 | sdoyle@tompkins-co.org

Tetra Tech Project Contacts
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Thank you!





Tompkins County Hazard Mitigation Plan Update Minutes of Meeting



Purpose of Meeting: Planning Partnership Meeting #2/ Risk Assessment Workshop.		
Location of Meeting: Zoom Meeting		
Date/Time of Meeting: September 16, 2020 9AM – 10:30AM.		
Attendees:		
Scott Doyle, Tompkins County Planning Dept. Katherine Borgella, Tompkins County Planning Dept. Don Scheffler, Town of Groton Supervisor Nina Saelli, Tompkins County Health Dept. Julie Conley Holcomb, City of Ithaca Clerk Jessica Verfuss, Tompkins Dept. of Emergency Response John Zepko, Town of Ulysses Planning Kevin Clapp, NYSDHSES Nancy Niswender, Village of Groton Clerk Michael Allinger, Town of Newfield Supervisor Mike Scott, Village of Lansing CEO Mark Witmer, Town of Caroline Supervisor Beth McGee, Town of Enfield Supervisor	Steven Cortright, Town of Danby Supervisor Michael Murphy, Village of Dryden Mayor Ronny Hardaway, Village of Lansing Deputy Mayor Rordan Hart, Village of Trumansburg Mayor Don Hartill, Village of Lansing Mayor Nancy Munkenbeck, Town of Dryden Brent Cross, Village of Cayuga Heights Engineer CJ Randall, Town of Lansing Planning Michael Thorne, City of Ithaca Public Works Dan Maas, Cornell University EHS Stephanie Redmond, Town of Enfield Deputy Supervisor Cynthia Bianco, Tetra Tech Osamu Tsuda, Tetra Tech	
Agenda Summary: Provide project status update, discuss identified hazards of concern (HOC), review risk assessment (RA) methodology and county results, and discuss next steps around municipal roles to identify primary hazards of concern, project brainstorming, and mitigation strategy development.		
Item No.	Description	Action By:
1.	Welcome/ Introduction - Scott Doyle welcomes municipal representatives to second planning partnership meeting and risk assessment (RA) workshop. After roll call is conducted, the County noted that all municipalities and their designated representatives are in attendance.	
2.	Project Status - Tetra Tech and Tompkins County (TC) have been advising municipalities on annex updates and will continue this engagement process throughout the development of mitigation strategy. - The County has been posting public outreach and engagement content on the TC website and will continue to provide updates on the Hazard Mitigation Plan (HMP). Additionally, surveys have been distributed to neighboring counties and stakeholders. A general citizen survey has been developed and will be distributed over the coming weeks. - Based on current projections, the next planning partnership meeting and mitigation workshop is tentatively scheduled for October 22 nd .	





Tompkins County Hazard Mitigation Plan Update Minutes of Meeting



3.	<p>Risk Assessment</p> <ul style="list-style-type: none"> - Tetra Tech has conducted a preliminary risk assessment based on data that has been provided by the County. The purpose of the risk assessment is to understand the current issues identified in the County and the potential vulnerabilities communities face. - The assessment will require municipal engagement and feedback to accurately identify pre-existing issues within each municipality. - Unlike the 2013 HMP, the 2020 HMP assesses hazards by calculating the probability of climate events (30%), damage due to identified hazards (30%), impact of climate change and its projections based on existing models (10%), and the individual community adaptive capabilities. <p>Hazards of Concern:</p> <ul style="list-style-type: none"> - The Tompkins County Steering Committee (SC) has identified the following Hazards of Concern: Disease Outbreak, Drought, Extreme Temperature, Flood, Invasive Species, Harmful Algal Bloom, Ground Failure, Severe Storm, Severe Winter Storm, and Wildfire. It was noted that due to the significant reliance on well water across the County, the ranking inputs will be reviewed to ensure the relative risk ranking reflects the appropriate degree of risk to the County as a whole as well as each municipality. - Impact is based on population affected, property damage, economy, adaptive capacity, and climate change which definitions are in the meeting presentation. 	
4.	<p>Risk Ranking</p> <ul style="list-style-type: none"> - Flood, Severe Storm, and Drought have been identified as high hazards of concern for the County. For municipal ranking preliminary results, individual work packets will be distributed after the presentation to enable review and adjustment as necessary by municipal representatives. - The input and assumptions to the risk ranking exercise are included in the meeting presentation. - Feedback from the committee included the following: <ul style="list-style-type: none"> o Drought: As municipal water supplies are primarily reliant on wells, especially rural residents and farms, impacts from droughts for municipalities can vary significantly. Thus, further input from communities is needed. o Disease Outbreak: Disease Outbreaks can include flu, mumps, chicken pox, and measles, rather than pandemic such as COVID, which can have different epidemiological effects based on types of population exposed. Specifically, for Tompkins County and its unique demographics, age factors can vary; there could be higher effect on college students due to increased overall social interaction and thus more exposure, whereas elderly populations are more isolated and less likely to be affected by a disease outbreak. If the County were to consider COVID, the hazard of concern would need to be re-defined to include pandemic. The definition of "Disease Outbreak" will need to be clarified and established before proceeding with this HOC. o Ground Failure: For much of the County, this hazard does not pose immediate threat to communities and thus might not be considered a significant hazard of concern. Specific concerns include localized slope failure in or near gorges which can impact roads and utilities, certain areas of sandy, gravel soil prone vulnerable to earthquake impacts, and an area located in Slaterville Springs (Buffalo Hill Road) which has experienced localized ground failure that has impacted local aquifers and caused interruption of well water supply. The County will consider dedicating a chapter on this unique ground failure vulnerability. 	<p>Tetra Tech to reconsider the Ground Failure HOC based on input received on the Town of Caroline</p>
5.	<p>Next Steps</p> <ul style="list-style-type: none"> - Preliminary Municipal Risk Assessment Results Worksheets will be sent out to each community post-meeting and municipalities will have an opportunity adjust the relative risk ranking results. Municipalities should document the effects of specific hazard events within their municipality and brainstorm with community members potential mitigation actions to reduce risk. - Tetra Tech will provide municipalities information to assist in the identification of 	<p>Tetra Tech and County to distribute risk assessment and brainstorming packets to municipalities</p>





Tompkins County Hazard Mitigation Plan Update Minutes of Meeting



	<p>mitigation projects and strategies. Community feedback should be incorporated into the final municipal mitigation strategies/annexes.</p> <ul style="list-style-type: none"> The next Steps for municipalities include 1) identify hazards based on risk 2) develop problem statements 3) develop potential project solutions. 	
6.	<p>Final Questions/ Discussion</p> <ul style="list-style-type: none"> The New York Department of Homeland Security and Emergency Services (NYS DHSES) has the Hazard Mitigation Grant Program (HMGP) open for community applications. Letters of intent are due September 30. Projects include acquisitions, relocations, and other related common projects. More information can be found at: http://www.dhSES.ny.gov/recovery/mitigation/HMGP-Funding-Opportunity.cfm BRIC is another opportunity to help fund community projects that are intended to reduce potential vulnerabilities to identified Hazards of Concern. More information can be found at: http://www.dhSES.ny.gov/recovery/mitigation/BRIC-FMA.cfm. Flood-prone communities can be prime candidates for BRIC funding. If the HMP is complete before January of 2020, communities might consider applying for both FMA and BRIC funding. As communities update floodplain maps, the municipalities might consider updating their local floodplain ordinance. This could count as a potential mitigation action. The Town of Lansing is in the process of upgrading/renovating its town hall and is looking to incorporate this as a potential mitigation project. The Town will work with the County and Tetra Tech to review the proposal and eligibility of the project for its mitigation funding application. 	



C.6 MITIGATION STRATEGY WORKSHOP MEETING OCTOBER 22, 2020



TOMPKINS COUNTY HAZARD MITIGATION PLAN UPDATE
Mitigation Strategy Workshop – AGENDA
October 22, 2020; 1:00PM – 3:00PM



Virtual Meeting
Dial-in Phone Number: +1 646-558-8656 Meeting ID: 954 7086 7580 #

Join by Computer (passcode: 027346) : <https://tompkinscountyny.gov.zoom.us/j/95470867580?pwd=WkVlRlRlVXNlYUFLVlNlWkNlZlRmdz09>

1. Welcome and Opening Remarks
2. Project Status - Tetra Tech
3. Developing Mitigation Strategies – NYS DHSES, FEMA
4. Development of Actions and Action Worksheets using Brainstorming and Action Development Worksheets – Tetra Tech
 - Complete and return to Scott Doyle or Osamu Tsuda by **November 6th**.
5. Upcoming Local Support Meetings to Assist in Action Worksheet Development – Tetra Tech
6. Next Steps – Tetra Tech

Tompkins County Contact Information:
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Tetra Tech contact information:
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Tompkins County Resiliency and Recovery Plan Hazard Mitigation Plan Update

Planning Together for a Resilient Tompkins County

Planning Partnership– Mitigation Workshop

October 22, 2020

Agenda

1. Introductions
2. Project Status
3. Developing Mitigation Strategies – NYS DHSES, FEMA
4. Development of
 - Mitigation Strategy/Actions/Projects
 - Action Worksheets using Problem Statement Worksheets
5. Review draft action worksheets and begin new action worksheets
6. Discuss opportunities for integrating mitigation into daily operations
7. Next Steps

Hazard Mitigation – What is it?



Why are we spending valuable time on this? Hazard Mitigation Works!

- For every \$1 spent on hazard mitigation, saves the U.S. \$6 in future disaster costs!
- More than just money – it could prevent 600 deaths and 1 million non-fatal injuries!

More Mitigation Measures, More Savings



One dollar invested in mitigation =
six dollars U.S. saves in future costs

TETRA TECH

Our Schedule

Task	Date
Data Collection	Complete
Update Hazard Profile	Complete
Risk Assessment	Complete
Risk Results Presentation	Complete
Mitigation Strategy/ Workshop	October 22, 2020 – TODAY!
Review Draft Plan	November 2020
Submit to NYSDHSES	December 2020
Submit to FEMA	TBD

TETRA TECH

Our Progress Update – Annex Progress

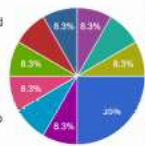
Municipality	Status	Risk Ranking
Carolina, T	Annex update underway – substantially completed	No Changes Received
Cayuga Heights, V	Preliminary Updates Complete	No Changes Received
Darby, T	Preliminary Updates Complete	Complete
Dryden, T	Preliminary Updates Complete	No Changes Received
Dryden, V	Preliminary Updates Complete	No Changes Received
Enfield, T	Preliminary Updates Complete	No Changes Received
Fremont, V	Preliminary Updates Complete	Complete
Gordon, T	Preliminary Updates Complete	Complete
Groton, V	Preliminary Updates Complete	Complete
Ithaca, C	Preliminary Updates Complete	Complete
Ithaca, T	Preliminary Updates Complete	No Changes Received
Lansing, T	Preliminary Updates Complete	No Changes Received
Lansing, V	Preliminary Updates Complete	No Changes Received
Newfield, T	Preliminary Updates Complete	No Changes Received
Thurstonburg, V	Annex update underway – substantially completed	Complete
Utrona, T	Preliminary Updates Complete	No Changes Received

Brainstorming/
Mitigation Action
Worksheets sent
out to all
communities on
10/19 to be
returned by 11/6!

TETRA TECH

Stakeholder Feedback: 14 Respondents So Far...

- 33% of respondents have been impacted by damage from flooding and erosion.
- Most concerned with increased flooding (stormwater/ riverine), with intensifying weather and effects on/from development.
- While some have emergency plans, most believe Ithaca is poorly prepared for flooding.
- NY Route 13, and facilities along it are vulnerable to flooding.
- Only 25% believe Tompkins County has resilient utility grid.



- Academic Research
- Business/Commerce
- Emergency Services (police, fire, etc.)
- Hospital/ Medical Services
- Transportation
- Public Works
- Architecture and Planning
- Government Administration
- Affordable housing and community facilities
- Education based on academic research
- Human Services/Homeless response system
- Insurance
- Government services, NYS Ag and Markets

TETRA TECH



Stakeholder Feedback: 14 Respondents (Cont.)

- Most stakeholders do not know or have not seen any public education material around resilience in TC.
- Most believe TC does not have adequate resources for hazard risk reduction.
- Over 50% are unsure if they have/ do not participate in an emergency response plan.
- 45% of respondents believe their entity is equipped for natural disasters.
- COVID-19: most respondents believe increased pandemic-related emergency planning is needed in TC.



Public Outreach and Engagement

- ACTION! Take and Distribute Surveys!**
- Tompkins County Office of Planning and Sustainability has an updated website on the Hazard Mitigation and Resilience Plan: <https://tompkinscountyny.gov/planning/climate-adaptation>
 - Citizen Survey is live! Please distribute!
 - Stakeholder and Neighboring Counties Surveys have been distributed!



Public and Agency Feedback – to Date

Neighboring Counties	Stakeholders	Citizens
<ul style="list-style-type: none"> ✓ Survey sent in August to: Broome, Cayuga, Cortland, Chemung, Seneca, Schuyler, and Tioga Counties • Responses from All Counties (emergency management) 	<ul style="list-style-type: none"> ✓ Survey sent to various businesses, academic institutions, non-for-profits, public authorities, etc. • 14 respondents so far (Public, Private, and Non-For-Profit Organizations) 	<ul style="list-style-type: none"> • Survey is LIVE! • Will be shared on Tompkins County website and via social media, and email. → Please spread the word and encourage your friends, neighbors, and family to participate!

Mitigation Strategy



Hazards of Concern


-  **Drought** - including wildfire
-  **Disease Outbreak**
-  **Extreme Temperature**
-  **Flood** - including riverine/flash, ice jam, dam failure, and ground failure due to flooding
-  **Harmful Algal Bloom (HABs)**
-  **Invasive Species**
-  **Severe Storm** - including hail, wind, lightning, thunderstorms, tornadoes, hurricanes, tropical storms
-  **Severe Winter Storm** - including heavy snow, blizzard, sleet, freezing rain, ice storms, and Nor'easters

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Risk Reduction Examples

To Reduce Risk:

- **Manipulate the Hazard:**
 - Structural flood control
- **Reduce/Eliminate Exposure:**
 - Property acquisition
- **Reduce Vulnerability:**
 - Retrofit existing structures
- **Increase Capability:**
 - Preparation, technical assistance, planning, enforcement



PARTNERSHIP



PROTECTION

TETRA TECH

Using your Mitigation Strategy to Reduce Risk

- What is a **Mitigation Strategy**?
 - A group of projects or actions to reduce the impacts of the hazards of concern on your community
 - Plans and Regulations
 - Structure and Infrastructure Studies and Projects
 - Natural Systems Protection Studies and Projects
 - Education and Awareness Programs
- Terms to describe the **Mitigation Strategy** include:
 - **Mitigation Action Plan** or **Action Plan**
 - **Mitigation Projects** or **Initiatives** or **Actions**

Your Mitigation Strategy table is included in your annex of the plan. TWO of your actions must be detailed on Action Worksheets

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NYS Requirements for Mitigation Strategy Update

- Need to develop at least 2 Action Worksheets
- If jurisdiction has a regulatory floodplain then one worksheet must address flooding
 - (if the jurisdiction has Repetitive and Severe Repetitive Loss Properties - it is good practice to include action with details (street or neighborhood names))
- Critical facilities in the floodplain - must be protected to the 500-year flood event
 - If already protected, we must note how
 - If not protected, a mitigation action must be developed
- Plan for Climate Change and propose actions to address

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NYS Requirements for Mitigation Strategy Update

- MUST identify **evacuation routes** and **shelters** in the plan
 - Identify actions to make evacuation routes and shelters viable, if not already
- MUST identify **temporary housing** and **permanent housing** locations in the plan
 - Identify actions to develop these locations, even if outside of jurisdictional boundaries

NYS Requirements for Mitigation Strategy Update

- Proposed actions MUST have specific information identified including:
 - Project lead
 - Estimated cost
 - Timeline
 - Whether the action involves a critical facility
- All required items are identified within the proposed action table. Each cell of the table MUST be filled out!
- Initial worksheets pre-populated with BRAINSTORMING ideas will be provided to each community to jump start the process and will be distributed after this meeting.

Connecting to the Mitigation Strategy

- Need a clear connection between vulnerability and proposed mitigation actions.
- Capability assessment provides insight into challenges/opportunities for the mitigation strategy as well.
- Provides the factual basis for activities proposed in the mitigation strategy.



Types and Numbers of potential projects by hazard and municipality

Hazard	Count	Municipality	Count	Project Type	Count
All Hazards	10	Albion, Town of	10	Communications	4
Aviation Disasters	1	Carroll, Village of	1	Education	1
Chemicals	1	Carthage, Town of	1	Health, Town of	1
Extreme Temperatures	1	Chenango, Village of	1	Health, Town of	1
Flood	10	Chenango, Town of	1	Health, Town of	1
Flood - Road Flooding	1	Chenango, Village of	1	Health, Town of	1
Ground Culture	1	Chenango, Village of	1	Health, Town of	1
Wildfires	1	Chenango, Town of	1	Health, Town of	1
Severe Storms	1	Chenango, Village of	1	Health, Town of	1
Severe Storm, Severe Winter Storm	10	Chenango, Town of	1	Health, Town of	1
Severe Storms	1	Chenango, Village of	1	Health, Town of	1
Severe Winter Storm	1	Chenango, Town of	1	Health, Town of	1
Severe Winter Storm	1	Chenango, Village of	1	Health, Town of	1
Grand Total	120	Grand Total	120	Health, Town of	120



Types and Numbers of potential projects by municipality





Emergency Services	13	Special Needs	6	Dr. Properties	13	Fire Maintenance	12
Landon, Town of	1	Landon, Town of	1	Landon, Town of	2	Landon, Town of	1
Craig Heights, Village of	1	Frank, City of	2	Craig Heights, Village of	1	Craig Heights, Village of	1
Shady Side, Village of	1	Croghan, Town of	1	Shady Side, Village of	1	Shady Side, Village of	1
Conklin, Town of	1	Albion, Town of	1	Conklin, Town of	1	Conklin, Town of	1
Oriskany, Village of	2	Landon, Town of	1	Oriskany, Village of	1	Oriskany, Village of	1
Shady Side, Village of	1	Frank, City of	1	Conklin, Town of	1	Landon, Town of	1
Shady Side, Village of	1	Frank, City of	1	Frank, City of	1	Frank, City of	1
Frank, City of	1	Frank, City of	1	Landon, Town of	1	Landon, Town of	1
Landon, Town of	1	Landon, Town of	2	Frank, City of	1	Landon, Town of	1
Landon, Village of	2	Landon, Town of	1	Landon, Town of	1	Frank, City of	1
Shady Side, Village of	1	Landon, Town of	1	Frank, City of	1	Frank, City of	1
Shady Side, Village of	1	Landon, Town of	1	Frank, City of	1	Frank, City of	1
Shady Side, Village of	1	Landon, Town of	1	Frank, City of	1	Frank, City of	1
Shady Side, Village of	1	Landon, Town of	1	Frank, City of	1	Frank, City of	1
Shady Side, Village of	1	Landon, Town of	1	Frank, City of	1	Frank, City of	1
Shady Side, Village of	1	Landon, Town of	1	Frank, City of	1	Frank, City of	1
Shady Side, Village of	1	Landon, Town of	1	Frank, City of	1	Frank, City of	1
Shady Side, Village of	1	Landon, Town of	1	Frank, City of	1	Frank, City of	1

The roadmap to a strong mitigation strategy



What are we focusing on for our mitigation strategy?

- Stronger connection between the risk assessment and mitigation strategy
 - More specific actions
 - Specific projects, in specific locations, in a specific timeframe
 - Diverse actions
 - Focus on highest ranked hazards but also look to address other hazards
 - Include a variety in the types of actions
- 
- 

Use Your Mitigation Project Brainstorming Worksheet to develop projects



Mitigation Brainstorming

Name: _____ Institution: _____ Date of meeting: _____

How do you think the problem is caused? A detailed description of the problem area, including its location to allow location from your maps. List of nearby roads, the area to include the road address of the parcelized location of adjacent streets, water bodies, and other nearby features. List the personnel with email addresses of existing positions (project lead, lead engineer, etc.).

How do you think the problem is caused? A detailed description of the problem area, including its location to allow location from your maps. List of nearby roads, the area to include the road address of the parcelized location of adjacent streets, water bodies, and other nearby features. List the personnel with email addresses of existing positions (project lead, lead engineer, etc.).

How do you think the problem is caused? A detailed description of the problem area, including its location to allow location from your maps. List of nearby roads, the area to include the road address of the parcelized location of adjacent streets, water bodies, and other nearby features. List the personnel with email addresses of existing positions (project lead, lead engineer, etc.).

Issue	Problem Area	Location	Lead Agency	Responsible Individual
All Hazards	Issue: [Description]	[Location]	[Agency]	[Individual]
Selected Hazards	Issue: [Description]	[Location]	[Agency]	[Individual]
Some Hazards	Issue: [Description]	[Location]	[Agency]	[Individual]
All Hazards	Issue: [Description]	[Location]	[Agency]	[Individual]



Use Your Mitigation Project Development Worksheet for Ideas

The diagram shows a flow from 'Problems' and 'Solutions' (represented by blue circles) through a plus sign and an arrow to a larger blue circle containing 'Actions, Projects, Strategies'. The background features a network of white lines on a blue gradient.

How do you fill in the Worksheet?

The worksheet asks a series of questions to help you think about vulnerabilities within your community.

- What is your biggest hazard of concern?
- Critical Facilities/Lifelines – backup power
- Critical Facilities/Lifelines – flood protection
- Culverts – undersized/in need of upgrades
- Flood Protection – elevations/buyouts; think about the RL/SRL properties – if you have RL/SRLs you need an action related to this
- Infrastructure Protection – what needs protection from flooding, storms, etc.?
- Anything else?

Action Worksheet

- Description of the Problem
 - What is the problem?
 - What is the risk?
- Where is the problem occurring?
- Who is the problem impacting?
- Have there been past damages?
- How frequently does the problem occur?

The screenshot shows a form with various sections: Project Number, Risk / Vulnerability, Hazard(s) of Concern, Description of the Problem, Action or Project Proposed for the Hazard, and a table for 'Is this project related to a Critical Facility?'. It also includes sections for 'Who is the problem impacting?', 'Have there been past damages?', and 'How frequently does the problem occur?'.

Action Worksheet

- 1 Add Project Name
- 2 Add Project Number
- 3 Add Hazard of Concern
 - Who is the problem impacting?
 - Have there been past damages?
 - How frequently does the problem occur?

The screenshot shows a filled-out form for 'Town of Yourtown Action Worksheet'. The 'Project Name' is 'Happy Valley Road Culvert Improvement', the 'Project Number' is 'Yourtown - 001', and the 'Hazard(s) of Concern' is 'Flooding, Severe Storms'. The form also includes sections for 'Risk / Vulnerability', 'Description of the Problem', and 'Action or Project Proposed for the Hazard'.



Action Worksheet

4 Add Problem Description →

5 Add Solution →

Description of the Problem:	The steel culvert pipe at lot 42.848388 long -76.447529 is too small and has been damaged in the past two floods. The dimensions of the pipe are 12.5' wide by 50.0' long along Foster rd, and over Ellis brook. It has been poked back together to maintain. The pipe gets overwhelmed and floods the road. A 24" crown of 1' inches would overwhelm the pipe. During the past 2 events where the pipe did not work it has impacted the road it has impacted a house on the road by placing water in the basement. The road had to be shut down during the two previous flooding events.
Action or Project Intended for Implementation:	
Description of the Solution:	Replace existing culvert pipe with 204" x 134" steel plate arch culvert, designed to increase the capacity of the system on Foster Drive. Office details would be in place for construction.

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Action Worksheet

6 Is this a critical facility? →

7 Is it located in the floodplain? →

8 What are the design criteria
- Level of protection?
- Useful life?
- Estimated cost?
- Expected benefits? →

Is this project related to a Critical Facility?	Yes	No
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes	No

(If yes, this project must intend to prevent the 100-year flood event or the actual worst case damage scenario, whichever is greater)

Level of Protection:	50-year event	Estimated Benefits (dollar benefits)	Percent Funding & Source of Foster Rd.
Useful Life:	10 years		
Estimated Cost:	\$10,000		

NY STATE TECH

Action Worksheet

9 Is this a high or medium priority project? →

10 When will it be done? →

11 How what is the project duration? →

12 How will it be funded? →

13 What agency is in charge? →

14 What plans, codes, or ordinances will support this project? →

Plan for Implementation			
Priority/Importance: 9	Stage	Overall Timeline for Implementation: 1 year	10
Estimated Time Required for Project Implementation: 4 months	11	Potential Funding Sources: State, NYC, SHARP, BIC	12
Responsible Organization: Town of Harris Highway Department	13	Local Planning Mechanisms to be Used for Implementation if any:	Foster pipe study 14

NY STATE TECH

Action Worksheet

15 What are the alternative projects? →

16 No action →

17 Another alternative →

18 The solution →

Three Alternatives Considered (Including No Action)			
Alternative	Action	Estimated Cost	Justification
Alternative	No Action	\$0	No impact
	Decision paid	1-2 million	No mitigation created by the Town to install a decision paid. Would have to schedule a house operation from the house.
	Increase capacity of the culvert	\$1,000,000	This will address the problem by reducing the frequency of flooding the road.

*Congratulations! You made it to the finish line!
You have completed your Action Worksheet!*

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Update the Mitigation Strategy

- Action Types
- Initiative Table
 - Actions
 - Projects


INSPIRING IDEAS. CLEAR SOLUTIONS.




Update the Mitigation Strategy



- Review our Goals and Objectives
- Start with Problems (many identified on your Problem Statement Brainstorming Worksheets)
 - Areas that have been impacted
 - Recurring issues
 - Critical/Lifeline facilities in the floodplain
 - RL/SRL properties need mitigating
 - Lack of identified locations for temporary housing and permanent housing (outside of the floodplain)



Update the Mitigation Strategy



- Identify New Mitigation Actions/Projects
- Modify 'Carry-Over' projects from the 2015 HMP
 - More specific or to address different aspect of original problem



FEMA Mitigation Action Types



-  **Plans and regulations** include government authorities, policies, or codes that encourage risk reduction, such as building codes and state planning regulations. This may also include planning studies.
-  **Natural systems protection** projects minimize losses while also preserving or restoring the function of natural systems.
-  **Education and awareness programs** include long term, sustained programs to inform and educate citizens and stakeholders about hazards and mitigation options. This category could also include training.
-  **Structure and infrastructure** projects involve modifying existing structures and infrastructure or constructing new structures to reduce the impact of hazards.



Mitigation Initiative Table

- Each municipality will need to complete the *Proposed Hazard Mitigation Initiatives* table in their annex (Table 9.X-16)
- Each column needs to be filled in. If you are unsure, Tetra Tech will assist you with completing.
- A minimum of TWO Action Worksheets will need to be completed projects that can be funded by FEMA HMA grants.

Project Name	Project Status	Priority	Estimated Cost	Estimated Funding Source	Estimated Start Date	Estimated End Date	Responsible Agency	Notes
...

The Plan's Direction



Schedule Review and Next Steps

October

- **Complete your annex with Tetra Tech and County support**
 - Schedule your meeting with Tetra Tech or Tompkins County, if necessary, to finalize mitigation projects/action
 - Identify new actions, changes to carry-over actions
 - Fill missing information in your annex including incorporating mitigation into your daily operations
 - Review the draft annex to ensure all information is accurate



Breakout Session: Local Support Meetings to Assist



Questions?



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Tetra Tech Project Contacts
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Deputy Project Manager
(973) 630-8044 | heather.appor@tetratech.com
Osamu Tsuda, Lead Planner
(607) 216-6867 | osamu.tsuda@tetratech.com

Thank you!






Completing Action Worksheets



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Action Worksheets



- Should also develop additional Action Worksheets for projects you plan to apply for FEMA funding support for within the next 5 years
- Not every action requires an Action Worksheet to be developed but the same sort of information about those actions are still needed in the Proposed Actions table of the annex
- Fill out the highlighted areas
- Areas not highlighted will be filled out by Tetra Tech staff
- Develop at least 2 Action Worksheets for your municipality



Action Worksheet

- Description of the Problem
 - What is the problem?
 - What is the risk?
 - Where is the problem occurring?
 - Who is the problem impacting?
 - Have there been past damages?
 - How frequently does the problem occur?

Action Worksheet	
Project Name:	
Project Number:	888 - 10000000
Name(s) of Executive Director:	
Signature of the Executive Director:	
Appropriation of the Solution:	In this project related to a federal facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Is this project related to the 90 percent disaster relief fund? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Is this project related to a particular 90 percent disaster relief fund? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Level of Protection: Enhanced Protection
Project Title:	Stormwater
Estimated Cost:	\$100,000
Project Description:	Stormwater Treatment for Residential Area
Project Objectives:	Improve Flood Protection, Reduce Erosion, Improve Water Quality
Responsible Organization:	Local Planning Department for Flood Mitigation/Prevention
Anticipated Start Date:	01/2021
Anticipated End Date:	03/2021
Project Status:	Completed
Project Report (for plan maintenance):	
State of Water Report:	
Report of Progress:	
Update Evaluation of the Problem and its Solution:	

Action Worksheet

- Description of the Solution
 - How do you propose to solve or mitigate the problem?
 - What are the design specifications?
 - Height and length of a floodwall
 - kW for backup generators
 - Number of structures to be bought out or elevated
 - Etc.
 - Who is responsible for what aspects of the project?

Action Worksheet	
Project Name:	
Project Number:	888 - 10000000
Name(s) of Executive Director:	
Signature of the Executive Director:	
Appropriation of the Solution:	In this project related to a federal facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Is this project related to the 90 percent disaster relief fund? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Is this project related to a particular 90 percent disaster relief fund? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Level of Protection: Enhanced Protection
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Anticipated End Date:	03/2021
Project Status:	Completed
Project Report (for plan maintenance):	
State of Water Report:	
Report of Progress:	
Update Evaluation of the Problem and its Solution:	

Action Worksheet

- Level of Protection
 - What level event is the project being designed to protect to?
 - For flood protection: 100-year flood, 500-year flood
 - For stormwater improvements: 5 year, 10 year rain events
 - If not a specific level, include brief description of what protections are
 - For generators: Prevents power loss

Action Worksheet	
Project Name:	
Project Number:	888 - 10000000
Name(s) of Executive Director:	
Signature of the Executive Director:	
Appropriation of the Solution:	In this project related to a federal facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Is this project related to the 90 percent disaster relief fund? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Is this project related to a particular 90 percent disaster relief fund? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Level of Protection: Enhanced Protection
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Anticipated Start Date:	01/2021
Anticipated End Date:	03/2021
Project Status:	Completed
Project Report (for plan maintenance):	
State of Water Report:	
Report of Progress:	
Update Evaluation of the Problem and its Solution:	

Action Worksheet

- Estimated cost
 - What will the project cost?
 - If project includes phases or components, what will each phase or component cost?
 - New generator: \$25K, elevation platform for generator: \$1K

Action Worksheet	
Project Name:	
Project Number:	888 - 10000000
Name(s) of Executive Director:	
Signature of the Executive Director:	
Appropriation of the Solution:	In this project related to a federal facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Is this project related to the 90 percent disaster relief fund? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Is this project related to a particular 90 percent disaster relief fund? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Level of Protection: Enhanced Protection
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Anticipated Start Date:	01/2021
Anticipated End Date:	03/2021
Project Status:	Completed
Project Report (for plan maintenance):	
State of Water Report:	
Report of Progress:	
Update Evaluation of the Problem and its Solution:	



Action Worksheet

➤ Estimated Benefits

- Provide a description of the estimated benefits, either quantitative and/or qualitative
- Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.

Project Details	
Project Name:	
Project Location:	City / Town / Village
Priority of Concern:	
Responsible Agency:	Agency of Project Interest for Implementation
Justification of the Solution:	<p>Is this project related to a federal facility? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Is the federal facility involved in the "Federal Action Request"? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Is this an emergency project? (to be completed in 30 days) Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Level of Priority: High (indicated by red arrow)</p> <p>Start Date: _____</p> <p>Estimated Cost: _____</p>
Project Description:	<p>Estimated Loss Potential for Project: _____</p> <p>Estimated Annual Loss Potential: _____</p> <p>Responsible Agency: _____</p>
Availability:	<p>Three Alternatives Considered (Priority of the Solution):</p> <p>1. None Estimated Cost: \$0 Evaluation: _____</p> <p>2. Action Estimated Cost: \$0 Evaluation: _____</p>
Status of Action Request:	Priority Request (for plan implementation)
Support of Program:	
Update Frequency of the Problem and/or Solution:	

Action Worksheet

➤ Prioritization

- High, Medium, or Low
- Use the second page of Action Worksheet to evaluate each action and assist in the determination of priority (to be discussed shortly)

Project Details	
Project Name:	
Project Location:	City / Town / Village
Priority of Concern:	
Responsible Agency:	Agency of Project Interest for Implementation
Justification of the Solution:	<p>Is this project related to a federal facility? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Is the federal facility involved in the "Federal Action Request"? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Is this an emergency project? (to be completed in 30 days) Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Level of Priority: High (indicated by red arrow)</p> <p>Start Date: _____</p> <p>Estimated Cost: _____</p>
Project Description:	<p>Estimated Loss Potential for Project: _____</p> <p>Estimated Annual Loss Potential: _____</p> <p>Responsible Agency: _____</p>
Availability:	<p>Three Alternatives Considered (Priority of the Solution):</p> <p>1. None Estimated Cost: \$0 Evaluation: _____</p> <p>2. Action Estimated Cost: \$0 Evaluation: _____</p>
Status of Action Request:	Priority Request (for plan implementation)
Support of Program:	
Update Frequency of the Problem and/or Solution:	

Action Worksheet

➤ Responsible Organization

- Identify the lead organization/department/individual for the project
- Identify any supporting organizations/departments/individuals for the project.

Project Details	
Project Name:	
Project Location:	City / Town / Village
Priority of Concern:	
Responsible Agency:	Agency of Project Interest for Implementation
Justification of the Solution:	<p>Is this project related to a federal facility? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Is the federal facility involved in the "Federal Action Request"? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Is this an emergency project? (to be completed in 30 days) Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Level of Priority: High (indicated by red arrow)</p> <p>Start Date: _____</p> <p>Estimated Cost: _____</p>
Project Description:	<p>Estimated Loss Potential for Project: _____</p> <p>Estimated Annual Loss Potential: _____</p> <p>Responsible Agency: _____</p>
Availability:	<p>Three Alternatives Considered (Priority of the Solution):</p> <p>1. None Estimated Cost: \$0 Evaluation: _____</p> <p>2. Action Estimated Cost: \$0 Evaluation: _____</p>
Status of Action Request:	Priority Request (for plan implementation)
Support of Program:	
Update Frequency of the Problem and/or Solution:	

Action Worksheet

➤ Estimated Time Required for Project Implementation

- Provide the estimated time required to complete the project from start to finish.

Project Details	
Project Name:	
Project Location:	City / Town / Village
Priority of Concern:	
Responsible Agency:	Agency of Project Interest for Implementation
Justification of the Solution:	<p>Is this project related to a federal facility? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Is the federal facility involved in the "Federal Action Request"? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Is this an emergency project? (to be completed in 30 days) Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Level of Priority: High (indicated by red arrow)</p> <p>Start Date: _____</p> <p>Estimated Cost: _____</p>
Project Description:	<p>Estimated Loss Potential for Project: _____</p> <p>Estimated Annual Loss Potential: _____</p> <p>Responsible Agency: _____</p>
Availability:	<p>Three Alternatives Considered (Priority of the Solution):</p> <p>1. None Estimated Cost: \$0 Evaluation: _____</p> <p>2. Action Estimated Cost: \$0 Evaluation: _____</p>
Status of Action Request:	Priority Request (for plan implementation)
Support of Program:	
Update Frequency of the Problem and/or Solution:	



Improved Problem and Action



- **Problem:** Town Hall lacks a backup power source. The Town Hall houses the Emergency Operations Center and also can serve as a backup shelter. Lack of power results in a breakdown of continuity of operations and prevents the Town Hall from providing critical services during a hazard event.
- **Solution:** The Town Engineer will work with the Office of Emergency Management to research and purchase the appropriately sized backup generator for the Town Hall. The DPW will install the backup generator and necessary electrical components and will be responsible for testing and upkeep of the generator after installation.

TETRA TECH

EVEN MORE Improved Problem and Action



- **Problem:** Town Hall lacks a backup power source. The Town Hall houses the Emergency Operations Center and also can serve as a backup shelter for approximately 100 people. Lack of power results in a breakdown of continuity of operations and prevents the Town Hall from providing critical services during a hazard event.
- **Solution:** The Town Engineer will work with the Office of Emergency Management to research and purchase a 75 kW generator for the Town Hall. The DPW will install the backup generator on the roof of the Town Hall and necessary electrical components and will be responsible for testing and upkeep of the generator after installation.

TETRA TECH

Previous Problem and Action



- **Problem:** Falling trees result in power outages.
- **Solution:** Complete tree trimming.

TETRA TECH

Improved Problem and Action



- **Problem:** High hazard trees pose a risk for falling on private property and utilities during storm events. The town does not have a program in place to monitor and inspect trees and identify ones that need to be trimmed or removed.
- **Solution:** The town will develop a vegetation management program. This program will include routine inspections of trees in the municipal rights-of-way, identify trees that are in need of trimming or removal, and conduct the trimming and removal. This will help reduce tree damage, road closures, and power outages during severe weather events. A majority of the tree work will be conducted by the Highway Department; however, outside contractors might be used if removal is beyond the Department's capability.

TETRA TECH





Tompkins County Hazard Mitigation Plan Update Minutes of Meeting



Purpose of Meeting: Planning Partnership Meeting – Town/ City of Ithaca Mitigation Action Development		
Location of Meeting: Virtual		
Date/Time of Meeting: October 22, 2020 1-2PM		
Attendees:		
Scott Doyle, Tompkins County Planning Brent Cross, Cayuga Heights Engineering Dept. Don Hartill, Village of Cayuga Heights Mayor Clay Converse, Town of Dryden Dan Maas, Cornell University Dan Thaete, Town of Ithaca Engineering John Zepko, Town of Ulysses Planning Jon Negley, Tompkins SWCD Steven Cortright, Town of Danby Supervisor Velvet Lyke, Town of Caroline Clerk CJ Randall, Town of Lansing Planning Katie Borgella, Tompkins County Planning Julie Conley Holcomb, City of Ithaca Clerk Nancy Niswender, Village of Groton Nancy Munkenbeck, Town of Dryden Mark Witmer, Town of Caroline	Donald Scheffler, Town of Groton Supervisor Rordan Hart, Trumansburg Village Mayor Ronny Hardaway, Village of Lansing Deputy Mayor Sue Ritter, Town of Ithaca Kevin Clapp, NYSDHSES Mike Scott, Village of Lansing CEO Marty Moseley, Town of Ithaca Mike Thorne, City of Ithaca Stephany Redmond, Town of Enfield Michael Allinger, Town of Newfield David Sprout, Village of Dryden Cynthia Bianco, Tetra Tech Heather Appgar, Tetra Tech Osamu Tsuda, Tetra Tech	
Agenda Summary: Review project status, purpose of risk ranking and hazard identification, and reviewing instructions on how to develop an action worksheet.		
Item No.	Description	Action By:
1.	Scott Doyle takes attendance and provides a general overview of process thus far. The County will provide support to all communities as needed to finalize and identify mitigation actions.	
2.	Project Status: <ul style="list-style-type: none"> - The communities have all been actively participating in the HMP process and the next and final step is to identify projects. - Initial data collection, hazard profiles, and annexes have been under development and are close to completion. Over the next few weeks, the county is looking for municipalities to identify projects as the final step of the HMP updating process. - Regarding annex progress all municipalities except for the Village of Trumansburg have submitted their updated annexes. Municipal risk ranking worksheets are still being updated. - Citizen survey, stakeholder, and neighboring county survey are deployed and are all open for community participation (https://www.surveymonkey.com/r/TompkinsHMP2020) 	
3.	Hazards of Concern and Project Development: <ul style="list-style-type: none"> - Identified: Flood, Drought, Ground Failure, HABs, Disease Outbreak, Invasive Species, Severe Storm, Severe Snowstorm, Extreme Temperatures. - The goal of the HMP is to identify projects with the objective to reduce risk and to increase capabilities through structural, regulatory, education, and other strategic measures/ actions. - The overarching mitigation strategy is developed by each community and actions can range from plans regulations, structural changes and studies, natural system protection, education, and engagement. New York State requirements <ul style="list-style-type: none"> - Each municipality needs <u>at least</u> 2 action worksheets. - Critical facilities located in floodplains can be retrofitted or relocated. 	





Tompkins County Hazard Mitigation Plan Update Minutes of Meeting



	<ul style="list-style-type: none"> - Communities need to identify evacuation routes and temporary housing locations in the plan as well as properties that need to be acquired due to repetitive loss. Projects need to identify project lead, estimated cost, timeline, and whether the action involves a critical facility. All the action worksheet actions must be listed within the mitigation strategy/action table. Tetra Tech has provided brainstorming worksheets with potential projects listed and will assist with the action worksheet development. 	
4.	<p>Developing Action Worksheet:</p> <ul style="list-style-type: none"> - All communities are encouraged to participate in the process and enhance their strategy by getting more community members to provide input. - So far, each community has at least 2 projects pre-identified in their brainstorming worksheets. Tetra Tech and the County will work with individual communities to develop action worksheets, as previously mentioned. - A hybrid instructional brainstorming- action development worksheet packet was developed containing proposed actions for communities that can be edited, deleted, or directly transferred to action worksheets and the action table in the annex. Communities are highly encouraged to develop additional projects that can be implemented and executed in their municipality. FEMA recommends communities to have diverse actions that are unique to each community, in addition to county wide projects that might be similar regarding proposed implementation strategy. - Brainstorming action worksheets were sent out on Monday (10/19) and communities have been asked to review their worksheets and decide which projects will be incorporated into their annex and developed into an action worksheet by 11/13. 	<p>Municipal Action Worksheets are due on or before November 13, 2020</p>
5.	<p>How to fill out an Action Worksheet:</p> <p>The County has already started setting up meetings with municipalities to develop action worksheets. Those communities that do not need assistance are free to determine projects and develop their own action worksheets.</p> <p>Reviewing action worksheet example:</p> <ul style="list-style-type: none"> - Communities must identify the project title that reflects the project topic and hazard of concern. - Communities are encouraged to provide a detailed description of their problem with respect to the identified hazard. The relevant solution must adequately address the problem or issue identified. - Additional information includes <u>whether or not</u> the project is related to a critical facility and whether the facility is located in a 100-year flood zone. All critical facilities are required to be rebuilt to withstand 500-year floods. Communities are then asked to provide identified costs, problems addressed, priority status, timeline, time for implementation, types of funding available for project, Stakeholder (identified department within the municipality), and, if any, local planning mechanisms to be used in implementation. - Communities need to identify alternate solutions to the problems as well as estimated costs associated with the alternative solution. One of these actions can be no action. - By identifying these details in advance, communities will be well positioned to apply for future FEMA funding opportunities as the information needed for the grant application is similar to that identified in the action worksheets. 	
6.	<p>Conclusion/ Wrap Up:</p> <ul style="list-style-type: none"> - Now that communities have identified their vulnerabilities and areas of weaknesses as well as strengths, the final step is to identify projects based on the vulnerabilities. 	<p>Tompkins County/ Tetra Tech to reach out</p>





Tompkins County Hazard Mitigation Plan Update Minutes of Meeting



	<ul style="list-style-type: none"> - Communities also have the option to carry over old actions from the 2013 HMP, though new actions still need to be identified. - The HMP process is designed to reduce losses due to hazard events by identifying projects to increase collaboration and increase resilience. - The draft plan is scheduled to be posted for public review in late November and municipalities are asked to submit their final action worksheets by November 13th. - Scott Doyle/ Osamu Tsuda will be assisting with action identification and worksheet development, upon request. 	<p>to each municipality to develop action worksheets.</p> <p>Municipalities must submit their action worksheets by 11/13.</p>
Sub-Group Breakout session (City and Town of Ithaca)		
7.	<p>The City of Ithaca experiences flooding along State Route 13 (adjacent to McDonalds and near Cass Park). Town collaboration might be needed to better address these issues. Town of Ithaca does not see a clear path given the geographic characteristics of the City and Town of Ithaca.</p> <ul style="list-style-type: none"> - The Town and City must discuss the root cause and identify how the municipalities can move forward. Such major projects can be phase-based and can be implemented over many years. The BRIC funding could be a potential funding source. Given the City, Town, and County do not have a direct solution, the first phase might be to develop a proposal to conduct a study to identify specific solutions and identify municipality-specific roles to help address the problem. <ul style="list-style-type: none"> ⇒ Develop an intermunicipal flood study to understand potential solution to continuous flood along Route 13. <p>The Town of Ithaca has identified the Village of Cayuga Heights and Village of Lansing as having increased runoff that consequently impacts the Town. Currently there are no clear solutions to these problems, however, and engineering studies between municipalities might need to be conducted.</p> <p>For BRIC Funding, communities have the option to develop a phased project, rather than just a standalone project.</p> <p>Note that while water resilience projects are encouraged, preparedness and maintenance is not a project that fits FEMA categories for hazard mitigation.</p> <p>FEMA flood map updates are currently underway, and the maps are expected to have significant changes from the old maps.</p> <p>Town and City of Ithaca will collaborate on developing worksheets to develop a regional project.</p>	<p>Town and City of Ithaca will collaborate on developing worksheets to develop a proposal.</p>



DRAFT PLAN REVIEW MEETING NOVEMBER 19, 2020



TOMPKINS COUNTY HAZARD MITIGATION PLAN UPDATE
Draft Plan Review – AGENDA
November 19, 2020 – 1:00 pm



Virtual Zoom Meeting

Dial-in Phone Number: 646-558-8656 **Meeting ID:** 910 5880 6952 **Passcode:** 661736

Join by Computer: <https://tompkinscountyny.gov.zoom.us/j/91058806952?pwd=YXFYZ3YwWG9wdG54R045SWFBd24vZz09>

- **Welcome and Opening Remarks**
- **Draft Plan Review**
 - What is new for the 2020 Update
 - Section-by-Section Content Overview
 - Sections 1-9; Appendices
 - Review Guidelines
 - Finalizing the Plan
 - County Mitigation Actions Review
- **Next Steps**
- **Q&A**

Tompkins County Contact Information:

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Associate Planner
Tompkins County Department of Planning & Sustainability

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Tetra Tech Contact Information:

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Osamu Tsuda
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Tompkins County Resiliency and Recovery Plan Hazard Mitigation Plan Update

Draft Plan Presentation
November 19, 2020



Agenda

1. Introductions
2. Draft Plan Review
 - What is New?
 - Section-by-Section Content Overview
 - Review Guidelines
 - Finalizing the Plan
 - County Mitigation Actions Discussion
3. Next Steps
4. Q&A





What is new in the 2021 Update?

- Updated critical facility inventory, to also include community Lifelines
- More concise hazard profiles
- Risk assessment and supplementary info appendix to support policy and planning
- Climate Change impacts and Adaptive Capacity to reduce vulnerability used in hazard ranking



What is new in the 2021 Update?

- Incorporation of Municipal Annexes – each municipality and the County have their own ‘chapter’
 - More detailed information on hazard event damages
 - Fewer, but more detailed mitigation actions
 - Mitigation Action Worksheets (minimum 2 per annex)
 - Planning for displaced residents (short-term and long-term housing)
 - Evacuation routes and shelter locations

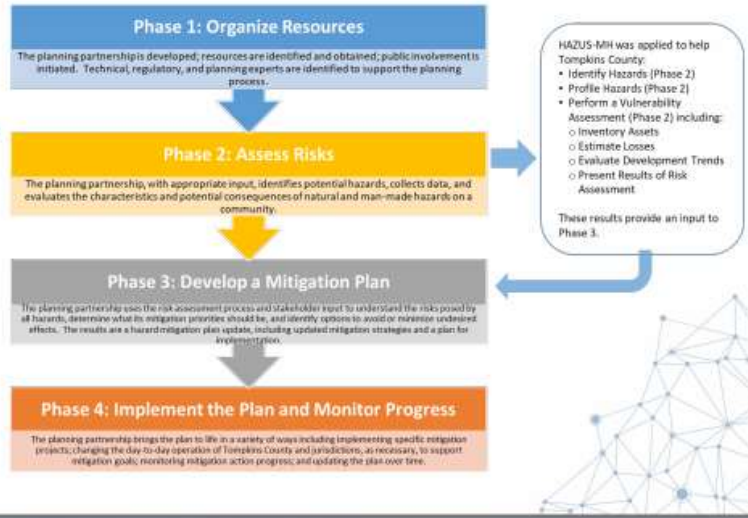




Draft Plan Review – Section Contents

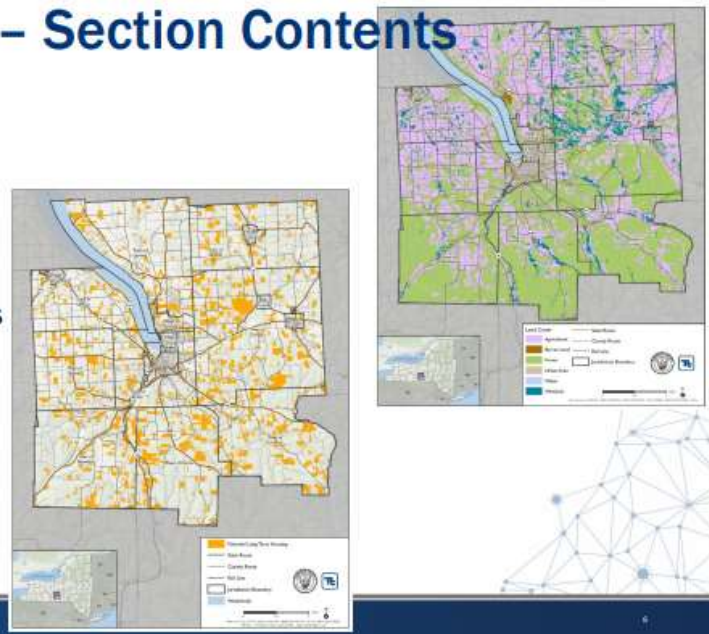
Volume I

- **Section 1 – Introduction**
 - Mitigation Planning Overview
 - Participating Jurisdictions
 - 2021 Updates
- **Section 2 – Plan Adoption**
 - Adoption Process
- **Section 3 – Planning Process**
 - Participants
 - Activities
 - Ongoing Process











Draft Plan Review – Section Contents

- **Section 4 – County Profile**
 - History & Physical Setting
 - Population and Demographics
 - Major Hazard Event History
 - General Building Stock
 - Land Use and Population Trends
 - Critical Facilities & Lifelines
- **Section 5 – Risk Assessment**
 - Hazards of Concern
 - Hazard Ranking
 - Hazard Profiles





Hazards Profiles – Section 5.4

-  Drought - including wildfire
-  Disease Outbreak
-  Extreme Temperatures
-  Flood – including riverine/flash, ice jam, dam failure, and ground failure due to flooding
-  Harmful Algal Bloom
-  Invasive Species
-  Severe Storm – hail, wind, lightning, thunderstorms, tornadoes, hurricanes/tropical storms
-  Severe Winter Storm – heavy snow, blizzards, sleet, freezing rain, ice storms, and Nor'easters



Draft Plan Review – Section Contents

- **Section 6 – Mitigation Strategies**
 - Past accomplishments
 - Goals and Objectives
 - Capability Assessment
 - Available plans, programs, & resources
 - Administrative and technical capabilities
 - Fiscal capabilities
 - Mitigation strategy development and update
 - Action identification
 - Evaluation and prioritization
 - Benefit/cost review

2021 Goals

1. Improve the Resiliency of Systems that Support Public Health and Sustainable Development
2. Increase Partnerships that Improve Hazard Risk Knowledge and Mitigation
3. Protect and Restore Natural Ecosystems to Reduce Flood Risk
4. Enhance Mitigation Collaboration and Coordination Efforts with Emergency Service Agencies to Further Support Life Safety and Economic Resiliency
5. Promote and Strengthen Healthy and Equitable Environments for all Residents with Special Considerations for Those Socially and Physically Vulnerable





Draft Plan Review – Section Contents

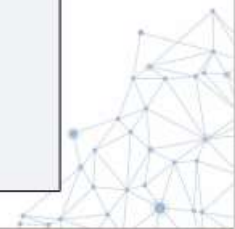
- **Section 7 – Plan Maintenance**
 - HMP Coordinator
 - Ongoing Planning Committee
 - Monitoring
 - Continuous evaluation and progress reports
 - FEMA Worksheets and BAToolSM
 - Updating
 - Integration of hazard mitigation with existing and future programs
 - Continued public involvement



BAToolSM

- Online progress reporting for individual mitigation actions – pre-populated by Tetra Tech

The screenshot displays the BATool web interface for Tompkins County. The page title is "Tompkins County". At the top, there are fields for "View Action" and "Add New Action". Below this, a red message states "Review of this Action has not started". The main content area contains instructions: "Please review and update this action by following the steps below and updating any/all fields as needed." It is divided into two steps: "Step 1: Enter your name as the Reviewer" and "Step 2: Update the Action Status Field". The "Reviewer" field is populated with "Allan Robinson". The "Action Status" dropdown menu is open, showing options: "No Progress", "In Progress", "Completed", "Discontinued", and "Ongoing Capability". The "Project Action Status" field is currently set to "In Progress". Below the status field, there is a "Project Action Status Comments" field with a yellow arrow pointing to it. The "Description of the action" field contains the text "O'Brien Memorial Hospital Hospital Medicine Department: hazard identification marking". At the bottom, there is a "Specify Hazards Mitigated" field with the value "All Hazards".



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Plan Maintenance Matrix

Task	Approach	Timeline	Lead Responsibility	Support Responsibility
Monitoring	Preparation of status updates and action implementation tracking as part of submission for Annual Progress Report.	August or upon major update to Comprehensive Plan or major disaster	Jurisdictional points of contact identified in Section 8 (Planning Partnership) and Section 9 (Jurisdictional Annexes)	Jurisdictional implementation lead identified in Section 8 (Planning Partnership) and Section 9 (Jurisdictional Annexes)
Integration	In order for integration of mitigation principles action to become an organic part of the ongoing county and municipal activities, the county will incorporate the distribution of the safe growth worksheet (see 7.1.2 below) for annual review and update by all participating jurisdictions.	August each year with interim email reminders to address integration in county and municipal activities.	HMP Coordinator and jurisdictional points of contact identified in Section 8 (Planning Partnership) and Section 9 (Jurisdictional Annexes)	HMP Coordinator
Evaluation	Review the status of previous actions as submitted by the monitoring task lead and support to assess the effectiveness of the plan; compile and finalize the Annual Progress Report	Finalized progress report completed by October 14 of each year	Steering Committee; Plan Maintenance element	Jurisdictional points of contacts identified in Section 9 (Jurisdictional Annexes)
Update	Reconvene the planning partners, at a minimum, every 5 years to guide a comprehensive update to review and revise the plan.	Every 5 years or upon major update to Comprehensive Plan or major disaster	Chenango County HMP Coordinator	Jurisdictional points of contacts identified in Section 9 (Jurisdictional Annexes)



Draft Plan Review – Section Contents

Volume II

- **Section 8 – Planning Partnership**
 - Participating jurisdictions
 - Introduce jurisdictional annexes
- **Section 9 – Municipal Annexes**
 - Point of Contact
 - Municipal Profile
 - Capabilities
 - NFIP Participation
 - Risk Assessment
 - Critical Facilities
 - Status of Past Mitigation Actions
 - Current Mitigation Actions
 - Future Needs





Draft Plan Review – Section Contents

• Appendices

- Appendix A – Plan Adoption
- Appendix B – Participation Matrix
- Appendix C – Meeting Documentation
- Appendix D – Public and Stakeholder Outreach Documentation
- Appendix E – County Profile and Risk Assessment Supplementary Data
- Appendix F – Critical Facilities
- Appendix G – FEMA Plan Review Tools
- Appendix H – Mitigation Catalog
- Appendix I – Plan Review Summaries
- Appendix J – NYS DHSES 2017 Mitigation Planning Standards
- Appendix K – Linkage Procedures



Steering Committee Review Guidance

- Documents posted on OneDrive for collaborative review
 - OneDrive guidance will provide direction on how to edit/comment
- Input requested
 - Provide additional or specific information
 - Correct errors or omissions
- All feedback requested on or before November 25th
 - Feedback will be incorporated as appropriate before Public Review
- Plan sections to be posted on the Tompkins County website for a 30-day review period
- Public feedback to be incorporated as appropriate prior to submittal to NYSDHSES/FEMA for agency review





County Mitigation Action Review Discussion

complex world | CLEAR SOLUTIONS™



Next Steps

- Finalize Jurisdictional Annexes – November 20, 2020
- Steering Committee Plan Review – Now through November 20
- Update Plan Based on Steering Committee Feedback
- Draft Posted for Public Review and Comment – 30 Days
- Submit to NYS DHSES and FEMA – December 2020
 - Estimated 45-day review period
- BAToolSM Webinar to Review Plan Maintenance
- Plan Adoption by County and Participating Municipalities
- Leverage the plan to create mitigation principles in Tompkins County!

18





Questions?

*Thank you for your time
and support during this
planning process!*



Tompkins County Project Contact

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Tetra Tech Project Contacts

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Osamu Tsuda
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Thank
You!





Tompkins County Hazard Mitigation Plan Update Minutes of Meeting



Purpose of Meeting: Steering Committee Meeting #4		
Location of Meeting: ZOOM		
Date/Time of Meeting: 11/19/2020		
Attendees:		
Scott Doyle, Tompkins County Planning CJ Randall, Town of Lansing Planning Department Dan Maas, Cornell University Kevin Clapp, NYS DHSES Mike Thorne, City of Ithaca	David Sprout, Town of Dryden Jessica Verfuss, Department of Emergency Services Cynthia Bianco, Tetra Tech Osamu Tsuda, Tetra Tech	
Agenda Summary: Final Review of Draft Plan and instructions and guidance on review process for steering committee and public review.		
Item No.	Description	Action By:
1.	Introduction <ul style="list-style-type: none"> - Tompkins County gives introduction and overview of general HMP updates. - Tetra Tech provides overall updates to new Hazard Mitigation Plan. The new plan has updated critical facility information, more concise information on Hazard Profiles, risk assessment and annexes have policy and planning information, and climate change impacts results on vulnerability assessment. The plan will require the Steering Committee to review each draft section for the plan and provide any additional relevant information missed by Tetra Tech. - Municipal Annexes are also included in hazard mitigation plan with more detailed information on municipal specific hazard event damages, fewer detailed actions, mitigation action worksheets, planning for displaced residents, and evacuation routes and shelter locations. 	
2.	Draft Plan Review <ul style="list-style-type: none"> - Draft Plan Section Content: Volume 1 <ul style="list-style-type: none"> - Volume 1 includes introduction on HMP and its updates, plan adoption and its process, planning process and participation and overall engagement process (section 1-3). All municipalities need to adopt the plan to officially be qualified to apply for mitigation funding. - Section 4 provides information on county profiles (detailed information on county characteristics), - Section 5 provides detailed information on risk assessment process (including methodology) and results. Hazards of concern, in section 5.4 are: drought, disease outbreak, extreme temperatures, flood, HABS, Invasive species, severe storm, and severe winter storm. Each hazard has its respective profile and characteristics and potential vulnerability. All steering committee members are encouraged to provide feedback and missing information. If there are missing issues not identified and other concerns, individuals are encouraged to make note of that, and Tetra Tech will evaluate and incorporate into the plan. - Section 6 reviews the mitigation strategy (past accomplishments, goals and 	





Tompkins County Hazard Mitigation Plan Update Minutes of Meeting



	<p>objectives, capability assessment) and mitigation strategy development and updates.</p> <ul style="list-style-type: none"> - Section 7 reviews plan maintenance and provides information on HMP coordination, updating process, implementation, and continued public involvement. Steering committee members are encouraged to provide feedback on how to engage communities in the maintenance and updating process over the coming 5 years. By keeping people involved, future updating initiatives will be less of a struggle for the county and each municipality. - The BATool is an online progress reporting tool for individual mitigation actions. The program is pre-populated by Tetra Tech. The tool is intended to make the process of updating individual mitigation actions and program evaluation easy, thus mitigating future HMP update errors and misunderstandings. In addition, communities are provided plan maintenance matrix which is overseen by HMP coordinator to evaluate and assess the overall effectiveness of the Hazard Mitigation Plan. For communities interested in participating in the FEMA CRS program, the BATool will help with this evaluation. <p>Volume II</p> <ul style="list-style-type: none"> - The section will include section 8 and 9 which provide information on Planning partnership and citizen participation during the HMP process. <p>Appendices</p> <ul style="list-style-type: none"> - This will include plan adoption, participation matrix, meeting documentation, outreach, county profile and risk assessment, critical facility, FEMA plan review, along with other information relevant to the plan. - Documents are and will continue to be provided on OneDrive as completed by Tetra Tech. Note that community annexes are to be posted as complete. For input, please make feedback as specific as possible. Instructions for one drive are provided in the folder. All feedback is requested before December 4h. All feedback needs to be provided in tracked changes and comments. Please do not download and reupload a file and instead just provide comments and feedback on the browser OneDrive. Individual Sections will be posted on Tompkins County website for a 30-day public review period. Public feedback will be incorporated as appropriate prior to submittal to NYS DHSES. Because of NYS and FEMA coordination, Steering Committee might have to finalize their review by the 4th and no extension can be made. However, the county might try to coordinate with the existing timeframe to extend the steering committee. <p>The county and Tetra Tech have been working on mitigation actions and while problems have been identified, final actions have not been determined. Mitigation action proposals include:</p> <ul style="list-style-type: none"> - Shelter (heating cooling center) inventory development – while the county provides information on these facilities, the red cross is the main entity that oversees emergency shelter management and guidelines. - HABS management and outreach - Backup water source development for municipalities that do not have stable water supply. - Streambank stabilization - Streambank restoration - Water supply resilience - Dam restoration - DMV and county downtown complex facility retrofitting against flood - Model Hazard Tree Inventory Management Plan development to decrease potential hazard due to trees. - Flood insurance outreach on a county wide level to increase municipal participation. - Route 13 flood study to reduce flood risk in the area. - Flash flooding control with SWCD. - Watershed and stream assessment inventory development. - Tompkins county green ditch improvement program 	
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Tompkins County Hazard Mitigation Plan Update Minutes of Meeting



	<ul style="list-style-type: none"> - Buffer planning and implementation support - Stream buffer and floodplain ordinance education, outreach and expansion. - Tompkins County cover crop leadership program. <p>NYS DHSES encourages county to provide more detail within mitigation actions and county specific roles and timelines.</p>	
3.	<p>Next steps</p> <ul style="list-style-type: none"> - Finalize jurisdictional annexes by December 4th - Steering committee plan review – soft deadline December 4th - Update plan based on SC feedback afterwards - Public review 30 days - SUBMIT to NYSDHSES in January 2020. The state will require 45-day review period. - A webinar to review plan maintenance to be scheduled. - Plan adoption by county and municipalities required after NYSDHSES and FEMA review and approval. <p>County encourages municipalities and SC to reach out regarding any questions or concerns.</p>	
4.	<p>Q&A</p> <ul style="list-style-type: none"> - Lansing got the notice to proceed with grant process from the state. Due to plan approval lag, the Lansing is looking to wait until following year to apply for Funding for Salmon creek restoration project. NYSDHSES encourages all municipalities to apply, but to note that there will be future funding sources to apply. Tompkins County soil and water is trying to compile funding by December deadline. With the lag in the HMP and the overall competitive nature of the grant program, the town might hold off and wait until the spring HMGP cycle which will be statewide and thus less competitive, whereas the current opportunity is nationwide and the HMP lag might decrease the probability of getting award funding for the Salmon Creek Project. The Town does not have the capacity to apply for funding and is looking to have SWCD take charge of the project. 	



SECTION 9. PUBLIC AND STAKEHOLDER OUTREACH

This appendix provides documentation of public and stakeholder outreach. Stakeholder involvement in this planning process was broad and productive as discussed and further documented in Section 3 (Planning Process). Public and stakeholder input has been incorporated throughout this HMP as appropriate, as identified in Section 3 and the References section, as well as within specific mitigation initiatives identified within the jurisdictional annexes (Section 9).

9.1 Tompkins County Citizen Survey Results

This section contains information and results gathered from the Tompkins County Citizen Survey. The main objective of this survey was to gather information from citizens regarding their level of knowledge regarding hazard vulnerability and knowledge of hazard mitigation information for their local communities. The survey was available on the Tompkins County Planning Department website from September 2020 to November 2020. 132 respondents completed this survey over a period of three months during the planning process. The majority of respondents consisted of individuals who have lived in Tompkins County for 20 years or more, live in a single-family home, and are older than 50 years old. Survey respondents indicated that flooding, drought, and severe winter storms were the hazards of greatest concern. Mitigation projects identified by survey respondents to reduce the effects of hazards include improving damage resistance of utilities, retrofitting infrastructure, and replacing inadequate or vulnerable bridges and causeways. Survey results are listed below with personal information redacted.

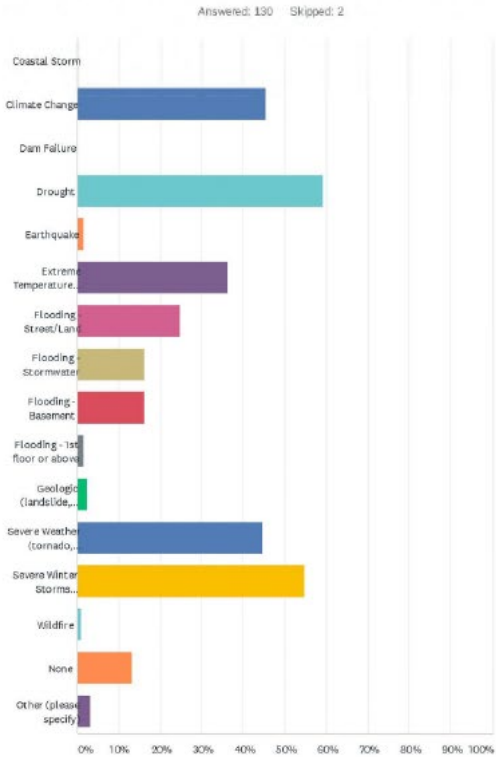


Figure D-1. Citizen Survey Results

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey
33 No thanks. 9/22/2020 4:31 PM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q1. In the past 5 years, which of the following natural hazard events have you experienced in Tompkins County? Check all that apply.



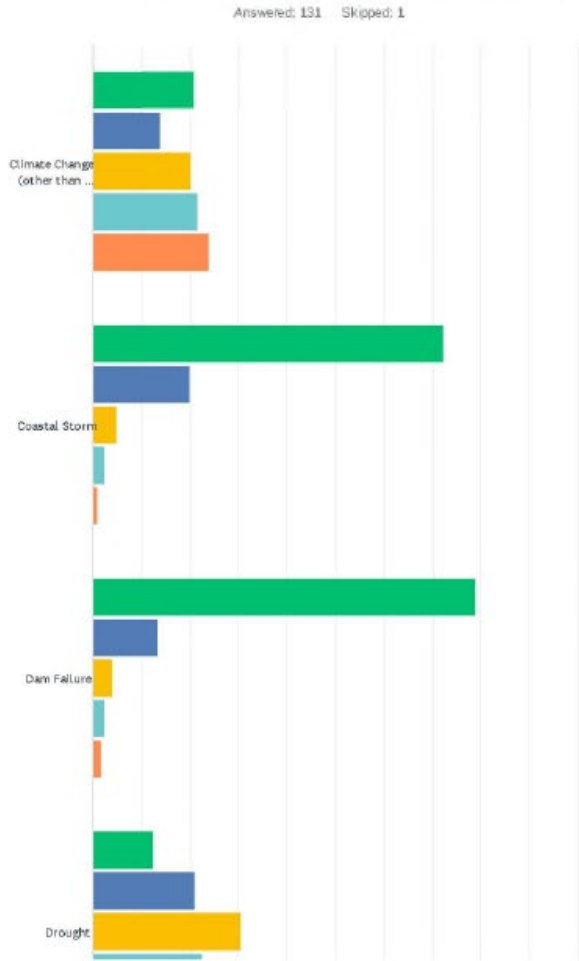
Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

ANSWER CHOICES	RESPONSES	
Coastal Storm	0.00%	0
Climate Change	45.38%	59
Dam Failure	0.00%	0
Drought	59.23%	77
Earthquake	1.54%	2
Extreme Temperature (heat and cold)	36.15%	47
Flooding - Street/Land	24.62%	32
Flooding - Stormwater	16.15%	21
Flooding - Basement	16.15%	21
Flooding - 1st floor or above	1.54%	2
Geologic (landslide, sinkholes, subsidence)	2.31%	3
Severe Weather (tornado, thunderstorm, hail)	44.62%	58
Severe Winter Storms (blizzard, heavy snow, ice)	54.62%	71
Wildfire	0.77%	1
None	13.08%	17
Other (please specify)	3.08%	4
Total Respondents: 130		

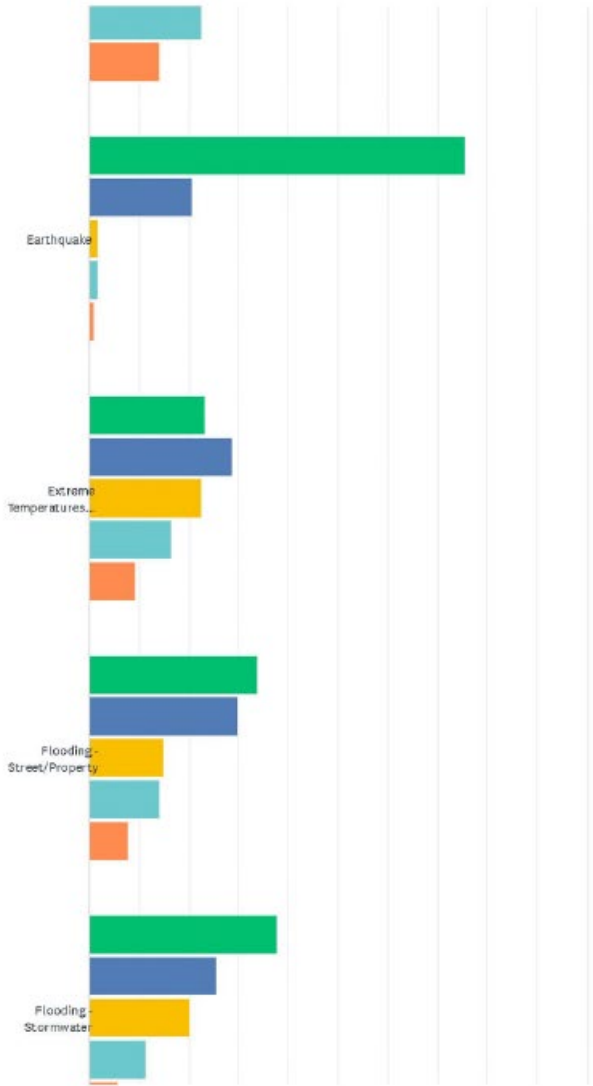
#	OTHER (PLEASE SPECIFY)	DATE
1	drought	11/5/2020 7:47 PM
2	pandemic	10/24/2020 9:42 PM
3	high winds	10/24/2020 9:50 AM
4	Flooding nearby that effects our access	10/22/2020 6:51 PM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q2 How concerned are you about the following natural hazards in Tompkins County? Please check one for each hazard.

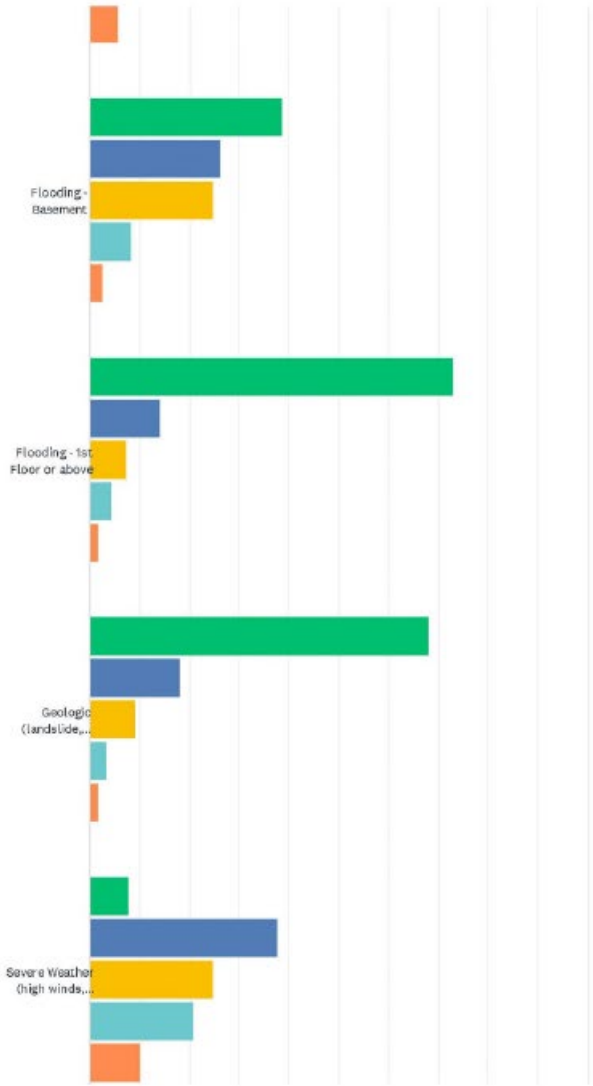


Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey



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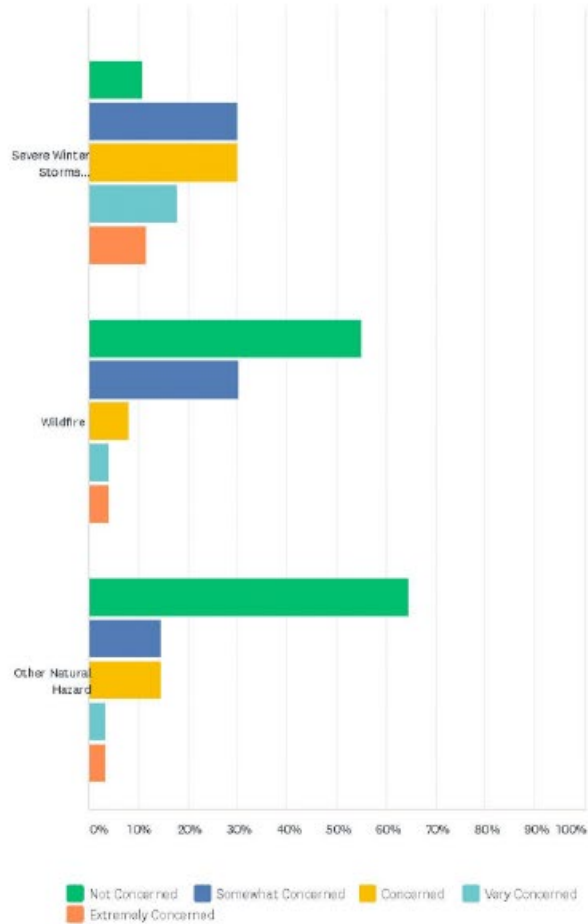
Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey



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Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

	NOT CONCERNED	SOMEWHAT CONCERNED	CONCERNED	VERY CONCERNED	EXTREMELY CONCERNED	TOTAL RESPONDENTS
Climate Change (other than sea level rise)	20.77% 27	13.85% 18	20.00% 26	21.54% 28	23.85% 31	130
Coastal Storm	72.22% 91	19.84% 25	4.76% 6	2.38% 3	0.79% 1	126
Dam Failure	76.74% 100	13.39% 17	3.94% 5	2.36% 3	1.57% 2	127
Drought	12.40% 16	20.93% 27	30.23% 39	22.48% 29	13.95% 18	129
Earthquake	75.59% 96	20.47% 26	1.57% 2	1.57% 2	0.79% 1	127
Extreme Temperatures (heat and cold)	23.26% 30	28.68% 37	22.48% 29	16.28% 21	9.30% 12	129
Flooding - Street/Property	33.59% 43	29.69% 38	14.84% 19	14.06% 18	7.81% 10	128
Flooding - Stormwater	37.60% 47	25.60% 32	20.00% 25	11.20% 14	5.60% 7	125
Flooding - Basement	38.52% 47	26.23% 32	24.59% 30	8.20% 10	2.46% 3	122
Flooding - 1st Floor or above	72.95% 89	13.93% 17	7.38% 9	4.10% 5	1.64% 2	122
Geologic (landslide, sinkholes, subsidence)	68.03% 83	18.03% 22	9.02% 11	3.28% 4	1.64% 2	122
Severe Weather (high winds, lightning, hail)	7.69% 10	37.69% 49	24.62% 32	20.77% 27	10.00% 13	130
Severe Winter Storms (blizzard, heavy snow, ice)	10.77% 14	30.00% 39	30.00% 39	17.69% 23	11.54% 15	130
Wildfire	54.76% 69	30.18% 38	7.94% 10	3.97% 5	3.97% 5	126
Other Natural Hazard	64.44% 58	14.44% 13	14.44% 13	3.33% 3	3.33% 3	90



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

#	OTHER (PLEASE SPECIFY)	DATE
1	Food and crop insecurity (wrote a book on this)	11/20/2020 2:56 PM
2	loss of trees to invasive species & fungal diseases	11/10/2020 7:21 AM
3	earthquake	11/5/2020 8:58 PM
4	tornado	11/5/2020 7:51 PM
5	tornadoes, earthquakes	11/5/2020 4:32 PM
6	Increase in insect-born diseases	10/30/2020 9:54 AM
7	future pandemics	10/25/2020 9:35 PM
8	pandemic	10/24/2020 9:42 PM
9	Increase in crime rate, taxes and swing to socialist programs.	10/22/2020 11:14 PM
10	Lyme Disease as a side effect of climate change	10/21/2020 8:01 AM
11	dead trees from invasive insects like emerald ash borer	10/20/2020 3:22 PM
12	Invasive pests such as termites and other bugs that enter homes and eat crops now that climate change is making central NY warmer.	10/20/2020 3:22 PM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q3 In the last 5 years, were you permanently or temporarily evacuated from your place of residence as a result of a disaster (e.g. flooding)? If so, how long were you displaced? Did you go to a shelter?

Answered: 122 Skipped: 10



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

#	RESPONSES	DATE
1	no	11/28/2020 4:35 PM
2	No	11/26/2020 12:27 AM
3	No	11/24/2020 5:41 PM
4	No	11/24/2020 10:24 AM
5	no	11/24/2020 9:41 AM
6	No	11/23/2020 11:24 AM
7	no	11/22/2020 6:11 PM
8	No	11/22/2020 5:17 PM
9	No	11/22/2020 10:49 AM
10	No evacuation	11/21/2020 11:11 AM
11	no	11/20/2020 7:11 PM
12	No	11/20/2020 2:56 PM
13	no	11/10/2020 7:21 AM
14	no	11/9/2020 8:53 PM
15	no	11/7/2020 3:59 PM
16	no	11/6/2020 9:42 AM
17	no	11/6/2020 5:36 AM
18	no	11/6/2020 1:06 AM
19	No	11/5/2020 9:53 PM
20	No	11/5/2020 9:45 PM
21	No	11/5/2020 9:39 PM
22	no	11/5/2020 9:30 PM
23	No	11/5/2020 8:58 PM
24	No	11/5/2020 8:13 PM
25	No	11/5/2020 8:10 PM
26	No	11/5/2020 8:08 PM
27	No	11/5/2020 8:02 PM
28	No	11/5/2020 7:54 PM
29	no	11/5/2020 7:51 PM
30	no	11/5/2020 7:51 PM
31	No	11/5/2020 7:47 PM
32	No	11/5/2020 7:43 PM
33	No	11/5/2020 6:34 PM
34	no	11/5/2020 6:00 PM
35	No	11/5/2020 5:31 PM
36	no	11/5/2020 5:18 PM
37	no	11/5/2020 4:32 PM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

38	No	11/5/2020 4:06 PM
39	no	11/5/2020 3:55 PM
40	No	11/3/2020 10:48 AM
41	No	11/2/2020 5:49 PM
42	No	11/2/2020 11:04 AM
43	no	11/2/2020 10:20 AM
44	No	10/31/2020 11:48 AM
45	No	10/30/2020 9:54 AM
46	No	10/29/2020 4:25 PM
47	No	10/28/2020 11:22 AM
48	No	10/28/2020 10:13 AM
49	no	10/28/2020 8:07 AM
50	No	10/27/2020 1:08 PM
51	no	10/27/2020 12:39 PM
52	No	10/26/2020 5:21 PM
53	no	10/26/2020 12:58 PM
54	No	10/26/2020 12:20 PM
55	No	10/26/2020 11:54 AM
56	No	10/26/2020 11:17 AM
57	No	10/26/2020 11:13 AM
58	no	10/26/2020 9:12 AM
59	no	10/26/2020 7:49 AM
60	no	10/26/2020 7:28 AM
61	No	10/26/2020 7:12 AM
62	no	10/25/2020 11:57 PM
63	No	10/25/2020 11:39 PM
64	No	10/25/2020 10:33 PM
65	No	10/25/2020 10:18 PM
66	No	10/25/2020 10:02 PM
67	N/A	10/25/2020 9:38 PM
68	Na	10/25/2020 9:35 PM
69	np	10/25/2020 9:35 PM
70	no	10/25/2020 9:32 PM
71	No	10/25/2020 9:31 PM
72	no	10/25/2020 9:26 PM
73	Giffriend was flooded out of her house and sheltered with me. I would never go to a shelter. No control over ones environment.	10/25/2020 9:24 PM
74	No	10/25/2020 9:22 PM
75	no	10/25/2020 9:17 PM



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

76	no	10/25/2020 9:17 PM
77	no	10/25/2020 10:22 AM
78	N D	10/24/2020 1:33 PM
79	no	10/24/2020 9:50 AM
80	No.	10/24/2020 8:54 AM
81	No	10/23/2020 10:38 AM
82	No	10/23/2020 8:15 AM
83	None happened, no concern.	10/23/2020 7:51 AM
84	No	10/22/2020 11:45 PM
85	No	10/22/2020 11:14 PM
86	No	10/22/2020 9:33 PM
87	No	10/22/2020 7:27 PM
88	no	10/22/2020 7:27 PM
89	No	10/22/2020 7:25 PM
90	no	10/22/2020 6:51 PM
91	no	10/22/2020 6:08 PM
92	no	10/22/2020 6:06 PM
93	No	10/22/2020 5:18 PM
94	No	10/22/2020 5:02 PM
95	No	10/22/2020 11:12 AM
96	No	10/22/2020 8:38 AM
97	No	10/21/2020 9:43 PM
98	No	10/21/2020 8:47 PM
99	no	10/21/2020 7:46 PM
100	no	10/21/2020 12:24 PM
101	No	10/21/2020 12:06 PM
102	No	10/21/2020 10:58 AM
103	No	10/21/2020 10:40 AM
104	No	10/21/2020 9:01 AM
105	no	10/21/2020 8:12 AM
106	No	10/21/2020 6:25 AM
107	no	10/20/2020 6:00 PM
108	No	10/20/2020 3:59 PM
109	No	10/20/2020 3:49 PM
110	No	10/20/2020 3:31 PM
111	No	10/20/2020 3:23 PM
112	no	10/20/2020 3:22 PM
113	no	10/20/2020 3:22 PM

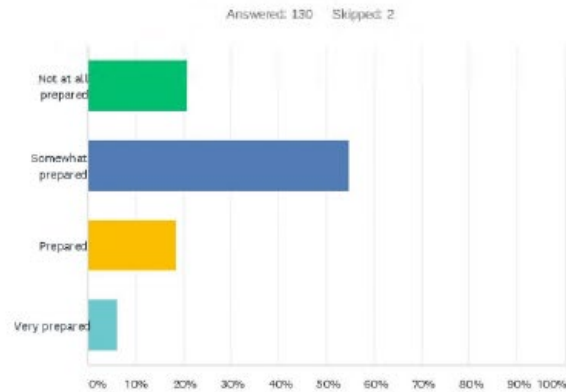
Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

114	No	10/20/2020 2:38 PM
115	no	10/20/2020 2:33 PM
116	No	10/20/2020 1:53 PM
117	no	10/20/2020 1:24 PM
118	No	10/20/2020 12:23 PM
119	no	10/20/2020 10:14 AM
120	No	10/20/2020 9:01 AM
121	no	9/25/2020 10:30 AM
122	No	9/22/2020 4:26 PM



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q4 If you currently rely on public utilities, how prepared are you (and your family, if applicable) to get along without electricity or natural gas for one to five days?



ANSWER CHOICES	RESPONSES	
Not at all prepared	20.77%	27
Somewhat prepared	54.62%	71
Prepared	18.46%	24
Very prepared	6.15%	8
TOTAL		130

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

#	PLEASE EXPLAIN	DATE
1	L.P. Gas generator	11/28/2020 11:24 AM
2	have woodstove, candles, oil lamps, buckets to bring water from lake.	11/20/2020 7:11 PM
3	own a generator (should check it!), heat with wood;	11/20/2020 2:56 PM
4	store some emergency water, NO heat source without NYSEG, NO cooking source w/o NYSEG	11/7/2020 3:59 PM
5	Depends on the outside temperature	11/6/2020 9:42 AM
6	40 plus years of experience, a woodstove, and some common sense.	11/5/2020 9:39 PM
7	Heat with wood, but have multiple freezers and refrigerators	11/5/2020 9:30 PM
8	Back up water, coolers for frozen food, battery back up lighting	11/5/2020 8:58 PM
9	Up to 3 days no problem, after that I have not opted for back-up power. I think the probability is low.	11/5/2020 8:08 PM
10	Generator and 2 days worth of fuel	11/5/2020 8:02 PM
11	wood stove with cook box, freeze full of food	11/5/2020 8:00 PM
12	water stored and propane tank	11/5/2020 7:53 PM
13	we have a woodstove and small generator	11/5/2020 7:51 PM
14	Just this year we added solar electric to our house and included a Tesla Powerwall (battery backup), which, if necessary, can disconnect us from the grid and allow us to operate under our own power. We also primarily heat with a wood stove and have some generators if necessary.	11/5/2020 5:31 PM
15	If winter, not prepared	11/5/2020 4:40 PM
16	We have a generator, wood stove.	11/5/2020 4:32 PM
17	Have a portable generator and limited gasoline , some food in reserve	11/3/2020 10:48 AM
18	Rent apartment. Can't afford a generator	11/2/2020 9:29 PM
19	Small generators and power supplies available	11/2/2020 5:49 PM
20	We would prefer to have a wood heat source back up but plan to move within the next year so not going to invest.	11/2/2020 11:04 AM
21	I have followed the FEMA Family Preparedness information	10/31/2020 11:48 AM
22	Propane heat, solar-charged batteries & inverter. No provision for well pump operation.	10/30/2020 9:54 AM
23	Stored food and backup power	10/28/2020 11:22 AM
24	We keep natural spring water and gas powered generator	10/27/2020 1:08 PM
25	Home gen. Water from well	10/26/2020 12:58 PM
26	We have propane for cooking and a pond from which we could get water if needed.	10/26/2020 12:20 PM
27	Have alternate lighting sources, wood stove for heat.	10/26/2020 11:17 AM
28	We have a generator	10/26/2020 11:13 AM
29	Backup power generator for electricity and well water supply	10/26/2020 9:32 AM
30	Have solar panels with backup batteries	10/25/2020 11:57 PM
31	We have a generator for electricity...	10/25/2020 10:18 PM
32	We have a wood stove, some solar panels, an electric car but no generator or battery storage	10/25/2020 9:35 PM
33	generator, propane, wood stove	10/25/2020 9:32 PM
34	generator w/80 gallon fuel tank/1000 gallon propane tank/artesian well @ 5gpm	10/25/2020 9:26 PM



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

35	Since they closed or local power plant and made us more dependent on foreign power and unstable long delivery routes we've taken steps to firm up our situation.	10/25/2020 9:24 PM
36	installed a generator	10/25/2020 10:22 AM
37	we have plenty of fire wood and 2 wood stoves. We have plenty of food, we have candles and batteries. we are ambulatory and healthy	10/24/2020 9:50 AM
38	We have various forms of back-up lighting, camping stoves, back-up water jugs, a coal/wood stove.	10/24/2020 8:54 AM
39	Wood stove, stored water	10/23/2020 8:15 AM
40	Propane for backup heat. Generator for intermittent electric for refrigerator.	10/22/2020 11:45 PM
41	I have a portable generator moved here from previous location, but it has not been run, or hooked up since.	10/22/2020 11:14 PM
42	We have a generator and gasoline	10/22/2020 9:33 PM
43	Bought well bucket to get water from well without electricity. Researching solar power	10/22/2020 7:25 PM
44	Electricity is needed to supply water from my well and to keep pipes from freezing in winter conditions	10/22/2020 5:18 PM
45	I'm good at camping....I can get water for the sheep from the stream....	10/21/2020 11:53 PM
46	We have a working fireplace for warmth. However, without electricity, food would be an issue. Water would also be an issue as both our water heater and well pump rely on electricity.	10/21/2020 10:40 AM
47	I have enough food that does not require use of the stove. Otherwise, I am not really prepared.	10/21/2020 9:01 AM
48	we have a generator	10/21/2020 8:12 AM
49	would be difficult, especially in winter	10/20/2020 6:00 PM
50	We have a backup generator, wood burning stove, cord wood, water delivery.	10/20/2020 3:31 PM
51	wood stove to heat, could use neighbors pond for water, flash lights and candles for light at night	10/20/2020 3:22 PM
52	We have flashlights and extra food supplies, however, my 83 year old mother lives with us and is regularly on oxygen. NYSEG is aware of this and will offer temp electric generator when needed.	10/20/2020 3:22 PM
53	Generator	10/20/2020 9:01 AM
54	If water and sewer aren't captured in another question they should be.	9/25/2020 10:30 AM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q5 Please rank how prepared you are for natural disaster events likely to occur within your community. Rank on a scale of 1 to 5, with 5 representing the most prepared.

Answered: 131 Skipped: 1



ANSWER CHOICES	AVERAGE NUMBER	TOTAL NUMBER	RESPONSES
	3	381	131
Total Respondents: 131			



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

#		DATE
1	2	11/28/2020 4:35 PM
2	3	11/26/2020 12:27 AM
3	4	11/24/2020 5:41 PM
4	4	11/24/2020 10:32 AM
5	3	11/24/2020 10:24 AM
6	3	11/24/2020 9:41 AM
7	4	11/23/2020 11:24 AM
8	3	11/22/2020 6:11 PM
9	1	11/22/2020 5:17 PM
10	3	11/22/2020 10:49 AM
11	3	11/21/2020 11:11 AM
12	3	11/20/2020 7:11 PM
13	3	11/20/2020 2:56 PM
14	3	11/10/2020 7:21 AM
15	3	11/9/2020 8:53 PM
16	2	11/7/2020 3:59 PM
17	2	11/6/2020 9:42 AM
18	5	11/6/2020 5:36 AM
19	3	11/6/2020 1:06 AM
20	2	11/5/2020 9:53 PM
21	3	11/5/2020 9:45 PM
22	3	11/5/2020 9:39 PM
23	3	11/5/2020 9:30 PM
24	1	11/5/2020 8:58 PM
25	3	11/5/2020 8:13 PM
26	3	11/5/2020 8:10 PM
27	4	11/5/2020 8:08 PM
28	5	11/5/2020 8:02 PM
29	3	11/5/2020 8:00 PM
30	3	11/5/2020 7:54 PM
31	3	11/5/2020 7:51 PM
32	3	11/5/2020 7:51 PM
33	3	11/5/2020 7:47 PM
34	3	11/5/2020 7:43 PM
35	3	11/5/2020 6:34 PM
36	2	11/5/2020 6:00 PM
37	5	11/5/2020 5:31 PM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

38	5	11/5/2020 5:18 PM
39	2	11/5/2020 4:40 PM
40	3	11/5/2020 4:32 PM
41	2	11/5/2020 4:06 PM
42	1	11/5/2020 3:55 PM
43	3	11/3/2020 10:48 AM
44	1	11/2/2020 9:29 PM
45	3	11/2/2020 5:49 PM
46	3	11/2/2020 11:04 AM
47	4	11/2/2020 10:20 AM
48	4	10/31/2020 11:48 AM
49	3	10/30/2020 9:54 AM
50	2	10/29/2020 4:25 PM
51	4	10/29/2020 11:22 AM
52	2	10/28/2020 10:13 AM
53	2	10/28/2020 9:28 AM
54	1	10/28/2020 8:58 AM
55	3	10/28/2020 8:07 AM
56	3	10/27/2020 1:08 PM
57	2	10/27/2020 12:39 PM
58	1	10/26/2020 5:21 PM
59	5	10/26/2020 12:58 PM
60	3	10/26/2020 12:20 PM
61	3	10/26/2020 11:54 AM
62	4	10/26/2020 11:17 AM
63	4	10/26/2020 11:13 AM
64	4	10/26/2020 9:12 AM
65	2	10/26/2020 7:49 AM
66	3	10/26/2020 7:28 AM
67	3	10/26/2020 7:12 AM
68	2	10/25/2020 11:57 PM
69	3	10/25/2020 11:39 PM
70	3	10/25/2020 10:33 PM
71	3	10/25/2020 10:18 PM
72	2	10/25/2020 9:38 PM
73	5	10/25/2020 9:35 PM
74	3	10/25/2020 9:35 PM
75	3	10/25/2020 9:32 PM



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

76	3	10/25/2020 9:31 PM
77	5	10/25/2020 9:26 PM
78	3	10/25/2020 9:24 PM
79	2	10/25/2020 9:22 PM
80	3	10/25/2020 9:17 PM
81	3	10/25/2020 9:17 PM
82	3	10/25/2020 10:22 AM
83	1	10/24/2020 9:42 PM
84	3	10/24/2020 1:33 PM
85	3	10/24/2020 9:50 AM
86	4	10/24/2020 8:54 AM
87	3	10/23/2020 10:38 AM
88	3	10/23/2020 8:15 AM
89	4	10/23/2020 7:51 AM
90	4	10/22/2020 11:45 PM
91	1	10/22/2020 11:14 PM
92	4	10/22/2020 9:33 PM
93	3	10/22/2020 7:27 PM
94	3	10/22/2020 7:27 PM
95	3	10/22/2020 7:25 PM
96	4	10/22/2020 6:51 PM
97	1	10/22/2020 6:08 PM
98	3	10/22/2020 6:06 PM
99	3	10/22/2020 5:18 PM
100	1	10/22/2020 5:02 PM
101	3	10/22/2020 11:12 AM
102	2	10/22/2020 8:38 AM
103	4	10/21/2020 11:53 PM
104	4	10/21/2020 9:43 PM
105	5	10/21/2020 8:47 PM
106	3	10/21/2020 7:46 PM
107	4	10/21/2020 12:24 PM
108	2	10/21/2020 12:06 PM
109	3	10/21/2020 10:58 AM
110	2	10/21/2020 10:40 AM
111	2	10/21/2020 9:01 AM
112	3	10/21/2020 8:12 AM
113	3	10/21/2020 6:25 AM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

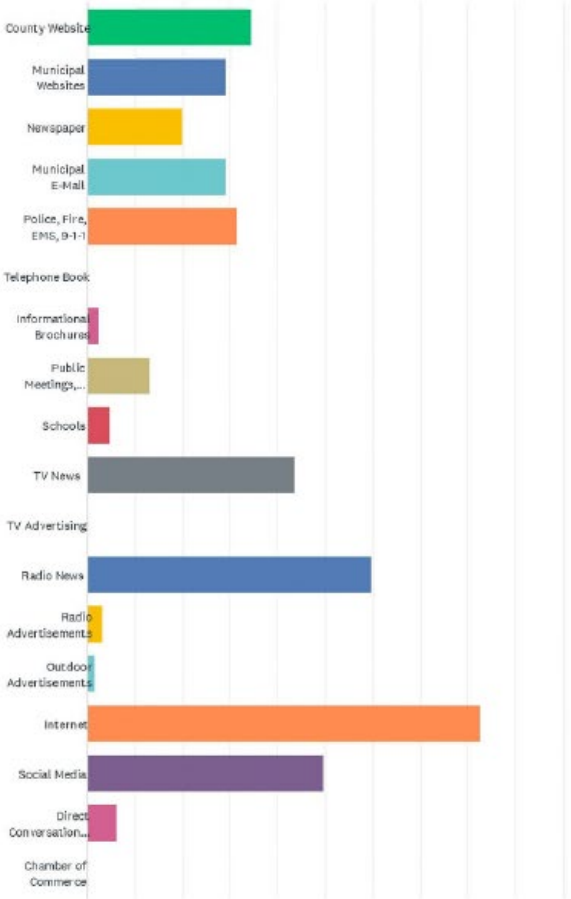
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117	3	10/20/2020 3:31 PM
118	2	10/20/2020 3:23 PM
119	3	10/20/2020 3:22 PM
120	2	10/20/2020 3:22 PM
121	1	10/20/2020 2:38 PM
122	4	10/20/2020 2:33 PM
123	3	10/20/2020 2:02 PM
124	3	10/20/2020 1:53 PM
125	3	10/20/2020 1:24 PM
126	3	10/20/2020 12:23 PM
127	2	10/20/2020 10:14 AM
128	4	10/20/2020 9:01 AM
129	2	9/25/2020 10:30 AM
130	4	9/22/2020 4:26 PM
131	1	9/2/2020 1:13 PM



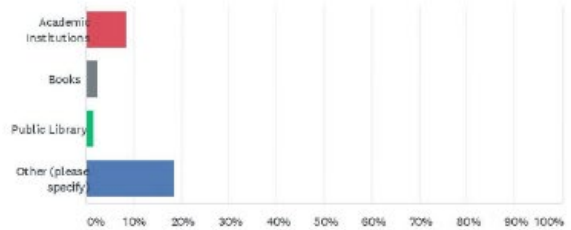
Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q6 How do you receive your information concerning a disaster? Check all that apply.

Answered: 131 Skipped: 1



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey



ANSWER CHOICES	RESPONSES	Count
County Website	34.35%	45
Municipal Websites	29.01%	38
Newspaper	19.85%	26
Municipal E-Mail	29.01%	38
Police, Fire, EMS, 9-1-1	31.30%	41
Telephone Book	0.00%	0
Informational Brochures	2.29%	3
Public Meetings, Workshops, Public Awareness Events	12.98%	17
Schools	4.58%	6
TV News	43.51%	57
TV Advertising	0.00%	0
Radio News	59.54%	78
Radio Advertisements	3.05%	4
Outdoor Advertisements	1.53%	2
Internet	82.44%	108
Social Media	49.62%	65
Direct Conversations with Public Agency or Non-Profit Contact	6.11%	8
Chamber of Commerce	0.00%	0
Academic Institutions	8.40%	11
Books	2.29%	3
Public Library	1.53%	2
Other (please specify)	18.32%	24
Total Respondents: 131		

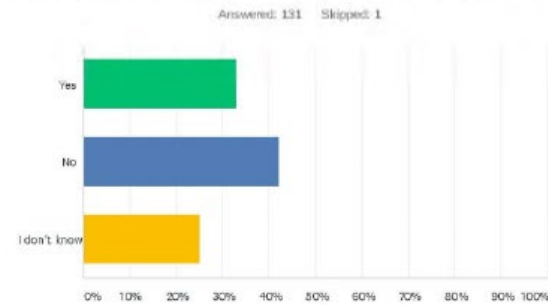


Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

#	OTHER (PLEASE SPECIFY)	DATE
1	Email	11/20/2020 2:56 PM
2	Weather forecasts in various forms	11/5/2020 8:10 PM
3	Word of mouth	11/5/2020 6:00 PM
4	We are also signed up for Swift 911 for the County.	11/9/2020 5:31 PM
5	Weather App on cellphone	11/5/2020 4:40 PM
6	Town of Caroline website	11/5/2020 4:32 PM
7	Swift911, NY Alert	10/31/2020 11:48 AM
8	Swift911, Ham radio	10/30/2020 9:54 AM
9	Amateur radio and social media	10/29/2020 11:22 AM
10	County alerts	10/28/2020 12:20 PM
11	I get texts from Tompkins County EMS	10/26/2020 11:13 AM
12	Govt agencies, NOAA	10/25/2020 11:57 PM
13	Cornell University alerts	10/25/2020 9:35 PM
14	amateur radio	10/25/2020 9:32 PM
15	ham radio	10/25/2020 9:26 PM
16	Talking with others around the country via radio	10/25/2020 9:24 PM
17	texts from friends	10/24/2020 9:50 AM
18	Notifications from NYSEG via phone messages.	10/24/2020 8:54 AM
19	Cell phone texts	10/22/2020 11:14 PM
20	Swift911	10/22/2020 5:02 PM
21	text alerts (swift 911)	10/20/2020 2:33 PM
22	TC SWIFT	10/20/2020 9:01 AM
23	are you asking when a disaster is happening or in preparation for a disaster?	9/25/2020 10:30 AM
24	Reverse 911	9/22/2020 4:26 PM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q7 Do you think that the public is aware of, understands, and takes advantage of emergency warning and notification systems and services (e.g. mass notification system, audible alerts, CodeRED, NY Alert)?



ANSWER CHOICES	RESPONSES
Yes	32.82% 43
No	41.98% 55
I don't know	25.19% 33
TOTAL	131

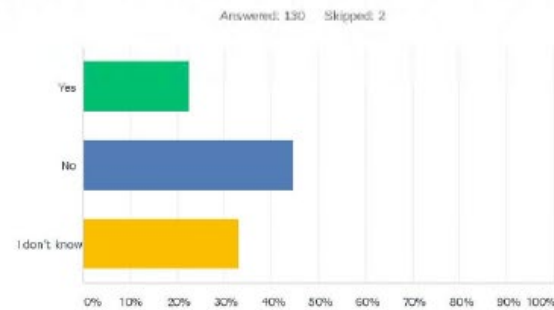


Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

#	PLEASE EXPLAIN	DATE
1	I do, but I'm not sure about others	11/22/2020 6:11 PM
2	I'm guessing most people rely on their cell phones re emergency warnings	11/21/2020 11:11 AM
3	I think many smart phones default to alerts	11/20/2020 2:56 PM
4	to some extent	11/6/2020 9:42 AM
5	not everyone has a computer/internet or a cell phone.	11/5/2020 9:39 PM
6	radio and cell phone alerts work for me	11/5/2020 9:30 PM
7	Most folks I know have appropriate apps and news channels, however, most rely on electricity!	11/5/2020 8:58 PM
8	They rely too much on government intervention	11/5/2020 8:02 PM
9	The majority of the people that we know are aware of how to get information in the time of emergencies.	11/5/2020 5:31 PM
10	Have't seen much publicity regarding sources, etc.	10/30/2020 9:54 AM
11	alerts on TV	10/26/2020 12:58 PM
12	There's very little education about these.	10/26/2020 12:20 PM
13	Much of the public is informed	10/26/2020 11:13 AM
14	Not enough information provided	10/25/2020 11:57 PM
15	public is naive	10/25/2020 9:26 PM
16	Some do, many are unaware	10/25/2020 9:24 PM
17	I think some people don't know how to access or sign up	10/25/2020 9:22 PM
18	Very few; less useful in rural places without rural broadband	10/23/2020 6:15 AM
19	People are more worried about their causes and do not care about others.	10/23/2020 7:51 AM
20	I have only heard of Swift911	10/21/2020 9:01 AM
21	most dont know what is available	10/20/2020 6:00 PM
22	More education and promotion is needed	10/20/2020 3:49 PM
23	The County Disaster Preparedness is good and our local mayor keeps the village informed through the Listserve.	10/20/2020 3:22 PM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q8 Do you think that current local public education and awareness programs are effective at informing the public on what they should do to be prepared for and reduce their personal risk to disasters?



ANSWER CHOICES	RESPONSES
Yes	22.31% 29
No	44.62% 58
I don't know	33.08% 43
TOTAL	130

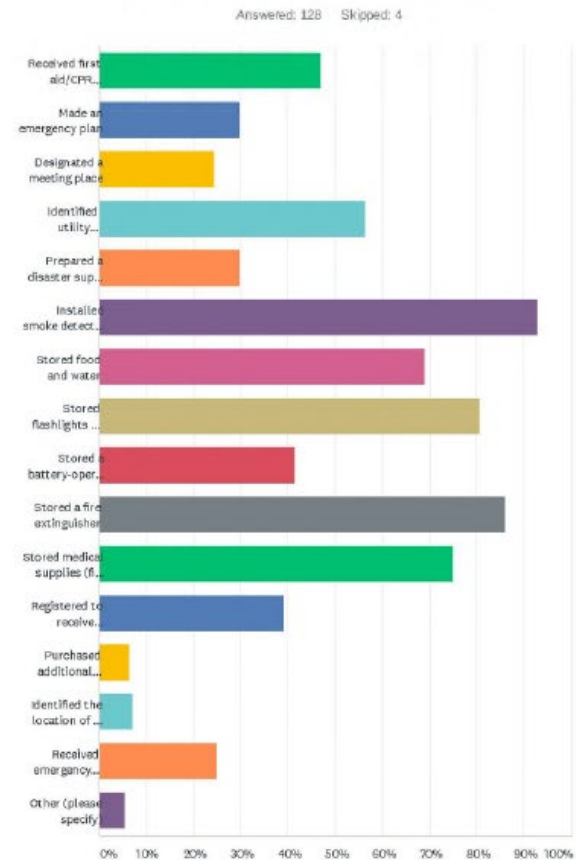


Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

#	OTHER (PLEASE SPECIFY)	DATE
1	Relatively	11/24/2020 5:41 PM
2	What do they recommend if there is no gas heat during the winter. Should I use a propane heater?	11/22/2020 6:11 PM
3	Covid has shown us we need a LOT of reinforcement to understand and comply	11/20/2020 2:56 PM
4	I'm trying to think if there are any I have been made aware of	11/6/2020 9:42 AM
5	all of the above, seriously.	11/5/2020 9:39 PM
6	Occasionally	10/31/2020 11:48 AM
7	See above, plus natural inclination not to worry about it.	10/30/2020 9:54 AM
8	Somewhat. More could definitely be done to educate the public.	10/28/2020 10:13 AM
9	I think we need to be concerned with the number of older adults and folks who may have mobility issues	10/28/2020 8:58 AM
10	I haven't really seen any of them.	10/26/2020 12:20 PM
11	People do not trust government because of personal agenda.	10/23/2020 7:51 AM
12	I think they are mostly effective, but should work with psychologists to determine how to get through to naturally irresponsible people who tend to disregard these things	10/21/2020 9:01 AM
13	complacency and normalcy lend to false sense of security, coupled with transient community who is simply unaware of recent and historic local events lends itself to less awareness and action.	9/25/2020 10:30 AM
14	Good starting place, could be stronger.	9/22/2020 4:26 PM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q9 Which of the following steps has you have taken to prepare for a local hazard event? Check all that apply.



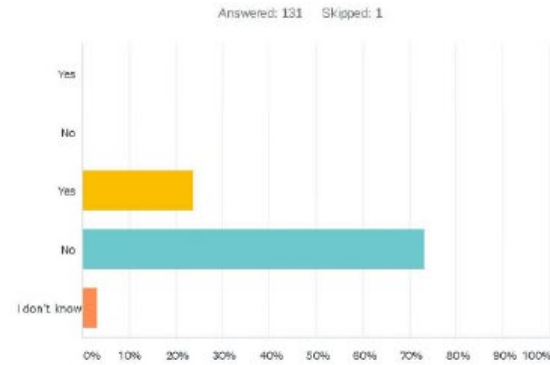
Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

ANSWER CHOICES	RESPONSES
Received first aid/CPR training	46.89% 60
Made an emergency plan	29.69% 38
Designated a meeting place	24.22% 31
Identified utility shutoffs	56.25% 72
Prepared a disaster supply kit	29.69% 38
Installed smoke detectors on each level of home	92.97% 119
Stored food and water	68.75% 88
Stored flashlights and batteries	80.47% 103
Stored a battery-operated radio	41.41% 53
Stored a fire extinguisher	85.94% 110
Stored medical supplies (first aid kit, medications)	75.00% 96
Registered to receive emergency alerts (i.e. Hyper-Reach)	39.06% 50
Purchased additional insurance to cover losses (i.e. flood insurance)	6.25% 8
Identified the location of the nearest emergency shelter	7.03% 9
Received emergency preparedness information from a government source	25.00% 32
Other (please specify)	5.47% 7
Total Respondents: 128	

#	OTHER (PLEASE SPECIFY)	DATE
1	do NOT have a designated place to go,	11/7/2020 3:59 PM
2	Clearly i am not very prepared	11/6/2020 9:42 AM
3	purchased a pump	11/5/2020 8:10 PM
4	Amateur radio communication	10/29/2020 11:22 AM
5	Ham Radio,Scanners	10/26/2020 12:58 PM
6	Wood for fireplace insert during cold weather	10/26/2020 7:12 AM
7	installed a generator	10/25/2020 10:22 AM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q10 In the past, has your place of residence been damaged by a hazard event?



ANSWER CHOICES	RESPONSES
Yes	0.00% 0
No	0.00% 0
Yes	23.66% 31
No	73.28% 96
I don't know	3.05% 4
TOTAL	131



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

#	IF YES, PLEASE EXPLAIN THE DAMAGE SUSTAINED AND WHEN IT OCCURRED.	DATE
1	Newly purchased home	11/24/2020 5:41 PM
2	Hall damaged rocks in May several years ago. Insurance covered \$30,000 in damage.	11/24/2020 10:32 AM
3	Basement flooding and tree blow over	11/21/2020 11:11 AM
4	Flash flood inundated the basement	11/20/2020 2:56 PM
5	other than a brief "small" tornado which passed thru Town of Danby...	11/7/2020 3:59 PM
6	straight line storm dropped 200+ yr. old Hickory down on the house 17 yrs. ago or more.	11/5/2020 9:39 PM
7	A downburst took out power for 5 days a few years ago, and the flood of 2015 isolated my neighborhood for days	11/5/2020 9:30 PM
8	My house floods every time there is more than 2" of rain. The creek at the edge of my property can no longer carry the amount of water it needs to carry because it hasn't been dredged in 30 years. We get up to 16" of water downstairs- we have no basement, the downstairs is living space. We've had to replace our hot water heater twice, and last year, it was bad enough that I had to get a dumpster and throw out literally 3 tons of household items that were damaged. It has flooded so many times I can't easily provide a list of dates. My property is fundamentally worthless- there is no way I could sell this house. I can't fix the problem, either, because I don't control further up the creek from my property, where the problem starts.	11/5/2020 8:10 PM
9	Basement flooding	11/5/2020 7:54 PM
10	Fire - don't know when or cause. Prior to my ownership, but there's evidence of damage.	11/5/2020 7:51 PM
11	Lightening damaged security system	11/5/2020 4:40 PM
12	basement flooding	11/5/2020 4:32 PM
13	Basement flooding.	11/2/2020 11:04 AM
14	Hall damage to roof and vehicles.	10/28/2020 10:13 AM
15	Wind blew shed into house - little damage. flash flood took out part of our driveway	10/28/2020 8:58 AM
16	Severe winds and thunderstorm	10/25/2020 11:39 PM
17	lightning strike, damaged wiring and telephone in 2002	10/25/2020 9:32 PM
18	structure fire and damages resulting from lightning strike	10/25/2020 9:26 PM
19	Some wind damage to property	10/25/2020 9:24 PM
20	Severe flash flooding washed out our driveway and damaged our bridges twice in the last 5 years.	10/24/2020 8:54 AM
21	Ice storm damage cut power to house for 5 days. March 2015?	10/22/2020 9:38 PM
22	basement flooded after heavy rains. Also the garage	10/22/2020 7:27 PM
23	High winds have dropped several trees on my house	10/22/2020 5:02 PM
24	Ice, wind	10/22/2020 11:12 AM
25	Hall storm in 2014	10/21/2020 8:47 PM
26	previous house had basement flooding in September 2011	10/21/2020 12:24 PM
27	Tree fell on our house in a wind shear.	10/21/2020 12:06 PM
28	Tree fell on house during high winds	10/21/2020 10:58 AM
29	A large tree fell on our house during a severe windstorm. Minimal damage was sustained as the tree "hopped" from its base onto the side of our house. However, branches did pierce our roof.	10/21/2020 10:40 AM
30	Tree fell on house due to high winds. downed power lines due to high winds.	10/20/2020 1:53 PM
31	We live in an old home with a wet basement. Standing water in our yard results in water	9/25/2020 10:30 AM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

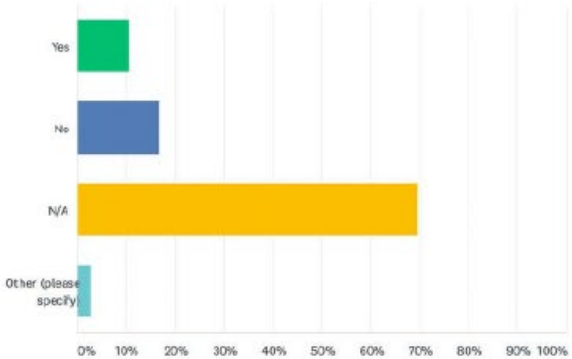
busting through the cracked basement walls.



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q11 If you answered "yes" to question #10, did you report the damages to your insurance company, local officials, or non-profit?

Answered: 112 Skipped: 23



ANSWER CHOICES	RESPONSES	
Yes	10.71%	12
No	16.96%	19
N/A	69.64%	78
Other (please specify)	2.68%	3
TOTAL		112

#	OTHER (PLEASE SPECIFY)	DATE
1	NO damage to my residence, but tornado passed thru area.	11/7/2020 3:59 PM
2	insurance company	11/5/2020 9:39 PM
3	Na	10/25/2020 9:35 PM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q12 If you answered "no" to question #11, why did you not report the damages?

Answered: 45 Skipped: 87



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

#	RESPONSES	DATE
1	N/A	11/26/2020 12:27 AM
2	N/a	11/22/2020 5:17 PM
3	NA	11/22/2020 10:49 AM
4	They were issues I could deal with myself	11/21/2020 11:11 AM
5	n/a	11/9/2020 8:53 PM
6	they would not have been covered	11/5/2020 9:30 PM
7	I don't have flood insurance, so I knew it would not be covered. I did report it to the town board, though, hoping they could help address the problem. People in my neighborhood have tried talking to a variety of organizations, looking for help, but have received none.	11/5/2020 8:10 PM
8	Deductable was too high and took care of problem because im not reliant on government help	11/5/2020 6:02 PM
9	I took care of it myself because I didn't want to wait to get it taken care of by the insurance company	11/5/2020 7:54 PM
10	See #10	11/5/2020 7:51 PM
11	Cost to much	11/5/2020 7:43 PM
12	na	11/5/2020 6:00 PM
13	Didn't require expensive cleaning. We did it ourselves.	11/5/2020 4:32 PM
14	N/A	11/9/2020 4:06 PM
15	Not too much damage. Mainly vinyl damaged.	11/2/2020 11:04 AM
16	Not applicable	10/29/2020 11:22 AM
17	Cheaper to fix myself.	10/26/2020 5:21 PM
18	not applicable	10/26/2020 9:12 AM
19	none	10/26/2020 7:28 AM
20	Because they cancel your ins or double the premium if you file a claim	10/25/2020 11:39 PM
21	Na	10/25/2020 9:35 PM
22	Na	10/25/2020 9:31 PM
23	na	10/25/2020 9:26 PM
24	Not covered, nobody elses business.	10/25/2020 9:24 PM
25	na	10/25/2020 9:17 PM
26	N/A	10/24/2020 1:33 PM
27	We dont have flood insurance, and the creeks that we drive over do not normally flood.	10/24/2020 8:54 AM
28	N/A	10/23/2020 10:38 AM
29	HAD NO PROBLEM.	10/23/2020 7:51 AM
30	Just to local electric company	10/22/2020 9:33 PM
31	i didnt know that it would help	10/22/2020 7:27 PM
32	I repaired damage myself	10/22/2020 5:02 PM
33	Because making a claim would increase insurance premium	10/22/2020 11:12 AM
34	No	10/21/2020 9:43 PM
35	-	10/21/2020 8:47 PM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

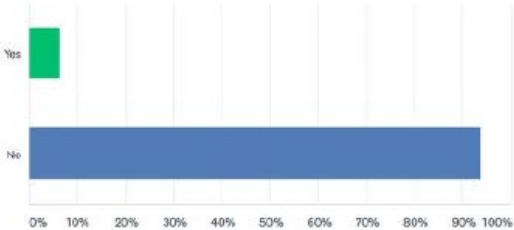
36	didn't think it was covered by our insurance	10/21/2020 12:24 PM
37	None	10/21/2020 6:25 AM
38	n/a	10/20/2020 6:06 PM
39	NA	10/20/2020 3:23 PM
40	N/A	10/20/2020 3:22 PM
41	No damage from a natural disaster. In 1994 I had a fire in my home, but that was caused by a faulty fireplace.	10/20/2020 3:22 PM
42	N/A	10/20/2020 12:23 PM
43	N/A	10/20/2020 9:01 AM
44	It's an understood.	9/25/2020 10:36 AM
45	Na	9/22/2020 4:26 PM



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q13 To the best of your knowledge, is your property located in a designated floodplain? If you do not know, click here to find out.

Answered: 129 Skipped: 3

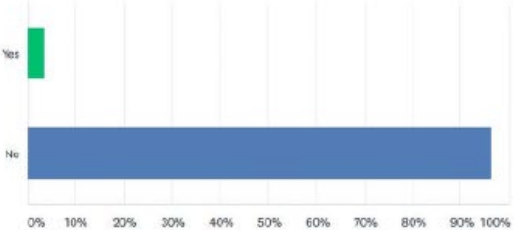


ANSWER CHOICES	RESPONSES	
Yes	6.20%	8
No	93.80%	121
TOTAL		129

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q14 If your property is in the floodplain, do you have flood insurance?

Answered: 56 Skipped: 76



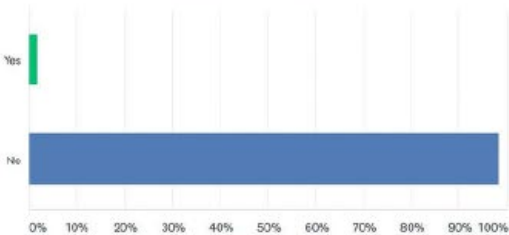
ANSWER CHOICES	RESPONSES	
Yes	3.57%	2
No	96.43%	54
TOTAL		56



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q15 If your property is located outside of the floodplain, do you have flood insurance?

Answered: 123 Skipped: 9

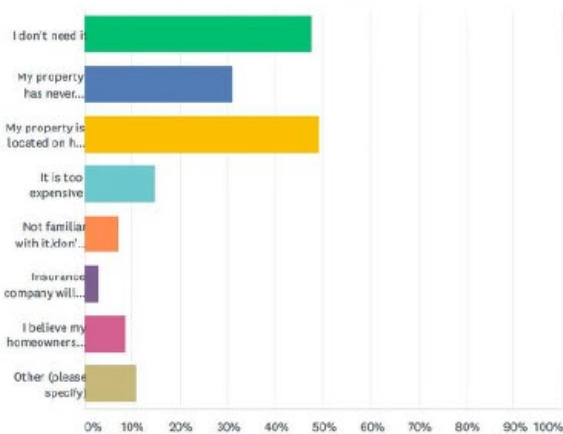


ANSWER CHOICES	RESPONSES	COUNT
Yes	1.63%	2
No	98.37%	121
TOTAL		123

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q16 If you do NOT have flood insurance, what is the primary reason?
Check all that apply.

Answered: 128 Skipped: 4



ANSWER CHOICES	RESPONSES	COUNT
I don't need it	47.66%	61
My property has never flooded	31.25%	40
My property is located on high ground	49.22%	63
It is too expensive	14.84%	19
Not familiar with it/don't know about it	7.03%	9
Insurance company will not provide	3.13%	4
I believe my homeowners insurance will cover me	8.59%	11
Other (please specify)	10.94%	14
Total Respondents:		128



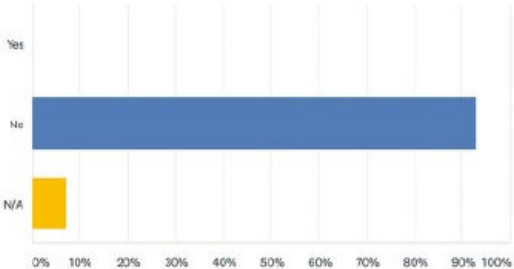
Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

#	OTHER (PLEASE SPECIFY)	DATE
1	Do not update the FEMA maps. It will have a negative effect on real estate with no resulting good.	11/5/2020 9:45 PM
2	We're most of the way up a hill, so while not on the "highest" ground, we're still pretty high, especially when considering the closest bodies of water.	11/5/2020 5:31 PM
3	I didn't realize we were in a flood plain.	10/31/2020 11:48 AM
4	Because I am not in a floodplain I have not pursued coverage	10/28/2020 10:13 AM
5	Some standing water on property with heavy rain, but not inside, so don't think I need it.	10/28/2020 9:28 AM
6	H	10/25/2020 10:33 PM
7	Ordinarily, we wouldn't need it. Our house is on high ground.	10/24/2020 8:54 AM
8	Don't expect it to pay if needed	10/22/2020 5:02 PM
9	our bank forces us to get flood insurance, even though house is not in flood plain (part of property is)	10/21/2020 12:24 PM
10	I am a renter and it probably isn't my responsibility	10/21/2020 9:01 AM
11	Rent	10/21/2020 6:25 AM
12	Outside the flood plain	10/20/2020 3:22 PM
13	House is not in flood plain	10/20/2020 1:24 PM
14	we rent.	9/29/2020 10:30 AM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q17 Do you or did you have problems getting homeowners/renters insurance due to risks from natural hazards?

Answered: 128 Skipped: 4



ANSWER CHOICES	RESPONSES
Yes	0.00%
No	92.97%
N/A	7.03%
TOTAL	128

#	IF YOU ANSWERED "YES", PLEASE IDENTIFY THE NATURAL HAZARD RISK THAT CAUSED YOU TO HAVE PROBLEMS OBTAINING HOMEOWNERS/RENTERS INSURANCE.	DATE
1	Na	10/25/2020 9:35 PM



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q18 Please identify any specific vulnerabilities that you area aware of in the municipality you live in (e.g. floodprone areas or specific properties, critical facilities that lack backup power, etc.). Please list street names and other specific identifiers if possible.

Answered: 61 Skipped: 71



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

#	RESPONSES	DATE
1	No backup 911 center for the county.	11/26/2020 12:33 AM
2	Erosion in the Salmon Creek Valley	11/23/2020 11:35 AM
3	Unsure	11/22/2020 5:26 PM
4	Our power will go out a few times each winter. This usually lasts less than one day, but longer than a day would impact our heating and food storage. - Mecklenburg	11/22/2020 10:54 AM
5	It seems like flooding along Salmon Creek could be a problem for some residents	11/21/2020 11:23 AM
6	like many near lake properties in Lansing I am at the end of hills that create lots of water flow during extreme rain events. our lane and driveway have suffered flood damage.	11/20/2020 7:15 PM
7	We live off Rte 34B in Lansing. NYS regularly digs out the drainage ditches (instead of planting buffers) and water flows QUICKLY downhill through our property. Due to flash floods, we've lost literally TONS of soil to the lake and cannot access part of our property because of the new chasm.	11/20/2020 3:06 PM
8	street gullies are floodprone during winter/spring freeze/thaw cycles on Gunderman Road, which Town of Danby has been diligent on keeping clear/dug out.	11/7/2020 4:12 PM
9	n/a	11/6/2020 5:52 AM
10	We live in an area of gorges, etc. This question cannot be fully answered here .	11/5/2020 9:52 PM
11	Some parts of West Danby adjoining the creek are at risk of flooding - and have flooded in1972 and 2015	11/5/2020 9:40 PM
12	Not aware	11/5/2020 9:08 PM
13	The bridge on Valley View Road in West Danby is vulnerable to being plugged in another major heavy rain event. There are a lot of trees down across the creek, undermined by the past recent heavy rain events.	11/5/2020 8:33 PM
14	I live on W Miller Rd in the Town of Danby, at the bottom near 96B. The problem is the creek behind my house. I believe it is called Butternut Creek. It connects to Butternut creek a couple of properties to the west of me. The headwaters of the creek is near the intersection of Hornbrook Rd and Nelson Rd. It crosses under Rt 96B between East and West Miller Rds. There have been multiple flooding problems with houses along the creek, on both East and west Miller Rds. I was told that before we purchased the house (in 1991) that the town regularly dredged the creek, but that has not happened since I've lived here. Rocks and concrete debris have been carried downstream and filled in the creek bed here, so it is very shallow now, and jumps the bank easily.	11/5/2020 8:16 PM
15	Rt 79 Slaterville	11/5/2020 8:08 PM
16	flooding at corner of W Miller and 96B	11/5/2020 8:04 PM
17	Snyder Hill Road. Frequent power outages when trees fall on power lines.	11/5/2020 7:04 PM
18	Town of Caroline. Lack of cell towers, no generators at town hall, no town emergency management plan or exercises.	11/5/2020 6:41 PM
19	5ams rd, throughout drought	11/5/2020 6:20 PM
20	We live in Brooktondale, and although we're high, there is a lot of the area that is likely a flood plain, including most ways out to major roadways for us.	11/5/2020 5:41 PM
21	Slaterville Road; Six Mile Creek has a lot of large debris in it.	11/5/2020 4:42 PM
22	Floodprone areas: Ithaca flood control channels	11/5/2020 4:14 PM
23	Internet connectivity is critical. Our cell phones don't work at home, and our landline is VoIP. When power or internet goes out, we may have to leave home (travel potentially dangerous roads) to get information. We don't have broadband in Caroline.	11/5/2020 4:04 PM
24	No designated disaster shelters in our county	10/31/2020 11:49 AM
25	Just the usual rural area concerns - mostly power outages. Algae bloom and disease	10/30/2020 10:10 AM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

	exacerbation from climate changes are long-term concerns.	
26	911 center communication failure	10/29/2020 11:31 AM
27	I dont know of any	10/26/2020 1:10 PM
28	Electric power outages	10/26/2020 11:59 AM
29	DNA	10/26/2020 11:23 AM
30	I wish there were fire hydrants in the "Hickory Highlands" of Dryden - Hickory Rd/Circle, Sunny Slope Rd. There are fire hydrants nearby on Turkey Hill Rd.	10/20/2020 11:23 AM
31	Natural hazards like thunder storms, lightning and tomados are always a hazard here --> NEWFIELD, NY	10/26/2020 9:21 AM
32	none	10/26/2020 7:32 AM
33	None	10/26/2020 7:18 AM
34	Electric lines are on poles above ground. Would be less vulnerable to storms if moved to below ground. All streets in the area.	10/26/2020 12:06 AM
35	loss of power	10/25/2020 10:10 PM
36	Power and remaining tendlines for phones are not maintained well. Overhanging branches. 12 Forest Lane. There are only a handful of houses on this dead end street	10/25/2020 9:44 PM
37	na	10/25/2020 9:34 PM
38	Na	10/25/2020 9:33 PM
39	Yellowham water only had a few days backup supply if well went dry. I think that they were bought and this is fixed now, however, what happen in a more severe drought?	10/25/2020 9:22 PM
40	unknown	10/25/2020 9:21 PM
41	no electricity no phone	10/25/2020 10:27 AM
42	i'm not aware of any specific vulnerabilities here in Enfield.	10/24/2020 9:13 AM
43	Political leaders.	10/23/2020 9:13 AM
44	Na	10/22/2020 9:38 PM
45	The electric goes out during severe storms	10/22/2020 7:00 PM
46	Poor road drainage & care, part of the road I live on is serviced by newfield & part by enfield neither is doing as well as they should for the amount of taxes I pay.	10/22/2020 6:21 PM
47	Mill st Dryden needs better drainage. The small creeks that drain off the road cause the surrounding properties to flood	10/22/2020 5:08 PM
48	Mill Dam Park	10/22/2020 11:16 AM
49	n/a	10/21/2020 8:50 PM
50	FEMA flood zones in the Village of Freeville are not accurate (crudely drawn in the 1980s?) and should be updated using recent lidar elevation data.	10/21/2020 12:33 PM
51	Many trees that could fall from a lightning strike	10/21/2020 9:06 AM
52	Geeth NW	10/21/2020 6:30 AM
53	Above-ground utility wires throughout the Village of Freeville	10/20/2020 3:56 PM
54	Freeville has two creeks that pass through it and both have experienced flooding in past years, at least 3 notable floods since 1980. Routes 366 (Main St) and Johnson Road are prone to flooding.	10/20/2020 3:48 PM
55	dont know	10/20/2020 3:29 PM
56	street and ground flooding from either Fall Creek or from aheavy rain event (Main Street, Freeville), drought is a concern as Freeville residents rely on wells	10/20/2020 2:38 PM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

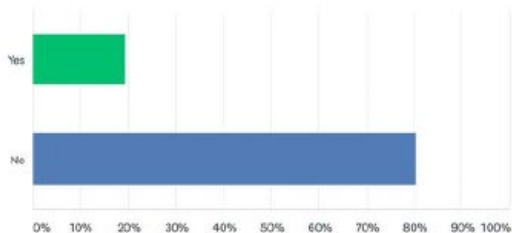
57	Fall Creek floodplain	10/20/2020 2:09 PM
58	Floodprone	10/20/2020 1:26 PM
59	N/A	10/20/2020 12:26 PM
60	flooding of Route 13 and 13a during even moderate rainfall	10/20/2020 9:42 AM
61	NA	9/22/2020 4:30 PM



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q19 Do you know of any vulnerabilities within your community that impact particular groups such as children, elderly, those with mobility issues or other?

Answered: 93 Skipped: 39



ANSWER CHOICES	RESPONSES	
Yes	10.35%	18
No	80.65%	75
TOTAL		93

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

#	IF YES, PLEASE EXPLAIN	DATE
1	Possible restriction of evacuation routes in flood prone areas due to bridge construction.	11/23/2020 11:35 AM
2	Losing power during winter storms is often correlated with very bad driving conditions, so often the elderly cannot safely relocate from their more rural homes to a place with heat.	11/22/2020 10:54 AM
3	I don't know specifically but I am sure there are - loss of electricity being one although that is not community centered	11/6/2020 9:46 AM
4	many of us have issues with our mobility. We need more volunteer firefighters/ems, but we aren't as young as we used to be. It might be a good idea to have at least one paid fireliens person at the firehouses. It would be worth the little bit of tax hike it would take to pay these people.	11/5/2020 9:52 PM
5	Snow removal delay	11/6/2020 8:20 PM
6	Once I mediated a conflict at a trailer park subject to frequent flooding.	11/5/2020 7:04 PM
7	Senior housing relocation, emergency shelters	11/5/2020 6:41 PM
8	Everybody would be affected	11/5/2020 6:20 PM
9	The aforementioned lack of broadband capacity for many in Carolhe.	11/5/2020 4:04 PM
10	No list of vulnerable children, elderly, or those with handicapps.	10/31/2020 11:49 AM
11	Senior housing in Village of Dryden	10/26/2020 11:23 AM
12	Senior housing residents in Newfield	10/26/2020 9:21 AM
13	sidewalks limited to one side of Warren Rd - none exist in some stretches	10/26/2020 12:06 AM
14	Hogweed blooming next to NEIMI Road,In Freeville, can blind	10/25/2020 10:10 PM
15	limited transportation	10/25/2020 10:27 AM
16	People not concerned until it happens to them.	10/23/2020 8:13 AM
17	Poor road condition	10/22/2020 6:21 PM
18	Bridge on Mill st over Dryden Lake outflow is in bad condition. If it fails it will be difficult to walk into the village center.	10/22/2020 5:08 PM
19	Extreme temperatures	10/22/2020 11:16 AM
20	Not much sidewalk access, if they need to evacuate on foot	10/21/2020 9:08 AM
21	My concern is loss of power during a blizzard when our sidewalks and streets might be impassible	10/20/2020 3:56 PM



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q20 Please identify any specific vulnerabilities that you are aware of in Tompkins County (e.g. floodprone areas or specific properties, critical facilities that lack backup power, etc.). Please list street names and other specific identifiers if possible.

Answered: 43 Skipped: 89

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

#	RESPONSES	DATE
1	No backup 911 center.	11/26/2020 12:33 AM
2	See above, plus the fact that decommissioning of the Cayuga power station and the deteriorating state of the NYSEG transmission lines has completely compromised the availability of energy in the area.	11/23/2020 11:35 AM
3	Unsure	11/22/2020 5:26 PM
4	Flooding in fall creek. Snow problems in the rural regions.	11/22/2020 16:54 AM
5	see above...	11/7/2020 4:12 PM
6	n/a	11/6/2020 8:52 AM
7	West Danby along rte34	11/5/2020 9:59 PM
8	too many to list	11/5/2020 8:52 PM
9	not aware	11/5/2020 8:09 PM
10	Same as above, East and West Miller Rds in Danby.	11/5/2020 8:16 PM
11	Cant think of any at the moment.	11/5/2020 7:04 PM
12	no	11/5/2020 6:20 PM
13	2505 Slaterville Road	11/5/2020 4:42 PM
14	Floodprone areas in Ithaca: flood control channels	11/5/2020 4:14 PM
15	The purple house at the corner of Rt. 79 and Lounsbery Rd. in Caroline tends to have flooding when the rains hit hard.	11/5/2020 4:04 PM
16	No further in immediate area.	10/30/2020 16:10 AM
17	I don't know	10/29/2020 4:26 PM
18	N/A	10/29/2020 11:31 AM
19	Rt 13 near Entrance to Walmart	10/26/2020 1:16 PM
20	DNA	10/26/2020 11:23 AM
21	Fall Creek area in City of Ithaca seems to flood every spring.	10/26/2020 11:23 AM
22	Don't know any specifics	10/26/2020 9:21 AM
23	none	10/26/2020 7:32 AM
24	None	10/26/2020 7:18 AM
25	Don't know of any	10/25/2020 11:44 PM
26	none	10/25/2020 9:34 PM
27	Na	10/25/2020 9:33 PM
28	lots of businesses in Ithaca built on flood plains	10/25/2020 9:21 PM
29	I suppose lake front property would be the most vulnerable, and those homes built close to creeks that are prone to flooding.	10/24/2020 9:13 AM
30	West end of Hayts Rd	10/23/2020 9:59 AM
31	Don't know	10/23/2020 8:19 AM
32	Flooding of Octopus area and Rt 13. We do not plan on using Ithaca area for escape. Concerned about people wanting our preparation goods. We are prepared to defend our lives and goods.	10/23/2020 8:13 AM
33	Na	10/22/2020 9:38 PM
34	Na	10/22/2020 5:06 PM

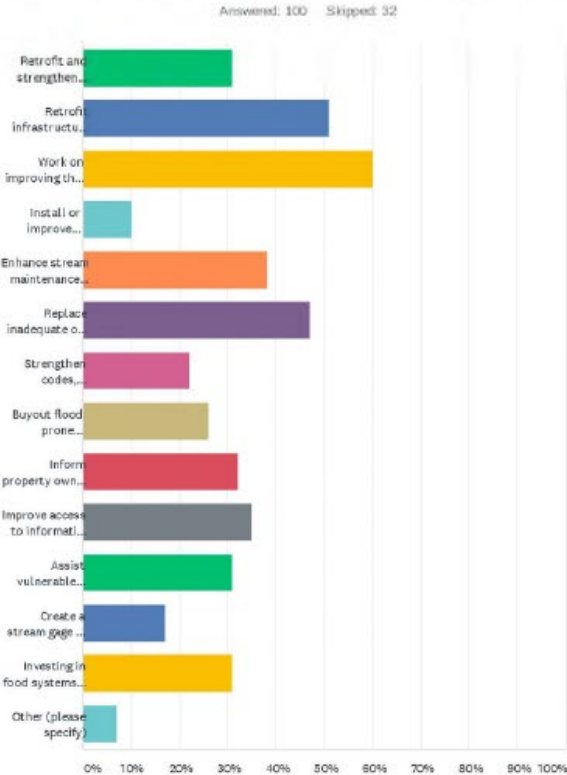


Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

35	n/a	10/21/2020 8:50 PM
36	Fall Creek and the west side of Ithaca are prone to flooding	10/21/2020 9:09 AM
37	NONE	10/21/2020 6:30 AM
38	There are many but I live outside the city so cant name specific streets. Rte 13 near Upper Creek Road along Fall Creek is prone to flooding. Low lying areas in the Village of Dryden are also targets for flooding.	10/20/2020 3:48 PM
39	None	10/20/2020 3:40 PM
40	dont know	10/20/2020 3:29 PM
41	N/A	10/20/2020 12:26 PM
42	Route 13 on "miracle mile" Wegmans to McDonalds and 13A flooding and washouts	10/20/2020 9:42 AM
43	na	9/22/2020 4:30 PM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q21 What types of projects do you believe local, county, state, or federal government agencies could be doing to reduce the damage and disruption of disasters in Tompkins County? Select your top three choices.



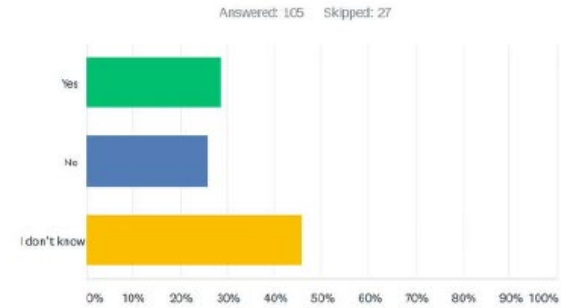
Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

ANSWER CHOICES	RESPONSES
Retrofit and strengthen essential facilities such as police, schools, and hospitals	31.00% 31
Retrofit infrastructure, such as elevating roadways and improving drainage systems	51.00% 51
Work on improving the damage resistance of utilities (electricity, communications, water/wastewater facilities etc.)	60.00% 60
Install or improve protective structures, such as floodwalls, levees, bulkheads, and firebreaks	10.00% 10
Enhance stream maintenance programs/projects	38.00% 38
Replace inadequate or vulnerable bridges and causeways	47.00% 47
Strengthen codes, ordinances and plans to require higher hazard risk management standards and/or provide greater control over development in high hazard areas	22.00% 22
Buyout flood prone properties and maintain as open space	25.00% 26
Inform property owners of ways they can mitigate damage to their properties	32.00% 32
Improve access to information about hazard risks and high hazard areas	35.00% 35
Assist vulnerable property owners with securing funding to reduce risk associated with your residence	31.00% 31
Create a stream gage and weather monitoring program to provide more accurate data and warnings	17.00% 17
Investing in food systems (food hubs, networks, non-profits, etc.)	31.00% 31
Other (please specify)	7.00% 7
Total Respondents: 100	

#	OTHER (PLEASE SPECIFY)	DATE
1	Need to address the ditch digging and erosion. Major ignorance when it comes to slowing water before it turns streams into torrents	11/5/2020 8:03 PM
2	restore wetlands to hold water upstream plant riparian buffers around farms	11/5/2020 8:04 PM
3	Plan, purchase & rehearse	11/5/2020 6:41 PM
4	clean out dredge in creeks and waterways around Ithaca	10/26/2020 7:32 AM
5	more accurate local flood zone mapping	10/21/2020 12:33 PM
6	Enforce NFIP regulations and fines when local municipalities don't comply after they have joined the program.	10/20/2020 3:48 PM
7	ditch roads properly. Many ditches in the county are too deep and funnel water too quickly into waterways	10/20/2020 3:29 PM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q22 Do you feel that your municipality is doing enough towards hazard risk reduction, climate adaptation, or other mitigation/prevention measures?



ANSWER CHOICES	RESPONSES
Yes	28.57% 30
No	25.71% 27
I don't know	45.71% 43
TOTAL	105



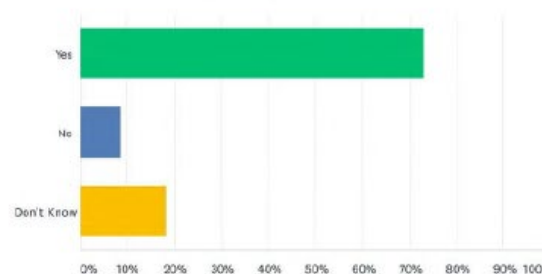
Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

#	PLEASE PROVIDE DETAILS FOR YOUR ANSWER.	DATE
1	They may be doing work towards hazard risk reduction but I am not aware of it.	11/28/2020 4:39 PM
2	It's not perfect but I think they're trying. Is the dredging done yet?	11/22/2020 6:19 PM
3	Town should focus more on reducing their carbon footprint and also promote more renewable energy projects	11/21/2020 11:23 AM
4	You're pretty diligent and I appreciate that, but I really don't know what the climate will dish up. All predictions for the NE, the USA, and the world are pretty dire.	11/20/2020 3:06 PM
5	Darby has limited risk exposure by virtue of its higher elevation and rolling topography	11/5/2020 9:46 PM
6	They haven't done anything at all to help with the flooding.	11/5/2020 8:16 PM
7	I have no information	11/5/2020 6:20 PM
8	The town of Caroline is constantly discussing climate change and how to deal with it. I feel like the installation of solar panels on the town offices and their program to hand out energy efficient light bulbs are good examples of them trying to reduce the town's carbon footprint.	11/5/2020 5:41 PM
9	Groton prioritizes restricting green energy over admitting climate change is an issue we need to address.	11/2/2020 11:09 AM
10	Need to clean out dredges in creeks and waterways	10/26/2020 7:32 AM
11	Not ready if there is a massive ice storm	10/26/2020 12:06 AM
12	infrastructure hasn't kept up with development and housing adds	10/25/2020 9:34 PM
13	More than likely due to budgets and funding issues.	10/23/2020 9:59 AM
14	They fight over politics.	10/23/2020 8:13 AM
15	Too much in some cases	10/22/2020 7:00 PM
16	No road maintenance is very poor. Van Ostrand Road Newfield is always poorly maintained and is prone to wash out in the same places.	10/22/2020 6:21 PM
17	Dryden has a Safety and Preparedness Committee that reports monthly to the Town Board.	10/21/2020 10:45 AM
18	They should make improvements to the roadways so they are not as prone to excessive ice accumulation	10/21/2020 9:09 AM
19	I am generally pleased at who Tompkins County and the local municipalities have worked together to inform the communities and endeavor to improve the infra structure to minimize damage and loss. More can always be done, but the people in local governments and communities at large do care and take action.	10/20/2020 3:46 PM
20	Town of Ithaca actively clears and maintains drainage ditches and invests in infrastructure to handle stormwater	10/20/2020 9:42 AM
21	Need to reach more vulnerable populations.	9/22/2020 4:30 PM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q23 Do you think that your municipality cares about your well being in relation to hazard events?

Answered: 104 Skipped: 28



ANSWER CHOICES	RESPONSES
Yes	73.08% 73
No	8.65% 9
Don't Know	18.27% 19
TOTAL	104

#	PLEASE EXPLAIN YOUR ANSWER	DATE
1	Government care about control, not the well being of their constituents.	11/23/2020 11:35 AM
2	Yes for county, Yes for our Town Planner, big question mark for the Town Supervisor and some Town Board members.	11/20/2020 3:06 PM
3	I think Darby as a whole is very concerned about its citizens.	11/5/2020 9:59 PM
4	There have been a variety of disaster planning and mitigation efforts over the years, despite limited need. To me that indicates a commitment to caring	11/5/2020 9:46 PM
5	There seems to be a number of concerned citizen's groups working with (or watchdogging) various municipal agencies	11/5/2020 9:08 PM
6	Same reason: no helpful response at all.	11/5/2020 8:16 PM
7	I hope so	11/5/2020 6:20 PM
8	The town has been working to re-inforce six mile creek for years, so it seems like they are trying to stay ahead of major issues.	11/5/2020 5:41 PM
9	Dryden does a lot of pro-active mowing and pruning. Snowplowing is prompt and professional.	10/26/2020 11:23 AM
10	Fight between themselves over crap that does not matter.	10/23/2020 8:13 AM
11	I hope so	10/22/2020 7:32 PM
12	Again, Dryden has a Safety and Preparedness Committee that reports monthly to the Town Board.	10/21/2020 10:45 AM

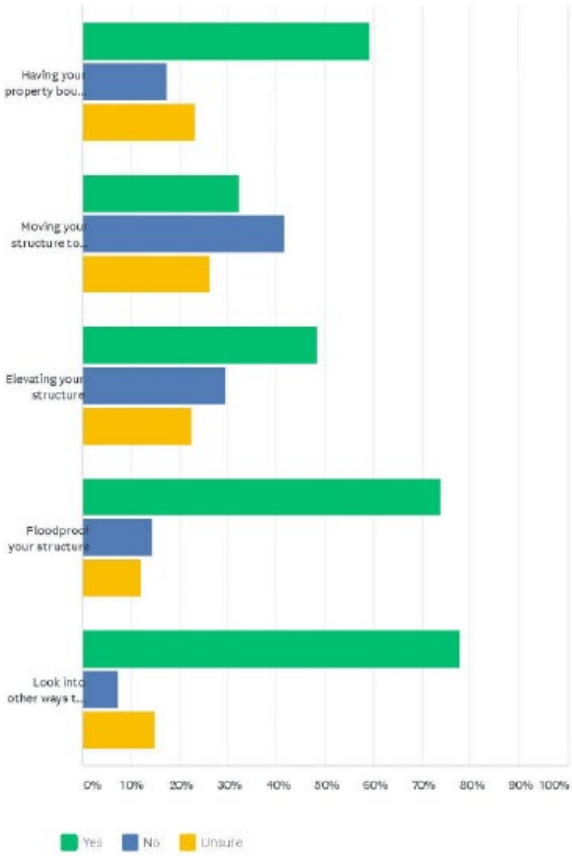


Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q24 If your property were located in a designated high-hazard area (for example, National Flood Insurance Program [NFIP] flood zone) or had received repeated damages from a natural disaster event, would you consider any of the following options? If your response is dependent on certain factors, such as the funding source, please indicate those factors in the following question.

Answered: 90 Skipped: 42

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

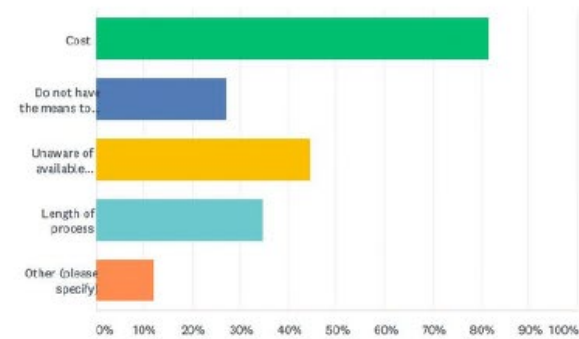
	YES	NO	UNSURE	TOTAL
Having your property bought out	59.30% 51	17.44% 15	23.26% 20	86
Moving your structure to another property or a less risky part of your property	32.14% 27	41.67% 35	26.19% 22	84
Elevating your structure	48.24% 41	29.41% 25	22.35% 19	85
Floodproof your structure	73.81% 62	14.29% 12	11.90% 10	84
Look into other ways to mitigate	77.78% 63	7.41% 6	14.81% 12	81

#	OTHER (PLEASE SPECIFY)	DATE
1	Not applicable	11/23/2020 11:35 AM
2	none of these apply	11/9/2020 5:25 PM
3	We don't need to spend taxpayers money to help people that don't understand that water flows downhill	10/29/2020 11:31 AM
4	NA	10/26/2020 12:06 AM
5	Would not have property or structures in a low area.	10/23/2020 8:13 AM
6	fix the inaccurate flood zone maps	10/21/2020 12:33 PM
7	This would all be predicated on government funding/subsidies.	10/21/2020 12:10 PM
8	No applicable	10/20/2020 3:48 PM
9	I answered assuming a typical single family house, not modular or mobile	10/20/2020 9:42 AM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q25 Please select the factor(s) that would influence your decision on the mitigation options listed above (buyout/acquisition, relocation, or elevation).

Answered: 92 Skipped: 40



ANSWER CHOICES	RESPONSES
Cost	81.52% 75
Do not have the means to move/relocate	27.17% 25
Unaware of available programs	44.57% 41
Length of process	34.78% 32
Other (please specify)	11.96% 11
Total Respondents: 92	



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

#	OTHER (PLEASE SPECIFY)	DATE
1	Not applicable	11/23/2020 11:35 AM
2	I don't know what would influence my decision because mitigation options are currently not applicable and I prefer not to worry about factors that don't apply.	11/6/2020 5:52 AM
3	age and infirmity	11/5/2020 9:52 PM
4	Location of new house.	11/5/2020 5:41 PM
5	n/a	11/5/2020 5:26 PM
6	Plan very specifics dependent - can't answer in general.	10/30/2020 10:10 AM
7	Buyer beware	10/29/2020 11:31 AM
8	ability to find/afford an equivalent property	10/25/2020 9:44 PM
9	Aesthetics	10/21/2020 11:59 PM
10	N/A	10/20/2020 12:26 PM
11	Ugency of concern	9/22/2020 4:30 PM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q26 If you have already had to spend money to mitigate your property due to flood damages, how much have you spent and on what measures?

Answered: 42 Skipped: 90



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

#	RESPONSES	DATE
1	none	11/28/2020 4:39 PM
2	N/a	11/26/2020 12:33 AM
3	0	11/22/2020 6:19 PM
4	N/a	11/22/2020 5:20 PM
5	NA	11/22/2020 10:54 AM
6	\$0-4K	11/20/2020 3:06 PM
7	NO I have not.	11/7/2020 4:12 PM
8	n/a	11/6/2020 5:52 AM
9	A couple thousand for post-flooding cleanup	11/5/2020 9:45 PM
10	Haven't spent money, but have spent a lot of time trying to clear out the creek. I've purchased shelving to get things up off the floor in the house and the garage, approximately \$700 worth.	11/5/2020 8:15 PM
11	About \$3000 installing system that channels water to sump pump, cleaning our drains so they flow freely.	11/5/2020 7:04 PM
12	n/a	11/5/2020 6:20 PM
13	n/a	11/5/2020 5:25 PM
14	We've done some landscaping and gutter work to reroute water. Also foundation repair. Have a dehumidifier going at all times.	11/2/2020 11:09 AM
15	2000	10/31/2020 11:49 AM
16	not applicable	10/30/2020 10:10 AM
17	0	10/29/2020 4:29 PM
18	N/a	10/29/2020 11:31 AM
19	\$0	10/26/2020 11:23 AM
20	n/a	10/26/2020 9:21 AM
21	n/a	10/26/2020 7:32 AM
22	None	10/26/2020 7:18 AM
23	0	10/25/2020 11:44 PM
24	N/A	10/25/2020 10:10 PM
25	none	10/25/2020 9:34 PM
26	Na	10/25/2020 9:33 PM
27	na	10/25/2020 9:21 PM
28	approximately \$47,000	10/24/2020 9:13 AM
29	N/a	10/23/2020 8:19 AM
30	Na	10/22/2020 9:36 PM
31	Na	10/22/2020 5:06 PM
32	NA	10/22/2020 8:46 AM
33	n/a	10/21/2020 8:50 PM
34	spent more on insuring a 100-year-old shed than it is worth	10/21/2020 12:33 PM
35	\$3.00	10/21/2020 6:30 AM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

36	N/a	10/20/2020 3:56 PM
37	not applicable	10/20/2020 3:48 PM
38	0	10/20/2020 3:40 PM
39	N/A	10/20/2020 3:29 PM
40	N/A	10/20/2020 12:26 PM
41	N/A	10/20/2020 9:42 AM
42	NA	9/22/2020 4:30 PM



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q27 Which (if any) incentives would motivate you to spend money on protecting your home from the possible impacts of a disaster? Such as lower interest rates, grant funding, waivers, etc.

Answered: 64 Skipped: 66

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

#	RESPONSES	DATE
1	grant funding, waivers, etc	11/28/2020 4:38 PM
2	Cost savings programs	11/26/2020 12:33 AM
3	Depends on specifics	11/24/2020 6:06 PM
4	Grant funding, evaluation/recommendation technical assistance.	11/24/2020 9:46 AM
5	N/A	11/23/2020 11:35 AM
6	Credit on property taxes	11/22/2020 6:19 PM
7	Grants and waivers	11/22/2020 5:26 PM
8	Grant availability	11/22/2020 10:54 AM
9	Home is relatively safe	11/21/2020 11:23 AM
10	Grants	11/20/2020 3:06 PM
11	would sell/move if current RE market is strong.	11/7/2020 4:12 PM
12	probably any if they relate to me, are advertised well.	11/6/2020 9:46 AM
13	n/a	11/6/2020 5:52 AM
14	Lower interest rates	11/5/2020 9:59 PM
15	financial as well as informational assistance	11/5/2020 9:08 PM
16	Lower homeowner insurance premiums	11/5/2020 8:33 PM
17	Rates	11/5/2020 8:20 PM
18	Having the option to do so.	11/5/2020 8:16 PM
19	lower interest rates, grants, waivers	11/5/2020 7:55 PM
20	financial aid	11/5/2020 7:54 PM
21	Not clear	11/5/2020 7:04 PM
22	All of the above	11/5/2020 6:20 PM
23	All the things would work for me, although I'm not sure what else we could do.	11/5/2020 5:41 PM
24	n/a	11/5/2020 5:26 PM
25	Grant funding	11/5/2020 4:04 PM
26	Yes all of if we needed it.	11/2/2020 11:08 AM
27	grants, rebates	10/31/2020 11:49 AM
28	Risks insufficient to justify.	10/30/2020 10:10 AM
29	Knowledge of the risks	10/29/2020 4:28 PM
30	Waivers. Tompkins county is over regulated and trying to be another California that obviously has problems. Let people do what they want with their property	10/29/2020 11:31 AM
31	Grants	10/28/2020 11:59 AM
32	Low interest rates, grants	10/26/2020 11:23 AM
33	Yes, financial incentives would motivate me.	10/26/2020 11:23 AM
34	grant funding	10/26/2020 9:21 AM
35	grant funding	10/26/2020 7:32 AM
36	Grants	10/26/2020 7:18 AM
37	grant funding	10/25/2020 9:44 PM



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

38	none	10/25/2020 9:34 PM
39	Na	10/25/2020 9:33 PM
40	grants, discounts.	10/25/2020 9:22 PM
41	grants, tax breaks	10/25/2020 9:21 PM
42	grants waivers	10/25/2020 10:27 AM
43	Our driveway has been fixed and upgraded twice, but our home is in a safe location.	10/24/2020 9:13 AM
44	Grant funding	10/23/2020 8:19 AM
45	Would pay from my savings, depending upon gov't would take to long if it ever comes to fruition	10/23/2020 8:13 AM
46	All mentioned	10/22/2020 9:36 PM
47	grant funding	10/22/2020 7:32 PM
48	Grant funding	10/22/2020 5:06 PM
49	Tax rebates	10/22/2020 11:16 AM
50	lower interest rate grant funding	10/22/2020 8:46 AM
51	grant funding	10/21/2020 8:50 PM
52	Grant funding	10/21/2020 12:10 PM
53	Lower interest rates and grant funding	10/21/2020 9:09 AM
54	None	10/21/2020 6:30 AM
55	Grants, or generous wealthy people donations	10/20/2020 4:03 PM
56	Not sure	10/20/2020 3:56 PM
57	grant funding if needed	10/20/2020 3:48 PM
58	All of the above	10/20/2020 3:40 PM
59	Lower insurance cost	10/20/2020 2:49 PM
60	lower interest rates, grant funding	10/20/2020 2:09 PM
61	I don't know	10/20/2020 12:26 PM
62	all of the above	10/20/2020 10:19 AM
63	lower interest	10/20/2020 9:42 AM
64	Low interest rates	9/22/2020 4:30 PM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q28 Please list any additional types of projects you believe local, county, state or federal government agencies could be doing to reduce the damage and disruption from the hazards of concern in Tompkins County. Hazards include: Disease Outbreak, Drought, Extreme Temperature, Flood, Harmful Algal Bloom, Infestation, Severe Storm, Severe Winter Storm, and Wildfire.

Answered: 53 Skipped: 79



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

#	RESPONSES	DATE
1	Infrastructure maintenance	11/26/2020 12:33 AM
2	Agricultural runoff and streambank mitigation to reduce changes of HABs.	11/24/2020 9:46 AM
3	Continous development of erosion protection with Barnden Weirs, etc., in major stream beds.	11/23/2020 11:35 AM
4	Disease, algal bloom, sever winter weather	11/22/2020 5:20 PM
5	improving/expanding public transportation systems into the more rural regions of the community. Limiting/responding to nitrogen run-off into the lake to prevent blue green algae.	11/22/2020 10:54 AM
6	We have to reduce our fossil fuel consumption and slow climate change	11/21/2020 11:23 AM
7	ENCOURAGING FARMERS TO MANAGE MANJRE AND SOIL BETTER. Windbreaks. Conservation methods. Tree lines (put them back). Also, I volunteered with an organization addressing HABS and the need is great.	11/20/2020 3:06 PM
8	Local Education Programs to inform the public.	11/7/2020 4:12 PM
9	none	11/6/2020 5:52 AM
10	Dredging to arcid flooding in Ithaca	11/5/2020 8:59 PM
11	Wildfire/forest fires seem to be very low on the list of possible disasters locally, however, given the large amount of wooded lands in the region, a severe drought could be quite disastrous, is there any mitigation or evacuation plan?...no idea	11/5/2020 9:08 PM
12	Snow removal, water distribution	11/5/2020 8:20 PM
13	cant think of any	11/5/2020 8:16 PM
14	Slow runoff down.	11/5/2020 8:08 PM
15	Underground electric and telephone wires would go a long way to protecting us from ice and storm damage. For flood control, change paved surfaces to permeable surfaces, let streams follow natural course-protect wetlands and vernal pools. To reduce harmful algal blooms, provide incentives to limit use of nitrates and other fertilizers and to control waste from livestock.	11/5/2020 7:04 PM
16	Informing the public	11/5/2020 6:20 PM
17	clean out the gravel deposits out of the varicous streams to better handle run off.	11/5/2020 5:25 PM
18	NY; clean debris out of Six Mile Creek	11/5/2020 4:42 PM
19	Dredge the flood channels	11/5/2020 4:14 PM
20	Disease outbreak; enforce the dang mask rules!	11/5/2020 4:04 PM
21	Regulate farms. Invest in green energy. introduce water saving measures.	11/2/2020 11:09 AM
22	Tracking and projection of climate-related changes, better weather forecasting. More visibility for programs to aid homeowners' preparation.	10/30/2020 10:10 AM
23	Have an emergency manager that knows something about emergencies.	10/29/2020 11:31 AM
24	Clean up of Algae Bloom and readiness of disease outbreak	10/27/2020 1:30 PM
25	Localities should work wNYSEG to shore up electrical infrastructure.	10/26/2020 11:23 AM
26	Designated meeting centers and shelters	10/26/2020 9:21 AM
27	Divest from all fossil fuels	10/26/2020 7:52 AM
28	none	10/26/2020 7:32 AM
29	Electrical outages	10/26/2020 7:18 AM
30	Severe storms, severe winter storms	10/26/2020 12:06 AM
31	HAB	10/25/2020 10:37 PM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

32	Disease Outbreak, chimney safety, potholes	10/25/2020 10:10 PM
33	official communications about disease outbreak and mitigation	10/25/2020 9:44 PM
34	na	10/25/2020 9:34 PM
35	Disease outbreak	10/25/2020 9:33 PM
36	unknown	10/25/2020 9:21 PM
37	federal mandates to protect all states	10/25/2020 10:27 AM
38	disease outbreak	10/24/2020 9:45 AM
39	I don't know	10/24/2020 9:13 AM
40	Gov't can't do it because of in fighting and destruction of property by political crazy groups.	10/23/2020 8:13 AM
41	Harmful algae bloom, flood, wildlife - deer population control	10/22/2020 5:08 PM
42	higher awareness	10/22/2020 8:46 AM
43	n/a	10/21/2020 8:50 PM
44	Lyme disease	10/21/2020 12:33 PM
45	Figuring out ways to severely lower the tick population, free bedbug infestation remediation, figuring out ways to further reduce excessive ice accumulation on roadways	10/21/2020 9:09 AM
46	Disease	10/21/2020 6:30 AM
47	Not sure	10/20/2020 3:56 PM
48	placing electrical and internet wires below ground to avoid surface. improve internet service to many areas damage	10/20/2020 3:48 PM
49	Educating the public on the most pressing hazards.	10/20/2020 3:40 PM
50	better storm water management, more retention areas and less ditches and culverts directly to water ways. Reduce farm run off	10/20/2020 3:29 PM
51	improving water quality	10/20/2020 12:26 PM
52	n	10/20/2020 9:42 AM
53	Protect those most vulnerable	9/22/2020 4:30 PM



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q29 Do you have any other comments, questions, or concerns regarding hazard mitigation in Tompkins County?

Answered: 47 Skipped: 85

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

#	RESPONSES	DATE
1	The need for safe and maintained infrastructure outweighs "diversity and inclusion" and other social justice type projects that do little to increase safety and wellbeing of residents.	11/26/2020 12:33 AM
2	No	11/23/2020 11:35 AM
3	Not right now, thank you	11/22/2020 6:19 PM
4	No	11/22/2020 5:20 PM
5	no	11/22/2020 10:54 AM
6	I am happy to live in a county where people believe climate change is real and we have to slow it down	11/21/2020 11:23 AM
7	Thanks for conducting the survey. Lansing could use a lot of help "uphill" on ag lands to prevent flooding downhill (where I live)	11/20/2020 3:06 PM
8	lower the speed limits on the roads and limit truck use on secondary roads - the disaster resulting from speeding cars and trucks is a greater risk than those occurring from nature.	11/6/2020 5:52 AM
9	we understand financial limits, and also would like the local govt. to act responsibly.	11/5/2020 8:52 PM
10	no	11/5/2020 9:46 PM
11	Not aware of any kind of massive evacuation plan if needed	11/5/2020 9:08 PM
12	not at this time	11/5/2020 8:15 PM
13	Slow down runoff, stop throwing down salt	11/5/2020 8:08 PM
14	Tompkins County has done a good job at staying ahead of COVID. I would like to know more about how the county is mitigating the impacts of drought. As I noted above, I think incentives to convert paved surfaces to permeable surfaces is an important way to reduce flooding, particularly in the city.	11/5/2020 7:04 PM
15	I need to know more about it	11/5/2020 6:20 PM
16	I want to commend the County for what they have done regarding the current COVID-19 pandemic. The partnering with Cayuga Health has been wonderful, and the clear communication from the Health Department has been wonderful. Keep up the good work with that stuff!	11/5/2020 5:41 PM
17	no	11/5/2020 5:26 PM
18	no	11/5/2020 4:42 PM
19	Expand the availability of emergency housing	11/5/2020 4:14 PM
20	no	11/5/2020 4:04 PM
21	NO	10/31/2020 11:49 AM
22	No	10/29/2020 11:31 AM
23	No	10/26/2020 11:23 AM
24	no	10/26/2020 9:21 AM
25	good luck!	10/26/2020 7:32 AM
26	I think electrical outages or loss of electricity is the greatest threat to my neighborhood	10/26/2020 7:18 AM
27	Ongoing work on sidewalks and drainage have improved situation.	10/26/2020 12:06 AM
28	Not at this time	10/25/2020 11:44 PM
29	No	10/25/2020 10:57 PM
30	Not now	10/25/2020 10:10 PM
31	no	10/25/2020 9:34 PM



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

32	Na	10/25/2020 9:33 PM
33	no	10/25/2020 9:21 PM
34	No.	10/24/2020 9:13 AM
35	No	10/23/2020 8:19 AM
36	Don't depend on Govt.	10/23/2020 8:13 AM
37	Flk Vanzstrand road Newfield	10/22/2020 6:21 PM
38	No	10/22/2020 5:08 PM
39	No. thank you	10/22/2020 8:46 AM
40	My biggest concern in Tompkins County is Lyme Disease and other tick-borne diseases	10/21/2020 9:09 AM
41	No	10/21/2020 6:30 AM
42	no	10/20/2020 3:48 PM
43	No	10/20/2020 3:40 PM
44	no	10/20/2020 3:29 PM
45	No	10/20/2020 12:26 PM
46	no	10/20/2020 9:42 AM
47	So glad you are thinking through this important topic in relation to climate change.	9/22/2020 4:30 PM

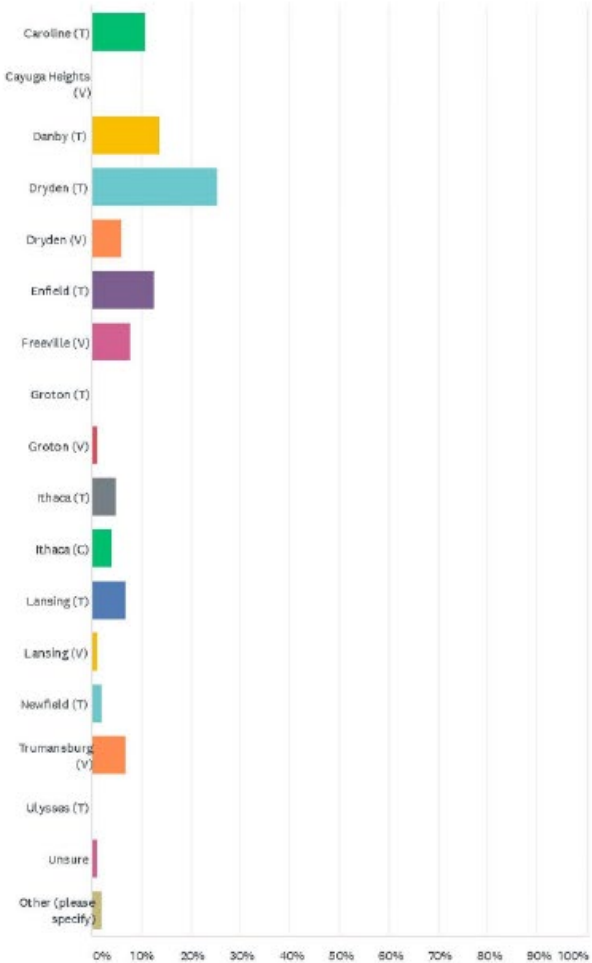
Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q30 Please indicate the municipality in which you live:

Answered: 103 Skipped: 29



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

ANSWER CHOICES	RESPONSES	
Caroline (T)	10.68%	11
Cayuga Heights (V)	0.00%	0
Danby (T)	13.59%	14
Dryden (T)	25.24%	26
Dryden (V)	5.83%	6
Enfield (T)	12.62%	13
Freeville (V)	7.77%	8
Groton (T)	0.00%	0
Groton (V)	0.97%	1
Ithaca (T)	4.85%	5
Ithaca (C)	3.88%	4
Lansing (T)	6.80%	7
Lansing (V)	0.97%	1
Newfield (T)	1.94%	2
Trumansburg (V)	6.80%	7
Ulysses (T)	0.00%	0
Unsure	0.97%	1
Other (please specify)	1.94%	2
Total Respondents: 103		

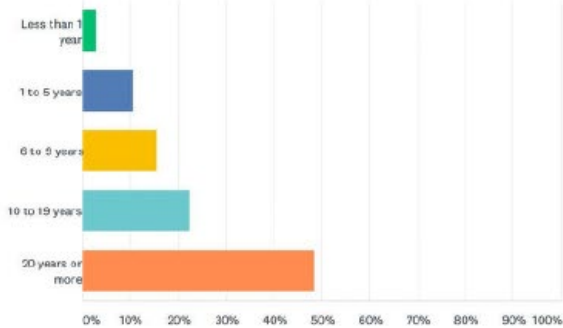
#	OTHER (PLEASE SPECIFY)	DATE
1	Also have a house in Ithaca, which has a wet basement from time to time	11/5/2020 7:09 PM
2	Business in house owned in the City of Ithaca 450 N Aurora St, also own a rental property in City of Ithaca, 110 South St	10/26/2020 7:36 AM



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q31 How long have you lived here?

Answered: 103 Skipped: 29

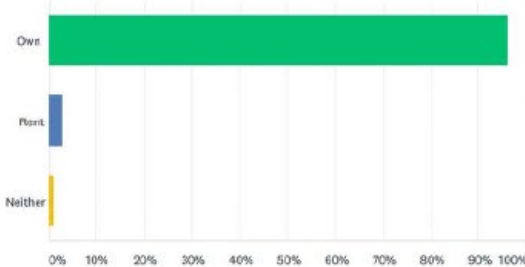


ANSWER CHOICES	RESPONSES	
Less than 1 year	2.91%	3
1 to 5 years	10.68%	11
6 to 9 years	15.53%	16
10 to 19 years	22.33%	23
20 years or more	48.54%	50
TOTAL		103

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q32 Do you own or rent your place of residence?

Answered: 103 Skipped: 29



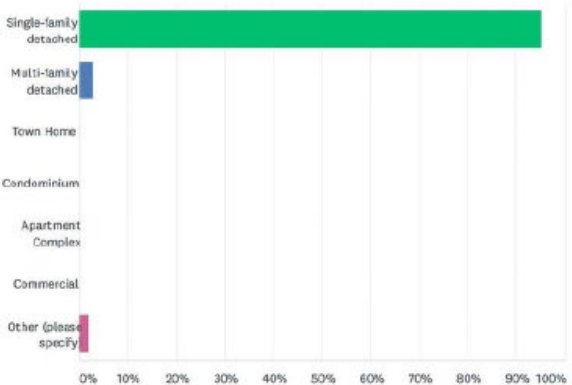
ANSWER CHOICES	RESPONSES	
Own	96.12%	99
Rent	2.91%	3
Neither	0.97%	1
TOTAL		103



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q33 What type of residence do you live in?

Answered: 103 Skipped: 29



ANSWER CHOICES	RESPONSES	
Single-family detached	95.15%	98
Multi-family detached	2.91%	3
Town Home	0.00%	0
Condominium	0.00%	0
Apartment Complex	0.00%	0
Commercial	0.00%	0
Other (please specify)	1.94%	2
TOTAL		103

#	OTHER (PLEASE SPECIFY)	DATE
1	Duplex	11/5/2020 6:21 PM
2	Duplex	10/21/2020 9:12 AM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q34 What street or general location is your property on? (optional, will be kept confidential - only used to identify hazard areas such as flooding)

Answered: 90 Skipped: 42

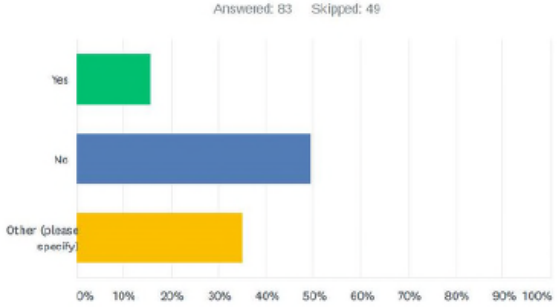


Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

76	[REDACTED]	10/21/2020 12:35 PM
77	[REDACTED]	10/21/2020 12:11 PM
78	[REDACTED]	10/21/2020 10:46 AM
79	[REDACTED]	10/21/2020 9:12 AM
80	[REDACTED]	10/21/2020 6:32 AM
81	[REDACTED]	10/20/2020 4:04 PM
82	[REDACTED]	10/20/2020 3:58 PM
83	[REDACTED]	10/20/2020 3:56 PM
84	[REDACTED]	10/20/2020 3:31 PM
85	[REDACTED]	10/20/2020 2:50 PM
86	[REDACTED]	10/20/2020 1:27 PM
87	[REDACTED]	10/20/2020 12:27 PM
88	[REDACTED]	10/20/2020 10:20 AM
89	[REDACTED]	10/20/2020 9:43 AM
90	[REDACTED]	9/22/2020 4:31 PM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q35 If you received real estate disclosure information when you moved into your current residence, did your real estate agent or landlord explain the implications of living in a hazard risk zone and did you understand the information they presented?



ANSWER CHOICES	RESPONSES
Yes	15.66% 13
No	49.40% 41
Other (please specify)	34.94% 29
TOTAL	83

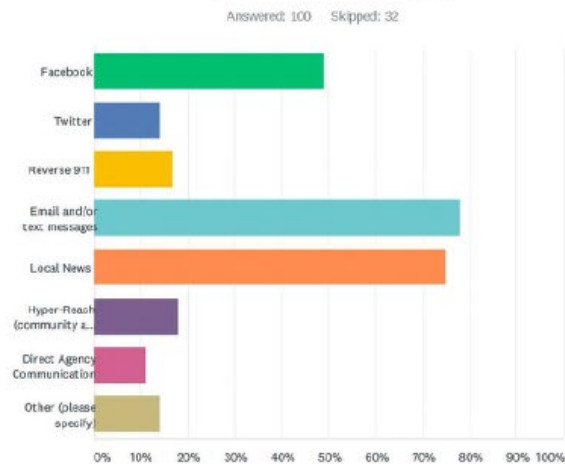


Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

#	OTHER (PLEASE SPECIFY)	DATE
1	High on a hill...no hazard	11/24/2020 10:37 AM
2	N/A	11/23/2020 11:36 AM
3	N/a	11/22/2020 5:21 PM
4	Did not receive. Built our home.	11/20/2020 3:07 PM
5	do NOT remember receiving such information at closing.	11/7/2020 4:16 PM
6	n/a	11/6/2020 5:58 AM
7	not a problem over 40 years ago.	11/5/2020 6:54 PM
8	Dont recall any hazard risk zone info	11/5/2020 6:10 PM
9	No Disclosure occurred	11/5/2020 8:36 PM
10	Did not receive any	11/5/2020 8:18 PM
11	Didn't get disclosure info on Snyder Hill House	11/5/2020 7:09 PM
12	NA	11/2/2020 10:24 AM
13	Did not receive	10/29/2020 4:30 PM
14	N/a	10/29/2020 11:33 AM
15	n/a	10/26/2020 7:36 AM
16	So long ago... don't remember	10/26/2020 7:20 AM
17	not in hazard zone	10/25/2020 9:49 PM
18	Didn't have disclosures	10/25/2020 9:27 PM
19	na	10/25/2020 9:23 PM
20	We had our house built 23 years ago.	10/24/2020 9:17 AM
21	No hazard risk	10/23/2020 6:21 AM
22	Not a factor	10/23/2020 8:18 AM
23	Built home 2 yrs ago	10/22/2020 11:50 PM
24	I didnt receive any	10/22/2020 7:34 PM
25	Dont recall but do not live in flood zone	10/22/2020 8:48 AM
26	I don't remember much about this time	10/21/2020 9:12 AM
27	My insurance agent told me I did not live in a flood zone	10/20/2020 3:58 PM
28	not in a high risk zone	10/20/2020 3:31 PM
29	N/A	10/20/2020 12:27 PM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q36 Which of the following digital media outlets do you use and/or subscribe to receive general news and information about Tompkins County? Check all that apply.



ANSWER CHOICES	RESPONSES
Facebook	45.00% 49
Twitter	14.00% 14
Reverse 911	17.00% 17
Email and/or text messages	76.00% 76
Local News	75.00% 75
Hyper-Reach (community and weather alerts)	18.00% 18
Direct Agency Communication	11.00% 11
Other (please specify)	14.00% 14
Total Respondents: 100	



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

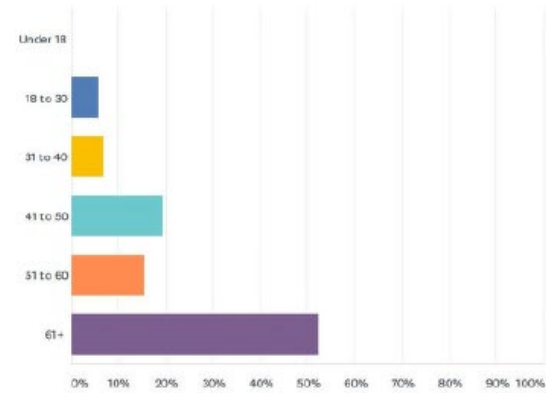
#	OTHER (PLEASE SPECIFY)	DATE
1	Internet news feed	11/7/2020 4:16 PM
2	ithaca voice, ithaca times , 14850 , ithaca journal	11/9/2020 10:01 PM
3	Tompkins County alerts	11/5/2020 9:10 PM
4	ithaca Journal online	11/9/2020 8:36 PM
5	Town of Caroline notices	11/9/2020 7:09 PM
6	none	11/3/2020 10:54 AM
7	Swift911, NY Alert (overbridge.net)	10/30/2020 10:13 AM
8	Amateur radio	10/29/2020 11:33 AM
9	newspapers	10/28/2020 9:33 AM
10	public and community radio stations	10/26/2020 12:09 AM
11	Cornell Alert	10/25/2020 9:49 PM
12	Phone alerts from NYSEG.	10/24/2020 9:17 AM
13	Swift911	10/22/2020 5:09 PM
14	local Listserve	10/20/2020 3:50 PM



Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q37 Please indicate your age range:

Answered: 103 Skipped: 29



ANSWER CHOICES	RESPONSES
Under 18	0.00% 0
18 to 30	5.83% 6
31 to 40	6.80% 7
41 to 50	19.42% 20
51 to 60	15.53% 16
61+	52.43% 54
TOTAL	103

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Q38 Do you have anything else you would like to share about yourself or your concerns?

Answered: 33 Skipped: 99

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

#	RESPONSES	DATE
1	Backup 911 center... it's a NYS requirement.	11/26/2020 12:35 AM
2	I appreciate this courty.	11/20/2020 3:07 PM
3	Perhaps the best method for improving mitigation efforts would be to establish a reliable local news source or sources that the public can reliably reach out to for information pertinent to our area. To have to rely on Syracuse or Binghamton news sources for info re Tompkins county is archaic and unreliable. It's disgraceful that this county has no non partisan reliable news sources.	11/6/2020 5:58 AM
4	please don't assume everyone can afford to mitigate every issue on their property. We do the best we can.	11/5/2020 9:54 PM
6	Please help.	11/5/2020 8:18 PM
6	My major concern is less about disasters as events than about deterioration in water quality whether due to medical waste and chemical contamination or harmful algal blooms.	11/5/2020 7:09 PM
7	Emergency management starts at the lowest level, the homeowner & the town. That's where the info & money should go first.	11/5/2020 6:45 PM
8	Not as this time	11/5/2020 5:28 PM
9	no	11/5/2020 4:44 PM
10	I never heard of Hyper-Reach	11/5/2020 4:05 PM
11	I am not use if we have flood insurance, need to check.	10/31/2020 11:49 AM
12	No	10/29/2020 11:33 AM
13	Taxes in this county are excessive. I support figuring out a way to lower taxes.	10/26/2020 11:25 AM
14	No	10/26/2020 11:25 AM
15	No	10/26/2020 9:23 AM
16	no	10/26/2020 7:36 AM
17	None	10/26/2020 7:20 AM
18	Not at this time	10/25/2020 11:40 PM
19	No	10/25/2020 10:59 PM
20	Na	10/25/2020 9:34 PM
21	I've never heard of reverse 911 or hyper reach. If these are officially sanctioned, a simply yearly flyer in the mailbox to make people aware of the communications channels might work.	10/25/2020 9:25 PM
22	no	10/25/2020 9:23 PM
23	No.	10/24/2020 9:17 AM
24	Try to be dependent on myself and help my local friends who think like myself.	10/23/2020 8:18 AM
25	Fix Vanostrand rd	10/22/2020 6:23 PM
26	No	10/22/2020 5:09 PM
27	No, thank you	10/22/2020 5:46 AM
28	Please educate doctors around here on the dangers of Lyme Disease. Almost all of them do not take it seriously and do not prescribe antibiotics for a long enough time period.	10/21/2020 9:12 AM
29	No	10/21/2020 6:32 AM
30	Keep up the good work. Our communities like to be informed.	10/20/2020 3:56 PM
31	No	10/20/2020 12:27 PM
32	no	10/20/2020 9:43 AM



9.2 Stakeholder Surveys

In addition to collecting information from residents of Tompkins County, surveys were developed for the agencies and stakeholders in the county. Unlike steering committee or planning partnership members, stakeholders may not be involved in all stages of the planning process, but they may have information or input to provide. In order to gather that information, the surveys were sent to the following stakeholders: law enforcement, firefighters, emergency medical services, highway and public works, business and commerce, hospitals and health care providers, and utilities. Results of the surveys are provided below, with personal information redacted.



Figure D-2. Neighboring County Survey Results

Google Forms

Tompkins County Neighbor Survey

Tompkins County is currently updating their Hazard Mitigation Plan to meet the requirements of the Disaster Mitigation Act of 2000 (DMA 2000). The purpose of this plan is to identify vulnerabilities to a variety of natural disasters, and to develop plans to help minimize losses if disasters should occur. The intent of the plan is to provide a comprehensive document that takes into account the wide diversity of communities, businesses, and services that are an integral part of Tompkins County and the region as a whole.

Due to your proximity to Tompkins County, the effects of many of these natural disasters would be similar in your county and your involvement in this process could reap mutual benefits to both counties. By participating in the review of this plan, you will be engaging in the regional coordination of disaster mitigation planning, which is one of the intents of the Mitigation Planning Regulations (44 CFR 201).

This questionnaire is designed to help the committee gain a better understanding of how their neighboring counties operate day-to-day and during an emergency and helps our neighboring counties be included in the planning process.

This survey consists of 16 questions and will take approximately 15 minutes to complete.

The Tompkins County Hazard Mitigation Plan Planning Committee thanks you for taking the time to participate in this information-gathering process.

General Information

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Please indicate the county in which you represent:

- Cortland County, NY
- Cayuga County, NY
- Tioga County, NY
- Chemung County, NY
- Schuyler County, NY
- Seneca County, NY
- Other: _____



Please provide your name and title:

What department do you represent?

Please provide your email address:

Please provide your phone number:

Emergency Operations and Continuity of Operations Planning

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Is Tompkins County involved in your county's comprehensive emergency operations planning?

- Yes
- No

If yes, please explain

Is your county involved in Tompkins County's comprehensive emergency operations planning?

- Yes
- No

If yes, please explain

Is Tompkins County involved in your county's Continuity of Operations planning?

- Yes
- No

If yes, please explain

Is your county involved in Tompkins County's Continuity of Operations planning?

- Yes
- No

If yes, please explain



Thinking about emergency operations and disaster response, please explain how these actions are communicated between counties.

Personal communications between county emergency management personnel. _____

Risk and Vulnerability

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Does your county share risk and vulnerability assessments (flood mapping, HAZUS, etc.) with Tompkins County?

- No
- Yes

If yes, please explain:

Evacuation and Sheltering

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Do you collaborate with Tompkins County on establishing evacuation routes and alternate evacuation routes?

- Yes
- No

If yes, please explain:

Do you and Tompkins County consult with one another before making evacuation decisions that would impact one another (recommending evacuation routes into neighboring counties)?

- Yes
- No

If yes, please explain:

Discussion between emergency management personnel. _____

Are evacuation routes maintained to the same level of protection across county lines?

- Yes
- No

Other: _____

Do you collaborate with Tompkins County on establishing shelters?

- Yes
- No

If yes, please explain:

Discussion between county emergency managers. _____



Do you and Tompkins County consult with one another before making sheltering decisions that would impact one another (recommending shelters in neighboring counties)?

- Yes
- No

If yes, please explain:

Discussion between county emergency managers.

Do you and Tompkins County share any spaces suitable for temporary housing? This includes locations suitable to place temporary housing units to house residents displaced by a disaster.

- Yes
- No

If yes, please explain.

Information Sharing

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Does your county have access to contact information for Tompkins County's emergency operation centers at the county and local level?

- Yes
- No

If yes, please explain:

Information shared between emergency managers.

Please explain how information is shared between counties regarding mitigation projects.

Monthly regional emergency management meetings and conversations between emergency managers.

Is information regarding mitigation shared during the planning and implementation phases of the projects?

- Yes
- No

If yes, please explain:

Projects, Grants, Education and Outreach

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Are you aware of any projects for the following that requires cross-collaboration between county boundaries?

- Stormwater projects
- Watershed projects or planning
- Floodplain projects or planning
- Connected roadway improvements
- Natural infrastructure restoration
- Outreach (education and outreach campaigns, Programs for Public Information, etc.)



If you selected anything above, please explain:
Soil and Water Departments have projects that cross county boundaries.

Have your county and Tompkins County collaborated on grant applications?

Yes
 No

If yes, please explain:

Are you aware of any organizations that carry out education and outreach regarding natural hazards in both counties?

Yes
 No

If yes, please explain:
Red Cross

Do you have any shared service agreements or mutual aid agreements in place with Tompkins County at the county level for the following?

- Equipment and staff for debris cleanup and snow removal
- Emergency staff for evacuations/disaster response
- Damage assessments
- Sheltering
- Other

If any of the above, please explain:

What are opportunities or ideas for special cooperation with the County on emergency management operations and hazard mitigation projects?
Monthly regional meetings and individual discussions between county emergency managers.

This content is better viewed on a desktop device.

Google Forms



Tompkins County Neighbor Survey

Tompkins County is currently updating their Hazard Mitigation Plan to meet the requirements of the Disaster Mitigation Act of 2000 (DMA 2000). The purpose of this plan is to identify vulnerabilities to a variety of natural disasters, and to develop plans to help minimize losses if disasters should occur. The intent of the plan is to provide a comprehensive document that takes into account the wide diversity of communities, businesses, and services that are an integral part of Tompkins County and the region as a whole.

Due to your proximity to Tompkins County, the effects of many of these natural disasters would be similar in your county and your involvement in this process could reap mutual benefits to both counties. By participating in the review of this plan, you will be engaging in the regional coordination of disaster mitigation planning, which is one of the intents of the Mitigation Planning Regulations (44 CFR 201).

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This survey consists of 16 questions and will take approximately 15 minutes to complete.

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General Information

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Please indicate the county in which you represent:

- Cortland County, NY
- Cayuga County, NY
- Tioga County, NY
- Chemung County, NY
- Schuyler County, NY
- Seneca County, NY
- Other: Broome County, NY

Please provide your name and title:

What department do you represent?

Please provide your email address:

Please provide your phone number:

Emergency Operations and Continuity of Operations Planning

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Is Tompkins County involved in your county's comprehensive emergency operations planning?

- Yes
- No

If yes, please explain

Is your county involved in Tompkins County's comprehensive emergency operations planning?

- Yes
- No



If yes, please explain

Is Tompkins County involved in your county's Continuity of Operations planning?

Yes

No

If yes, please explain

Is your county involved in Tompkins County's Continuity of Operations planning?

Yes

No

If yes, please explain

Thinking about emergency operations and disaster response, please explain how these actions are communicated between counties.

Phone call between Emergency Managers

Risk and Vulnerability

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Does your county share risk and vulnerability assessments (flood mapping, HAZUS, etc.) with Tompkins County?

No

Yes

If yes, please explain:

Evacuation and Sheltering

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Do you collaborate with Tompkins County on establishing evacuation routes and alternate evacuation routes?

Yes

No

If yes, please explain:

Do you and Tompkins County consult with one another before making evacuation decisions that would impact one another (recommending evacuation routes into neighboring counties)?

Yes

No



If yes, please explain:

Are evacuation routes maintained to the same level of protection across county lines?

Yes

No

Other: _____

Do you collaborate with Tompkins County on establishing shelters?

Yes

No

If yes, please explain:

Do you and Tompkins County consult with one another before making sheltering decisions that would impact one another (recommending shelters in neighboring counties)?

Yes

No

If yes, please explain:

Do you and Tompkins County share any spaces suitable for temporary housing? This includes locations suitable to place temporary housing units to house residents displaced by a disaster.

Yes

No

If yes, please explain:

Information Sharing

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Does your county have access to contact information for Tompkins County's emergency operation centers at the county and local level?

Yes

No

If yes, please explain:

Please explain how information is shared between counties regarding mitigation projects.
between emergency managers or 911 centers



Is information regarding mitigation shared during the planning and implementation phases of the projects?

- Yes
- No

If yes, please explain:

Projects, Grants, Education and Outreach

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Are you aware of any projects for the following that requires cross-collaboration between county boundaries?

- Stormwater projects
- Watershed projects or planning
- Floodplain projects or planning
- Connected roadway improvements
- Natural infrastructure restoration
- Outreach (education and outreach campaigns, Programs for Public Information, etc.)

If you selected anything above, please explain:

Have your county and Tompkins County collaborated on grant applications?

- Yes
- No

If yes, please explain:

Are you aware of any organizations that carry out education and outreach regarding natural hazards in both counties?

- Yes
- No

If yes, please explain:

Do you have any shared service agreements or mutual aid agreements in place with Tompkins County at the county level for the following?

- Equipment and staff for debris cleanup and snow removal
- Emergency staff for evacuations/disaster response
- Damage assessments
- Sheltering
- Other

If any of the above, please explain:

What are opportunities or ideas to optimize cooperation with the County on emergency management operations and hazard mitigation projects?

This content is neither created nor endorsed by Google.



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Tompkins County Neighbor Survey

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This survey consists of 16 questions and will take approximately 15 minutes to complete.

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General Information

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Please indicate the county in which you represent:

- Cortland County, NY
- Cayuga County, NY
- Tioga County, NY
- Chemung County, NY
- Schuyler County, NY
- Seneca County, NY
- Other: _____

Please provide your name and title:



What department do you represent?

[REDACTED]

Please provide your email address:

1

Please provide your phone number:

1

Emergency Operations and Continuity of Operations Planning

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Is Tompkins County involved in your county's comprehensive emergency operations planning?

- Yes
- No

If yes, please explain

Is your county involved in Tompkins County's comprehensive emergency operations planning?

- Yes
- No

If yes, please explain

Is Tompkins County involved in your county's Continuity of Operations planning?

- Yes
- No

If yes, please explain

Is your county involved in Tompkins County's Continuity of Operations planning?

- Yes
- No

If yes, please explain

Thinking about emergency operations and disaster response, please explain how these actions are communicated between counties.

911 to 911 or Emergency Management to Emergency Management

Risk and Vulnerability

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.



Does your county share risk and vulnerability assessments (flood mapping, HAZUS, etc.) with Tompkins County?

- No
- Yes

If yes, please explain:

Evacuation and Sheltering

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Do you collaborate with Tompkins County on establishing evacuation routes and alternate evacuation routes?

- Yes
- No

If yes, please explain:

Do you and Tompkins County consult with one another before making evacuation decisions that would impact one another (recommending evacuation routes into neighboring counties)?

- Yes
- No

If yes, please explain:

Most likely we would be in contact with Emergency Management _____

Are evacuation routes maintained to the same level of protection across county lines?

- Yes
- No
- Other: _____

Do you collaborate with Tompkins County on establishing shelters?

- Yes
- No

If yes, please explain:

Do you and Tompkins County consult with one another before making sheltering decisions that would impact one another (recommending shelters in neighboring counties)?

- Yes
- No

If yes, please explain:

We would work with Emergency Management in this situation _____



Do you and Tompkins County share any spaces suitable for temporary housing? This includes locations suitable to place temporary housing units to house residents displaced by a disaster.

- Yes
- No

If yes, please explain.

Information Sharing

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Does your county have access to contact information for Tompkins County's emergency operation centers at the county and local level?

- Yes
- No

If yes, please explain:

Please explain how information is shared between counties regarding mitigation projects.

Is information regarding mitigation shared during the planning and implementation phases of the projects?

- Yes
- No

If yes, please explain:

Projects, Grants, Education and Outreach

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Are you aware of any projects for the following that requires cross-collaboration between county boundaries?

- Stormwater projects
- Watershed projects or planning
- Floodplain projects or planning
- Connected roadway improvements
- Natural infrastructure restoration
- Outreach (education and outreach campaigns, Programs for Public Information, etc.)

If you selected anything above, please explain:

Have your county and Tompkins County collaborated on grant applications?

- Yes
- No



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If yes, please explain:

Are you aware of any organizations that carry out education and outreach regarding natural hazards in both counties?

Yes
 No

If yes, please explain:

Emergency Management

Do you have any shared service agreements or mutual aid agreements in place with Tompkins County at the county level for the following?

Equipment and staff for debris cleanup and snow removal
 Emergency staff for evacuations/disaster response
 Damage assessments
 Sheltering
 Other

If any of the above, please explain:

What are opportunities or ideas to optimize cooperation with the County on emergency management operations and hazard mitigation projects?

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Tompkins County Neighbor Survey

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- Cortland County, NY
- Cayuga County, NY
- Tioga County, NY
- Chemung County, NY
- Schuyler County, NY
- Seneca County, NY
- Other: _____

Please provide your name and title:

What department do you represent?

Please provide your email address:

Please provide your phone number:

Emergency Operations and Continuity of Operations Planning

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Is Tompkins County involved in your county's comprehensive emergency operations planning?

- Yes
- No

If yes, please explain

Is your county involved in Tompkins County's comprehensive emergency operations planning?

- Yes
- No



If yes, please explain

Is Tompkins County involved in your county's Continuity of Operations planning?

- Yes
- No

If yes, please explain

Is your county involved in Tompkins County's Continuity of Operations planning?

- Yes
- No

If yes, please explain

Thinking about emergency operations and disaster response, please explain how these actions are communicated between counties.

My department does not handle communications during emergencies/disaster response. Our Emergency Management Office would coordinate this.

Risk and Vulnerability

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Does your county share risk and vulnerability assessments (flood mapping, HAZUS, etc.) with Tompkins County?

- No
- Yes

If yes, please explain:

If requested, relevant GIS layers could be provided if we have them.

Evacuation and Sheltering

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Do you collaborate with Tompkins County on establishing evacuation routes and alternate evacuation routes?

- Yes
- No

If yes, please explain:

Unknown, this would not be handled by my office.

Do you and Tompkins County consult with one another before making evacuation decisions that would impact one another (recommending evacuation routes into neighboring counties)?

- Yes
- No



If yes, please explain:

unknown, this would not be handled by my office.

Are evacuation routes maintained to the same level of protection across county lines?

- Yes
- No
- Other: unknown

Do you collaborate with Tompkins County on establishing shelters?

- Yes
- No

If yes, please explain:

unknown, this would not be handled by my office.

Do you and Tompkins County consult with one another before making sheltering decisions that would impact one another (recommending shelters in neighboring counties)?

- Yes
- No

If yes, please explain:

unknown, this would not be handled by my office.

Do you and Tompkins County share any spaces suitable for temporary housing? This includes locations suitable to place temporary housing units to house residents displaced by a disaster.

- Yes
- No

If yes, please explain.

Information Sharing

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Does your county have access to contact information for Tompkins County's emergency operation centers at the county and local level?

- Yes
- No

If yes, please explain:

Our Emergency Management office would maintain a list of these numbers.

Please explain how information is shared between counties regarding mitigation projects.

unknown, this would not be handled by my office.



Is information regarding mitigation shared during the planning and implementation phases of the projects?

- Yes
- No

If yes, please explain:

unknown, this would not be handled by my office.

Projects, Grants, Education and Outreach

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Are you aware of any projects for the following that requires cross-collaboration between county boundaries?

- Stormwater projects
- Watershed projects or planning
- Floodplain projects or planning
- Connected roadway improvements
- Natural infrastructure restoration
- Outreach (education and outreach campaigns, Programs for Public Information, etc.)

If you selected anything above, please explain:

Have your county and Tompkins County collaborated on grant applications?

- Yes
- No

If yes, please explain:

Are you aware of any organizations that carry out education and outreach regarding natural hazards in both counties?

- Yes
- No

If yes, please explain:

Do you have any shared service agreements or mutual aid agreements in place with Tompkins County at the county level for the following?

- Equipment and staff for debris cleanup and snow removal
- Emergency staff for evacuations/disaster response
- Damage assessments
- Sheltering
- Other

If any of the above, please explain:

What are opportunities or ideas to optimize cooperation with the County on emergency management operations and hazard mitigation projects?

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Tompkins County Neighbor Survey

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- Cortland County, NY
- Cayuga County, NY
- Tioga County, NY
- Chemung County, NY
- Schuyler County, NY
- Seneca County, NY
- Other: _____

Please provide your name and title:



What department do you represent?

████████████████████

Please provide your email address:

████████████████████

Please provide your phone number:

████████████████████

Emergency Operations and Continuity of Operations Planning

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Is Tompkins County involved in your county's comprehensive emergency operations planning?

- Yes
- No

If yes, please explain

I'm actually not sure, but our emergency operations person is out on medical leave!

Is your county involved in Tompkins County's comprehensive emergency operations planning?

- Yes
- No

If yes, please explain

See above

Is Tompkins County involved in your county's Continuity of Operations planning?

- Yes
- No

If yes, please explain

See above

Is your county involved in Tompkins County's Continuity of Operations planning?

- Yes
- No

If yes, please explain

See above

Thinking about emergency operations and disaster response, please explain how these actions are communicated between counties.

I haven't been involved.

Risk and Vulnerability

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.



Does your county share risk and vulnerability assessments (flood mapping, HAZUS, etc.) with Tompkins County?

- No
- Yes

If yes, please explain:

Chemung County has a new FEMA plan (2020) and I believe we coordinated across counties during the planning process.

Evacuation and Sheltering

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Do you collaborate with Tompkins County on establishing evacuation routes and alternate evacuation routes?

- Yes
- No

If yes, please explain:

question for EMO

Do you and Tompkins County consult with one another before making evacuation decisions that would impact one another (recommending evacuation routes into neighboring counties)?

- Yes
- No

If yes, please explain:

question for EMO

Are evacuation routes maintained to the same level of protection across county lines?

- Yes
- No
- Other: question for EMO

Do you collaborate with Tompkins County on establishing shelters?

- Yes
- No

If yes, please explain:

question for EMO

Do you and Tompkins County consult with one another before making sheltering decisions that would impact one another (recommending shelters in neighboring counties)?

- Yes
- No

If yes, please explain:

question for EMO



Do you and Tompkins County share any spaces suitable for temporary housing? This includes locations suitable to place temporary housing units to house residents displaced by a disaster.

- Yes
- No

If yes, please explain:

I would think that locations such as the Domes, arenas, schools and local government buildings in proximity to adjacent counties would be shared.

Information Sharing

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Does your county have access to contact information for Tompkins County's emergency operation centers at the county and local level?

- Yes
- No

If yes, please explain:

question for EMO

Please explain how information is shared between counties regarding mitigation projects.

question for EMO / Planning would review development projects as applicable

Is information regarding mitigation shared during the planning and implementation phases of the projects?

- Yes
- No

If yes, please explain:

During 239m reviews if projects are near county boundaries

Projects, Grants, Education and Outreach

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Are you aware of any projects for the following that requires cross-collaboration between county boundaries?

- Stormwater projects
- Watershed projects or planning
- Floodplain projects or planning
- Connected roadway improvements
- Natural infrastructure restoration
- Outreach (education and outreach campaigns, Programs for Public Information, etc.)

If you selected anything above, please explain:

Have your county and Tompkins County collaborated on grant applications?

- Yes
- No



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If yes, please explain:

.....

Are you aware of any organizations that carry out education and outreach regarding natural hazards in both counties?

- Yes
- No

If yes, please explain:

CCE

Do you have any shared service agreements or mutual aid agreements in place with Tompkins County at the county level for the following?

- Equipment and staff for debris cleanup and snow removal
- Emergency staff for evacuations/disaster response
- Damage assessments
- Sheltering
- Other

If any of the above, please explain:

Not to my knowledge (but that doesn't mean they don't exist)

What are opportunities or ideas to optimize cooperation with the County on emergency management operations and hazard mitigation projects?

.....



Tompkins County Neighbor Survey

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This survey consists of 16 questions and will take approximately 15 minutes to complete.

The Tompkins County Hazard Mitigation Plan Planning Committee thanks you for taking the time to participate in this information-gathering process.

General Information

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Please indicate the county in which you represent:

- Cortland County, NY
- Cayuga County, NY
- Tioga County, NY
- Chemung County, NY
- Schuyler County, NY
- Seneca County, NY
- Other: _____

Please provide your name and title:

What department do you represent?

Please provide your email address:

Please provide your phone number:

Emergency Operations and Continuity of Operations Planning

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Is Tompkins County involved in your county's comprehensive emergency operations planning?

- Yes
- No

If yes, please explain

Provided input to process _____

Is your county involved in Tompkins County's comprehensive emergency operations planning?

- Yes
- No



If yes, please explain

Not that I am aware of but this isn't my area of expertise

Is Tompkins County involved in your county's Continuity of Operations planning?

- Yes
- No

If yes, please explain

Not sure

Is your county involved in Tompkins County's Continuity of Operations planning?

- Yes
- No

If yes, please explain

Not sure

Thinking about emergency operations and disaster response, please explain how these actions are communicated between counties.

Input in hazard mitigation planning

Risk and Vulnerability

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Does your county share risk and vulnerability assessments (flood mapping, HAZUS, etc.) with Tompkins County?

- No
- Yes

If yes, please explain:

If requested would share, very similar geographic areas.

Evacuation and Sheltering

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Do you collaborate with Tompkins County on establishing evacuation routes and alternate evacuation routes?

- Yes
- No

If yes, please explain:

Not sure

Do you and Tompkins County consult with one another before making evacuation decisions that would impact one another (recommending evacuation routes into neighboring counties)?

- Yes
- No



If yes, please explain:
Not sure _____

Are evacuation routes maintained to the same level of protection across county lines?

Yes
 No
 Other: _____

Do you collaborate with Tompkins County on establishing shelters?

Yes
 No

If yes, please explain:

Do you and Tompkins County consult with one another before making sheltering decisions that would impact one another (recommending shelters in neighboring counties)?

Yes
 No

If yes, please explain:

Do you and Tompkins County share any spaces suitable for temporary housing? This includes locations suitable to place temporary housing units to house residents displaced by a disaster.

Yes
 No

If yes, please explain.

Information Sharing

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Does your county have access to contact information for Tompkins County's emergency operation centers at the county and local level?

Yes
 No

If yes, please explain:
Not my department, but sure Co. does _____

Please explain how information is shared between counties regarding mitigation projects.
We work with Tompkins Co. SWCD _____



Is information regarding mitigation shared during the planning and implementation phases of the projects?

- Yes
- No

If yes, please explain:

With local SWCD

Projects, Grants, Education and Outreach

The answers provided in this section will be treated as CONFIDENTIAL and will be used solely for the purpose of preparing this plan.

Are you aware of any projects for the following that requires cross-collaboration between county boundaries?

- Stormwater projects
- Watershed projects or planning
- Floodplain projects or planning
- Connected roadway improvements
- Natural infrastructure restoration
- Outreach (education and outreach campaigns, Programs for Public Information, etc.)

If you selected anything above, please explain:

Both Counties work with Upper Susquehanna Coalition on items checked above.

Have your county and Tompkins County collaborated on grant applications?

- Yes
- No

If yes, please explain:

Thru the USC and also Agricultural grants in the past

Are you aware of any organizations that carry out education and outreach regarding natural hazards in both counties?

- Yes
- No

If yes, please explain:

USC

Do you have any shared service agreements or mutual aid agreements in place with Tompkins County at the county level for the following?

- Equipment and staff for debris cleanup and snow removal
- Emergency staff for evacuations/disaster response
- Damage assessments
- Sheltering
- Other

If any of the above, please explain:

Not sure

What are opportunities or ideas to optimize cooperation with the County on emergency management operations and hazard mitigation projects?

Communication and coordination between emergency service entities.

This content is neither created nor endorsed by Google.



Figure D-3. Stakeholder Survey Results



Tompkins Stakeholder Survey

Tompkins County, along with its city, towns and villages, are in the process of updating the 2013 Hazard Mitigation Plan (HMP) in order to be eligible for federal grant funding for public and private mitigation projects. The HMP provides a "blueprint" by which local governments can make coordinated, cost-effective efforts towards reducing losses from natural and human-caused disasters.

The following survey is designed to help identify general needs for hazard mitigation and resiliency within Tompkins County from your perspective, as well as to identify specific projects that may be included in the mitigation plan. Given the current COVID-19 pandemic, there are questions specific to this hazard at the end of the survey to help inform future decision making.

Please take a few moments to answer the following questions and provide feedback on potential mitigation that affects your assets, infrastructure, and/or services within Tompkins County. Provide as much details as possible to support your choice in the comments box. Where possible, identify specific areas that need to be improved and your suggestions for possible improvements. If there are other important issues that you feel are not covered by this survey.

More information about this planning process and additional mitigation resources may be found at the Tompkins County Resiliency Plan website by going to: <https://tompkinscountyny.gov/planning/climate-adaptation>

Thank you for supporting the update of this planning process!

General Information

Name of your department/office/institution

Village of Freeville

Name of Respondent (First, Last)

[Redacted]

What is your position/title/ role within your department/ office/ institution?

[Redacted]

4. Contact Information (email address or phone number)

[Redacted]

What is your/ your organization's role in your community?

What category does your facility operation/ service fall under?

- Academic/ Research
- Business/ Commerce
- Emergency Services (police, fire, EMS)
- Hospitals/ Medical Services
- Transportation
- Public Works
- Other: _____

Based on the above category, please provide additional description and information as to what your organization does or offers (please explain)

Village of Freeville DOT



Please identify the location of your facility(ies) and/ or primary service area. You may choose more than one if your service area covers multiple communities, or "Tompkins County (entire area)" if your service area is county-wide:

- Village of Cayuga Heights
- Village of Dryden
- Village of Freeville
- Village of Groton
- Village of Lansing
- Village of Trumansburg
- Town of Caroline
- Town of Danby
- Town of Dryden
- Town of Enfield
- Town of Groton
- Town of Ithaca
- Town of Lansing
- Town of Newfield
- Town of Ulysses
- City of Ithaca
- Tompkins County (Entire Area)
- Other: _____

Does your organization maintain or manage any of the following within your designated service area? If not, answer "No" at the bottom, otherwise check all that apply.

- Buildings
- Roads
- Bridges
- Water/ Sewer Plants
- Stormwater Infrastructure
- No
- Other: _____

Hazard/ Damage Identification

Looking back at previous hazard events, have buildings/facilities/ structures you have worked in and/ or are responsible for been impacted by a natural hazard (ex. damage/closures/etc.)?

- Yes
- No
- Don't know

If you answered "Yes" to the above question, in your own words please describe the type of event that caused or is causing (if recurring) damage and loss of service/ property. If quantifiable data is available, please provide that as well (number of damaged structures, monetary loss, etc.) (please explain)

What areas (in which you work) do you believe to be the most vulnerable to natural hazards? What are these hazards? (please explain)

Creek Flooding



Is/ are the facility(ies) that you work in or are responsible for adequately prepared for withstanding natural disasters? If your work involves working at multiple facilities, please provide a brief description in the "other" category, describing which facilities are most vulnerable.

- Yes
- Don't Know
- No
- Other: _____

Based on experience, do you think the transportation infrastructure serving your facility(ies) is adequately designed and equipped to withstand closures and damage due to natural hazards, and are able to provide long-term support for your community's needs?

- Yes
- Don't Know
- No
- Other: _____

Overall, do you think the utility infrastructure and service (specifically electricity and communication) are sufficiently equipped/ designed to withstand natural disasters and has/ have the ability to continue to provide uninterrupted service to your facility(ies)?

- Yes
- Don't Know
- No
- Other: _____

Are you aware of the number and location of vulnerable populations in your community/operating area?

- Yes
- No
- Yes, but need better information

Community Preparedness

Do you think that local public education and awareness programs are effective at informing vulnerable populations on what they should do to prepare for and reduce personal risk to natural disasters?

- Yes
- No
- Don't Know
- Other: _____

Do you think that the public, particularly vulnerable populations, are aware of, understands, and takes advantage of emergency warning and notification systems and service (mass notification system, audible alerts, text services, etc.)?

- Yes
- No
- Don't Know
- Other: _____



To your knowledge, are development and land use decisions made with consideration to exposure and or increased of natural hazard risks?

- Yes
- No
- Don't Know
- Other: _____

Do you believe that local government understands, supports, and possesses adequate resources for hazard risk reduction efforts in the community?

- Yes
- No
- Don't Know

Do you believe private businesses in your community (construction companies, supply companies, etc.) play a direct critical role in your organization's operation and daily function?

- Yes
- No
- Don't Know
- Other: _____

Does your organization have/ or is part of an emergency response plan?

- Yes
- No
- Don't Know
- Other: _____

If you answered yes above, does the plan cover potential impacts to your operations including pandemic?

- Yes
- No, we do not need one
- No, but we will need guidance on how to develop
- I don't know

If your organization is part of an emergency response plan, does your organization have a defined role or responsibility within the plan?

- Yes
- No
- Don't Know
- Other: _____



Is your organization covered by any of the following plans? Check all that apply

- Continuity of Operations Plan
- Continuity of Government Plan
- Emergency Operations Plan
- None
- Don't Know
- Other: _____

Do you believe your organization is equipped and resilient enough to handle a natural disaster?

- Yes
- No
- Maybe
- Other: _____

Project Identification

Can you identify projects or programs that will reduce your facility/organization's vulnerability to damages and losses, including loss of operation/service, to hazard events? (Please explain)

Can you identify projects or programs that have been recently been implemented to reduce your community's vulnerability, damage and losses, including loss of operation/service, to hazard events? (please explain)

COVID 19

While natural hazards are important to address, COVID-19 has shed light onto our community's strengths and weaknesses. Please answer the following:

How has your organization been involved in response to this pandemic? (please explain)

Mask distribution _____

How do you believe COVID-19 will reshape your organization's practices/ business framework? (ex. Have employees wear masks during flu season, improve sanitation practices, conduct work remotely whenever possible, etc.) (please explain)

Masks, glass up when meeting public _____

What specific services/ infrastructure needs to be built/ improved in your community in order to mitigate damage we have experienced from this pandemic? (please explain)

Please share any challenges and obstacles you are facing (you can select more than one)

- Availability of cleaning supplies
- Availability of personal protective equipment
- Clear messaging
- Finding medical professionals
- Waste disposal
- Contingency/back-up plan for staffing
- Tracking information
- Access to community officials
- Receiving accurate information regarding current situation/resources available
- Other: _____



Do you have procedures/protocols in place to return back to standard operations after the pandemic (e.g. cleaning protocols and frequency, occupancy limits, etc.)?

- Yes
- No
- Don't Know
- Other: _____

Final Thoughts?

Do you have any other questions or comments?

This form was created inside of Cornell.

Google Forms

Tompkins Stakeholder Survey

Tompkins County, along with its city, towns and villages, are in the process of updating the 2013 Hazard Mitigation Plan (HMP) in order to be eligible for federal grant funding for public and private mitigation projects. The HMP provides a "blueprint" by which local governments can make coordinated, cost-effective efforts towards reducing losses from natural and human-caused disasters.

The following survey is designed to help identify general needs for hazard mitigation and resiliency within Tompkins County from your perspective, as well as to identify specific projects that may be included in the mitigation plan. Given the current COVID-19 pandemic, there are questions specific to this hazard at the end of the survey to help inform future decision making.

Please take a few moments to answer the following questions and provide feedback on potential mitigation that affects your assets, infrastructure, and/or services within Tompkins County. Provide as much details as possible to support your choice in the comments box. Where possible, identify specific areas that need to be improved and your suggestions for possible improvements. If there are other important issues that you feel are not covered by this survey.

More information about this planning process and additional mitigation resources may be found at the Tompkins County Resiliency Plan website by going to: <https://tompkinscountyny.gov/planning/climate-adaptation>

Thank you for supporting the update of this planning process!

General Information

Name of your department/office/institution

Cornell Cooperative Extension of Tompkins County

Name of Respondent (First, Last)

██████████

What is your position/title/ role within your department/ office/ institution?

██████████

4. Contact Information (email address or phone number)

██████████

What is your/ your organization's role in your community?



What category does your facility operation/ service fall under?

- Academic/ Research
- Business/ Commerce
- Emergency Services (police, fire, EMS)
- Hospitals/ Medical Services
- Transportation
- Public Works
- Other: Education based on academic research

Based on the above category, please provide additional description and information as to what your organization does or offers (please explain)

The mission of Cooperative Extension is to enable people to improve their lives and communities through partnerships that put experience and research knowledge to work. Extension staff and trained volunteers deliver education programs, conduct applied research, and encourage community collaborations.

Please identify the location of your facility(ies) and/ or primary service area. You may choose more than one if your service area covers multiple communities, or "Tompkins County (entire area)" if your service area is county-wide:

- Village of Cayuga Heights
- Village of Dryden
- Village of Freeville
- Village of Groton
- Village of Lansing
- Village of Trumansburg
- Town of Caroline
- Town of Danby
- Town of Dryden
- Town of Enfield
- Town of Groton
- Town of Ithaca
- Town of Lansing
- Town of Newfield
- Town of Ulysses
- City of Ithaca
- Tompkins County (Entire Area)
- Other: _____



Does your organization maintain or manage any of the following within your designated service area? If not, answer "No" at the bottom, otherwise check all that apply.

- Buildings
- Roads
- Bridges
- Water/ Sewer Plants
- Stormwater Infrastructure
- No
- Other: _____

Hazard/ Damage Identification

Looking back at previous hazard events, have buildings/facilities/ structures you have worked in and/ or are responsible for been impacted by a natural hazard (ex. damage/closures/etc.)?

- Yes
- No
- Don't know

If you answered "Yes" to the above question, in your own words please describe the type of event that caused or is causing (if recurring) damage and loss of service/ property. If quantifiable data is available, please provide that as well (number of damaged structures, monetary loss, etc.) (please explain)

In general, our building at 615 Willow Ave is vulnerable to ice dam and flooding events from Fall Creek. I will leave it to our Exec Director to list actual damage or loss.

What areas (in which you work) do you believe to be the most vulnerable to natural hazards? What are these hazards? (please explain)

In our service area (Tompkins County) there are multiple areas that are vulnerable. In my work I'd be most concerned with flood and drought.

Is/ are the facility(ies) that you work in or are responsible for adequately prepared for withstanding natural disasters? If your work involves working at multiple facilities, please provide a brief description in the "other" category, describing which facilities are most vulnerable.

- Yes
- Don't Know
- No
- Other:
I'll refer to our Exec Director for understanding of facility readiness. However, with so much staff working from home, we may have to rethink what office readiness to withstand natural disasters really means.

Based on experience, do you think the transportation infrastructure serving your facility(ies) is adequately designed and equipped to withstand closures and damage due to natural hazards, and are able to provide long-term support for your community's needs?

- Yes
- Don't Know
- No
- Other:
While the facility is accessible via multiple routes, the primary Route 13 may prove problematic in an emergency. The DOT is already concerned with Level of Service numbers, which are on the brink of being unacceptable. With opening development on the waterfront the DOT is having series concerns about the road's capacity. Route 13's flow will need to be reevaluated and we will need to rethink some of our road systems to improve flow through congested areas and create/support redundant routes that will take some pressure off.

Overall, do you think the utility infrastructure and service (specifically electricity and communication) are sufficiently equipped/ designed to withstand natural disasters and has/ have the ability to continue to provide uninterrupted service to your facility(ies)?

- Yes
- Don't Know
- No
- Other: _____



Are you aware of the number and location of vulnerable populations in your community/operating area?

- Yes
- No
- Yes, but need better information

Community Preparedness

Do you think that local public education and awareness programs are effective at informing vulnerable populations on what they should do to prepare for and reduce personal risk to natural disasters?

- Yes
- No
- Don't Know

Other:

No, many homeowners are completely naive about a property's vulnerabilities and our system of real estate sales does not adequately inform prospective homeowners and home values do not necessarily reflect a property's vulnerability. I've have seen preparedness programs offered, but I do not know their efficacy. With such a large population of renters in Tompkins County, we need additional preparedness programs for people who do not control the property on which they live - it leaves large groups of people both vulnerable to natural disaster and without agency to make changes to make their homes more resilient. More and targeted homeowner programs and landlord programs would help.

Do you think that the public, particularly vulnerable populations, are aware of, understands, and takes advantage of emergency warning and notification systems and service (mass notification system, audible alerts, text services, etc.)?

- Yes
- No
- Don't Know
- Other: _____

To your knowledge, are development and land use decisions made with consideration to exposure and or increased of natural hazard risks?

- Yes
- No
- Don't Know

Other:

Yes, BUT. The SEQR system is a good one, but it paints a broad brush. It only has a mechanism for requiring mitigation of large impacts, where if we also required smaller mitigation strategies, we could have more positive impact on our community's hazard risk. I'd like to see better and more options for encouraging (requiring) even small landowners to plant more of the appropriate trees and shrubs that will improve air and water quality and handle stormwater.

Do you believe that local government understands, supports, and possesses adequate resources for hazard risk reduction efforts in the community?

- Yes
- No
- Don't Know

Do you believe private businesses in your community (construction companies, supply companies, etc.) play a direct critical role in your organization's operation and daily function?

- Yes
- No
- Don't Know
- Other: _____



Does your organization have/ or is part of an emergency response plan?

Yes

No

Don't Know

Other: _____

If you answered yes above, does the plan cover potential impacts to your operations including pandemic?

Yes

No, we do not need one

No, but we will need guidance on how to develop

I don't know

If your organization is part of an emergency response plan, does your organization have a defined role or responsibility within the plan?

Yes

No

Don't Know

Other: _____

Is your organization covered by any of the following plans? Check all that apply

Continuity of Operations Plan

Continuity of Government Plan

Emergency Operations Plan

None

Don't Know

Other: _____

Do you believe your organization is equipped and resilient enough to handle a natural disaster?

Yes

No

Maybe

Other: _____

Project Identification

Can you identify projects or programs that will reduce your facility/organization's vulnerability to damages and losses, including loss of operation/service, to hazard events? (Please explain)

Work on Fall Creek has been helpful to mitigate the most obvious source of hazard event vulnerability, but we really need to think more systemically - we are a small community and any hazard to Tompkins County is likely to affect all of us.

Can you identify projects or programs that have been recently been implemented to reduce your community's vulnerability, damage and losses, including loss of operation/service, to hazard events? (please explain)

no

COVID 19

While natural hazards are important to address, COVID-19 has shed light onto our community's strengths and weaknesses. Please answer the following:



How has your organization been involved in response to this pandemic? (please explain)

My department have done a considerable amount of work with agriculture and food security.

How do you believe COVID-19 will reshape your organization's practices/ business framework? (ex. Have employees wear masks during flu season, improve sanitation practices, conduct work remotely whenever possible, etc.) (please explain)

1. Remote work will likely continue for some time. 2. Remote education - teaching classes over zoom has been significantly more successful at reaching more people. Both of these call into sharp relief the necessity for fast, reliable internet service. 3. We are rethinking and experimenting with any events that call together large numbers of people. We have had varying success.

What specific services/ infrastructure needs to be built/ improved in your community in order to mitigate damage we have experienced from this pandemic? (please explain)

Universal, reliable, low- or no-cost internet service. More robust bike and walking infrastructure to give residents without private vehicles safe modes of travel as an alternative to TCAT. Better nodal development for services and essential shopping within walking distance. Better access to nature - connections to trails and beautiful spaces that are essential for mental health and that also enable safer gathering. More open air, protected, outdoor spaces for gathering - I found it difficult that our parks stopped allowing pavilion rental/use just at the time that those open air spaces would have allowed safer gathering.

Please share any challenges and obstacles you are facing (you can select more than one)

- Availability of cleaning supplies
- Availability of personal protective equipment
- Clear messaging
- Finding medical professionals
- Waste disposal
- Contingency/back-up plan for staffing
- Tracking information
- Access to community officials
- Receiving accurate information regarding current situation/resources available

Other: I am privileged that none of these are obstacles for me.

Do you have procedures/protocols in place to return back to standard operations after the pandemic (e.g. cleaning protocols and frequency, occupancy limits, etc.)?

- Yes
- No
- Don't Know
- Other: _____

Final Thoughts?

Do you have any other questions or comments?

Scott - happy to talk about this in more depth anytime. Mila

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Tompkins Stakeholder Survey

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Please take a few moments to answer the following questions and provide feedback on potential mitigation that affects your assets, infrastructure, and/or services within Tompkins County. Provide as much details as possible to support your choice in the comments box. Where possible, identify specific areas that need to be improved and your suggestions for possible improvements. If there are other important issues that you feel are not covered by this survey.

More information about this planning process and additional mitigation resources may be found at the Tompkins County Resiliency Plan website by going to: <https://tompkinscountyny.gov/planning/climate-adaptation>

Thank you for supporting the update of this planning process!

General Information

Name of your department/office/institution

City of Ithaca Office of Economic Development

Name of Respondent (First, Last)

[Redacted]

What is your position/title/ role within your department/ office/ institution?

[Redacted]

4. Contact Information (email address or phone number)

[Redacted]

What is your/ your organization's role in your community?

What category does your facility operation/ service fall under?

- Academic/ Research
- Business/ Commerce
- Emergency Services (police, fire, EMS)
- Hospitals/ Medical Services
- Transportation
- Public Works
- Other: Government Administration - Economic Development

Based on the above category, please provide additional description and information as to what your organization does or offers (please explain)

Direct technical assistance to businesses and property owners in the City of Ithaca, economic development program administration, etc.



Please identify the location of your facility(ies) and/ or primary service area. You may choose more than one if your service area covers multiple communities, or "Tompkins County (entire area)" if your service area is county-wide:

- Village of Cayuga Heights
- Village of Dryden
- Village of Freeville
- Village of Groton
- Village of Lansing
- Village of Trumansburg
- Town of Caroline
- Town of Danby
- Town of Dryden
- Town of Enfield
- Town of Groton
- Town of Ithaca
- Town of Lansing
- Town of Newfield
- Town of Ulysses
- City of Ithaca
- Tompkins County (Entire Area)
- Other: _____

Does your organization maintain or manage any of the following within your designated service area? If not, answer "No" at the bottom, otherwise check all that apply.

- Buildings
- Roads
- Bridges
- Water/ Sewer Plants
- Stormwater Infrastructure
- No
- Other: I will answer from the perspective of the Office of Economic Development, not the City overall. _____

Hazard/ Damage Identification

Looking back at previous hazard events, have buildings/facilities/ structures you have worked in and/ or are responsible for been impacted by a natural hazard (ex. damage/closures/etc.)?

- Yes
- No
- Don't know

If you answered "Yes" to the above question, in your own words please describe the type of event that caused or is causing (if recurring) damage and loss of service/ property. If quantifiable data is available, please provide that as well (number of damaged structures, monetary loss, etc.) (please explain)

What areas (in which you work) do you believe to be the most vulnerable to natural hazards? What are these hazards? (please explain)



Is/ are the facility(ies) that you work in or are responsible for adequately prepared for withstanding natural disasters? If your work involves working at multiple facilities, please provide a brief description in the "other" category, describing which facilities are most vulnerable.

- Yes
- Don't Know
- No
- Other: _____

Based on experience, do you think the transportation infrastructure serving your facility(ies) is adequately designed and equipped to withstand closures and damage due to natural hazards, and are able to provide long-term support for your community's needs?

- Yes
- Don't Know
- No
- Other: _____

Overall, do you think the utility infrastructure and service (specifically electricity and communication) are sufficiently equipped/ designed to withstand natural disasters and has/ have the ability to continue to provide uninterrupted service to your facility(ies)?

- Yes
- Don't Know
- No
- Other: _____

Are you aware of the number and location of vulnerable populations in your community/operating area?

- Yes
- No
- Yes, but need better information

Community Preparedness

Do you think that local public education and awareness programs are effective at informing vulnerable populations on what they should do to prepare for and reduce personal risk to natural disasters?

- Yes
- No
- Don't Know
- Other: _____

Do you think that the public, particularly vulnerable populations, are aware of, understands, and takes advantage of emergency warning and notification systems and service (mass notification system, audible alerts, text services, etc.)?

- Yes
- No
- Don't Know
- Other: _____



To your knowledge, are development and land use decisions made with consideration to exposure and or increased of natural hazard risks?

Yes

No

Don't Know

Other: _____

Do you believe that local government understands, supports, and possesses adequate resources for hazard risk reduction efforts in the community?

Yes

No

Don't Know

Do you believe private businesses in your community (construction companies, supply companies, etc.) play a direct critical role in your organization's operation and daily function?

Yes

No

Don't Know

Other: _____

Does your organization have/ or is part of an emergency response plan?

Yes

No

Don't Know

Other: _____

If you answered yes above, does the plan cover potential impacts to your operations including pandemic?

Yes

No, we do not need one

No, but we will need guidance on how to develop

I don't know

If your organization is part of an emergency response plan, does your organization have a defined role or responsibility within the plan?

Yes

No

Don't Know

Other: _____



Is your organization covered by any of the following plans? Check all that apply

- Continuity of Operations Plan
- Continuity of Government Plan
- Emergency Operations Plan
- None
- Don't Know
- Other: _____

Do you believe your organization is equipped and resilient enough to handle a natural disaster?

- Yes
- No
- Maybe
- Other: _____

Project Identification

Can you identify projects or programs that will reduce your facility/organization's vulnerability to damages and losses, including loss of operation/service, to hazard events? (Please explain)

Can you identify projects or programs that have been recently been implemented to reduce your community's vulnerability, damage and losses, including loss of operation/service, to hazard events? (please explain)

COVID 19

While natural hazards are important to address, COVID-19 has shed light onto our community's strengths and weaknesses. Please answer the following:

How has your organization been involved in response to this pandemic? (please explain)

Yes, extensively involved in economic response and recovery through establishment of new emergency and recovery business loan programs, creation of public awareness campaigns around COVID safety, TA for business reopening, etc.

How do you believe COVID-19 will reshape your organization's practices/ business framework? (ex. Have employees wear masks during flu season, improve sanitation practices, conduct work remotely whenever possible, etc.) (please explain)

More work for home; probably permanent layoffs and related reductions in services; virtual meetings likely to continue for some time; core ED activities to focus on supporting businesses through recovery for some time; fundamental reshaping of transportation patterns and related impacts on City services like parking, transportation demand management, etc; changes in occupancy/vacancy in retail and office leading to new programs and initiatives to respond to changing ED landscape.

What specific services/ infrastructure needs to be built/ improved in your community in order to mitigate damage we have experienced from this pandemic? (please explain)

Streatery continuation/expansion, re-thinking public space/streets to accommodate walking & biking and outdoor community life, dining, entertainment, etc.

Please share any challenges and obstacles you are facing (you can select more than one)

- Availability of cleaning supplies
- Availability of personal protective equipment
- Clear messaging
- Finding medical professionals
- Waste disposal
- Contingency/back-up plan for staffing
- Tracking information
- Access to community officials
- Receiving accurate information regarding current situation/resources available
- Other: _____



Do you have procedures/protocols in place to return back to standard operations after the pandemic (e.g. cleaning protocols and frequency, occupancy limits, etc.)?

- Yes
- No
- Don't Know
- Other: _____

Final Thoughts?

Do you have any other questions or comments?

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Tompkins Stakeholder Survey

Tompkins County, along with its city, towns and villages, are in the process of updating the 2013 Hazard Mitigation Plan (HMP) in order to be eligible for federal grant funding for public and private mitigation projects. The HMP provides a "blueprint" by which local governments can make coordinated, cost-effective efforts towards reducing losses from natural and human-caused disasters.

The following survey is designed to help identify general needs for hazard mitigation and resiliency within Tompkins County from your perspective, as well as to identify specific projects that may be included in the mitigation plan. Given the current COVID-19 pandemic, there are questions specific to this hazard at the end of the survey to help inform future decision making.

Please take a few moments to answer the following questions and provide feedback on potential mitigation that affects your assets, infrastructure, and/or services within Tompkins County. Provide as much details as possible to support your choice in the comments box. Where possible, identify specific areas that need to be improved and your suggestions for possible improvements. If there are other important issues that you feel are not covered by this survey.

More information about this planning process and additional mitigation resources may be found at the Tompkins County Resiliency Plan website by going to: <https://tompkinscountyny.gov/planning/climate-adaptation>

Thank you for supporting the update of this planning process!

General Information

Name of your department/office/institution

Name of Respondent (First, Last)

What is your position/title/ role within your department/ office/ institution?

4. Contact Information (email address or phone number)

What is your/ your organization's role in your community?



What category does your facility operation/ service fall under?

- Academic/ Research
- Business/ Commerce
- Emergency Services (police, fire, EMS)
- Hospitals/ Medical Services
- Transportation
- Public Works
- Other: _____

Based on the above category, please provide additional description and information as to what your organization does or offers (please explain)

Offer community college classes and certificate programs _____

Please identify the location of your facility(ies) and/ or primary service area. You may choose more than one if your service area covers multiple communities, or "Tompkins County (entire area)" if your service area is county-wide:

- Village of Cayuga Heights
- Village of Dryden
- Village of Freeville
- Village of Groton
- Village of Lansing
- Village of Trumansburg
- Town of Caroline
- Town of Danby
- Town of Dryden
- Town of Enfield
- Town of Groton
- Town of Ithaca
- Town of Lansing
- Town of Newfield
- Town of Ulysses
- City of Ithaca
- Tompkins County (Entire Area)
- Other: _____



Does your organization maintain or manage any of the following within your designated service area? If not, answer "No" at the bottom, otherwise check all that apply.

- Buildings
- Roads
- Bridges
- Water/ Sewer Plants
- Stormwater Infrastructure
- No
- Other: _____

Hazard/ Damage Identification

Looking back at previous hazard events, have buildings/facilities/ structures you have worked in and/ or are responsible for been impacted by a natural hazard (ex. damage/closures/etc.)?

- Yes
- No
- Don't know

If you answered "Yes" to the above question, in your own words please describe the type of event that caused or is causing (if recurring) damage and loss of service/ property. If quantifiable data is available, please provide that as well (number of damaged structures, monetary loss, etc.) (please explain)

The Athletic Building has experienced some water damage due to storm water drainage issues. It was before my time so I don't know the cost of the corrective measures.

What areas (in which you work) do you believe to be the most vulnerable to natural hazards? What are these hazards? (please explain)

The Athletic Building has had some storm water drainage issues. It has two large volumes (gymnasium and fieldhouse) whose east sides are down slope from the large hill on the campus. Storm water drainage structures were included with their construction but can be overwhelmed by heavy flows of storm water.

Is/ are the facility(ies) that you work in or are responsible for adequately prepared for withstanding natural disasters? If your work involves working at multiple facilities, please provide a brief description in the "other" category, describing which facilities are most vulnerable.

- Yes
- Don't Know
- No
- Other: _____

Based on experience, do you think the transportation infrastructure serving your facility(ies) is adequately designed and equipped to withstand closures and damage due to natural hazards, and are able to provide long-term support for your community's needs?

- Yes
- Don't Know
- No
- Other: _____

Overall, do you think the utility infrastructure and service (specifically electricity and communication) are sufficiently equipped/ designed to withstand natural disasters and has/ have the ability to continue to provide uninterrupted service to your facility(ies)?

- Yes
- Don't Know
- No
- Other: _____



Are you aware of the number and location of vulnerable populations in your community/operating area?

Yes

No

Yes, but need better information

Community Preparedness

Do you think that local public education and awareness programs are effective at informing vulnerable populations on what they should do to prepare for and reduce personal risk to natural disasters?

Yes

No

Don't Know

Other: _____

Do you think that the public, particularly vulnerable populations, are aware of, understands, and takes advantage of emergency warning and notification systems and service (mass notification system, audible alerts, text services, etc.)?

Yes

No

Don't Know

Other: _____

To your knowledge, are development and land use decisions made with consideration to exposure and or increased of natural hazard risks?

Yes

No

Don't Know

Other: _____

Do you believe that local government understands, supports, and possesses adequate resources for hazard risk reduction efforts in the community?

Yes

No

Don't Know

Do you believe private businesses in your community (construction companies, supply companies, etc.) play a direct critical role in your organization's operation and daily function?

Yes

No

Don't Know

Other: _____



Does your organization have/ or is part of an emergency response plan?

Yes

No

Don't Know

Other: _____

If you answered yes above, does the plan cover potential impacts to your operations including pandemic?

Yes

No, we do not need one

No, but we will need guidance on how to develop

I don't know

If your organization is part of an emergency response plan, does your organization have a defined role or responsibility within the plan?

Yes

No

Don't Know

Other: _____

Is your organization covered by any of the following plans? Check all that apply

Continuity of Operations Plan

Continuity of Government Plan

Emergency Operations Plan

None

Don't Know

Other: _____

Do you believe your organization is equipped and resilient enough to handle a natural disaster?

Yes

No

Maybe

Other: _____

Project Identification

Can you identify projects or programs that will reduce your facility/organization's vulnerability to damages and losses, including loss of operation/service, to hazard events? (Please explain)

Improvement to the storm water drainage systems on campus

Can you identify projects or programs that have been recently been implemented to reduce your community's vulnerability, damage and losses, including loss of operation/service, to hazard events? (please explain)

COVID 19

While natural hazards are important to address, COVID-19 has shed light onto our community's strengths and weaknesses. Please answer the following:



How has your organization been involved in response to this pandemic? (please explain)

The College developed a Pandemic Response Plan. It is also part of the SUNY system which provides guidance on pandemic issues.

How do you believe COVID-19 will reshape your organization's practices/ business framework? (ex. Have employees wear masks during flu season, improve sanitation practices, conduct work remotely whenever possible, etc.) (please explain)

The College is requiring students, faculty and staff to wear masks in campus buildings. Hand washing is encouraged, and hand sanitizer dispensers have been installed throughout the main building. Working remotely has been encouraged in some instances. In-person classes are being offered with reduced density and social distancing.

What specific services/ infrastructure needs to be built/ improved in your community in order to mitigate damage we have experienced from this pandemic? (please explain)

Please share any challenges and obstacles you are facing (you can select more than one)

- Availability of cleaning supplies
- Availability of personal protective equipment
- Clear messaging
- Finding medical professionals
- Waste disposal
- Contingency/back-up plan for staffing
- Tracking information
- Access to community officials
- Receiving accurate information regarding current situation/resources available
- Other: Availability of MERV-13 air filters

Do you have procedures/protocols in place to return back to standard operations after the pandemic (e.g. cleaning protocols and frequency, occupancy limits, etc.)?

- Yes
- No
- Don't Know
- Other: _____

Final Thoughts?

Do you have any other questions or comments?

This form was created inside of Cornell.

Google Forms



Tompkins Stakeholder Survey

Tompkins County, along with its city, towns and villages, are in the process of updating the 2013 Hazard Mitigation Plan (HMP) in order to be eligible for federal grant funding for public and private mitigation projects. The HMP provides a "blueprint" by which local governments can make coordinated, cost-effective efforts towards reducing losses from natural and human-caused disasters.

The following survey is designed to help identify general needs for hazard mitigation and resiliency within Tompkins County from your perspective, as well as to identify specific projects that may be included in the mitigation plan. Given the current COVID-19 pandemic, there are questions specific to this hazard at the end of the survey to help inform future decision making.

Please take a few moments to answer the following questions and provide feedback on potential mitigation that affects your assets, infrastructure, and/or services within Tompkins County. Provide as much details as possible to support your choice in the comments box. Where possible, identify specific areas that need to be improved and your suggestions for possible improvements. If there are other important issues that you feel are not covered by this survey.

More information about this planning process and additional mitigation resources may be found at the Tompkins County Resiliency Plan website by going to: <https://tompkinscountyny.gov/planning/climate-adaptation>

Thank you for supporting the update of this planning process!

General Information

Name of your department/office/institution

Ithaca-Tompkins County Transportation Council

Name of Respondent (First, Last)

[Redacted]

What is your position/title/ role within your department/ office/ institution?

[Redacted]

4. Contact Information (email address or phone number)

[Redacted]

What is your/ your organization's role in your community?

What category does your facility operation/ service fall under?

- Academic/ Research
- Business/ Commerce
- Emergency Services (police, fire, EMS)
- Hospitals/ Medical Services
- Transportation
- Public Works
- Other: _____

Based on the above category, please provide additional description and information as to what your organization does or offers (please explain)

The ITCTC is the Metropolitan Planning Organization for the Ithaca-Tompkins County area. We plan for and manage the programming of federal surface transportation funds. The ITCTC does not operate any transportation service, nor is it the lead agency in the maintenance and construction of infrastructure. The ITCTC is guided by a 20-year Long-Range Transportation plan and provides works with municipalities and other partners in programming and implementing initiatives and projects that support the goals of the Plan.



Please identify the location of your facility(ies) and/ or primary service area. You may choose more than one if your service area covers multiple communities, or "Tompkins County (entire area)" if your service area is county-wide:

- Village of Cayuga Heights
- Village of Dryden
- Village of Freeville
- Village of Groton
- Village of Lansing
- Village of Trumansburg
- Town of Caroline
- Town of Danby
- Town of Dryden
- Town of Enfield
- Town of Groton
- Town of Ithaca
- Town of Lansing
- Town of Newfield
- Town of Ulysses
- City of Ithaca
- Tompkins County (Entire Area)
- Other: _____

Does your organization maintain or manage any of the following within your designated service area? If not, answer "No" at the bottom, otherwise check all that apply.

- Buildings
- Roads
- Bridges
- Water/ Sewer Plants
- Stormwater Infrastructure
- No
- Other: _____

Hazard/ Damage Identification

Looking back at previous hazard events, have buildings/facilities/ structures you have worked in and/ or are responsible for been impacted by a natural hazard (ex. damage/closures/etc.)?

- Yes
- No
- Don't know

If you answered "Yes" to the above question, in your own words please describe the type of event that caused or is causing (if recurring) damage and loss of service/ property. If quantifiable data is available, please provide that as well (number of damaged structures, monetary loss, etc.) (please explain)

What areas (in which you work) do you believe to be the most vulnerable to natural hazards? What are these hazards? (please explain)

The ITCTC has helped fund maintenance and construction of numerous bridges in Tompkins County. These structures are most vulnerable to erosion and scouring during flood events.



Is/ are the facility(ies) that you work in or are responsible for adequately prepared for withstanding natural disasters? If your work involves working at multiple facilities, please provide a brief description in the "other" category, describing which facilities are most vulnerable.

- Yes
- Don't Know
- No
- Other: _____

Based on experience, do you think the transportation infrastructure serving your facility(ies) is adequately designed and equipped to withstand closures and damage due to natural hazards, and are able to provide long-term support for your community's needs?

- Yes
- Don't Know
- No
- Other: Other than the vulnerability of bridges and certain floodplain roads during flood events, there is also a concern that the TCAT transit facility is currently located in a low lying area vulnerable to flooding. _____

Overall, do you think the utility infrastructure and service (specifically electricity and communication) are sufficiently equipped/ designed to withstand natural disasters and has/ have the ability to continue to provide uninterrupted service to your facility(ies)?

- Yes
- Don't Know
- No
- Other: Older, exposed electricity infrastructure is vulnerable to wind events, falling branches, etc. _____

Are you aware of the number and location of vulnerable populations in your community/operating area?

- Yes
- No
- Yes, but need better information

Community Preparedness

Do you think that local public education and awareness programs are effective at informing vulnerable populations on what they should do to prepare for and reduce personal risk to natural disasters?

- Yes
- No
- Don't Know
- Other: _____

Do you think that the public, particularly vulnerable populations, are aware of, understands, and takes advantage of emergency warning and notification systems and service (mass notification system, audible alerts, text services, etc.)?

- Yes
- No
- Don't Know
- Other: _____



To your knowledge, are development and land use decisions made with consideration to exposure and or increased of natural hazard risks?

Yes

No

Don't Know

Other: _____

Do you believe that local government understands, supports, and possesses adequate resources for hazard risk reduction efforts in the community?

Yes

No

Don't Know

Do you believe private businesses in your community (construction companies, supply companies, etc.) play a direct critical role in your organization's operation and daily function?

Yes

No

Don't Know

Other: _____

Does your organization have/ or is part of an emergency response plan?

Yes

No

Don't Know

Other: _____

If you answered yes above, does the plan cover potential impacts to your operations including pandemic?

Yes

No, we do not need one

No, but we will need guidance on how to develop

I don't know

If your organization is part of an emergency response plan, does your organization have a defined role or responsibility within the plan?

Yes

No

Don't Know

Other: _____



Is your organization covered by any of the following plans? Check all that apply

- Continuity of Operations Plan
- Continuity of Government Plan
- Emergency Operations Plan
- None
- Don't Know
- Other: _____

Do you believe your organization is equipped and resilient enough to handle a natural disaster?

- Yes
- No
- Maybe
- Other: _____

Project Identification

Can you identify projects or programs that will reduce your facility/organization's vulnerability to damages and losses, including loss of operation/service, to hazard events? (Please explain)

Use of cloud based software and data services.

Can you identify projects or programs that have been recently been implemented to reduce your community's vulnerability, damage and losses, including loss of operation/service, to hazard events? (please explain)

COVID 19

While natural hazards are important to address, COVID-19 has shed light onto our community's strengths and weaknesses. Please answer the following:

How has your organization been involved in response to this pandemic? (please explain)

Yes. Shift to remote work. Coordination of transportation providers response to COVID.

How do you believe COVID-19 will reshape your organization's practices/ business framework? (ex. Have employees wear masks during flu season, improve sanitation practices, conduct work remotely whenever possible, etc.) (please explain)

Yes. Staff will follow COVID prevention protocols. Remote work will last indefinitely depending on progress of the pandemic.

What specific services/ infrastructure needs to be built/ improved in your community in order to mitigate damage we have experienced from this pandemic? (please explain)

Provision of dedicated bicycling infrastructure in the urbanized area. Bicycling offers a low cost, environmentally smart and healthy transportation option. Over 50% of trips in Tompkins County are less than 2 miles in length. Increasing the modal share of bicycling would provide multiple equity and economic benefits, and would help alleviate transportation challenges exacerbated by the pandemic - ie, reduced transit service, high cost of car dependency, etc. The long-range transportation plan includes a recommended complete streets plan for the urbanized area.

Please share any challenges and obstacles you are facing (you can select more than one)

- Availability of cleaning supplies
- Availability of personal protective equipment
- Clear messaging
- Finding medical professionals
- Waste disposal
- Contingency/back-up plan for staffing
- Tracking information
- Access to community officials
- Receiving accurate information regarding current situation/resources available
- Other: _____



Do you have procedures/protocols in place to return back to standard operations after the pandemic (e.g. cleaning protocols and frequency, occupancy limits, etc.)?

- Yes
- No
- Don't Know
- Other: _____

Final Thoughts?

Do you have any other questions or comments?

This form was created inside of Cornell.



Tompkins Stakeholder Survey

Tompkins County, along with its city, towns and villages, are in the process of updating the 2013 Hazard Mitigation Plan (HMP) in order to be eligible for federal grant funding for public and private mitigation projects. The HMP provides a "blueprint" by which local governments can make coordinated, cost-effective efforts towards reducing losses from natural and human-caused disasters.

The following survey is designed to help identify general needs for hazard mitigation and resiliency within Tompkins County from your perspective, as well as to identify specific projects that may be included in the mitigation plan. Given the current COVID-19 pandemic, there are questions specific to this hazard at the end of the survey to help inform future decision making.

Please take a few moments to answer the following questions and provide feedback on potential mitigation that affects your assets, infrastructure, and/or services within Tompkins County. Provide as much details as possible to support your choice in the comments box. Where possible, identify specific areas that need to be improved and your suggestions for possible improvements. If there are other important issues that you feel are not covered by this survey.

More information about this planning process and additional mitigation resources may be found at the Tompkins County Resiliency Plan website by going to: <https://tompkinscountyny.gov/planning/climate-adaptation>

Thank you for supporting the update of this planning process!

General Information

Name of your department/office/institution

Ithaca Urban Renewal Agency

Name of Respondent (First, Last)

What is your position/title/ role within your department/ office/ institution?

4. Contact Information (email address or phone number)

What is your/ your organization's role in your community?



What category does your facility operation/ service fall under?

- Academic/ Research
- Business/ Commerce
- Emergency Services (police, fire, EMS)
- Hospitals/ Medical Services
- Transportation
- Public Works
- Other: Affordable housing and community facilities

Based on the above category, please provide additional description and information as to what your organization does or offers (please explain)

funding affordable housing, community facilities and economic development

Please identify the location of your facility(ies) and/ or primary service area. You may choose more than one if your service area covers multiple communities, or "Tompkins County (entire area)" if your service area is county-wide:

- Village of Cayuga Heights
- Village of Dryden
- Village of Freeville
- Village of Groton
- Village of Lansing
- Village of Trumansburg
- Town of Caroline
- Town of Danby
- Town of Dryden
- Town of Enfield
- Town of Groton
- Town of Ithaca
- Town of Lansing
- Town of Newfield
- Town of Ulysses
- City of Ithaca
- Tompkins County (Entire Area)
- Other: _____



Does your organization maintain or manage any of the following within your designated service area? If not, answer "No" at the bottom, otherwise check all that apply.

- Buildings
- Roads
- Bridges
- Water/ Sewer Plants
- Stormwater Infrastructure
- No
- Other: _____

Hazard/ Damage Identification

Looking back at previous hazard events, have buildings/facilities/ structures you have worked in and/ or are responsible for been impacted by a natural hazard (ex. damage/closures/etc.)?

- Yes
- No
- Don't know

If you answered "Yes" to the above question, in your own words please describe the type of event that caused or is causing (if recurring) damage and loss of service/ property. If quantifiable data is available, please provide that as well (number of damaged structures, monetary loss, etc.) (please explain)

What areas (in which you work) do you believe to be the most vulnerable to natural hazards? What are these hazards? (please explain)

neighborhoods near streams that flood (particularly ice jams), and winter ice storms generally

Is/ are the facility(ies) that you work in or are responsible for adequately prepared for withstanding natural disasters? If your work involves working at multiple facilities, please provide a brief description in the "other" category, describing which facilities are most vulnerable.

- Yes
- Don't Know
- No
- Other: _____

Based on experience, do you think the transportation infrastructure serving your facility(ies) is adequately designed and equipped to withstand closures and damage due to natural hazards, and are able to provide long-term support for your community's needs?

- Yes
- Don't Know
- No
- Other: _____

Overall, do you think the utility infrastructure and service (specifically electricity and communication) are sufficiently equipped/ designed to withstand natural disasters and has/ have the ability to continue to provide uninterrupted service to your facility(ies)?

- Yes
- Don't Know
- No
- Other: _____



Are you aware of the number and location of vulnerable populations in your community/operating area?

- Yes
- No
- Yes, but need better information

Community Preparedness

Do you think that local public education and awareness programs are effective at informing vulnerable populations on what they should do to prepare for and reduce personal risk to natural disasters?

- Yes
- No
- Don't Know
- Other: _____

Do you think that the public, particularly vulnerable populations, are aware of, understands, and takes advantage of emergency warning and notification systems and service (mass notification system, audible alerts, text services, etc.)?

- Yes
- No
- Don't Know
- Other: _____

To your knowledge, are development and land use decisions made with consideration to exposure and or increased of natural hazard risks?

- Yes
- No
- Don't Know
- Other: _____

Do you believe that local government understands, supports, and possesses adequate resources for hazard risk reduction efforts in the community?

- Yes
- No
- Don't Know

Do you believe private businesses in your community (construction companies, supply companies, etc.) play a direct critical role in your organization's operation and daily function?

- Yes
- No
- Don't Know
- Other: _____



Does your organization have/ or is part of an emergency response plan?

Yes

No

Don't Know

Other: _____

If you answered yes above, does the plan cover potential impacts to your operations including pandemic?

Yes

No, we do not need one

No, but we will need guidance on how to develop

I don't know

If your organization is part of an emergency response plan, does your organization have a defined role or responsibility within the plan?

Yes

No

Don't Know

Other: _____

Is your organization covered by any of the following plans? Check all that apply

Continuity of Operations Plan

Continuity of Government Plan

Emergency Operations Plan

None

Don't Know

Other: _____

Do you believe your organization is equipped and resilient enough to handle a natural disaster?

Yes

No

Maybe

Other: _____

Project Identification

Can you identify projects or programs that will reduce your facility/organization's vulnerability to damages and losses, including loss of operation/service, to hazard events? (Please explain)

Flood vulnerability planning with implementation plan

Can you identify projects or programs that have been recently been implemented to reduce your community's vulnerability, damage and losses, including loss of operation/service, to hazard events? (please explain)

Check truck brakes initiative prior to entering Ithaca, installation of backflow protectors on storm drains near Six Mile Creek, Fire Dept. fire prevention program, regular housing code inspection of rental housing in Ithaca, initiative to create a system to re-direct WWTP effluent to melt ice dams on Fall Creek as needed.

COVID 19

While natural hazards are important to address, COVID-19 has shed light onto our community's strengths and weaknesses. Please answer the following:



How has your organization been involved in response to this pandemic? (please explain)

Not directly involved operationally, but has directed federal grant funds to City to assist small businesses, tenants, daycare centers, and persons experiencing homelessness who have been adversely impacted by the pandemic.

How do you believe COVID-19 will reshape your organization's practices/ business framework? (ex. Have employees wear masks during flu season, improve sanitation practices, conduct work remotely whenever possible, etc.) (please explain)

More remote work and remote meetings

What specific services/ infrastructure needs to be built/ improved in your community in order to mitigate damage we have experienced from this pandemic? (please explain)

reliable and affordable universal broadband internet service

Please share any challenges and obstacles you are facing (you can select more than one)

- Availability of cleaning supplies
- Availability of personal protective equipment
- Clear messaging
- Finding medical professionals
- Waste disposal
- Contingency/back-up plan for staffing
- Tracking information
- Access to community officials
- Receiving accurate information regarding current situation/resources available
- Other: _____

Do you have procedures/protocols in place to return back to standard operations after the pandemic (e.g. cleaning protocols and frequency, occupancy limits, etc.)?

- Yes
- No
- Don't Know
- Other: _____

Final Thoughts?

Do you have any other questions or comments?

This form was created inside of Cornell.

Google Forms



Tompkins Stakeholder Survey

Tompkins County, along with its city, towns and villages, are in the process of updating the 2013 Hazard Mitigation Plan (HMP) in order to be eligible for federal grant funding for public and private mitigation projects. The HMP provides a "blueprint" by which local governments can make coordinated, cost-effective efforts towards reducing losses from natural and human-caused disasters.

The following survey is designed to help identify general needs for hazard mitigation and resiliency within Tompkins County from your perspective, as well as to identify specific projects that may be included in the mitigation plan. Given the current COVID-19 pandemic, there are questions specific to this hazard at the end of the survey to help inform future decision making.

Please take a few moments to answer the following questions and provide feedback on potential mitigation that affects your assets, infrastructure, and/or services within Tompkins County. Provide as much details as possible to support your choice in the comments box. Where possible, identify specific areas that need to be improved and your suggestions for possible improvements. If there are other important issues that you feel are not covered by this survey.

More information about this planning process and additional mitigation resources may be found at the Tompkins County Resiliency Plan website by going to: <https://tompkinscountyny.gov/planning/climate-adaptation>

Thank you for supporting the update of this planning process!

General Information

Name of your department/office/institution

Commercial Sales @ Tompkins Insurance Agencies Inc

Name of Respondent (First, Last)

[Redacted]

What is your position/title/ role within your department/ office/ institution?

[Redacted]

4. Contact Information (email address or phone number)

[Redacted]

What is your/ your organization's role in your community?

What category does your facility operation/ service fall under?

- Academic/ Research
- Business/ Commerce
- Emergency Services (police, fire, EMS)
- Hospitals/ Medical Services
- Transportation
- Public Works
- Other: Insurance

Based on the above category, please provide additional description and information as to what your organization does or offers (please explain)

We offer Flood Insurance for Commercial and Residential buildings



Please identify the location of your facility(ies) and/ or primary service area. You may choose more than one if your service area covers multiple communities, or "Tompkins County (entire area)" if your service area is county-wide:

- Village of Cayuga Heights
- Village of Dryden
- Village of Freeville
- Village of Groton
- Village of Lansing
- Village of Trumansburg
- Town of Caroline
- Town of Danby
- Town of Dryden
- Town of Enfield
- Town of Groton
- Town of Ithaca
- Town of Lansing
- Town of Newfield
- Town of Ulysses
- City of Ithaca
- Tompkins County (Entire Area)
- Other: _____

Does your organization maintain or manage any of the following within your designated service area? If not, answer "No" at the bottom, otherwise check all that apply.

- Buildings
- Roads
- Bridges
- Water/ Sewer Plants
- Stormwater Infrastructure
- No
- Other: _____

Hazard/ Damage Identification

Looking back at previous hazard events, have buildings/facilities/ structures you have worked in and/ or are responsible for been impacted by a natural hazard (ex. damage/closures/etc.)?

- Yes
- No
- Don't know

If you answered "Yes" to the above question, in your own words please describe the type of event that caused or is causing (if recurring) damage and loss of service/ property. If quantifiable data is available, please provide that as well (number of damaged structures, monetary loss, etc.) (please explain)

In 1980 our office building was next to Cascadilla Creek when it froze and flooded

What areas (in which you work) do you believe to be the most vulnerable to natural hazards? What are these hazards? (please explain)

All buildings near creeks in the City of Ithaca and many near streams and tributaries leading to the City



Is/ are the facility(ies) that you work in or are responsible for adequately prepared for withstanding natural disasters? If your work involves working at multiple facilities, please provide a brief description in the "other" category, describing which facilities are most vulnerable.

- Yes
- Don't Know
- No
- Other: I work in the Financial Institution building on Seneca St. we have disaster plans in place _____

Based on experience, do you think the transportation infrastructure serving your facility(ies) is adequately designed and equipped to withstand closures and damage due to natural hazards, and are able to provide long-term support for your community's needs?

- Yes
- Don't Know
- No
- Other: _____

Overall, do you think the utility infrastructure and service (specifically electricity and communication) are sufficiently equipped/ designed to withstand natural disasters and has/ have the ability to continue to provide uninterrupted service to your facility(ies)?

- Yes
- Don't Know
- No
- Other: We can work remotely so facility is not critical and have other locations _____

Are you aware of the number and location of vulnerable populations in your community/operating area?

- Yes
- No
- Yes, but need better information

Community Preparedness

Do you think that local public education and awareness programs are effective at informing vulnerable populations on what they should do to prepare for and reduce personal risk to natural disasters?

- Yes
- No
- Don't Know
- Other: I have not seen any on Flooding, we need to do better _____

Do you think that the public, particularly vulnerable populations, are aware of, understands, and takes advantage of emergency warning and notification systems and service (mass notification system, audible alerts, text services, etc.)?

- Yes
- No
- Don't Know
- Other: Some do, but most would probably ignore _____



To your knowledge, are development and land use decisions made with consideration to exposure and or increased of natural hazard risks?

Yes

No

Don't Know

Other: Not convinced that they are _____

Do you believe that local government understands, supports, and possesses adequate resources for hazard risk reduction efforts in the community?

Yes

No

Don't Know

Do you believe private businesses in your community (construction companies, supply companies, etc.) play a direct critical role in your organization's operation and daily function?

Yes

No

Don't Know

Other: _____

Does your organization have/ or is part of an emergency response plan?

Yes

No

Don't Know

Other: _____

If you answered yes above, does the plan cover potential impacts to your operations including pandemic?

Yes

No, we do not need one

No, but we will need guidance on how to develop

I don't know

If your organization is part of an emergency response plan, does your organization have a defined role or responsibility within the plan?

Yes

No

Don't Know

Other: _____



Do you have procedures/protocols in place to return back to standard operations after the pandemic (e.g. cleaning protocols and frequency, occupancy limits, etc.)?

- Yes
- No
- Don't Know
- Other: _____

Final Thoughts?

Do you have any other questions or comments?

Our Community has now realized how much we are dependent on the colleges and the need for the public to be able to shop and eat to keep the economy flowing

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Tompkins Stakeholder Survey

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The following survey is designed to help identify general needs for hazard mitigation and resiliency within Tompkins County from your perspective, as well as to identify specific projects that may be included in the mitigation plan. Given the current COVID-19 pandemic, there are questions specific to this hazard at the end of the survey to help inform future decision making.

Please take a few moments to answer the following questions and provide feedback on potential mitigation that affects your assets, infrastructure, and/or services within Tompkins County. Provide as much details as possible to support your choice in the comments box. Where possible, identify specific areas that need to be improved and your suggestions for possible improvements. If there are other important issues that you feel are not covered by this survey.

More information about this planning process and additional mitigation resources may be found at the Tompkins County Resiliency Plan website by going to: <https://tompkinscountyny.gov/planning/climate-adaptation>

Thank you for supporting the update of this planning process!

General Information

Name of your department/office/institution

Human Services Coalition

Name of Respondent (First, Last)

[Redacted]

What is your position/title/ role within your department/ office/ institution?

[Redacted]

4. Contact Information (email address or phone number)

[Redacted]

What is your/ your organization's role in your community?



What category does your facility operation/ service fall under?

- Academic/ Research
- Business/ Commerce
- Emergency Services (police, fire, EMS)
- Hospitals/ Medical Services
- Transportation
- Public Works
- Other: Human Services/Homeless response system

Based on the above category, please provide additional description and information as to what your organization does or offers (please explain)

Convene community planning conversations regarding our local homeless response system, conduct the annual point in time count, track all data using HMIS, implement coordinated entry into supportive housing

Please identify the location of your facility(ies) and/ or primary service area. You may choose more than one if your service area covers multiple communities, or "Tompkins County (entire area)" if your service area is county-wide:

- Village of Cayuga Heights
- Village of Dryden
- Village of Freeville
- Village of Groton
- Village of Lansing
- Village of Trumansburg
- Town of Caroline
- Town of Danby
- Town of Dryden
- Town of Enfield
- Town of Groton
- Town of Ithaca
- Town of Lansing
- Town of Newfield
- Town of Ulysses
- City of Ithaca
- Tompkins County (Entire Area)
- Other: _____



Does your organization maintain or manage any of the following within your designated service area? If not, answer "No" at the bottom, otherwise check all that apply.

- Buildings
- Roads
- Bridges
- Water/ Sewer Plants
- Stormwater Infrastructure
- No
- Other: _____

Hazard/ Damage Identification

Looking back at previous hazard events, have buildings/facilities/ structures you have worked in and/ or are responsible for been impacted by a natural hazard (ex. damage/closures/etc.)?

- Yes
- No
- Don't know

If you answered "Yes" to the above question, in your own words please describe the type of event that caused or is causing (if recurring) damage and loss of service/ property. If quantifiable data is available, please provide that as well (number of damaged structures, monetary loss, etc.) (please explain)

What areas (in which you work) do you believe to be the most vulnerable to natural hazards? What are these hazards? (please explain)

Is/ are the facility(ies) that you work in or are responsible for adequately prepared for withstanding natural disasters? If your work involves working at multiple facilities, please provide a brief description in the "other" category, describing which facilities are most vulnerable.

- Yes
- Don't Know
- No
- Other: _____

Based on experience, do you think the transportation infrastructure serving your facility(ies) is adequately designed and equipped to withstand closures and damage due to natural hazards, and are able to provide long-term support for your community's needs?

- Yes
- Don't Know
- No
- Other:
Yes, and there would need to be a place to transport people to other than the shelter in the case of natural disaster _____

Overall, do you think the utility infrastructure and service (specifically electricity and communication) are sufficiently equipped/ designed to withstand natural disasters and has/ have the ability to continue to provide uninterrupted service to your facility(ies)?

- Yes
- Don't Know
- No
- Other: _____



Are you aware of the number and location of vulnerable populations in your community/operating area?

- Yes
- No
- Yes, but need better information

Community Preparedness

Do you think that local public education and awareness programs are effective at informing vulnerable populations on what they should do to prepare for and reduce personal risk to natural disasters?

- Yes
- No
- Don't Know
- Other:
Yes, but person to person communication is the best way to share information with people experiencing homelessness

Do you think that the public, particularly vulnerable populations, are aware of, understands, and takes advantage of emergency warning and notification systems and service (mass notification system, audible alerts, text services, etc.)?

- Yes
- No
- Don't Know
- Other: _____

To your knowledge, are development and land use decisions made with consideration to exposure and or increased of natural hazard risks?

- Yes
- No
- Don't Know
- Other: _____

Do you believe that local government understands, supports, and possesses adequate resources for hazard risk reduction efforts in the community?

- Yes
- No
- Don't Know

Do you believe private businesses in your community (construction companies, supply companies, etc.) play a direct critical role in your organization's operation and daily function?

- Yes
- No
- Don't Know
- Other: _____



Does your organization have/ or is part of an emergency response plan?

Yes

No

Don't Know

Other: _____

If you answered yes above, does the plan cover potential impacts to your operations including pandemic?

Yes

No, we do not need one

No, but we will need guidance on how to develop

I don't know

If your organization is part of an emergency response plan, does your organization have a defined role or responsibility within the plan?

Yes

No

Don't Know

Other: _____

Is your organization covered by any of the following plans? Check all that apply

Continuity of Operations Plan

Continuity of Government Plan

Emergency Operations Plan

None

Don't Know

Other: _____

Do you believe your organization is equipped and resilient enough to handle a natural disaster?

Yes

No

Maybe

Other: _____

Project Identification

Can you identify projects or programs that will reduce your facility/organization's vulnerability to damages and losses, including loss of operation/service, to hazard events? (Please explain)

Can you identify projects or programs that have been recently been implemented to reduce your community's vulnerability, damage and losses, including loss of operation/service, to hazard events? (please explain)

COVID 19

While natural hazards are important to address, COVID-19 has shed light onto our community's strengths and weaknesses. Please answer the following:



How has your organization been involved in response to this pandemic? (please explain)

We house 211 which has had an integral role in pandemic response. Additionally I coordinate the enhanced street outreach efforts that have taken place during covid

How do you believe COVID-19 will reshape your organization's practices/ business framework? (ex. Have employees wear masks during flu season, improve sanitation practices, conduct work remotely whenever possible, etc.) (please explain)

We are still all working remotely

What specific services/ infrastructure needs to be built/ improved in your community in order to mitigate damage we have experienced from this pandemic? (please explain)

Please share any challenges and obstacles you are facing (you can select more than one)

- Availability of cleaning supplies
- Availability of personal protective equipment
- Clear messaging
- Finding medical professionals
- Waste disposal
- Contingency/back-up plan for staffing
- Tracking information
- Access to community officials
- Receiving accurate information regarding current situation/resources available
- Other: _____

Do you have procedures/protocols in place to return back to standard operations after the pandemic (e.g. cleaning protocols and frequency, occupancy limits, etc.)?

- Yes
- No
- Don't Know
- Other: _____

Final Thoughts?

Do you have any other questions or comments?

This form was created inside of Cornell.

Google Forms



Tompkins Stakeholder Survey

Tompkins County, along with its city, towns and villages, are in the process of updating the 2013 Hazard Mitigation Plan (HMP) in order to be eligible for federal grant funding for public and private mitigation projects. The HMP provides a "blueprint" by which local governments can make coordinated, cost-effective efforts towards reducing losses from natural and human-caused disasters.

The following survey is designed to help identify general needs for hazard mitigation and resiliency within Tompkins County from your perspective, as well as to identify specific projects that may be included in the mitigation plan. Given the current COVID-19 pandemic, there are questions specific to this hazard at the end of the survey to help inform future decision making.

Please take a few moments to answer the following questions and provide feedback on potential mitigation that affects your assets, infrastructure, and/or services within Tompkins County. Provide as much details as possible to support your choice in the comments box. Where possible, identify specific areas that need to be improved and your suggestions for possible improvements. If there are other important issues that you feel are not covered by this survey.

More information about this planning process and additional mitigation resources may be found at the Tompkins County Resiliency Plan website by going to: <https://tompkinscountyny.gov/planning/climate-adaptation>

Thank you for supporting the update of this planning process!

General Information

Name of your department/office/institution

STREAM Collaborative

Name of Respondent (First, Last)

[Redacted]

What is your position/title/ role within your department/ office/ institution?

[Redacted]

4. Contact Information (email address or phone number)

[Redacted]

What is your/ your organization's role in your community?

What category does your facility operation/ service fall under?

- Academic/ Research
- Business/ Commerce
- Emergency Services (police, fire, EMS)
- Hospitals/ Medical Services
- Transportation
- Public Works
- Other: Architecture and Planning

Based on the above category, please provide additional description and information as to what your organization does or offers (please explain)

We are an architecture and landscape architecture firm working primarily in Tompkins County.



Please identify the location of your facility(ies) and/ or primary service area. You may choose more than one if your service area covers multiple communities, or "Tompkins County (entire area)" if your service area is county-wide:

- Village of Cayuga Heights
- Village of Dryden
- Village of Freeville
- Village of Groton
- Village of Lansing
- Village of Trumansburg
- Town of Caroline
- Town of Danby
- Town of Dryden
- Town of Enfield
- Town of Groton
- Town of Ithaca
- Town of Lansing
- Town of Newfield
- Town of Ulysses
- City of Ithaca
- Tompkins County (Entire Area)
- Other: _____

Does your organization maintain or manage any of the following within your designated service area? If not, answer "No" at the bottom, otherwise check all that apply.

- Buildings
- Roads
- Bridges
- Water/ Sewer Plants
- Stormwater Infrastructure
- No
- Other: _____

Hazard/ Damage Identification

Looking back at previous hazard events, have buildings/facilities/ structures you have worked in and/ or are responsible for been impacted by a natural hazard (ex. damage/closures/etc.)?

- Yes
- No
- Don't know

If you answered "Yes" to the above question, in your own words please describe the type of event that caused or is causing (if recurring) damage and loss of service/ property. If quantifiable data is available, please provide that as well (number of damaged structures, monetary loss, etc.) (please explain)

What areas (in which you work) do you believe to be the most vulnerable to natural hazards? What are these hazards? (please explain)

Built environment primarily, and a variety of natural hazards including: flooding, increased precipitation, more severe precipitation and storm events (including wind-driven rain and wind-borne objects/falling trees), utility disruption, increase in temperatures leading to higher cooling loads, contaminated water supply from sewer overflow, drought, other.



Is/ are the facility(ies) that you work in or are responsible for adequately prepared for withstanding natural disasters? If your work involves working at multiple facilities, please provide a brief description in the "other" category, describing which facilities are most vulnerable.

- Yes
- Don't Know
- No

Other: Concern is less with the building that our office is in downtown and more with the buildings we design.

Based on experience, do you think the transportation infrastructure serving your facility(ies) is adequately designed and equipped to withstand closures and damage due to natural hazards, and are able to provide long-term support for your community's needs?

- Yes
- Don't Know
- No
- Other: _____

Overall, do you think the utility infrastructure and service (specifically electricity and communication) are sufficiently equipped/ designed to withstand natural disasters and has/ have the ability to continue to provide uninterrupted service to your facility(ies)?

- Yes
- Don't Know
- No
- Other: _____

Are you aware of the number and location of vulnerable populations in your community/operating area?

- Yes
- No
- Yes, but need better information

Community Preparedness

Do you think that local public education and awareness programs are effective at informing vulnerable populations on what they should do to prepare for and reduce personal risk to natural disasters?

- Yes
- No
- Don't Know
- Other: _____

Do you think that the public, particularly vulnerable populations, are aware of, understands, and takes advantage of emergency warning and notification systems and service (mass notification system, audible alerts, text services, etc.)?

- Yes
- No
- Don't Know
- Other: _____



To your knowledge, are development and land use decisions made with consideration to exposure and or increased of natural hazard risks?

Yes

No

Don't Know

Other: _____

Do you believe that local government understands, supports, and possesses adequate resources for hazard risk reduction efforts in the community?

Yes

No

Don't Know

Do you believe private businesses in your community (construction companies, supply companies, etc.) play a direct critical role in your organization's operation and daily function?

Yes

No

Don't Know

Other: _____

Does your organization have/ or is part of an emergency response plan?

Yes

No

Don't Know

Other: _____

If you answered yes above, does the plan cover potential impacts to your operations including pandemic?

Yes

No, we do not need one

No, but we will need guidance on how to develop

I don't know

If your organization is part of an emergency response plan, does your organization have a defined role or responsibility within the plan?

Yes

No

Don't Know

Other: _____



Is your organization covered by any of the following plans? Check all that apply

- Continuity of Operations Plan
- Continuity of Government Plan
- Emergency Operations Plan
- None
- Don't Know
- Other: _____

Do you believe your organization is equipped and resilient enough to handle a natural disaster?

- Yes
- No
- Maybe
- Other: _____

Project Identification

Can you identify projects or programs that will reduce your facility/organization's vulnerability to damages and losses, including loss of operation/service, to hazard events? (Please explain)

Can you identify projects or programs that have been recently been implemented to reduce your community's vulnerability, damage and losses, including loss of operation/service, to hazard events? (please explain)

COVID 19

While natural hazards are important to address, COVID-19 has shed light onto our community's strengths and weaknesses. Please answer the following:

How has your organization been involved in response to this pandemic? (please explain)

Working remotely. _____

How do you believe COVID-19 will reshape your organization's practices/ business framework? (ex. Have employees wear masks during flu season, improve sanitation practices, conduct work remotely whenever possible, etc.) (please explain)

More remote working. _____

What specific services/ infrastructure needs to be built/ improved in your community in order to mitigate damage we have experienced from this pandemic? (please explain)

More testing, and an ability to do so downtown. _____

Please share any challenges and obstacles you are facing (you can select more than one)

- Availability of cleaning supplies
- Availability of personal protective equipment
- Clear messaging
- Finding medical professionals
- Waste disposal
- Contingency/back-up plan for staffing
- Tracking information
- Access to community officials
- Receiving accurate information regarding current situation/resources available
- Other: _____



Do you have procedures/protocols in place to return back to standard operations after the pandemic (e.g. cleaning protocols and frequency, occupancy limits, etc.)?

- Yes
- No
- Don't Know
- Other: _____

Final Thoughts?

Do you have any other questions or comments?

This survey is geared towards our organization specifically, but my concern is for the built environment generally, both as it exists now and as we design for future projects. Several of the questions don't seem to apply but I'm happy to discuss further.

This form was created inside of Cornell.



Tompkins Stakeholder Survey

Tompkins County, along with its city, towns and villages, are in the process of updating the 2013 Hazard Mitigation Plan (HMP) in order to be eligible for federal grant funding for public and private mitigation projects. The HMP provides a "blueprint" by which local governments can make coordinated, cost-effective efforts towards reducing losses from natural and human-caused disasters.

The following survey is designed to help identify general needs for hazard mitigation and resiliency within Tompkins County from your perspective, as well as to identify specific projects that may be included in the mitigation plan. Given the current COVID-19 pandemic, there are questions specific to this hazard at the end of the survey to help inform future decision making.

Please take a few moments to answer the following questions and provide feedback on potential mitigation that affects your assets, infrastructure, and/or services within Tompkins County. Provide as much details as possible to support your choice in the comments box. Where possible, identify specific areas that need to be improved and your suggestions for possible improvements. If there are other important issues that you feel are not covered by this survey.

More information about this planning process and additional mitigation resources may be found at the Tompkins County Resiliency Plan website by going to: <https://tompkinscountyny.gov/planning/climate-adaptation>

Thank you for supporting the update of this planning process!

General Information

Name of your department/office/institution

Department of City & Regional Planning, Cornell

Name of Respondent (First, Last)

[Redacted]

What is your position/title/ role within your department/ office/ institution?

[Redacted]

4. Contact Information (email address or phone number)

[Redacted]

What is your/ your organization's role in your community?



What category does your facility operation/ service fall under?

- Academic/ Research
- Business/ Commerce
- Emergency Services (police, fire, EMS)
- Hospitals/ Medical Services
- Transportation
- Public Works
- Other: _____

Based on the above category, please provide additional description and information as to what your organization does or offers (please explain)

Graduate and undergraduate education program in city & regional planning; research in multiple aspects of urban and regional planning, including resilience

Please identify the location of your facility(ies) and/ or primary service area. You may choose more than one if your service area covers multiple communities, or "Tompkins County (entire area)" if your service area is county-wide:

- Village of Cayuga Heights
- Village of Dryden
- Village of Freeville
- Village of Groton
- Village of Lansing
- Village of Trumansburg
- Town of Caroline
- Town of Danby
- Town of Dryden
- Town of Enfield
- Town of Groton
- Town of Ithaca
- Town of Lansing
- Town of Newfield
- Town of Ulysses
- City of Ithaca
- Tompkins County (Entire Area)
- Other: World-wide



Does your organization maintain or manage any of the following within your designated service area? If not, answer "No" at the bottom, otherwise check all that apply.

- Buildings
- Roads
- Bridges
- Water/ Sewer Plants
- Stormwater Infrastructure
- No
- Other: _____

Hazard/ Damage Identification

Looking back at previous hazard events, have buildings/facilities/ structures you have worked in and/ or are responsible for been impacted by a natural hazard (ex. damage/closures/etc.)?

- Yes
- No
- Don't know

If you answered "Yes" to the above question, in your own words please describe the type of event that caused or is causing (if recurring) damage and loss of service/ property. If quantifiable data is available, please provide that as well (number of damaged structures, monetary loss, etc.) (please explain)

Land subsidence south wall of Fall Creek gorge adjacent to Sibley Hall

What areas (in which you work) do you believe to be the most vulnerable to natural hazards? What are these hazards? (please explain)

Flood hazards remain a major threat throughout Tompkins County, with a substantial vulnerabilities with the city of Ithaca - flash floods, lake flooding, riparian flooding, rain-induced landslides, ice-dam induced flooding.

Is/ are the facility(ies) that you work in or are responsible for adequately prepared for withstanding natural disasters? If your work involves working at multiple facilities, please provide a brief description in the "other" category, describing which facilities are most vulnerable.

- Yes
- Don't Know
- No
- Other:
It varies depending on where I am working. Flood resilience varies widely across national, states and municipal boundaries. Ithacaas a city is poorly prepared.

Based on experience, do you think the transportation infrastructure serving your facility(ies) is adequately designed and equipped to withstand closures and damage due to natural hazards, and are able to provide long-term support for your community's needs?

- Yes
- Don't Know
- No
- Other: _____

Overall, do you think the utility infrastructure and service (specifically electricity and communication) are sufficiently equipped/ designed to withstand natural disasters and has/ have the ability to continue to provide uninterrupted service to your facility(ies)?

- Yes
- Don't Know
- No
- Other: _____



Are you aware of the number and location of vulnerable populations in your community/operating area?

Yes

No

Yes, but need better information

Community Preparedness

Do you think that local public education and awareness programs are effective at informing vulnerable populations on what they should do to prepare for and reduce personal risk to natural disasters?

Yes

No

Don't Know

Other: _____

Do you think that the public, particularly vulnerable populations, are aware of, understands, and takes advantage of emergency warning and notification systems and service (mass notification system, audible alerts, text services, etc.)?

Yes

No

Don't Know

Other: _____

To your knowledge, are development and land use decisions made with consideration to exposure and or increased of natural hazard risks?

Yes

No

Don't Know

Other: _____

Do you believe that local government understands, supports, and possesses adequate resources for hazard risk reduction efforts in the community?

Yes

No

Don't Know

Do you believe private businesses in your community (construction companies, supply companies, etc.) play a direct critical role in your organization's operation and daily function?

Yes

No

Don't Know

Other: _____



Does your organization have/ or is part of an emergency response plan?

Yes

No

Don't Know

Other: _____

If you answered yes above, does the plan cover potential impacts to your operations including pandemic?

Yes

No, we do not need one

No, but we will need guidance on how to develop

I don't know

If your organization is part of an emergency response plan, does your organization have a defined role or responsibility within the plan?

Yes

No

Don't Know

Other: _____

Is your organization covered by any of the following plans? Check all that apply

Continuity of Operations Plan

Continuity of Government Plan

Emergency Operations Plan

None

Don't Know

Other: _____

Do you believe your organization is equipped and resilient enough to handle a natural disaster?

Yes

No

Maybe

Other: _____

Project Identification

Can you identify projects or programs that will reduce your facility/organization's vulnerability to damages and losses, including loss of operation/service, to hazard events? (Please explain)

stormwater & floodwater management upstream of all of Ithaca and Cornell

Can you identify projects or programs that have been recently been implemented to reduce your community's vulnerability, damage and losses, including loss of operation/service, to hazard events? (please explain)

Cornell University response to COVID-19 pandemic

COVID 19

While natural hazards are important to address, COVID-19 has shed light onto our community's strengths and weaknesses. Please answer the following:



How has your organization been involved in response to this pandemic? (please explain)

Cornell has been directly affected and responding to the pandemic since the outbreak in Wuhan, and also in Italy, and has formulated a major restructuring of operations and educational approaches in response.

How do you believe COVID-19 will reshape your organization's practices/ business framework? (ex. Have employees wear masks during flu season, improve sanitation practices, conduct work remotely whenever possible, etc.) (please explain)

See above

What specific services/ infrastructure needs to be built/ improved in your community in order to mitigate damage we have experienced from this pandemic? (please explain)

Please share any challenges and obstacles you are facing (you can select more than one)

- Availability of cleaning supplies
- Availability of personal protective equipment
- Clear messaging
- Finding medical professionals
- Waste disposal
- Contingency/back-up plan for staffing
- Tracking information
- Access to community officials
- Receiving accurate information regarding current situation/resources available
- Other: _____

Do you have procedures/protocols in place to return back to standard operations after the pandemic (e.g. cleaning protocols and frequency, occupancy limits, etc.)?

- Yes
- No
- Don't Know
- Other: _____

Final Thoughts?

Do you have any other questions or comments?

This form was created inside of Cornell.

Google Forms



Tompkins Stakeholder Survey

Tompkins County, along with its city, towns and villages, are in the process of updating the 2013 Hazard Mitigation Plan (HMP) in order to be eligible for federal grant funding for public and private mitigation projects. The HMP provides a "blueprint" by which local governments can make coordinated, cost-effective efforts towards reducing losses from natural and human-caused disasters.

The following survey is designed to help identify general needs for hazard mitigation and resiliency within Tompkins County from your perspective, as well as to identify specific projects that may be included in the mitigation plan. Given the current COVID-19 pandemic, there are questions specific to this hazard at the end of the survey to help inform future decision making.

Please take a few moments to answer the following questions and provide feedback on potential mitigation that affects your assets, infrastructure, and/or services within Tompkins County. Provide as much details as possible to support your choice in the comments box. Where possible, identify specific areas that need to be improved and your suggestions for possible improvements. If there are other important issues that you feel are not covered by this survey.

More information about this planning process and additional mitigation resources may be found at the Tompkins County Resiliency Plan website by going to: <https://tompkscountyny.gov/planning/climate-adaptation>

Thank you for supporting the update of this planning process!

General Information

Name of your department/office/institution

Tompkins County Soil and Water District

Name of Respondent (First, Last)

[Redacted]

What is your position/title/ role within your department/ office/ institution?

[Redacted]

4. Contact Information (email address or phone number)

[Redacted]

What is your/ your organization's role in your community?

What category does your facility operation/ service fall under?

- Academic/ Research
- Business/ Commerce
- Emergency Services (police, fire, EMS)
- Hospitals/ Medical Services
- Transportation
- Public Works
- Other: Government service, NYS Ag and Markets

Based on the above category, please provide additional description and information as to what your organization does or offers (please explain)

Identify and evaluate environmental concerns with respect to soil and water resources and then mitigate resource concerns through planning, grant assistance, landowner cooperation



Please identify the location of your facility(ies) and/ or primary service area. You may choose more than one if your service area covers multiple communities, or "Tompkins County (entire area)" if your service area is county-wide:

- Village of Cayuga Heights
- Village of Dryden
- Village of Freeville
- Village of Groton
- Village of Lansing
- Village of Trumansburg
- Town of Caroline
- Town of Danby
- Town of Dryden
- Town of Enfield
- Town of Groton
- Town of Ithaca
- Town of Lansing
- Town of Newfield
- Town of Ulysses
- City of Ithaca
- Tompkins County (Entire Area)
- Other: _____

Does your organization maintain or manage any of the following within your designated service area? If not, answer "No" at the bottom, otherwise check all that apply.

- Buildings
- Roads
- Bridges
- Water/ Sewer Plants
- Stormwater Infrastructure
- No
- Other: _____

Hazard/ Damage Identification

Looking back at previous hazard events, have buildings/facilities/ structures you have worked in and/ or are responsible for been impacted by a natural hazard (ex. damage/closures/etc.)?

- Yes
- No
- Don't know

If you answered "Yes" to the above question, in your own words please describe the type of event that caused or is causing (if recurring) damage and loss of service/ property. If quantifiable data is available, please provide that as well (number of damaged structures, monetary loss, etc.) (please explain)

What areas (in which you work) do you believe to be the most vulnerable to natural hazards? What are these hazards? (please explain)

streams, fields, tributaries, major water carrying structures



Is/ are the facility(ies) that you work in or are responsible for adequately prepared for withstanding natural disasters? If your work involves working at multiple facilities, please provide a brief description in the "other" category, describing which facilities are most vulnerable.

- Yes
- Don't Know
- No
- Other: we plan and improve infrastructure with grant funding made available _____

Based on experience, do you think the transportation infrastructure serving your facility(ies) is adequately designed and equipped to withstand closures and damage due to natural hazards, and are able to provide long-term support for your community's needs?

- Yes
- Don't Know
- No
- Other: _____

Overall, do you think the utility infrastructure and service (specifically electricity and communication) are sufficiently equipped/ designed to withstand natural disasters and has/ have the ability to continue to provide uninterrupted service to your facility(ies)?

- Yes
- Don't Know
- No
- Other: _____

Are you aware of the number and location of vulnerable populations in your community/operating area?

- Yes
- No
- Yes, but need better information

Community Preparedness

Do you think that local public education and awareness programs are effective at informing vulnerable populations on what they should do to prepare for and reduce personal risk to natural disasters?

- Yes
- No
- Don't Know
- Other: _____

Do you think that the public, particularly vulnerable populations, are aware of, understands, and takes advantage of emergency warning and notification systems and service (mass notification system, audible alerts, text services, etc.)?

- Yes
- No
- Don't Know
- Other: _____



To your knowledge, are development and land use decisions made with consideration to exposure and or increased of natural hazard risks?

Yes

No

Don't Know

Other: _____

Do you believe that local government understands, supports, and possesses adequate resources for hazard risk reduction efforts in the community?

Yes

No

Don't Know

Do you believe private businesses in your community (construction companies, supply companies, etc.) play a direct critical role in your organization's operation and daily function?

Yes

No

Don't Know

Other: _____

Does your organization have/ or is part of an emergency response plan?

Yes

No

Don't Know

Other: _____

If you answered yes above, does the plan cover potential impacts to your operations including pandemic?

Yes

No, we do not need one

No, but we will need guidance on how to develop

I don't know

If your organization is part of an emergency response plan, does your organization have a defined role or responsibility within the plan?

Yes

No

Don't Know

Other: _____



Is your organization covered by any of the following plans? Check all that apply

- Continuity of Operations Plan
- Continuity of Government Plan
- Emergency Operations Plan
- None
- Don't Know
- Other: _____

Do you believe your organization is equipped and resilient enough to handle a natural disaster?

- Yes
- No
- Maybe
- Other: _____

Project Identification

Can you identify projects or programs that will reduce your facility/organization's vulnerability to damages and losses, including loss of operation/service, to hazard events? (Please explain)

Can you identify projects or programs that have been recently been implemented to reduce your community's vulnerability, damage and losses, including loss of operation/service, to hazard events? (please explain)

COVID 19

While natural hazards are important to address, COVID-19 has shed light onto our community's strengths and weaknesses. Please answer the following:

How has your organization been involved in response to this pandemic? (please explain)

How do you believe COVID-19 will reshape your organization's practices/ business framework? (ex. Have employees wear masks during flu season, improve sanitation practices, conduct work remotely whenever possible, etc.) (please explain)

improved and increase personal safety measures, like wearing a mask and giving distance. work remotely when possible and depopulate office numbers.

What specific services/ infrastructure needs to be built/ improved in your community in order to mitigate damage we have experienced from this pandemic? (please explain)

Please share any challenges and obstacles you are facing (you can select more than one)

- Availability of cleaning supplies
- Availability of personal protective equipment
- Clear messaging
- Finding medical professionals
- Waste disposal
- Contingency/back-up plan for staffing
- Tracking information
- Access to community officials
- Receiving accurate information regarding current situation/resources available
- Other: **no obstacles or challenges to report**



Do you have procedures/protocols in place to return back to standard operations after the pandemic (e.g. cleaning protocols and frequency, occupancy limits, etc.)?

Yes

No

Don't Know

Other: _____

Final Thoughts?

Do you have any other questions or comments?

not at this time _____

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Tompkins Stakeholder Survey

Tompkins County, along with its city, towns and villages, are in the process of updating the 2013 Hazard Mitigation Plan (HMP) in order to be eligible for federal grant funding for public and private mitigation projects. The HMP provides a "blueprint" by which local governments can make coordinated, cost-effective efforts towards reducing losses from natural and human-caused disasters.

The following survey is designed to help identify general needs for hazard mitigation and resiliency within Tompkins County from your perspective, as well as to identify specific projects that may be included in the mitigation plan. Given the current COVID-19 pandemic, there are questions specific to this hazard at the end of the survey to help inform future decision making.

Please take a few moments to answer the following questions and provide feedback on potential mitigation that affects your assets, infrastructure, and/or services within Tompkins County. Provide as much details as possible to support your choice in the comments box. Where possible, identify specific areas that need to be improved and your suggestions for possible improvements. If there are other important issues that you feel are not covered by this survey.

More information about this planning process and additional mitigation resources may be found at the Tompkins County Resiliency Plan website by going to: <https://tompkinscountyny.gov/planning/climate-adaptation>

Thank you for supporting the update of this planning process!

General Information

Name of your department/office/institution

NYS Water Resources Institute at Cornell _____

Name of Respondent (First, Last)

██████████ _____

What is your position/title/ role within your department/ office/ institution?

██████████ _____

4. Contact Information (email address or phone number)

██████████ _____

What is your/ your organization's role in your community?

5.



What category does your facility operation/ service fall under?

- Academic/ Research
- Business/ Commerce
- Emergency Services (police, fire, EMS)
- Hospitals/ Medical Services
- Transportation
- Public Works
- Other: _____

Based on the above category, please provide additional description and information as to what your organization does or offers (please explain)

At NYSWRI, we support robust science and dialogue between researchers, managers, policymakers, and the general public to improve water management

Please identify the location of your facility(ies) and/ or primary service area. You may choose more than one if your service area covers multiple communities, or "Tompkins County (entire area)" if your service area is county-wide:

- Village of Cayuga Heights
- Village of Dryden
- Village of Freeville
- Village of Groton
- Village of Lansing
- Village of Trumansburg
- Town of Caroline
- Town of Danby
- Town of Dryden
- Town of Enfield
- Town of Groton
- Town of Ithaca
- Town of Lansing
- Town of Newfield
- Town of Ulysses
- City of Ithaca
- Tompkins County (Entire Area)
- Other: State-wide



Does your organization maintain or manage any of the following within your designated service area? If not, answer "No" at the bottom, otherwise check all that apply.

- Buildings
- Roads
- Bridges
- Water/ Sewer Plants
- Stormwater Infrastructure
- No
- Other: _____

Hazard/ Damage Identification

Looking back at previous hazard events, have buildings/facilities/ structures you have worked in and/ or are responsible for been impacted by a natural hazard (ex. damage/closures/etc.)?

- Yes
- No
- Don't know

If you answered "Yes" to the above question, in your own words please describe the type of event that caused or is causing (if recurring) damage and loss of service/ property. If quantifiable data is available, please provide that as well (number of damaged structures, monetary loss, etc.) (please explain)

What areas (in which you work) do you believe to be the most vulnerable to natural hazards? What are these hazards? (please explain)

Do you mean locations? Water resource infrastructure (drinking, waste, storm); Community resilience; etc

Is/ are the facility(ies) that you work in or are responsible for adequately prepared for withstanding natural disasters? If your work involves working at multiple facilities, please provide a brief description in the "other" category, describing which facilities are most vulnerable.

- Yes
- Don't Know
- No
- Other: WRI staff work in a state-owned facility on the tidal Hudson

Based on experience, do you think the transportation infrastructure serving your facility(ies) is adequately designed and equipped to withstand closures and damage due to natural hazards, and are able to provide long-term support for your community's needs?

- Yes
- Don't Know
- No
- Other: Facility-dependent

Overall, do you think the utility infrastructure and service (specifically electricity and communication) are sufficiently equipped/ designed to withstand natural disasters and has/ have the ability to continue to provide uninterrupted service to your facility(ies)?

- Yes
- Don't Know
- No
- Other: Facility-dependent



Are you aware of the number and location of vulnerable populations in your community/operating area?

- Yes
- No
- Yes, but need better information

Community Preparedness

Do you think that local public education and awareness programs are effective at informing vulnerable populations on what they should do to prepare for and reduce personal risk to natural disasters?

- Yes
- No
- Don't Know
- Other: _____

Do you think that the public, particularly vulnerable populations, are aware of, understands, and takes advantage of emergency warning and notification systems and service (mass notification system, audible alerts, text services, etc.)?

- Yes
- No
- Don't Know
- Other: _____

To your knowledge, are development and land use decisions made with consideration to exposure and or increased of natural hazard risks?

- Yes
- No
- Don't Know
- Other: In some places, but not in others

Do you believe that local government understands, supports, and possesses adequate resources for hazard risk reduction efforts in the community?

- Yes
- No
- Don't Know

Do you believe private businesses in your community (construction companies, supply companies, etc.) play a direct critical role in your organization's operation and daily function?

- Yes
- No
- Don't Know
- Other: _____



Does your organization have/ or is part of an emergency response plan?

Yes

No

Don't Know

Other: _____

If you answered yes above, does the plan cover potential impacts to your operations including pandemic?

Yes

No, we do not need one

No, but we will need guidance on how to develop

I don't know

If your organization is part of an emergency response plan, does your organization have a defined role or responsibility within the plan?

Yes

No

Don't Know

Other: _____

Is your organization covered by any of the following plans? Check all that apply

Continuity of Operations Plan

Continuity of Government Plan

Emergency Operations Plan

None

Don't Know

Other: _____

Do you believe your organization is equipped and resilient enough to handle a natural disaster?

Yes

No

Maybe

Other: _____

Project Identification

Can you identify projects or programs that will reduce your facility/organization's vulnerability to damages and losses, including loss of operation/service, to hazard events? (Please explain)

Can you identify projects or programs that have been recently been implemented to reduce your community's vulnerability, damage and losses, including loss of operation/service, to hazard events? (please explain)

State-wide, yes. Many examples given here: <https://wri.cals.cornell.edu/hudson-river-estuary/climate-change-hudson-river-estuary/>

COVID 19

While natural hazards are important to address, COVID-19 has shed light onto our community's strengths and weaknesses. Please answer the following:



How has your organization been involved in response to this pandemic? (please explain)

Outreach and coordination related to risks associated with surface water contact; as well as wastewater surveillance of SARS-CoV-2

How do you believe COVID-19 will reshape your organization's practices/ business framework? (ex. Have employees wear masks during flu season, improve sanitation practices, conduct work remotely whenever possible, etc.) (please explain)

Higher tolerance for remote work

What specific services/ infrastructure needs to be built/ improved in your community in order to mitigate damage we have experienced from this pandemic? (please explain)

Please share any challenges and obstacles you are facing (you can select more than one)

- Availability of cleaning supplies
- Availability of personal protective equipment
- Clear messaging
- Finding medical professionals
- Waste disposal
- Contingency/back-up plan for staffing
- Tracking information
- Access to community officials
- Receiving accurate information regarding current situation/resources available
- Other: _____

Do you have procedures/protocols in place to return back to standard operations after the pandemic (e.g. cleaning protocols and frequency, occupancy limits, etc.)?

- Yes
- No
- Don't Know
- Other: _____

Final Thoughts?

Do you have any other questions or comments?

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Tompkins Stakeholder Survey

Tompkins County, along with its city, towns and villages, are in the process of updating the 2013 Hazard Mitigation Plan (HMP) in order to be eligible for federal grant funding for public and private mitigation projects. The HMP provides a "blueprint" by which local governments can make coordinated, cost-effective efforts towards reducing losses from natural and human-caused disasters.

The following survey is designed to help identify general needs for hazard mitigation and resiliency within Tompkins County from your perspective, as well as to identify specific projects that may be included in the mitigation plan. Given the current COVID-19 pandemic, there are questions specific to this hazard at the end of the survey to help inform future decision making.

Please take a few moments to answer the following questions and provide feedback on potential mitigation that affects your assets, infrastructure, and/or services within Tompkins County. Provide as much details as possible to support your choice in the comments box. Where possible, identify specific areas that need to be improved and your suggestions for possible improvements. If there are other important issues that you feel are not covered by this survey.

More information about this planning process and additional mitigation resources may be found at the Tompkins County Resiliency Plan website by going to: <https://tompkinscountyny.gov/planning/climate-adaptation>

Thank you for supporting the update of this planning process!

General Information

Name of your department/office/institution

Cornell University Office of Emergency Management

Name of Respondent (First, Last)

[Redacted]

What is your position/title/ role within your department/ office/ institution?

[Redacted]

4. Contact Information (email address or phone number)

[Redacted]

What is your/ your organization's role in your community?

What category does your facility operation/ service fall under?

- Academic/ Research
- Business/ Commerce
- Emergency Services (police, fire, EMS)
- Hospitals/ Medical Services
- Transportation
- Public Works
- Other: _____

Based on the above category, please provide additional description and information as to what your organization does or offers (please explain)

Institution of higher education with teaching, research, and service missions.



Please identify the location of your facility(ies) and/ or primary service area. You may choose more than one if your service area covers multiple communities, or "Tompkins County (entire area)" if your service area is county-wide:

- Village of Cayuga Heights
- Village of Dryden
- Village of Freeville
- Village of Groton
- Village of Lansing
- Village of Trumansburg
- Town of Caroline
- Town of Danby
- Town of Dryden
- Town of Enfield
- Town of Groton
- Town of Ithaca
- Town of Lansing
- Town of Newfield
- Town of Ulysses
- City of Ithaca
- Tompkins County (Entire Area)
- Other: _____

Does your organization maintain or manage any of the following within your designated service area? If not, answer "No" at the bottom, otherwise check all that apply.

- Buildings
- Roads
- Bridges
- Water/ Sewer Plants
- Stormwater Infrastructure
- No
- Other: Central Energy Plant (steam, electricity, chilled water) _____

Hazard/ Damage Identification

Looking back at previous hazard events, have buildings/facilities/ structures you have worked in and/ or are responsible for been impacted by a natural hazard (ex. damage/closures/etc.)?

- Yes
- No
- Don't know

If you answered "Yes" to the above question, in your own words please describe the type of event that caused or is causing (if recurring) damage and loss of service/ property. If quantifiable data is available, please provide that as well (number of damaged structures, monetary loss, etc.) (please explain)

Flood damage from topical storm Lee (received FEMA recovery grant), closure due to severe winter storms

What areas (in which you work) do you believe to be the most vulnerable to natural hazards? What are these hazards? (please explain)

University water supply due to drought, outside utility services vulnerable to severe weather (ice storms, high winds, etc.) and flooding.



Is/ are the facility(ies) that you work in or are responsible for adequately prepared for withstanding natural disasters? If your work involves working at multiple facilities, please provide a brief description in the "other" category, describing which facilities are most vulnerable.

- Yes
- Don't Know
- No
- Other: _____

Based on experience, do you think the transportation infrastructure serving your facility(ies) is adequately designed and equipped to withstand closures and damage due to natural hazards, and are able to provide long-term support for your community's needs?

- Yes
- Don't Know
- No
- Other:
No, portions of Route 13 susceptible to flooding. Limited number of major roadways into the community means roadway damage/closures have a larger impact.

Overall, do you think the utility infrastructure and service (specifically electricity and communication) are sufficiently equipped/ designed to withstand natural disasters and has/ have the ability to continue to provide uninterrupted service to your facility(ies)?

- Yes
- Don't Know
- No
- Other:
Campus infrastructure is relatively hardened but regional systems that they connect to (electric, internet, phone, etc) are vulnerable to severe storms with ice impacts on transmission mains being a primary concern. Some university facilities rely on municipal utility services.

Are you aware of the number and location of vulnerable populations in your community/operating area?

- Yes
- No
- Yes, but need better information

Community Preparedness

Do you think that local public education and awareness programs are effective at informing vulnerable populations on what they should do to prepare for and reduce personal risk to natural disasters?

- Yes
- No
- Don't Know
- Other: _____

Do you think that the public, particularly vulnerable populations, are aware of, understands, and takes advantage of emergency warning and notification systems and service (mass notification system, audible alerts, text services, etc.)?

- Yes
- No
- Don't Know
- Other: _____



To your knowledge, are development and land use decisions made with consideration to exposure and or increased of natural hazard risks?

Yes

No

Don't Know

Other: _____

Do you believe that local government understands, supports, and possesses adequate resources for hazard risk reduction efforts in the community?

Yes

No

Don't Know

Do you believe private businesses in your community (construction companies, supply companies, etc.) play a direct critical role in your organization's operation and daily function?

Yes

No

Don't Know

Other: _____

Does your organization have/ or is part of an emergency response plan?

Yes

No

Don't Know

Other: _____

If you answered yes above, does the plan cover potential impacts to your operations including pandemic?

Yes

No, we do not need one

No, but we will need guidance on how to develop

I don't know

If your organization is part of an emergency response plan, does your organization have a defined role or responsibility within the plan?

Yes

No

Don't Know

Other: _____



Is your organization covered by any of the following plans? Check all that apply

- Continuity of Operations Plan
- Continuity of Government Plan
- Emergency Operations Plan
- None
- Don't Know
- Other: _____

Do you believe your organization is equipped and resilient enough to handle a natural disaster?

- Yes
- No
- Maybe
- Other: _____

Project Identification

Can you identify projects or programs that will reduce your facility/organization's vulnerability to damages and losses, including loss of operation/service, to hazard events? (Please explain)

Improved capacity for Bolton Point Water Plant and backup water source (lake) for Cornell Water Filtration Plan. Better interconnections between three water systems to allow for better backup water supply options between systems.

Can you identify projects or programs that have been recently been implemented to reduce your community's vulnerability, damage and losses, including loss of operation/service, to hazard events? (please explain)

Moving campus power transmission mains from overhead to buried lines, Transmission main cross-arm mitigation project by NYSEG.

COVID 19

While natural hazards are important to address, COVID-19 has shed light onto our community's strengths and weaknesses. Please answer the following:

How has your organization been involved in response to this pandemic? (please explain)

Coordination of campus response to the pandemic and support during university reopening activities.

How do you believe COVID-19 will reshape your organization's practices/ business framework? (ex. Have employees wear masks during flu season, improve sanitation practices, conduct work remotely whenever possible, etc.) (please explain)

Increased remote work.

What specific services/ infrastructure needs to be built/ improved in your community in order to mitigate damage we have experienced from this pandemic? (please explain)

Improved regional home internet service

Please share any challenges and obstacles you are facing (you can select more than one)

- Availability of cleaning supplies
- Availability of personal protective equipment
- Clear messaging
- Finding medical professionals
- Waste disposal
- Contingency/back-up plan for staffing
- Tracking information
- Access to community officials
- Receiving accurate information regarding current situation/resources available
- Other: _____



Do you have procedures/protocols in place to return back to standard operations after the pandemic (e.g. cleaning protocols and frequency, occupancy limits, etc.)?

- Yes
- No
- Don't Know
- Other: _____

Final Thoughts?

Do you have any other questions or comments?

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Tompkins Stakeholder Survey

Tompkins County, along with its city, towns and villages, are in the process of updating the 2013 Hazard Mitigation Plan (HMP) in order to be eligible for federal grant funding for public and private mitigation projects. The HMP provides a "blueprint" by which local governments can make coordinated, cost-effective efforts towards reducing losses from natural and human-caused disasters.

The following survey is designed to help identify general needs for hazard mitigation and resiliency within Tompkins County from your perspective, as well as to identify specific projects that may be included in the mitigation plan. Given the current COVID-19 pandemic, there are questions specific to this hazard at the end of the survey to help inform future decision making.

Please take a few moments to answer the following questions and provide feedback on potential mitigation that affects your assets, infrastructure, and/or services within Tompkins County. Provide as much details as possible to support your choice in the comments box. Where possible, identify specific areas that need to be improved and your suggestions for possible improvements. If there are other important issues that you feel are not covered by this survey.

More information about this planning process and additional mitigation resources may be found at the Tompkins County Resiliency Plan website by going to: <https://tompkinscountyny.gov/planning/climate-adaptation>

Thank you for supporting the update of this planning process!

General Information

Name of your department/office/institution

Family and Children Services of Ithaca

Name of Respondent (First, Last)

What is your position/title/ role within your department/ office/ institution?

4. Contact Information (email address or phone number)

What is your/ your organization's role in your community?



What category does your facility operation/ service fall under?

- Academic/ Research
- Business/ Commerce
- Emergency Services (police, fire, EMS)
- Hospitals/ Medical Services
- Transportation
- Public Works
- Other: Human Services

Based on the above category, please provide additional description and information as to what your organization does or offers (please explain)

Provide community outreach to vulnerable populations, including homeless.

Please identify the location of your facility(ies) and/ or primary service area. You may choose more than one if your service area covers multiple communities, or "Tompkins County (entire area)" if your service area is county-wide:

- Village of Cayuga Heights
- Village of Dryden
- Village of Freeville
- Village of Groton
- Village of Lansing
- Village of Trumansburg
- Town of Caroline
- Town of Danby
- Town of Dryden
- Town of Enfield
- Town of Groton
- Town of Ithaca
- Town of Lansing
- Town of Newfield
- Town of Ulysses
- City of Ithaca
- Tompkins County (Entire Area)
- Other: _____



Does your organization maintain or manage any of the following within your designated service area? If not, answer "No" at the bottom, otherwise check all that apply.

- Buildings
- Roads
- Bridges
- Water/ Sewer Plants
- Stormwater Infrastructure
- No
- Other: _____

Hazard/ Damage Identification

Looking back at previous hazard events, have buildings/facilities/ structures you have worked in and/ or are responsible for been impacted by a natural hazard (ex. damage/closures/etc.)?

- Yes
- No
- Don't know

If you answered "Yes" to the above question, in your own words please describe the type of event that caused or is causing (if recurring) damage and loss of service/ property. If quantifiable data is available, please provide that as well (number of damaged structures, monetary loss, etc.) (please explain)

What areas (in which you work) do you believe to be the most vulnerable to natural hazards? What are these hazards? (please explain)

Homeless population is very resilient group, though the lack of a safe, clean, heated place to hangout during hazard events is concern.

Is/ are the facility(ies) that you work in or are responsible for adequately prepared for withstanding natural disasters? If your work involves working at multiple facilities, please provide a brief description in the "other" category, describing which facilities are most vulnerable.

- Yes
- Don't Know
- No
- Other: _____

Based on experience, do you think the transportation infrastructure serving your facility(ies) is adequately designed and equipped to withstand closures and damage due to natural hazards, and are able to provide long-term support for your community's needs?

- Yes
- Don't Know
- No
- Other: _____

Overall, do you think the utility infrastructure and service (specifically electricity and communication) are sufficiently equipped/ designed to withstand natural disasters and has/ have the ability to continue to provide uninterrupted service to your facility(ies)?

- Yes
- Don't Know
- No
- Other: _____



Are you aware of the number and location of vulnerable populations in your community/operating area?

Yes

No

Yes, but need better information

Community Preparedness

Do you think that local public education and awareness programs are effective at informing vulnerable populations on what they should do to prepare for and reduce personal risk to natural disasters?

Yes

No

Don't Know

Other: Sometimes

Do you think that the public, particularly vulnerable populations, are aware of, understands, and takes advantage of emergency warning and notification systems and service (mass notification system, audible alerts, text services, etc.)?

Yes

No

Don't Know

Other: _____

To your knowledge, are development and land use decisions made with consideration to exposure and or increased of natural hazard risks?

Yes

No

Don't Know

Other: _____

Do you believe that local government understands, supports, and possesses adequate resources for hazard risk reduction efforts in the community?

Yes

No

Don't Know

Do you believe private businesses in your community (construction companies, supply companies, etc.) play a direct critical role in your organization's operation and daily function?

Yes

No

Don't Know

Other: _____



Does your organization have/ or is part of an emergency response plan?

Yes

No

Don't Know

Other: _____

If you answered yes above, does the plan cover potential impacts to your operations including pandemic?

Yes

No, we do not need one

No, but we will need guidance on how to develop

I don't know

If your organization is part of an emergency response plan, does your organization have a defined role or responsibility within the plan?

Yes

No

Don't Know

Other: _____

Is your organization covered by any of the following plans? Check all that apply

Continuity of Operations Plan

Continuity of Government Plan

Emergency Operations Plan

None

Don't Know

Other:
Family and Children Services has provided active role in outreach during pandemic and other hazard events

Do you believe your organization is equipped and resilient enough to handle a natural disaster?

Yes

No

Maybe

Other: _____

Project Identification

Can you identify projects or programs that will reduce your facility/organization's vulnerability to damages and losses, including loss of operation/service, to hazard events? (Please explain)

Establish safe space to hang out with bathrooms, charging, service providers, etc. - bars not open late, bathroom availability is limited. Sanitation is an issue as well. Fire from cooking/burning garbage, meth is often an issue. Youth and women are of greatest risk.

Can you identify projects or programs that have been recently been implemented to reduce your community's vulnerability, damage and losses, including loss of operation/service, to hazard events? (please explain)

Dumpsters regularly provided and not used; Second Wind built sanitation stations that were quickly removed.

COVID 19



While natural hazards are important to address, COVID-19 has shed light onto our community's strengths and weaknesses. Please answer the following:

How has your organization been involved in response to this pandemic? (please explain)

Food coordination, and coordination with other providers - Chris Titelbaum (Shelter) and Lydia Borger (Human Services).

How do you believe COVID-19 will reshape your organization's practices/ business framework? (ex. Have employees wear masks during flu season, improve sanitation practices, conduct work remotely whenever possible, etc.) (please explain)

Reinforce outreach needs

What specific services/ infrastructure needs to be built/ improved in your community in order to mitigate damage we have experienced from this pandemic? (please explain)

Safe central gathering space

Please share any challenges and obstacles you are facing (you can select more than one)

- Availability of cleaning supplies
- Availability of personal protective equipment
- Clear messaging
- Finding medical professionals
- Waste disposal
- Contingency/back-up plan for staffing
- Tracking information
- Access to community officials
- Receiving accurate information regarding current situation/resources available
- Other: _____

Do you have procedures/protocols in place to return back to standard operations after the pandemic (e.g. cleaning protocols and frequency, occupancy limits, etc.)?

- Yes
- No
- Don't Know
- Other: _____

Final Thoughts?

Do you have any other questions or comments?

Survey completed by Scott Doyle (Tompkins County) based on interview with Tammy Baker in September.

This form was created inside of Cornell.

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Tompkins Stakeholder Survey

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The following survey is designed to help identify general needs for hazard mitigation and resiliency within Tompkins County from your perspective, as well as to identify specific projects that may be included in the mitigation plan. Given the current COVID-19 pandemic, there are questions specific to this hazard at the end of the survey to help inform future decision making.

Please take a few moments to answer the following questions and provide feedback on potential mitigation that affects your assets, infrastructure, and/or services within Tompkins County. Provide as much details as possible to support your choice in the comments box. Where possible, identify specific areas that need to be improved and your suggestions for possible improvements. If there are other important issues that you feel are not covered by this survey.

More information about this planning process and additional mitigation resources may be found at the Tompkins County Resiliency Plan website by going to: <https://tompkinscountyny.gov/planning/climate-adaptation>

Thank you for supporting the update of this planning process!

General Information

Name of your department/office/institution

CCE Tompkins

Name of Respondent (First, Last)

[Redacted]

What is your position/title/ role within your department/ office/ institution?

[Redacted]

4. Contact Information (email address or phone number)

[Redacted]

What is your/ your organization's role in your community?

What category does your facility operation/ service fall under?

- Academic/ Research
- Business/ Commerce
- Emergency Services (police, fire, EMS)
- Hospitals/ Medical Services
- Transportation
- Public Works
- Other: non-profit

Based on the above category, please provide additional description and information as to what your organization does or offers (please explain)

Cornell Cooperative Extension puts knowledge to work in pursuit of economic vitality, ecological sustainability and social well-being. We bring local experience and research based solutions together, helping New York State families and communities thrive in our rapidly changing world.



Please identify the location of your facility(ies) and/ or primary service area. You may choose more than one if your service area covers multiple communities, or "Tompkins County (entire area)" if your service area is county-wide:

- Village of Cayuga Heights
- Village of Dryden
- Village of Freeville
- Village of Groton
- Village of Lansing
- Village of Trumansburg
- Town of Caroline
- Town of Danby
- Town of Dryden
- Town of Enfield
- Town of Groton
- Town of Ithaca
- Town of Lansing
- Town of Newfield
- Town of Ulysses
- City of Ithaca
- Tompkins County (Entire Area)
- Other: _____

Does your organization maintain or manage any of the following within your designated service area? If not, answer "No" at the bottom, otherwise check all that apply.

- Buildings
- Roads
- Bridges
- Water/ Sewer Plants
- Stormwater Infrastructure
- No
- Other: _____

Hazard/ Damage Identification

Looking back at previous hazard events, have buildings/facilities/ structures you have worked in and/ or are responsible for been impacted by a natural hazard (ex. damage/closures/etc.)?

- Yes
- No
- Don't know

If you answered "Yes" to the above question, in your own words please describe the type of event that caused or is causing (if recurring) damage and loss of service/ property. If quantifiable data is available, please provide that as well (number of damaged structures, monetary loss, etc.) (please explain)

What areas (in which you work) do you believe to be the most vulnerable to natural hazards? What are these hazards? (please explain)

Working with municipalities, I would say that all of them have vulnerabilities to natural hazards. In particular I worry about flooding within the City of Ithaca along Cascadilla Creek and/or the inlet. I also worry about out communities in Tompkins County that have populations that are largely on well-water. The possibility of contamination from flooding or their susceptibility to droughts are of particular concern. Finally, the increased prevalence of more extreme precipitation events can be especially detrimental to many areas within our County.



Is/ are the facility(ies) that you work in or are responsible for adequately prepared for withstanding natural disasters? If your work involves working at multiple facilities, please provide a brief description in the "other" category, describing which facilities are most vulnerable.

- Yes
- Don't Know
- No
- Other:

I think by and large many municipal facilities are prepared for, say, a heat wave or a drought. There are some concerns over some of them - ie. Caroline's DPW being close to a floodplain, Trumansburg and Ithaca's WWTPs being in particularly vulnerable areas, etc. The facilities themselves are obviously at some risk but I think the greater question I would have is whether any municipality is actually prepared for a potentially catastrophic event.

Based on experience, do you think the transportation infrastructure serving your facility(ies) is adequately designed and equipped to withstand closures and damage due to natural hazards, and are able to provide long-term support for your community's needs?

- Yes
- Don't Know
- No
- Other:

I think it's reasonable to question whether this is the case. Think about the limited ways into Ithaca, for instance. If the bridges that cross over the inlet were to collapse or flood, how would transportation from one side of the county to the next operate? Similarly, if the TCAT offices were to flood, where would they move? Could they still provide the support necessary?

Overall, do you think the utility infrastructure and service (specifically electricity and communication) are sufficiently equipped/ designed to withstand natural disasters and has/ have the ability to continue to provide uninterrupted service to your facility(ies)?

- Yes
- Don't Know
- No
- Other: _____

Are you aware of the number and location of vulnerable populations in your community/operating area?

- Yes
- No
- Yes, but need better information

Community Preparedness

Do you think that local public education and awareness programs are effective at informing vulnerable populations on what they should do to prepare for and reduce personal risk to natural disasters?

- Yes
- No
- Don't Know
- Other: _____

Do you think that the public, particularly vulnerable populations, are aware of, understands, and takes advantage of emergency warning and notification systems and service (mass notification system, audible alerts, text services, etc.)?

- Yes
- No
- Don't Know
- Other: _____



To your knowledge, are development and land use decisions made with consideration to exposure and or increased of natural hazard risks?

Yes

No

Don't Know

Other:
On a limited basis. And often development wins over the considerations of exposure to increased natural hazard risks. Look at the development along the inlet that the City of Ithaca is promoting while at the same time the inlet itself is long overdue for dredging...

Do you believe that local government understands, supports, and possesses adequate resources for hazard risk reduction efforts in the community?

Yes

No

Don't Know

Do you believe private businesses in your community (construction companies, supply companies, etc.) play a direct critical role in your organization's operation and daily function?

Yes

No

Don't Know

Other: _____

Does your organization have/ or is part of an emergency response plan?

Yes

No

Don't Know

Other: _____

If you answered yes above, does the plan cover potential impacts to your operations including pandemic?

Yes

No, we do not need one

No, but we will need guidance on how to develop

I don't know

If your organization is part of an emergency response plan, does your organization have a defined role or responsibility within the plan?

Yes

No

Don't Know

Other: _____



Is your organization covered by any of the following plans? Check all that apply

- Continuity of Operations Plan
- Continuity of Government Plan
- Emergency Operations Plan
- None
- Don't Know
- Other: _____

Do you believe your organization is equipped and resilient enough to handle a natural disaster?

- Yes
- No
- Maybe
- Other: _____

Project Identification

Can you identify projects or programs that will reduce your facility/organization's vulnerability to damages and losses, including loss of operation/service, to hazard events? (Please explain)

Can you identify projects or programs that have been recently been implemented to reduce your community's vulnerability, damage and losses, including loss of operation/service, to hazard events? (please explain)

COVID 19

While natural hazards are important to address, COVID-19 has shed light onto our community's strengths and weaknesses. Please answer the following:

How has your organization been involved in response to this pandemic? (please explain)

Furloughs, work stoppages, reduced funding, etc. _____

How do you believe COVID-19 will reshape your organization's practices/ business framework? (ex. Have employees wear masks during flu season, improve sanitation practices, conduct work remotely whenever possible, etc.) (please explain)

Yes - I think we'll see a larger amount of remote work _____

What specific services/ infrastructure needs to be built/ improved in your community in order to mitigate damage we have experienced from this pandemic? (please explain)

Please share any challenges and obstacles you are facing (you can select more than one)

- Availability of cleaning supplies
- Availability of personal protective equipment
- Clear messaging
- Finding medical professionals
- Waste disposal
- Contingency/back-up plan for staffing
- Tracking information
- Access to community officials
- Receiving accurate information regarding current situation/resources available
- Other: _____

5.



Do you have procedures/protocols in place to return back to standard operations after the pandemic (e.g. cleaning protocols and frequency, occupancy limits, etc.)?

- Yes
- No
- Don't Know
- Other: _____

Final Thoughts?

Do you have any other questions or comments?

This form was created inside of Cornell.

Google Forms



9.3 Website and Social Media Posts

The following provides screenshots of websites, news articles, and social media posts.

Figure D-4. Tompkins County, NY Website

The screenshot displays the Tompkins County website interface. On the left, there is a vertical navigation menu with links for: Housing, Maps and Data, Natural Resources and Agriculture, Planning for County Operations, Planning Tools, Staff, Sustainability, Tourism, Transportation, and Water Resources. Below this menu is a 'Contact Us' section for the Department of Planning and Sustainability, listing Commissioner Katherine Borgella and contact details. The main content area is titled 'Plans and Studies' and features a sub-section for the 'Tompkins County Resiliency and Recovery Plan'. This section includes a diagram showing the 'Integrated Resiliency and Recovery Plan' at the center, influenced by 'Critical Infrastructure and Drought Analysis', 'Community Resiliency Plan (CRS)', 'Community Economic Recovery', and 'County Debris Management Plan'. Below the diagram, the text states the plan's goals: updating the HMP, analyzing infrastructure vulnerability, developing local involvement plans, creating a debris management plan, and developing recovery tools. A '2020 Hazard Mitigation Plan (HMP) Update' section follows, explaining the update's role in the overall resiliency plan and its focus on future hazards. A final section notes the HMP update's application to 16 jurisdictions and mentions a 2013 cooperative planning effort. A small image of a waterfall is shown next to a call to action: 'TOMPKINS COUNTY RESILIENCY AND RECOVERY PLAN Hazard Mitigation Plan Update COMMUNITY INPUT NEEDED PLEASE TAKE OUR SURVEY'.



In 2013, Tompkins County along with the Towns of Caroline, Danby, Dryden, Enfield, Groton, Ithaca, Lansing, Newfield, and Ulysses; the Villages of Cayuga Heights, Dryden, Freeville, Groton, Lansing, Trumansburg, and the City of Ithaca, updated the 2006 Tompkins County Hazard Mitigation Plan. This plan was updated in accordance to FEMA's requirement of updating plans every five years. The plan allowed the County and participating municipalities to remain eligible for FEMA pre-disaster mitigation funding.



Through the Tompkins County Department of Planning & Sustainability, the County's 2013 HMP is being updated and includes all municipalities in the County. This plan is required by state and federal agencies in order for communities in Tompkins County to be eligible for certain types of non-emergency disaster assistance, including funding for mitigation projects. The ultimate goal of hazard mitigation is to reduce loss of life and property, lessening the impact of disasters.

This webpage will be used throughout the planning process to post information, collect comments, announce meetings, and to post draft and final documents.

- **Tompkins County Resiliency and Recovery Plan: Hazard Mitigation Plan - Steering Committee 1 - May 13, 2020**
 - [Agenda](#)
 - [Meeting Notes](#)

- **Tompkins County Resiliency and Recovery Plan: Hazard Mitigation Plan - Steering Committee 2 - June 30, 2020**
 - [Agenda](#)
 - [Meeting Notes](#)

- **Tompkins County Resiliency and Recovery Planning Partnership: Hazard Mitigation Plan - Meeting 1 - July 13, 2020**
 - [Agenda](#)
 - [Meeting Notes](#)

- **Tompkins County Resiliency and Recovery Plan: Hazard Mitigation Plan - Steering Committee 3 - August 26, 2020**
 - [Agenda](#)
 - [Meeting Notes](#)

- **Tompkins County Resiliency and Recovery Plan: Hazard Mitigation Plan - Risk Assessment Workshop - September 16, 2020**
 - [Agenda](#)
 - [Meeting Notes](#)

What is hazard mitigation?

Disasters can cause loss of life, damage buildings and infrastructure, and have devastating consequences for a community's economic, social, and environmental well-being. Hazard mitigation is a sustained action taken



What is hazard mitigation?

Disasters can cause loss of life, damage buildings and infrastructure, and have devastating consequences for a community's economic, social, and environmental well-being. Hazard mitigation is a sustained action taken to reduce or eliminate long-term risk to life and property from a hazard event. It is often considered the first of the four phases of emergency management – mitigation, preparedness, response, and recovery. Mitigation is an important step in creating a more resilient community.

While mitigation actions can and should be taken before a disaster occurs, after a disaster is when hazard mitigation is essential. After a disaster strikes, it is common to make repairs and reconstruction to restore damaged property to pre-disaster conditions. Even though these efforts help an area get back to normal, replication of pre-disaster conditions may result in a repetitive cycle of damage, reconstruction, and repeated damage. Hazard mitigation helps break the cycle by reduce risk and creating a safer, more disaster-resilient communities. When a community is more resilient, it has the ability to adapt to changing conditions and prepare, withstand, and rapidly recovery from a disaster.

What is mitigation planning?

Mitigation is most effective when it is based on a comprehensive, long-term plan that is developed before a disaster occurs. The purpose of mitigation planning is to identify local policies and actions that can be implemented over the long term to reduce risk and future losses from disasters. Section 322 of the Disaster Mitigation Action of 2000 (DMA 2000) specifically addresses mitigation planning and requires state and local governments to prepare multi-jurisdictional mitigation plans as a precondition for receiving FEMA mitigation project funding. Benefits of mitigation planning include:

- Identifying actions for risk reduction
- Focusing on the greatest risks and vulnerabilities within a community
- Building partnerships by involving residents, organizations, and businesses
- Increasing public education and awareness of threats and hazards
- Communicating priorities to state and federal officials; and
- Aligning risk reduction with other community objectives

How does the Plan benefit Tompkins County?

A HMP will assist Tompkins County and its jurisdictions with the following:

- An increased understanding of the natural and man-made hazards the County faces.
- Development of more sustainable and resilient communities.
- Eligibility for federal funds for pre-disaster mitigation planning before disaster strikes.
- Potential financial savings to residents, including flood insurance premium reductions.
- Reduced long-term impacts and damages to human health and structures, and reduced repair costs.

What are the different types of mitigation actions?

There are four primary types of mitigation actions to reduce long-term vulnerability and include:

- Local Plans and Regulations – plans, policies, or codes that influence the way land and buildings are developed and built
- Structure and Infrastructure Projects – upgrading existing structures and infrastructure to protect them from a hazard or remove from hazard area; constructing manmade structures to reduce the impact of



- Structure and Infrastructure Projects – upgrading existing structures and infrastructure to protect them from a hazard or remove from hazard area; constructing manmade structures to reduce the impact of hazards
- Natural Systems Protection – minimize damage and losses and preserve/restore the functions of the environment
- Education and Outreach Programs – inform and education citizens about hazards and ways to mitigate them

Common mitigation actions may include the following:

- Enforcement of building codes, floodplain management codes and environmental regulations
- Public safety measures such as upgrades of roadways, culverts and dams
- Acquisition or relocation of structures, such as purchasing buildings located in a floodplain
- Acquisition of hazard prone lands in their undeveloped state to ensure they remain so
- Retrofitting structures and design of new construction such as elevating a home or building
- Protecting critical facilities and infrastructure from future hazard events
- Mitigation, disaster recovery and Continuity of Operations (COOP) planning
- Development and distribution of outreach materials related to hazard mitigation
- Deployment of warning systems
- Drainage system upgrades

Added Information

- 2014 Tompkins County Hazard Mitigation Plan - https://tompkinscountyny.gov/planning/haz_mit
- Tompkins County Maps and Data – Variety of maps, including natural resources inventory, scenic resources inventory, land use, and agricultural districts - <https://tompkinscountyny.gov/planning/mapsanddata>
- New York State 2019 Hazard Mitigation Plan - <https://mitigateny.availabs.org/>
- NYS DHSES 2017 Local Hazard Mitigation Planning Standards Guide - <http://www.dhSES.ny.gov/recovery/mitigation/documents/2017-NYS-Mitigation-Planning-Standards-Guide.pdf>
- FEMA Hazard Mitigation Planning – Information and resources on hazard mitigation planning - <http://www.fema.gov/plan/mitplanning/>
- FEMA Map Service Center – View and print FEMA flood plain maps - <https://msc.fema.gov>
- FEMA Hazard Mitigation Assistance Grants – Funding announcements and application materials for municipal hazard mitigation activities - <https://www.fema.gov/hazard-mitigation-assistance>



Figure D-5. Town of Dryden Facebook Post and Website

Town of Dryden Safety & Emergency Preparedness
October 25 at 7:54 PM · 🌐

Your input is needed! Please take a few moments to complete the Citizen's Survey for the Tompkins County Hazard Mitigation Plan Update. Community input is critical for the development of a successful plan

<https://www.surveymonkey.com/r/TompkinsHMP2020>

SurveyMonkey

SURVEYMONKEY.COM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

Town of Dryden, NY
18 Years Make a Difference

HOME PERMIT & PROJECT REVIEWS DEPARTMENTS INFORMATION BOARD AND COMMISSION LIST PARKS AND TRAILS BUSINESS LOAN PROGRAM COVID-19 INFORMATION AND RESOURCES #21213 (NO TITLE) #21217 (NO TITLE) TOMPKINS COUNTY

Home

COVID-19 Information and Resources

- Emergency Food Resources
- Food Sharing Cabinets Tompkins County
- DIY Face Masks

Contact Us

Information

- Assessment Information
- Budget Information
- Business Loan Program
- Calendar
- Community Garden
- Dog Control
- Dominion/Borger Station New Market Project Information
- Dryden Municipal Broadband

TOMPKINS COUNTY HAZARD MITIGATION PLAN UPDATE

Your input is needed!

Please take a few moments to complete the Citizen's Survey for the Tompkins County Hazard Mitigation Plan Update.

Community input is critical for the development of a successful plan

<https://www.surveymonkey.com/r/TompkinsHMP2020>



Figure D-6. Village of Dryden Facebook

Dryden Village
October 20 · 🌐

Your input is needed! Please take a few moments to complete the Citizen's Survey for the Tompkins County Hazard Mitigation Plan Update. Community input is critical for the development of a successful plan

<https://www.surveymonkey.com/r/TompkinsHMP2020>

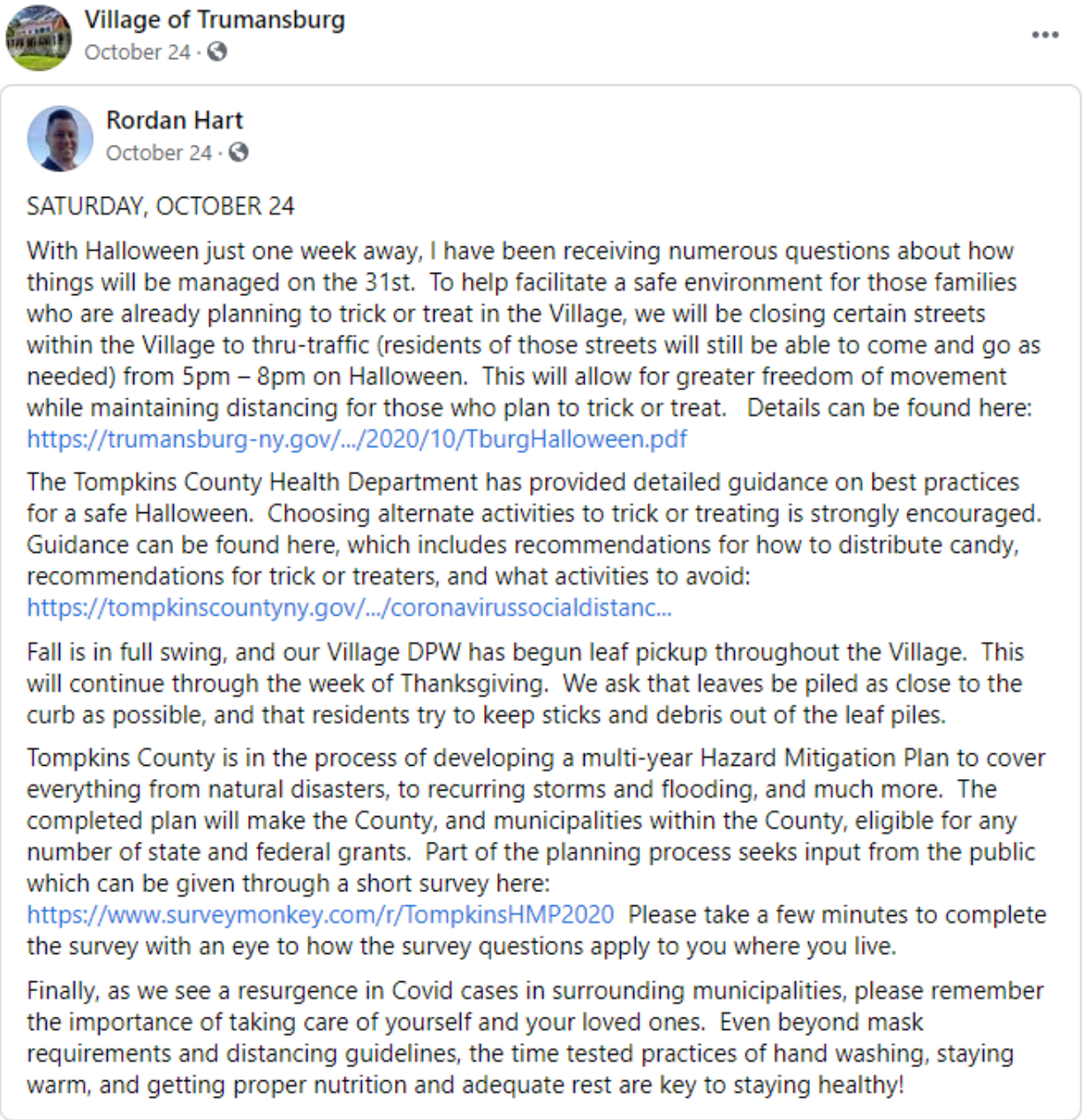
SURVEYMONKEY.COM

Tompkins County Community Resiliency Plan Hazard Mitigation Plan Update - Citizen Survey

1 Share



Figure D-7. Village of Trumansburg Facebook



The image shows a screenshot of a Facebook post from the Village of Trumansburg. The post is dated October 24 and is from Rordan Hart. The text of the post discusses Halloween preparations, including street closures for trick-or-treating, safety guidance from the health department, leaf pickup, a survey for a Hazard Mitigation Plan, and general health reminders.

Village of Trumansburg
October 24 · 🌐

Rordan Hart
October 24 · 🌐

SATURDAY, OCTOBER 24

With Halloween just one week away, I have been receiving numerous questions about how things will be managed on the 31st. To help facilitate a safe environment for those families who are already planning to trick or treat in the Village, we will be closing certain streets within the Village to thru-traffic (residents of those streets will still be able to come and go as needed) from 5pm – 8pm on Halloween. This will allow for greater freedom of movement while maintaining distancing for those who plan to trick or treat. Details can be found here: <https://trumansburg-ny.gov/.../2020/10/TburgHalloween.pdf>

The Tompkins County Health Department has provided detailed guidance on best practices for a safe Halloween. Choosing alternate activities to trick or treating is strongly encouraged. Guidance can be found here, which includes recommendations for how to distribute candy, recommendations for trick or treaters, and what activities to avoid: <https://tompkinscountyny.gov/.../coronavirussocialdistanc...>

Fall is in full swing, and our Village DPW has begun leaf pickup throughout the Village. This will continue through the week of Thanksgiving. We ask that leaves be piled as close to the curb as possible, and that residents try to keep sticks and debris out of the leaf piles.

Tompkins County is in the process of developing a multi-year Hazard Mitigation Plan to cover everything from natural disasters, to recurring storms and flooding, and much more. The completed plan will make the County, and municipalities within the County, eligible for any number of state and federal grants. Part of the planning process seeks input from the public which can be given through a short survey here: <https://www.surveymonkey.com/r/TompkinsHMP2020> Please take a few minutes to complete the survey with an eye to how the survey questions apply to you where you live.

Finally, as we see a resurgence in Covid cases in surrounding municipalities, please remember the importance of taking care of yourself and your loved ones. Even beyond mask requirements and distancing guidelines, the time tested practices of hand washing, staying warm, and getting proper nutrition and adequate rest are key to staying healthy!



Figure D-8. Town of Enfield Website and Facebook

The screenshot displays the Town of Enfield website. At the top, a navigation menu includes: Home, Departments, Resources, Enfield Community, News and Events, Tax Collection, and Town Board Audio. The main content area features a central announcement titled "Enfield: Share your Voice!" dated October 22, 2020, which requests input on a survey about hazard mitigation. To the left, there are sections for "Enfield Swift911 Mass-Notification Alert System" and "Town of Enfield Archives". To the right, there is a "Let Us Keep You Informed!" sign-up form and a "How to Attend Virtual Town Board Meetings" section. A "Quick Links" section is located at the bottom right. A blue town sign is also visible in the lower part of the main content area.

Town of Enfield, NY
Settled in 1804

Home Departments Resources Enfield Community News and Events Tax Collection Town Board Audio

Enfield Swift911 Mass-Notification Alert System
Enfield now participates in Swift911 for notifications of emergencies and other important information. Help us keep you informed during our COVID-19 response and at all other times.
Click here to learn how to stay informed.
[Enfield Swift911](#)

Enfield: Share your Voice!
October 22, 2020
Your input is needed on a Survey about Hazard Mitigation!
[Please take a few moments to complete the Citizen's Survey for the Tompkins County Hazard Mitigation Plan Update.](#)
Community input is critical for the development of a successful plan.
<https://www.surveymonkey.com/r/TompkinsHMP2020>
Please share this with Stakeholders in our Community!

Town of Enfield Archives
To Access Audio of Town Board Meetings visit our Audio Page, where you will also find Time-Stamped Audio Transcripts.
For 2020 Town Board Meeting Minutes visit here
Documents Discussed at Each Meeting including Budget Amendments, Resolutions, & Agendas are Indexed on our Document Archive Page
To access our Public Document Archive visit our Public LaserFische

Let Us Keep You Informed!
Share your name and email address and we'll notify you of items of interest to Enfield residents.
First and Last Name*
Email Address*

How to Attend Virtual Town Board Meetings
You may attend virtual Town Board meetings with a landline, cell phone, smart phone app, or computer. You do not need a Zoom account to participate in a meeting. Just a link or a phone number and a meeting ID. Join us! Click here for more information:
[Virtual Town Board Meetings](#)

Quick Links
[Virtual Board Meetings](#)
[Event Postings](#)
[Calendar](#)

New Hours and Contact Info

[f](#) [t](#) [+](#)



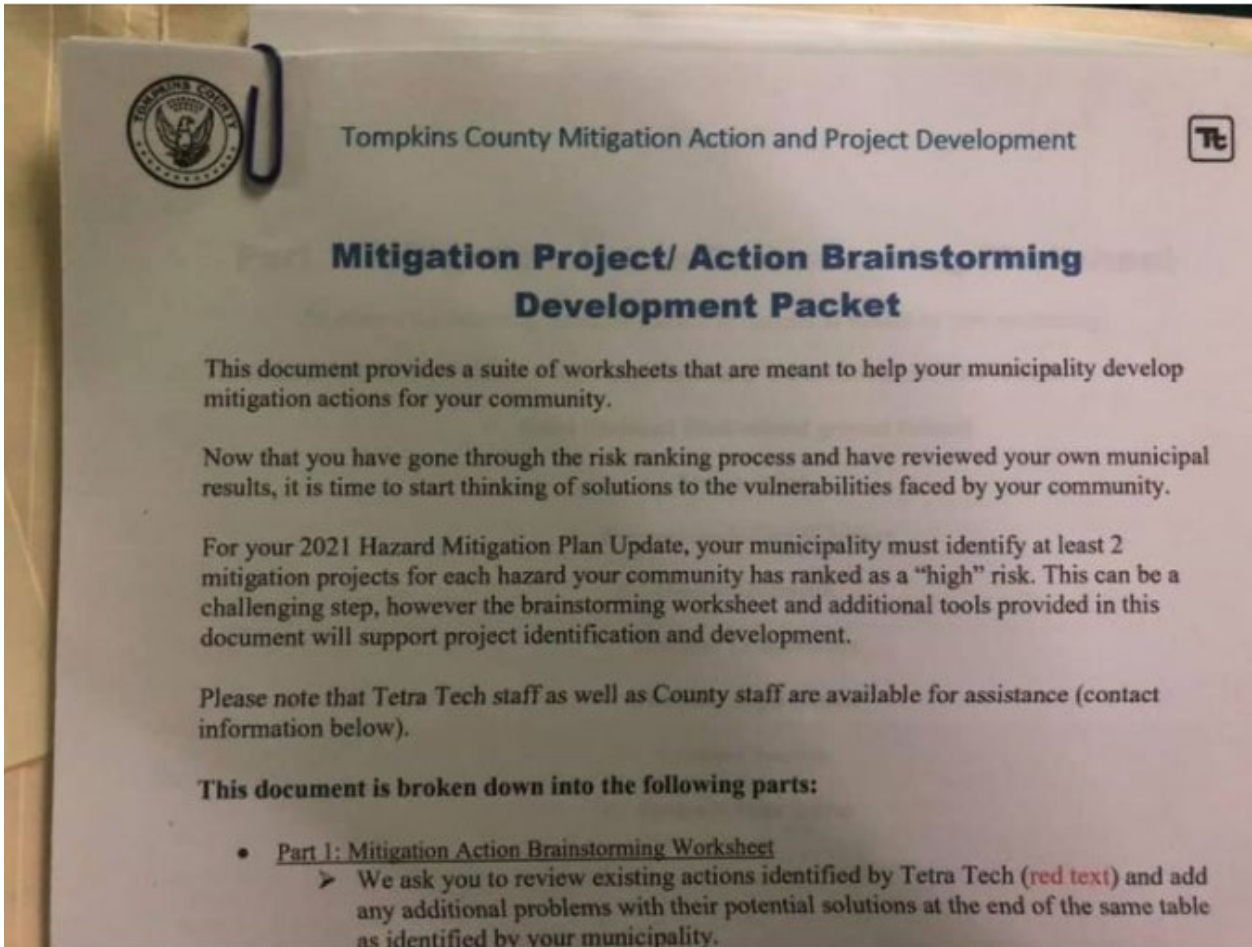


Stephanie Redmond - Town of Enfield Acting Supervisor

October 20 · 🌐



I am working on the Tompkins County Mitigation Action and Project Development Plan for Enfield today. I think we should make getting a back up generator for the Highway Building a top priority in the coming years. It would provide an important emergency support as a critical facility in our town.



 6

1 Comment



Figure D-9. Town of Danby Website

Located in Tompkins County in New York State



The Town of Danby



- Home
- Search
- News
- Calendars
- Departments

News

TC Hazard Mitigation Planning Committee Survey

Date: November 05, 2020

Summary:
The Tompkins County Hazard Mitigation Planning Committee is asking for feedback from the citizens of all communities county-wide. Please take a few minutes to complete the survey by clicking on this link: <https://www.surveymonkey.com/r/TompkinsHMP2020>. Your responses will help both the Town of Danby and Tompkins County to better plan for future hazards. Thank you.

[Return To List](#)

- Boards & Committees
- Community Links
- Directory
- Documents
- Laws
- Minutes and Agendas
- Public Safety
- Weather

© 2020 Town Of Danby, Tompkins County



Figure D-10. Social Media Posts About Public Review Period

City of Ithaca, New York
April 1

The draft of the 2021 Tompkins County Hazard Mitigation Plan (HMP) is now available for public review and comment. Following the public review and update, approval of the HMP will allow the County and all participating jurisdictions to remain eligible for future pre-disaster FEMA funding.

Tompkins County is now asking members of the public to contribute further to the planning process by reviewing the draft Plan and providing feedback and comments. The public comment period will remain open until April 30th, 2021. The full, updated HMP is available for public review and comment at the Tompkins County Department of Planning and Sustainability website at <https://www2.tompkinscountyny.gov/plan.../climate-adaptation>.

All feedback provided will be reviewed by municipal, state, federal and county entities, and incorporated, where appropriate. Please visit <https://www.surveymonkey.com/r/Tompkins2021HMPReview> to comment on the Plan. Questions can be directed to Tompkins County Department of Planning & Sustainability Associate Planner - Scott D. Doyle at (607)274-5560 or sdoyle@tompkins-co.org

Tompkins County Dept. of Emergency Response
April 8

TOMPKINS COUNTY HAZARD MITIGATION PLAN 2021 UPDATE

WE NEED YOUR INPUT!

REVIEW AND COMMENT ON THE PLAN:
<https://www2.tompkinscountyny.gov/planning/climate-adaptation>

Tompkins County, NY
April 8

The Tompkins County Department of Planning and Sustainability and all 16 municipalities have been hard at work in the last year updating the County's Hazard Mitigation Plan.

The HMP is now ready for public review. We are asking all County residents and stakeholders to review the plan and provide comments and input.

The public review period is open until April 30, 2021. To share your thoughts, please visit: <https://www2.tompkinscountyny.gov/plan.../climate-adaptation>

Full press release: <https://bit.ly/3s31pXJ>
#TompkinsTogether
#twithaca

Tompkins County, NY
April 8

The Tompkins County Department of Planning and Sustainability and all 16 municipalities have been hard at work in the last year updating the County's Hazard Mitigation Plan.

The HMP is now ready for public review. We are asking all County residents and stakeholders to review the plan and provide comments and input.

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Full press release: <https://bit.ly/3s31pXJ>
#TompkinsTogether
#twithaca

Tompkins County, NY
April 22

Did you take the Tompkins County Hazard Mitigation Resident Survey earlier this year? 🙄

The Tompkins County Hazard Mitigation Plan 2021 Update is now complete & ready for public review!

Comments are being accepted now through April 30, 2021:
<https://www2.tompkinscountyny.gov/plan.../climate-adaptation>
#TompkinsTogether

TOMPKINS COUNTY HAZARD MITIGATION PLAN 2021 UPDATE

WE NEED YOUR INPUT!

REVIEW AND COMMENT ON THE PLAN:
<https://www2.tompkinscountyny.gov/planning/climate-adaptation>





APPENDIX E. COUNTY PROFILE AND RISK ASSESSMENT SUPPLEMENTARY DATA

E.1 Overview

This section contains information and details to support information provided in Section 4 – County Profile which provides general information for Tompkins County (physical setting, population and demographics, general building stock, and land use and population trends), a summary table of new development within the County and its municipalities, and critical facilities located within the County.

E.2 Tompkins County Population Data

Table E-1. Tompkins County Population Statistics (2010 U.S. Census)

Municipality	U.S. Census 2010						
	Total	Pop. 65+	% Pop. 65+	Population Under 5	% Under 5	Low-Income Pop. *	% Low-Income Pop.
Caroline (T)	3,282	391	11.9%	193	5.9%	207	6.3%
Cayuga Heights (V)	3,729	737	19.8%	131	3.5%	267	7.2%
Danby (T)	3,329	440	13.2%	185	5.6%	156	4.7%
Dryden (T)	12,025	1,308	10.9%	655	5.4%	1,422	11.8%
Dryden (V)	1,890	259	13.7%	90	4.8%	178	9.4%
Enfield (T)	3,512	432	12.3%	226	6.4%	467	13.3%
Freeville (V)	520	74	14.2%	32	6.2%	44	8.5%
Groton (T)	3,587	454	12.7%	196	5.5%	220	6.1%
Groton (V)	2,363	378	16.0%	137	6%	121	5%
Ithaca (C)	30,014	1,769	5.9%	700	2.3%	8,721	29.1%
Ithaca (T)	16,201	1,813	11.2%	665	4.1%	1,688	10.4%
Lansing (T)	7,504	1,021	13.6%	379	5.1%	307	4.1%
Lansing (V)	3,529	381	10.8%	194	5.5%	359	10.2%
Newfield (T)	5,179	627	12.1%	305	5.9%	455	8.8%
Trumansburg (V)	1,797	323	18.0%	96	5.3%	101	5.6%
Ulysses (T)	3,103	522	16.8%	138	4.4%	236	7.6%
Tompkins County (Total)	101,564	10,929	10.8%	4,322	4.3%	14,949	14.7%



Source: Census 2010 (U.S. Census Bureau)

Note: Pop. = population;

*Individuals below poverty level - Data collected from the 2012-2016 American Community Survey 5-year estimate (Census poverty threshold for a 3-person family unit is approximately \$19,730). Low-income population calculated by summing household income less than \$20,000 from HAZUS-MH v4.2 and multiplying by 2.32 (Tompkins County Average Household Size) to get a population count.

Table E-2. Tompkins County Population Statistics (2014-2018 American Community Survey Estimates)

Municipality	American Community Survey 2014-2018						Below Poverty Level*	% Below Poverty Level
	Total	Pop. 65+	% Pop. 65+	Pop Under 5	% Under 5			
Caroline (T)	3,362	388	11.5%	191	5.7%	206	6.13%	
Cayuga Heights (V)	3,674	880	24.0%	129	3.5%	265	7.2%	
Danby (T)	3,438	668	19.4%	149	4.3%	529	15.39%	
Dryden (T)	12,311	1,855	15.1%	675	5.5%	2,093	17.0%	
Dryden (V)	1,832	131	7.2%	79	4.3%	150	8%	
Enfield (T)	3,541	610	17.2%	209	5.9%	261	7.4%	
Freeville (V)	501	66	13.2%	22	4.4%	43	8.6%	
Groton (T)	3,685	664	18.0%	204	5.5%	344	9.34%	
Groton (V)	2,287	434	19.0%	121	5.3%	114	4.98%	
Ithaca (C)	30,568	2,021	6.6%	546	1.8%	9,631	32%	
Ithaca (T)	16,233	2,029	12.5%	655	4.0%	1,924	11.9%	
Lansing (T)	7,912	1,414	17.9%	480	6.1%	609	7.7%	
Lansing (V)	3,417	328	9.6%	291	8.5%	349	10.2%	
Newfield (T)	5,218	879	16.8%	408	7.8%	594	11%	
Trumansburg (V)	1,760	311	17.7%	35	2.0%	99	5.6%	
Ulysses (T)	3,223	883	27.4%	60	1.9%	289	9.0%	
Tompkins County	102,962	13,561	13.2%	4,254	4.1%	17,500	17.0%	

Source: Census 2010 (U.S. Census Bureau); American Community Survey 2012-2016

Note: Pop. = population;

* Due to the breakdown of the data from the ACS, it cannot be determined how the population of the Village of Deposit is split between Tompkins and Delaware Counties, so the Village total is inclusive of the entire Village's population; therefore, the Town of Sandford's population is inclusive of the Village of Deposit. Other Village populations were able to be subtracted out from their respective Towns.

** % Below Poverty Level = Percentage of Families and People Whose Income in The Past 12 Months Is Below the Poverty Level; population counts were calculated by multiplying the % Below Poverty Level by the municipal population estimate.

It is noted that the census data for household income provided in HAZUS-MH includes two ranges (\$0-10,000 and \$10,000-\$20,000/year) that were totaled to provide the "low-income" data used in this study. This does not correspond exactly with the "poverty" thresholds established by the U.S. Census Bureau, which identifies households with an annual household income below \$15,000 per year as "low income" for this region. This difference is not believed to be significant for the purposes of this planning effort.



Table E- 3- Population Trends 1940 to 2040 in Tompkins County, New York

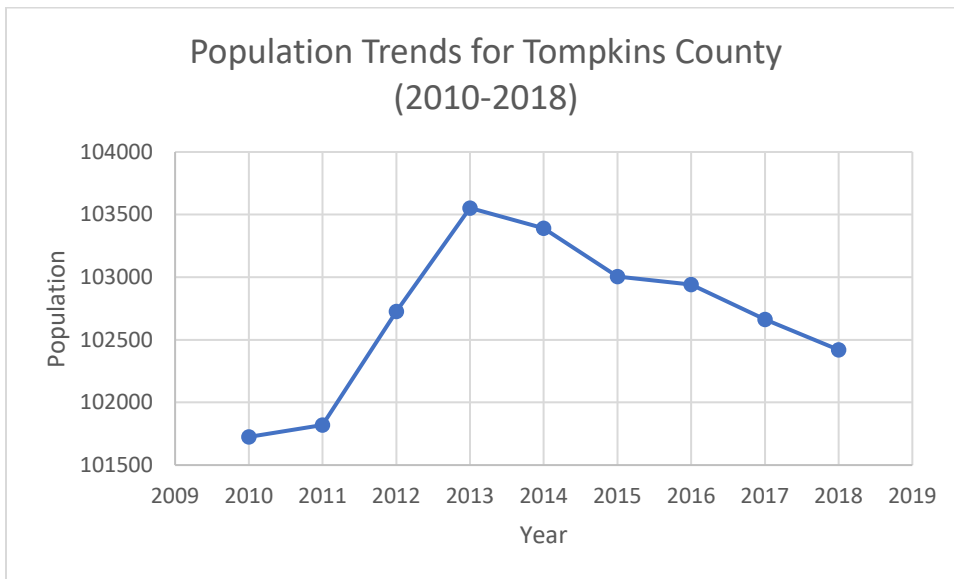
Year	Population	Change in Population	Percent (%) Population Change
1940	42,340	NA	NA
1950	59,122	16,682	39.6%
1960	66,164	7,042	11.9%
1970	77,106	10,942	16.5%
1980	87,085	9,979	12.9%
1990	94,097	7,012	8.1%
2000	96,501	2,404	2.6%
2010	101,564	5,063	5.2%
2020*	101,732	168	0.2%
2030*	100,893	-839	-0.8%
2040*	98,606	-2,287	-2.3%

Source: Tompkins County =, 2017

Note: Change in population and percent in population change was calculated from available data.

* Years listed are population projections

Figure E-1. Tompkins County Population Change, 2010 to 2018



Source: U. S. Census Bureau American Community Survey; 5 Year Estimates 2010-2018



Table E-4 - Building Stock Count and Replacement Value by Occupancy Class

Municipality	Count	Total RCV (Structure and Contents)	RCV (Structure Only)	Residential	Commercial	Industrial
Caroline (T)	3,257	\$2,523,108,347	\$1,487,983,728	\$1,358,577,326	\$522,037,081	\$5,223,808
Cayuga Heights (V)	1183	\$1,548,665,909	\$988,872,975	\$1,287,240,123	\$97,858,115	\$0
Danby (T)	3,008	\$2,188,454,321	\$1,283,019,129	\$1,132,751,811	\$658,664,565	\$2,740,830
Dryden (T)	8,518	\$8,740,906,102	\$4,907,823,127	\$3,224,220,454	\$2,249,129,019	\$406,854,476
Dryden (V)	1,022	\$1,135,109,100	\$666,257,304	\$592,216,526	\$424,696,715	\$17,720,823
Enfield (T)	3559	\$2,736,468,231	\$1,570,072,362	\$1,211,029,479	\$665,584,455	\$2,285,444
Freeville (V)	409	\$356,699,295	\$207,286,264	\$173,619,699	\$48,310,505	\$4,351,018
Groton (T)	3,610	\$2,804,801,342	\$1,603,681,200	\$1,207,683,173	\$553,733,210	\$58,870,604
Groton (V)	1,205	\$1,203,171,190	\$706,329,422	\$628,462,960	\$470,116,968	\$14,329,050
Ithaca (C)	7,450	\$19,712,305,674	\$10,958,043,807	\$6,611,345,821	\$7,258,972,188	\$325,010,374
Ithaca (T)	6,080	\$10,868,181,586	\$6,086,221,207	\$3,912,782,485	\$1,044,784,625	\$121,899,166
Lansing (T)	6,010	\$6,270,191,033	\$3,596,528,415	\$2,768,597,390	\$1,738,318,397	\$463,367,469
Lansing (V)	1,055	\$3,436,043,635	\$1,952,464,025	\$1,406,653,242	\$1,566,545,224	\$209,803,783
Newfield (T)	4,669	\$3,848,204,673	\$2,180,669,291	\$1,539,401,729	\$1,110,380,232	\$51,659,570
Trumansburg (V)	1,061	\$1,241,549,970	\$721,251,257	\$602,857,632	\$416,067,237	\$1,598,098
Ulysses (T)	3,552	\$3,372,144,448	\$1,918,550,903	\$1,394,872,075	\$795,052,612	\$14,470,124
Tompkins County (Total)	55,648	\$71,986,004,856	\$40,835,054,415	\$29,052,311,925	\$19,620,251,148	\$1,700,184,636

Source: Tompkins County 2020

Note(s): T = Town, V = Village, C = City

Table E-5 - New and Proposed Development by Municipality, Tompkins County, New York

Municipality	Property Name	Type (Residential or Commercial)	Number of Structures	Address/ Lat Long	Known Hazard Zone	Description/Status
Caroline (T)	Boiceville Cottages	Subdivision	140 Rental Cottages	301 Boiceville Road	None	Complete
Cayuga Heights (V)	Kendall Extension	Senior Dwellings/ Office space	1	42.4760543 - 76.488799	None	Completed
Cayuga Heights (V)	Cayuga Medical Office Building	Medical Facility	1	42.4682329 - 76.4815458	None	Completed
Cayuga Heights (V)	Upland Estates	mixed use development	3	42.4675533 - 76.4831241	None	Planned
Cayuga Heights (V)	Wastewater Treatment Upgrade and raise	Municipal Works	1	42.4674435 - 76.5026353	None	Planned
Cayuga Heights (V)	Safe Routes to School Project	Municipal Works	Entire Span of Kline Road	42.4572544 - 76.4937821	None	Planned
Cayuga Heights (V)	Culvert Rightsizing	Municipal Works	Multiple locations along Cayuga Heights Road	42.462495 - 76.4944702	None	Planned
Danby (T)	Gunderman Rd	Upsized culvert	1	42.3577589 - 76.4885472	Flood Zone	Complete 2020
Danby (T)	Troy Rd	Upsized culvert	1	42.3881254 - 76.4736111	Flood Zone	Complete 2020
Danby (T)	Olsefski Rd	Up sized culvert	1	42.3629089 - 76.4155271	None	Planned
Danby (T)	Gundermann Rd @Buttermilk creek	Upsized culvert at stream crossing	1	42.358129 - 76.484123	Flood Zone	Planned

Municipality	Property Name	Type (Residential or Commercial)	Number of Structures	Address/ Lat Long	Known Hazard Zone	Description/Status
Danby (T)	West Jersey Hill Rd@ Lick Brook	Upsized culvert at stream crossing	1	42.3823422 - 76.5508522	Flood Zone	Planned
Danby (T)	Bruce Hill @ stream crossing	Up sized culvert at stream crossing	1	42.347021 - 76.54012	Flood Zone	Planned
Dryden (T)	Maifly Townhouses	Multifamily and Single Family	47 Units	Varna - Corner of 366 and Freese Roads	None	Planned
Dryden (V)	Development of Former DOT Land	Mixed Use	Unknown	NA	None	Planned
Groton (T)	Mclean Fire Dist.	Truck Bay	1	42.5522153 - 76.2916717	Flood Zone	Completed
Groton (T)	AT&T/Verizon	Telecommunication Towers	1	42.576213 - 76.3760387	Flood Zone	Completed
Groton (T)	AT&T/Verizon	Telecommunication Towers	1	42.5473067 - 76.4170304	Flood Zone	Completed
Groton (T)	AT&T/Verizon	Telecommunication Towers	1	42.5938475 - 76.3043074	None	Completed
Groton (V)	Old Chatham Creamery factory expansion	Addition to existing 17,000 sq. ft	12,000 sqft Addition	42.5907134 - 76.3544105	None	Completed
Groton (V)	New Municipal Building	New Building	1	42.5857428 - 76.36854	None	Planned
Ithaca (C)	Lofts at Six Mile	Multi-Family	45 units	42.4375332 - 76.5003989	Flood Zone	Completed
Ithaca (C)	210 Hancock	Multi-Family	54 units	210 Hancock	Flood	Built
Ithaca (C)	City Harbor	Multi-Family	156 Units	Pier Road	None	Approved - Planned

Municipality	Property Name	Type (Residential or Commercial)	Number of Structures	Address/ Lat Long	Known Hazard Zone	Description/Status
Top of Form Top of Form Top of Form		Top of Form	Top of Form			Top of Form Top of Form Top of Form
Ithaca (C)	Top of Form Carpenter Park Bottom of Form Top of Form Top of Form	Multi-Family Top of Form Top of Form	Top of Form Top of Form 124 units Bottom of Form Bottom of Form	3rd St	None	Approved - Planned
Ithaca (C) Bottom of Form Bottom of Form	Rothschild Bldg.	Multi-Family	200 units	State St	None	Approved - Planned Bottom of Form Bottom of Form
Ithaca (C) Bottom of Form	Vencino Project Bottom of Form Bottom of Form	Multi-Family Bottom of Form Bottom of Form Bottom of Form	200 units Bottom of Form Bottom of Form Bottom of Form	Green St	None	Approved - Planned Bottom of Form
Ithaca (C)	Chainworks Project – 95-acre industrial redevelopment on City/Town line Bottom of Form	Industrial Mixed Use	Unknown	South Hill	None	Approved - Planned
Ithaca (T)	Maplewood Redevelopment	Apartments for College Student	495 Units	42.4412221 - 76.4765972	None	Completed

Municipality	Property Name	Type (Residential or Commercial)	Number of Structures	Address/ Lat Long	Known Hazard Zone	Description/Status
Ithaca (T)	Amabel Subdivision	Residential	Unknown	42.426023 - 76.5281227	None	Planning Board Approved
Lansing (T)	Ludlowville Bridge	Infrastructure	1	42.550875 - 76.5384502	Flood Zone	Planned
Lansing (T)	Salmon Creek Bridge	Infrastructure	1	42.55914- 76.537442	Flood Zone	Planned
Lansing (T)	Asbury Hill Major Subdivision	Single Family Housing	28 including all phases of Whispering Pines	Warren and Asbury Roads	None	Under Construction
Lansing (T)	Village Circle/ Village Solars	Apartments	423 Units	1067 Warren Road	None	Under Construction
Lansing (T)	Milton Meadows	Apartments	72 Units	1-10 Robins Way	None	Complete
Lansing (T)	Construction of Consolidated Water District Ext. No 5	New Water Main Loop	1 Unit	Ext. #5	None	Planned
Lansing (T)	Construction of Consolidated Water District Ext. No. 3	New Municipal Water	1 Unit	Ext. #3	None	Planned
Lansing (V)	Nissan Dealership	Commercial	1	42.4811773 - 76.4783184	None	Construction on going
Lansing (V)	Lansing Meadows	Residential	12units/4 structures	42.4840618 - 76.4812064	None	Construction on going
Lansing (V)	East Pointe Apartments	Residential	140 units/14 structures	42.4895518 - 76.4736669	None	Completed
Lansing (V)	Lansing Trails II	Residential	unknown	42.489155 - 76.4794283	None	Construction ongoing

Municipality	Property Name	Type (Residential or Commercial)	Number of Structures	Address/ Lat Long	Known Hazard Zone	Description/Status
Lansing (V)	Cayuga View	Residential	60 units/1 structure	42.4891336 - 76.54728	None	Completed
Lansing (V)	Dart Drive Stormwater System	Infrastructure	N/A	42.482364 - 76.479028	None	Completed
Lansing (V)	Warren Road/Dart Drive Water Line	Infrastructure	N/A	42.483394 - 76.4681722	None	Planned
Lansing (V)	Dart Drive Street, Sidewalk, and Lighting	Infrastructure	N/A	42.4830555 - 76.4753563	None	Planned
Lansing (V)	Beer Multi-Residential Development	Residential	84 units/42 structures	42.492835 - 76.477704	None	Planned
Lansing (V)	Solar Home Development	Residential	43 units	42.485146 - 76.468674	None	Planned

E.3 CRITICAL FACILITIES

Table E-6 - Number of Critical Facilities in Each Municipality in Tompkins County, New York

Municipality	Facility Type																													
	Communications - Building	Communications - Cell Tower	Communications - Operations Center	Communications - Radio Station	Communications - Radio Station	Communications - Tower	Dam	Day Care	DPW	Education - Higher	Education - Primary	Electrical Power Grid	Electrical Substation	Fire Station	Fire/EMS	Government	Hospital	Library	Medical Office	Municipal Hall	Natural Gas Facility	Oil Facility	Police Station	Post Office	Potable Water Tank	Potable Water Tower	Utility	Wastewater Pump Station	Wastewater Treatment Facility	
Caroline (T)	1					1					3			4	1	1				3				2						
Cayuga Heights (V)							1			4	2		1	1		3			4				1		1					
Danby (T)				1			1				2			2		2				3	1									
Dryden (T)		2			1	1	3			22	6	7	2	3	1	5			1	1	8		3		3					
Dryden (V)								3		1	2			1		3		1	1	4			1	1	1					
Enfield (T)						1	1				1			1						2										
Freeville (V)											1			1		2			1					1					1	
Groton (T)						1			1	1	1			1		1								1			1			
Groton (V)											4			1	1	3			4	2			1							
Ithaca (C)	2	1						1	98	9	3	2	2	2	2	30		1	26	2	5	1	4	1	8			3	1	

Municipality	Facility Type																												
	Communications - Building	Communications - Cell Tower	Communications - Operations Center	Communications Radio Station	Communications - Radio Station	Communications - Tower	Dam	Day Care	DPW	Education - Higher	Education - Primary	Electrical Power Grid	Electrical Substation	Fire Station	Fire/EMS	Government	Hospital	Library	Medical Office	Municipal Hall	Natural Gas Facility	Oil Facility	Police Station	Post Office	Potable Water Tank	Potable Water Tower	Utility	Wastewater Pump Station	Wastewater Treatment Facility
Ithaca (T)			1			1	7	1	1	149	6	8	4	2		1	1		1		1	2	1		9	1	2	1	1
Lansing (T)		1			1		1			2	3	1		3		2				4	1				1				
Lansing (V)	3									2	1		1	2	1	9			1	0	1			1					
Newfield (T)						5				2	3	1		1		2		1		3	1		1	1	1				
Trumansburg (V)								1			6			1	1	3		1		2			1	1	1				2
Ulysses (T)										1									1	1	1				1				
Tompkins County	6	4	1	1	2	1	1	1	6	282	5	2	1	2	7	7	1	4	6	2	3	3	1	9	2	1	3	5	4

Source: Tompkins County GIS & Mapping Services 2020

E.4 History of Hazard Events within the County

To supplement the information provided in this plan, events prior to the update of this plan are included below by Hazard of Concern.

E.4.1 Flood

According to NOAA's NCDC storm events database, Tompkins County experienced 23 flood events between April 30, 1950 and August 31, 2020. Total property damages, as a result of these flood events, were estimated at over \$23.2 million. This total may also include damages to other counties.

Between 1954 and 2012, FEMA declared that New York State experienced 38 flood-related disasters (DR) or emergencies (EM) classified as one or a combination of the following disaster types: severe storms, coastal storms, flash flooding, heavy rain, tropical storm, hurricane, high winds, ice jam, wave action, high tide and tornado. Generally, these disasters cover a wide region of the State; therefore, they may have impacted many counties. However, not all counties were included in the disaster declarations. Of those events, the NYS HMP and other sources indicate that Tompkins County has been declared as a disaster area as a result of nine flood events (FEMA, 2012).

Table E-7. Flooding Events Between 2014 to 2020

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts	Source(s)
01/19/1996	Flash Flood	None	Yes	19 million USD in property damage was reported	NOAA
05/10/1996	Flash Flood	None	No	12000 USD in property damage was reported	NOAA
11/08/1996	Flash Flood	None	Yes	900k USD in property damage was reported	NOAA
06/29/2000	Flood	None	No	No damage or loss reported	NOAA
05/13/2002	Flood	None	Yes	10k USD in property damage was reported	NOAA
06/05/2002	Flood	None	No	5k USD in property damage was reported	NOAA
06/15/2002	Flood	None	No	2k USD in property damage was reported	NOAA
07/22/2003	Flash Flood	None	No	500k USD in property damage was reported	NOAA



Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts	Source(s)
01/29/2005	Flood	None	No	100k USD in property damage was reported	NOAA
04/02/2005	Flash Flood	None	Yes	200k USD in property damage was reported	NOAA
06/27/2006	Flash Flood	None	No	50k USD in property damage was reported	NOAA
7/28/2006	Flash Flood	None	No	3k USD in property damage was reported	NOAA
11/16/2006	Flash Flood	None	No	25k USD in property damage was reported	NOAA
08/24/2007	Flash Flood	None	No	1k USD in property damage was reported	NOAA
09/07/2011	Flash Flood	None	No	420k USD in property damage was reported	NOAA
08/08/2013	Flash Flood	None	No	155k USD in property damage was reported	NOAA
08/03/2014	Flash Flood	None	No	100k USD in property damage was reported	NOAA
06/14/2015	Flash Flood	None	No	1.5 million USD in property damage was reported	NOAA
07/09/2015	Flash Flood	None	No	75k USD in property damage was reported	NOAA
07/13/2017	Flash Flood	None	No	10k USD in property damage was reported	NOAA
07/24/2017	Flash Flood	None	No	75k USD in property damage was reported	NOAA
08/15/2019	Flash Flood	None	No	70k USD in property damage was reported	NOAA
04/30/2020	Flood	None	No	7k USD in property damage was reported	NOAA

Note (1): Monetary figures within this table were U.S. Dollar (USD) figures calculated during or within the approximate time of the event. If such an event would occur in the present day, monetary losses would be considerably higher in USDs as a result of increased U.S. Inflation Rates.

- DR Federal Disaster Declaration
- USD US Dollar
- EM Federal Emergency Declaration
- FEMA Federal Emergency Management Agency
- FSA Farm Service Agency
- IA Individual Assistance
- K Thousand (\$)
- M Million (\$)



N/A Not applicable
 NCDC National Climate Data Center
 NOAA National Oceanic Atmospheric Administration
 NWS National Weather Service
 PA Public Assistance
 SHELUDS Spatial Hazard Events and Losses Database for the U.S.
 SRBC Susquehanna River Basin Commission

Agriculture-related flood disasters are quite common. One-half to two-thirds of the counties in the U.S. have been designated as disaster areas in each of the past several years. The Secretary of Agriculture is authorized to designate counties as disaster areas to make emergency loans (EM) to producers suffering losses in those counties and in counties that are contiguous to a designated county.

Table E-8. USDA Disaster Designations

Incidence Period	Event Type	USDA Declaration Number	Description	Source(s)
3/1/2012	Frost Freeze	S3249	Frosts and freezes	USDA
4/1/2012	Winter Storm	S3252	Excessive snow and freezes	USDA
5/15/2012	Insect Infestation	S3411	Weather related armyworm outbreak	USDA
6/2/2012	Drought	S3427	Drought, excessive heat	USDA
6/26/2012	Drought	S3441	Drought	USDA
5/1/2013	Flood	S3593	Excessive rain and related flooding, high winds, and hail	USDA
5/13/2013	Frost	S3594	Freeze and frost	USDA
6/19/2013	Disease	S3595	Weather related disease and fungus infestation	USDA
12/1/2013	Freeze	S3666	Freeze	USDA
4/1/2014	Flood/Humidity	S3747	Excessive Rain, Flash Flooding, Flooding, High Winds, and Hail	USDA
1/1/2015	Freeze	S3886	Frost, Freeze, and Excessive Snow	USDA
5/1/2015	Rain	S3885	Excessive Rain, high Winds, Hail, Lightning, and Tornado	USDA
8/16/2016	Drought	S4023	Drought-FAST TRACK	USDA



Incidence Period	Event Type	USDA Declaration Number	Description	Source(s)
7/12/2016	Drought	S4031	Drought-FAST TRACK	USDA
2/10/2016	Freeze	S4052	Unseasonably warm followed by Freeze	USDA
4/1/2017	Rain	S4265	excessive rain	USDA
7/23/2018	Rain	S4479	Excessive Precipitation	USDA
4/1/2019	Rain	S4622	excessive rain	USDA
4/1/2020	Freeze	S4903	freeze and frost	USDA

Source: USDA, 2020

*Disaster event occurred within the county.

- M Presidential Major Disaster Declaration
- N Administrative Physical Loss Notification
- S Secretarial National Disaster Determination
- USDA United States Department of Agriculture

According to the CRREL database, ice jams have historically formed at various points along the Fall Creek and Cascadilla Creek. Locations of historical ice jam events are indicated in Figure E-2 below.

Figure E-2. Historic Ice Jams in Tompkins County.



Source: USACE 2020



Based on review of the CRREL Database, Table E-9 lists the ice jam events that have occurred in Tompkins County between 1900 and 20120. Information regarding losses associated with these reported ice jams was limited.



Table E-9. Ice Jam Events in Tompkins County between 1926 and 2020

Date	River / Location	Description	Source(s)
01/19/1926	Fall Creek / Ithaca	Water level effected by backwater from ice	USACE, CRREL
01/22/1927	Fall Creek / Ithaca	Water level effected by backwater from ice	USACE, CRREL
02/08/1928	Fall Creek / Ithaca	Water level effected by backwater from ice	USACE, CRREL
02/27/1929	Fall Creek / Ithaca	Water level effected by backwater from ice	USACE, CRREL
02/20/1930	Fall Creek / Ithaca	Water level effected by backwater from ice	USACE, CRREL
03/04/1934	Fall Creek / Ithaca	Water level effected by backwater from ice	USACE, CRREL
02/16/1935	Fall Creek / Ithaca	Water level effected by backwater from ice	USACE, CRREL
12/01/1944	Cayuga Inlet/ Ithaca	Water level effected by backwater from ice	USACE, CRREL
03/02/1946	Fall Creek / Ithaca	Ice effect of 6.3 feet	USACE, CRREL
02/19/1948	Fall Creek / Ithaca	Ice effect of 3.0 feet	USACE, CRREL
12/21/1951	Cayuga Inlet / Ithaca	Water level effected by backwater from ice	USACE, CRREL
12/11/1952	Fall Creek / Ithaca	Ice effect of 0.05 feet	USACE, CRREL
02/22/1955	Fall Creek / Ithaca	Ice effect of 6.0 feet	USACE, CRREL
01/22/1957	Fall Creek / Ithaca	Ice effect of 3.4 feet	USACE, CRREL
02/28/1958	Fall Creek / Ithaca	Ice effect of 1.9 feet	USACE, CRREL
01/21/1959	Fall Creek / Ithaca	Ice effect of 6.3 feet	USACE, CRREL
02/28/1962	Fall Creek / Ithaca	Water level effected by backwater from ice	USACE, CRREL
03/17/1963	Fall Creek / Ithaca	Ice jam increased water level	USACE, CRREL
02/21/1971	Fall Creek / Ithaca	Ice jam increased water level	USACE, CRREL
01/01/1977	Fall Creek / Ithaca	Ice 10 feet thick located beneath Route 13 and RR bridges – caused localized flooding	USACE, CRREL
03/15/1978	Fall Creek / Ithaca	Ice jam increased water level	USACE, CRREL

Date	River / Location	Description	Source(s)
03/02/1979	Fall Creek / Ithaca	Water level effected by backwater from ice	USACE, CRREL
03/03/2003	Fall Creek / Ithaca	Water level effected by backwater from ice	USACE, CRREL
02/11/2009	Fall Creek / Ithaca	Water temps caused ice to run and jam, resulting in moderate flooding	USACE, CRREL
01/06/2014	Cascadilla Creek	Break up jam type occurred along Cascadilla creek causing 50-60k in city expenditures.	USACE, CRREL

Source: CRREL, 2020

Note: Although many events were reported for Tompkins County, information pertaining to every event was not easily ascertainable; therefore this table may not represent all ice jams in the County.

E.4.2 Winter Storm

Many sources provided historical information regarding previous occurrences and losses associated with severe winter storms and extreme cold events throughout New York State and Tompkins County. With so many sources reviewed for the purpose of this HMP, loss and impact information for many events could vary depending on the source. Therefore, the accuracy of monetary figures discussed is based only on the available information identified during research for this HMP.

The 2011 New York State HMP rated each county in terms of their vulnerability to snow and ice storms hazards. Please refer to the 2011 NYS HMP for additional details on their point system. Note that the 2019 HMP does not have this information. Table E-10 and Table E-11 summarizes Tompkins County's rating for both hazards.

Table E-10. Tompkins County's Vulnerability Rating for Snow Storms.

County Rating Score (Max 25)	Annual Average Snowfall (inches)	*Extreme Snowfall Potential (no/yes)	# of Snow Related Disasters Population Density (per square mile)	Population Density (per square mile)	Total # of Structures
9	66.7	No	1	196.4	24171

Source: Tompkins County GIS; NYS HMP, 2011

Table E-11. Tompkins County's Vulnerability Rating for Snow Storms

County Rating Score	Related Disasters	Total # of Structures
9	1	24171

Source: Tompkins County GIS; NYS HMP, 2011

According to NOAA's NCDC storm events database, Tompkins County experienced 64 snow, ice, and cold events between April 30, 1950 and August 31, 2012. Total property damages, as a result of these winter storm events, were estimated at over \$670,000. This total also includes damages to other counties.

Between 1954 and 2020, FEMA declared that New York State experienced 22 winter storm-related disasters (DR) or emergencies (EM) classified as one or a combination of the following disaster types: winter storms, severe storms, ice storm, blizzard, snow, snowstorm, Nor'Easter and flooding. Generally, these disasters cover a wide region of the State; therefore, they may have impacted many counties. However, not all counties were included in the disaster declarations (FEMA 2020).



Table E-12. Winter Storm Events Between October 2006 to October 2020.

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts	Source(s)
02/13/2007	Winter Storm	NA	Yes	There was no crop or property damage reported. There were also no injuries or fatalities.	NOAA NCDC
03/17/2007	Lake-Effect Snow	NA	Yes	There was no crop or property damage reported. There were also no injuries or fatalities.	NOAA NCDC
04/15/2007	Winter Storm	NA	Yes	There was no crop or property damage reported. There were also no injuries or fatalities.	NOAA NCDC
12/13/2007	Heavy Snow	NA	Yes	There was no crop or property damage reported. There were also no injuries or fatalities.	NOAA NCDC
02/26/2008	Winter Storm	NA	Yes	There was no crop or property damage reported. There were also no injuries or fatalities.	NOAA NCDC
12/11/2008	Winter Storm	NA	Yes	There was no crop or property damage reported. There were also no injuries or fatalities.	NOAA NCDC
12/19/2008	Winter Storm	NA	Yes	There was no crop or property damage reported. There were also no injuries or fatalities.	NOAA NCDC
02/25/2010	Winter Storm	NA	Yes	There was no crop or property damage reported. There were also no injuries or fatalities.	NOAA NCDC
02/25/2011	Winter Storm	NA	Yes	There was no crop or property damage reported. There were also no injuries or fatalities.	NOAA NCDC
03/06/2011	Heavy Snow	NA	Yes	There was no crop or property damage reported. There were also no injuries or fatalities.	NOAA NCDC
01/13/2012	Heavy Snow	NA	Yes	There was no crop or property damage reported. There were also no injuries or fatalities.	NOAA NCDC
02/08/2013	Heavy Snow	NA	Yes	There was no crop or property damage reported. There were also no injuries or fatalities.	NOAA NCDC
01/01/2014	Winter Storm	NA	Yes	There was no crop or property damage reported. There were also no injuries or fatalities.	NOAA NCDC

02/05/2014	Winter Storm	NA	Yes	There was no crop or property damage reported. There were also no injuries or fatalities.	NOAA NCDC
12/09/2014	Winter Storm	NA	Yes	There was no crop or property damage reported. There were also no injuries or fatalities.	NOAA NCDC
02/01/2015	Heavy Snow	NA	Yes	There was no crop or property damage reported. There were also no injuries or fatalities.	NOAA NCDC
11/19/2016	Lake-effect Snow	NA	Yes	There was no crop or property damage reported. There were also no injuries or fatalities.	NOAA NCDC
03/14/2017	Heavy Snow	NA	Yes	There was no crop or property damage reported. There were also no injuries or fatalities.	NOAA NCDC
03/02/2018	Heavy Snow	NA	Yes	There was no crop or property damage reported. There were also no injuries or fatalities.	NOAA NCDC
03/13/2018	Heavy Snow	NA	Yes	There was no crop or property damage reported. There were also no injuries or fatalities.	NOAA NCDC
11/15/2018	Heavy Snow	NA	Yes	There was no crop or property damage reported. There were also no injuries or fatalities.	NOAA NCDC
01/19/2019	Heavy Snow	NA	Yes	There was no crop or property damage reported. There were also no injuries or fatalities.	NOAA NCDC
12/01/2019	Heavy Snow	NA	Yes	There was no crop or property damage reported. There were also no injuries or fatalities.	NOAA NCDC
02/06/2020	Heavy Snow	NA	Yes	There was no crop or property damage reported. There were also no injuries or fatalities.	NOAA NCDC

Sources: NOAA-NCDC, FEMA, NWS

Note: Monetary figures within this table were U.S. Dollar (USD) figures calculated during or within the approximate time of the event. If such an event would occur in the present day, monetary losses would be considerably higher in USDs as a result of inflation. Also note that there were no damages reported since December 2003 for winter storms.

DR Disaster Declaration
EM Emergency Declaration
FEMA Federal Emergency Management Agency
N/A Not Applicable
NCDC National Climatic Data Center
NOAA National Oceanic and Atmospheric Administration
NWS National Weather Service
PA Public Assistance
SHELDUS Spatial Hazard Events and Losses Database for the United States

E.4.3 Drought

Many sources provided historical information regarding previous occurrences and losses associated with drought and extreme heat events throughout New York State and Tompkins County. With many sources reviewed for the purpose of this HMP, loss and impact information for many events could vary depending on the source. Therefore, the accuracy of monetary figures discussed is based only on the available information identified during research for this HMP.

According to NOAA's NCDC storm events database, Tompkins County experienced eight drought event between April 30, 1950 and December 2020. There were no damages associated with this event

Between 1954 and 2012, FEMA declared that New York State experienced one drought-related disaster (DR) or emergency (EM) classified as one or a combination of the following disaster types: water shortage. Generally, these disasters cover a wide region of the State; therefore, they may have impacted many counties. However, not all counties were included in the disaster declarations. Of those events, the NYS HMP and other sources indicate that Tompkins County has not been declared as a disaster area as a result of any drought-related event (FEMA, 2020).

Based on all sources researched, known drought and extreme events, between 1950 and 2012, that have affected Tompkins County and its municipalities are identified in Table E-13. Not all sources have been identified or researched; therefore, Table E-13 may not include all events that have occurred throughout the County and region.



Table E-13. Drought and Extreme Heat Events Affecting Tompkins County Between 1950 and 2020.

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts	Source(s)
12/01/1998	Drought	N/A	N/A	December was another very dry month across central New York. This culminated a six-month period starting back in the early summer of dry conditions. Dry weather and associated drought conditions were most pronounced across the southern tier counties of the state. During December, much of the region received between 1.5 and 2.0 inches of liquid equivalent precipitation. This equates to little more than half the normal precipitation for the month. Precipitation deficits for the six-month period between June and December were greatest over the western Catskills, where totals ran as much as 6 to 7 inches below climatological normals.	NOAA
09/01/1999	Drought	N/A	N/A	One-month duration with the driest month recorded for the year. There was major crop failure, and wells throughout Central New York were dried out. Most specifically, corn and hay crops were the most severely damaged. Damage was estimated to be around \$1 million in Tompkins County.	NOAA
04/01/2001	Drought	N/A	N/A	Although rainfall was adequate during the first half of the month, the second half was very dry. Monthly precipitation totals were well over 2.00 inches below normal at some locations and it was the driest April on record at both Walton and the NWS office at the Binghamton Regional Airport.	NOAA
2005	Drought	N/A	N/A	This drought caused significant maple sure die-off in Tompkins County.	Tompkins County HMP
07/21/2011	Drought	N/A	N/A	Narrative High pressure moved off the east coast of the United States, allowing extreme heat that had been building over the central part of the country to move east. For three days, high temperatures across much of central New York rose well up into the 90s and exceeded 100 degrees in many typically warmer valley locations.	NOAA
07/01/2016	Drought	N/A	N/A	A significant lack of rain since May of this year found many areas in the Finger Lakes and Southern Tier New York regions with as little as 25 percent of normal rainfall through the end of July.	NOAA
08/01/2016	Drought	N/A	N/A	Drought persisted and became worse over parts of the Finger Lakes region and Central Southern Tier of New York during August. Rainfall since the late Spring was only recording up to 50 to 80 percent of normal. According to the U.S. Drought Monitor, portions of the area deteriorated from severe to extreme drought. Agricultural interests reported significant stress to non-irrigated crops, and several communities began to place voluntary and mandatory water restrictions on their residents.	NOAA

09/01/2016	Drought	N/A	N/A	Drought worsened over parts of the Finger Lakes region and Central Southern Tier of New York during September. September rainfall amounts were again considerably below the average long-term monthly trends. According to the U.S. Drought Monitor, drought conditions continued to deteriorate, and more of the region was classified in extreme drought. Agricultural interests reported significant stress to non-irrigated crops, with many areas reporting expected losses to corn, soybean and hay yields. More communities began to place voluntary and mandatory water restrictions on their residents.	NOAA
10/01/2016	Drought	N/A	N/A	A moderate to heavy rain event on the 21st of the month helped to ease the drought across the Finger Lakes Region and Central Southern Tier. The U.S. Drought Monitor Extreme Drought classification was improved to just long-term Severe Drought in areas extending from west of Binghamton to Penn Yan, New York. Moderate Drought surrounds the rest of the counties.	NOAA

Sources: NRCC, 2020; NOAA-NCDC, 2020; Tompkins County HMP, 2014; NDMC, 2020; USDA, 2020

- FEMA Federal Emergency Management Agency
- HMP Hazard Mitigation Plan
- K Thousand (\$)
- M Million (\$)
- N/A Not Applicable
- NCDC National Climatic Data Center
- NOAA National Oceanic and Atmospheric Administration
- NRCC Northeast Regional Climate Center
- NYS New York State
- PDSI Palmer Drought Severity Index
- SBA Small Business Administration
- U.S. United States
- USDA U.S. Agricultural Department

Agriculture-related drought disasters are quite common. One-half to two-thirds of the counties in the United States have been designated as disaster areas in each of the past several years. The Secretary of Agriculture is authorized to designate counties as disaster areas to make emergency loans (EM) to producers suffering losses in those counties and in counties that are contiguous to a designated county. Table E-14 presents USDA declared drought and excessive heat events impacting Tompkins County.

Table E-15. Drought and Extreme Heat Events Declared by USDA

Incidence Period	Event Type	USDA Declaration Number	Description	Source(s)
6/2/2012	Drought	S3427	Drought, excessive heat	USDA
6/26/2012	Drought	S3441	Drought	USDA
8/16/2016	Drought	S4023	Drought-FAST TRACK	USDA
7/12/2016	Drought	S4031	Drought-FAST TRACK	USDA

Source: USDA, 2020

*Disaster event occurred within the county.

M Presidential Major Disaster Declaration

N Administrative Physical Loss Notification

S Secretarial National Disaster Determination

USDA United States Department of Agriculture

E.4.4 Severe Storms

The Beaufort wind scale, developed in 1805, is also used today to classify wind conditions. TABLE below provides details on the wind scale.

Force	Wind (Knots)	WMO Classification	Appearance of Wind Effects on Land
0	Less than 1	Calm	Calm, smoke rises vertically
1	1-3	Light Air	Smoke drift indicates wind direction, still wind vanes
2	4-6	Light Breeze	Wind felt on face, leaves rustle, vanes begin to move
3	7-10	Gentle Breeze	Leaves and small twigs constantly moving, light flags extended
4	11-16	Moderate Breeze	Dust, leaves, and loose paper lifted; small tree branches move
5	17-21	Fresh Breeze	Small trees in leaf begin to sway
6	22-27	Strong Breeze	Larger tree branches moving, whistling in wires
7	28-33	Near Gale	Whole trees moving, resistance felt walking against wind
8	34-40	Gale	Twigs breaking off trees, generally impedes progress
9	41-47	Strong Gale	Slight structural damage occurs, slate blows off roofs
10	48-55	Storm	Seldom experienced on land, trees broken or uprooted, "considerable structural damage"
11	56-63	Violent Storm	
12	64+	Hurricane	

Source: SPC, n.d.

The Tornado and Storm Research Organization (TORRO) Hailstorm Intensity Scale (H0 to H10) relates typical damage and hail sizes.



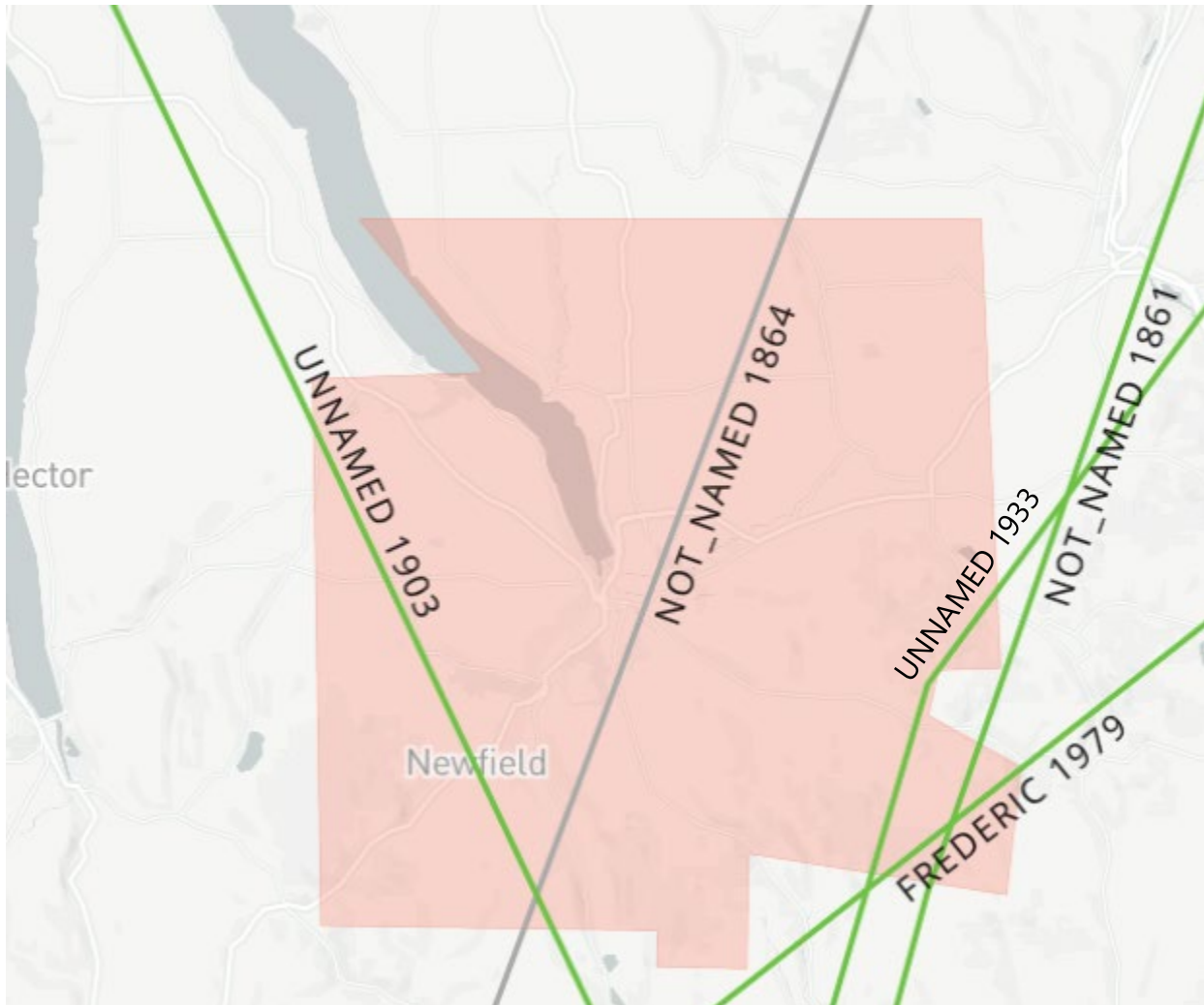
Table E.4.4-1. TORRO Hailstorm Intensity Scale

TORRO Hailstorm Intensity Scale	Intensity Category	Typical Hail Diameter (mm)	Typical Damage Impacts
H0	Hard Hail	5	No damage
H1	Potentially Damaging	5-15	Slight general damage to plants, crops
H2	Significant	10-20	Significant damage to fruit, crops, vegetation
H3	Severe	20-30	Severe damage to fruit and crops, damage to glass and plastic structures, paint and wood scored
H4	Severe	25-40	Widespread glass damage, vehicle bodywork damage
H5	Destructive	30-50	Wholesale destruction of glass, damage to tiled roofs, significant risk of injuries
H6	Destructive	40-60	Bodywork of grounded aircraft dented; brick walls pitted
H7	Destructive	50-75	Severe roof damage, risk of serious injuries
H8	Destructive	60-90	(Severest recorded in the British Isles) Severe damage to aircraft bodywork
H9	Super Hailstorms	75-100	Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open
H10	Super Hailstorms	> 100	Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open

Source: TORRO 2018



Figure E-3. Historical North Atlantic Tropical Cyclone Tracks (1842-2020)



Source: NOAA, 2020

Many sources provided historical information regarding previous occurrences and losses associated with severe storm events throughout New York State and Tompkins County. With so many sources reviewed for the purpose of this HMP, loss and impact information for many events could vary depending on the source. Therefore, the accuracy of monetary figures discussed is based only on the available information identified during research for this HMP.

According to NOAA's NCDC storm events database, Tompkins County experienced 180 severe storm events between 1950 and 2020. These events include funnel clouds, hail, high winds, lightning, hurricane and tropical storms, strong winds, thunderstorms and tornadoes. Total property damages, as a result of these severe storm events, were estimated at over \$28.223 million. No crop damage was reported. This total also includes damages experienced by other counties. The following table shows the event loss since 2006 since the number of events is so large.



Between 1954 and 2020, FEMA declared that New York State experienced 52 severe storm-related disasters (DR) or emergencies (EM) classified as one or a combination of the following disaster types: winter storms, severe storms, coastal storms, flooding, heavy rain, tropical storm, hurricane, high winds and tornado. Generally, these disasters cover a wide region of the State; therefore, they may have impacted many counties. However, not all counties were included in the disaster declarations. Of those events, the NYS HMP and other sources indicate that Tompkins County has been declared as a disaster area as a result of 8 severe storm events (FEMA, 2020).



Table E-2. Severe Storm Events Between 2006 and 2020

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts	Source(s)
11/16/2006	Tstm Wind	N/A	Yes	This event occurred in Groton. There was \$1,000 in property damage as a result of this storm. No crop damage was reported. There were no injuries or fatalities.	NOAA NCDC
12/1/2006	Tstm Wind	N/A	Yes	This event occurred in Groton. \$1,000 in property damage was reported and \$0 in crop damage. There were no deaths or injuries.	NOAA NCDC
6/21/2007	Tstm Wind	N/A	Yes	This event occurred in Ithaca. There was no damage or casualties reported.	NOAA NCDC
6/27/2007	Tstm Wind	N/A	Yes	The storm took place in Caroline. There was no damage or casualties reported.	NOAA NCDC
7/27/2007	Tstm Wind	N/A	Yes	This event took place in McKinney's Point. There was \$2,000 in property damage reported and no crop damage. There were no deaths or injuries.	NOAA NCDC
8/17/2007	Tstm Wind	N/A	Yes	This event took place in Trumansburg. There was \$2,000 in property damage reported and no crop damage. There were no deaths or injuries.	NOAA NCDC
8/17/2007	Tstm Wind	N/A	Yes	This event took place in Ithaca. There was \$2,000 in property damage reported and no crop damage. There were no deaths or injuries.	NOAA NCDC
8/24/2007	Tstm Wind	N/A	Yes	This storm occurred in McKinney's Point. There was \$1,000 in property damage reported and no crop damage. There were no deaths or injuries.	NOAA NCDC
8/24/2007	Tstm Wind	N/A	Yes	This storm occurred in McKinney's point. There was no damage or casualties reported.	NOAA NCDC
8/24/2007	Tstm Wind	N/A	Yes	This event occurred in Freeville. There was \$2,000 in property damage reported and no crop damage. There were no deaths or injuries.	NOAA NCDC
8/24/2007	Tstm Wind	N/A	Yes	This event took place in Grotto. There was \$2,000 in property damage reported and no crop damage. There were no deaths or injuries.	NOAA NCDC
8/24/2007	Tstm Wind	N/A	Yes	This storm occurred in Dryden. There was \$2,000 in property damage reported and no crop damage. There were no deaths or injuries.	NOAA NCDC
8/24/2007	Tstm Wind	N/A	Yes	This storm occurred in McKinney's Point. There was \$3,000 in property damage reported and no crop damage. There were no deaths or injuries.	NOAA NCDC

8/25/2007	Tstm Wind	N/A	Yes	This event took place in Dryden. There was \$2,000 in property damage reported and no crop damage. There were no deaths or injuries.	NOAA NCDC
8/25/2007	Tstm Wind	N/A	Yes	This storm occurred in Ithaca. There was \$5,000 in property damage reported and no crop damage. There were no deaths or injuries.	NOAA NCDC
10/9/2007	Tstm Wind	N/A	Yes	This storm occurred in Grotto. There was no damage or casualties reported.	NOAA NCDC
1/9/2008	Tstm Wind	N/A	Yes	This event was located in McKinney's Point. There was \$1,000 in property damage reported and no crop damage. There were no deaths or injuries.	NOAA NCDC
6/20/2008	Tstm Wind	N/A	Yes	This event occurred in Besemer. There was \$1,000 in property damage reported and no crop damage. There were no deaths or injuries.	NOAA NCDC
6/23/2008	Tstm Wind	N/A	Yes	This storm was located in Ithaca. There was \$1,000 in property damage reported and no crop damage. There were no deaths or injuries.	NOAA NCDC
6/27/2008	Tstm Wind	N/A	Yes	This storm was located in Trumansburg. There was no damage or casualties reported.	NOAA NCDC
9/15/2008	High Wind	N/A	Yes	The storm occurred throughout all of Tompkins County. There was \$4,000 in property damage reported and no crop damage. There were no deaths or injuries.	NOAA NCDC
5/16/2009	Tstm Wind	N/A	Yes	This storm occurred in Enfield. There was no damage or casualties reported.	NOAA NCDC
8/10/2009	Tstm Wind	N/A	Yes	This storm occurred in Grotto. There was no damage or casualties reported.	NOAA NCDC
8/10/2009	Tstm Wind	N/A	Yes	This storm was located in Peruville. There was \$1,000 in property damage reported and no crop damage. There were no deaths or injuries.	NOAA NCDC
7/21/2010	Tstm Wind	N/A	Yes	This storm was located in McKinney's Point. There was \$2,000 in property damage reported and no crop damage. There were no deaths or injuries.	NOAA NCDC
2/18/2011	High Wind	N/A	Yes	This storm encompassed all of Tompkins County. There was \$50,000 in property damage reported and no crop damage. There were no deaths or injuries.	NOAA NCDC
4/28/2011	Tstm Wind	N/A	Yes	This storm was located in Danby. There was \$100,000 in property damage reported and no crop damage. There were no deaths or injuries.	NOAA NCDC
4/28/2011	Tstm Wind	N/A	Yes	This storm occurred in Ithaca. There was \$5,000 in property damage reported and no crop damage. There were no deaths or injuries.	NOAA NCDC

4/28/2011	Tstm Wind	N/A	Yes	This storm was located in Groton. There was \$12,000 in property damage reported and no crop damage. There were no deaths or injuries.	NOAA NCDC
6/23/2011	Tstm Wind	N/A	Yes	This storm encompassed all of Tompkins County. There was \$1,000 in property damage reported and no crop damage. There were no deaths or injuries.	NOAA NCDC
6/28/2011	Tstm Wind	N/A	Yes	This storm encompassed all of Tompkins County. There was 1 death as a result of this event. No injuries were reported. There was \$5,000 in property damage and no crop damage.	NOAA NCDC
7/19/2011	Tstm Wind	N/A	Yes	This storm occurred in Krum Corner. There was no damage reported. No injuries or fatalities were reported.	NOAA NCDC
05/03/2012	Hail	N/A	Yes	This incident resulted in 50k worth of property damage	NOAA NCDC
08/09/2012	Hail	N/A	Yes	This incident resulted in 1.05M worth of property damage	NOAA NCDC
09/06/2012	Hail	N/A	Yes	This incident resulted in 20k worth of property damage	NOAA NCDC
06/24/2013	Hail	N/A	Yes	This incident resulted in 5k worth of property damage	NOAA NCDC
07/10/2013	Thunderstorm Wind	N/A	Yes	This incident resulted in 5k worth of property damage	NOAA NCDC
08/08/2013	Thunderstorm Wind	N/A	Yes	This incident resulted in 2k worth of property damage	NOAA NCDC
09/02/2013	Thunderstorm Wind	N/A	Yes	No damage was reported	NOAA NCDC
05/22/2014	Hail	N/A	Yes	No damage was reported	NOAA NCDC
06/17/2014	Thunderstorm Wind	N/A	Yes	This incident resulted in 10k worth of property damage	NOAA NCDC
07/02/2014	Thunderstorm Wind	N/A	Yes	This incident resulted in 5k worth of property damage	NOAA NCDC
07/03/2014	Hail	N/A	Yes	This incident resulted in 5k worth of property damage	NOAA NCDC

07/08/2014	Thunderstorm Wind	N/A	Yes	This incident resulted in 15k worth of property damage	NOAA NCDC
08/05/2014	Thunderstorm Wind	N/A	Yes	This incident resulted in 15k worth of property damage	NOAA NCDC
08/21/2014	Hail	N/A	Yes	No damage was reported	NOAA NCDC
10/25/2014	Hail	N/A	Yes	No damage was reported	NOAA NCDC
06/08/2015	Thunderstorm Wind	N/A	Yes	This incident resulted in 2k worth of property damage	NOAA NCDC
06/10/2015	Thunderstorm Wind	N/A	Yes	This incident resulted in 5k worth of property damage	NOAA NCDC
06/12/2015	Thunderstorm Wind	N/A	Yes	This incident resulted in 15k worth of property damage	NOAA NCDC
04/16/2017	Thunderstorm Wind	N/A	Yes	This incident resulted in 3k worth of property damage	NOAA NCDC
06/18/2017	Thunderstorm Wind	N/A	Yes	This incident resulted in 8k worth of property damage	NOAA NCDC
07/20/2017	Thunderstorm Wind	N/A	Yes	This incident resulted in 3k worth of property damage	NOAA NCDC
08/22/2017	Thunderstorm Wind	N/A	Yes	This incident resulted in 10k worth of property damage	NOAA NCDC
10/15/2017	Thunderstorm Wind	N/A	Yes	This incident resulted in 30k worth of property damage	NOAA NCDC
05/04/2018	Thunderstorm Wind	N/A	Yes	This incident resulted in 25k worth of property damage	NOAA NCDC
05/28/2018	Thunderstorm Wind	N/A	Yes	This incident resulted in 20k worth of property damage	NOAA NCDC
06/13/2018	Thunderstorm Wind	N/A	Yes	This incident resulted in 30k worth of property damage	NOAA NCDC

07/16/2019	Thunderstorm Wind	N/A	Yes	This incident resulted in 10k worth of property damage	NOAA NCDC
07/28/2019	Hail	N/A	Yes	No damage was reported	NOAA NCDC
07/30/2019	Thunderstorm Wind	N/A	Yes	This incident resulted in 40k worth of property damage	NOAA NCDC
08/08/2019	Thunderstorm Wind	N/A	Yes	This incident resulted in 5k worth of property damage	NOAA NCDC
08/15/2019	Thunderstorm Wind	N/A	Yes	This incident resulted in 10k worth of property damage	NOAA NCDC
08/17/2019	Thunderstorm Wind	N/A	Yes	This incident resulted in 10k worth of property damage	NOAA NCDC
05/15/2020	Thunderstorm Wind	N/A	Yes	This incident resulted in 10k worth of property damage	NOAA NCDC
06/18/2020	Lightning	N/A	Yes	This incident resulted in 15k worth of property damage	NOAA NCDC
07/19/2020	Thunderstorm Wind	N/A	Yes	No damage was reported	NOAA NCDC
07/23/2020	Thunderstorm Wind	N/A	Yes	This incident resulted in 5k worth of property damage	NOAA NCDC
08/25/2020	Thunderstorm Wind	N/A	Yes	This incident resulted in 15k worth of property damage	NOAA NCDC
08/27/2020	Thunderstorm Wind	N/A	Yes	No damage was reported	NOAA NCDC

Sources: FEMA, NOAA-NCDC, NWS

Note: Monetary figures within this table were U.S. Dollar (USD) figures calculated during or within the approximate time of the event. If such an event would occur in the present day, monetary losses would be considerably higher in USDs as a result of inflation.

DR Federal Disaster Declaration
EM Federal Emergency Declaration
FEMA Federal Emergency Management Agency
K Thousand (\$)
M Million (\$)
Mph Miles Per Hour

NCDC National Climate Data Center
NOAA National Oceanic Atmospheric Administration
NYS New York State
NWS National Weather Service
SHELDUS Spatial Hazard Events and Losses Database for the U.S.
TSTM Thunderstorm



Extreme Temperature

Many sources provided historical information regarding previous occurrences and losses associated with extreme temperatures throughout New York State and Tompkins County. With so many sources reviewed for the purpose of this HMP, loss and impact information for many events could vary. Therefore, the accuracy of monetary figures discussed is based only on the available information identified during research for this HMP.

The Midwest Regional Climate Center (MRCC) operates an online annual temperature extremes database of the Continental U.S., otherwise known as "MRCC Cooperative Observer Station Annual Temperature Record Data Set". The data set contains the annual maximum and minimum temperature records for stations in the U.S. Each station has a cooperative observer system i.d. number (coop number), and those examined for this HMP had a running length of more than five years. In New York State, there are 269 stations that were observed; however, only six stations in Tompkins County. Not every city, town and/or village in New York State contains a station (MRCC, 2012).

There may be some potential problems with the data collected at the stations. The records were created by MRCC at the request of a user. The values of the all-time records for stations with brief histories are limited in accuracy and could vary from nearby stations with longer records. Although the data sets have been through quality control, there is still a need for more resources to quality control extremes. The record sets are for single stations in the cooperative observer network and are limited to the time of operation of each station under one coop number. The records for a place may need to be constructed from several individual station histories. Some of the data may vary from NWS records due to NWS using multiple stations and additional sources like record books (MRCC, Date Unknown).

Based on the data provided by MRCC, Table E-3 presents the extreme cold (minimum) and hot (maximum) temperature records are provided.

Table E-3. MRCC Temperature Extremes – Tompkins County

Station Name	Max (°F)	Max Date	Min (°F)	Min Date	Avg Max	Avg Min
Ithaca Cornell Univ. NY	103	07-09 1936	-25	02-02 1961	80.1	15.1

Source: MRCC, 2020

Between 1954 and 2020, New York State was not included in any major disaster declarations or emergency declarations due to extreme temperatures. Information regarding specific details of temperature extremes in Tompkins County is scarce; therefore, previous occurrences and losses associated with extreme temperature events are limited. Table E-4 summarizes the extreme temperature events in the County.



Table E-4. Extreme Temperature Events between 1950 and 2020

Dates of Event	Event Type	FEMA Declaration Number	County Designated?	Losses / Impacts	Source(s)
09/28/2000	Extreme Cold/wind Chill	NA	Yes	Narrative On the evening of the 28th and the morning of the 29th a widespread killing freeze occurred across central New York and northeast Pennsylvania. Most observations had low temperatures below 30 degrees Fahrenheit. Record lows for the 29th of September were set in Syracuse and Binghamton New York and Avoca Pennsylvania. All three were at least in the coldest five temperatures for September.	NOAA NCEI
05/17/2002	Extreme Cold/wind Chill	NA	Yes	A cold front went through central New York the morning of May 17th. A surface low pressure area moved east across the Tennessee Valley on the 17th to the mid-Atlantic region early on the 18th. Precipitation in the form of rain was spread east and north ahead of the surface low on the 17th. The rain over central New York changed to wet snow from west to east starting late on the 17th. Accumulations were mostly over 1500 feet in elevation with up to 5 inches above 2000 feet in the Catskills. For the Binghamton Regional Airport it was the greatest snowfall so late in the season. 1.7 inches fell at the airport which is at about 1600 feet. The snow caused tree limbs and wires to come down. The hardest hit area for power outages was around Stamford in Delaware County. Much of this area is over 2000 feet in the Catskills. A total of \$3k worth of damage was reported.	NOAA NCEI
07/21/2011	Excessive Heat	NA	Yes	High pressure moved off the east coast of the United States, allowing extreme heat that had been building over the central part of the country to move east. For three days, high temperatures across much of central New York rose well up into the 90s and exceeded 100 degrees in many typically warmer valley locations.	NOAA NCEI

Note (1): Monetary figures within this table were U.S. Dollar (USD) figures calculated during or within the approximate time of the event. If such an event would occur in the present day, monetary losses would be considerably higher in USDs as a result of increased U.S. Inflation Rates.

NOAA-NCDC National Oceanic Atmospheric Administration – National Climate Data Center

NWS
NYS

National Weather Service
New York State

Agriculture-related disasters are quite common. The Secretary of Agriculture is authorized to designate counties as disaster areas to make emergency loans (EM) to producers suffering losses in those counties and in counties that are contiguous to a designated county. Table E-5 presents USDA declared drought, excessive heat, frosts and freeze events impacting Tompkins County.

Table E-5. USDA Declared Disasters

Incidence Period	Event Type	USDA Declaration Number	Description	Source(s)
3/1/2012	Frost Freeze	S3249	Frosts and freezes	USDA
4/1/2012	Winter Storm	S3252	Excessive snow and freezes	USDA
6/2/2012	Drought	S3427	Drought, excessive heat	USDA
5/13/2013	Frost	S3594	Freeze and frost	USDA
12/1/2013	Freeze	S3666	Freeze	USDA
1/1/2015	Freeze	S3886	Frost, Freeze, and Excessive Snow	USDA

Source: USDA, 2020

*Disaster event occurred within the county.

- M Presidential Major Disaster Declaration
- N Administrative Physical Loss Notification
- S Secretarial National Disaster Determination
- USDA United States Department of Agriculture

E.5 Risk Assessment Tables

The following tables and figures display the Vulnerability Assessment results and supplemental data from the for each Hazard of Concern. The following list features abbreviations that pertain to the tables below:

- (C) – City
- (T) – Town
- (V) – Village
- RCV – Replacement Cost Value
- DPW – Department of Public Works
- EMS – Emergency Medical Services
- EOC – Emergency Operations Center



Drought

Qualitative analysis conducted; no tables.

Table E-6. Estimated Values of Residential and Commercial Buildings and Contents within Class D and E NEHRP Soils.

Jurisdiction	Total Number of Buildings	Total Replacement Cost Value (RCV)	Total (All Occupancies)			
			Class D and E NEHRP Soils			
			Number of Buildings	Percent Total	Replacement Cost Value	Percent Total
Caroline (T)	3,257	\$2,523,108,347	0	0%	\$0	0%
Cayuga Heights (V)	1,183	\$1,548,665,909	0	0%	\$0	0%
Danby (T)	3,008	\$2,188,454,321	0	0%	\$0	0%
Dryden (T)	8,518	\$8,740,906,102	0	0%	\$0	0%
Dryden (V)	1,022	\$1,135,109,100	0	0%	\$0	0%
Enfield (T)	3,559	\$2,736,468,231	0	0%	\$0	0%
Freeville (V)	409	\$356,699,295	0	0%	\$0	0%
Groton (T)	3,610	\$2,804,801,342	0	0%	\$0	0%
Groton (V)	1,205	\$1,203,171,190	0	0%	\$0	0%
Ithaca (C)	7,450	\$19,712,305,674	0	0%	\$0	0%
Ithaca (T)	6,080	\$10,868,181,586	0	0%	\$0	0%
Lansing (T)	6,010	\$6,270,191,033	382	6.4%	\$494,538,822	7.9%
Lansing (V)	1,055	\$3,436,043,635	1	0.1%	\$2,025,764	0.1%
Newfield (T)	4,669	\$3,848,204,673	0	0%	\$0	0%
Trumansburg (V)	1,061	\$1,241,549,970	0	0%	\$0	0%
Ulysses (T)	3,552	\$3,372,144,448	119	3.4%	\$136,858,060	4.1%
Tompkins County (Total)	55,648	\$71,986,004,856	502	0.9%	\$633,422,646	0.9%

Source: HAZUS-MH v4.2.



Table E-7. Numbers of Critical Facilities Located on Soils of NEHRP Class D or E

Jurisdiction	Communications - Cell Tower	Education - Primary
Caroline (T)	0	0
Cayuga Heights (V)	0	0
Danby (T)	0	0
Dryden (T)	0	0
Dryden (V)	0	0
Enfield (T)	0	0
Freeville (V)	0	0
Groton (T)	0	0
Groton (V)	0	0
Ithaca (C)	0	0
Ithaca (T)	0	0
Lansing (T)	1	2
Lansing (V)	0	0
Newfield (T)	0	0
Trumansburg (V)	0	0
Ulysses (T)	0	0
Tompkins County (Total)	1	2

Source: NYS DHSES 2019, Tompkins HMP 2020

Extreme Temperature

Qualitative analysis conducted; no tables.

Flood

The below tables display results of the exposure and HAZUS-MH v4.2 analyses conducted for the County.



Table E-8. Number of Critical Facilities Located in the 1-Percent Annual Chance Flood Zone

Jurisdiction	Critical Facilities Exposed to the 1-Percent Annual Chance Flood Event							
	Dam	Education - Higher	Electrical Power Grid	Fire Station	Government	Medical Office	Post Office	Wastewater Pump Station
Caroline (T)	0	0	0	0	1	0	0	0
Cayuga Heights (V)	0	0	0	0	0	0	0	0
Danby (T)	0	0	0	0	0	0	0	0
Dryden (T)	1	0	0	1	0	0	0	0
Dryden (V)	0	0	0	1	1	1	0	0
Enfield (T)	0	0	0	0	0	0	0	0
Freeville (V)	0	0	0	0	0	0	0	0
Groton (T)	0	0	0	1	0	0	1	0
Groton (V)	0	0	0	0	0	3	0	0
Ithaca (C)	0	1	1	0	0	0	0	1
Ithaca (T)	3	3	0	0	1	0	0	1
Lansing (T)	0	0	0	0	0	0	0	0
Lansing (V)	0	0	0	0	0	0	0	0
Newfield (T)	0	0	0	0	0	0	0	0
Trumansburg (V)	0	0	0	0	0	0	0	0
Ulysses (T)	0	0	0	0	0	0	0	0
Tompkins County (Total)	4	4	1	3	3	4	1	2

Source: FEMA 2020, Tompkins County GIS & Mapping Services

Table E-9. Number of Critical Facilities Located in the 0.2-Percent Annual Chance Flood Zone

Jurisdiction	Critical Facilities Exposed to the 0.2-Percent Annual Chance Flood Event							
--------------	--	--	--	--	--	--	--	--

	Dam	Education - Higher	Education - Primary	Electrical Power Grid	Electrical Substation	Fire Station	Fire/EMS	Government	Medical Office	Oil Facility	Post Office	Potable Water Tank
Caroline (T)	0	0	0	0	0	0	0	1	0	0	0	0
Cayuga Heights (V)	0	0	0	0	0	0	0	0	0	0	0	0
Danby (T)	0	0	0	0	0	0	0	0	0	0	0	0
Dryden (T)	1	0	0	0	0	1	0	0	0	0	0	0
Dryden (V)	0	0	0	0	0	1	0	1	1	0	0	0
Enfield (T)	0	0	0	0	0	0	0	0	0	0	0	0
Freeville (V)	0	0	0	0	0	0	0	0	0	0	0	0
Groton (T)	0	0	0	0	0	1	0	0	0	0	1	0
Groton (V)	0	0	0	0	0	0	0	0	3	0	0	0
Ithaca (C)	0	3	1	1	1	0	1	5	14	1	0	1
Ithaca (T)	3	3	0	0	0	0	0	1	0	0	0	1
Lansing (T)	0	0	0	0	0	0	0	0	0	0	0	0
Lansing (V)	0	0	0	0	0	0	0	0	0	0	0	0
Newfield (T)	0	0	0	0	0	0	0	0	0	0	0	0
Trumansburg (V)	0	0	0	0	0	0	0	0	0	0	0	0
Ulysses (T)	0	0	0	0	0	0	0	0	0	0	0	0
Tompkins County (Total)	4	6	1	1	1	3	1	8	18	1	1	2

Source: FEMA 2020, Tompkins County GIS & Mapping Services



Table E-10. Estimated Debris Generated from the 1-Percent Annual Chance Flood Event

Jurisdiction	Debris Generated by the 1-Percent Annual Chance Flood Event			
	Total (tons)	Finish (tons)	Structure (tons)	Foundati
Caroline (T)	284	120	91	7
Cayuga Heights (V)	0	0	0	0
Danby (T)	20	9	6	0
Dryden (T)	475	184	147	1
Dryden (V)	128	128	0	0
Enfield (T)	0	0	0	0
Freeville (V)	67	49	10	0
Groton (T)	920	311	319	2
Groton (V)	248	222	15	1
Ithaca (C)	9,604	6,349	1,710	1,5
Ithaca (T)	1,188	372	452	3
Lansing (T)	698	237	255	2
Lansing (V)	0	0	0	0
Newfield (T)	705	140	265	3
Trumansburg (V)	214	134	46	3
Ulysses (T)	176	75	55	4
Tompkins County (Total)	14,728	8,331	3,371	3,0

Source: HAZUS-MH v4.2

Severe Storm

The below tables display results of the HAZUS-MH v4.2 analysis conducted for the County.

Table E-11. Description of Damage Categories

Qualitative Damage Description	Roof Cover Failure	Window Door Failures	Roof Deck	Missile Impacts on Walls	Roof Structure Failure	Wall Structure Failure
No Damage or Very Minor Damage Little or no visible damage from the outside. No broken windows, or failed roof deck. Minimal loss of roof over, with no or very limited water penetration.	≤2%	No	No	No	No	No
Minor Damage Maximum of one broken window, door or garage door. Moderate roof cover loss	>2% and ≤15%	One window, door, or	No	<5 impacts	No	No

Qualitative Damage Description	Roof Cover Failure	Window Door Failures	Roof Deck	Missile Impacts on Walls	Roof Structure Failure	Wall Structure Failure
that can be covered to prevent additional water entering the building. Marks or dents on walls requiring painting or patching for repair.		garage door failure				
Moderate Damage Major roof cover damage, moderate window breakage. Minor roof sheathing failure. Some resulting damage to interior of building from water.	>15% and ≤50%	> one and ≤ the larger of 20% & 3	1 to 3 panels	Typically 5 to 10 impacts	No	No
Severe Damage Major window damage or roof sheathing loss. Major roof cover loss. Extensive damage to interior from water.	>50%	> the larger of 20% & 3 and ≤50%	>3 and ≤25%	Typically 10 to 20 impacts	No	No
Destruction Complete roof failure and/or, failure of wall frame. Loss of more than 50% of roof sheathing.	Typically >50%	>50%	>25%	Typically >20 impacts	Yes	Yes

Source: HAZUS-MH Hurricane Technical Manual

Table E-12. Estimated Residential and Commercial Building Value (Structure Only) Damaged by the 100-Year and 500-Year MRP Wind Events

Jurisdiction	Total Replacement Cost Value (All Occupancies)	Estimated Residential Damages		Estimated Commercial Damages	
		100-Year	500-Year	100-Year	500-Year
Caroline (T)	\$2,523,108,347	\$0	\$129,139	\$0	\$0
Cayuga Heights (V)	\$1,548,665,909	\$0	\$0	\$0	\$0
Danby (T)	\$2,188,454,321	\$0	\$117,097	\$0	\$0
Dryden (T)	\$8,740,906,102	\$0	\$164,691	\$0	\$0
Dryden (V)	\$1,135,109,100	\$0	\$42,688	\$0	\$0
Enfield (T)	\$2,736,468,231	\$0	\$17,035	\$0	\$0
Freeville (V)	\$356,699,295	\$0	\$1,155	\$0	\$0
Groton (T)	\$2,804,801,342	\$0	\$8,878	\$0	\$0
Groton (V)	\$1,203,171,190	\$0	\$2,973	\$0	\$0
Ithaca (C)	\$19,712,305,674	\$0	\$70,429	\$0	\$0
Ithaca (T)	\$10,868,181,586	\$0	\$85,463	\$0	\$0
Lansing (T)	\$6,270,191,033	\$0	\$11,402	\$0	\$0
Lansing (V)	\$3,436,043,635	\$0	\$718	\$0	\$0



Newfield (T)	\$3,848,204,673	\$0	\$146,370	\$0	\$0
Trumansburg (V)	\$1,241,549,970	\$0	\$1,082	\$0	\$0
Ulysses (T)	\$3,372,144,448	\$0	\$4,675	\$0	\$0
Tompkins County (Total)	\$71,986,004,856	\$0	\$803,794	\$0	\$0

Source: HAZUS-MH 4.2



Table E-13. Debris Production for 500-Year Mean Return Period Wind Event

Source: HAZUS-MH 4.2

Jurisdiction	Brick and Wood (tons)		Concrete and Steel (tons)		Tree (tons)		Eligible Tree Volume (cubic yards)	
	100-Year	500-Year	100-Year	500-Year	100-Year	500-Year	100-Year	500-Year
	Caroline (T)	0	0	0	0	0	0	0
Cayuga Heights (V)	0	0	0	0	0	0	0	0
Danby (T)	0	0	0	0	0	0	0	0
Dryden (T)	0	0	0	0	0	0	0	0
Dryden (V)	0	0	0	0	0	0	0	0
Enfield (T)	0	0	0	0	0	0	0	0
Freeville (V)	0	0	0	0	0	0	0	0
Groton (T)	0	0	0	0	0	0	0	0
Groton (V)	0	0	0	0	0	0	0	0
Ithaca (C)	0	0	0	0	0	0	0	0
Ithaca (T)	0	0	0	0	0	0	0	0
Lansing (T)	0	0	0	0	0	0	0	0
Lansing (V)	0	0	0	0	0	0	0	0
Newfield (T)	0	0	0	0	0	0	0	0
Trumansburg (V)	0	0	0	0	0	0	0	0
Ulysses (T)	0	0	0	0	0	0	0	0
Tompkins County (Total)	0	0	0	0	0	0	0	0



Severe Winter Storm

Figure E-4. The Sperry-Piltz Ice Accumulation Index

The Sperry-Piltz Ice Accumulation Index, or “SPIA Index” – Copyright, February, 2009

ICE DAMAGE INDEX	DAMAGE AND IMPACT DESCRIPTIONS
0	Minimal risk of damage to exposed utility systems; no alerts or advisories needed for crews, few outages.
1	Some isolated or localized utility interruptions are possible, typically lasting only a few hours. Roads and bridges may become slick and hazardous.
2	Scattered utility interruptions expected, typically lasting 12 to 24 hours. Roads and travel conditions may be extremely hazardous due to ice accumulation.
3	Numerous utility interruptions with some damage to main feeder lines and equipment expected. Tree limb damage is excessive. Outages lasting 1 – 5 days.
4	Prolonged & widespread utility interruptions with extensive damage to main distribution feeder lines & some high voltage transmission lines/structures. Outages lasting 5 – 10 days.
5	Catastrophic damage to entire exposed utility systems, including both distribution and transmission networks. Outages could last several weeks in some areas. Shelters needed.

(Categories of damage are based upon combinations of precipitation totals, temperatures and wind speeds/directions.)

Source: SPI-index, 2009

Wildfire

The Wildland-Urban Interface (Interface and Intermix) obtained through the SILVIS Laboratory, Department of Forest Ecology and Management, University of Wisconsin – Madison, was referenced to delineate



Table E-14. Critical Facilities within the WUI (Intermix or Interface) in Tompkins County

Jurisdiction	Facility Types																							
	Communicat Facility	Communicat Facility - Radio	Communicat Facility - Tower	Dam	Day Care	DPW	Education - High School	Education - Elementary	Electrical Power Grid	Electrical Substation	Fire Station	Fire/EMS	Government	Hospital	Library	Medical Office	Municipal Hall	Natural Gas Facility	Police Station	Post Office	Potable Water Tank	Potable Water Tower	Utility	Wastewater Pump Station
Caroline (T)	1	0	1	0	0	0	0	1	0	0	2	1	0	0	0	0	0	0	0	1	0	0	0	0
Cayuga Heights (V)	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Danby (T)	0	1	0	0	0	0	0	2	0	0	1	0	1	0	0	0	1	1	0	0	0	0	0	0
Dryden (T)	0	0	0	1	0	0	1	0	1	0	1	1	1	0	0	1	0	2	0	0	1	0	0	0
Dryden (V)	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Enfield (T)	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0
Freeville (V)	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	0
Groton (T)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Groton (V)	0	0	0	0	0	0	0	4	0	0	0	0	3	0	0	0	2	0	0	0	0	0	0	0
Ithaca (C)	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	1	0	1	0	0	2	0	0	1
Ithaca (T)	0	0	0	3	1	1	14	3	1	0	0	0	7	1	0	13	0	1	0	0	6	1	1	0
Lansing (T)	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0
Lansing (V)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Newfield (T)	0	0	3	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	1	0	1	0	0	0
Trumansburg (V)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ulysses (T)	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Tompkins County (Total)	1	1	4	5	1	1	18	12	4	1	6	2	18	1	1	16	5	8	1	1	11	1	1	1

APPENDIX F. CRITICAL FACILITIES

Due to the sensitive nature of this information, details of each have been redacted for the public document. A full list of critical facilities identified for the vulnerability analysis is available at the Tompkins County Office of Planning and Sustainability. Contact the Hazard Mitigation Coordinator, Scott Doyle, to view the list.



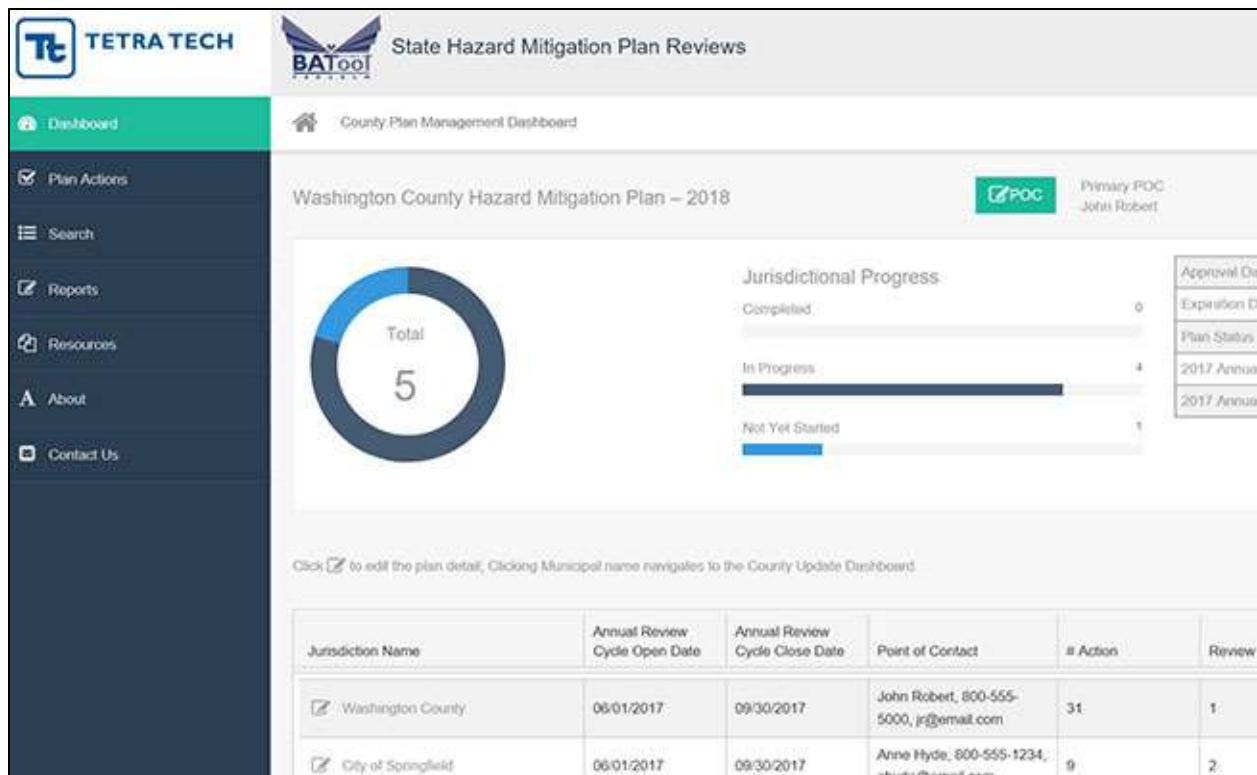
APPENDIX G. PLAN MAINTENANCE TOOLS

This appendix includes worksheets to facilitate plan maintenance and review by the Tompkins County Planning Partnership.

In the first year of the performance period, an online performance progress reporting system, the BAToolSM will provide municipal and county representatives direct access to their mitigation initiatives to easily update the status of each project, document successes or obstacles to implementation, add or delete projects to maintain mitigation project implementation. This online program will capture information and roll all input into a report to summarize mitigation strategy progress.



Figure G-1. BAToolSM Screenshot



The FEMA 386-4 guidance worksheets are also available to assist with progress reporting. These worksheets are provided below for ease of access to the HMP Coordinator and Planning Partnership to maintain the 2021 HMP throughout its period of performance.



Worksheet #1

Progress Report

step 2

Progress Report Period: _____ to _____
(date) (date)

Project Title: _____ Project ID#: _____

Responsible Agency: _____

Address: _____

City/County: _____

Contact Person: _____ Title: _____

Phone #(s): _____ email address: _____

List Supporting Agencies and Contacts:

Total Project Cost: _____

Anticipated Cost Overrun/Underrun: _____

Date of Project Approval: _____ Start date of the project: _____

Anticipated completion date: _____

Description of the Project (include a description of each phase, if applicable, and the time frame for completing each phase): _____

Milestones	Complete	Projected Date of Completion



Plan Goal(s)/Objective(s) Addressed:

Goal: _____

Objective: _____

Indicator of Success (e.g., losses avoided as a result of the acquisition program):

In most cases, you will list losses avoided as the indicator. In cases where it is difficult to quantify the benefits in dollar amounts, you will use other indicators, such as the number of people who now know about mitigation or who are taking mitigation actions to reduce their vulnerability to hazards.

Status (Please check pertinent information and provide explanations for items with an asterisk. For completed or canceled projects, see Worksheet #2 — to complete a project evaluation):

Project Status

Project on schedule

Project completed

Project delayed*

*explain: _____

Project canceled

Project Cost Status

Cost unchanged

Cost overrun*

*explain: _____

Cost underrun*

*explain: _____

Summary of progress on project for this report:

A. What was accomplished during this reporting period?

B. What obstacles, problems, or delays did you encounter, if any?

C. How was each problem resolved?



Worksheet #2 Evaluate Your Planning Team step **3**

When gearing up for the plan evaluation, the planning team should reassess its composition and ask the following questions:

	YES	NO
Have there been local staffing changes that would warrant inviting different members to the planning team?		
Comments/Proposed Action:		
Are there organizations that have been invaluable to the planning process or to project implementation that should be represented on the planning team?		
Comments/Proposed Action:		
Are there any representatives of essential organizations who have not fully participated in the planning and implementation of actions? If so, can someone else from this organization commit to the planning team?		
Comments/Proposed Action:		
Are there procedures (e.g., signing of MOAs, commenting on submitted progress reports, distributing meeting minutes, etc.) that can be done more efficiently?		
Comments/Proposed Action:		
Are there ways to gain more diverse and widespread cooperation?		
Comments/Proposed Action:		
Are there different or additional resources (financial, technical, and human) that are now available for mitigation planning?		
Comments/Proposed Action:		

If the planning team determines the answer to any of these questions is "yes," some changes may be necessary.



Worksheet #3 Evaluate Your Project Results

step 3

page 1 of 2

Project Name and Number: _____

Project Budget: _____

Project Description: _____

Associated Goal and Objective(s): _____

Indicator of Success (e.g., losses avoided): _____



Was the action implemented? YES NO



Why not?

Was there political support for the action?

Were enough funds available?

Were workloads equitably or realistically distributed?

Was new information discovered about the risks or community that made implementation difficult or no longer sensible?

Was the estimated time of implementation reasonable?

Were sufficient resources (for example staff and technical assistance) available?

YES NO



What were the results of the implemented action? _____



	YES	NO
Were the outcomes as expected? If No, please explain:		
Did the results achieve the goal and objective(s)? Explain how:		
Was the action cost-effective? Explain how or how not:		
What were the losses avoided after having completed the project?		
If it was a structural project, how did it change the hazard profile?		
Additional comments or other outcomes:		

Date: _____

Prepared by: _____



Worksheet #4 Revisit Your Risk Assessment step 4

Risk Assessment Steps	Questions	YES	NO	COMMENTS
Identify hazards	Are there new hazards that can affect your community?			
Profile hazard events	Are new historical records available?			
	Are additional maps or new hazard studies available?			
	Have chances of future events (along with their magnitude, extent, etc.) changed?			
	Have recent and future development in the community been checked for their effect on hazard areas?			
Inventory assets	Have inventories of existing structures in hazard areas been updated?			
	Is future land development accounted for in the inventories?			
	Are there any new special high-risk populations?			
Estimate losses	Have loss estimates been updated to account for recent changes?			

If you answered "Yes" to any of the above questions, review your data and update your risk assessment information accordingly.



Worksheet #5

Revise the Plan

step 4

page 1 of 4

Prepare to update the plan.

When preparing to update the plan:

Check the box when addressed:

1. Gather information, including project evaluation worksheets, progress reports, studies, related plans, etc.	
Comments:	
2. Reconvene the planning team, making changes to the team composition as necessary (see results from Worksheet #2).	
Comments:	

Consider the results of the evaluation and new strategies for the future.

When examining the community consider:

Check the box when addressed:

1. The results of the planning and outreach efforts.	
Comments:	
2. The results of the mitigation efforts.	
Comments:	



3. Shifts in development trends.	
Comments:	
4. Areas affected by recent disasters.	
Comments:	
5. The recent magnitude, location, and type of the most recent hazard or disaster.	
Comments:	
6. New studies or technologies.	
Comments:	
7. Changes in local, state, or federal laws, policies, plans, priorities, or funding.	
Comments:	



8. Changes in the socioeconomic fabric of the community.	
Comments:	
9. Other changing conditions.	
Comments:	

Incorporate your findings into the plan.

When examining the plan consider:

Check the box when addressed:

1. Revisit the risk assessment. (See Worksheet #4)	
Comments:	
2. Update your goals and strategies.	
Comments:	
3. Recalculate benefit-cost analyses of projects to prioritize action items.	
Comments:	



Use the following criteria to evaluate the plan:

Criteria	YES	NO	Solution
Are the goals still applicable?			
Have any changes in the state or community made the goals obsolete or irrelevant?			
Do existing actions need to be reprioritized for implementation?			
Do the plan's priorities correspond with state priorities?			
Can actions be implemented with available resources?			

Comments:



APPENDIX H. MITIGATION CATALOG

This appendix includes the mitigation catalog developed with input from the Tompkins County Steering Committee.



DISEASE OUTBREAK

Personal Scale

- **Manipulate the Hazard:**
 - None
- **Reduce exposure to the hazard:**
 - Proper hygiene
 - PPE
 - Social distancing
- **Reduce vulnerability to the hazard:**
 - Focus on personal health
- **Increase Capability**
 - Storage of PPE
 - Storage of supplies and food to reduce need to enter public spaces

Corporate Scale

- **Manipulate the Hazard:**
 - None
- **Reduce exposure to the hazard:**
 - PPE
 - Social distancing
- **Reduce vulnerability to the hazard:**
 - Distanced work environment
 - Regular cleaning of work environment
- **Increase Capability:**
 - Storage of PPE
 - Equipment for monitoring
 - Trainings for staff

Government Scale

- **Manipulate the Hazard:**
 - None
- **Reduce exposure to the hazard:**
 - PPE
 - Social distancing
- **Reduce vulnerability to the hazard:**
 - Distanced work environment
 - Regular cleaning of work environment
 - Designate testing site/ quarantine facility
 - Establish mutual aid agreement for emergency services.
- **Increase Capability:**
 - Storage of PPE
 - Equipment for monitoring/treatment
 - Trainings for staff
 - Public outreach



DROUGHT

Personal Scale

- **Manipulate the Hazard:**
 - None
- **Reduce exposure to the Hazard:**
 - Consider stored water/captured water techniques during dry seasons.
 - Establishing an irrigation time/scheduling program or process so that all agricultural land gets the required amount of water. Through incremental timing, each area is irrigated at different times so that all water is not consumed at the same time. Spacing usage may also help with recharge of groundwater.
- **Reduce vulnerability to the Hazard:**
 - Drought resistant landscapes
 - Reduce water system losses
 - Regularly check for leaks to minimize water supply losses
 - Install low-flow water saving showerheads and toilets
 - Turn water flow off while brushing teeth or during other cleaning activities
 - Adjust sprinklers to water the lawn and not the sidewalk or street.
 - Run the dishwasher and washing machine only when they are full.
 - Check for leaks in plumping or dripping faucets.
 - Install rain-capturing devices for irrigation.
 - Install graywater systems in homes to encourage water reuse.
 - Rotate crops by growing a series of different types of crops on the same fields every season to reduce soil erosion.
 - Planting “cover crops,” such as oats, wheat, and buckwheat, to prevent soil erosion.
 - Practicing contour farming by farming along elevation contour lines to slow water runoff during rainstorms and prevent soil erosion, allowing the water time to absorb into the soil.
 - Using terracing on hilly or mountainous terrain to decrease soil erosion and surface runoff
 - Using zero and reduced tillage to minimize soil disturbance and leave crop residue on the ground to prevent soil erosion.

Corporate Scale

- **Manipulate the Hazard:**
 - Increase green space and decrease the amount of blacktop parking lot.
- **Reduce exposure to the Hazard:**
 - Consider stored water/captured water techniques during dry seasons.
- **Reduce vulnerability to the Hazard:**
 - Drought resistant landscapes
 - Reduce private water system losses
 - Identify alternate water supply sources.
 - Install low-flow water saving toilets
 - Adjust sprinklers to water the lawn and not the sidewalk or street.
- **Increase Capability:**
 - Practice active water conservation
 - Develop a COOP
 - Create a water conservation plan.
 - Preserve economic stability during a drought by encouraging agricultural interests to obtain crop insurance to cover potential losses due to drought

Government Scale

- **Manipulate the Hazard:**
 - Ground Water Recharge through stormwater management
 - Implement cloud seeding techniques during dry seasons.
- **Reduce exposure to the Hazard:**
 - Identify and create ground water back up sources.
 - Create /identify new impounded water supply points.
 - Developing new or upgrading existing water delivery systems to eliminate breaks and leaks.
- **Reduce vulnerability to the Hazard:**
 - Water use conflict regulations
 - Reduce water system losses
 - Distribute water saving kits
 - Identify sites ideally suited for ground water recharge.
 - Implement stormwater retention in regions ideally suited for groundwater recharges.
 - Utilize drought resistant landscapes on community owned facilities.
 - Encourage citizens to take water-saving measures
- **Increase Capability:**
 - Public education on drought resistance
 - Identify alternative water supplies for time of drought. Mutual aid agreements with alternative suppliers.
 - Develop a drought contingency plan
 - Develop criteria-"triggers" for drought related actions
 - Improve accuracy of water supply forecasts
 - Provide incentives to influence active water conservation techniques such as water user rate reductions.
 - Establish protocol for salt water de-salinization to be implemented during conditions of severe drought.
 - Consider providing incentives to property owners that utilize drought resistant landscapes in the design of their homes.
 - Use of water buffalo tankers



DROUGHT

Personal Scale

Corporate Scale

Government Scale

<ul style="list-style-type: none"> ○ Constructing windbreaks to prevent evaporation from reclaiming salt-affected soil. ○ Collecting rainwater and using natural runoff to water plants. ● Increase Capability: <ul style="list-style-type: none"> ○ Practice active water conservation techniques. ○ Seek ways to operate wells in such a way to enhance their functional longevity and supply capability. 		<ul style="list-style-type: none"> ○ Promote well usage techniques that strive to enhance functional longevity and supply capability of private water supply wells. ○ Develop an ordinance to restrict the use of public water resources for non-essential usage, such as landscaping, washing cars, filling swimming pools, etc.
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EXTREME TEMPERATURES		
Personal Scale	Corporate Scale	Government Scale
<ul style="list-style-type: none"> • Manipulate the Hazard: <ul style="list-style-type: none"> ○ None • Reduce exposure to the hazard: <ul style="list-style-type: none"> ○ Insulate structure ○ Provide redundant power. ○ Plant appropriate trees near home ("Right tree, right place" National Arbor Day Foundation Program). • Reduce vulnerability to the hazard: <ul style="list-style-type: none"> ○ Air condition non-conditioned buildings. ○ Install backup heat (e.g. wood burning stoves) ○ Incorporate "green building" methods (e.g. green roofs) • Increase Capability <ul style="list-style-type: none"> ○ Be aware of impending heat waves. ○ Inform yourself on the do's and don'ts during heat waves. ○ Have fans available for use during peak demands in leu of air conditioning. ○ Install back-up generators <p>Know the location of cooling and warming shelters</p>	<ul style="list-style-type: none"> • Manipulate the Hazard: <ul style="list-style-type: none"> ○ None • Reduce exposure to the hazard: <ul style="list-style-type: none"> ○ Create redundancy to power supply to deal with power grid vulnerability during high demands • Reduce vulnerability to the hazard: <ul style="list-style-type: none"> ○ Air condition non-conditioned buildings. ○ Incorporate "green building" methods (e.g. green roofs) • Increase Capability: <ul style="list-style-type: none"> ○ Inform employees of the seriousness of heat waves. ○ Monitor weather forecasts. <p>Establish a COOP.</p>	<ul style="list-style-type: none"> • Manipulate the Hazard: <ul style="list-style-type: none"> ○ None • Reduce exposure to the hazard: <ul style="list-style-type: none"> ○ Create redundancy to power supply to deal with power grid vulnerability during high demands • Reduce vulnerability to the hazard: <ul style="list-style-type: none"> ○ Air condition public buildings. ○ Incorporate "green building" methods (e.g. green roofs) • Increase Capability: <ul style="list-style-type: none"> ○ Inform the public on the seriousness of heat-waves ○ Identify populations vulnerable to extreme heat (elderly, poor) for early warning during potential heat waves. ○ Enhance weather forecasting capability ○ Distribute fans to vulnerable populations. <p>Promote selective approaches to cooling your residences and businesses during peak demands.</p>



FLOOD

Personal Scale

- **Manipulate the Hazard:**
 - Clear stormwater drains and culverts
- **Reduce exposure to the Hazard:**
 - Locate or re-locate outside of Hazard area
 - Institute low impact development techniques on property
- **Reduce vulnerability to the Hazard:**
 - Retrofit existing structures and utilities above Base Flood Elevation (BFE)
 - Floodproof existing structures (wet- or dry floodproofing).
 - Store Hazardous materials above BFE or outside of flood-prone areas
- **Increase Capability:**
 - Develop household mitigation plan, such as retrofit savings, communication capability with outside, 72-hr. self-sufficiency during and after an event
 - Buy flood insurance

Corporate Scale

- **Manipulate the Hazard:**
 - Clear stormwater drains and culverts
- **Reduce exposure to the Hazard:**
 - Locate business critical facilities or functions outside Hazard area
 - Institute low impact development techniques on property
- **Reduce vulnerability to the Hazard:**
 - Build redundancy for critical functions/ retrofit critical buildings.
 - Provide flood-proofing measures when new critical infrastructure must be located in floodplains.
 - Harden structures and infrastructure (wet and dry-floodproofing)
 - Store Hazardous materials above BFE or outside of flood-prone areas
- **Increase Capability:**
 - Increase capability by having cash reserves for reconstruction
 - Develop and adopt a Continuity of Operations Plan (COOP)
 - Solicit "cost-sharing" through partnerships with private sector stakeholders on projects with multiple benefits.
 - Dam owner/operators should continue to be aware of and understand dam inspection and reporting requirements.
 - Ensure that all dam EAP's are kept in compliance with NYSDEC Regulations.

Government Scale

- **Manipulate the Hazard:**
 - Clear stormwater drains and culverts
 - Dredging, levee construction, providing retention areas...
 - Structural flood control: levee's, dams, channelization, revetments.
 - Construct regional stormwater control facilities
 - Lead and develop a county-wide stream clearing strategy including the development of thresholds for response/action.
- **Reduce exposure to the Hazard:**
 - Locate/re-locate critical facilities outside of Hazard area
 - Acquire or relocate identified repetitive loss properties.
 - Promote open space uses in identified high Hazard areas via techniques such as: easements, setbacks, greenways, sensitive area tracks.
 - Adopt land development criteria such as density transfers, clustering
 - Institute low impact development techniques on property
 - Acquire vacant land or promote open space uses in developing watersheds to control increases in runoff
 - Pass an ordinance to incorporate additional zoning classifications into flood zones within each municipality.
 - Increase floodplain standards within municipal ordinances and include provisions for enforcing best practice standards by requiring a minimum freeboard of 2' to align with NY State Standards.
 - Continue development application reviews by County Planning Board to reduce risky development practices.
- **Reduce vulnerability to the Hazard:**
 - Harden structures and infrastructure (wet and dry-floodproofing)
 - Provide redundancy for critical functions and infrastructure
 - Adopt appropriate regulatory standards such as cumulative substantial improvement/damage, freeboard, lower substantial damage threshold, compensatory storage.
 - Stormwater management regulations and master planning.



FLOOD		
Personal Scale	Corporate Scale	Government Scale
		<ul style="list-style-type: none"> ○ Adopt "no-adverse impact" floodplain management policies that strive to not increase the flood risk on down-stream communities. ○ Participate in the Community Rating System (CRS) ○ Implement as-built regulatory requirements ○ Implement site review ordinances/requirements ○ Establish stream maintenance programs with stakeholders (e.g. Soil and Water Conservation District) - support county leads of such efforts ○ Incorporate retrofitting/replacement of critical facilities and infrastructure in Capital Improvement Plans (CIPs) ○ Promote the use of vegetation/plants as green erosion control measures to reduce localized flooding. ○ Work with the SWCD to address removal of debris, log jams, etc. in flood vulnerable stream sections ● Increase Capability: <ul style="list-style-type: none"> ○ Produce better Hazard maps, and improve access to flood Hazard mapping ○ Capture/survey "high-water" marks during flood events. ○ Provide technical information and guidance on appropriate mitigation options available to businesses and homeowners ○ Enact tools to help manage development in Hazard areas (stronger controls, tax incentives, information) ○ Establish an additional layer of zoning within flood Hazard areas (Cicero as an example) ○ Develop strategy to take advantage of post disaster opportunities ○ Improve compliance with and enforcement of the NFIP ○ Develop mitigation partnerships with regional stakeholders (i.e.: CNY RPDB) ○ Join Community Rating System (CRS) program, or improve level of participation in CRS ○ Develop and implement a public information strategy for flood Hazard awareness, flood insurance (NFIP) and mitigation ○ Maintain existing data as well as gather new data needed to define risks and vulnerability. ○ Create a building and elevation inventory of structures in the floodplain ○ Identify flood prone areas that may be in need of new flood studies



FLOOD		
Personal Scale	Corporate Scale	Government Scale
		<ul style="list-style-type: none"> ○ Establish a program to identify and educate owners of flood-prone properties of potential mitigation options (e.g. elevations, relocations) ○ Charge a Hazard mitigation fee on all new permits to create a Hazard mitigation funding source for initiatives or grant cost share requirements. ○ Integrate floodplain management policies into other planning mechanisms within the planning area. ○ Establish a Stormwater Utility to deal with urban drainage/flooding issues ○ Establish incentives to promote flood Hazard mitigation of private property (e.g. permit fee waivers). ○ Adopt ordinances/standards for cumulative damages and/or improvements ○ Upgrade NFIP Floodplain ordinance, as well as other ordinances to current or above current standards. ○ Develop and adopt a COOP ○ Join "Storm Ready" Program ○ Participate in county and regional training programs ○ Provide additional training/certification to NFIP floodplain administrators and code officials. ○ Implement annual training to account for high turnover of municipal officials. ○ Maintain and enhance flood forecasting ability, including the establishment and maintenance of critical stream gages ○ Promote awareness and participation in alert systems such as NY Alert ○ Support and participate in regional flood management efforts, such as the Flood Mitigation Task Force or similar efforts ○ Support and implement Hazard disclosure for the sale/re-sale of property in identified risk zones. ○ Provide continued and enhanced training for emergency responders ○ Establish a revolving "bank" or budget line item to fund grant application support



GROUND FAILURE		
Personal Scale	Corporate Scale	Government Scale
<ul style="list-style-type: none"> • Manipulate the Hazard: <ul style="list-style-type: none"> ○ None • Reduce exposure to the hazard: <ul style="list-style-type: none"> ○ None • Reduce vulnerability to the hazard: <ul style="list-style-type: none"> ○ None • Increase Capability <p>None</p>	<ul style="list-style-type: none"> • Manipulate the Hazard: <ul style="list-style-type: none"> ○ None • Reduce exposure to the hazard: <ul style="list-style-type: none"> ○ None • Reduce vulnerability to the hazard: <ul style="list-style-type: none"> ○ None • Increase Capability: <p>None</p>	<ul style="list-style-type: none"> • Manipulate the Hazard: <ul style="list-style-type: none"> ○ None • Reduce exposure to the hazard: <ul style="list-style-type: none"> ○ Consider hazard areas in land-use planning, zoning and development siting ○ Acquire structures in highest hazard areas (demolish and convert to restricted open space) ○ Relocation of Structures ○ Open Space Preservation • Reduce vulnerability to the hazard: <ul style="list-style-type: none"> ○ Consider hazard areas in land-use planning and development siting ○ Build structures in land subsidence areas on piers anchored to bedrock ○ Stabilize vulnerable slopes near structures and infrastructure. ○ Work with stakeholders such as USGS and SWCD to develop appropriate risk reduction strategies. • Increase Capability: <ul style="list-style-type: none"> ○ Increase understanding of hazard areas (e.g. Landslide Susceptibility Maps) - geotechnical surveys, LIDAR and mapping ○ Work with stakeholders such as USGS, NYS - Geological Survey



GROUND FAILURE		
Personal Scale	Corporate Scale	Government Scale
		and SWCD to develop appropriate risk reduction strategies. <ul style="list-style-type: none"> ○ Support and implement hazard disclosure for the sale/re-sale of property in identified risk zones Develop county-level programs to document slide events (landslide inventory), and maintain its currency



HARMFUL ALGAL BLOOM (HAB)

Personal Scale	Corporate Scale	Government Scale
<ul style="list-style-type: none"> ● Manipulate the Hazard: <ul style="list-style-type: none"> ○ None ● Reduce exposure to the Hazard: <ul style="list-style-type: none"> ○ Comply with harmful algal bloom rules and regulations to minimize the exposure to HAB. ● Reduce vulnerability to the Hazard: <ul style="list-style-type: none"> ○ Form citizen action groups to promote awareness and best practices on local levels. ● Increase Capability: <ul style="list-style-type: none"> ○ Regularly check the NYSDEC HAB Notifications Page for information regarding 	<ul style="list-style-type: none"> ● Manipulate the Hazard: <ul style="list-style-type: none"> ○ Increase permeable pavement to decrease surface runoff and water contamination. ● Reduce exposure to the Hazard: <ul style="list-style-type: none"> ○ None ● Reduce vulnerability to the Hazard: <ul style="list-style-type: none"> ○ None ● Increase Capability: <ul style="list-style-type: none"> ○ Build and maintain partnerships with other stakeholders to coordinate information sharing, and response for Harmful Algal Bloom events throughout the county/region. 	<ul style="list-style-type: none"> ● Manipulate the Hazard: <ul style="list-style-type: none"> ○ None ● Reduce exposure to the Hazard: <ul style="list-style-type: none"> ○ Create/disseminate planting guides which explain Harmful Algal Bloom safety both recreationally and for drinking water purposes. ● Reduce vulnerability to the Hazard: <ul style="list-style-type: none"> ○ Pass municipal ordinances to enforce best practices for invasive species at the local level. ● Increase Capability: <ul style="list-style-type: none"> ○ Build and maintain partnerships with other stakeholders to coordinate information sharing, and response for Harmful Algal Bloom throughout the county/region. ○ Work with federal/state agencies to disseminate information to local municipalities regarding Harmful Algal Bloom ○ Disseminate information to the general public to educate them on Harmful Algal Bloom ○ Work with stakeholders to identify and expand resources for prevention and early detection of Harmful Algal Bloom

Note: Harmful Algal Bloom is a new hazard to the 2020 Update



INVASIVE SPECIES

Personal Scale

- **Manipulate the Hazard:**
 - Participate in quarantine, control, or eradication programs.
- **Reduce exposure to the hazard:**
 - None
- **Reduce vulnerability to the hazard:**
 - Form citizen action groups to promote awareness and best practices on local levels.
- **Increase Capability**
 - Regularly check the NYSISRI Portal for updated information.
 - Comply with Invasive Species rules and regulations to minimize the chance for invasive species to spread.
 - " Broaden collaborations focused on ecosystem restoration and ecosystem-based management. "

Corporate Scale

- **Manipulate the Hazard:**
 - None
- **Reduce exposure to the hazard:**
 - None
- **Reduce vulnerability to the hazard:**
 - None
- **Increase Capability:**

Build and maintain partnerships with other stakeholders to coordinate information sharing, and response for Invasive Species throughout the county/region.

Government Scale

- **Manipulate the Hazard:**
 - Work with Federal/State agencies on quarantine, control, or eradication programs for invasive species.
- **Reduce exposure to the hazard:**
 - Create/disseminate planting guides which explain which types of plants and vegetation are safe to plant within the county.
- **Reduce vulnerability to the hazard:**
 - Pass municipal ordinances to enforce best practices for invasive species at the local level.
- **Increase Capability:**
 - Build and maintain partnerships with other stakeholders to coordinate information sharing, and response for Invasive Species throughout the county/region.
 - Work with federal/state agencies to disseminate information to local municipalities regarding Invasive Species from the NYS Invasive Species Research Institute portal.
 - Disseminate information to the general public to educate them on Invasive Species



INVASIVE SPECIES		
Personal Scale	Corporate Scale	Government Scale
		<ul style="list-style-type: none"> ○ Work with stakeholders to identify and expand resources for prevention and early detection of invasive species. ○ Support New York State's initiative for an invasive species early warning system. ○ Broaden collaborations focused on ecosystem restoration and ecosystem-based management." Build ecological restoration planning into IS management projects. <p>Support New York State's marketing, branding, and educational initiatives.</p>



SEVERE STORMS

Personal Scale

- **Manipulate the Hazard:**
 - None
- **Reduce exposure to the Hazard:**
 - None
- **Reduce vulnerability to the Hazard:**
 - Retrofit structures (improved roofing, installing storm shutters, etc.)
 - Provide for redundant heat and power
 - Contact municipality or utilities to trim or remove trees that could affect power lines
 - Plant appropriate trees near home and power lines ("Right tree, right place" National Arbor Day Foundation Program.
- **Increase Capability:**
 - Regularly check the NYSDEC HAB Notifications Page for information regarding
 - Improve awareness of impending severe weather (e.g. joining NY Alert, obtain a NOAA weather radio)
 - Promote 72-hour self-sufficiency
 - Provide for redundant heat and power

Corporate Scale

- **Manipulate the Hazard:**
 - None
- **Reduce exposure to the Hazard:**
 - None
- **Reduce vulnerability to the Hazard:**
 - Relocate critical infrastructure, such as power lines, underground
 - Reinforce or relocate critical infrastructure such as powerlines so that it meets performance expectations.
- **Increase Capability:**
 - Contact municipality or utilities to trim or remove trees that could affect power lines
 - Create redundancy (e.g. backup generators)
 - Improve awareness of impending severe weather (e.g. joining NY Alert, obtain a NOAA weather radio)
 - Develop a Continuity of Operations Plan (COOP)
 - Monitor impending storm events so that you can release employees in such a manner as to not negatively impact emergency response personnel/services.
 - During power outages, utility companies to assign staff to work with county and local highway departments.

Government Scale

- **Manipulate the Hazard:**
 - None
- **Reduce exposure to the Hazard:**
 - None
- **Reduce vulnerability to the Hazard:**
 - Harden infrastructure such as locating utilities underground.
 - Trimming trees back from power lines
 - Designate evacuation routes and strengthen critical road sections and bridges.
 - Adopt ordinances that regulate the type and quantity of trees planted near utility lines
 - Relocate critical infrastructure, such as power lines, underground
- **Increase Capability:**
 - Implement a program that proactively manages problem areas by use of selective removal of Hazardous trees, tree replacement, etc.
 - Enforce building codes that require all roofs to withstand snow loads.
 - Increase communication alternatives
 - Modify land use and environmental regulations to support vegetation management activities that improve reliability in utility corridors.
 - Modify landscape and other ordinances to encourage appropriate planting near overhead power, cable, and phone lines
 - Promote awareness and participation in alert systems such as NY Alert
 - Provide NOAA weather radios to the public
 - Create/Enhance "mutual aid" agreements for response to all emergencies
 - Create/identify evacuation routes to be utilized during severe storm events.
 - Develop debris management plans.
 - Join "Storm-Ready" program
 - Provide early warning of impending severe storm events to identified critical or essential facilities. This would include facilities such as large employments centers, schools, hospitals
 - Promote emergency power supplies to private property.



SEVERE STORMS		
Personal Scale	Corporate Scale	Government Scale
		<ul style="list-style-type: none">○ Improve, expand or harden communications facilities and services○ Recruit additional emergency personnel or use mutual aid agreements○ Increase sheltering capabilities○ Increase capability to respond to power outages and downed power lines. Establish partnerships with utility providers through pro-active planning.



SEVERE WINTER STORM

Personal Scale

- **Manipulate the Hazard:**
 - None
- **Reduce exposure to the Hazard:**
 - Plant appropriate trees near home and power lines ("Right tree, right place" National Arbor Day Foundation)
- **Reduce vulnerability to the Hazard:**
 - Insulate House to provide greater thermal efficiency and reduce heat loss.
 - Provide redundant heat and power
 - Insulate Structure
 - Ensure natural gas input/release valves do not get covered in snow
- **Increase Capability:**
 - Trim or remove trees that could affect power lines
 - Prepare emergency food and supplies to be self-sufficient for at least 72 hours in the event of a severe winter storm.
 - Be aware of inclement weather conditions and move your vehicles off of the street as severe weather systems approach.
 - Retrofit structures

Corporate Scale

- **Manipulate the Hazard:**
 - None
- **Reduce exposure to the Hazard:**
 - None
- **Reduce vulnerability to the Hazard:**
 - Relocate critical infrastructure, such as power lines, underground
 - Reinforce or relocate critical infrastructure such as powerlines so that it meets performance expectations.
 - Install tree wire
- **Increase Capability:**
 - Trim or remove trees that could affect power lines
 - Create redundancy in utilities and communications
 - Develop a Continuity of Operations Plan (COOP) to address operations before, during and after coastal storm events.
 - Utilize weather radios at the workplace to keep your employees aware of severe weather conditions.

Government Scale

- **Manipulate the Hazard:**
 - None
- **Reduce exposure to the Hazard:**
 - None
- **Reduce vulnerability to the Hazard:**
 - Harden infrastructure such as locating utilities underground where appropriate.
 - Trimming trees back from power lines
 - Designate snow routes and strengthen critical road sections and bridges.
 - Adopt codes and regulations that address the issues of parking of vehicles along roadways during severe weather events.
 - Develop or enhance the capacity/capability of stormwater conveyance systems.
 - Provide backup power sources at vital critical facilities.
- **Increase Capability:**
 - Support programs such as "Tree Watch" that proactively manage problem areas by use of selective removal of Hazardous trees, tree replacement, etc.
 - Establish and enforce building codes that require all roofs to withstand snow loads-- Develop/Improve/Enforce building Codes in Hazard Areas
 - Increase communication alternatives
 - Modify land use and environmental regulations to support vegetation management activities that improve reliability in utility corridors.
 - Modify landscape and other ordinances to encourage appropriate planting near overhead power, cable, and phone lines
 - Provide weather radios to vulnerable populations
 - Enhance public awareness campaigns to address those issues of alert and warning and actions to take during severe weather events.
 - Utilize the best available technology to enhance the warning systems for all severe weather events (i.e.: tornado warning systems).
 - Coordinate severe weather warning capabilities and the dissemination of warning amongst those



SEVERE WINTER STORM

Personal Scale	Corporate Scale	Government Scale
		<p>agencies within the planning are with the highest degree of capability.</p> <ul style="list-style-type: none"> ○ Encourage local ordinances for planting tree near lines and join Tree City USA. ○ Increase tree management programs. ○ Join the Community Rating System ○ Join "Storm-Ready" ○ Retrofit critical structures and promote Hazard resistant construction ○ Keep open communications and education of Hazards for mobile home communities ○ Retrofit above-ground utilities to underground facilities if appropriate ○ Create a salt reserve or research alternates to stretch salt reserve. ○ Ensure accessibility to hospital. ○ Provide better debris logistics and removal. ○ Provide better communication systems and back-up communication



WILDFIRE		
Personal Scale	Corporate Scale	Government Scale
<ul style="list-style-type: none"> ● Manipulate the Hazard: <ul style="list-style-type: none"> ○ Clear potential fuels on property; dry overgrown underbrush; diseased trees ● Reduce exposure to the hazard: <ul style="list-style-type: none"> ○ Clean and maintain defensible space around structures ○ Locate outside hazard area ○ Mow regularly ● Reduce vulnerability to the hazard: <ul style="list-style-type: none"> ○ Create and maintain defensible space around structures, provide water on site. ○ Use fire-retardant building materials ○ Create defensible spaces around your home. ● Increase Capability: <ul style="list-style-type: none"> ○ Employ Firewise techniques to safeguard your home ○ Identify alternative water supply points proximate to your home such as swimming pools, lakes, streams ○ Support your local fire department ○ Be aware of weather conditions that support/enhance the probability of wildfires 	<ul style="list-style-type: none"> ● Manipulate the Hazard: <ul style="list-style-type: none"> ○ None ● Reduce exposure to the hazard: <ul style="list-style-type: none"> ○ None ● Reduce vulnerability to the hazard: <ul style="list-style-type: none"> ○ Create and maintain defensible space around structure and infrastructure and provide water onsite ○ Use fire-retardant building materials ○ Provide stored water to be utilized for firefighting with appropriate fire department connections at facilities not equipped with fire hydrants or inadequate fire hydrant spacing ● Increase Capability: <ul style="list-style-type: none"> ○ Support Firewise community initiatives 	<ul style="list-style-type: none"> ● Manipulate the Hazard: <ul style="list-style-type: none"> ○ None ● Reduce exposure to the hazard: <ul style="list-style-type: none"> ○ Clear fuels (dry underbrush, diseased trees) on land that can trigger and maintain wildfires ○ Implement Best Management Practices on public lands ● Reduce vulnerability to the hazard: <ul style="list-style-type: none"> ○ Create and maintain defensible space around structure and infrastructure ○ Higher regulatory standards ○ Establish water main supply and hydrants in areas without hydrants ○ Decrease hydrant spacing ● Increase Capability: <ul style="list-style-type: none"> ○ More public outreach and education efforts including an active "Firewise" program ○ Identify fire response and alternative evacuation routes ○ Seek alternative water supplies in urban wildland interface areas. ○ Become a "Firewise" community ○ Increase capability to fight wildfires utilizing equipment that can support wildfire fighting such as: tankers, engines with "pump-and-run" capabilities, dump tanks for tanker shuttle operations. ○ Develop/implement wildfire management plans. ○ Establish Mutual Aid Agreements with the Tender Task Force ○ Develop a Water Supply Plan



APPENDIX I MUNICIPAL PLAN REVIEW SUMMARIES

This appendix includes a summary of relevant municipal plans reviewed to identify current integration and future integration opportunities with the HMP. Note that only municipal plans and laws that are relevant to hazard mitigation are included in this appendix. For a list of all municipal plans reviewed for the purpose of this HMP, see Table 3-5 in Section 3 (Planning Process).



Table 0-1. Tompkins County Plan Review Summary

Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
Town of Caroline					
Comprehensive Plan 2020	<ul style="list-style-type: none"> • Preservation of existing open space • Recreation on protected public open space that is safe and consistent with designated uses • Development concentrated away from environmentally sensitive areas • Permanent protection of important natural features and open spaces • Landowner stewardship of natural features and open spaces • Preservation of water quality and quantity and protection against environmental degradation • Discouraging commercial development that would negatively affect local agricultural, business, and residential communities • Encouraging businesses to protect air and water quality • Agricultural practices that protect the quality of land, streams, and wildlife • Propose legislation to guide land use and commercial development • Implement the Stormwater Management Guidelines • Review and revisit the Caroline subdivision and manufactured housing laws • Apply the results of the aquifer studies to land use 	<ul style="list-style-type: none"> • Require setbacks for new buildings from streams/wetlands • Restrict development incompatible with hamlets • Prohibit/restrict large scale commercial development • Provide financial incentives to owners for keeping open space • Strengthen enforcement of building codes • Install additional road signs warning of hazards 	Flooding	No	No



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
Flood Damage Prevention Law 2011	<ul style="list-style-type: none"> Local Law No. 2 of the year 2011 A local law for Flood Damage Prevention as authorized by the New York State Constitution, Article 1 and Environmental Conservation Law, Article 36, enacted by the Town Board of the Town of Caroline. The Town of Caroline Town Board finds that the potential and/or actual damages from flooding and erosion may be a problem to the residents of the Town of Caroline and that such damages may include: destruction or loss of private and public housing, damage to public facilities, both publicly and privately owned, and injury to and loss of human life. It is the purpose of this local law to: <ol style="list-style-type: none"> regulate uses which are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities; require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction; control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of flood waters; control filling, grading, dredging and other development which may increase erosion or flood damages; 	<ul style="list-style-type: none"> The Town of Caroline Code Enforcement Officer hereinafter referred to as the "Local Administrator is responsible for receiving applications, examining the plans and specifications and issuing permits for the proposed construction or development. The objectives of this local law are: (1) to protect human life and health; (2) to minimize expenditure of public money for costly flood control projects; (3) to minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public; (4) to minimize prolonged business interruptions; (5) to minimize damage to public facilities and utilities such as water and gas mains, electric, telephone, sewer lines, streets and bridges located in areas of special flood hazard; (6) to help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas; (7) to provide that developers are notified that property is in an area of special flood hazard; and, (8) to ensure that those who occupy the areas of special flood hazard assume responsibility for their actions. The Local Administrator shall review all permit applications to determine whether proposed building sites will be reasonably 	Flooding	No	Yes - Subdivision



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	(5) regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards to other lands, and; (6) qualify for and maintain participation in the National Flood Insurance Program.	safe from flooding. If a proposed building site is in a flood prone area, all new construction and substantial improvements (including the placement of prefabricated buildings and mobile homes) shall: 1) be designed (or modified) and adequately anchored to prevent flotation, collapse, or lateral movement of the structure, (2) be constructed with materials and utility equipment resistant to flood damage and (3) be constructed by methods and practices that minimize flood damage.			
Subdivision Law 2011	<ul style="list-style-type: none"> Local Law No. 1 of the year 2011. A local law entitled "Town of Caroline Subdivision Law", enacted by the Town Board of the Town of Caroline. These regulations are intended to guide and protect the Town's physical development and to help the Town grow in an orderly, efficient, and economical manner which maintains and reflects the uniqueness of the Town and the character of the Town as a rural community and a beautiful and desirable place in which to live. These regulations are developed to ensure: that land to be subdivided is suitable for building purposes without creating dangers to health or peril from fire, flood, or other menace; that land to be subdivided is suitable for building 	<ul style="list-style-type: none"> All proposed subdivisions shall comply with Town of Caroline Local Law #2 of 2007 Stormwater and Erosion Control Local Law. The proposed subdivision shall not create new or increase existing flooding hazards in flood hazard zones. In order to prevent inundation by flood waters, when a subdivision is within or adjacent to a Special Flood Hazard Area, all development (including filling, paving, and storage of equipment and materials) shall follow the Town's Flood Damage Prevention Local Law. In reviewing a proposed subdivision, the Board shall consider the answers to the following questions; Will the proposed subdivision protect all floodplains, wetlands, and steep slopes from clearing, grading, filling, or construction (except as 	Flooding	No	Yes - Flood Damage Prevention and Stormwater Control



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	<p>purposes without creating dangers to health or peril from fire, flood, or other menace; that proper provision is made for drainage, water supply, sewerage, highways, open space, and other improvements; and that there is optimum overall conservation, protection, development, and use of the environmental resources of the Town.</p>	<p>may be approved by the Town for essential infrastructure or active or passive recreation amenities)? - Will a vegetative buffer be maintained adjacent to wetlands and surface waters, including creeks, streams, springs, lakes and ponds? If not, will such a vegetative buffer of native species be created? - Does the design of the subdivision incorporate existing hedgerows and tree lines between fields or meadows, and minimize impacts on large woodlands (greater than five acres), especially those containing many mature trees or significant wildlife habitat?</p>			
<p>Natural Resource Inventory 2019</p>	<ul style="list-style-type: none"> • Conserve existing natural resources and land to maintain the existing rural characteristics of the municipality. • Reduce wetland degradations by increasing the use of green infrastructure and thereby prevent/ mitigate flooding. 	<ul style="list-style-type: none"> • Reduce wetland degradations by increasing the use of green infrastructure and thereby prevent/ mitigate flooding. 	<p>Flooding</p>	<p>No</p>	<p>No</p>
<p>Caroline Stormwater Management Plan 2018</p>	<ul style="list-style-type: none"> • Provide education to the town residents, contractors, public employees, and school students on stormwater, the importance of stormwater management, what pollutants are carried in stormwater, and how waterbodies are impacted. • Provide opportunities for public participation and input on stormwater management programs to encourage broad public participation and partnership to improve the water quality of Cayuga Lake and tributary streams. • Respond to complaints of failed septic 	<p>Conduct stormwater infrastructure improvement/ development.</p> <ul style="list-style-type: none"> • Conduct education and outreach around flood control, water resource preservation, and conservation. • Help increase municipal resilience by working to update and work with municipal departments to 	<ul style="list-style-type: none"> • Flooding • HABs 	<p>No</p>	<p>Yes, comprehensive plan</p>



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	systems and assist homeowners with repairing or replacing the septic system. Prohibit and enforce runoff with pollutants of concern as described in depth in the law's text from construction sites. • Prohibit and enforce runoff with pollutants of concern as described in depth in the law's text from construction sites post-construction.				
Caroline Climate Vulnerability Assessment 2019	<ul style="list-style-type: none"> • Decrease existing flood risk to the town of Caroline, especially Brooktondale, Speeds Ville, and Slaterville. • Increase coordination and streamlined communication between municipal departments, county emergency management, community organizations, and municipal government. Improve existing land use to reduce flooding, water contamination, and HABs. • Develop an invasive species program to reduce vulnerability. • Work with county to implement the All County Hazard Mitigation Plan Goals. • Develop a streamlined participatory flood map to update existing flood maps. 	<ul style="list-style-type: none"> • Decrease existing flood risk to the town of Caroline, especially Brooktondale, Speedsville, and Slaterville. • Increase coordination and streamlined communication between municipal departments, county emergency management, community organizations, and municipal government. Improve existing land use to reduce flooding, water contamination, and HABs. • Develop an invasive species program to reduce vulnerability. • Work with county to implement the All County Hazard Mitigation Plan Goals. • Develop a streamlined participatory flood map to update existing flood maps. 	Flooding, HABs, Droughts, Extreme Storms, Extreme winter Storms, Stormwater Management, Heat Waves, and CAFOs	Yes, the hazard introduction section.	Yes, 2020 -21 new comprehensive plan
Climate Smart Resilience Planning Assessment Report 2018	<ul style="list-style-type: none"> •Update Comprehensive Plan •Address increasing climate change related issues through planning and updating land use practices. •Update comprehensive emergency management Plan 	update comprehensive emergency management plan •integrate climate change into new comprehensive plan	Flooding, HABs, Drought		



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
Comprehensive Emergency Management Plan 2003	<ul style="list-style-type: none"> Identify, assess and prioritize vulnerabilities to emergencies or disasters and the resources available to prevent or mitigate, respond to, and recover from them Outline short medium and long-range measures to improve the Town's capability to manage hazards Provide that the Town government will take appropriate actions to prevent or mitigate effects of hazards and be prepared to respond to and recover from them when an emergency or disaster occurs Provide for the efficient utilization of all available resources during an emergency Provide for the utilization and coordination of County, State, and Federal programs to assist disaster victims, and to prioritize the response to the needs of the elderly, disabled, low income, and other groups which may be inordinately affected Provide for the utilization and coordination of state and federal programs for recovery from a disaster with attention to the development of mitigative programs 	<ul style="list-style-type: none"> Encourage adoption of community development plans and building codes that are cognizant of and take into account significant hazards in the Town Promote compliance with and enforcement of existing laws, regulations, and codes that re related to hazard risks Asses the risk of water and wastewater treatment plans, and consider replacing chlorine with a safer disinfectant Encourage Town Highway Department to address dangerous conditions on roads used by hazardous materials carriers Authorizing Town land use management programs Coordinate with Tompkins County in developing and adopting plans for community development Town of Caroline Emergency Services will participate in risk reduction workshops 	<ul style="list-style-type: none"> Haz Mat – fixed site <ul style="list-style-type: none"> Flood Dam Failure Severe Winter Storm <ul style="list-style-type: none"> Haz Mat in Transit Urban Fire Power Failure <ul style="list-style-type: none"> Tornado Transportation Accident <ul style="list-style-type: none"> Drought Wildfire Landslide Terrorism Earthquake Extreme Temperatures <ul style="list-style-type: none"> Ice Jam Water Supply Failure Civil Unrest 	No	No
Village of Cayuga Heights					
Comprehensive Plan 2014	<ul style="list-style-type: none"> Ensure retention of the Village's residential character, and improve upon the quality of life and economic viability of the Village 	<ul style="list-style-type: none"> Ensure the continued provision of a comprehensive system of fire, police, and emergency services that protect life and 	<ul style="list-style-type: none"> Floods Landslides 	No	No



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	<ul style="list-style-type: none"> • Preserve the Village's scenic, naturalistic setting while protecting natural resources and improving recreational opportunities • Maintain and enhance the economic vitality of the Village and in particular its retail and commercial center • Maintain and improve a system of services and supporting infrastructure that meets the needs of the residents in the Village, improves energy efficiency in Village operations and facilities, and reduces greenhouse gas emissions 	<ul style="list-style-type: none"> property throughout the community • Protect undeveloped open space and environmentally sensitive areas of the Village • Preserve water quality by minimizing urban runoff pollution, erosion and sedimentation, and stormwater discharge • Preserve ecological diversity and sustainability of natural resources • Ensure that existing public infrastructure is maintained and upgraded as necessary • Maintain and upgrade Village fire protection/prevention and police protection as necessary 	<ul style="list-style-type: none"> • Extreme temperatures 		
Flood Damage Prevention Law 2018	<p>•Chapter 147, Flood Damage Prevention, The Board of Trustees of the Village of Cayuga Heights finds that the potential and/or actual damages from flooding and erosion may be a problem to the residents of the Village of Cayuga Heights and that such damages may include: destruction or loss of private and public housing, damage to public facilities, both publicly and privately owned, and injury to and loss of human life.</p> <p>•It is the purpose of this chapter to;</p> <p>A. Regulate uses which are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;</p> <p>B. Require that uses vulnerable to floods, including facilities which serve</p>	<ul style="list-style-type: none"> •Objectives of this Chapter include; minimizing costly flood control projects, rescue and relief efforts associated with flooding, prolonged business interruptions, and damage to public facilities and utilities in areas of special flood hazard. •The Code Enforcement Officer, hereinafter referred to as the "Local Administrator," is responsible for receiving applications, examining the plans and specifications and issuing permits for any proposed construction or development. •Site Plan review shall ensure that new construction is adequately anchored, constructed with materials and utility equipment utilizing methods and practices that minimize flood damage. •Subdivision review shall ensure that plans 	Flooding	No	Yes - Comprehensive Plan, Zoning, Site Plan and Subdivisions



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	<p>such uses, be protected against flood damage at the time of initial construction;</p> <p>C. Control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of floodwaters;</p> <p>D. Control filling, grading, dredging and other development which may increase erosion or flood damages;</p> <p>E. Regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands, and;</p> <p>F. Qualify for and maintain participation in the National Flood Insurance Program.</p>	<p>are consistent with the need to minimize flood damage within the flood prone area, that all public facilities and utilities are located and constructed to minimize or eliminate flood damage, and adequate drainage is provided to reduce exposure to flood hazards.</p> <p>•In areas where flooding may be a concern, property owners shall apply to the Village's Planning Board for review in accordance with the procedures set forth in Chapter 305, Zoning, Article XVII, Site Plan Review, and Article XVIII, Subdivisions.</p>			
<p>Stormwater Management 2007</p>	<p>•Chapter 235, Stormwater Management. This Chapter proposes to achieve the following objectives; A. Meet the requirements of minimum measures 4 and 5 of the SPDES General Permit for Stormwater Discharges from municipal separate stormwater sewer systems (MS4s), Permit no. GP-02-02 or as amended or revised;</p> <p>B. Require land development activities to conform to the substantive requirements of the NYS Department of Environmental Conservation State Pollutant Discharge Elimination System (SPDES) General Permit for Construction Activities GP-02-01 or as amended or revised;</p>	<p>•The Stormwater Management Officer(s) [SMO(s)] shall administer, implement, and enforce the provisions of this Part 2. Such powers granted or duties imposed upon the authorized enforcement official may be delegated, in writing, by the SMO as may be authorized by the municipality.</p> <p>•Stormwater pollution prevention plan requirement. No application for approval of a land development activity shall be reviewed until the appropriate board has received a Stormwater Pollution Prevention Plan (SWPPP) prepared in accordance with the specifications of this Part 1.</p>	<p>Flooding</p>	<p>No</p>	<p>Yes - Flood Damage Prevention, Water, and Sewers.</p>



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	<p>C. Minimize increases in stormwater runoff from land development activities in order to reduce flooding, siltation, increases in stream temperature, and stream bank erosion and maintain the integrity of stream channels;</p> <p>D. Minimize increases in pollution caused by stormwater runoff from land development activities which would otherwise degrade local water quality.</p> <p>E. Minimize the total volume of stormwater runoff which flows from any specific site during and following development to the maximum extent practicable; and</p> <p>F. Reduce stormwater runoff rates and volumes, soil erosion and nonpoint source pollution, wherever possible, through stormwater management practices and to ensure that these management practices are properly maintained and eliminate threats to public safety.</p>	<p>•The objectives of Part 2 of this Chapter are:</p> <p>A. To meet the requirements of the SPDES General Permit for Stormwater Discharges from MS4s, Permit no. GP-02-02 or as amended or revised;</p> <p>B. To regulate the contribution of pollutants to the MS4 since such systems are not designed to accept, process or discharge non-stormwater wastes;</p> <p>C. To prohibit illicit connections, activities and discharges to the MS4;</p> <p>D. To establish legal authority to carry out all inspection, surveillance and monitoring procedures necessary to ensure compliance with this part; and</p> <p>E. To promote public awareness of the hazards involved in the improper discharge of trash, yard waste, lawn chemicals, pet waste, wastewater, grease, oil, petroleum products, cleaning products, paint products, hazardous waste, sediment and other pollutants into the MS4.</p>			
<p>Zoning Law 2018</p>	<ul style="list-style-type: none"> •Chapter 305, Zoning. • Classifying and regulating the uses of land and structures within the Village as to preserve the natural, architectural, cultural, historic, and scenic resources that make the Village a distinctive residential community, while also accommodating change • Secure safety from fire and other dangers • Facilitate the adequate provision of 	<ul style="list-style-type: none"> • Establishment of Zones: Residence, Multiple Housing, Commercial, Planned Development Zone, Natural Resources Overlay 	<ul style="list-style-type: none"> • Fire • Flood • Earthquake • Act of God • Act of the Public Enemy • Water supply failure 	<p>No</p>	<p>Yes, Comprehensive Plan</p>

Appendix I MUNICIPAL PLAN REVIEW SUMMARIES



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	transportation, water, sewage disposal, schools, parks, and other public amenities <ul style="list-style-type: none"> • Provide standards for orderly development • Ensure compatibility between land uses and protect existing land uses from intrusions by inharmonious or harmful land uses • Prevent the overcrowding of land and undue concentration of population 				
Town of Danby					
Comprehensive Plan 2011	<ul style="list-style-type: none"> • Danby's natural resources and natural areas are maintained, enhanced, and protected by public and private activities • Innovative and responsible land use policies enhance both environmental protection and local economic development • Agriculture is protected as a potential "steward" of the environment and open space • Road related construction minimize negative impacts on neighborhoods and natural resources • Adequate utility and infrastructure systems are provided for present residents and are criteria for decisions on all development projects • Land use practices of the Town seek to preserve natural, agricultural, and historic resources in Danby and the greater community 	<ul style="list-style-type: none"> • Designate areas where development should be encouraged and areas where development should be discouraged • Provide incentives and appropriate regulations for clustered development and associated open-space conservation • Develop a land use plan that is compatible with the principles of the greater community • Support and create public and private programs that protect natural resources • Be active in planning for preservation and use of State Forest lands • Protect water resources from sedimentation, run-off from erosion, drainage, contamination and flooding • Actively work with County, State, and Federal agencies to improve hunting, fishing, and wildlife management programs on State lands • Innovative and responsible land use policies enhance both environmental protection and local economic 	<ul style="list-style-type: none"> • Flood • Erosion • Stormwater runoff • Transportation accidents 	Yes, page IIB-5: FEMA and County Flood Hazard Mitigation assistance	No



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
		<p>development</p> <ul style="list-style-type: none"> • Promote safe travel for all road uses, including vehicular, pedestrian and equestrian traffic • Ensure a safe community by evaluating public safety needs and coordinating with other organizations to improve the safety of the community • Ensure that solid waste management facilities and services are accessible for Town residents • Ensure adequate private and public water supplies • Ensure that all sewage disposal systems are adequate to preserve water quality • Designate areas where development should be encouraged and areas where development should be discouraged • Provide incentives and appropriate regulations for clustered development and associated open-space conservation • Develop a land use plan that is compatible with the principles of the greater community 			



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
Zoning Ordinance 2017	<ul style="list-style-type: none"> Promote the health, safety, morals, and general welfare of the community Lessen the congestion on the highways Secure safety from fire, panic, and other dangers Protect the environment Provide adequate light and air Prevent the overcrowding of land, avoid undue concentration of the population, facilitate the adequate provisions of transportation, water, sewage, schools, parks, and other public requirements 	<ul style="list-style-type: none"> Establishment of Zones: Low Density Residential Zone, Medium Density Residential Zone, High Density Residential Zone, Commercial Target Area, Planned Development Zone, Mobile Home Park Zone, Aquifer High Vulnerability (AHV) Overlay Zone 	<ul style="list-style-type: none"> Fire Flood Stormwater Runoff Hazardous waste disposal/storage Water supply failure Erosion Point Source Pollution 		No
Sustainable Hamlets Revitalization Plan 2009	building design recommendations				No
Community Housing Needs Assessment 2020	survey of homes and needs in Town				No
Stormwater Management 2010	<ul style="list-style-type: none"> Local Law No. 1 of 2010. Stormwater Management, Erosion and Sediment Control, enacted by the Town Board. The purpose of this Local Law is to establish minimum Stormwater management requirements and standards, including, as applicable, Land Development Activity and Stormwater Management Practice requirements and standards necessary to minimize potential harm to the environment, to promote public health, welfare, and Page 9 of 29 safety, and to control and minimize the adverse effects associated with Erosion, Sedimentation, 	<ul style="list-style-type: none"> The Town Board shall appoint one (or more) Stormwater Management Officer, SMOs to administer, implement, and enforce the provisions of this Local Law. No Land Development Activity subject to this local law shall be commenced until the SMO has approved a SWPPP. The applicant shall submit to the SMO, on a form to be supplied by the SMO, a Notice of Ground Disturbance prepared in accordance with the requirements of this local law. All Land Development Activities subject to 	Flooding and Erosion	No	Yes - Subdivision, Site Plan and Zoning

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Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	<p>unregulated Stormwater, Point Source Pollution, and Nonpoint Source Pollution.</p> <ul style="list-style-type: none"> •This Local Law shall be applicable to all Land Development Activities that exceed any one of the minimum thresholds in this /chapter. No person may undertake a Land Development Activity without first meeting the requirements of this Local Law. 	<p>review and approval by the Town Board or Planning Board under Zoning, Rezoning, Subdivision, Site Plan, and Special Permit laws, rules, ordinances or regulations shall be reviewed subject to the standards contained in this Local Law.</p> <ul style="list-style-type: none"> •It is one of the Objectives of this Chapter to minimize increases in Stormwater Runoff and Erosion generated by Land Development Activities in order to, reduce flooding, reduce siltation, reduce increases in stream temperatures, reduce Erosion, and maintain the integrity of streams and other Watercourse and Waterway channels and Surface Waters. 			
<p>Subdivision of Land Division Regulations 2016</p>	<ul style="list-style-type: none"> •Subdivision of Land Division Regulations. • These regulations are intended to guide and protect the community's physical, social, and aesthetic development in accordance with the Town of Danby Comprehensive Plan, and to help the Town of Danby grow in an orderly, efficient, and economical manner. These regulations are also intended to protect the natural, agricultural, and historical resources of the Town, and to promote responsible use of these resources. •The regulations, standards, and procedures contained in this Chapter are to ensure; that land to be divided is suitable for building purposes without creating dangers to health or 	<ul style="list-style-type: none"> •Final Plats must depict the location and required setbacks from waterbodies, Aquifer High Vulnerability (AHV) Overlay Zones, and the 100-year floodplain; and All existing wooded areas, watercourses, slopes of 15% or greater, critical environmental areas, and other significant physical features within the area to be subdivided and within 200 feet of the proposed subdivision's boundaries. •In the Low Density Residential Zone, the following areas shall not be built on or disturbed during site construction, except for no or low impact permitted uses listed 	<p>Flooding and Fire</p>	<p>No</p>	<p>Yes - Comprehensive Plan, Zoning and Stormwater</p>

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Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	<p>peril from fire, flood, or other menace; that proper provision is made for drainage, water supply, sewerage, highways, open space, and other needed improvements; that development is made in such a manner that it protects and conserves natural, agricultural, and historical resources; and that there is optimum overall conservation, protection, and responsible use of the environmental resources of the Town of Danby.</p>	<p>in this Chapter: 1. Areas of 100-year flooding as defined by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps. 2. Wetlands, including those shown on the New York State Freshwater Wetlands Maps, and those shown in the National Wetlands Inventory. 3. Intermittent and Perennial Streams, including a 50-foot buffer from the stream centerline.</p>			
Town of Dryden					
<p>Natural Resources Conservation Plan 2017</p>	<p>Guide and inform natural resource managers, decision-makers, and interested citizens to plan for the conservation of natural resources</p>	<ul style="list-style-type: none"> • Establish and maintain effective buffer zones or undisturbed vegetation and soils along streams and other surface waters • Preserve and restore wetlands • Minimize impervious surfaces and rapid surface runoff, thereby enhancing infiltration into soils • Minimize applications of potential polluting substances, such as de-icing salts, pesticides, and fertilizers • Prohibit illegal disposal of waste(s) that may be carried into surface or groundwater • Maintain landscape connectivity in large, undisturbed contiguous configurations • Maintain buffer zones around ecologically sensitive areas • Consider environmental concerns in the planning process for new development projects 	<ul style="list-style-type: none"> • Flood • Severe storms • Stormwater runoff 	<p>Yes, page 11, FEMA floodplain management standards and Community Rating System re: insurance premiums</p>	<p>No</p>



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
		<ul style="list-style-type: none"> Promoting best farming practices that improve soils, conserve water quality and quantity, enhance wildlife habitats, reduce wildlife mortality, and increase resiliency to the effects of climate change Working to complete Cayuga Lake's Emerald Necklace, which will incorporate much of what we wish to save in the Town of Dryden as well as certify a contiguous link of natural habitats across a wide region 			
Natural Resource Inventory 2019	<ul style="list-style-type: none"> Conserve existing natural resources and land to maintain the existing rural characteristics of the municipality. Reduce wetland degradations by increasing the use of green infrastructure and thereby prevent/ mitigate flooding. 	<ul style="list-style-type: none"> Reduce wetland degradations by increasing the use of green infrastructure and thereby prevent/ mitigate flooding. 	Flood	No	No
Agriculture and Farmland Protection Plan 2017	<ul style="list-style-type: none"> Increase general awareness and support for the Town's agriculture industry Create a supportive environment for farming in the Town Protect the best farmland and encourage environmental stewardship Ensure farm - friendly zoning and other legislation Strengthen the farm economy and future viability of farming 	<ul style="list-style-type: none"> Appoint an agricultural representative to the Town Planning Board, in accordance with GML §271 Identify farmers interested in the NYS Farmland Protection Program (PDR) and support them in the application process Direct development, including solar installations, away from actively farmed land and high-quality soils most suitable for farming Ensure town laws are not in conflict with Agricultural District Law 	No	No	Yes, Comprehensive Plan to address importance of agriculture in Town
Varna Community Plan 2012	<ul style="list-style-type: none"> Increase walkability and community centered development Maintain friendly neighborhood and reduce traffic through town Update zoning and regulatory requirements to sustain increased demand for housing in the area. 		No	No	Yes, comprehensive plan

Appendix I MUNICIPAL PLAN REVIEW SUMMARIES



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
Comprehensive Plan 2005	<ul style="list-style-type: none"> • Preserve the natural open space resources, environmentally sensitive areas and unique flora and fauna of the town as it develops in the coming decade • Develop and maintain public facilities such as water, sewer and road infrastructure in an efficient and cost-effective manner • Ensure the provision of a comprehensive system of fire, police and emergency services and communications to protect life and property throughout the town 	<ul style="list-style-type: none"> • Efforts to protect to the extent possible the important natural open space and scenic resources of the town, including woodlands, stream corridors, wetlands and steep slope areas • Efforts to protect and enhance the livability of existing residential neighborhoods • Efforts to provide for adequate and efficient provision of necessary public facilities and services • Ensure that areas designated for future light industrial and office park developments are outside environmentally sensitive areas such as mature woodland, stream corridors, or wetland areas • Ensure that adequate provisions for public water and public sewer are available in areas designated for industrial development • Encourage where appropriate the use of cluster subdivision design approaches for new residential development to protect open space and other natural or scenic resources • Identify and map the significant environmental and open space resources of the town and channel future incompatible development away from such area • Encourage development that promotes conservation of energy and water 	<ul style="list-style-type: none"> • Flooding • Hurricanes and tropical storms • Windstorms and tornadoes • Winter storms • Ice storms and snowstorms • Wildfires • Earthquakes • Haz-mat transportation and storage • Airplane crashes • Transportation accidents 	<p>Yes, page 4, in 2000 the Town of Dryden along with the Village of Dryden and Village of Freeville completed and adopted a joint Hazard Mitigation Plan under the Federal Emergency Management Agency's Project Impact program; page 36, action item to implement the recommendations of the HMP</p>	<p>No</p>



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
		<p>resources and minimizes where possible adverse impacts such as loss of agricultural and forest lands, soil erosion and sedimentation, and stormwater run-off</p> <ul style="list-style-type: none"> • Utilize future expansions of public water and sewer infrastructure to encourage development in areas identified as being best suited for growth • Channel future growth and development toward areas of the town where fire, police and emergency services are available or easily accessible • Implement the recommendations of the Hazard Mitigation Plan adopted in 1999, including proposed infrastructure improvements, awareness education, and training and equipment for local public safety and public works staff • Work cooperatively with police and other emergency services organizations to ensure an effective program of public education and awareness of hazards to life and property, and appropriate action in case of public emergency 			



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
<p>Stormwater Management, Erosion and Sediment Control Law 2007</p>	<p>•Town of Dryden Stormwater Management, Erosion and Sediment Control Law of the Year 2007, enacted by the Town Board. The purpose of this local law is to establish minimum stormwater management requirements and controls to protect and safeguard the general health, safety, and welfare of the public residing within the Town. Those purposes will be met by; meeting the requirements of minimum measures 4 and 5 of the SPDES General Permit for Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s), Permit no. GP-02-02; requiring land development activities to conform to the substantive requirements of the NYS Department of Environmental Conservation State Pollutant Discharge Elimination System (SPDES) General Permit for Construction Activities GP-02-01; and by minimizing increases in the magnitude, rate, and frequency of stormwater runoff between pre-development and post-development conditions so as to prevent an increase in flood flows and in the hazards and costs associated with flooding.</p>	<p>•The Town Board shall appoint one (or more) Stormwater Management Officer, SMOs to administer, implement, and enforce the provisions of this Local Law. No Land Development Activity subject to this local law shall be commenced until the SMO has approved a SWPPP. The applicant shall submit to the SMO, on a form to be supplied by the SMO, a Notice of Ground Disturbance prepared in accordance with the requirements of this local law.</p> <p>•Any land development activity, regardless of size, that the Town Stormwater Management Officer determines likely to cause an adverse impact due to post-construction water quality or quantity, according to criteria of slope, soil characteristics, layout of impervious surfaces, potential for pollutant generation on-site, proximity to a sensitive area, or proximity to a stormwater structure or facility will require a full SWPPP.</p> <p>•For the purpose of this local law, the following documents shall serve as the official guides and specifications for stormwater management. Stormwater management practices that are designed and constructed in accordance with these technical documents shall be presumed to meet the standards imposed by this law:</p> <p>1. The New York State Stormwater Management Design Manual (New York</p>	<p>Flooding and Erosion</p>	<p>No</p>	<p>Yes - Subdivision and Site Plan</p>



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
		<p>State Department of Environmental Conservation, most current version or its successor, hereafter referred to as the Design Manual).</p> <p>2. New York Standards and Specifications for Erosion and Sediment Control, (Empire State Chapter of the Soil and Water Conservation Society, 2004, most current version or its successor, hereafter referred to as the Erosion Control Manual).</p> <p>3. The Town of Dryden Stormwater Standards, attached as Schedule A.</p>			



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
Subdivision Law 2012	<ul style="list-style-type: none"> Local Law No. 4 of the year 2012, Subdivision Law, enacted by the Town Board of the Town of Dryden. The purpose of this local law is to provide regulations and standards for the future growth and development of the town and to afford adequate facilities for the housing, transportation, distribution, comfort, convenience, safety, health and welfare of the population of the town and to insure orderly growth and development of land in the town including the conservation, protection and proper division parcels of land. 	<ul style="list-style-type: none"> Open Space in the Conservation Subdivision determined by the Planning Board to be protected shall be permanently protected by a suitable arrangement, such as Conservation Easement, Restrictive Covenant, homeowner's association, or title transfer to a grantee approved by the Planning Board. 	No	No	Yes - Comprehensive Plan and Stormwater
Village of Dryden					
Montgomery Park Revitalization Plan 2015	park design updates				No
Comprehensive Plan 2006	<ul style="list-style-type: none"> Update land use regulations, especially with respect to housing Maintain and expand its municipal water, sewer, and storm water systems to serve all areas of the Village Provide emergency services to its citizens so that they can live peaceably, healthfully, and safely in the community 	<ul style="list-style-type: none"> The Village of Dryden will seek federal and State funds to assist in the financing of needed upgrades to the municipal water system, the wastewater treatment plant, the sewer collection system, and the storm water system The Village will study its storm water collection system to identify, and 	<ul style="list-style-type: none"> Flooding Landslides Lead-based paint Hazardous waste storage Storm water drainage 	No	yes, mentions the Montgomery park revitalization plan



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	<ul style="list-style-type: none"> • Equip its fire and police personnel with the necessary equipment and technology to do their job and to protect paid and volunteer personnel. • Consider the impact of any new development on emergency services • Conserve natural resources and environmentally sensitive areas including air, water, and land through conscientious development • Assure that future development within the Village will complement the natural environment • The Village will protect its Unique Natural Area, floodplains, and wetlands 	<p>eventually serve, areas which are problematic for the Village</p> <ul style="list-style-type: none"> • The Village will continue to assist its emergency services entities in searching and applying for grant funds when opportunities become available • Establish regulations on lands subject to seasonal or periodic flooding • The Village will amend land use regulations and design guidelines that will seek to protect and enhance natural resources of the community. Creation of an "Open Space" zone will preserve environmentally sensitive areas in the Village • The Planning Board, elected officials, zoning officer, and developers will use soils maps, flood maps, and wetlands maps to identify areas suitable for development of homes, industry, agriculture, and recreation • The Village Board will provide zoning tools such as an "Open Space" zone, "Agricultural" zone, and site plan review requirements to protect the unique environmental qualities of the Dryden Firehouse Wetland, and the wetland along Virgil Creek on Springhouse Road, and other environmentally significant areas 			
Town of Enfield					



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
Comprehensive Plan 2019	<ul style="list-style-type: none"> • Decrease risk to management of Town resources • Increase public safety • Address hazard mitigation • Provide adequate public services • Utilize good land development planning principles • Protect land, air, soil and water resources within the Town through environmental planning and coordination with review and oversight of development activity • Protect land, air, soil, and water resources within the town through education and outreach • Preserve recreational and natural areas 	<ul style="list-style-type: none"> • Maintain the Emergency Management Plan in cooperation with Tompkins County and New York State • Ensure that emergency service providers are equipped and trained to respond safely and effectively to local emergencies • Educate the community regarding current and emerging public health issues and resources • Develop a Floodplain Management Plan or ordinance for the protection of homes and property of residents • Develop an Emergency Management Plan to protect the lives and property of residents • Protect the integrity and quality of water resources in the Town • Update and implement responsible subdivision, site design and development oversight to minimize environmental impacts within the Town. Residential, commercial, industrial, or agricultural development or redevelopment should meet or exceed federal, state, or local regulations to minimize impacts of soil erosion, storm water run-off, and pollution • Discourage activities which threaten environmental health • Protect the quality of surface and groundwater resources against degradation • Encourage all practices which safeguard 	<ul style="list-style-type: none"> • Flood • Hurricanes/Tropical Storms • Tornadoes • Winter/ice storm • Wildfires • Algae Blooms • Earthquakes • Droughts • Infrastructure Failures • Transportation Accidents • Hazardous Materials Incidents • Terrorism • Active Shooter Situations • Cyber Attacks • Pandemics/Public Health Emergencies 	Yes, page 20, creation of HMP	



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
		waterways from excessive erosion and sedimentation			
Site Plan Review Law 2012	<ul style="list-style-type: none"> Local Law No. 2 of the year 2012, Site Plan Review Law, enacted by the Town Board of Enfield. The purpose and intent of this Local Law is to: protect the value of land throughout the Town; to encourage orderly and beneficial development of land; to prevent the pollution of air and water; to assure the adequacy of proper drainage methods; to provide for the preservation of open spaces; to abate and mitigate nuisances; to encourage the preservation of natural features, topography, and resources; and to generally protect the health, safety and public welfare of the residents of the Town. Thus, the intent of this Local Law is to promote the conservation, preservation, and development of the Town, while also helping to prevent and mitigate certain unwanted and deleterious impacts that may arise from the unregulated development of land for certain allowed uses. 	<ul style="list-style-type: none"> This Local Law applies to the development and land activities involving construction or land disturbance activities whenever located within a wetland or a mapped flood plain. <ul style="list-style-type: none"> Special attention shall be given to proper site drainage so the increased runoff of storm water resulting from the new construction will not drain onto neighboring properties or produce erosion, downstream flooding, or excessive turbidity in any nearby stream or body of water. Development on erodible soils, or on slopes of greater than 10%, shall be designed to minimize erosion both during and after construction. 	Flooding	No	Yes - Comprehensive Plan
Village of Freeville					
Comprehensive Plan 2013	<ul style="list-style-type: none"> The Village should not discourage appropriate subdivision of properties and new residential development The Village should not pursue a municipal water service in the next few years The Village should encourage and support the establishment of new commercial ventures that 	<ul style="list-style-type: none"> Regulate development in flood-plain areas through its zoning ordinances Recommend a buffer zone between any commercial or residential development and the banks of Fall Creek or its tributaries, and this concept should be considered during the evaluation of site-plan proposals for such development 	<ul style="list-style-type: none"> Flooding 	No	No



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	are environmentally responsible and compatible with Freeville's rural residential character				
Village Land Use and Development Code 2007	<ul style="list-style-type: none"> Local Law No. 5 of the Year 2007, Village Land Use and Development Code enacted by the Board of Trustees. This document is the primary resource for village officials in determining how land is used in the village, what activities are and are not permitted, and the procedures for how the document is enforced. This document also supplements the New York State Building, Fire Safety and Prevention, and Residential Codes, and provides for rules and procedures that are tailored to the specific needs of the Freeville Community. 	<ul style="list-style-type: none"> The office of Code Enforcement Officer is hereby created. The Code Enforcement Officer shall administer and enforce all the provisions of the Uniform Code, the Energy Code and this local law. Permits are required for the purpose of assuring that facilities and activities established or expanded in the Village do so in compliance with the Land Use Regulations and other developmental controls. A Flood Hazard Certification is required prior to the issuance of a Certificate of Occupancy. 	Flooding	No	Yes - Building and Fire Safety
Town of Groton					
Joint Comprehensive Plan 2005	<ul style="list-style-type: none"> Ensure the provision of a comprehensive system of fire, police and emergency services to protect life and property throughout the community Protect the diverse physical environment 	<ul style="list-style-type: none"> Update and improve local emergency response plans Work with county and local emergency management services to identify gaps and remedy gaps in emergency services Ensure that major future growth and development occurs in areas where fire, police and emergency services are available or easily accessible Work cooperatively with State, County and local public agencies to ensure an effective program of public education and awareness of hazards to life and property, and appropriate action in case of public emergency 	<ul style="list-style-type: none"> Flooding Erosion 	No	Yes, Village/Town Joint Plan



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
		<ul style="list-style-type: none"> • Adopt clear and concise policies and regulations to better protect the significant open space resources of the community • Adopt policies and regulations to better protect stream corridors, wetlands, and other water bodies from inappropriate development • Promote carefully designed development that minimizes adverse impacts such as loss of agricultural and forest lands, soil erosion and sedimentation, and stormwater runoff • Protect both private property and the functional capabilities of floodplains by channeling development away from such areas 			
<p>Land Use & Dev. Code of 2011 - Zoning - Articles 1, 3 & 4 2011</p>	<p>•Local Law No. 1 of the Year 2011, Land Use and Development Code of 2011 enacted by the Town Board. Zoning Articles 1, 3 & 4. This Code and each of its parts are enacted for the purpose of promoting the health, safety, and general welfare of the citizens of Groton. The purpose of this Code is to lessen congestion in the streets, to secure safety from fire, flood, panic, and other dangers; to promote health and general welfare; to prevent the overcrowding of land; to avoid undue concentration of population; to make provision for, so far as conditions may permit, the accommodation of green energy systems and equipment; to facilitate the adequate provision</p>	<ul style="list-style-type: none"> •The Town created a Flood Hazard Area Combining District to provide for sensible controls over future development in the flood hazard areas to minimize public and private losses due to flood conditions in specified areas. The areas of special flood hazard are regulated by Local Law #2 of 1987 for the Town of Groton entitled "A Local Law for Flood Damage Prevention." A copy of the FIRM and the Local Law are provided in Appendix E. •A process for reviewing Site Plans is included in Article 4. 	<p>Flooding and Hazardous Materials</p>	<p>No</p>	<p>Yes - Flood Damage Prevention and Site Plan</p>



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	of transportation, water, sewerage, schools, parks, and other public requirements.				
Land Use & Dev. Code of 2011 - Land Subdivision Regulations - Article 2 2011	<ul style="list-style-type: none"> Local Law No. 1 of the Year 2011, Land Use and Development Code of 2011 enacted by the Town Board. Article 2, Land Subdivision. The purpose of this section is to provide rules, regulations, and standards to guide the orderly subdivision of land in the Town of Groton in order to promote the public health, safety, convenience, and general welfare of the Town. It shall be administered to ensure the orderly growth and development, the conservation, protection and proper parceling of land, the adequate provision of services, and the safe movement of vehicles in the Town of Groton. It is declared to be the policy of the Planning Board to consider land subdivision plats as part of a plan for the orderly, efficient, and economical development of the Town. 	<p>A Subdivision Sketch Plat shall show for Planning Board review all existing structures, wooded areas, streams, wetlands, flood hazard areas, and other significant physical features, within the portion to be subdivided. If topographic conditions are significant, contours shall also be indicated at intervals of not more than 10 feet.</p> <ul style="list-style-type: none"> Land subject to flooding or land deemed by the Planning Board to be uninhabitable shall not be platted for residential occupancy, nor for such other uses as may increase danger to health, life, or property, or aggravate the flood hazard, but such land within the plat shall be set aside for such uses as shall not be endangered by periodic or occasional inundation, or improved in a manner satisfactory to the Planning Board to remedy the hazardous conditions (see Town of Groton Local Law #2 of 1987 concerning regulation of development in Flood Hazard Areas). 	Flooding	No	Yes - Flood Damage Prevention
Land Use & Dev. Code of 2011 - Building Code - Appendix A 2011	<ul style="list-style-type: none"> Local Law # 1 of the Year 2007 Providing for the Administration and Enforcement of New York State Uniform Fire Prevention and Building Code (Appendix A). This local law provides for the administration and enforcement of the New York State Uniform Fire Prevention and Building Code (the Uniform Code) and the State Energy 	<ul style="list-style-type: none"> The Code Enforcement Officer shall administer and enforce all the provisions of the New York State Uniform Fire Prevention and Building Code as currently in effect. Flood Hazard Certifications are a requirement for a Certificate of Occupancy. 	Flooding and Fire	No	No

Appendix I MUNICIPAL PLAN REVIEW SUMMARIES



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	Conservation Construction Code (the Energy Code) in this Town of Groton. Except as otherwise provided in the, all buildings, structures, and premises, regardless of use or occupancy, are subject to the provisions of this local law.				
Land Use & Dev. Code of 2011 - Right to Farm - Appendix C 2011	<ul style="list-style-type: none"> •Town of Groton Right to Farm Law of 1997 (Appendix C). It is the general purpose and intent of this Local Law to maintain and preserve the rural tradition and character of the Town of Groton, to permit the continuation of agriculture practices, to protect the existence and operation of farms, and to encourage the initiation and expansion of farms and agriculture businesses. 	<ul style="list-style-type: none"> •Farmers, as well as those employed, retained or otherwise authorized to act on behalf of farms, may lawfully engage in farming practices within the Town of Groton at any and all such times and all such locations as are reasonably necessary to conduct the business of farming. For any activity or operation, in determining the reasonableness of the time, place and methodology of such operation, due weight and consideration shall be given to both traditional customs and procedures in the farming industry as well as to advances resulting from increased knowledge and improved technologies. 	No	No	No
Land Use & Dev. Code of 2011 - Flood Damage Prevention - Appendix E 2011	<ul style="list-style-type: none"> •Flood Damage Prevention Law of 1986 (Appendix E). The Town Board of the Town of Groton finds that the potential and/or actual damages from flooding and erosion may be a problem to the residents of the Town of Groton and that such damages may include: destruction or loss of private and public 	<ul style="list-style-type: none"> •The areas of special flood hazard identified by the Federal Insurance Administration on its Flood Hazard Boundary Map (FHBM), or Flood Insurance Pate Map (FIRM) No. 361217A dated October 5, 1984 is hereby adopted and declared to be a part of this Local Law. •The Code Enforcement Officer is hereby 	Flooding	No	Yes - Subdivision of Land

Appendix I MUNICIPAL PLAN REVIEW SUMMARIES



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	<p>housing, damage to public facilities , both publicly and privately owned, and Injury to and loss of human life.</p> <p>•It is the purpose of this local law to:</p> <p>(1) regulate uses which are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;</p> <p>(2) require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;</p> <p>(3) control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of flood waters;</p> <p>(4) control filling, grading, dredging and other development which may increase erosion or flood damages;</p> <p>(5) regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards to other lands, and;</p> <p>(6) qualify for and maintain participation in the National Flood Insurance Program.</p>	<p>appointed Local Administrator to administer and implement this local law by granting or denying development permit applications in accordance with its provisions.</p> <p>•A Development Permit shall be obtained before the start of construction or any other development within the area of special flood hazard as established in Section 3.2. Application for a Development Permit shall be made on forms furnished by the Local Administrator and may include, but not be limited to: plans, in duplicate, drawn to scale and showing the nature, location, dimensions, and elevations of the area in question; existing or proposed structures, fill, storage of materials, drainage facilities , and the location of the foregoing.</p> <p>•Subdivision Proposals.</p> <p>(1) All subdivision proposals shall be consistent with the need to minimize flood damage.</p> <p>(2) All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.</p> <p>(3) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage.</p> <p>(4) Base flood elevation data shall be</p>			



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
		<p>provided for subdivision proposals and other proposed developments (including proposals for manufactured home parks and subdivisions) greater than either 50 lots or 5 acres.</p> <ul style="list-style-type: none"> •New residential and nonresidential construction and substantial improvements of any structure shall have the lowest floor, including basement or cellar, elevated to or above the base flood elevation. 			
Village of Groton					
<p>Joint Comprehensive Plan 2005</p>	<ul style="list-style-type: none"> • Ensure the provision of a comprehensive system of fire, police and emergency services to protect life and property throughout the community • Protect the diverse physical environment 	<ul style="list-style-type: none"> • Update and improve local emergency response plans. • Work with county and local emergency management services to identify gaps and remedy gaps in emergency services. • Ensure that major future growth and development occurs in areas where fire, police and emergency services are available or easily accessible. • Work cooperatively with State, County and local public agencies to ensure an effective program of public education and awareness of hazards to life and property, and appropriate action in case of public emergency. • Adopt clear and concise policies and regulations to better protect the significant open space resources of the community. • Adopt policies and regulations to better 	<ul style="list-style-type: none"> • Flooding • Erosion 	<p>No</p>	<p>Yes, Village/Town Joint Plan</p>



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
		<p>protect stream corridors, wetlands, and other water bodies from inappropriate development.</p> <ul style="list-style-type: none"> Promote carefully designed development that minimizes adverse impacts such as loss of agricultural and forest lands, soil erosion and sedimentation, and stormwater runoff. Protect both private property and the functional capabilities of floodplains by channeling development away from such areas. 			
<p>Flood Damage Prevention Law 1987</p>	<p>•Chapter 109, Flood Damage Prevention. The Board of Trustees of the Village of Groton finds that the potential and/or actual damages from flooding and erosion may be a problem to the residents of the Village of Groton and that such damages may include destruction or loss of private and public housing, damage to public facilities, both publicly and privately owned, and injury to and loss of human life. This chapter shall apply to all areas of special flood hazard within the jurisdiction of the Village of Groton.</p> <p>•It is the purpose of this chapter to;</p> <p>A. Regulate uses which are dangerous to health, safety and property due to water or erosion hazards or which result in damaging increases in erosion or in flood heights or velocities.</p> <p>B. Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction.</p>	<p>•The Code Enforcement Officer is hereby appointed the local administrator to administer and implement this chapter by granting or denying development permit applications in accordance with its provisions.</p> <p>•A development permit shall be obtained before the start of construction or any other development within the area of special flood hazard as established in § 109-6. Application for a development permit shall be made on forms furnished by the local administrator.</p> <ul style="list-style-type: none"> All subdivision proposals shall be consistent with the need to minimize flood damage; have public utilities and facilities, such as sewer, gas, electrical and water systems, located and constructed to minimize flood damage; have adequate drainage provided to reduce exposure to flood damage; and 	<p>Flooding and Erosion</p>	<p>No</p>	<p>Yes - Fire prevention and building construction — See Ch. 101.</p> <p>Mobile home parks — See Ch. 127.</p> <p>Subdivision of land — See Ch. 177.</p> <p>Zoning — See Ch. 200.</p>



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	<p>C. Control the alteration of natural floodplains, stream channels and natural protective barriers which are involved in the accommodation of floodwaters.</p> <p>D. Control filling, grading, dredging and other development which may increase erosion or flood damages.</p> <p>E. Regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands.</p> <p>F. Qualify for and maintain participation in the National Flood Insurance Program.</p>	<p>be provided for subdivision proposals and other proposed developments, including proposals for manufactured home parks and subdivisions, greater than either 50 lots or five acres.</p> <ul style="list-style-type: none"> •New construction and substantial improvements of any residential structure shall have the lowest floor, including the basement or cellar, elevated to or above the base flood elevation. New construction and substantial improvements of any commercial, industrial or other nonresidential structure, together with attendant utility and sanitary facilities, shall either have the lowest floor, including the basement or cellar, elevated to or above the base flood elevation or be floodproofed so that the structure is watertight below the base flood level. •When floodway data is available for a particular site as provided by §§ 109-6 and 109-12B, all encroachments, including fill, new construction, substantial improvements and other development, are prohibited within the limits of the floodway unless a technical evaluation demonstrates that such encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge. 			



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
Subdivision of Land 1970	<p>•Chapter 177, Subdivision of Land. It is declared to be the policy of the Planning Board to consider land subdivision plats as part of a plan for the orderly, efficient and economical development of the village. (1) Land to be subdivided shall be of such character that it can be used safely for building purposes without danger to health or peril from fire, flood or other menace. (2) Proper provision shall be made for drainage, water supply, sewerage and other needed improvements.</p>	<p>•Land subject to flooding or land deemed by the Planning Board to be uninhabitable shall not be platted for residential occupancy nor for such other uses as may increase danger to health, life or property or aggravate the flood hazard, but such land within the plat shall be set aside for such uses as shall not be endangered by periodic or occasional inundation or improved in a manner satisfactory to the Planning Board to remedy said hazardous conditions.</p> <p>•The Planning Board shall, wherever possible, establish the preservation of all natural features which add value to residential developments and to the community, such as large trees or groves, watercourses and waterfalls, beaches, historic spots, vistas and similar irreplaceable assets. No tree with a diameter of eight inches or more as measured three feet above the base of the trunk shall be removed unless such tree is within the right-of-way of a street as shown on the final subdivision plat.</p>	Flooding and Fire	No	<p>Yes - Fire prevention and building construction — See Ch. 101.</p> <p>Flood damage prevention — See Ch. 109.</p> <p>Mobile home parks — See Ch. 127.</p> <p>Streets and sidewalks — See Ch. 173.</p> <p>Zoning — See Ch. 200. Master Plan.</p>
Zoning 1974	<p>•Chapter 200, Zoning. The intended purpose of this chapter is to promote and protect the public health, safety and general welfare of the community; to reduce congestion on the streets and highways; to prevent the overcrowding of land and to avoid excessive concentrations of population; to facilitate the adequate provisions</p>	<p>•By authority of the Chapter, the Planning Board is hereby empowered to grant site plan approval in accordance with the provisions of § 7-725-a of the Village Law.</p> <p>•No building, structure or other improvement on land hereafter erected, changed, altered or extended shall be used</p>	Flooding and Fire	No	<p>Yes - Fire prevention and building construction — See Ch. 101.</p> <p>Flood damage prevention — See Ch. 109.</p> <p>Mobile home parks — See</p>



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	of transportation, water, sewage disposal, schools, parks and other public requirements; to protect the established character and the social and economic value of property; and to establish zones wherein regulations concerning the use of land and structures, the density of development, the amount of open space that must be maintained, will be set forth to guide and regulate the most appropriate and orderly development and growth of the Village in accordance with a comprehensive development plan.	or occupied and no change in the use of land after the effective date of this chapter unless a certificate of occupancy shall have been issued by the Code Enforcement Officer. •It shall be unlawful for any person, firm or corporation to establish, maintain, operate, or conduct within the Village of Groton, commercial storage facilities within the one-hundred- and five-hundred-year floodplain, or on Department of Environmental Conservation wetlands.			Ch. 127. Municipal parks and swimming pools — See Ch. 145. Property maintenance — See Ch. 153. Sewers — See Ch. 165. Subdivision of land — See Ch. 177. Water — See Ch. 193. Annexation of territory — See Ch. A205.
City of Ithaca					
Comprehensive Plan 2015	<ul style="list-style-type: none"> • New development will be consistent with the City's land use goals and map and will be of high-quality design • Brownfield sites will be remediated and redeveloped • The City will provide a timely and appropriate response to emergencies. • The community will be well-educated on personal safety and emergency preparedness • Existing green space in the city will be preserved and opportunities for additional green space will be strategically considered • Cayuga Lake, its tributaries, and the local watershed will be protected from pollution, sedimentation, erosion, flooding, invasive species, and other threats to drinking water supplies, wildlife, recreation, and economic development 	<ul style="list-style-type: none"> • Revise the environmental review process to better address contemporary practices and information needs • Strengthen protection mechanisms for the Cayuga Inlet, Six Mile Creek, Cascadilla Creek, and lower Fall Creek stream corridors • Provide appropriate protections for Environmentally Sensitive areas on the Future Land Use Map that lack such protections • Develop a City floodplain management program • Support completion of the updated Cayuga Lake Watershed Restoration & Protection Plan and collaborate with community-based water-monitoring groups and other municipalities to 	<ul style="list-style-type: none"> • Flooding • Stormwater drainage/runoff • Pollution • Sedimentation • Erosion • Invasive species 	No	



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	<ul style="list-style-type: none"> Stormwater run-off will be significantly reduced 	implement it <ul style="list-style-type: none"> Harmonization with flood-related portions of the Tompkins County Multi-Jurisdictional All-Hazards Mitigation Plan Prioritize areas to be protected from development and to serve as buffers to absorb stormwater run-off, filter pollutants, and preserve wildlife habitats Partner with state and local agencies to develop a long-term dredging strategy for appropriate City waterways, including rehabilitating the Flood Control Channel and performing regular dam maintenance 			
Cayuga Lake Waterfront Plan 2004	<ul style="list-style-type: none"> As the city continues to develop, green spaces will be enhanced and located to best serve residents and visitors. As the waterfront develops, green spaces should be maintained and enhanced to serve the growing population. The City will provide a timely and appropriate response to emergencies The community will be well educated on personal safety and emergency preparedness Existing green space in the city will be preserved and opportunities for additional green space will be strategically considered Cayuga Lake, its tributaries, and the local watershed will be protected from pollution, sedimentation, erosion, flooding, invasive species, and other threats to drinking water supplies, wildlife, recreation, and economic development 	<ul style="list-style-type: none"> Encourage residential developments along the waterfront to provide water safety educational opportunities for tenants living in these areas Encourage private residential developments to implement water safety infrastructure, including blue light phones and rescue devices along the waterfront Investigate locations for establishing an emergency shelter on the west side of the railroad tracks Explore methods to educate residents and visitors on water safety, safety during flooding, and ice safety Commence the dredging project as soon as possible in order to support the economic vitality of the waterfront area, allow for boat access in the channels, and prevent flooding and ice jams 	<ul style="list-style-type: none"> Flooding Ice jams Stormwater runoff Erosion Pollution Sedimentation Invasive species 	No	Yes, Comprehensive Plan



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	<ul style="list-style-type: none"> Stormwater run-off will be significantly reduced 	<ul style="list-style-type: none"> Maintain water channels, ensuring navigability, especially after flooding or other weather-related events Explore state of the art technologies to help deal with stormwater runoff, such as pervious pavement and vortex units Develop a review process to address potential impacts on stormwater runoff caused by the removal of trees and large areas of vegetation Discourage any new development from using fertilizers, salts, and other chemicals that may contribute to water pollution and degradation of water quality 			
Economic Development Plan 1998	<ul style="list-style-type: none"> Balance the need for additional development with the desire to maintain neighborhood quality and preserve natural resources 	<ul style="list-style-type: none"> Reduce urban sprawl by fully developing usable city sites Review City Environmental Quality Regulations (CEQR) and amend as necessary to be consistent with economic policy Amend zoning and site plan review regulations to help achieve development objectives, restrict inappropriate land uses and simplify the review and approval process 	No	No	Yes, Comprehensive Plan
Energy Action Plan 2012	<ul style="list-style-type: none"> Greenhouse gas reduction goal of 20% below 2001 levels by 2016 	<ul style="list-style-type: none"> Develop water/wastewater management plan regarding stormwater and more 	<ul style="list-style-type: none"> Flooding Air pollution 	No	Yes, Comprehensive Plan

Appendix I MUNICIPAL PLAN REVIEW SUMMARIES



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
		<ul style="list-style-type: none"> permeable surfaces • Inventory critical natural areas for protection • Create Steep slope and stream buffer regulations 			
Bicycle Plan 1997	<ul style="list-style-type: none"> • Reduce number of bicyclists killed or injured in traffic crashes by ten percent 	<ul style="list-style-type: none"> • Identify education and enforcement strategies to increase the skill level of bicyclists and of motorists through education and enforcement programs • Identify and provide linkages to bikeway routes, both on-road and off-road 	Traffic Accidents	No	Yes, Comprehensive Plan
Master Plan, Inventory, & Arboricultural Guidelines for the Public Trees of the City of Ithaca, New York 2014	<ul style="list-style-type: none"> • By the year 2020, Ithaca's community forest will be multi-aged, diverse, fully stocked, healthy, and safe • Trees will contribute to the general welfare of our residents by reducing energy costs, increasing property values, providing homes for wildlife, beautifying all neighborhoods, and projecting an image of quality to visitors and prospective businesses. 	<ul style="list-style-type: none"> • Soil and tree roots capture storm-water runoff • Leaves attenuate storm-water runoff • Species should be used that: are tolerant of site conditions and not invasive, have few management problems, meet functional and aesthetic needs, are resistant to pests • Trees shall be removed on the basis of safety first and foremost, hazardous trees shall be the highest priority 	<ul style="list-style-type: none"> • Invasive Species • Stormwater runoff 	No	Yes, Comprehensive Plan
Northside Neighborhood Plan 2003	<ul style="list-style-type: none"> • Improve the appearance and accessibility of open space in the Northside neighborhood 	<ul style="list-style-type: none"> • Beautify Cascadilla Creek and the creek bed 	Traffic Accidents	No	No



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
Southwest Area Land Use Plan 1994	<ul style="list-style-type: none"> Changes to land use and zoning 	<ul style="list-style-type: none"> The impact of proposed development in or near the designated wetlands will be investigated and mitigation measures proposed. All other wetlands in the area will be identified and evaluated. Possible mitigation measures might include improvement or replacement of wetlands Protect the aquifer Incorporation of stormwater management strategies into overall buffering strategies Use of landscaping, buffers, and the preservation of existing vegetation 	<ul style="list-style-type: none"> Flooding Stormwater Runoff Traffic Accidents 	No	No
Strategic Housing and Neighborhoods Plan 1987	<ul style="list-style-type: none"> Establish general planning goals There should not be unrestricted residential growth in the city The City of Ithaca should develop land use controls that permit varying types and characteristics of development in different areas to serve different populations 	<ul style="list-style-type: none"> Enhanced site plan review procedure 	No	No	No
West Hill Master Plan 1992	<ul style="list-style-type: none"> Stormwater drainage should utilize the natural drainage systems to the greatest extent feasible. These natural systems should be preserved and protected against degradation from nearby development 	<ul style="list-style-type: none"> Provide the legal means to protect the integrity of streams for storm water runoff from the watershed to the Flood Control Channel and Cayuga Lake Prevent the alteration of the physical characteristics of the stream and buffer areas Limit erosion and sedimentation that results from development activity near a stream 	<ul style="list-style-type: none"> Flooding Stormwater Runoff 	No	No



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
Consolidated Plan 2019	<p>•2019 - 2023, Consolidated Plan. As a U.S. Department of Housing and Urban Development (HUD) entitlement community, Ithaca receives HUD dollars to dedicate to affordable housing and other community development projects, with a focus on increasing opportunity for people with low-to moderate-incomes (LMI). As an Entitlement Community, Ithaca is required to prepare a 5-year Consolidated Plan and annual Action Plans. This plan's purpose is to guide the next five years' use of HUD entitlement funding in the City of Ithaca.</p>	<p>•The Plan identifies a significant need for additional affordable housing in the City. With respect to non-housing needs, Improvements/additions to public facilities (community centers, parks and recreational facilities, and homeless shelter). Public Improvements to streets, sidewalks and bicycle facilities; flood drainage; blight removal.</p> <p>•Public improvements for which a high level of need exists include street improvements, sidewalks and bicycle facilities, flood drainage improvement, and blight removal in identified locations. The following specific high-priority needs have been identified: pedestrian and bicycle crossing improvements in several locations, removal of sediment from creeks running through LMI neighborhoods to reduce flooding potential, and removal of unsafe buildings.</p> <p>•The City of Ithaca, through its Department of Public Works, is reassessing and updating flood plain maps and data, and making improvements to the City's flood control channel. The City of Ithaca's Planning Department has incorporated sustainability planning into its functioning to prepare for climate- and energy-related resilience. The Tompkins County Planning Department is in the process of scoping a significant resiliency and recovery planning effort that will include an update to its</p>	Flooding and Lead Based Paint	Yes - Page 79	Yes - Comprehensive Plan and Zoning



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
		<p>multi-jurisdictional hazard mitigation plan. Economic recovery initiatives including debris management, continuity of operations, and critical facility planning are involved. The County anticipates utilizing both Federal and State funds to advance the various efforts that will be part of the broader resiliency plan. Once funding is secured, a "resiliency team" of municipal representatives, including representatives from the City, will be gathered to begin work.</p> <ul style="list-style-type: none"> •An identified priority need is targeted capital improvements to the public infrastructure system, including but not limited to streets, sidewalks, and drainage/flood control facilities, for the benefit of LMI neighborhoods. As an identified priority need, drainage/flood control facilities may be identified for funding in the annual Action Plans. 			
<p>Greater Southside Neighborhood Plan 2018</p>	<ul style="list-style-type: none"> • As the city continues to develop, green spaces will be enhanced and located to best serve residents and visitors • The community will be well educated on personal safety and emergency preparedness • Cayuga Lake, its tributaries, and the local watershed will be protected from pollution, sedimentation, erosions, flooding, invasive species, and other threats to drinking water supplies, wildlife, recreation, and economic 	<ul style="list-style-type: none"> • Revise existing zoning to reflect the desired future land uses of the Greater Southside Neighborhood Plan • Work with Tompkins County and other community partners to educate neighborhood residents on flood preparedness and emergency evacuation procedures • Protect the riparian zone adjacent to Six Mile Creek. Consider the impacts of future projects and creek maintenance on native 	<ul style="list-style-type: none"> • Flooding • Invasive species • Stormwater runoff 	<p>No</p>	<p>Yes, Comprehensive Plan</p>

Appendix I MUNICIPAL PLAN REVIEW SUMMARIES



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	development • Stormwater runoff will be significantly reduced	species and, where appropriate, provide plantings to serve as both erosion control and wildlife habitats • Create a deeper channel in the center of Six Mile Creek to protect the creek walls from additional erosion and damage • Improve storm sewer drainage south of the creek to prevent flooding during storm events			
Waterfront Plan 2019	• The City will provide a timely and appropriate response to emergencies. • The community will be well educated on personal safety and emergency preparedness • Cayuga Lake, its tributaries, and the local watershed will be protected from pollution, sedimentation, erosion, flooding, invasive species, and other threats to drinking water supplies, wildlife, recreation, and economic development. • Stormwater run-off will be significantly reduced.	• Explore methods to educate residents and visitors on water safety, safety during flooding, and ice safety • Protect the riparian zone immediately adjacent to the water and provide landscaping for wildlife and areas for water filtration where appropriate. • Maintain water channels, ensuring navigability, especially after flooding or other weather-related events. • Encourage bioswales and other natural means for filtering stormwater runoff along streets, in tree lawns, and as part of sidewalk plans and parking lot landscaping. • Identify existing areas that filter stormwater runoff and preserve and enhance that function • Develop a review process to address potential impacts on stormwater runoff caused by the removal of trees and large areas of vegetation.	• Flooding • Ice Storms • Stormwater runoff • Boating Accidents	No	Yes, Comprehensive Plan



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
Cayuga Lake Watershed Restoration and Protection Plan 2017	<ul style="list-style-type: none"> Consistent monitoring of the lake and its tributaries is necessary for the restoration and protection of the watershed Efforts to understand and manage the watershed's stormwater drainage system are essential to maintaining water quality. There are 6 counties, 34 towns, 9 villages, and 1 city in the Cayuga Lake Watershed. Effective watershed restoration and protection efforts necessitate intermunicipal collaboration and cooperation. 	<ul style="list-style-type: none"> Continue an aggressive hydrilla identification and eradication program. Design and develop a watershed-wide stormwater management strategy, modeled on the Stormwater Coalition of Tompkins County. Work with county Water Quality Coordinating Committees on development and promotion of wetland protection legislation. Work with county Planning Departments to recommend and distribute model legislation to local municipalities and for help in identifying and protecting critical resource areas. 	<ul style="list-style-type: none"> Flooding Stormwater runoff Hazardous Materials and Waste Severe Storms 	Yes, page 136	Yes, Comprehensive Plan
Flood Damage Prevention Law 1987	<p>Chapter 186, Flood Damage Prevention. The Common Council of the City of Ithaca of the State of New York finds that the potential and/or actual damages from flooding and erosion may be a problem to the residents of the City of Ithaca and that such damages may include destruction or loss of private and public housing, damage to public facilities, both publicly and privately owned, and injury to and loss of human life.</p> <p>It is the purpose of this chapter to:</p> <p>A. Regulate uses which are dangerous to health, safety and property due to water or erosion hazards or which result in damaging increases in erosion or in flood heights or velocities.</p> <p>B. Require that uses vulnerable to floods, including facilities which serve such uses, be</p>	<p>The City of Ithaca Director of Planning and Development is hereby appointed local administrator to administer and implement this chapter by granting or denying development permit applications in accordance with its provisions.</p> <p>A development permit shall be obtained before the start of construction or any other development within the area of special flood hazard as established in § 186-7. Application for a development permit shall be made on forms furnished by the local administrator.</p> <ul style="list-style-type: none"> All subdivision proposals shall be consistent with the need to minimize flood damage; have public utilities and facilities, such as sewer, gas, electrical and water systems, 	Flooding and Erosion	No	<p>Yes - Building construction — See Ch. 146.</p> <p>Environmental quality review — See Ch. 176.</p> <p>Site development plan review — See Ch. 276.</p> <p>Subdivision of land — See Ch. 290.</p> <p>Zoning — See Ch. 325.</p>



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	<p>protected against flood damage at the time of initial construction.</p> <p>C. Control the alteration of natural floodplains, stream channels and natural protective barriers which are involved in the accommodation of floodwaters.</p> <p>D. Control filling, grading, dredging and other development which may increase erosion or flood damages.</p> <p>E. Regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands.</p> <p>F. Qualify for and maintain participation in the National Flood Insurance Program.</p>	<p>located and constructed to minimize flood damage; have adequate drainage provided to reduce exposure to flood damage; and be provided for subdivision proposals and other proposed developments, including proposals for manufactured home parks and subdivisions, greater than either 50 lots or five acres.</p> <ul style="list-style-type: none"> •New construction and substantial improvements of any residential structure shall have the lowest floor, including the basement or cellar, elevated to or above the base flood elevation. New construction and substantial improvements of any commercial, industrial or other nonresidential structure, together with attendant utility and sanitary facilities, shall either have the lowest floor, including the basement or cellar, elevated to or above the base flood elevation or be floodproofed so that the structure is watertight below the base flood level. •When floodway data is available for a particular site as provided by §§ 186-7 and 186-13B, <p>all encroachments, including fill, new construction, substantial improvements and other development, are prohibited within the limits of the floodway unless a technical evaluation demonstrates that such encroachments shall not result in any</p>			



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
		increase in flood levels during the occurrence of the base flood discharge.			
Stormwater Management and Erosion and Sediment Control 2007	<ul style="list-style-type: none"> •Chapter 282, Stormwater Management and Erosion and Sediment Control. The purpose of the Stormwater Regulations is to establish minimum stormwater management requirements and controls to protect, maintain, and enhance the health, safety and general welfare of the citizens of the City and its natural environment. •Those purposes will be met by; meeting the requirements of minimum measures 4 and 5 of the SPDES General Permit for Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s), Permit no. GP-02-02; requiring land development activities to conform to the substantive requirements of the NYS Department of Environmental Conservation State Pollutant Discharge Elimination System (SPDES) General Permit for Construction Activities GP-02-01; and controlling and reducing stormwater runoff rates and volumes, in order to reduce erosive velocities, stream bank erosion and property damage, and to maintain the integrity of stream channels and aquatic habitats. 	<p>These regulations shall be applicable to all land development activities, including, but not limited to, site plan applications, subdivision applications, grading applications, building permit applications, and projects to be undertaken by the City, its agents, or any other municipal entity, unless exempt.</p> <p>Depending on certain project conditions, such as its size or amount of disturbance, a full Stormwater Pollution Prevention Plan of a basic Stormwater Pollution Prevention Plan will be required.</p>	Erosion	No	<p>Yes - Building Code enforcement — See Ch. 146.</p> <p>Encroachments — See Ch. 170.</p> <p>Environmental quality review — See Ch. 176.</p> <p>Fill, excavation and stockpiling — See Ch. 179.</p> <p>Flood damage prevention — See Ch. 186.</p> <p>Housing standards — See Ch. 210.</p> <p>Landmarks preservation — See Ch. 228.</p> <p>Site plan review — See Ch. 276.</p> <p>Subdivision of land — See Ch. 280.</p> <p>Watershed — See Ch. 320.</p> <p>Zoning — See Ch. 325.</p>
Subdivision on Land 1998	<ul style="list-style-type: none"> •Chapter 290, Subdivision of Land. Unless otherwise specified by the Common Council, the Planning and Development Board shall be the lead agency in all necessary environmental 	<ul style="list-style-type: none"> •Land subject to flooding or otherwise deemed by the Planning and Development Board to be uninhabitable shall not be platted for residential occupancy nor for 	Flooding	No	<p>Yes - Building construction — See Ch. 146.</p> <p>Environmental quality</p>



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	<p>review of any proposed subdivision, in accordance with state environmental quality review regulations and the City Environmental Quality Review Ordinance,5 as provided under this Code. No application for preliminary approval of a subdivision plat shall be considered complete in the absence of a negative declaration or notice of completed DEIS (General City Law § 32).</p>	<p>any other use such as may increase danger to health, life or property or aggravate the hazard or difficulty inherent in the property.</p>			<p>review — See Ch. 176. Flood damage prevention — See Ch. 186. Numbering of houses — See Ch. 206. Housing standards — See Ch. 210. Fair housing — See Ch. 215, Art. I. Site development plan review — See Ch. 276. Streets and sidewalks — See Chs. 285 and 342. Trees and shrubs — See Ch. 306. Water and sewers — See Ch. 262. Zoning — See Ch. 325.</p>
<p>Local Flood Hazard Analysis 2020</p>	<ul style="list-style-type: none"> • Reduce susceptibility to flooding 	<ul style="list-style-type: none"> • Alteration of Channel Cross Section: Actions that provide additional cross sectional area to carry floodwater, including dredging, channel widening, and vertical height increase. • Alteration of Existing Structures: Actions that use or modify structures to mitigate flood hazard such as retrofit of bridge abutments and culverts, or use of check valves at storm sewer outfalls. • Natural Resource Protection: Actions that minimize loss of, or preserve/restore the function of natural systems and associated 	<ul style="list-style-type: none"> • Flooding 	<p>Yes, throughout</p>	<p>Yes, Comprehensive Plan</p>



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
		ecosystem services (such as streambank protection and stabilization, redesign of roadside ditches, attenuation of peak flows through regional detention) <ul style="list-style-type: none"> • Reservoir Routing: Actions that modify the operation of existing dams and reservoirs in the watersheds for flood control purposes. • Sediment Control: Actions that would decrease sediment loads at their sources in the watershed, impede the downstream transport of sediment loads, and/or reduce the rate of deposition of sediment in the study area 			
Flood Inundation Maps 2018	<ul style="list-style-type: none"> • Visualize areas susceptible to Flooding 	None	<ul style="list-style-type: none"> • Flooding 	No	Yes, Local Floods Hazard Analysis
Wetland Protections Plan 2008	<ul style="list-style-type: none"> • Protecting wetlands made vulnerable by the regulatory gaps in federal and state programs • Increasing compliance with federal and state regulatory programs 	<ul style="list-style-type: none"> • Wetland Protection Ordinance • Encourage Better Site Design in Existing Zoning and Site Plan Regulations • Promote Wetland Conservation Practices in Stormwater Laws • Include Wetland Protections in Existing Site Plan Regulations • Require Field Surveys for Wetlands When Land Use Decisions Involve Flood Plains, Stream Corridors, and Hydric Soils • Improve Accuracy of Local Wetland Maps and Databases 	<ul style="list-style-type: none"> • Flooding • Erosion • Severe Storms • Stormwater Runoff • Invasive Species 	No	Yes, Comprehensive Plan
Town of Ithaca					



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
Comprehensive Plan 2014	<ul style="list-style-type: none"> • Shape and improve the quality of the built environment by focusing growth to provide for the needs of Town residents while fostering a balanced mix of agricultural, open space and recreational, residential, commercial, institutional, and office/industrial uses. • Use contemporary, effective tools that reflect best current planning practice to guide the form of the Town's built and natural environments. • Identify and target natural and environmental resources for preservation and protection. • Protect open space with appropriate land use regulations and development strategies • Support and actively engage in efforts to control the threat of invasive species. • Protect water resources and seek to improve water quality. 	<ul style="list-style-type: none"> • Preserve and protect lands that contain steep slopes; Federal, State, or locally designated wetlands; environmentally important areas such as quality wildlife or plant habitat; forests and woodlots; agriculture; and areas listed on the inventory of Scenic Resources. • Require development to take the form of cluster subdivision (also known as conservation subdivision) in environmentally, agriculturally, and visually sensitive areas. • Adopt a new zoning code that includes all aspects of land use and development regulations that are now located throughout the Town code into one document. Consider a unified development code. • Inventory, identify, and comprehensively map the Town's natural areas and open spaces, including riparian areas, gorges, biological corridors, forest cover, steep slopes, ecological communities, wetlands, wildlife habitats, etc. Expand the Town's knowledge of its valuable resources beyond basic existing land use information and known Unique Natural Area boundaries. Maintain and update the inventory over time. • Manually remove invasive species and where necessary allow the judicious use of herbicides and pesticides on Town-owned 	<ul style="list-style-type: none"> • Flooding • Erosion • Stormwater runoff • Invasive species 	No	No



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
		<p>land following Integrated Pest Management (IPM) Program standards and tree harvesting, as needed</p> <ul style="list-style-type: none"> Establish regulatory mechanisms to protect wetlands; place particular attention on those wetlands that are not currently addressed by State or Federal wetland protection laws. 			
<p>Flood Damage Prevention Law 1987</p>	<p>Chapter 157, Flood Damage Prevention. The Town Board of the Town of Ithaca finds that the potential and/or actual damages from flooding and erosion may be a problem to the residents of the Town of Ithaca and that such damages may include: destruction or loss of private and public housing, damage to public facilities, both publicly and privately owned, and injury to and loss of human life. •It is the purpose of this chapter to;</p> <p>A. Regulate uses which are dangerous to health, safety and property due to water or erosion hazards or which result in damaging increases in erosion or in flood heights or velocities.</p> <p>B. Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction.</p> <p>C. Control the alteration of natural floodplains, stream channels and natural protective barriers which are involved in the accommodation of floodwaters.</p> <p>D. Control filling, grading, dredging and other development which may increase erosion or</p>	<ul style="list-style-type: none"> The Building Inspector is hereby appointed local administrator to administer and implement this chapter by granting or denying development permit applications in accordance with its provisions. A development permit shall be obtained before any development or start of construction, whichever occurs earlier, within any area of special flood hazard as established in § 157-6. • All subdivision proposals shall be consistent with the need to minimize flood damage; have public utilities and facilities, such as sewer, gas, electrical and water systems, located and constructed to minimize flood damage; have adequate drainage provided to reduce exposure to flood damage; and be provided for subdivision proposals and other proposed developments, including proposals for manufactured home parks and subdivisions, greater than either 50 lots or five acres. New construction and substantial improvements of any residential structure 	<p>Flooding and Erosion</p>	<p>No</p>	<p>Yes - Building construction and fire prevention — See Ch. 125. Environmental quality review — See Ch. 148. Freshwater wetlands — See Ch. 161. Subdivision of land — See Ch. 234. Zoning — See Ch. 270.</p>



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	<p>flood damages.</p> <p>E. Regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands.</p> <p>F. Qualify for and maintain participation in the National Flood Insurance Program.</p>	<p>shall have the lowest floor, including the basement or cellar, elevated to or above the base flood elevation. New construction and substantial improvements of any commercial, industrial or other nonresidential structure, together with attendant utility and sanitary facilities, shall either have the lowest floor, including the basement or cellar, elevated to or above the base flood elevation or be floodproofed so that the structure is watertight below the base flood level.</p> <p>•When floodway data is available for a particular site as provided by §§ 157-6 and 157-12B,</p> <p>all encroachments, including fill, new construction, substantial improvements and other development, are prohibited within the limits of the floodway unless a technical evaluation demonstrates that such encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.</p>			
<p>Stormwater Management and Erosion and Sediment Control 2008</p>	<p>•Chapter 228, Stormwater Management and Erosion and Sediment Control. The purpose of the Stormwater Regulations is to establish minimum stormwater management requirements and controls to protect, maintain, and enhance the health, safety and general welfare of the citizens of the Town and its natural environment.</p> <p>•Those purposes will be met by; meeting the</p>	<p>• No application for approval of a land development activity shall be reviewed or considered until any required SWPPP or erosion and sedimentation control plan, prepared in accordance with the specifications of this Chapter, is submitted to the Town of Ithaca and deemed acceptable by the Stormwater Management Officer, or his or her</p>	<p>Erosion</p>	<p>No</p>	<p>Yes - Environmental quality review — See Ch. 148. Flood damage prevention — See Ch. 157. Subdivision of land — See Ch. 234. Zoning — See Ch. 270.</p>

Appendix I MUNICIPAL PLAN REVIEW SUMMARIES



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	<p>requirements of minimum measures 4 and 5 of the SPDES General Permit for Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s), Permit no. GP-02-02; requiring land development activities to conform to the substantive requirements of the NYS Department of Environmental Conservation State Pollutant Discharge Elimination System (SPDES) General Permit for Construction Activities GP-02-01; and controlling and reducing stormwater runoff rates and volumes, in order to reduce erosive velocities, stream bank erosion and property damage, and to maintain the integrity of stream channels and aquatic habitats.</p>	<p>designee. This chapter defines three levels of plans. Depending on the area of disturbance and other criteria listed below, certain land development activities will require either: (1) A full SWPPP with both erosion and sediment control and postconstruction water quality and quantity controls; or (2) A basic SWPPP with erosion and sediment control; or (3) A simple erosion and sedimentation control plan.</p> <ul style="list-style-type: none"> •The Town encourages the use of such nonstructural stormwater management practices to minimize reliance on structural stormwater management measures. 			
<p>Subdivision on Land 1993</p>	<ul style="list-style-type: none"> •Chapter 234, Subdivision of Land. The policy of the Town of Ithaca is to consider land subdivision regulations as part of a Comprehensive Plan for the orderly, efficient, and economical development of the Town of Ithaca. Proper provision shall be made for drainage, water supply, sewerage, highways, open space, and other needed improvements, and to provide protection against floods and to otherwise promote the health, safety, and welfare of the Town's inhabitants. 	<ul style="list-style-type: none"> • including all applicable requirements of the New York State Environmental Quality Review Act and Chapter 148, Environmental Quality Review, of the Code of the Town of Ithaca. •The subdivider shall submit to the Town Planner or the Town Planner's designee a development review application, a preliminary plat in the form required by Article VI, §234-36, the Town of Ithaca Environmental Assessment Form, Part I, a stormwater pollution prevention plan meeting the requirements of Town Code Chapter 228, and 20 reduced copies of the improvement plans and other information required by these regulations. 	<p>Flooding</p>	<p>No</p>	<p>Yes - Compensation of Planning Board — See Ch. 20, Art. I. Agricultural assessments — See Ch. 104. Building construction and fire prevention — See Ch. 125. Unsafe buildings — See Ch. 129. Environmental quality review — See Ch. 148. Fees — See Ch. 153. Flood damage prevention — See Ch. 157. Freshwater wetlands — See Ch. 161. Numbering of buildings — See Ch. 192. Sewer use — See Chs. 214 - 217.</p>



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
					Street excavations — See Ch. 230, Art. I. Water protection — See Ch. 256. Zoning — See Ch. 270.
Zoning 2003	<ul style="list-style-type: none"> Chapter 270, Zoning. This chapter is adopted pursuant to the laws of the State of New York in order to protect and promote the health, safety and welfare of the community. Among other purposes this chapter is intended to prevent the overcrowding of lands, to avoid undue concentration of population, to facilitate the adequate provisions of transportation, water, sewage disposal, schools, parks, and other public requirements. 	<p>For the purpose of this chapter the Town of Ithaca is hereby divided into the various types of zones also referred to as "districts".</p> <p>It is the purpose of the Conservation Zone to preserve the outstanding natural features in certain areas of the Town, as described in the Town of Ithaca Comprehensive Plan, Among the natural values and ecological importance of these areas are their diversity as a plant and wildlife habitat, their existence as biological corridors, and their importance for natural drainage features.</p>	Flooding and Fire	No	<ul style="list-style-type: none"> Yes - Building construction and fire prevention — See Ch. 125. Unsafe buildings — See Ch. 129. Environmental quality review — See Ch. 148. Fees — See Ch. 153. Flood damage prevention — See Ch. 157. Freshwater wetlands — See Ch. 161. Outdoor lighting — See Ch. 173. Property maintenance — See Ch. 205. Stormwater management and erosion and sediment control — See Ch. 228. Subdivision of land — See Ch. 234. Special land use districts — See Ch. 271.
Park, Recreation and Open Space Plan 1997	<ul style="list-style-type: none"> Provide an integrated system of parks, recreational facilities, and open space throughout the Town, with linkages between trails, parks, preserves, stream corridors, and utility right of ways Improve the environment and preserve and protect it from degradation 	<ul style="list-style-type: none"> Establish a coordinated program to preserve environmentally sensitive land and important and scenic areas Protect natural resources, selected open space, environmentally sensitive areas and unique natural areas Protect water and air quality and 	<ul style="list-style-type: none"> Erosion Stormwater runoff 	No	Yes, Comprehensive Plan



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
		minimize impacts from erosion, sedimentation and drainage			
Town of Lansing					
Land Use Ordinance 2015	• Details Land Use codes and areas in the Town of Lansing	None	No	No	Yes, all plans follow Land Use Code
Natural Resource Inventory 2020	• Conserve existing natural resources and land to maintain the existing rural characteristics of the municipality. • Reduce wetland degradations by increasing the use of green infrastructure and thereby prevent/ mitigate flooding.	• Reduce wetland degradations by increasing the use of green infrastructure and thereby Resource prevent/ mitigate flooding.	Flood	No	No
Comprehensive Plan 2018	<ul style="list-style-type: none"> • Improve and shape the quality of the built environment by focusing growth to provide for the needs of Town residents • Establish a regional approach to increasing the quality of Cayuga Lake • Continue to support measures aimed to reduce or eliminate the runoff pollution of Cayuga Lake • Continue to take into consideration both Tompkins County Unique Natural Areas (UNA's) and State and Federal Wetlands during site plan reviews and development for the protection of our natural resources • Protect opens space with appropriate land use regulations and development strategies 	<ul style="list-style-type: none"> • Guide development to take the form of cluster and/or conservation subdivisions in environmentally and visually sensitive areas • Reach out to neighboring municipalities to coordinate efforts to improve Cayuga Lake's water quality • Follow the direction of the NYS DEC in the treatment of discharge in all watershed areas, and best practices in the storage of all potential toxic materials • Continue the protection along storm corridors that feed the watershed through utilization and continued enforcement of current legislation • Encourage private property owners to 	<ul style="list-style-type: none"> • Flooding • Erosion • Stormwater Runoff • Hazardous Materials Storage • Water Quality • Pollution 	No	No



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
		establish conservation easements to protect environmentally sensitive lands and open space			
Agriculture and Farmland Protection Plan 2015	<ul style="list-style-type: none"> • Location of areas/land recommended for protection for agricultural use • Promote land stewardship to protect soil, water and environmental quality 	<ul style="list-style-type: none"> • Create a new AG zone to encompass the majority of agricultural areas of north Lansing. • Encourage sustainable soil building farming practices • Encourage farms to adopt/ follow nutrient management plans 	<ul style="list-style-type: none"> • Runoff • Water Quality 	No	Yes, Comprehensive Plan
Subdivision Rules and Regulations 2016	Local Law No. 3 of 2016, Subdivision Rules and Regulations. As to Major Subdivisions, it is further declared to be the policy of the Town to consider Major Subdivision Plats as part of a plan for the orderly, efficient, and economical development of the Town. This means, among other things, that land to be subdivided must be of such character that it can be used safely for building purposes without danger to health, or peril from fire, flood, or menace; that proper provision must be made for drainage, water supply, sewerage, and other needed improvements.	<ul style="list-style-type: none"> •All natural features such as trees, streams, hilltops, and views shall be preserved whenever possible in designing and laying out any Subdivision. The Planning Board may require changes in the layout to assure that natural features will be preserved, undisturbed, or incorporated into the Plat or design. Where a Subdivision contains a pond or stream that is not a designated wetland, the natural flow and course of drainage or any waterbody shall be preserved unless the Planning Board determines that realignment will enhance the Subdivision without adverse impacts to adjoining properties, the environment, and flora and fauna. Land subject to serious or regular flooding shall not be subdivided for residential occupancy or for any other use that may increase danger to life or property or that may aggravate the flood 	Flooding	No	Yes - Comprehensive Plan and Zoning



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
		hazard. Such land may be used, however, for such uses, or in such a way, that the flood danger to the property and other upstream or downstream properties will not be increased, and periodic or occasional inundation will not be a threat to life or property.			
Flood Damage Prevention & Floodplain Management & Local Construction Law 2016	<ul style="list-style-type: none"> Local Law No. 9 of 2016, Flood Damage Prevention and Flood Plain Management and Construction Local Law. It is the purpose of this local law to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed to: (i) regulate uses which are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities; (ii) require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction; (iii) control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of floodwaters; (iv) control filling, grading, dredging and other development that may increase erosion or flood damages; (v) regulate the construction of flood barriers that will unnaturally divert floodwaters or which may increase flood hazards to other lands; and (vi) 	<ul style="list-style-type: none"> No structure in an area of special flood hazard shall hereafter be constructed, located, extended, converted, or altered, and no land shall be excavated or filled, without full compliance with the terms of this local law and any other applicable regulations. A floodplain development permit system is hereby established for all construction and other development to be undertaken in areas of special flood hazard in the town for the purpose of protecting citizens from increased flood hazards and insuring that new development is constructed in a manner that minimizes its exposure to flooding. It shall be unlawful to undertake any development in an area of special flood hazard without a valid floodplain development permit. A certificate of compliance shall be issued by the local administrator upon satisfactory completion of all development in areas of special flood hazard. The following standards apply to all new subdivision proposals and other proposed 	Flooding and erosion	No	Yes - Comprehensive Plan, Zoning, Site Plan and Subdivisions



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	<p>qualify and maintain for participation in the National Flood insurance Program.</p>	<p>development in areas of special flood hazard:</p> <ol style="list-style-type: none"> 1. Proposals shall be consistent with the need to minimize flood damage; 2. Public utilities and facilities such as sewer, gas, electrical and water systems shall be located and constructed to minimize flood damage; and 3. Adequate drainage shall be provided to reduce exposure to flood damage. <p>•In addition to other rules affecting encroachments and standards for all structures, the following standards apply to new and substantially improved residential, commercial, industrial, and other non-residential structures:</p> <p>Within Zones A1-A30, AE and AH, and also Zone A if base flood elevation data are available, residential new construction and substantial improvements shall have the top of the lowest floor (including basement) elevated two feet or more above the base flood level, and new construction and substantial improvements of any non-residential structure, together with attendant utility and sanitary facilities, shall either (i) have the top of the lowest floor, including basement or cellar, elevated 2 feet or more above the base flood elevation; or (ii) be flood proofed so that the structure is watertight below the base flood level.</p>			



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
Stormwater and Erosion Control 2009	<ul style="list-style-type: none"> Local Law No. 6 of 2009, Stormwater and Erosion Control. The purpose of this Local Law is to establish minimum Stormwater management requirements and standards, including, as applicable. Land Development Activity and Stormwater Management Practice requirements and standards necessary to minimize potential harm to the environment, to promote public health, welfare, and safety, and to control and minimize the adverse effects associated with Erosion, Sedimentation, unregulated Stormwater, Point Source Pollution, and Nonpoint Source Pollution. Minimizing increases in Stormwater Runoff and Erosion generated by Land Development Activities is intended to, among other things, reduce flooding, reduce siltation, reduce increases in stream temperatures, reduce Erosion, and maintain the integrity of stream and other Watercourse and Waterway channels and Channels and Surface Waters. It is also specifically planned to maintain Salmon Creek and its tributaries as a natural fishery and as natural breeding/spawning areas, as well as to protect Cayuga Lake from excessive turbidity from Sediments, including, but not limited to, phosphorous and other pollutants, whether organic or otherwise. 	<ul style="list-style-type: none"> The Town shall designate a SMO, who shall receive and review all proposed SWPPPs and forward such proposed SWPPPs to the applicable municipal board. The SMO may (a) review proposed Land Development Activities and SWPPPs. All Land Development Activities subject to review and approval by the Planning Board under subdivision, site plan, planned development area, and special permit laws, rules, regulations, and such applications shall be reviewed subject to the standards contained in this Local Law. 	Flooding and pollution of surface water	No	Yes - Zoning, Subdivision, and Site Plan Review Laws, Regulations, and Rules
Village of Lansing					



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
Comprehensive Plan 2015	<ul style="list-style-type: none"> The Village should be as proactive and methodical as possible in its approach to planning, developing, and maintaining the built environment and preserving the natural environment The Village should promote and manage plans and programs to protect and enhance the natural environment 	<ul style="list-style-type: none"> Identify areas where the natural environment should be preserved or protected Engage in regular and periodic reviews to determine if Village Zoning Law accurately reflects changing conditions and needs Encourage the use of green building/construction practices that reduce energy use, stormwater runoff, and greenhouse gas emissions Minimize the impact of development on Cayuga Lake, Unique Natural Areas, Conservation Combining Districts, wetlands, steep slopes, woodland tracts, and view sheds against development proposals that would adversely affect these areas Monitor and update stormwater management practices for efficacy as well as compliance with State and Federal requirements Promote proper drainage to prevent flooding and damage to contiguous properties Require and enforce the use of soil erosion control methods for all land disturbance activities that might contribute to siltation 	<ul style="list-style-type: none"> Flooding Stormwater runoff Erosion Severe Storms 	No	No



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
Flood Damage Prevention Law 2008	<p>Chapter 78, Flood Damage Prevention Law. The Board of Trustees of the Village of Lansing finds that the potential and/or actual damages from flooding and erosion may be a problem to the residents of the Village of Lansing and that such damages may include: destruction or loss of private and public housing, damage to public facilities, both publicly and privately owned, and injury to and loss of human life. It is the purpose of this chapter to;</p> <p>A. Regulate uses which are dangerous to health, safety and property due to water or erosion hazards or which result in damaging increases in erosion or in flood heights or velocities.</p> <p>B. Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction.</p> <p>C. Control the alteration of natural floodplains, stream channels and natural protective barriers which are involved in the accommodation of floodwaters.</p> <p>D. Control filling, grading, dredging and other development which may increase erosion or flood damages.</p> <p>E. Regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands.</p> <p>F. Qualify for and maintain participation in the National Flood Insurance Program.</p>	<ul style="list-style-type: none"> •The Village of Lansing Code Enforcement Officer is hereby appointed Local Administrator to administer and implement this Chapter 78 by granting or denying floodplain development permits in accordance with its provisions. •A floodplain development permit is hereby established for all construction and other development to be undertaken in areas of special flood hazard in this community for the purpose of protecting its citizens from increased flood hazards and insuring that new development is constructed in a manner that minimizes its exposure to flooding. •The Local Administrator shall determine whether any proposed development in an area of special flood hazard may result in physical damage to any other property. If damage is anticipated, no permit shall be issued. •The following standards apply to all new subdivision proposals and other proposed development in areas of special flood hazard: <ol style="list-style-type: none"> 1. Proposals shall be consistent with the need to minimize flood damage; 2. Public utilities and facilities such as sewer, gas, electrical and water systems shall be located and constructed so as to minimize flood damage; and 3. Adequate drainage shall be provided to 	Flooding and Erosion	No	Yes - Comprehensive Plan, Subdivisions and Site Plans



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
		<p>reduce exposure to flood damage.</p> <ul style="list-style-type: none"> In addition to other rules affecting encroachments and standards for all structures, the following standards apply to new and substantially improved residential, commercial, industrial, and other non-residential structures: <p>1. Within Zones A1-A30, AE and AH, and also Zone A if base flood elevation data are available, residential new construction and substantial improvements shall have the top of the lowest floor (including basement) elevated two feet or more above the base flood level, and new construction and substantial improvements of any non-residential structure, together with attendant utility and sanitary facilities, shall either (i) have the top of the lowest floor, including basement or cellar, elevated 2 feet or more above the base flood elevation; or (ii) be flood proofed so that the structure is watertight below the base flood level</p>			
<p>Stormwater Management, Erosion and Sediment Control Law 2008</p>	<p>Chapter 124, Stormwater Management, Erosion and Sediment Control Law. The purpose of this chapter is to establish minimum stormwater management requirements and controls to protect and safeguard the general health, safety, and welfare of the public residing within the Village and to address the findings of fact in Section 124-2 hereof. This chapter seeks to meet those purposes by achieving</p>	<ul style="list-style-type: none"> This law defines three levels of applicability. Depending on the area of disturbance and other criteria listed below, land development activities will require either: <p>1. A Full SWPPP (Stormwater Pollution Prevention Plan) with both erosion and sediment control and post construction water quality and quantity controls;</p>	<p>Flooding and Erosion</p>	<p>No</p>	<p>Yes - Subdivision and Site Plan</p>



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	<p>the following objectives as improperly managed stormwater runoff can increase the incidence of flooding and the level of floods that occur, endangering property and human life:</p> <p>A. Meet the requirements of minimum measures 4 and 5 of the SPDES General Permit for Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s), Permit no. GP-02-02.</p> <p>B. Require land development activities to conform to the substantive requirements of the NYS Department of Environmental Conservation State Pollutant Discharge Elimination System (SPDES) General Permit for Construction Activities GP-02-01, or the General Permit then in effect.</p> <p>C. Minimize increases in the magnitude, rate, and frequency of stormwater runoff between predevelopment and post-development conditions so as to prevent an increase in flood flows and in the hazards and costs associated with flooding.</p> <p>D. Where increases occur, restrict stormwater runoff entering and leaving development sites to nonerosive velocities.</p> <p>E. Minimize the accumulation, and facilitate the removal of pollutants in stormwater runoff so as to perpetuate the natural biological and recreational functions of streams, water bodies, and wetlands.</p>	<p>2. A Basic SWPPP with erosion and sediment control, or</p> <p>3. A Simple SWPPP, with a generic small site erosion and sediment control plan.</p> <p>•To the maximum extent practicable, stormwater management objectives must be met by incorporating nonstructural stormwater management strategies into the project design. Non-structural practices reduce the need for expensive and high maintenance stormwater management facilities, and thereby are a benefit to the applicant and to the Village.</p>			



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
Subdivision of Land 2007	Chapter 125, Subdivision of Land. It is declared to be the policy of the Planning Board to consider land subdivision plats as part of a plan for the orderly, efficient and economical development of the Village. This means, among other things, that land to be subdivided shall be of such character that it can be used safely for building purposes without danger to health, or peril from fire, flood or other menace.	<ul style="list-style-type: none"> •Subdivisions shall be in harmony with the Village Comprehensive Plan and shall be of such character that it can be used safely for building purposes without danger to health or peril from fire, flood or other menace. •The Planning Board shall, wherever possible, establish the preservation of all natural features which add value to residential developments and to the community, such as large trees or groves, watercourses and falls, beaches, historic spots, vistas and similar irreplaceable assets. 	Flooding and Erosion	No	Yes - Comprehensive Plan and Zoning
Zoning 2019	<ul style="list-style-type: none"> •Chapter 145, Zoning. It is the purpose of this chapter to promote the health, safety and general welfare of the community by encouraging the most appropriate development of the Village, in accordance with the Village of Lansing General Plan and the Village of Lansing Comprehensive Plan. 	<ul style="list-style-type: none"> •The Flood Hazard Combining District has been created to establish a combining district which combines with and adds to the regulations of the basic districts to protect the health, safety and welfare of the inhabitants of the Village from the unpredictable hazards of possible flooding, including the protection of persons and property, the preservation of water quality and the minimizing of expenditures for relief, insurance and flood control projects by requiring special floodproofing measures to be taken when building in the Flood Hazard Combining District. •The Conservation Combining District has been created to establish a combining district which combines with and adds to the regulations of the basic districts to protect fragile natural areas, including 	Flood and Fire	No	Yes - Comprehensive Plan, Site Plans and Zoning



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
		wildlife habitat, the lakeshore, certain natural drainageways and steep slopes, where changes and/or development would be adverse to the environment, community values, public health, safety and general welfare of the Village.			
Town of Newfield					
Comprehensive Plan 2013	<ul style="list-style-type: none"> • Protect and enhance the integrity of Newfield's abundant and clean water • Ensure responsible discharge of stormwater originating in Newfield to the waters of the United States through General Permits compliance • Maintain an adequate level of law enforcement, fire and emergency response services to provide timely response to emergency situations 	<ul style="list-style-type: none"> • Utilize the aquifer studies to determine if current regulations protect the abundance and quality of water, especially in sensitive areas. Determine if certain types of high-impact development should be steered away from sensitive areas. Consider an Aquifer Protection Law. • Educate the community concerning water quality and water protection issues including opportunities for private water supply owners • Work with regional agencies to identify and prioritize important subjects needing educational outreach. Include subjects related to septic system installation, maintenance and hazardous waste • Work with all stakeholders to determine how to comply with the New York State and Emergency Preparedness Acts. 	<ul style="list-style-type: none"> • Water supply contamination • Stormwater runoff • Flooding • Hazardous materials – storage and disposal 	No	No
Flood Damage Prevention Law 1985	<ul style="list-style-type: none"> •Local Law No. 3 for the Year 1985, as revised 10/1/86, known as the Flood Damage Prevention Local Law. It is the purpose of this local law: 	<ul style="list-style-type: none"> •The Town Building Code Enforcement Officer is hereby appointed to administer and implement this local law by granting or denying development permit applications in accordance with its provisions. 	Flooding and Erosion	No	Yes - Comprehensive Plan and Subdivisions



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	<p>2) To minimize expenditure of public money for costly flood control projects;</p> <p>3), To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;</p> <p>4) To minimize prolonged business interruptions ;</p> <p>5) To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone, and sewer lines, and streets and bridges located in areas of special flood hazard;</p> <p>6) To help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas;</p> <p>7) To insure that potential buyers are notified that property is in an area of special flood hazard; and</p> <p>8) To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.</p>	<ul style="list-style-type: none"> •A Development Permit shall be obtained before construction or development begins within any area of special flood hazard established in Section 3.2. The Code Enforcement shall review all development permits to determine if the proposed development adversely affects the flood carrying capacity of the area of special flood hazard. •The following standards apply to all new subdivision proposals and other proposed development in areas of special flood hazard: <ol style="list-style-type: none"> 1. Proposals shall be consistent with the need to minimize flood damage; 2. Public utilities and facilities such as sewer, gas, electrical and water systems shall be located and constructed so as to minimize flood damage; and 3. Adequate drainage shall be provided to reduce exposure to flood damage. •New construction and substantial improvements of any residential structure shall have the lowest floor, including basement or cellar, elevated to or above the base flood elevation. •New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement or cellar, elevated to or above the base flood elevation; or, together with attendant utility 			



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
		<p>and sanitary facilities, shall be floodproofed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water. •All encroachments including fill, new construction, substantial improvements, and other development are prohibited within the limits of the floodway unless a technical evaluation demonstrates that such encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.</p>			
<p>Stormwater Management and Erosion and Sediment Control 2007</p>	<p>•Local Law No. 2 of the Year 2007. A local law to establish stormwater management and erosion and sediment control law. The purpose of this local law is to establish minimum stormwater management requirements and controls to protect and safeguard the general health, safety and welfare of public residing within this jurisdiction and to address the findings of fact in Section compatible with the natural functions of a particular site or an entire watershed and thereby mitigate the adverse effects of erosion and sedimentation form development. This local law seeks to meet those purposes by achieving the following objectives: 2. 1 Meet the requirements of minimum measures 4 and 5 of the SPDES General Permit for Stormwater Discharge from Municipal</p>	<p>•The municipality shall designate a Stormwater Management Officer who shall accept and review all stormwater pollution prevention plans and forward such plans to the applicable municipal board. •All land development activities subject to review and approval by the Town Board and/ or Code Enforcement, of the Town of Newfield shall be reviewed subject to the standards contained in this local law. •No application for approval of a land development activity shall be reviewed until the appropriate board has received a Stormwater Pollution Prevention Plan (SWPPP) prepared in accordance with the specifications in this local law.</p>	<p>Flooding and Erosion</p>	<p>No</p>	<p>Yes - Subdivision and Site Plan</p>

Appendix I MUNICIPAL PLAN REVIEW SUMMARIES



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	<p>Separate Stormwater Sewer Systems (MS4' s) Permit no. GP-02- 02 or as amended or revised; 2. 2 Require land development activities to conform to the substantive requirements of the NYS Department of Environmental Conservation State Pollutant Discharge Elimination System (SPDES) General Permit for Construction Activities GP- 02- 01 or as amended or revised; 2. 3 Minimize increases in stormwater runoff from land development activities in order to reduce flooding, siltation, increases in stream temperature, and streambank erosion and maintain the integrity of stream channel.</p>				
Village of Trumansburg					



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
Comprehensive Plan 2008	<ul style="list-style-type: none"> • Create and maintain open space to balance land preservation and public use • Collaborate with the Town of Ulysses to protect water quality and promote conservation and appreciation of unique natural assets within the area • Protect agriculture land, wetlands and green-space that provides contiguous physical and visual connections to the surrounding rural landscape without imposing economic hardships on landowners 	<ul style="list-style-type: none"> • Update and maintain site plan and zoning ordinances • Establish zoning for development with green space; conservation easements; incorporate cluster zoning • In zoning ordinance establish 100-foot setbacks from streams 	<ul style="list-style-type: none"> • Flooding • Erosion • Stormwater runoff 	No	No
Subdivision Regulations 2002	<p>Article 4, Subdivision Regulations. It is declared to be the policy of the Planning Board to consider Subdivision Plats as part of a plan for the orderly, efficient, and economical development of the Village. This means, among other things, that land to be subdivided shall be of such character that it can be used safely for building purposes without danger to health, or peril from fire, flood, or other menace; that proper provision shall be made for drainage, water supply, sewerage, and other needed improvements.</p>	<ul style="list-style-type: none"> • Land to be subdivided shall be of such character that it can be used safely for building purposes without danger to health or peril from fire, flood, or other menace. • Land subject to flooding or land deemed by the Planning Board to be uninhabitable shall not be platted for residential occupancy, nor for such other uses as may increase danger to health, life, or property, or aggravate the flood hazard, but such land within the plat shall be set aside for such uses as shall not be endangered by periodic or occasional inundation, or improved in a manner satisfactory to the Planning Board to remedy the hazardous conditions. 	Flooding and Fire	No	Yes - Comprehensive Plan, Zoning and Flood Damage Prevention



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
Zoning Ordinance 2012	Local Law No. 2 of the Year 2012, Village of Trumansburg Zoning Ordinance. For the purpose of promoting the health, safety, morals, or the general welfare of the community, and to lessen congestion in the streets; to secure from fire, panic and other dangers; to provide adequate light and air; to prevent the overcrowding of land; to avoid undue concentration of population; to safeguard homes by preserving the attractive environment of residential areas; to conserve property values in all areas; and to implement the Village of Trumansburg Comprehensive Plan.	<ul style="list-style-type: none"> •All perennial streams shall require a riparian buffer and a setback area. The riparian buffer will begin at the top of the stream bank and extend a minimum of fifty (50) feet. Site •Plan Review shall consider whether additional buffer width is appropriate along perennial streams within the Stream Corridor Conservation Overlay District to protect and promote: Stream Stability, by attenuating flooding, stabilizing stream banks and preventing erosion of stream banks and streambeds; Water Quality, by removing pollutants and moderating temperatures; and Financial Savings, by preventing property damage, reducing public investment and protecting public facilities from flooding or other hazards. •Site Plan Review within the Wetland Conservation Overlay District shall consider the impact of any proposed project on; The ability of the wetland to store floodwaters and reducing the magnitude of flood events; and the impact of a reduction in the flow of watercourses due to destruction of wetlands. 	Flooding and Hazardous Materials	No	Yes - Comprehensive Plan, Site Plans and Zoning
Town of Ulysses					
Natural Resource Inventory 2018	<ul style="list-style-type: none"> • Conserve existing natural resources and land to maintain the existing rural characteristics of the municipality. • Reduce wetland degradations 	<ul style="list-style-type: none"> • Reduce wetland degradations by increasing the use of green infrastructure and thereby prevent/ mitigate flooding. 	Flood	No	No



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	by increasing the use of green infrastructure and thereby prevent/ mitigate flooding.				
Comprehensive Plan 2009	<ul style="list-style-type: none"> • Preserve and protect the town's natural and environmental resources • Protect existing water resources and maintain water quality • Provide a high quality of life for all residents through proactive planning that supports the goals of the local community, complements the existing rural character of the Town, and protects the value of natural and environmental resources 	<ul style="list-style-type: none"> • Investigate and implement various mechanisms to protect and preserve environmentally sensitive areas such as steep slopes, wetlands, Unique Natural Areas, mature forests and important wildlife habitats in all Land Use areas • Encourage and assist interested landowners in participating in a conservation easement program to protect unique and sensitive environmental features/resources on their property, and explore other incentive opportunities that provide for long-term protection of important resources on private land • Review and revise existing Town regulations to more adequately protect streams in the Town through buffer zones, setbacks, or other protection mechanisms such as a stream protection overlay zone • Establish regulations to limit development in and near floodplains • Support regular periodic water quality testing and evaluation for major creeks and streams to ensure protection of Cayuga Lake water quality • Work to identify failing septic systems with a priority to those locations with the largest impact on lake water quality • Update the Town's Zoning Law to ensure consistency with the Future Land Use Plan 	<ul style="list-style-type: none"> • Water supply contamination • Erosion • Flooding • Traffic accidents 	No	No

Appendix I MUNICIPAL PLAN REVIEW SUMMARIES



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
Agriculture and Farmland Protection Plan 2013	<ul style="list-style-type: none"> Enhance land use policies to better protect farmland 	<ul style="list-style-type: none"> Encourage developers to identify important farmlands and other key environmental features including those that would affect water quality and viewsheds at the beginning of the design process, and then design a residential subdivision in harmony with those resources to the extent practical Develop a Strategic Plan for Farmland Ownership, and begin work to update the Zoning Law and implement other policies to provide further, long-term protection to farmland. The Town should explore programs to reduce the property tax burden on agricultural lands and provide incentives and funding mechanisms to support farmland protection and open space Revise/enhance the Town's subdivision regulations. Ensure future infrastructure investments are consistent with the Future Land Use Plan (as part of the 2009 Comprehensive Plan) 	<ul style="list-style-type: none"> Stormwater runoff Erosion 	No	Yes, future land use plan and comprehensive plan
Stormwater Management and Erosion and Sediment Control 2007	<ul style="list-style-type: none"> Local Law No. 03, 2007 for Stormwater Management and Erosion & Sediment Control. The purpose of this local law is to establish minimum stormwater management requirements and controls to protect and safeguard the general health, safety, and welfare of the public residing within this jurisdiction and to address the findings of fact in 	<ul style="list-style-type: none"> The municipality shall designate a Stormwater Management Officer who shall accept and review all stormwater pollution prevention plans and forward such plans to the applicable municipal board. All land development activities subject to review and approval by the Planning Board of the Town of Ulysses under subdivision 	Flooding and Erosion	No	Yes - Zoning, Subdivision and Site Plan

Appendix I MUNICIPAL PLAN REVIEW SUMMARIES



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	<p>Section 1 of this Chapter. This local law seeks to meet those purposes by achieving the following objectives: 2.1 Meet the requirements of minimum measures 4 and 5 of the SPDES General Permit for Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s), Permit no. GP-02-02 or as amended or revised; 2.2 Require land development activities to conform to the substantive requirements of the NYS Department of Environmental Conservation State Pollutant Discharge Elimination System (SPDES) General Permit for Construction Activities GP-02-01 or as amended or revised; 2.3 Minimize increases in stormwater runoff from land development activities in order to reduce flooding, siltation, increases in stream temperature, and stream bank erosion and maintain the integrity of stream channels; and 2.4 Minimize increases in pollution caused by stormwater runoff from land development activities which would otherwise degrade local water quality.</p>	<p>or site plan review and the Town Board or the Zoning Board of Appeals of the Town of Ulysses shall be reviewed subject to the standards contained in this local law. •No application for approval of a land development activity shall be reviewed until the Storm Water Officer and the appropriate board, as applicable under Section 4 of this law has received a Stormwater Pollution Prevention Plan (SWPPP) prepared in accordance with the specifications in this local law.</p>			
<p>Flood Damage Prevention 1987</p>	<p>Chapter 89, Flood Damage Prevention. The Town Board of the Town of Ulysses finds that the potential and/or actual damages from flooding and erosion may be a problem to the residents of the Town of Ulysses and that such damages may include: destruction or loss of private and public housing, damage to public</p>	<p>•The Ulysses Town Zoning Officer is hereby appointed local administrator to administer and implement this chapter by granting or denying development permit applications in accordance with its provisions. •A development permit shall be obtained before the start of construction or</p>	<p>Flooding and Erosion</p>	<p>No</p>	<p>Yes - Uniform construction codes — See Ch. 80. Storm sewers — See Ch. 149. Stormwater management — See Ch. 156.</p>



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	<p>facilities, both publicly and privately owned, and injury to and loss of human life.</p> <ul style="list-style-type: none"> It is the purpose of this local law to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed to: (i) regulate uses which are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities; (ii) require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction; (iii) control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of floodwaters; (iv) control filling, grading, dredging and other development that may increase erosion or flood damages; (v) regulate the construction of flood barriers that will unnaturally divert floodwaters or which may increase flood hazards to other lands; and (vi) qualify and maintain for participation in the National Flood insurance Program. 	<p>any other development within the area of special flood hazard as established in § 89-6.</p> <ul style="list-style-type: none"> The following standards apply to all new subdivision proposals and other proposed development in areas of special flood hazard: <ol style="list-style-type: none"> Proposals shall be consistent with the need to minimize flood damage; Public utilities and facilities such as sewer, gas, electrical and water systems shall be located and constructed so as to minimize flood damage; and Adequate drainage shall be provided to reduce exposure to flood damage. New construction and substantial improvements of any residential structure shall have the lowest floor, including basement or cellar, elevated to or above the base flood elevation. New construction and substantial improvements of any commercial, industrial or other nonresidential structure, together with attendant utility and sanitary facilities, shall either: have the lowest floor, including basement or cellar, elevated to or above the base flood elevation; or be floodproofed to the base flood level. When floodway data is available for a particular site as provided by § 89-12B, all encroachments, including fill, new construction, substantial improvements, 			<p>Water — See Ch. 200. Zoning — See Ch. 212.</p>



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
		and other development, are prohibited within the limits of the floodway unless a technical evaluation demonstrates that such encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.			
Zoning 2019	Chapter 212, Zoning. It is the purpose of this Chapter to promote the health, safety, morals and general welfare of the community; to lessen congestion in the streets; to secure safety from fire, panic and other dangers; to provide adequate light and air; to prevent overuse of land; to avoid undue concentration of population; and to facilitate the adequate provision of transportation, water, sewerage, schools, parks and other public requirements; and under and pursuant to Chapter 62, Articles 9 and 16, of the Consolidated Laws of New York State.	<ul style="list-style-type: none"> •Except as hereinafter provided in this Chapter, no building or part thereof shall be erected, altered or relocated unless done so in conformance with the regulations on space and construction specified herein for the district in which it is located, and with any relevant supplementary regulations. •The Zoning Officer is authorized to order, in writing, the remedying of any condition or activity found to exist in, on, or about any building, structure, or premises in violation of this chapter. •The Town created the Conservation District to protect large areas of steep slopes, wetlands, and highly erodible soil, where any future development may have an adverse environmental impact on both the land and Cayuga Lake. •Under the Subdivision section of this Chapter, Land subject to flooding. Land subject to flooding shall not be platted for residential occupancy, nor for such other uses as may increase danger to health, life or property, 	Flood and Fire	No	<p>Yes - Uniform construction codes — See Ch. 80. Flood damage prevention — See Ch. 89. Storm sewers — See Ch. 149. Stormwater management and erosion and sediment control — See Ch. 156. Streets and sidewalks — See Ch. 164. Water — See Ch. 200.</p>



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
		or aggravate the flood hazard, but such land within the plat shall be set aside for such uses as shall not be endangered by periodic or occasional inundation, or improved in a manner satisfactory to the Planning Board to remedy the hazardous conditions.			
Cayuga Inlet Sediment Assessment Sediment Reduction Report 2016	<ul style="list-style-type: none"> Reducing sediments from reaching sensitive locations i.e. the Cayuga Inlet Flood Control Channel (FCC). the remainder of the Vanbuskirk Gulf should be mapped to understand if there are other large concentrations of deposition and erosion 	<ul style="list-style-type: none"> If the sediment reduction goal is to reduce sands, silts and clays from reaching the FCC then stopping this sediment load at its source is the preferred method If the sediment reduction goal is to reduce coarser sands, gravels and cobbles from moving downstream than either stopping these sediments at their source or at an area downstream of a group of sources can be used. maintaining stream grade upstream of the four center/transverse/delta bars and floodplain creation through the four bars downstream down to the confluence with the Upper East Branch Cayuga Inlet. 	<ul style="list-style-type: none"> Erosion Flooding 	No	No
Agriculture and Farmland Protection Plan 2015	<ul style="list-style-type: none"> Farming is supported through local land use policies and actions that protect farmland, allow the development of diverse farming enterprises, avoid increased costs of doing business, and ensure access to quality farmland for future farming Farmers follow sustainable farming practices that protect natural resources and mitigate negative environmental impacts on soil, water, ecology, wildlife, and people while increasing 	<ul style="list-style-type: none"> Facilitate protection of farmland using permanent easements and prepare a long-range Purchase of Development Rights Implementation Plan in high priority farmland protection areas Promote sustainable farming and forest management practices that protect the environment and contribute to carbon sequestration. Work should include the increased adoption and funding of Best 	<ul style="list-style-type: none"> Invasive species Stormwater runoff Erosion Flooding 	No	Yes, comprehensive plan

Appendix I MUNICIPAL PLAN REVIEW SUMMARIES



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
	resilience to address climate change and environmental challenges over the long term.	Management Practices on farms as well as stream corridor protection efforts <ul style="list-style-type: none"> • Provide farmers with research based information to help them prepare for emerging invasive species and impacts of climate change • Work with municipalities, the farm community and rural landowners to advance projects that reduce property risk from stormwater while not contributing to flooding on surrounding land uses 			
Long Range Transportation Plan 2019	<ul style="list-style-type: none"> • To achieve land development patterns that enable the efficient and equitable provision of multimodal transportation services • To work progressively towards a transportation system that will have zero-net impact on the environment 	<ul style="list-style-type: none"> • Maintain existing critical transportation infrastructure and systems • Expand and promote multimodal mobility options and integration 	<ul style="list-style-type: none"> • Stormwater runoff • Transportation accidents 	No	Yes, comprehensive plan
Regional Sustainability Plan 2013	<ul style="list-style-type: none"> • Promote best management of fields, forests, and farmland to keep working lands in production, protect natural resources, and increase carbon sequestration • Minimize flood losses by preserving and enhancing floodplains and wetlands, and by limiting development in flood-prone areas • Efficiently manage and upgrade existing water, sewer, and other utility infrastructure to support compact development and reduce energy use. • Improve and protect water quality and quantity • Promote innovative waste reduction and management strategies that reduce the amount of material disposed of at landfills 	<ul style="list-style-type: none"> • Update local land use regulations and provide assistance • Sustainable forestry and wood products • Climate mitigation strategies in Hazard Mitigation Plans • Update Flood Insurance Rate Maps • Conserve high risk floodplains • Buffers for streams and wetlands • Incentives for property owners to protect streams and buffers • Green infrastructure and low-impact development • Stormwater drainage design and maintenance for roadways • Local and county water quality strategies 	<ul style="list-style-type: none"> • Flooding • Erosion • Water supply contamination • Hazardous waste – storage and disposal 	Yes, page 55	Yes, Tompkins County Comprehensive Plan

Appendix I MUNICIPAL PLAN REVIEW SUMMARIES



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
Tools to Promote and Regulate the Deployment of Renewable Energy Systems 2017	<ul style="list-style-type: none"> Promote and Regulate the Deployment of Renewable Energy Systems – solar and wind 	<ul style="list-style-type: none"> Roof-Mounted and Building-Integrated Solar Energy Systems Accessory Ground-Mounted Solar Energy Systems Large-Scale Solar Energy Systems Small-Scale Wind Energy Systems Medium-Scale Wind Energy Systems Large-Scale Wind Energy Systems 	<ul style="list-style-type: none"> Stormwater runoff Flooding 	No	Yes, comprehensive plan
Energy Strategy 2019					
Comprehensive Plan 2015	<ul style="list-style-type: none"> Tompkins County should be a place where natural features and working rural landscapes are preserved and enhanced. Tompkins County should be a place where water resources are clean, safe, and protected. Tompkins County should be a place where the entire community is prepared for the economic, environmental, and social impacts of climate change. 	<ul style="list-style-type: none"> Preserve natural features and ecosystems, especially within the Natural Features Focus Areas. Reduce the adverse impacts to native species and ecosystems caused by invasive organisms and climate change Promote specific land use tools that protect important lands. Promote stream corridor protection efforts. Develop a program to protect wetlands and aquifer recharge areas in the county. Protect the ecological, economic, and recreational functions of Cayuga Lake Protect aquifers from contamination by limiting development within groundwater recharge areas 	<ul style="list-style-type: none"> Invasive species (ecosystem changes) Water supply contamination Stormwater runoff Erosion Flooding Heat waves Drought Severe storms Epidemics 	Yes, page 86	Yes, jurisdiction comprehensive plans and HMPs



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
		<ul style="list-style-type: none"> • Protect streams and their watersheds to maintain water quality, manage stormwater and flooding, and enhance ecological diversity • Preserve existing wetlands and restore wetland functions. • Maintain floodways and limit development within floodplains to reduce damages from floods. • Prepare for community recovery in the event of disaster • Prepare a community disaster recovery plan to prepare the community to take the actions; including those that build economic resilience, to bounce back from a disaster should it occur. 			
Housing Strategy 2017	<ul style="list-style-type: none"> • Meet housing needs in Tompkins County 	<ul style="list-style-type: none"> • Encourage a variety of housing options in development focus areas. • Support new development of housing where total costs, including utility and transportation expenses, are affordable to households with a range of incomes. • Promote energy efficient housing. • Provide housing options for an aging population. • Maintain an adequate supply of housing for people requiring supportive services. • Improve the existing housing stock. 	No	No	Yes, comprehensive plan



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
Habitat Connectivity Strategy 2018	<ul style="list-style-type: none"> Maintain large, intact patches of important native vegetation by preventing fragmentation of those patches by development Maintain large, intact patches of important native vegetation by preventing fragmentation of those patches by development Maintain significant ecological processes in protected areas 	<ul style="list-style-type: none"> Identify habitat corridors surrounding the Dryden aquifer recharge area and increase the riparian buffer along Virgil Creek. The Virgil Creek and Dryden Lake Multiple Use Area should be further protected and serve as a riparian corridor between the Kennedy and Hammond Hill State Forests. Protect sensitive portions of Fall Creek in areas susceptible to development such as the vacant or public utility parcels abutting the north and south sides of Route 13 to Route 366. Limit the subdivision of large parcels in this area to preserve remaining forest cover. Protect wetlands in the Wilseyville Creek Valley and formalize connections between Caroline Pinnacles and Shindagin Hollow State Forest. Protect habitat and headwater wetlands that feed the Unique Natural Areas (UNAs), including the Danby Fir Tree Swamp (UNA -172). 	<ul style="list-style-type: none"> Flooding Invasive species Water quality Stormwater runoff 	No	no
Conservation Plan Part I 2007	<ul style="list-style-type: none"> Areas of focus: Water Quality, Critical Habitat and Biodiversity, Invasive Species and Native Plants, Land Protection in Priority Areas, Stream Corridor Management 	<ul style="list-style-type: none"> Provide education about and access to hydrologically sensitive area data through the Natural Resources Inventory (NRI) on-line interactive mapping tool. Work with municipalities to protect wetlands and vernal pools smaller than 12.4 acres in size and not regulated by the NYS Department of Environmental Conservation. 	<ul style="list-style-type: none"> Flooding Erosion Water quality Stormwater runoff Pollution 	No	Yes, Part II, Comprehensive Plan

Appendix I MUNICIPAL PLAN REVIEW SUMMARIES



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
		<ul style="list-style-type: none"> • Inventory and identify high priority areas for the control of invasive species • Protect priority protection areas through partnerships with agencies and municipalities by purchasing land and acquiring conservation easements • Develop or identify a model conservation zoning ordinance for use in key portions of the Focus Areas • Provide assistance to landowners for stream buffer projects (such as planting willows along stream banks) and identify local partners interested in participating in projects. 			
Conservation Plan Part II 2010	<ul style="list-style-type: none"> • Encourage appropriate municipal regulation tools that support agriculture, including comprehensive plans and zoning controls that designate specific agricultural areas, regulate density in these areas, and prohibit non-agricultural uses from spreading into agricultural areas • Enhance vegetative buffering on farms. This includes developing appropriate stream buffers on agricultural properties and maintaining or establishing wooded buffers between agricultural and nonagricultural uses • Identify design guidelines for development in agricultural areas that are not subject to land use regulations. Provide a development model to allow for subdivision that is most conducive to continuing active agriculture. 	<ul style="list-style-type: none"> • Enhance stream buffers on farms along Locke and Salmon Creeks, in order to mitigate adverse water quality impacts. • Implement land use codes and policies that encourage concentrated development in South Lansing, in exchange for reduced development within the ARFA. • Enhance vegetative buffers on farms, including stream buffers and wooded lots. Stream buffer protection should begin with creeks that feed Taughannock Falls and Robert Treman State Parks. • Promote the use of conservation easements or PDR on the large farms in Pony Hollow 	<ul style="list-style-type: none"> • Flooding • Erosion • Water quality • Stormwater runoff • Pollution 	No	Yes, Part I, Comprehensive Plan



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
Conservation Strategy 2012	<ul style="list-style-type: none"> Promote specific land use tools that protect important lands. Promote stream corridor protection efforts Develop a program to protect wetlands and aquifer recharge areas in the County. 	<ul style="list-style-type: none"> Municipal regulatory tools can be effectively used to conserve critical areas, including conservation subdivision, agricultural protection zoning, and stream buffer ordinances. 	<ul style="list-style-type: none"> Flooding Erosion Water quality Stormwater runoff Pollution 	No	No
Comprehensive Emergency Management Plan 2018	<ul style="list-style-type: none"> A framework for coordinated response and recovery activities during an emergency Provide a description of the legal authorities upon which the County has structured its emergency management organization, including the emergency declaration process, activation of mutual aid agreements, and request for resources and emergency spending powers. Identifying high hazard areas and corresponding number of potential evacuees 	<ul style="list-style-type: none"> Supporting the participation in local mitigation efforts within the jurisdiction and, as appropriate, with the private sector Understanding and implementing laws and regulations that support emergency management and response 	<ul style="list-style-type: none"> Flooding Severe Wind/Tornado Major Transportation Accident Active Shooter Pandemic (Epidemic) Severe Winter Snowstorms Ice Storms Flash Floods Biological Agent Release Cyber Attack Sustained Power Outage Communication Systems Infrastructure Non-County Directed Cyber Attack/Incident Civil Unrest 	Yes, page 11	Yes, Multi-Jurisdictional All Hazard Mitigation Plan



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
			<ul style="list-style-type: none"> Protests • Wildfire • Animal Disease/Foreign Animal Disease • Food Contamination • Major fires • Earthquakes • Drought • Hurricanes/tropical storm • Improvised Explosive Device • Radiological Dispersal Device • Hazmat Release – in transit • Critical infrastructure failure • Landslides • Extreme temperatures • Infestation • Improvised nuclear device • Radiological release • Hazmat release 		



Name of Plan/ Document and Date of Plan	Relevant Goals	Mitigation Actions	Discussion of Hazards?	Integrated into HMP?	Has this been integrated into other plans/ policies?
Talanoa Dialogue 2018	<ul style="list-style-type: none"> • Sharing of ideas, skills, and experience through storytelling, with the goal of humanizing local climate change impacts. By humanizing these impacts we can all put pressure on governments and NGOs to increase their commitment to climate change action. 	<ul style="list-style-type: none"> • Stronger action from local politicians, not just greenwashing • Engage more communities and rural residents • Build stronger connections between action at the local and state policies • Engage youth and minorities 	<ul style="list-style-type: none"> • Heavy rainfall • Drought • Flooding • Extreme (high and low) temperatures • Invasive species 	No	No



APPENDIX J. NYS DHSES PLANNING STANDARDS

This appendix includes the 2017 NYS DHSES planning standards and guidelines for hazard mitigation planning.



New York State

Hazard Mitigation Planning Standards Guide

Prepared as supplemental guidance to support the development of Multi-jurisdictional Hazard Mitigation Plans to meet the New York State Planning Standards.

Please note:

Jurisdiction is used to describe all government entities within the boundaries set forth in the Multi-Jurisdictional Plan (typically County-wide), including the County itself, as well as cities, towns, villages and tribal entities.

Special Flood Hazard Area (SFHA) is defined as the area that will be inundated by the flood event having a 1-percent change of being equaled or exceeded in a given year (also known as the 100-year flood event).

1. Establish Jurisdictional Teams

Plans developed with the participation of the widest range of organizations and stakeholders personally familiar with past damages to local infrastructure are likely to contain valuable, relevant information that will lead to a comprehensive plan and feasible projects.

During initial stages of development, jurisdictions should identify organizations and key stakeholders in order to develop individual jurisdictional teams. Once jurisdictional teams are established, all members should be invited at every stage of the process.

Jurisdictions must invite key stakeholders when initiating the planning process and identifying mitigation strategies. At a minimum (if applicable), this should include:

- County Hazard Mitigation Coordinator
- County Floodplain Administrator (or person acting as such)
- County Emergency Managers
- County Planners
- County GIS staff
- County Soil & Water Conservation Districts
- Elected and executive officials
- Regional & Metropolitan (Transportation) Planning Organizations
- Statewide/Local Watershed Commissions
- Educational Representation (Schools/Universities)
- Economic Development/Chamber of Commerce
- Local Hazard Mitigation Coordinators and Floodplain Managers
- Local Code Enforcement Officials
- First Responder Organizations
- Local Emergency Planning Committees (LEPC)
- Local Emergency Management
- Local Planners and planning consultants
- Local Engineers and engineering consultants
- Local Public Works or Highway Superintendents
- Health Care
- Neighboring Counties
- Utilities (gas, electric, water)

The plan must present information to show that such persons were included in the process. Examples:

- Copies of electronic or hard copy meeting invitations.
- A list of persons invited, their position, the jurisdiction represented and if they participated.
- Meeting sign-in sheets, minutes or other documentation showing specific activity in which the identified persons participated, and how their input was included in the plan.

Plans developed with the participation of a wide range of organizations and stakeholders are the most likely to contain viable, innovative or useful projects and project data, as they each bring unique perspectives to the table:

- *Elected and executive officials* have an understanding of overall jurisdiction needs and are able to communicate how the mitigation plan can support social, economic, or environmental conditions.
- *Local planners* can help the jurisdiction understand past, current, and future jurisdiction development trends, policies or activities that affect development, how development affects vulnerability to hazards, and how hazard mitigation can be incorporated into various planning mechanisms.
- *Emergency Managers and first responders* have information on past occurrences and existing preparedness measures, and have a direct line of communication with the NYS DHSES.
- *Geographic Information System (GIS) specialists* can analyze and map data to support the planning process and communicate complex information, such as the locations of assets at risk in hazard prone areas and estimates of damage for a particular disaster scenario. This might be done in consultation with County GIS staff.
- *Floodplain administrators* provide information on local flood hazard maps, floodplain ordinance, repetitive loss properties, and actions to continue compliance with the National Flood Insurance Program and reduce flood losses.
- *Public works staff* can help identify current or projected problems for the jurisdictions' infrastructure that can be addressed through capital improvements supported by the mitigation plan.

For more guidance on stakeholder identification, see:

[Mitigation Guide - Worksheet 2.1](#)

The following table provides an example of how the plan might document the identification and invitation of key stakeholders for each jurisdiction.

Insert Jurisdiction's Name Here

Individuals Notified of the Mitigation Plan Development and Invited to Participate

Local Jurisdiction Role/Position	Name of Person Invited	Email of Person Invited	Date of Invitation	Method of Invitation	Agreed to participate? yes/no	Feedback Provided? Yes/no
Land Use/ Jurisdiction Planner						
Emergency Manager						
Floodplain Manager/ Administrator						
Public Works Director/ City Engineer						
Building Code Official						
Fiscal/Budget Officer						
Elected Officials						
Local Hospital						
Major University						
Significant Business						
Neighboring County 1						
Neighboring County 2						
Tribal Nation						
Example	George Washington	gwashington@town.gov	12/12/14	Email and letter sent	Yes	Yes

2. Assess Critical Facilities

Critical facilities must remain accessible and functional before, during and after disasters to meet the jurisdiction's Continuity of Government (COG) and Continuity of Operations (COOP) standards, and to support emergency, government and sheltering functions.

Identifying Critical Facilities: Federal Guidelines (FEMA)

FEMA defines a critical facility as one that provides services and functions essential to a community, especially during and after a disaster. More information can be found on the agency web site at <https://www.fema.gov/critical-facility>. Examples of critical facilities include:

- Police stations
- Fire stations
- Critical vehicle and equipment storage facilities
- Emergency Operations Centers
- Utilities and power generating stations
- Communication centers
- Medical facilities, including hospitals, nursing homes, blood banks, and health care facilities
- Schools and day care centers, especially if designated as a disaster shelter
- Public and private utility facilities
- Drinking water and wastewater treatment plants
- Drug and alcohol treatment custodial care programs
- Homeless shelters
- Tier 2 facilities: Structures or facilities that produce, use, or store highly volatile, flammable, explosive, toxic, and/or water-reactive materials; facilities designed for bulk storage of chemicals, petrochemicals, hazardous or toxic substances, or floatable materials (as defined by NYS DEC)

Jurisdictions may also want to analyze risks to major employers and assess the economic impact of prolonged down-time due to disasters.

Identifying Critical Facilities: State Guidelines (NYS DEC and NYS DHSES)

New York Department of Environmental Conservation (DEC) Statute 6 CRR-NY 502.4 sets forth floodplain management criteria for State projects located in flood hazard areas. The law states that no such projects related to critical facilities shall be undertaken in a Special Flood Hazard Area (SFHA) unless constructed according to specific mitigation specifications, including being raised 2' above the Base Flood Elevation (BFE). This statute is outlined at <http://tinyurl.com/6-CRR-NY-502-4>.

Protecting Critical Facilities

In assessing vulnerabilities to critical facilities, jurisdictions must identify exposure to hazards and propose methods to mitigate risks. This can be accomplished through a table, or with GIS overlay maps specific to hazards of concern.

FEMA provides the following recommendations for protecting infrastructure and critical facilities from damage:

- Incorporate hazard mitigation principles into all aspects of publicly-funded development;
- Incorporate mitigation retrofits for public facilities into the annual capital improvements program;
- Engineer or retrofit roads and bridges to withstand hazards and ensure access;
- Relocate or underground electrical infrastructure;
- Design and build water tanks or wells for use in times of potable water interruption;
- Install quick-connect emergency generator hook-ups for critical facilities.

While all vulnerabilities should be assessed and documented, the State places a high priority on exposure to flooding. Critical facilities located in an SFHA, or having ever sustained previous flooding, must be protected to the 500-year flood even, or worst damage scenario. For those that do not meet this criteria, the jurisdiction must identify an action to achieve this level of protection.

For at-risk facilities that are not owned by or the responsibility of the jurisdiction, the jurisdiction should include an action to work with the responsible party to develop a mitigation strategy

3. Plan for Displaced Residents

Intermediate and long-term housing options must be available for relocating displaced residents and maintain post-disaster social and economic stability.

Intermediate Needs – Temporary Housing

The jurisdiction must identify sites for the placement of temporary housing units to house residents displaced by disaster. While sites can be coordinated county wide, it is critical that each jurisdiction identify a site. Residents may be accommodated by a temporary housing location that is outside of the jurisdiction in which they live as long as mutual aid agreements between municipalities are in place.

Examples of potential locations include existing mobile home parks; recreational vehicle/camping grounds; public or private land or parkland; or a site easily convertible for the placement of temporary housing units. Such sites must:

- Be compliant with the New York State Uniform Fire Prevention and Building Code <http://www.dos.ny.gov/cns/lq03.htm>;
- Be constructed with a first-floor elevation placed no less than 2' above the Base Flood Elevation (i.e., of the 100-year flood level);
- If located in a neighboring jurisdiction, include discussion about plans with residents and ensure procedures are consistent with local mitigation and emergency plans, recovery plans, evacuation routes, etc.;
- Consider water, wastewater, electrical and firefighting accessibility.

Long-term Needs – Permanent Housing

Structures located in the SFHA may need to be relocated, or new properties must be built once severely damaged properties are razed. Jurisdictions must identify all suitable sites currently owned by the jurisdiction, and potential sites under private ownership that meet applicable local zoning requirements and floodplain laws.

Consideration should be given to allowing residents of a given jurisdiction to continue to reside there. However, discussion of this matter may need to include site development elsewhere if such available locations are not available in a given jurisdiction.

4. Plan for Evacuation Needs and Sheltering

Evacuation and sheltering measures must be in place and available for public awareness to protect residents and mitigate risk, stress and personal hardships during hazard events

A jurisdiction's existing Comprehensive Emergency Management Plan (CEMP) or other plans, policies and procedures may outline evacuation routes and procedures to remove citizens from a vulnerable location prior to and during an incident. If plans for evacuation and sheltering are already in place, the mitigation planning jurisdiction should analyze and update these materials as needed. The plan must refer to this information and include the URL of where it can be found on the county web site.

If such plans do not exist, they must be developed and:

- Identify evacuation routes and how this information is accessible to the public;
- Identify shelters for evacuated citizens and how this information is accessible to the public leading up to and during an incident;
- Explain provisions available to address medical needs, access and functional needs, accommodation for pets, and compliance with the Americans with Disabilities Act (see www.ada.gov);
- Outline pre-disaster actions required to make evacuation and shelter plans viable;
- Document evidence of coordination with adjoining jurisdictions (if applicable).

The plan should address jurisdictions with residential neighborhoods and critical facilities that have been flooded, inundated, or isolated by water.

5. Document Past Mitigation Accomplishments

Past mitigation actions provide a context for the jurisdiction's projects, and can help to evaluate accuracy of assumptions to support future mitigation planning.

FEMA Element D2 (see FEMA Local Mitigation Plan Review Guide, page 27) requires a progress update on local mitigation efforts and changes in priorities since the approval of the previous plan. NYS DHSES requirement F5 requires the documentation of local mitigation efforts and accomplishments within the past five (5) years for new plans as well as updates, regardless of inclusion in the previous plan, and regardless of funding source.

The goal is to provide a context for the jurisdictions' projects, act as a source of ideas for mitigation projects and evaluate the accuracy of assumptions and engineering solutions to inform future projects, and to support future mitigation planning and its coordination with other planning, zoning and environmental procedures within the jurisdiction.

It is recommended that a table be included within each jurisdictional annex to convey this information.

The following table provides an example of how the plan might include this information within each jurisdictional annex:

Insert Jurisdiction's Name Here
Past Mitigation Accomplishments

Proj #	Project Name	Hazard Addressed	Brief Summary of the Original Problem and the Solution (Project)	Evaluation of Success	
				Cost	
				Level of Protection	
				Damages Avoided; Evidence of Success	
				Cost	
				Level of Protection	
				Damages Avoided; Evidence of Success	
				Cost	
				Level of Protection	
				Damages Avoided; Evidence of Success	

Other resources and ideas for documentation can be found at: http://mitigationguide.org/wp-content/uploads/2013/05/Worksheet-7.1.pdf?sm_au=iVVnVbMZWR TNJKqj.

6. Include Jurisdictional Annexes

Jurisdictional annexes provide a unique, stand-alone guide to mitigation planning for each jurisdiction.

Multi-jurisdictional Hazard Mitigation Plans allow certain elements of the planning process to be streamlined and shared, taking some of the burden of effort and cost off of each jurisdiction. The goal is to develop a shared portion of the plan that relates to the multiple jurisdictions therein from a county wide perspective, while also developing individual jurisdictional annexes to identify the unique local risks and mitigation strategies.

Identify Jurisdictional Participation

Every jurisdiction within the county's borders should be included in this multi-jurisdictional plan, including the county itself. Efforts to participate should be included for all jurisdictions, including those that did not fully participate and are therefore not seeking FEMA/NYS DHSES approval at the time of submittal.

The plan must clearly identify all jurisdictions and whether or not they are seeking approval for adoption from FEMA and NYS DHSES.

The following table provides an example of how the plan might include this information in the introduction section:

XXX County Jurisdictions

Jurisdiction	Letter of Commitment to Planning Process	Attended Planning Meetings	Provided Update on Past Projects	Submitted Mitigation Actions for Current Plan	Seeking Approval for Adoption (Meets all previous requirements)
Howard County	x	x	x	x	x
Aubrey, City	x	x		x	
Easterville, Town	x	x		x	
Easterville, Village	x	x	x	x	x
Louden, Town	x	x	x	x	x
Ontario, Village					
Pasadena, City	x			x	
Scupper, Town	x	x	x	x	x
Yardley, Village	x	x		x	

Letters of Commitment to Planning Process establishes a commitment from and a cooperative working relationship between all participating jurisdictions in the development and implementation of the plan.

<http://mitigationguide.org/wp-content/uploads/2013/05/Worksheet-1.2.pdf>

Attending Planning Meetings is a critical component of participation which facilitates group discussion and allows for a greater perspective of how jurisdictions can work together to further mitigation efforts.

Jurisdictions must **Provide an Update on Past Projects** to help evaluate past efforts and inform future planning.

Jurisdictions must **Submit Mitigation Actions for the Current Plan** to establish priorities and make successful implementation as likely as possible.

In order to **Seek Approval for Adoption**, jurisdictions must meet all Federal requirements.

Provide Jurisdictional Information

The plan must be organized to include an annex for every jurisdiction. Non-participating jurisdictions must have an annex included in the plan, with as much of the information noted below that is available, as a placeholder to allow for future participation.

Each jurisdictional annex must include the following information:

- Contact Information;
 - Name, Title, Phone Number, Address, Email Address;
 - If alternate contact information is available, this should be included as well.
- Jurisdiction Profile;
 - For example: population, land size, demographics, topography, brief history, governing body format.
- Hazard Identification;
 - Hazard Identification and Risk Assessment occurs in the county wide shared plan. The jurisdictional annex should identify only those hazards that are unique and specific to the jurisdiction.
- Summary of Unique Hazard Event History/Impact on jurisdiction;
 - A complete Hazard Event History will be included in the county wide shared plan. The jurisdictional annex should be a discretionary list of events that have had particular impact on the jurisdiction, and therefore inform the unique mitigation strategies developed to address.
- National Flood Insurance Program (NFIP) Summary (to meet Federal Standards);
- Critical Facilities Information (to meet State Standard F2);
- Public involvement;
 - Jurisdictional annexes should identify any specific problems, solutions or ideas brought to the planning process from the public or local authorities; if this is done holistically at the County level, this can be included only in the County annex.
- Capabilities Assessment;
- Mitigation Strategy;
 - All identified previous mitigation activities with current status;
 - Previous mitigation activities completed (to meet State Standard F5);
 - All proposed mitigation activities (both new and carried forward, to meet State Standard F7);
 - Action Worksheets for a minimum of two (2) proposed mitigation activities (to meet State Standard 7).

7. Develop Mitigation Actions

Projects that are well developed and documented in one place are more quickly identifiable for selection when grants become available, making implementation that much more likely.

List all proposed mitigation activities

The plan must include a single complete list of mitigation projects in each jurisdictional annex. While all mitigation projects on a jurisdiction's wish list should be assessed and discussed, only those that have reasonable potential to be accomplished within the lifespan of the plan should be included. The capabilities and resources of a given jurisdiction should be taken into consideration when establishing its wish list. Projects should be prioritized according to jurisdiction need and focus on achievable efforts. The project list should include those that may not meet FEMA eligibility or cost-effectiveness requirements since funding should be sought from multiple sources to achieve a jurisdiction's mitigation goals most quickly.

The information requested in the NYS DHSES Proposed Project Table on the following page must be provided within the plan.

- Project Name and Number;
- Goal and/or Objective being met;
- Hazard to be mitigated;
- Description of the Problem;
- Description of the Solution (Project Description);
- Whether or not the project is related to a Critical Facility (and if so, assurance that the facility will be protected to the 500-year event or greatest damage scenario, to meet State Standard F2);
- Estimated Timeline;
- Lead Agency responsible for implementation;
- Estimated Costs;
- Estimated Benefits;
- Potential Funding Sources;
- Priority.

Complete a NYS DHSES Action Worksheet for a minimum of two projects

If a proposed mitigation project is viable and a priority to the jurisdiction, consideration should be given to the elements required to successfully implement. This provides the jurisdiction with a more developed starting point for implementation should funding become available or priorities dictate urgency. This also provides a guide for NYS DHSES to assess a county or jurisdiction's needs and quickly identifies eligible projects for funding should grants become available at the state level.

For mitigation activity ideas and suggestions, see: https://www.fema.gov/media-library-data/20130726-1904-25045-0186/fema_mitigation_ideas_final508.pdf

While we recommend further consideration be given to all proposed actions by completing a NYS DHSES Action Worksheet, each jurisdiction must complete a minimum of two (2) NYS DHSES Action Worksheets for the jurisdiction's highest priority projects. For jurisdictions containing a Special Flood Hazard Area, one (1) of these Action Worksheets must be for a project that addresses flooding.

DHSES administers three mitigation grant programs: the Hazard Mitigation Grant Program (HMGP) rolled out after a declared disaster in NYS, and the annual Pre-Disaster Mitigation (PDM) and Flood Mitigation Assistance (FMA) programs. Letters of Intent (LOIs) for projects more fully developed in the NYS DHSES Action Worksheets will rank higher and will be prioritized for funding over those that are not.

The NYS DHSES Action Worksheet can be found on page 12, with subsequent guidance. This Worksheet will be made available for completion in electronic format as well.

PROPOSED PROJECTS

*Projects related to Critical Facilities (CF) will protect the facility to the 500-year event or worst damage scenario, whichever is greater.

Proj #	Project Name	Goal/Objective being Met	Hazard to be Mitigated	Description of the Problem	Description of the Solution	CF?*	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority

The use of this table is not a requirement, but may be used as a starting point to develop actions that must provide:

- **Project Name and Number;**
 - This should be a unique identifier for the project. If the project was included in a previous plan and is being carried over, the identifier should be consistent or the previous one referenced.
- **Goal and/or Objective being met;**
 - The project must be consistent with a goal and/or objective identified in the plan.
- **Hazard to be mitigated;**
 - Identify the Hazard to be mitigated.
- **Description of the Problem;**
 - Provide a brief description of hazard’s impact to the community, both previous damages and/or potential damages.
- **Description of the Solution (Project Description);**
 - Provide a brief description of the proposed project, including location, scope of work of mitigation action (including studies/assessments required or already performed), and any known environmental or historic preservation concerns that may arise upon implementation.
- **Whether or not the project is related to a Critical Facility;**
 - Is this project related to a critical facility? Yes/No. As sampled above, it must be noted that any project related to a critical facility must assure that the facility will be protected to the 500-year event or greatest damage scenario, to meet State Standard F2.
- **Estimated Timeline;**
 - Identify the time required for completion of the project upon implementation.
- **Lead Agency responsible for implementation;**
 - Identify the lead agency or department responsible for implementation.
- **Estimated Costs;**
 - Provide an estimated cost for implementation. Rough dollar figures are ideal, but if unknown, a specified range is acceptable.
- **Estimated Benefits;**
 - Provide a description of the estimated benefits, either quantitative and/or qualitative.
- **Potential Funding Sources;**
 - Identify potential funding sources for implementation, which will be supported by a list as required in State Standard F8; and
- **Priority.**
 - Identify the prioritization of this project as determined by a methodology established by the community.

XXXXXXX County Multi-Jurisdictional Hazard Mitigation Plan

(Name of Jurisdiction)

NYS DHSES Action Worksheet

Project Name:			
Project Number:			
Risk / Vulnerability			
Hazard of Concern:			
Description of the Problem:			
Action or Project Intended for Implementation			
Description of the Solution:			
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:		Estimated Benefits (losses avoided):	
Useful Life:			
Estimated Cost:			
Plan for Implementation			
Prioritization:		Desired Timeframe for Implementation:	
Estimated Time Required for Project Implementation:		Potential Funding Sources:	
Responsible Organization:		Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

XXXXXXX County Multi-Jurisdictional Hazard Mitigation Plan

(Name of Jurisdiction)

NYS DHSES Action Worksheet

Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	
	<i>Alternative 1</i> – Brief Description		Include a description of pros/cons of Alternative 1.
	<i>Alternative 2</i> – Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

8. Identify Funding Sources

Identifying strategic funding sources is integral to successful coordination and implementation of mitigation actions

The list of potential funding sources must include a brief description of each funding program and a link to the web pages describing the funding opportunity.

Section 4 Table 4.5h of the NYS Hazard Mitigation Plan provides an example of how to document sources and can be used as a starting point to identify potential funding sources as applicable to the county. The jurisdiction is also expected to research and identify additional funding opportunities.

<http://www.dhSES.ny.gov/recovery/mitigation/documents/2014-shmp/Section-4-Mitigation-Strategy.pdf>

9. Plan for Climate Change

Acknowledging and planning for climate change protects residents, avoids or reduces damage to property and public infrastructure, and reduces personal hardship.

Plans developed with NYS DHSES-administered funds must include this information as part of the hazard vulnerability analysis and contain strategies/projects to address increased vulnerability that may result from climate change. This requirement was established to encourage jurisdictions to plan for and accommodate climate change and sea level rise. By developing mitigating strategies and/or projects for hazards that are exacerbated by climate change, jurisdictions will better protect residents, avoid or reduce damage to property and public infrastructure, and reduce personal hardship.

Jurisdictions must consider how climate change may affect their vulnerability or increased frequency of occurrence and/or severity in exposure to flooding, wildfire, drought and extreme temperatures.

Jurisdictions with coastal property must also analyze their vulnerability to sea level rise.

Numerous resources are available to the mitigation planning committee, including the following:

Resource: ***NY State 2014 Hazard Mitigation Plan: Section 3.4 – Climate Change***

Description: Climate Change was first discussed in the 2011 NYS mitigation plan and expanded in 2014 update. The Climate Change section highlights current initiatives and reports on adaptation strategies being developed by the state.

Location: <http://www.dhSES.ny.gov/recovery/mitigation/plan.cfm>

Resource: ***Responding to Climate Change in New York State (ClimAID) – 2014 Update***

Description: ClimAID is a climate analysis of the seven regions of New York State. The report, produced by the NYS Energy Research and Development Authority (NYSERDA), builds on data released in 2014 by the worldwide Intergovernmental Panel on Climate Change.

Location: <https://www.nyserda.ny.gov/climaid>

Resource: ***New York Climate Change Science Clearinghouse***

Description: The Clearinghouse is a gateway for policymakers, local planners, and the public to identify and access documents, data, websites, tools, and maps relevant to climate change adaptation and mitigation across New York State. The goal of the NYCCSC is to support scientifically sound and cost-effective decision-making. The vision is a dynamic site where users can find information in multiple ways, including through interactive tools that use data from different sources.

Location: <https://www.nyclimatescience.org/>

Resource: ***FEMA: Climate Resilient Mitigation Activities***

Description: FEMA provides fact sheets, job aids and cost-benefit analysis tools to support community efforts to reduce the risk associated with climate change. Climate Resilient Mitigation Activities are eligible for Hazard Mitigation Grant Program funding available following a major disaster; and for competitive grants under the annual Pre-Disaster Mitigation and Flood Mitigation Assistance programs.

Location: <https://www.fema.gov/climate-resilient-mitigation-activities-hazard-mitigation-assistance>

Resource: ***NYS Climate Smart Communities Climate Smart Resiliency Planning: A Planning Evaluation Tool***

Description: Designed specifically for NYS Communities, this NYSDEC-developed resource is a self-administered planning assessment tool designed to help local officials assess their communities' readiness and resilience in the face of changing weather patterns and rising sea levels.

Location: See the Climate Smart Resiliency Planning link on the right under "Important Links"
<http://www.dec.ny.gov/energy/82168.html>

APPENDIX K. HIGH HAZARD DAM SUPPLEMENTARY INFORMATION

This section contains information and details to support information provided in Section 4 (County Profile) and Section 5.4.4 (Flood), which provide the distribution of dams located within Tompkins County and its municipalities. Due to the sensitive nature of this information, details have been redacted. Contact the HMP Coordinator, Scott Doyle, Associate Planner, Tompkins County Department of Planning and Sustainability at sdoyle@tompkins-co.org for more information.



Figure K-1. City of Ithaca 30 and 60 Dam Site Location Map

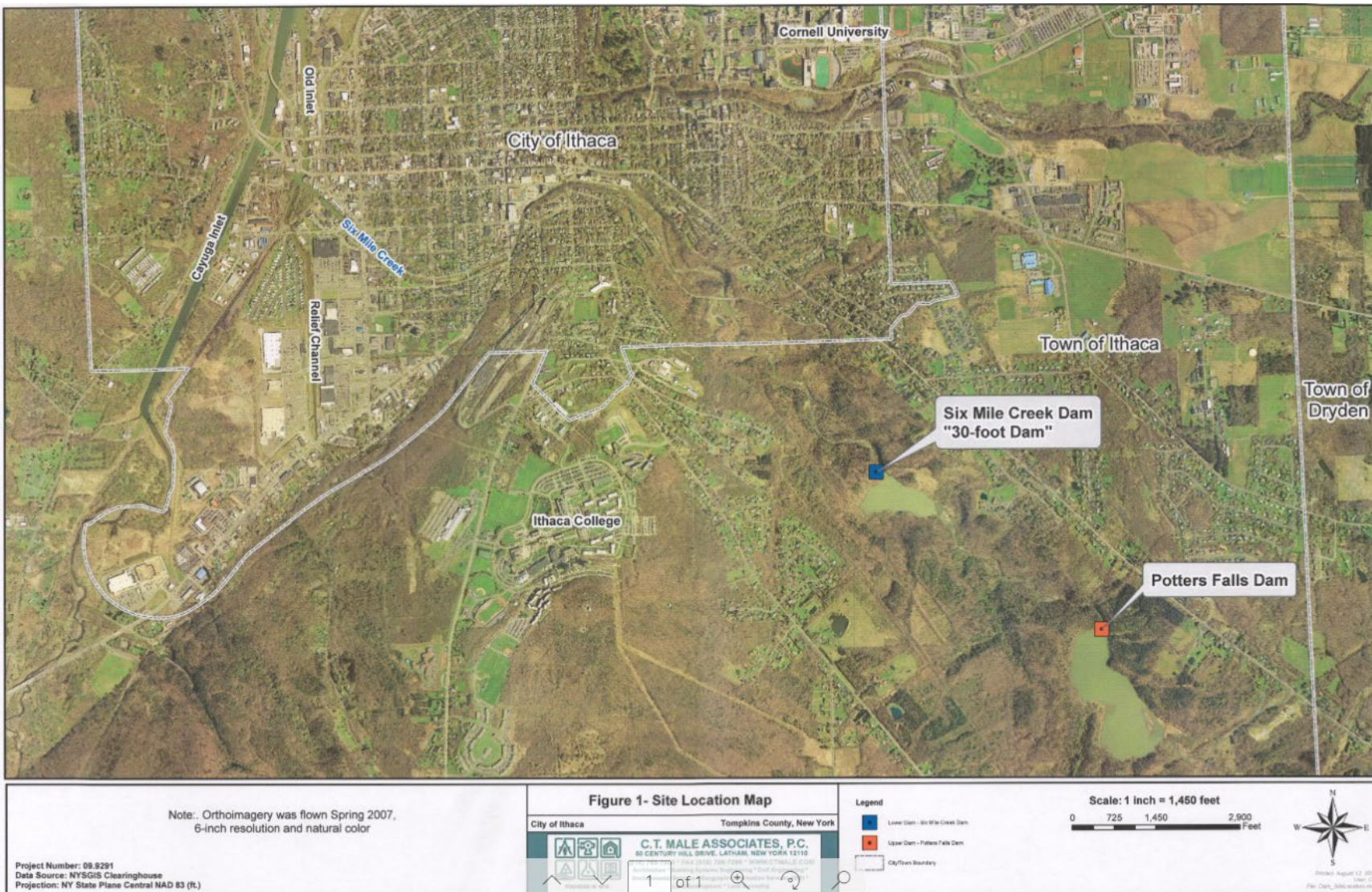
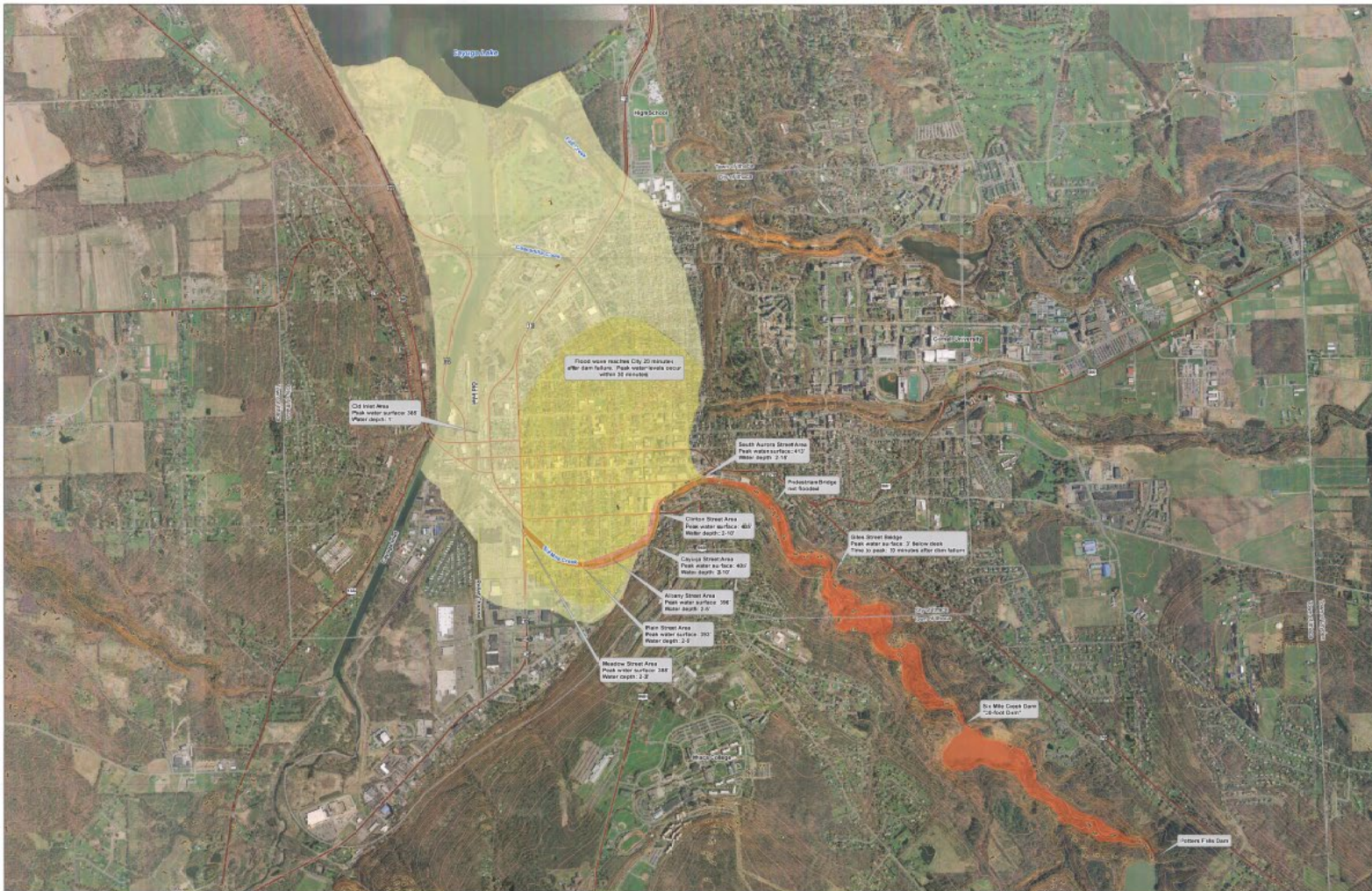


Figure K-2. City of Ithaca 30 and 60 Dam Sunny Day Scenario



- Notes:
1. The sunny day dam failure is when the water level is at its normal depth over the dam.
 2. Normal flow conditions exist before dam failure on Six Mile Creek.
 3. Elevations are based upon LIDAR data obtained from the City of Ithaca.
 4. Orthorectified was flown Spring 2007, 4-inch resolution and natural color and was obtained from the NYS GIS Clearinghouse. Contours created from the USGS 1:24,000 topographic maps.

Project Number: 09.9291
Data Source: NYSGIS Clearinghouse, Tompkins County
Projection: NY State Plane Central NAD 83 (ft.)

Figure 2 - Inundation Map in the Event of Dam Failure
Sunny Day Scenario - Potters Falls Dam

City of Ithaca Tompkins County, New York

C.T. MALE ASSOCIATES, P.C.
 60 CENTURY HILL DRIVE, LATHAM, NEW YORK 12110
 (518) 786-7400 * FAX (518) 786-7289 * WWW.CTMALE.COM
 Architecture * Building Systems Engineering * Civil Engineering *
 Environmental Services * Geographic Information Services (GIS) *
 Land Development & Land Surveying

FOUNDED IN 1919

Legend
 City/Town Boundary
 State Highways
Depth of Flooding
 0-2 feet
 2-5 feet
 5-10 feet
 10-15 feet
 >15 feet

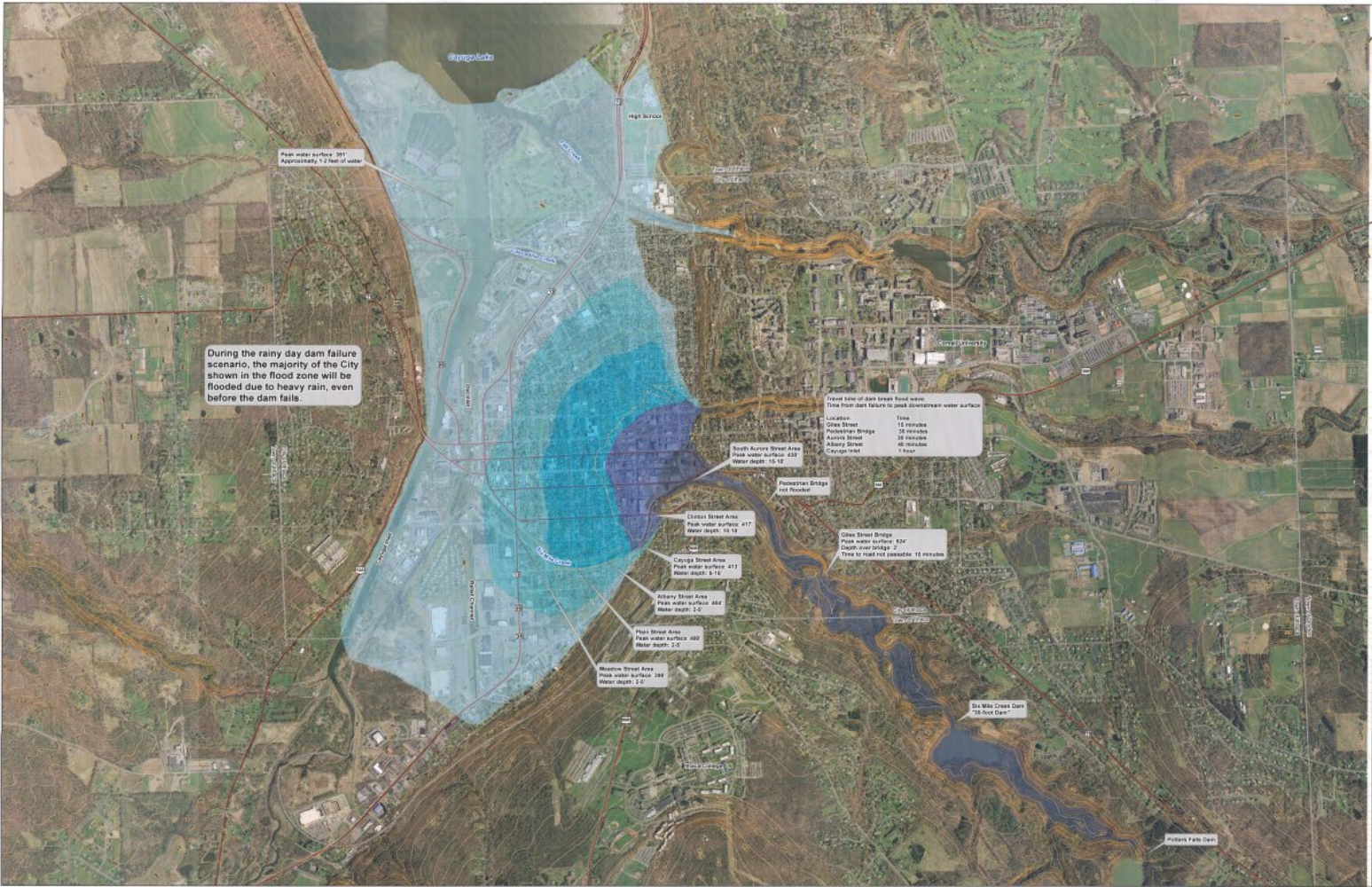
Scale: 1 inch = 600 feet
 0 300 600 900 1200 1500 1800 2100 2400 2700 Feet



Printed: August 13, 2019
 User: CH
 File: PottersFallsDam_Sunny.mxd



Figure K-3. City of Ithaca 30 and 60 Dam Rainy Day Scenario



Notes:

- The inundation map is for a rainy scenario in which the dam fails during an extreme flood event - half of the probable maximum flood.
- During the rainy day scenario, the majority of the City in the inundation zone will have flooding due to the heavy rain, even before the dam fails.
- Elevations are based upon LIDAR data obtained from the City of Ithaca.
- Orthoregistry was flown Spring 2007. 6-inch resolution and natural color and was obtained from the NYS GIS Clearinghouse. Contours created from the USGS 1:24,000 topographic map.

Project Number: 09.9291
Data Source: NYSGIS Clearinghouse, Tompkins County
Projection: NY State Plane Central NAD 83 (ft.)

**Figure 3 - Inundation Map in the Event of Dam Failure
 Rainy Day Scenario - Potters Falls Dam**

City of Ithaca Tompkins County, New York

C.T. MALE ASSOCIATES, P.C.
 80 CENTURY HILL DRIVE, LATHAM, NEW YORK 12110
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 Architecture * Building Systems Engineering * Civil Engineering *
 Environmental Services * Geographic Information Services (GIS) *
 Surveying * Land Development * Land Surveying

Legend

Symbol	Depth of Flooding
City/Street Building	0-2 feet
State Highways	2-5 feet
	5-10 feet
	10-15 feet
	> 15 feet

Scale: 1 inch = 600 feet

0 300 600 900 1200 1500 1800 2400 Feet

Revised August 13, 2010
 User: CIV
 File: PottersFallsDam_Rainy.mxd



Figure K-4. Jennings Pond Dam Sunny Day Scenario

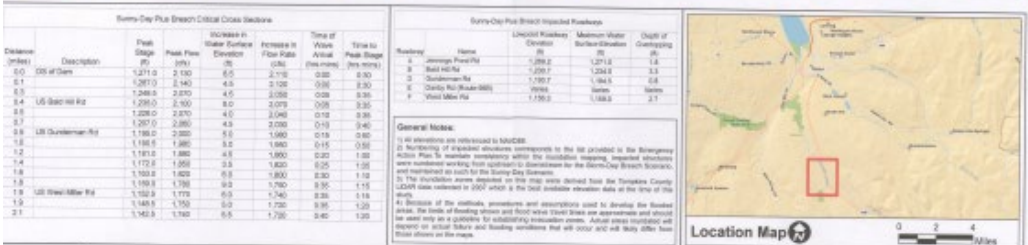


Figure 3

Jennings Pond Dam Sunny-Day Inundation Limits
Tompkins County, New York

Issue Date: 2010 Project Number: 21022 Scale: 1" equals 400'

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Legend

- Inundation Limits
- Impacted Structures
- Critical Cross Sections
- Sunny-Day Branch Inundation Limits

No.	Submitted/Revision	Appr'd	Rev	Date



Figure K-5. Jennings Pond Dam Storm Day Scenario



Figure K-6. Virgil Creek Inundation Map

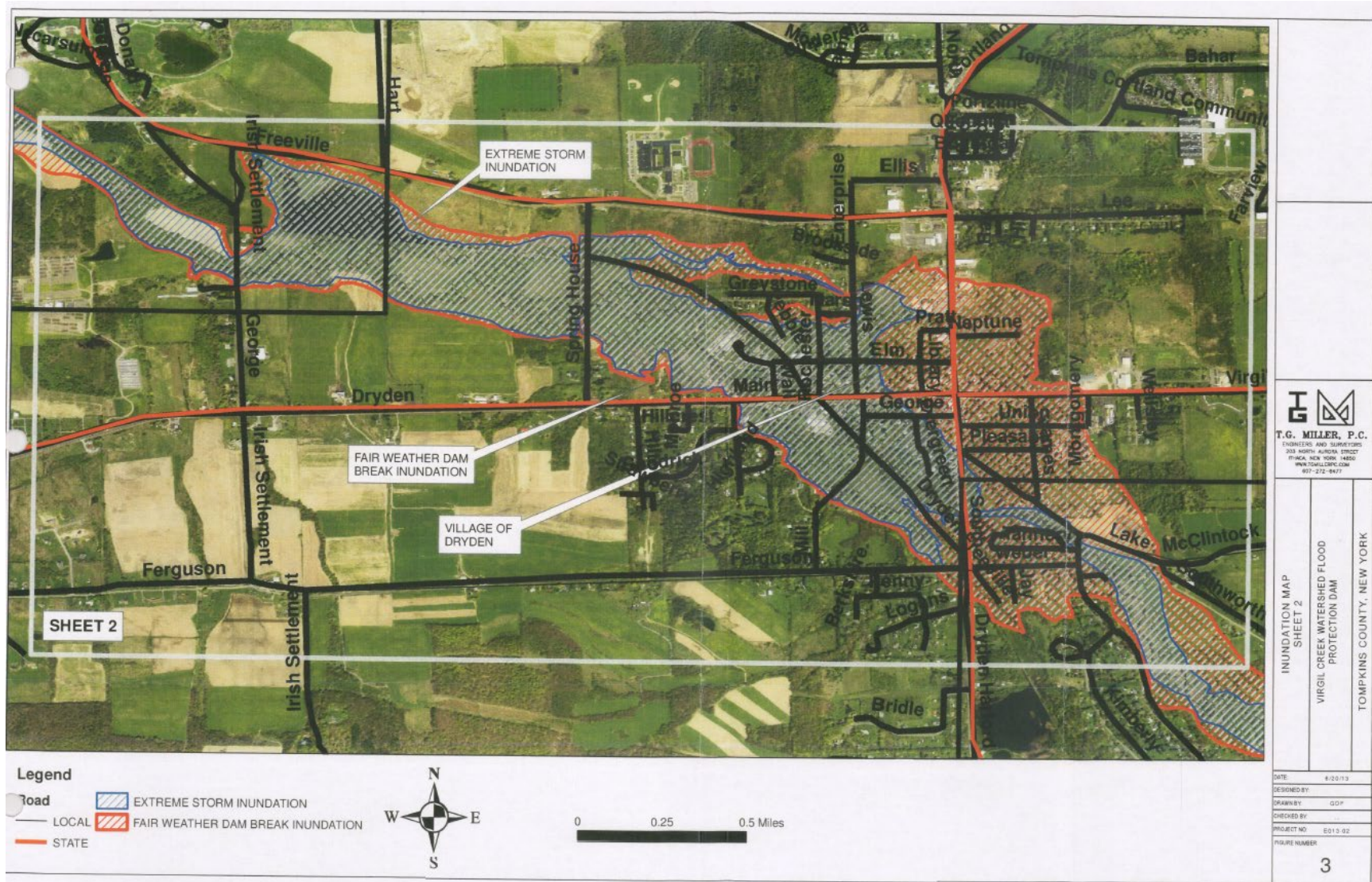


Figure K-7. Virgil Creek Inundation Map

