Part IV: Mitigation Strategies:

IV.A: Introduction: Hazard Mitigation Plans have many components but two main areas of focus for the Plans include **hazard identification** and the development of **mitigation strategies**. Mitigation strategies are projects that have been identified and prioritized by the Hazard Mitigation Planning Committee in order to improve disaster preparedness in local communities.

> The **mitigation strategy** serves as the long-term blueprint for reducing the potential losses identified in the risk assessment. The Stafford Act directs Local Mitigation Plans to describe hazard mitigation actions and establish a strategy to implement those actions. Therefore, all other requirements for a Local Mitigation Plan lead to and support the mitigation strategy.

IV.A.1: Strategy Types: These strategies can cover a wide range of topics (which are NOT mutually exclusive) including:

a) ***Educational***: Providing outreach and education to the public and/or staff of agencies or organizations and municipal officials.

b) ***Structural***: These are projects where a physical change will be made to the landscape. Many of these are related to right-sizing culverts or stabilizing eroding streambanks.

c) ***Property protection***: These are projects where private or public property will be protected as a result of the action.

d) ***Natural resource protection***: Strategies that recognize the link between hazard mitigation and natural resource conservation including stream corridor management, wetlands enhancement, green space protection and zoning that protects riparian areas, steep slopes and sensitive areas.

e) ***Regulatory mechanisms***: This includes codes, zoning, and other regulatory mechanisms including comprehensive plans for a municipality.

The strategies listed in the 2013 Update of the Oneida County Hazard Mitigation Plan are shown in **Table IV-1** and reflect a region recently devastated by record flooding and a series of severe storms. There are over 100 strategies on the list that address either flooding, severe storms or a combination thereof. However, in this iteration of the Plan, the HMPC also recognizes that Climate Change is real and that adaptation strategies need to be developed. Therefore, the list also includes approximately 10 strategies adapted from the Mohawk Valley Sustainability Plan.

Finally, mitigation strategies are not useful simply through the act of recording them in a document. For mitigation to function and truly provide benefits to a community and its residents, the strategies have to be incorporated into the long term plans for a community or agency. To that end, the mitigation strategies listed in the Oneida County Hazard Mitigation Plan Update need to be incorporated into local comprehensive or master plans. In addition, the mitigation strategies will be the foundation of the County's Post-flood Disaster Mitigation Program whereby local communities partner with the County to implement high priority flood mitigation strategies. Many of these will be structural projects with a focus on right-sizing infrastructure as well as implementing sound watershed management methods.

IV.B : Mitigation Strategy Development:

Mitigation strategies were sought from each of the 48 municipalities as well as the many cooperating agencies and the public throughout the planning process. This process began in

January of 2013 and ended in October of 2013. Each mitigation strategy includes the following information:

the name of the strategy,
the community proposing the strategy,
the type of project,
the hazard or hazards that the strategy expects to mitigate,
a complete STAPLEE scoring analysis for the strategy (see below for a detailed description of the STAPLEE process utilized in Oneida County),
a description of who would do the work,
a description of who would pay for the work,
a description of the proposed timeline to implement the strategy.

IV.C: STAPLEE Scoring for Mitigation Strategies

Mitigation strategies were scored and ranked using a modified version of FEMA's STAPLEE criteria. STAPLEE considerations were placed in a worksheet format for consistency among those submitting strategies. Those submitting the strategies on behalf of their municipality or agency or organization were asked to fill in the scoring criteria. All of the scores were then reviewed by SWCD staff for accuracy and consistency. For example, some of the responders incorrectly gave themselves 0 points for the Potential Legal Challenges category even if they thought that their community would not be brought into court for the project proposed. In other instances, the benefit to wildlife was over-stated when in fact the conditions would not likely be affected one way or the other.

IV.C.1: STAPLEE Criteria: The STAPLEE Criteria and questions were as follows:

1) Social Criteria: Is there community acceptance and will there be a benefit to residents, business owners, landowners, visitors?

2) Technical Criteria: Is the project technically feasible? Is the proposed project a long term solution? Are there any secondary impacts that are positive or negative?

3) Administrative: Can the existing staff of the municipality handle the additional workload from the project or will a contractor have to be hired or a third party sought to handle the management? Is maintenance on the project possible at the local level or is it out of the control of the municipality?

4) Political: Is there political support for the project? Is there a local champion to forward the project.

5) Legal: Does the project comply with local regulations and state regulations? Does the municipality or agency have the local authority to make the project happen? Are there long term liability issues that will result from the implementation of the project? Will someone bring legal action against the project sponsor in the future?

6) Environmental: Does the project need permits and will the permits be challenging to obtain? Will there be benefits to natural resources (air, water, wildlife, land) from the project? An important note is that many if not most projects will have little overall effect on wildlife habitat.

7) Economic: Is the cost:benefit ratio known and is it positive? Is outside funding needed to complete the project or is the local sponsor willing and able to complete the work even if outside funding isn't readily available?

Respondents were asked to score each question in each category with either 10 points for a positive response, 5 points for a neutral or maybe response and 0 points for a Negative response. The following is a summary of the ranking criteria:

A) **Positive:** The following responses would be appropriate for a positive score of 10 points: It will be an overall positive benefit. In essence, the community will accept the practice, there will be multiple residents/businesses/people that benefit from the action; it's possible to

address the problem or the project is shovel-ready; by itself, the project is a long term solution, there are positive secondary impacts; there is plenty of staff on hand to take on the project; there is already funding set aside for the project; the long term maintenance is no additional burden for the community, there is political support for the project and there is a local champion to lead the project through the review process, there are no significant legal challenges from federal, state, local or private concerns; permits are not needed or are merely a formality to obtain; there are no negative impacts on water, wildlife, air or land resources; the benefits of the project outweigh the costs; if outside funding is required, it is easily obtained or there is no outside funding required and the funding is already set aside.

B) **Negative:** The following responses would be appropriate for a negative score of 0 points. There is broad controversy about the project;no one will tangibly benefit from the project; it is a very difficult design to create and/or implement; the solution is only a band-aid and more projects will be needed to create long term sustainability; there are negative impacts that could occur from the project; there is inadequate staff for the project and the community would need to hire a specialist to handle the workload; there is no funding available at this time for the project and funding will be difficult to obtain; the maintenance of the project will be a burden for the community; there is no political support for the project and there is no one who will lead the process; there are legal challenges from state, federal, or private entities that will need to be overcome to do the project; there will be a negative impact on water, wildlife and/or land resources; permitting for the project will be cost prohibitive and/or very difficult to obtain; it is not to say that getting a permit is a negative but how detailed the permit will need to be and how much time will need to be devoted to obtaining the permit are considerations; do the costs associated with the project outweigh the benefits expected; is outside funding required and difficult to obtain.

C) **Maybe:** The following would be appropriate for a Neutral or Maybe score of 5 points. This scoring category either indicates that not enough information is known or that there is a neutral effect of the project for the particular question. There may be moderate dissent about the project; at least one person or business or entity will tangibly benefit from the project; the design may be challenging but it is conceivable; the solution, even if short term will lend itself to a long-term solution; there are potentially negative impacts but these can be mitigated; staff would need to be re-assigned to handle the workload; there is the potential for imminent funding; the maintenance of the project will require some shuffling but will not be overly burdensome for the community; there is moderate political support for the project; there is the potential for someone to take the lead on the project; there are minor but manageable legal challenges from state, federal, or private entities that will need to be overcome to do the project; studies may need to prove that there will not be negative impacts on water, wildlife and/or land resources; permitting for the project will be needed but is attainable; the costs associated with the project equal the benefits expected; outside funding required but possible.

Each project also includes responses to additional considerations:

a) Who will do the project?
b) Who will pay for the project?
c) What is the realistic timeframe for completion?
d) Is the municipality ready to implement the project regardless of outside funding?
e) Is the municipality ready to implement the project if funding becomes available?
f) Does the project address a problem created by the 2013 storm events?

Further Scoring Rationale: We did not want to artificially exclude projects where only one household benefitted nor did we wish to artificially exclude projects that require permitting. We

acknowledge that these projects are not as easily accomplished as those that benefit multiple households or do not require permits but we felt that assigning a negative was too restrictive.

A benefit to the STAPLEE ranking process is that projects that may seem popular may not actually be technically feasible or have a positive cost:benefit ratio. The STAPLEE process also reveals where there may be weaknesses in a project. For example, a project may be very popular and have political support but no funding. If funding becomes available, the project priority will increase.

IV.C2: Final Scores: Points were assigned for Positive, Negative or Moderate effects of each criteria. The highest possible score is 190 points. A project scoring 190 points achieved 100%. The Prioritization was as follows:

a) **Very High Priorities:** Projects that receive a score from 90% to 100% are Very High Priorities. These include 42 projects on the Mitigation Strategies List. Of these, nearly half are related to Stormwater, Flooding, Stream management or Bridge/Culvert right-sizing.

b) **High Priorities:** Projects that receive a score between 80 and 89% are High Priorities. There are 93 projects on the Mitigation Strategies list that are High Priorities. It should be noted that the municipality may feel that the project is a higher priority than the score reflects but the actual score may be due to the current lack of funding for the project.

c) **Moderate Priorities:** Projects that receive a score between 70 and 79% are Moderate Priorities. There are 39 projects on the mitigation strategies list that are considered Moderate Priorities. These projects may have received lower scores because the project didn't have a specific design yet, or funding wasn't available, or the cost:benefit ratio was low. As mentioned above, the project isn't necessarily a bad project if the score is moderate. There are just some weaknesses that need to be addressed before the project should move forward.

d) **Low Priorities or Reassessments:** Projects that receive a score between 60 and 69% are Low Priorities and those below 60% should be reassessed. This includes 21 projects on the list.

There are a handful of projects on the list that were identified by the Sauquoit Creek Basin Commission as well as the municipality where the project would be installed. The projects were not double-counted so if there is overlap, a reference note is made on the list.

IV.D: Review of Mitigation Strategies: Following the development of the list, each community representative has had the opportunity to review their mitigation strategies and the subsequent rankings for accuracy. Rankings and scores will continue to be amended as more information becomes available for a project. For example, if a project gets funded through the Water Quality Incentives Program, the information will need to be updated. The public has the opportunity to comment and question all mitigation strategies as these are posted on the SWCD website for review. Public input was also sought via the HMP Survey but will also be accomplished at community events. The STAPLEE process for the draft list of mitigation strategies was presented to the OC Legislature in the format shown in Appendix IV-1.

IV.E: Existing Programs and Policies:

Please see Table IV-2 for a list of the regulatory tools utilized in each of the 48 municipalities in the county. This table describes the existing regulations that are incorporated into the local laws for the municipalities in the County.

IV.F: Oneida County Mitigation Strategy Summary: There are 206 mitigation Strategies listed for the Oneida County Hazard Mitigation Planning Update, 2013. The following tables provide a summary of the strategies by

Hazard addressed,
Very High Priority scores,
Projects that specifically address severe storms/flooding/stormwater related issues, and

1) Hazards addressed by the Mitigation Strategies for Oneida County are summarized in the following table:

Hazards	**# of Mitigation Strategies**
Blight	3
Civil Unrest	1
Climate Change	10
Dam Failure	4
Drought	2
Emerg svcs/communications	2
Epidemic	2
Explosion	6
Fire	11
Flooding	106
Haz mat fixed	4
Ice Jam	3
Infestation	2
Landslide	10
Severe Storm	100
Spills and Accidents	5
Transportation Accident	4
Utility Failure	9
Wastewater spill	1
Water Supply Contamination	7
Winter Storm	1

2) **Very High Priority Projects** are summarized in the following table:

Project	**Score%**	**Hazard**	**Key Word**
Boonville V1	90-100	Severe Storm, Flooding	Stormwater
Boonville V3	90-100	Fire	Zoning/Codes
BW Town1	90-100	Severe Storm, Flooding	Stormwater
Cam1	90-100	Severe Storm, Flooding	Stream
Clinton 3	90-100	Severe Storm, Flooding	Stream
DEC	90-100	Flooding	Stream
Floyd 2	90-100	Utility Failure	Backup Power

Floyd 3	90-100	Severe Storm, Flooding	Bridge/Culvert
Floyd 4	90-100	Severe Storm, Flooding	Bridge/Culvert
Forestport 1	90-100	Landslide	Erosion repair
Marcy 1	90-100	Severe Storm/Flooding	Stormwater
Marcy 2	90-100	Fire/Explosion/ Spills/Accidents	Emergency Services
NH1	90-100	Severe Storm, Flooding	Stormwater
NH2	90-100	Severe Storm, Flooding	Stormwater
NH3	90-100	Utility Failure	Emergency Power supply
NH6	90-100	Severe Storm, Flooding	Stormwater
OC2	90-100	Blight/Infestation/Food Shortage/Drought	agricultural
OC18	90-100	Severe Storms and Flooding	Education
OC19	90-100	Blight, Infestation, Drought	Education of Ag community
OFalls 1	90-100	Severe Storm, Flooding	Flooding
Paris 7	90-100	Severe Storm, water supply	Erosion repair
RemVill 3	90-100	Severe Storm, Flooding	Stormwater
Sang 1	90-100	Water Supply	salt storage
SQ CRK15	90-100	Severe Storm, Flooding	Stormwater
SQ CRK16	90-100	Severe Storm, Flooding	Stormwater
SQ CRK21	90-100	Flooding	model
SQ CRK22	90-100	Severe Storm, Flooding	Stream

SQ CRK23	90-100	Flooding	mapping
SQ CRK5	90-100	Severe Storm, Flooding	Dam
SQ CRK7	90-100	Severe Storm, Flooding	Stream
SQ CRK8	90-100	Severe Storm, Flooding	Stream
SQ CRK9	90-100	Severe Storm, Flooding	Stream
Sylv B2	90-100	Flooding	Education
T5	90-100	Water Supply Contamination	Water Supply
UT 2	90-100	Epidemic	Education
UT8	90-100	Severe Storm, Flooding	Stormwater
Vienna 2	90-100	Utility Failure	Shelter
WV2	90-100	Utility Failure	Backup Power
Western 3	90-100	Water Supply Contamination	salt storage
CC5	90-100	Climate Change	Climate Change
CC6	90-100	Climate Change	Climate Change
CC8	90-100	Climate Change	Climate Change

3) **Severe Storm, Flooding and Stormwater related projects:** The following table displays the 106 mitigation strategies that address Severe Storms, Flooding and Ice Jams and stormwater related issues:

Project Code	**Score**	**Hazard Addressed**	**Key Word**
DEC	Very High	Flooding	Stream
SQ CRK21	Very High	Flooding	model
SQ CRK23	Very High	Flooding	mapping
Sylv B2	Very High	Flooding	Education
Boonville V1	Very High	Severe Storm, Flooding	Stormwater
BW Town1	Very High	Severe Storm, Flooding	Stormwater
Cam1	Very High	Severe Storm, Flooding	Stream
Clinton 3	Very High	Severe Storm, Flooding	Stream
Floyd 3	Very High	Severe Storm, Flooding	Bridge/Culvert
Floyd 4	Very High	Severe Storm, Flooding	Bridge/Culvert

NH1	Very High	Severe Storm, Flooding	Stormwater
NH2	Very High	Severe Storm, Flooding	Stormwater
NH6	Very High	Severe Storm, Flooding	Stormwater
OFalls 1	Very High	Severe Storm, Flooding	Flooding
RemVill 3	Very High	Severe Storm, Flooding	Stormwater
SQ CRK15	Very High	Severe Storm, Flooding	Stormwater
SQ CRK16	Very High	Severe Storm, Flooding	Stormwater
SQ CRK22	Very High	Severe Storm, Flooding	Stream
SQ CRK5	Very High	Severe Storm, Flooding	Dam
SQ CRK7	Very High	Severe Storm, Flooding	Stream
SQ CRK8	Very High	Severe Storm, Flooding	Stream
SQ CRK9	Very High	Severe Storm, Flooding	Stream
UT8	Very High	Severe Storm, Flooding	Stormwater
Paris 7	Very High	Severe Storm, water supply	Erosion repair
Marcy 1	Very High	Severe Storm/Flooding	Stormwater
OC18	Very High	Severe Storms and Flooding	Education
BW V2	High	Flooding	Stormwater
Vienna 3	High	Flooding	Erosion repair
Sylv B1	High	Ice Jam	Ice
Sherrill3	High	Severe Storm and Flooding and Ice Jam	Stream
AUG2	High	Severe Storm, Flooding	Bridge/Culvert
Barneveld1	High	Severe Storm, Flooding	Stormwater
BW Town3	High	Severe Storm, Flooding	Bridge/Culvert

Clinton 4	High	Severe Storm, Flooding	Stream
Clinton 5	High	Severe Storm, Flooding	Stormwater
DF1	High	Severe Storm, Flooding	Flooding
DF3	High	Severe Storm, Flooding	Flooding
Flo1	High	Severe Storm, Flooding	Bridge/Culvert
Kirk 1	High	Severe Storm, Flooding	Stormwater
Kirk 2	High	Severe Storm, Flooding	Stream
Kirk 3	High	Severe Storm, Flooding	Bridge/Culvert
Kirk 4	High	Severe Storm, Flooding	Stream
Kirk 5	High	Severe Storm, Flooding	Flooding
Kirk 6	High	Severe Storm, Flooding	Bridge/Culvert
Lee1	High	Severe Storm, Flooding	Stream
Marshall1	high	Severe Storm, Flooding	Bridge/Culvert
NH V1	High	Severe Storm, Flooding	Dam
NH4	High	Severe Storm, Flooding	Watershed Management
NH5	High	Severe Storm, Flooding	Infrastructure upgrades
Orisk2	High	Severe Storm, Flooding	Stormwater
Paris 1	High	Severe Storm, Flooding	Stormwater
Remsen T1	High	Severe Storm, Flooding	Bridge/Culvert
SQ CRK14	High	Severe Storm, Flooding	Stormwater
SQ CRK24	High	Severe Storm, Flooding	Stream

SQ CRK26	High	Severe Storm, Flooding	Stormwater
SQ CRK27	High	Severe Storm, Flooding	Stream
SQ CRK28	High	Severe Storm, Flooding	Stormwater
SQ CRK4	High	Severe Storm, Flooding	Stream
SQ CRK6	High	Severe Storm, Flooding	Stream
ST1	High	Severe Storm, Flooding	Bridge/Culvert
UT9	High	Severe Storm, Flooding	Stormwater
UT10	High	Severe Storm, Flooding	Stormwater
UT11	High	Severe Storm, Flooding	Stormwater
Vern1	High	Severe Storm, Flooding	Property Acquisition
Vern2b	High	Severe Storm, Flooding	Stream
Vern3	High	Severe Storm, Flooding	Bridge/Culvert
Verona 1	High	Severe Storm, Flooding	Bridge/Culvert
Western 1	High	Severe Storm, Flooding	Bridge/Culvert
Westmo1	High	Severe Storm, Flooding	Bridge/Culvert
WB1	High	Severe Storm, Flooding	Stormwater
WB2	High	Severe Storm, Flooding	Property Acquisition
Yorkville1	High	Severe Storm, Flooding	Critical facilities
RemVill 1	high	Severe Storm/Flooding/Ice Jams	Stream
OC8	High	Severe Storms and Flooding	Municipalities and critical infrastructure
OC17	High	Severe Storms and Flooding	Flooding

Flo2	High	Severe Storms/Tornados	Road/Streets
Boonville V2	Moderate	Flooding	wastewater
Vienna 1	Moderate	Severe Storm	Bridge/Culvert
AUG1	Moderate	Severe Storm, Flooding	Bridge/Culvert
BW Town2	Moderate	Severe Storm, Flooding	Flooding
DF2	Moderate	Severe Storm, Flooding	Road/Streets
Marshall2	Moderate	Severe Storm, Flooding	Stream
RemVill 2	Moderate	Severe Storm, Flooding	Stream
Sherrill1	Moderate	Severe Storm, Flooding	Stormwater
SQ CRK10	Moderate	Severe Storm, Flooding	Stream
SQ CRK13	Moderate	Severe Storm, Flooding	Stormwater
SQ CRK17	Moderate	Severe Storm, Flooding	wetlands
SQ CRK2	Moderate	Severe Storm, Flooding	Stream
SQ CRK20	Moderate	Severe Storm, Flooding	Stream
SQ CRK25	Moderate	Severe Storm, Flooding	Stream
Vern2a	Moderate	Severe Storm, Flooding	Stream
Vern Vill1	Moderate	Severe Storm, Flooding	Stream
WV1	Moderate	Severe Storm, Flooding	Stream
WT1	Moderate	Severe storm, flooding	Stream
Clinton 1	Moderate	Severe Storm, Flooding, Water Supply Contamination	sewer
T3	Moderate	Severe Storm/Flooding	Road/Streets

Rome 4	Moderate	Stormwater Management	Stormwater
ST2	Low	Flooding	Shelter
SQ CRK12	Low	Ice Jam	Bridge/Culvert
Boonville T1	Low	Severe Storm, Flooding	Road/Streets
BW V1	Low	Severe Storm, Flooding	Stormwater
Clay2	Low	Severe Storm, Flooding	Dam
Marshall3	Low	Severe Storm, Flooding	stormwater
SQ CRK18	Low	Severe Storm, Flooding	Stormwater
SQ CRK19	Low	Severe Storm, Flooding	Stream
SQ CRK1	Reassess	Severe Storm, Flooding	Bridge/Culvert

4) **Structural Projects:** The following table lists the projects proposed that are structural in nature.

Mitigation Project Code
Annsville 1
Ava 1
Barneveld1
Barneveld2
Boonville T2
Boonville T3
Boonville V1
Boonville V2
BW V1
Cam T&V3
Cam1
CamT&V1
CC2
CC3
Clay1
Clay2
Clinton 1
Clinton 2

Clinton 4
DEC
DF1
DF3
Flo1
Floyd 2
Floyd 3
Floyd 4
Floyd 5
HP1
Kirk 1
Kirk 2
Kirk 3
Kirk 4
Kirk 5
Kirk 6
Lee1
Lee2
Lee3
Marshall1
Marshall2
Marshall3
NH1
NH2
NH3
NH4
NH5
NH6
NYM1
OC17
OC6
OFalls 1
Oneida Castle 2
Orisk1
Paris 2
Paris 3
Paris 5
Paris 6
Paris 7
RemVill 1
RemVill 2
RemVill 3
Rome 1

SQ CRK10
SQ CRK12
SQ CRK13
SQ CRK15
SQ CRK22
SQ CRK24
SQ CRK25
SQ CRK26
SQ CRK27
SQ CRK28
SQ CRK4
SQ CRK9
ST1
Sylv B1
Sylv B2
T1
T2
T3
T4
UT7
Vern2a
Vern2b
Vienna 1
Vienna 2
WB1
Western 2
WV2
Yorkville1