

# APPENDIX

Part A

Maps & Inventory

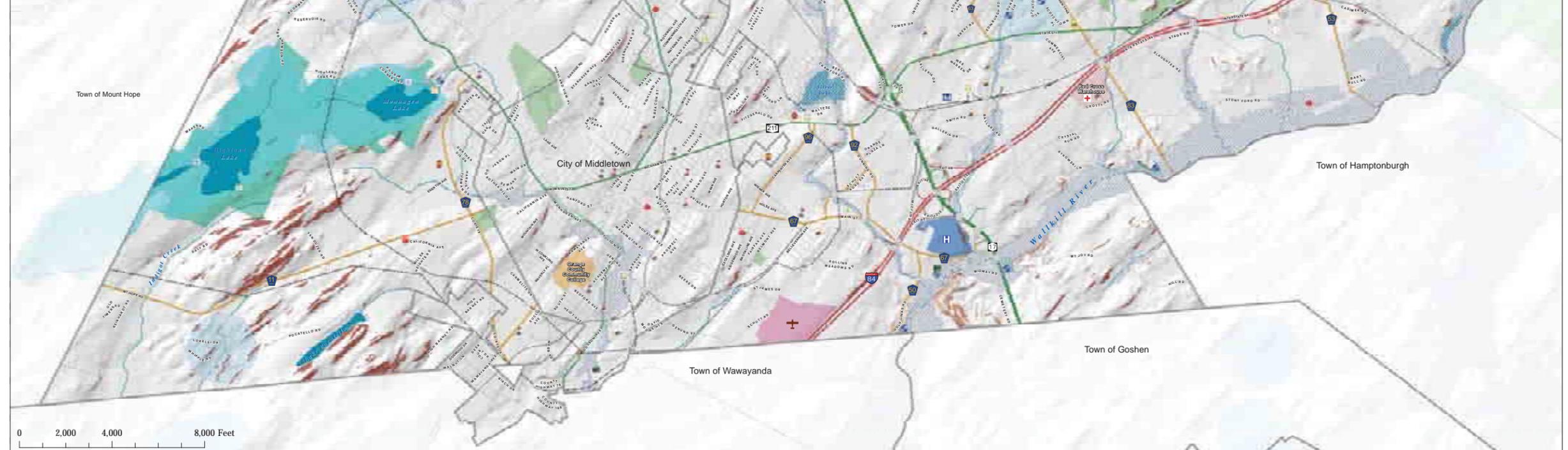
# Town of Wallkill and City of Middletown, NY All Hazards Mitigation Plan Inventory Map

*Draft - September 2012*

*The locations of features are approximate and are for illustration and reference purposes only.*



- Legend**
- Municipal Boundaries
  - Fire Stations
  - Interstate
  - State Roads
  - County Roads
  - Police
  - Schools
  - Hospitals
  - Emergency Shelter
  - Municipal Offices and Police
  - Rail Station
  - Bridges
  - Water Pump and/or Treatment
  - Water Tank
  - Sewer Treatment
  - Hazardous Waste Facilities
  - Telecommunication (non-tower)
  - Electrical Substation
  - Dams**
  - Hazard Condition A
  - Hazard Condition B
  - Hazard Condition C
  - Electrical Transmission Lines
  - Railroad
  - Public Wellhead Protection Areas
  - Relative Landslide Risk**
  - Low
  - Medium-Low
  - Medium
  - Medium-High
  - High
  - Lakes
  - Rivers & Streams
  - 100-Year Floodplain
  - 500-Year Floodplain
  - Water Supply Watershed
  - Municipal Water Supply Land
  - Parks and Protected Land







**Legend**

-  Municipal Boundaries
-  Interstate
-  State Roads
-  County Roads
-  Municipal Offices
-  Fire Stations
-  Rail Station
-  Railroad
-  Lakes
-  Rivers & Streams
-  100-Year Floodplain
-  500-Year Floodplain

**Elevation**

High : 1,047 ft

Low : 337 ft

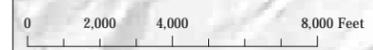
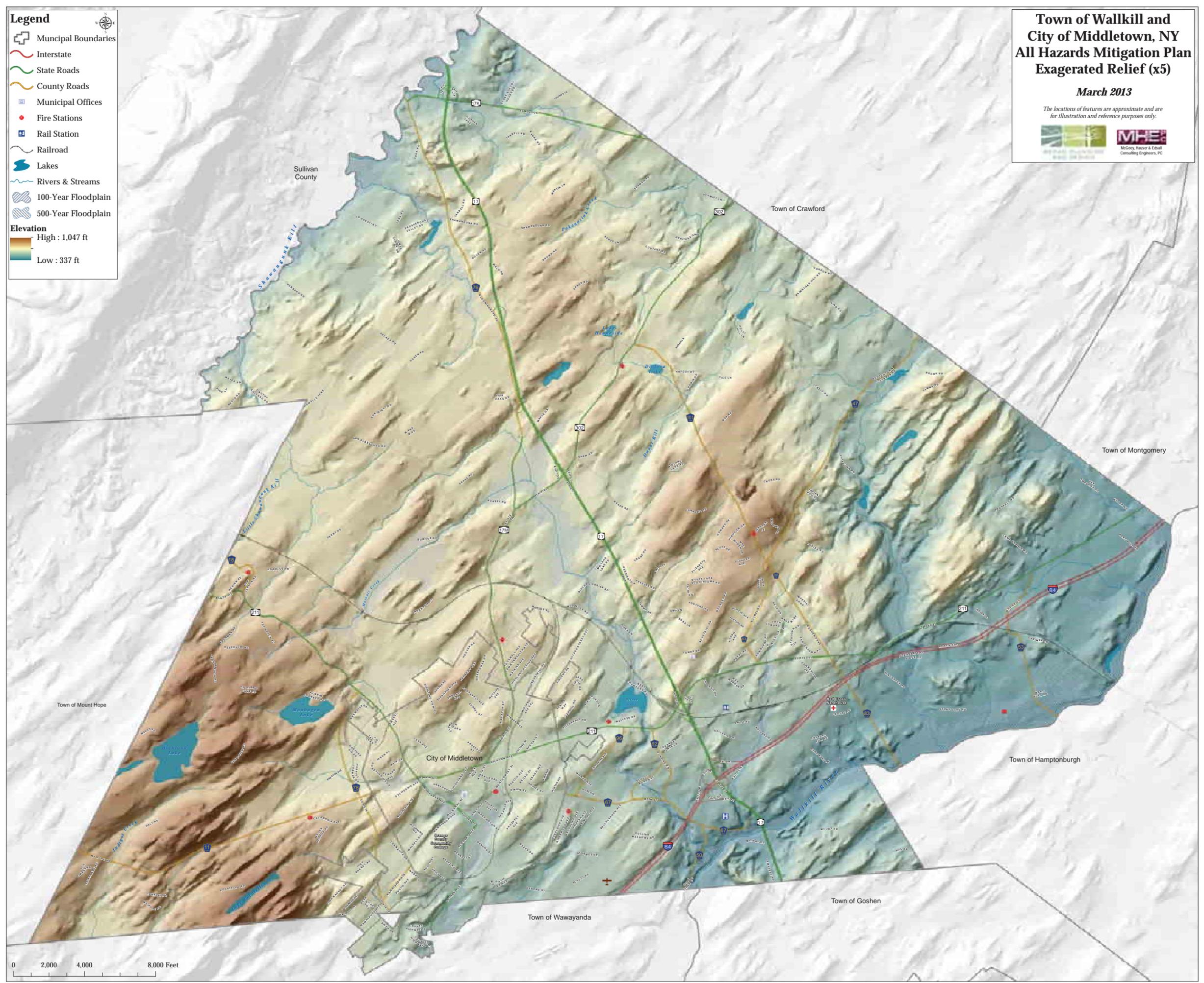
**Town of Wallkill and  
City of Middletown, NY  
All Hazards Mitigation Plan  
Exaggerated Relief (x5)**

**March 2013**

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for illustration and reference purposes only.*

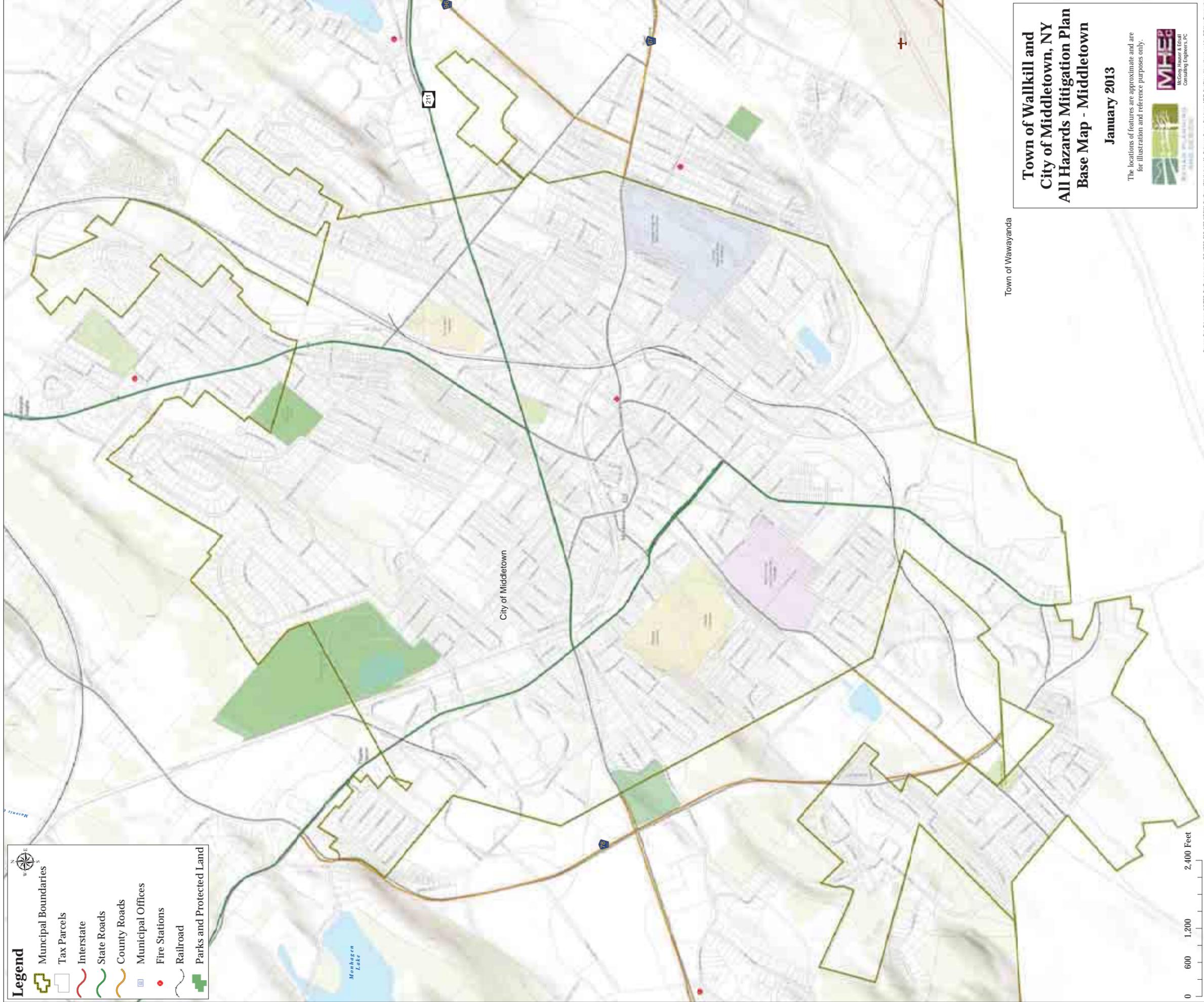



McGowen Hazard & Earth  
Consulting Engineers, PC



**Legend**

-  Municipal Boundaries
-  Tax Parcels
-  Interstate
-  State Roads
-  County Roads
-  Municipal Offices
-  Fire Stations
-  Railroad
-  Parks and Protected Land



Town of Wawayanda

**Town of Wallkill and  
City of Middletown, NY  
All Hazards Mitigation Plan  
Base Map - Middletown**

**January 2013**

The locations of features are approximate and are for illustration and reference purposes only.



**MHEC**  
McGraw Hill Construction  
Consulting Engineers, PC

Source: Esri, DeLorme, NAVTEQ, TomTom, Swiremap, PGC, USGS, FDO, NPS, NRCAN, GeoEye, IGN, Wikimapia, CNR, Esri, Swiremap, Esri, Japan, METI, Esri, China (Beijing), Esri, The GIS User Community

# Town of Wallkill and City of Middletown, NY All Hazards Mitigation Plan Inventory Map

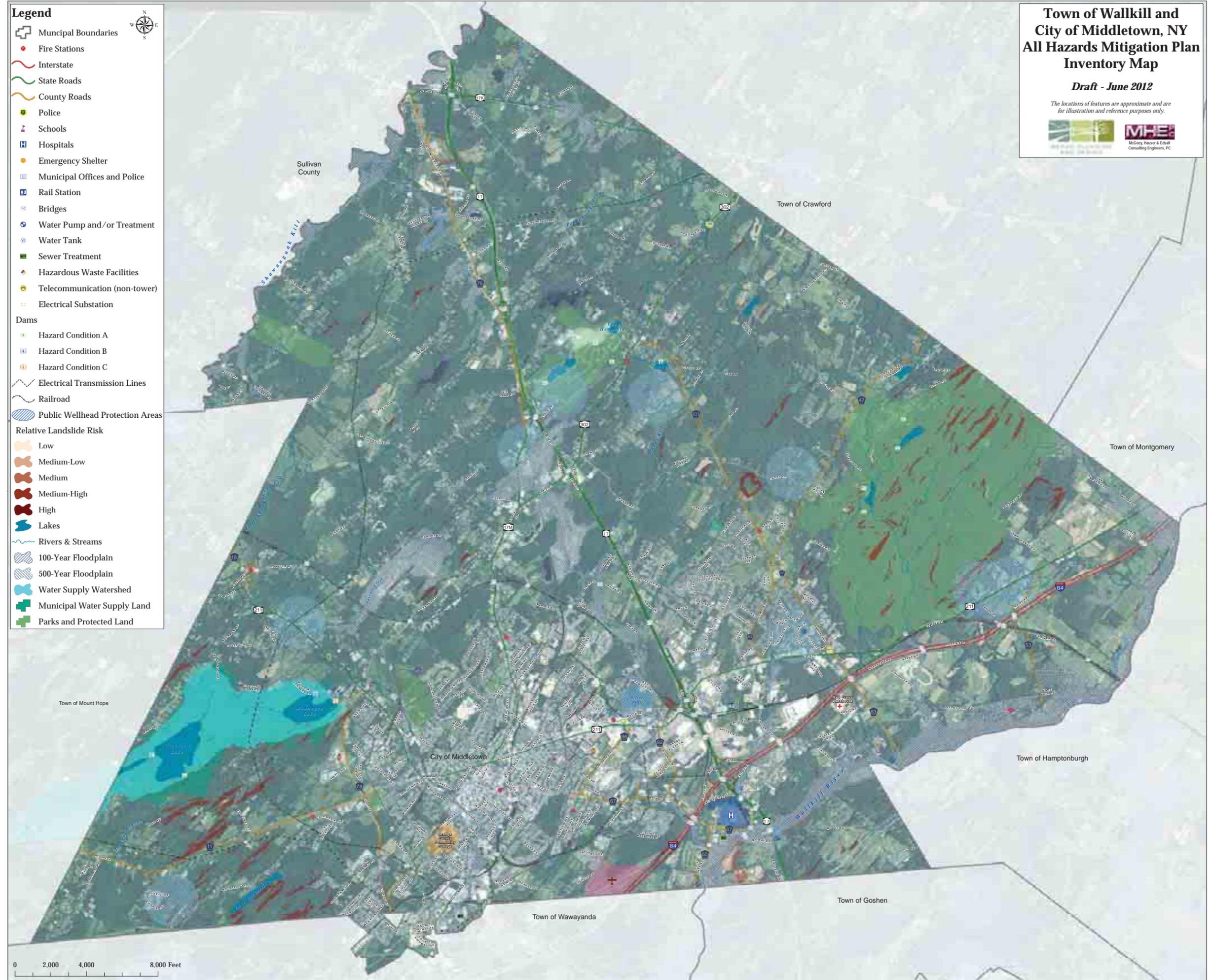
Draft - June 2012

The locations of features are approximate and are for illustration and reference purposes only.



**Legend**

- Municipal Boundaries
- Fire Stations
- Interstate
- State Roads
- County Roads
- Police
- Schools
- Hospitals
- Emergency Shelter
- Municipal Offices and Police
- Rail Station
- Bridges
- Water Pump and/or Treatment
- Water Tank
- Sewer Treatment
- Hazardous Waste Facilities
- Telecommunication (non-tower)
- Electrical Substation
- Dams**
- Hazard Condition A
- Hazard Condition B
- Hazard Condition C
- Electrical Transmission Lines
- Railroad
- Public Wellhead Protection Areas
- Relative Landslide Risk**
- Low
- Medium-Low
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- Medium-High
- High
- Lakes
- Rivers & Streams
- 100-Year Floodplain
- 500-Year Floodplain
- Water Supply Watershed
- Municipal Water Supply Land
- Parks and Protected Land



Feature	Owner	Location	Notes
Water Pump	Town of Wallkill	30 Scotchtown Pl	Pump house - old in appearance
	Fairways Wallkill LLC	146 Golf Links Rd Rear	Pump house - appears active
	Town of Wallkill	End of Mt Joy Rd	Pump house - old in appearance
	Town of Wallkill	2459 Goshen Tpke	Pump house and possible treatment
	City of Middletown	Pilgrim Corners Rd	Three facilities in one location – turn of the century facility decommissioned in 2010, 2003 Package plant with 1.5 MGD capacity, and 2010 5.1 MGD treatment facility. Located at outlet of Monhagen Lake
	Town of Wallkill	Golf Links Road	Primary Well field and treatment
	Town of Wallkill	Dundee Circle	Scotswood Wells
	Town of Wallkill	Sands Road	Woodland Acres Wells

Feature	Owner	Location	Notes
Sewer Treatment	City of Middletown	159 Dolson Ave	
	Town of Wallkill	Golf Links Road	

Feature	Owner	Location	Notes
Water Tower	City of Middletown	358-360 Highland Ave Ext	Images in order from left to right – top row City, bottom row Town
	City of Middletown	Pilgrim Corners Rd	
	City of Middletown	Ws Magar St	
	Town of Wallkill	Overhill Rd	
	Town of Wallkill	Beakes Ave	
	Town of Wallkill	77 Tower Dr	








Feature	Owner	Location	Notes
Electrical Substation	O&R Utility Inc	Dolsontown Rd	  <p>Dolsontown road location is by far the largest (left), others are similar to Maltese Dr location (above)</p>
	O&R Utility Inc	48 Gunung St	
	O&R Utility Inc	20-24 Industrial Pl	
	O&R Utility Inc	45 Maltese Dr	
	O&R Utility Inc	14 Wesley Ct	
	O&R Utility Inc	1422 St Rte 302, Crawford	

Feature	Owner	Location	Notes
Fire Stations	City of Middletown	81-93 E Main St	4 bays
	Mechanicstown Fire	22 Victory St	5 bays
	Mechanicstown Fire	384 Stony Ford Rd	Station 2 – 4 bay (2 blgs, 2 bays each) – also Station 2 Raceway Park (R/C track)
	Washington Heights Volunteer Fire	10 Ohio Pl	2 bays – large non-bay building
	Circleville Fire District	1500 Goshen Tpke	2 bays and outdoor training area
	Pocatello Fire	5 Pocatello Rd	3 bays
	Howells Fire Company	20 Elm St	4 bays – large “garage”
	Silver Lake Fire District	26 Maltese Dr	3 bays, 1 double wide bay, “garage” with overhead door at each end – appears to be a new facility being constructed to the east
	Circleville Fire District	2147 Rte 302	4 bays

Feature	Owner	Location	Notes
Police Station	City of Middletown	2 James Street	Also Middletown City Hall
	Town of Walkill	99 Tower Drive	Also Walkill Town Offices
	State Police	55 Crystal Run Rd	Troop F Headquarters

Feature	Name	Location	Notes
Emergency Shelters	Middletown Senior High School	18 Gardner Ave Ext	
	Monhagen Middle School	555 Co Rte 78	

Feature	Name	Location	Notes
Schools	Circleville Elementary School	2100 St Rte 302	
	Circleville Middle School	1951 St Rte 302	Same location as Pakanasink Elementary School
	Arc Orange County Chapter	28 Ingrassia Rd	Private Pre-K
	Mechanicstown Elementary School	459 E Main St	
	Middletown Senior High School	18 Gardner Ave Ext	
	Twin Towers Middle School	112 Grand Ave	
	Pakanasink Elementary School	1953 St Rte 302	Same location as Circleville Middle School
	Monhagen Middle School	555 Co Rte 78	Maple Hill Elementary School located here as well
	John W Chorley School*	50 Roosevelt Avenue	New school being constructed
	Truman Moon School*	53 Bedford Avenue	
	Harmony Christian School*	1790 Route 211 E	Private Pre-K to 12
	Middletown Christian School – Sda*	70 Highland Ave	Private Pre-K to 8
	New Beginnings Montessori*	33 Albert St	Private Pre-K to 2
	Our Lady of Mount Carmel School*	205 Wawayanda Ave	Private Pre-K to 8
	St Joseph School*	113 Cottage St	Private Pre-K to 8

*\*Not shown on June 2012 maps*

Feature	Name	Location	Notes
EPA Regulated Hazardous Waste Generators	Westwood Chemical Corp, Middletown Site	46 Tower Drive	
	Orange Recycling & Ethanol Prod Fac	159 Dolson Avenue	
	Quick Roll Leaf Manufacturing Co	53 Smith Road	
	A & N Technologies	366 Highland Ave	
	Wallkill Farms Home Owners Association	270 Schutt Rd	
	Ball Metal Beverage Container Corp	95 Ballard Road	
	Spill - 92 Fitzgerald, Middletown (Dec#0703367)	92 Fitzgerald Drive	
	Middletown (C) Stp	159 Dolson Avenue	
	East Coast Environmental, Inc.	35 Goshen Tpke	
	Genpak Llc Middletown Main Plant	26 Republic Plaza	
	Cvs Pharmacy #2361	245 E Main St	
	Delford Industries Inc	84 Washington Street	
	Tesa Tape - Middletown	135 Crotty Road	
	O&R - Middletown Op Ctr	71 Dolson Avenue	
	Wallkill (T) Stp	600 Route 211 East	
	Interceram Ceramx Corporation	Fortune Road West	
	General Switch Corporation	20 Industrial Place	
	Fleurchem	33 Sprague Avenue	
	Revere Smelting & Refining Corp	65 Ballard Road	

Feature	Name	Location	Notes
Red Cross Warehouse		135 Crotty Road	Supports surrounding counties and has thousands of cots, blankets, etc

Feature	Name	Location	Notes
Non-Tower Telecommunications	Citizens Telecommunications	2021 Goshen Tpke	Windowless building
	Citizens Telecommunications	1715 Rte 302	Windowless building

Feature	Name	Location	Notes
Hospital	Orange County Regional Medical Center	707 E Main St	

Bridges in Wallkill / Middletown

Bridge ID	Carried	Crossed	Bridge ID	Carried	Crossed
Unknown	17	Future Plaza Connector	2223400	Ballard Road	Norfolk Southern
Unknown	17	Future Plaza Connector	1052570	Goshen Turnpike	84i 84i83011208
2262190	Conveyor, Private	Railroad Ave	3345120	Stony Ford Road	Trib Wallkill Riv
7713040	Hospital Coalspur	Power Dr. Inside	1052581	84i 84i83 21.7	Harvey Roe Brook
7712220	Ex Erie Railroad	Genung Street	1052582	84i 84i83 21.6	Harvey Roe Brook
7712200	Middletown & N J	Genung Street	1040970	211 211 83013040	Unknown Stream Un
2262160	Genung Street	Monhagen Brook	1013940	302 302 83011006	17 17 83101047
7712230	Moddletown & N J	Sprague Avenue	1013940	302 302 83011006	17 17 83101047
7712290	Norfolk Southern	Sprague Avenue	1013930	17m 17m83011004	17 17 83101041
3369200	County Road 108	Masonic Creek	1013930	17m 17m83011004	17 17 83101041
2223360	Ingrassia Road	Mnrr Pj Line	1013920	Brown Road	17 17 83101027
1014550	17m 17m83011018	Mnrr Pj Line	3344690	Stony Ford Road	Wallkill River
1040959	211 211 83013009	Masonic Creek	1052591	84i 84i83011225	Norfolk Southern
1040959	211 211 83013009	Masonic Creek	1052592	84i 84i83011225	Norfolk Southern
3360180	Maltese Drive	Masonic Creek	1052601	84i 84i83011227	Ohaire Rd Cr 53
7712880	Mnrr Pj Line	Slv Lk Schtwn Rd	1052602	84i 84i83011227	Ohaire Rd Cr 53
2262150	Mud Mills Road	Mnrr Pj Line	1052610	Bart Bull Road	84i 84i83011243
2223370	Maples Road	Mnrr Pj Line	1052610	Bart Bull Road	84i 84i83011243
1096560	Scotchtown Road	17 17 83101065	1013909	17 17 83101004	17k 17k
1096560	Scotchtown Road	17 17 83101065	1013909	17 17 83101004	17k 17k
1052539	84i 84i83011185	Masonic Creek	1014470	17k 17k83011006	Shawangunk Kill
1052539	84i 84i83011185	Masonic Creek	2223340	Derby Road	Mnrr Pj Line
1052540	County Road 67	84i 84i83011186	3345080	Brola Road	Lit Shawangunk KI
1052540	County Road 67	84i 84i83011186	3345090	Hubbard Road	Shawangunk Kill
3345110	Golf Links Road	Masonic Creek	2223420	Midway Road	Wallkill River
3345130	East Main Street	Masonic Creek	1013970	Middletownroad	17 17 83101087
1052559	17 17 83101083	84i 84i83011192	1013982	17 17 83101091	Wallkill River
2223420	Midway Road	Wallkill River	1013981	17 17 83101091	Wallkill River
1013981	17 17 83101091	Wallkill River	1013990	17 17 83101092	Wallkill Rv Ovrfl
1013982	17 17 83101091	Wallkill River	1052570	Goshen Turnpike	84i 84i83011208
3345140	East Main St Cr67	Trib Wallkill Riv	1013920	Brown Road	17 17 83101027
1013970	Middletownroad	17 17 83101087	1052559	17 17 83101083	84i 84i83011192
1013990	17 17 83101092	Wallkill Rv Ovrfl	1013959	17 17 83101074	211 211 83013015
1040969	211 211 83013013	Norfolk Southern	1013919	Planned	
1040969	211 211 83013013	Norfolk Southern	7712990		
1013960	17 17 83101076	Norfolk Southern	1052560		
1013960	17 17 83101076	Norfolk Southern	2223410		
1013959	17 17 83101074	211 211 83013015	2223310		
2269440	No Galleria Drive	Norfolk Southern	7712240		
2269440	No Galleria Drive	Norfolk Southern	2223350		
1052562	Ballard Road	84i 84i83011198	2223590		
1052561	Ballard Road	84i 84i83011198			

## Dams in Wallkill /Middletown

State ID	Federal ID	Dam Name	Hazard Code	Watercourse	Dam Height (ft)	Dam Length (ft)	Max Discharge (cu ft)	Normal Storage (ac ft)	Max Storage (ac ft)	Surface Area (ac)	Drainage Area (sq mi)	Spillway	Aux. Spillway	Spillway Width (ft)	Year Built	Construction Type	Owner(s)	Purpose	Last Inspection	Last Deficiency*
179-0561	NY16063	Highland Lake Dike	A - Low	Shawanunkill	0	434	0	514	0	0	0.00	None	None	20	Unknown	RE - Earth	City of Middletown	Water Supply - Primary	10/22/2008	MA,SE
179-0539	NY12974	Doty & Shormaker Dam	A - Low	Masonic Creek	15	250	0	14	16	3	11.00	None	None	75	1927	RE - Earth	Doty & Shormaker	Other	6/21/1973	None
178-1123	NY12950	Bloomingburg Dam	A - Low	Shawangunk Kill	10	0	1500	11	13	4	9.00	Gated	Concrete Overflow	77	1937	OT - Other	Dubois F Collins	Irrigation, Recreation	5/27/1973	None
179-0567	NY12978	Miller Pond Dam	A - Low	Masonic Creek	8	125	0	7	8	3	0.00	Uncontrolled Overflow	None	60	1900	RE - Earth, ER - Rockfill	Emily V Miller	Other	6/22/1973	None
178-0595	NY12934	Cattle Pond Dam	A - Low	Tr-Shawanhuk Kill	7	235	0	2	3	1	0.00	Culvert - No Control	Grassed Earth Channel	10	1911	MS - Masonry, RE - Earth	George Ayers	Fire Protection, Stock, Or Small Farm Pond, Recreation	6/20/1973	None
178-0610A	NY12939	Campbell Pond Dam	A - Low	Tr-Shawangunk Kill	4	0	0	2	3	2	0.75	None	None	0	1926	RE - Earth, CN - Concrete Gravity	John Bronner	Recreation	5/27/1973	None
178-3969	NY12964	N Smith Pond Dam	A - Low	Pakanasink Creek	14	360	403	22	46	7	0.96	Drop Inlet or Riser	Concrete Overflow	15	1971	RE - Earth	Norman J Smith	Fire Protection, Stock, Or Small Farm Pond	4/23/1981	None
179-5551	NY16188	Highland Lakes Dam	A - Low	Wallkill River	10	1200	0	0	0	0	0.00	Drop Structure	None	10	Unknown	RE - Earth	Nysoprhp - Palisades Interstate Park Com	Recreation	11/14/2007	MA,SR
179-5552	NY16185	Spano Pond Dam	A - Low	Wallkill River	10	400	0	0	0	0	0.00	Gated	Concrete Overflow	10	Unknown	RE - Earth, LS - Laid Up Stone	Nysoprhp - Palisades Interstate Park Com	Recreation	10/31/2007	MA,SE
179-5553	NY16187	Camp Orange Pond	A - Low	Wallkill River	8	400	0	0	0	0	0.00	Drop Structure	None	10	Unknown	RE - Earth	Nysoprhp - Palisades Interstate Park Com	Recreation	11/14/2007	MA,SR
178-5550	NY16186	Little Tamms Pond Dam	A - Low	Wallkill River	8	165	0	0	0	0	0.00	Gated	Concrete Overflow	4	Unknown	RE - Earth	Nysoprhp - Palisades Interstate Park Com	Fire Protection, Stock, Or Small Farm Pond	10/31/2007	MA
178-0585	NY12930	Price Dam	A - Low	Tr-Dwaarkill	8	125	0	5	6	2	0.00	Uncontrolled Overflow	None	13	1912	RE - Earth, ER - Rockfill	Price	Recreation	6/20/1973	None
179-0541	NY12975	St Alberts College Pond Dam	A - Low	Tr-Monhagen Brook	10	300	0	6	7	2	0.00	None	None	35	1901	RE - Earth, CN - Concrete Gravity	St Alberts College	Recreation	6/22/1973	None
179-0542	NY12976	St Alberts College Pond #2 Dam	A - Low	Tr-Monhagen Creek	13	300	0	4	5	1	0.00	None	None	60	1908	RE - Earth	St Alberts College	Recreation	6/22/1973	None
179-0546	NY12977	St Alberts College Pond #3 Dam	A - Low	Tr-Monhagen Brook	5	700	0	1	2	1	0.00	Culvert - No Control	Channel cut in Rock	10	Unknown	RE - Earth, MS - Masonry	St Alberts College	Recreation	6/22/1977	None

## Dams in Walkill /Middletown

State ID	Federal ID	Dam Name	Hazard Code	Watercourse	Dam Height (ft)	Dam Length (ft)	Max Discharge (cu ft)	Normal Storage (ac ft)	Max Storage (ac ft)	Surface Area (ac)	Drainage Area (sq mi)	Spillway	Aux. Spillway	Spillway Width (ft)	Year Built	Construction Type	Owner(S)	Purpose	Last Inspection	Last Deficiency*
178-3076	NY12958	Starr Block Co Pond Dam	A - Low	Tr-Shawangunk Kill	7	165	900	2	3	1	1.41	Stop Log sluice	Concrete Overflow	20	1962	CN - Concrete Gravity	Starr Block	Irrigation	6/21/1973	None
178-0590	NY12931	Hennesey Pond Dam	A - Low	Lake Henneside Outlet	4	130	0	1	1	1	0.00	None	None	3	1875	RE - Earth, ER - Rockfill	Thomas Hennesey	Recreation	9/20/1973	None
178-0591A	NY12933	Lake Henneside Dam #2	A - Low	Lake Henneside Outlet	4	420	0	5	6	4	0.00	None	None	15	1875	RE - Earth, ER - Rockfill	Timothy & Maureen Foley/Walter & Maria Barrett	Recreation	6/20/1973	None
178-0591	NY12932	Lake Henneside Dam #1	A - Low	Lake Henneside Outlet	20	135	0	26	27	4	0.00	Stop Log sluice	Channel cut in Rock	10	1875	RE - Earth, ER - Rockfill	Town of Walkill	Recreation	4/5/2001	None
178-5044	NY14211	Windy Wes Golf Course Dam	A - Low	Tr-Walkill River	10	50	0	18	75	12	0.14	None	None	8	1990	RE - Earth	Town of Walkill	Recreation	10/25/1991	None
179-0549	NY00067	Silver Lake Dam	A - Low	Masonic Creek	12	375	1700	130	260	45	10.90	Uncontrolled Overflow	None	50	1923	CN - Concrete Gravity	Waters Edge At Silver Lake Homeowners Association	Recreation	4/8/1997	SC
179-0560	NY01131	Highland Lake Dam & Dike	B - Intermediate	Shawanunkill	30	516	0	2000	2147	98	0.00	Uncontrolled Overflow with flasboards	None	10	Unknown	RE - Earth	City of Middletown	Water Supply - Primary	10/22/2008	MA,SE
179-0566	NY16220	Monhagen Lake Dam	B - Intermediate	Monhagen Brook	12	300	0	630	825	65	0.60	Culvert - No Control	None	6	1867	RE - Earth, MS - Masonry	City of Middletown	Water Supply - Primary	11/1/2010	None
179-0565	NY00070	Monhagen Lake Dike	C - High	Monhagen Brook	12	0	0	630	825	65	0.60	None	None	6	1867	RE - Earth, MS - Masonry	City of Middletown	Water Supply - Primary	11/2/2010	None

\* MA - Dam has maintenance issues, SE - Dam has seepage, SR - Dam has structural issues, SC - Dam has insufficient spillway capacity

# APPENDIX

Part B

Meeting Notes



## All-Hazards Mitigation Plan

# PROJECT OUTLINE



Town of Wallkill/City of Middletown Hazard Mitigation Grant  
FEMA-1899-DR-NY  
HMGP Project #1899-0019

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**Project Goal/Scope:** To identify all local critical facilities which could be disrupted in the event of a natural disaster and develop a plan of specific actions to prevent or mitigate the disruption to them.

Funding Breakdown:	\$69,375.00	FEMA Federal Share
	\$11,562.50	Town of Wallkill Local Match
	<u>\$11,562.50</u>	<u>City of Middletown Local Match</u>
	\$92,500.00	Total Project Cost

**Project Deadline:** April 10, 2013, Draft Plan Due

**Project Team:** Behan Planning & Design, Consulting Planners  
McGoey, Hauser & Edsall, Consulting Engineers

**Advisory Panel:** John Lippert, Wallkill Dept of Public Works  
Jacob Tawil, Middletown Dept of Public Works  
Dominic Greene, County Hazard Mitigation Coordinator  
Others – To Be Determined



# All-Hazards Mitigation Plan

## Project Outline & Status



TASK	DESCRIPTION	STATUS
TASK ONE	<b>Organization &amp; Startup</b>	
	PROJECT STARTUP, CONTRACTS	COMPLETE
	REVIEW OF FEMA MATERIAL, PROCEDURES, RELATED STUDIES	COMPLETE
	PRELIMINARY DATA COLLECTION	IN PROGRESS
TASK TWO	<b>Risk Assessment</b>	
	*** TEAM MEETING ONE *** (JULY/AUG 2012)	
	2A – CATALOG POTENTIAL HAZARDS	---
	2B – CATALOG LOCAL INVENTORY	---
	2C – OVERLAY HAZARDS WITH INVENTORY, ESTIMATE LOSSES & PRIORITIES	---
	*** TEAM MEETING TWO *** (SEPT/OCT 2012)	
	2D – PUBLIC MEETING (NOV 2012)	---
TASK THREE	<b>Develop Mitigation Strategies</b>	
	3A – IDENTIFY EXISTING MITIGATION CAPABILITIES	---
	3B – DEVELOP NEW MITIGATION STRATEGIES AND EXISTING IMPROVEMENTS	---
	*** TEAM MEETING THREE *** (JAN 2013)	
	3C – IDENTIFY SPECIFIC MITIGATION MEASURES	---
	3D – DEVELOP ACTION / IMPLEMENTATION PLAN	---
TASK FOUR	<b>Plan Maintenance</b>	
	4A – DEVELOP PLAN FOR FUTURE MONITORING AND EVALUATION OF MITIGATION STRATEGIES, PLAN UPDATES	---
	4B – DOCUMENT PROCESS AND WRITE PLAN	---
TASK FIVE	<b>Review, Approval &amp; Adoption</b>	
	5A – SUBMIT PLAN FOR REVIEW BY LOCAL AGENCIES	---
	5B – SUBMIT PLAN TO SEMO / FEMA FOR REVIEW	---
	5C – LOCAL ADOPTION	

# WALLKILL ALL-HAZARDS MITIGATION PLAN

## TASK DESCRIPTION

### I. ORGANIZATION & STARTUP

A. Develop a Planning Committee

B. Gather available data and document previous hazard events.

C. Planning Committee Mtg - Review materials and identify key community officials to contact and any missing data. Agree on goals, schedule and public meeting date(s).

D. Interviews - Interview key community members, officials, agencies to identify potential hazards and information sources.

E. Documentation - Document hazard mitigation process (ongoing).

### II. RISK ASSESSMENT

A. Develop a catalog of potential natural hazards, with optional technological and man-made disasters.

B. Profile Potential Hazards - Using available information, determine risk assessment of each hazard occurring, including extent and intensity.

C. Develop Local Inventory - Develop a list of critical facilities. Determine if any critical facilities are located in hazard areas identified above.

D. Estimate Losses - Determine potential losses from each hazard and impacts to critical facilities.

E. Public Meeting - Review inventory and risk assessment prepared with larger public audience, including invited officials or agents, for comment.

### III. MITIGATION STRATEGIES

A. Existing Mitigation Capability - Identify existing mitigation systems, programs and personnel that currently are in place.

B. Develop Mitigation Strategy - Review Risk Assessment and available information with Planning Committee. Discuss mitigation strategies for each risk, identify existing programs or systems which need to be improved.

C. Identify specific mitigation measures. Develop and describe a range of specific mitigation measures which should be implemented.

D. Develop an Action Plan - Identify feasible and cost-effective steps which the municipalities and agencies can take to implement recommended strategies.

### IV. PLAN MAINTENANCE

A. Develop plan for future monitoring and evaluation of mitigation strategies, updates, ongoing progress.

B. Plan Writing - Document and detail the hazard mitigation planning process, recommendations and action plan as a formal deliverable.

### V. REVIEW, APPROVAL AND ADOPTION

A. Submit Hazard Mitigation Plan to local municipalities for review and comment.

B. Submit Hazard Mitigation Plan to State Emergency Management Office / FEMA for review and comment.

C. Adoption - Adoption of Plan by local municipalities

D. Invoicing, Quarterly Reports, Certification Forms required by FEMA

# Walkkill / Middletown Hazards Mitigation Plan

## Meeting Minutes

Project Kickoff - March 30<sup>th</sup>, 2012 11:00am

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### Present:

Dan Depew	Supervisor, Town of Walkill
Jacob Tawil	City of Middletown Public Works
John Lippert	Town of Walkill Public Works
Dave Fritts	McGoey, Hauser, Edsall Engineers (MHE)
Michael Allen	Behan Planning & Design

- 
1. Behan Planning distributed an overview summary sheet of the project, including budget and tasks, and gave a brief introduction to the project and a preliminary inventory map of the study area. The scope of work was reviewed and how the project would work, coordination between municipalities, etc.
    - a. DDepew noted that this is very important for both the town and the City, and the project makes a lot of sense to be a joint-municipality effort. He looks forward to working with the City of Middletown.
  2. MAllen noted that the in-kind services effort would need to be tracked as the municipalities helped in the planning effort. He would coordinate necessary information from each town, and would like contact information for key municipal officials.
    - a. Jacob Tawil noted that the City of Middletown would like to have their own consulting engineers brought on board the team so that they are equally represented, since the Town of Walkill is represented by McGoey Hauser.
    - b. The City of Middletown uses Clark Patterson Lee engineers, who are very familiar with their infrastructure system and flooding issues in the City. They could be added to the team.
    - c. MAllen to contact Gef Chumard at CPL about a contract amendment to add them to the team. Will need to get estimate of hours/tasks and draw up an agreement.
  3. MAllen reviewed the preliminary inventory map of the study area. Many facilities have already been documented, but would need to work with both the Town and City to ensure that everything is properly identified.
    - a. MAllen will continue updating the data analysis and inventory, and expects to provide a draft inventory map at the first Advisory Team meeting for everyone to review.
  4. Advisory Team – an advisory team needs to be assembled which represents both municipalities and has people familiar with local infrastructure, health and safety. MAllen to develop a preliminary list of suggestions to Supervisor/Mayor.
    - a. Public Works departments most important. Probably also want to include County Planning also. Can interview other departments as needed.
  5. Next meeting date needs to be rescheduled in order to provide more time to revise contract and get Clark Patterson involved in project.

**NEXT MEETING: To Be Rescheduled – Location, Town of Walkill Town Hall**

July 19, 2012



**RE: Walkkill All-Hazards Mitigation Plan  
Pre-Meeting Packet**

Hello,

In anticipation of our upcoming meeting on the *Walkkill All-Hazards Mitigation Plan*, you will find an attached information packet which includes: Draft Meeting Agenda; Project Outline and Status; and an updated Contact List.

I have included a link in the original email to an automated scheduler (Doodle) to determine your availability for this meeting – please use it to indicate what days/times you may be available in the next few weeks to attend. We will choose a date that can accommodate the most number of participants, and notify everyone once it has been decided.

In preparation for this meeting, I would kindly ask that each of you try to prepare some information in advance for discussion, as time permits:

***McGoey, Hauser & Edsall Engineers:***

- Summary list of local agencies, departments and contacts which should be interviewed for input on the plan.

***Clark, Patterson, Lee Engineers:***

- Listing and/or maps of known stormwater management problem areas, capacity and flooding issues in and around the City of Middletown.

***Town of Walkkill & City of Middletown DPW***

- Listing and location of Town/City infrastructure facilities such as water treatment plants, water towers, water supply lines, pumping stations etc. under your jurisdiction.
- Information on the effect of recent natural hazard/extreme weather events since 2009 which have resulted in a reduction or loss of services or threat to public safety, with particular attention to last summer's Hurricane Irene.

Thank you in advance for your help, and we look forward to meeting with all of you on this important effort.

Michael Allen



# All-Hazards Mitigation Plan

## Meeting Agenda



**AUGUST 7th 2012, 2PM**

**Conference Room  
Town of Walkill - Town Hall  
99 Tower Drive, Middletown, NY**

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- |         |  |   |            |
|---------|--|---|------------|
| 2:00 pm | <b>Introduction/Summary of Project</b>   | Michael Allen, Behan Planning             | 5 minutes  |
|         | OUTLINE OF SCOPE, PROJECT PHASES AND TASKS   |   |            |
| 2:05 pm | <b>Review of Project Schedule</b>  | Michael Allen, Behan Planning             | 5 minutes  |
|         | OUTLINE OF EXPECTED MILESTONES, COMPETITION DATES  |   |            |
| 2:10 pm | <b>Review of Team Roles/Tasks</b>  | Michael Allen, Behan Planning             | 5 minutes  |
|         | REVIEW OF TASKS & RESEARCH EXPECTED BY INDIVIDUAL TEAM MEMBERS, TIME TRACKING  |   |            |
| 2:15 pm | <b>Review of Potential Hazards</b>   | Michael Allen, Behan Planning             | 5 minutes  |
|         | REVIEW OF POTENTIAL NATURAL HAZARDS IDENTIFIED WHICH WILL BE INCLUDED IN THE STUDY   |   |            |
| 2:20 pm | <b>Review of Draft Local Inventory</b>   | Michael Allen, Behan Planning             | 10 minutes |
|         | REVIEW OF CRITICAL FACILITIES AND AREAS SO FAR IDENTIFIED WHICH REQUIRE PROTECTION, AND IDENTIFICATION OF ANY GAPS OR MISSING INFORMATION WHICH STILL NEEDS TO BE GATHERED   |   |            |
| 2:30 pm | <b>Walkill DPW Update</b>  | John Lippert, Town of Walkill             | 20 minutes |
|         | REVIEW OF TOWN FACILITIES WHICH MAY NEED TO BE ADDED TO LOCAL INVENTORY AND KNOWN PROBLEM AREAS WHICH HAVE REQUIRED ATTENTION IN THE PAST  |   |            |
| 2:50 pm | <b>Middletown DPW Update</b>   | J. Tawil / G. Chumard, City of Middletown | 20 minutes |
|         | REVIEW OF CITY FACILITIES WHICH MAY NEED TO BE ADDED TO LOCAL INVENTORY AND KNOWN PROBLEM AREAS WHICH HAVE REQUIRED ATTENTION IN THE PAST. ENGINEERS FROM CPL TO ASSIST WITH IDENTIFICATION OF PROBLEM AREAS AND NATURAL EVENTS PARTICULARLY RELATED TO STORMWATER AND FLOODING. |   |            |
| 3:10 pm | <b>McGoey, Hauser Update</b>   | Dick McGoey, McGoey Hauser & Edsall       | 10 minutes |
|         | REVIEW BY MHE ON LOCAL INTERVIEWS WHICH WILL NEED TO BE CONDUCTED, AND HOW ANY REMAINING LOCAL FACILITIES AND PROBLEM AREAS WILL BE ADDED TO INVENTORY   |   |            |
| 3:20 pm | <b>Remaining Discussion / Next Steps / Schedule Next Meeting</b>   |   | 10 minutes |
|         | REMAINING DISCUSSION ITEMS, AGREE ON NEXT STEPS, SCHEDULE NEXT MEETING   |   |            |

**END MEETING**



# All-Hazards Mitigation Plan

## Project Outline & Status



TASK	DESCRIPTION	STATUS
TASK ONE	<b>Organization &amp; Startup</b>	
	PROJECT STARTUP, CONTRACTS	COMPLETE
	REVIEW OF FEMA MATERIAL, PROCEEDURES, RELATED STUDIES	COMPLETE
	PRELIMINARY DATA COLLECTION	COMPLETE
TASK TWO	<b>Risk Assessment</b>	
	*** TEAM MEETING ONE *** (JULY/AUG 2012)	
	2A – CATALOG POTENTIAL HAZARDS	<b>IN PROGRESS</b>
	2B – CATALOG LOCAL INVENTORY	<b>IN PROGRESS</b>
	2C – OVERLAY HAZARDS WITH INVENTORY, ESTIMATE LOSSES & PRIORITIES	---
	*** TEAM MEETING TWO *** (SEPT/OCT 2012)	
	2D – PUBLIC MEETING (NOV 2012)	---
TASK THREE	<b>Develop Mitigation Strategies</b>	
	3A – IDENTIFY EXISTING MITIGATION CAPABILITIES	---
	3B – DEVELOP NEW MITIGATION STRATEGIES AND EXISTING IMPROVEMENTS	---
	*** TEAM MEETING THREE *** (JAN 2013)	
	3C – IDENTIFY SPECIFIC MITIGATION MEASURES	---
	3D – DEVELOP ACTION / IMPLEMENTATION PLAN	---
TASK FOUR	<b>Plan Maintenance</b>	
	4A – DEVELOP PLAN FOR FUTURE MONITORING AND EVALUATION OF MITIGATION STRATEGIES, PLAN UPDATES	---
	4B – DOCUMENT PROCESS AND WRITE PLAN	---
TASK FIVE	<b>Review, Approval &amp; Adoption</b>	
	5A – SUBMIT PLAN FOR REVIEW BY LOCAL AGENCIES	---
	5B – SUBMIT PLAN TO SEMO / FEMA FOR REVIEW	---
	5C – LOCAL ADOPTION	



# All-Hazards Mitigation Plan

## Contact List



### PROJECT TEAM / ADVISORY COMMITTEE

Mike Welti Behan Planning and Design	mwelti@behanplanning.com	518-583-4335 office 518-583-6970 fax
Michael Allen Behan Planning and Design	mallen@behanplanning.com	518-583-4335 office [REDACTED] mobile
Dick McGoey McGoey, Hauser & Edsall Engineers	rdm@mhepc.com	845-567-3100 office [REDACTED] mobile 845-567-3232 fax
Dave Fritts McGoey, Hauser & Edsall Engineers	dfritts@mhepc.com	570-296-2765 office 570-296-2767 fax
John Lippert Walkill Dept. of Public Works	jlippert@townofwalkill.com	845-361-1106 office [REDACTED] mobile 845-361-3801 fax
Lou Ingrassa Superintendent – Water & Sewer	louingrassia@townofwalkill.com	845-342-1668 office 845-342-6255 fax
Jacob S. Tawil Middletown Dept. of Public Works	jtawi [REDACTED]	845-343-3169 office 845-343-4014 fax
Gef Chumard Clark Patterson Lee	GChumard@ClarkPatterson.com	845-567-6700 office
Dominic Greene County Hazard Mitigation Coordin.	dgreene@co.orange.ny.us	845-615-0469 office

### LOCAL / STATE / FEDERAL CONTACTS

Daniel Depew Walkill Supervisor	ddepew@townofwalkill.com	845-692-7832 office 845-692-2546 fax
Joseph DeStefano Mayor, Middletown	mayor@middletown-ny.com	845-346-4100 office 845-692-2546 fax
Thomas Abbati NYS OEM Project Manager		518-292-2304 office 518-322-4983 fax
Gretchen VanValkenburg NYS OEM Project Manager	gvanvalkenburg@dhses.ny.gov	518-292-2304 office 518-322-4983 fax
Andrew Feeney SEMO All Hazards Planning	www.semo.state.ny.us	518-292-2275 office 518-322-4978 fax
Timothy Crowley FEMA Mitigation Division Director		212-680-3600 office

# Walkkill / Middletown Hazards Mitigation Plan

## Meeting Minutes

August 7<sup>th</sup>, 2012 2:00pm

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### Present:

Dan Depew	Walkkill Supervisor
Jacob Tawil	City of Middletown Public Works
Gef Chumard	Clark, Patterson, Lee Engineers (CPL)
John Lippert	Town of Walkkill Public Works
Lou Ingrassia Jr,	Town of Walkkill Water & Sewer
Dominic Greene	Orange County Emergency Management
Dave Fritts	McGoey, Hauser, Edsall Engineers (MHE)
Michael Allen	Behan Planning & Design

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1. Introduction - An overview of the project scope and timeline was reviewed. At this stage, we are approximately 90% complete with the process of creating the inventory of local facilities and infrastructure. Additional research is needed from team members to find remaining data which may be missing.
  2. Approach – Since there are two municipalities involved, it was discussed that the Plan should likely include two separate priority listings so that that the Town or City could separately pursue their own mitigation funding if desired, or together.
  3. Roles & Responsibilities – Behan Planning will coordinate the work, present at public meeting, and prepare drafts and report. MHE will conduct local interviews, assist in damage assessment, developing mitigation strategies and developing cost estimates.
  4. Public Meetings – FEMA requires at least one informational meeting for the public to provide comments and suggestions toward the mitigation plan.
    - a. It was suggested that the public meeting should take place after the inventory and risk analysis portion of the work was completed so that preliminary findings could be shared with the public before prioritization.
    - b. Because there are two municipalities involved, it was suggested that there should be a separate public meeting at each location.
    - c. Public Meeting Date(s): First week of December.**
  5. Security Concerns – For security reasons, it was suggested that the information shared at the public meetings and in the report should avoid revealing specific locations for some sensitive infrastructure elements, such as public water supplies, hazardous material sites or dams. These facilities can be identified by name or facility number without giving exact street address or geo-location. This would not have to apply to less sensitive items such as schools or police stations which are already common knowledge.
  6. Mitigation Before vs. Response After – The scope of this plan is limited to the mitigation of damage before it occurs, and cannot include improvements to response after an event. For this reason, items such as new power generators or fire trucks would not qualify for funding. It was noted however that items such as fire education or training would qualify since these are a form of mitigation/preparedness.
  7. Behan Planning to share electronic copies of inventory maps and lists with Team members. **ACTION: Behan Planning.**
  8. Inventory - Team members noted several inventory items appear to be missing.

- a. Behan Planning will confirm that we have mapped all orange county data layers first, and then ask Team members to do individual research to identify any remaining items in advance of our next meeting. **ACTION: Behan, with follow up by Team members.**
  - b. Middletown/CPL has developed a damage map which chronicles flooding and damage which occurred after Irene & Lee storms. Will get copy of this to Behan Planning. **ACTION: CPL.**
  - c. Wallkill Dept. of Public Works provided Behan Planning with Project Work Sheets outlining damage assessment from previous events. Will email summary FEMA financial picture. **ACTION: Wallkill Dept. of Public Works.**
  - d. Next Meeting – Finalize inventory.
9. New FEMA Flood Maps are expected to be released ~2014 which likely expand on regions. It was noted that the Plan will need to include a Statement of Intent from each municipality regarding their position on "Acquisitions and Elevations" of private residences.
  10. Orange & Rockland Utilities – Previous calls to the utility company regarding the Plan have not been returned. It was recommended that Behan Planning contact Gene Reynolds and/or Eric Fuentes (community liaison) for coordination. **ACTION: Behan Planning.**
  11. All Team members should document their time spent / hours for the Force Account Labor Records. **ACTION: ALL**
  12. Bridge Inventory – It was requested that the ownership of individual bridges be included in the inventory listing. Behan Planning was not sure if we had access to this information, but would check. **ACTION: Behan Planning.**
  13. MHE provided a listing of local agencies which they will contact/interview for input on the Plan. It was recommended that the Wallkill Chief of Police be contacted for their OEM list. **ACTION: MHE.**

7. NEXT MEETING: **Middletown City Hall - To Be Scheduled**



**McGOEY, HAUSER and EDSALL  
CONSULTING ENGINEERS P.C.**

RICHARD D. MCGOEY, P.E. (NY & PA)  
WILLIAM J. HAUSER, P.E. (NY, NJ & PA)  
MARK J. EDSALL, P.E. (NY, NJ & PA)  
JAMES M. FARR, P.E. (NY & PA)

111 Wheatfield Drive, Suite 1  
Milford, Pennsylvania 18337  
(570) 296-2765  
fax: (570) 296-2767  
e-mail: mhepa@mhepc.com

**TOWN OF WALKILL  
HAZARD MITIGATION  
SUMMARY LIST OF LOCAL AGENCIES, DEPARTMENTS AND  
CONTACTS TO BE INTERVIEWED FOR PLAN INPUT**

Orange County Water Authority  
Federal Emergency Management Authority (FEMA)  
State Emergency Management Office (SEMO)  
Orange County Division of Emergency Management  
NYS DOT  
NYS Thruway Authority

Middletown Fire Department  
Walkkill Fire Districts  
Ambulance Districts

Mobile Life  
Middletown Building Dept  
Walkkill Building Dept  
Middletown Fire Inspector  
Walkkill Fire Inspector

Middletown School District  
Minisink Central School District  
Pine Bush School District  
Goshen School District  
Valley Central School District

Middletown Police Dept  
Walkkill Police Dept

Middletown DPW  
Walkkill DPW  
Walkkill Sewer and Water Dept  
Middletown Sewer and Water Dept

City Council Middletown  
Mayor City of Middletown  
Town Board Walkkill  
Supervisor Town of Walkill



# All-Hazards Mitigation Plan

## Meeting Agenda



**November 19th 2012, 11AM**

**Conference Room A  
Town of Walkill - Town Hall  
99 Tower Drive, Middletown, NY**

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### **Welcome and Agenda Review**

### **Review Meeting Notes from August 7<sup>th</sup>**

UPDATE ON ACTION ITEMS

### **Finalize Inventory**

REVIEW INVENTORY MAPS AND LISTS

IDENTIFY ANY REMAINING GAPS IN INFORMATION AND RESPONSIBILITIES FOR FILLING THESE

### **Preliminary Risk Analysis**

ISSUES WITH FEMA'S HAZARDS-UNITED STATES (HAZUS) SOFTWARE

USE OF LOCAL DATA (EXAMPLE OF ANALYSIS THUS FAR)

COMPLETE DRAFT RISK ANALYSIS TO TEAM IN DECEMBER

### **Public Information Meeting**

JANUARY 2013 – POSSIBLE DATES/LOCATIONS

IDENTIFY KEY PARTICIPANTS/STAKEHOLDERS

PUBLICITY

### **Other**

NEXT TEAM MEETING

**END MEETING**

# Walkkill / Middletown Hazards Mitigation Plan

## Meeting Minutes

November 19<sup>th</sup>, 2012 11:00am

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### Present:

Jacob Tawil	City of Middletown Public Works
Gef Chumard	Clark, Patterson, Lee Engineers (CPL)
John Lippert	Town of Walkkill Public Works
Lou Ingrassia Jr,	Town of Walkkill Water & Sewer
Dave Fritts	McGoey, Hauser, Edsall Engineers (MHE)
Michael Allen	Behan Planning & Design

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1. Behan Planning provided updated inventory maps (paper copies) to the Town of Walkkill and City of Middletown. Will email electronic copy to Dave Fritts for them to print in-house. **ACTION: Behan Planning.**
  - a. Jacob Tawil noted that Inventory Map could be adjusted to show county roads within city limits differently, since they convert to city-owned roads over border.
2. John Lippert identified a farm pond on Kunkel property near Playtogs / Redners parking lot which experienced overflow from spillway during hurricane Irene. This should be included on inventory. Gef Chumard to send more info on property. **ACTION: CPL – Completed, attached.**
3. Gef Chumard provided listing of Flood Damage Locations of concern within Middletown NY which were largely identified during Hurricane Irene. Behan Planning to review list and determine which items are of notable concern to this study, submit revised listing to Jacob Tawil / Gef Chumard for their review. **ACTION: Behan Planning.**
4. Discussion on impacts of most recent Hurricane Sandy. Consensus is that there was relatively little flooding, most of the damage and impact was due to high winds. Many trees down, power outages. It was noted that O&R utilities was given a listing of "priority repairs" to reconnect power to certain areas, however they found that this list did not seem to be followed. O&R appeared to be working to re-establish power in different areas first, and had to be pressured to address Town/City areas of concern. It was not clear why this occurred.
5. Dave Fritts provided MHE's final list of local agencies, departments and contacts for local interviews. Barring any additional suggestions, this list is considered complete. Jacob Tawil to assist MHE with providing contact information for city establishments. There was some discussion on the method of how the interviews should be conducted – are there standard forms/questions which should be used? Behan Planning to contact FEMA/OEM to determine, will assist with developing questions. **ACTION: Behan Planning.** It was agreed that MHE should provide questions in advance, then follow up where necessary to see that we have responses.
6. Michael Allen requested a summary account of any impacts/damages resulting from Hurricane Sandy. John Lippert indicated he could provide copy of summary report for Walkkill. **ACTION: Town of Walkkill / City of Middletown.**
7. Lou Ingrassia noted that inventory list had some deficiencies – some facilities were no longer in service, other items such as pump stations had been missed. Will markup inventory list with corrections, and will try to provide "nearest address" for pump stations which would be hard to locate from aerial photography. **ACTION: Lou Ingrassia.**
8. Preliminary damage assessment reviewed. Risk/Damage assessments for earthquakes, floods and hurricanes developed using combination of FEMA HAZUS software, GIS analysis. Results will be used to determine potential order of priority for mitigations of different hazards. Remaining hazards to be

analyzed prior to Public Informational meeting. Priorities for each municipality will be identified, then MHE to begin developing mitigation strategies to address them.

9. Public Informational Meeting. Tentative date for this will be pushed back from December to January due to delays from Hurricane Sandy. New tentative dates established as follows: January 15th, 7pm (Middletown); January 17th, 7pm (Wallkill). Behan Planning to confirm these dates will work and make arrangements, assist with flyers, outreach, notice on municipal websites. **ACTION: Behan Planning.** Town of Wallkill / City of Middletown to provide public notices in local paper and provide venues.
  - a. It was noted that public notices/outreach should be clear that we are seeking input regarding NATURAL hazards, so that the public does not come prepared to talk about man-made/technological concerns.
  - b. Specific public outreach – Should include areas hard hit by flooding, "Promenade" and "Southeast Towers" senior centers. Others?
  - c. Goal of Informational Meeting is to solicit ideas/concerns from the public – do not need to go into detailed damage assessments, sensitive infrastructure areas. Let's hear from the public.
10. Team agreed we should meet again just before Informational Meetings to review presentation materials – 11 am January 7th. Location TBD.
11. Time tracking – Michael Allen reminded team members to keep track of their time working on this effort, and submit hours so these can be documented as part of in-kind contributions.

**NEXT MEETING: January 7th, 11 am - Location To Be Determined**

# Walkkill / Middletown Hazards Mitigation Plan

## Meeting Minutes

January 7<sup>th</sup>, 2013 11:00am

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### Present:

Jacob Tawil	City of Middletown Public Works
Lou Ingrassia Jr,	Town of Walkkill Water & Sewer
Dave Fritts	McGoey, Hauser, Edsall Engineers (MHE)
Michael Allen	Behan Planning & Design

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1. Behan Planning presented the draft Powerpoint presentation which would be given at the upcoming public workshops, as well as the handout informational flyers and large printed maps, for review and comment.
  - a. Overall, presentation looks good. There was some discussion of what mapping details should be included in the presentation. Do we run the risk of people in the audience getting distracted by details?
  - b. Leave maps as they are – include all the information.
  - c. Discussion on whether or not to lead the conversation with known hazards or concerns, or to let the public discussion lead the conversation. It was decided that the primary concern is to inform the public that this project is being studied, and ask for what input they have. Leave it open.
  - d. Let the public comments and questions lead the discussion, but if some items or concerns are not discussed, then can bring them up near the end to make sure they are discussed.
2. Behan Planning to get the large format maps mounted on boards – will be presented on easels as public walks in so they can view them. Maps on boards are also included in presentation, which will be easier to see.
3. Do we need sign in sheets? People may not want to sign in – probably not necessary.
4. Next meeting at Town of Walkkill, expected decent turnout due to posters and emails that have been circulated.
5. JTawil noted that a reminder of the public meeting was also being given at the next City Common Council meeting.
6. Notes from the public meetings would be written up and shared with the Advisory Committee. Would be included in the plan as written copies.

**NEXT MEETING: January 17th, 7pm - Public Meeting - Town of Walkkill Town Hall**

# Walkill / Middletown Natural Hazards Mitigation Plan

## Public Meeting Notes

January 17<sup>th</sup>, 2013 7:00pm

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### Present:

Dan Depew	Town of Walkill Supervisor
John Lippert	Town of Walkill Public Works
Lou Ingrassia Jr	Town of Walkill Water & Sewer
Eugene Reynolds Jr	Orange & Rockland Utilities
Michael Allen	Behan Planning & Design

Various members of the public.

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1. Behan Planning provided a presentation outlining the Natural Hazards Mitigation Plan underway, how it began, funding sources, types of hazards included in the assessment and who was working on it. The presentation provided some examples of common natural hazards, their impacts, and potential mitigations which could address them. The focus of the presentation was to help inform the public about the effort, and solicit comments or suggestions from the public about what types of local hazards or mitigation they would suggest be included in the plan. The presentation was concluded and an open discussion period was started.
2. Supervisor Dan Depew noted that there were a number of local officials who were assisting with the plan, and explained that it was important to have a mitigation plan in place in order for the two municipalities to be eligible for future grant funding.
3. Public Comment – Mr. Lippert and Mr. Ingrassia are already familiar with many of the problem areas in the area. The key to this project should be on preventative maintenance on drainage, particularly in the **Scotchtown, Silver Lake** area – 1st Ward. **Scotchtown Silver Lake Road** has very bad flooding problems which should be addressed. When the town does find a problem, they often have to cross into a county road to fix things – out of jurisdiction work needs approval and can get caught up in bureaucracy, causing delays. The town should get a standing approval authorization to continue with the county jurisdiction area to clean bottlenecks and clogs in culverts to fix problems more efficiently.
4. Public Comment – There are trees along roads or waterways which should be cut down – preventive maintenance. Witnessed one utility pole with 4 transformers on it which was unstable.
5. Dan Depew – Orange County has a Natural Hazards Mitigation plan in place, but that only covered county-owned properties, was site specific. This is why Town needs to prepare its own. What if we arranged for the Town plan to be incorporated into/amended to the County

Plan? Would that help to reduce bureaucracy in getting approvals? Might help multi-jurisdictional cooperation. Should look into possible advantages of this approach.

6. Comment – Town has been actively cleaning drainage ditches of debris to help reduce bottlenecks and clogging. County doesn't always do this, or is slow to get this done. This just moves the problem downstream to next area where it floods. Trees are sometimes trimmed along one side only – the street side – but then this eventually causes them to lean the other way toward the houses.
7. Comment – Cleanup after hurricane Sandy was a problem for emergency vehicles, didnt have enough manpower to keep up with cleanup needs.
8. Dan Depew – Middletown area has more severe drainage flooding problems. Area near **Pizza Hut / Arby's / Middletown School** football field and car wash. Water from the fields washes down into other areas.
9. **Lake Pocatello Dam** – this has been recently identified by DEC as a higher hazard dam.
10. Problem area near **Pocatello Fire House** – major water movement flooding out the area behind the fire house, washing out **Mount Hope Road**. If left unchecked, could continue to wash away / undermine property on the fire house.
11. **Prosperous (?) Valley Road** dam – major flooding and pressure on that dam at times.
12. During power outages of hurricane Sandly / Irene – major problem with traffic signals losing power. Larger intersections such as **211 and Crystal Run Mall** became impassable. The standard rule of treating a disabled traffic signal like a 4-way stop does not work when you have a 6 or 8 lane roadways. People were all going at once, traffic was jammed up, and emergency vehicles could not get through. Police department can put officers to direct traffic, but may not be enough manpower, could be coordinated better. Ideally there should be backup power made available to traffic signals on major town and state roads to prevent this again.
13. An emergency notification system is helpful help – notify people of road closures. Wallkill police offer a sign-up notification system.
14. Wallkill River – sewer plant and water plant along this waterway are vulnerable. Problem with growth and dead trees / debris in waterway clogging the river during and after storms. Area from Warwick to dam at Walden. Difficult getting approvals from agencies to go in there and clean things up, get rid of fallen trees to prevent blockage.
15. Hurricane Sandy – major problem with fuel shortage. Debris in Hudson river, terminals under water, closed waterway to fuel tanker deliveries coming down from Albany. Newburgh was not getting resupply fuel deliveries for weeks to truck locally. Local emergency vehicles were running low on fuel, would have been serious if they had to go a few more days. Town of Wallkill keeps a surplus storage of fuel for these purposes (about 5.5k gallons regular, 7.5k gallons diesel) but they were running low. Wallkill surplus fuel also used by City of Middletown in such emergencies. Should have municipal plan in place to mandate selective fuel reduction / rationing in these events so that fuel is saved for emergency vehicles. Also, should purchase increased capacity surplus storage tanks so that they dont get so low the next time this happens.

16. Orange & Rockland utilities had similar problem with fuel shortage during repair operations. They have central location for fuel storage, but was running low. Volunteer utility crews coming from the central and southern states to assist in the repairs had to convoy their own fuel tankers to the area. O&R utilities is part of a regional / national cooperative association (mutual aid groups) which can help out in times like this, has reaction plans & agreements.
17. A large portion of the town was built before local stormwater retention requirements were put in place – these areas don't have accommodations for it. Flooding can be worse because of this. Should look into identifying local/neighborhood specific stormwater retention strategies.
18. Indian Point Nuclear Plant – What if there had to be a large scale evacuation of the Indian Point area? This area would be flooded with people in a matter of hours. Where would we put them?
19. Wind threat during county fair, could have easily turned into a tornado. Where would we put people?
  - a. Red Cross facility south of 84 is large, but is for storage only – cots and blankets.
  - b. Should identify key shelter locations around town for these purposes.
  - c. O&R was looking to find places to put out of state emergency workers after storm, had trouble finding places.
20. Town of Wallkill is working on a proposed law which would require townhouse / senior housing / etc. facilities to provide at least one "community center" area or space which would act as shelter. Would have to have shower, bathroom, kitchen capability, emergency power backup.
21. Power losses after hurricanes – many local senior centers don't have any emergency power or heat. Internal (double-loaded) corridors means that hallways are completely black. Town crew purchased dozens of flashlights and energy bars, went door to door in senior center distributing them.
22. What about **Galleria Mall**? This building has thousands of open square feet of space for people, well protected. If state of emergency is declared, would town supervisor have authority to get into building, use it as a temporary shelter?
23. Stream coming down from **Highbourn (?) Road** – stream has backed up, causing flooding.
24. Need DEC permission to clear tress / debris along Wallkill River.
25. Most streams on private property. What about a community outreach program to landowners to inform them about the importance of keeping debris and fallen trees out of the waterway? Could send letter asking for their help, or their permission to come onto their land and clear it for them if needed.
26. Discussion of O&R utility – do they have internal vulnerability assessments? Outage maps, or recurring outage areas which should be looked at more closely? If weaknesses with O&R infrastructure are identified in municipal plan, this plan could help get them fixed.
  - a. Is it possible for private utility operations like O&R to directly receive hazard mitigation grant funding to serve/improve local services, since they serve a basic infrastructure

function? Unknown, probably not. Utilities regulated / funded through regulators, however could make recommendations in municipal mitigation plan, and then take that to regulators in request for funding increase to fix identified problems.

27. O&R already has significant tree trimming program in place, but could get additional.

28. Meeting wrap up. Reminder to contact Michael Allen or Supervisor Dan Depew via email or phone with any additional thoughts or suggestions. Second public meeting being held in Middletown Feb 5th – spread the word, all are welcome to attend.

**NEXT MEETING: February 5th, 7 pm - Middletown City Hall**

# Walkkill / Middletown Natural Hazards Mitigation Plan

## Public Meeting Notes

February 5<sup>th</sup>, 2013 7:00pm

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### Present:

Lou Ingrassia Jr	Town of Walkkill Water & Sewer
Eugene Reynolds Jr	Orange & Rockland Utilities
Michael Allen	Behan Planning & Design

Various members of the public.

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1. Behan Planning provided a presentation outlining the Natural Hazards Mitigation Plan underway, how it began, funding sources, types of hazards included in the assessment and who was working on it. The presentation provided some examples of common natural hazards, their impacts, and potential mitigations which could address them. The focus of the presentation was to help inform the public about the effort, and solicit comments or suggestions from the public about what types of local hazards or mitigation they would suggest be included in the plan. The presentation was concluded and an open discussion period was started.
2. Comment: In the aftermath of Hurricane Sandy, the basement of his residence on Columbia Avenue was flooded with over 1200 gallons of sewage which was pushed back up through a household sink. As a water damage technician, he attempted to pump this sewer water back out as quickly as possible, but was unable to because Orange & Rockland had to cut the local power as a safety precaution. This left him (and many others) unable to remove the damaging category 3 sewer water for quite some time, during which period the homes are further damaged by development of mold, etc. This type of damage has to be remediated immediately to avoid long-term mold and health issues. Fire Department came 48 hours later to pump, but by then it is often too late. The primary problem has been the lack of power or availability of back-up power to save these homes before damage is irreversible, need to be demolished. (Commenter provided written comments as well, attached).
3. Comment: In the New York City area, many gas stations are now being required to have emergency power to run their pumps, since they cannot provide fuel when the power goes out.
4. Comment: After Hurricane Irene, Lee – Sprague Road area was under 5 feet of water, power had to be shut off. Draper Brook box culverts. Could not pump out water from their house, but even if they could, it would have just filled back up again.
5. Comment: Gas powered sump pumps may be the solution for households, since they don't require electricity.

6. Comment: It isn't possible to design local stormwater systems to fully handle the massive water capacities they experienced during Irene, it was just too much.
7. Comment: Local contingent went to Washington to speak with FEMA representatives about funding to repair damage and build flood control wall. Monhagen Brook is a recurring problem. They hired engineer to look at the issues and put together a package of recommendations. Flood diversion wall would require \$200,000, but FEMA would only provide \$25,000.
  - a. Funding comes from different sources, or pools. In that case, the local contingent was likely seeking funding from a disaster response or repair fund. In the case of this mitigation plan, funding would likely come from a different source dedicated to pre-emptive mitigation. FEMA often prefers to mitigate problems rather than spend funding repairing damage afterwards. Adoption of this plan would enable the city to request those funds in the future, if approved.
  - b. Specific package of their recommended repairs/upgrades which they were seeking should be shared with the Hazard Mitigation team for review.
8. Comment: West Main Street from Maple to Monhagen – concrete walls there have collapsed, water was undermining walls, eating away landscape. Pilgrims Estates, washes down through development.
9. Comment: When doing analysis of estimated damages, should make sure you include estimated damage to private households as well, not just municipal damage.
10. Comment: Monhagen Brook is paramount problem. Water comes down opposite side of County Route 78 into Monhagen Brook, brook floods and backs up. Now seems to take less amount of rainfall to cause problems than it used to.
11. Comment: We are finding now, after hurricanes Irene, Lee and Sandy, that the storms have cut paths in the terrain. This channels the water making things worse. City is now asking developers to provide their own on-site mitigations as part of their site plan approvals.



# All-Hazards Mitigation Plan

## Meeting Agenda



**July 2nd 2013, 11AM**

**Conference Room A  
Town of Walkkill - Town Hall  
99 Tower Drive, Middletown, NY**

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### **Review of Previous Meeting Notes**

UPDATE ON ACTION ITEMS, STATUS

### **Review of Draft Plan Analysis**

REVIEW AND COMMENT ON UPDATED HAZARD ANALYSIS

### **Review of Section VI - Mitigation Alternatives**

COST / BENEFIT ANALYSIS SCORING

POTENTIAL MITIGATIONS IDENTIFIED, SCORING - TOWN OF WALLKILL

POTENTIAL MITIGATIONS IDENTIFIED, SCORING - CITY OF MIDDLETOWN

IDENTIFY PRIORITY MITIGATIONS

### **Discuss Section VII – Plan Implementation and Maintenance**

PROCESS FOR IMPLEMENTATION AND UPDATES

### **Other Items**

UPDATES ON AGENCY QUESTIONNAIRE RETURNS

UPDATES ON INTERVIEWS

### **Next Steps**

NEXT TEAM MEETING

**END MEETING**

# Walkkill / Middletown Hazards Mitigation Plan

## Meeting Minutes

July 2<sup>nd</sup>, 2013 11am

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### Present:

Jacob Tawil	City of Middletown Public Works
Gef Chumard	Clark, Patterson, Lee Engineers (CPL)
John Lippert	Town of Walkkill Public Works
Lou Ingrassia Jr,	Town of Walkkill Water & Sewer
Dave Fritts	McGoey, Hauser, Edsall Engineers (MHE)
Michael Allen	Behan Planning & Design

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1. Review of draft plan. Overall plan coming together well. M. Allen requested info on correct spelling of some places mentioned verbally by public. L. Ingrassia noted some additional edits, spelling corrections. **ACTION: Behan Planning.**
2. M. Allen noted that he met with Supervisor Depew to discuss a number of issues around the town which should be addressed. They took tour of areas with flooding problems, identified areas where debris and brush was compounding flooding issues. Scotchtown - Winding Brook neighborhood; Shot-Rite Plaza near high school; Prosperous Valley Lake; other areas. Discusses ways to stop this from happening.
3. Analysis of hazard and relative threat scoring completed. The list of potential mitigations has now been developed for review. M. Allen reviewed scoring profile – Flooding was top priority in both municipalities.
4. M. Allen reviewed Mitigation Goals, and Cost/Benefit Scoring for Mitigations. Potential mitigations were reviewed and scored: High, Medium, Low.
  - a. A "joint" table should be created which lists mitigations shared by both municipalities. **ACTION: Behan Planning.**
5. Review and Scoring – Town of Walkkill Mitigations.
  - a. Study and design of detention basin at Monhagen Lake watershed should be joint project. High priority.
  - b. "Process" Valley road dam should be identified as "Prosperous Valley Road spillway".
  - c. Improvements at "Highbourne" road should read "High Barney". Benefits here are medium – upgrade priority to medium.
  - d. Farm Pond on Kunkel Property – include repairs, dam was taken down. This should be a joint project, medium priority.
  - e. Structural improvements at water treatment plant should be joint project.
  - f. Note: Bridge downstream from Prosperous Valley spillway – bridge was removed, not destroyed. May be possible to monitor water levels here with remote telemetry.
  - g. Increase storage capacity of Walkkill emergency fuel tanks – should be joint project since Middletown uses them.
  - h. Selective reduction / rationing plan for emergency fuel – should be joint project.
  - i. Fire station on Stony Ford Road – reduce this to low priority, station not really used now.
  - j. Approval to clear debris from County jurisdiction drainage crossings – municipalities cant get reimbursement for this.
  - k. Adoption of Mitigation Plan into County Plan – should this be medium priority?

- l. Adopt Mitigation Plan into Town and City Comprehensive Plans. Joint project, medium priority.
  - m. It would be difficult to get standing DEC approval to cleanup Walkkill River, but would be very effective. Bed and banks permits.
  - n. County has "Code Red" system.
  - o. Clarify several mitigation descriptions under "Natural Resource Protection".
6. Review and Scoring – City of Middletown Mitigations.
- a. Edit: Drainageway channels along rear portions of West Main Street. This should be a high priority.
  - b. Concrete box culvert near Middletown Salt Storage – this improvement is already underway.
  - c. Cleanup of debris upstream from Mill Street – this should be continued down to City Limits. This is a joint project.
  - d. Cleanup of debris on private properties – joint project. Would require letter of release / hold harmless agreement.
  - e. Flood diversion wall near County Route 78 – this improvement has just been completed.
  - f. Edit: Increase of channel and culvert capacity leaving Middletown city area to the southeast, include coordination with Town of Walkkill – this is a joint project.
  - g. Improvements to face of Mill Pond Dam – these improvements are underway.
  - h. Study and design of detention system for Monhagen Lake watershed area – this is a high priority joint project.
  - i. Backup electrical generator needs assessment – this was recently completed.
  - j. Edit: Structural improvements to wastewater treatment plant along Dolson Ave – this was completed, wall constructed.
  - k. Confirm location of electrical substation along Sprague Avenue.
  - l. Adoption of mitigation plan into County plan – upgrade to medium priority, Joint project.
  - m. Advance release from Monhagen Lake Dam – delete.
  - n. Incorporate mitigation plan into local Comprehensive plans – upgrade to medium priority, Joint project.
  - o. Update GIS hazard mapping – Joint project.
  - p. Expansion, coordination of public alert system with Town of Walkkill – Joint project.
7. **Behan Planning** to update mitigations list and scoring, develop priority listing.
8. Implementation and maintenance. Group should periodically review mitigation priorities. May be best suited to look for items which align with upcoming grant funding opportunities, rather than be tied down to a static list? Also, can review after a major event, determine any new "lessons learned", recurring problems which should be addressed more quickly. Flexibility to adapt.
9. Update on agency questionnaires – still have not received any new ones. **MHE** to re-distribute and follow up with phone calls to shake the tree.
10. Next steps – Should submit draft to State for preliminary comment, then will have to hold public hearing once it is ready to solicit additional comments.

**NEXT MEETING: To Be Determined**



# APPENDIX

## Part C

### Public Meetings

## Natural Hazard Mitigation Plan

# Public Meeting

The Town of Wallkill and City of Middletown have partnered to prepare a

### **FEMA Natural Hazards Mitigation Plan**

so that our communities can reduce the impact and damages from future natural disasters, such as floods or hurricanes.

The public is invited to provide suggestions on this effort and learn about the plan being developed. A public meeting has been scheduled in each municipality, as follows:

#### **Town of Wallkill - Town Hall**

99 Tower Drive, Building A, Middletown, NY  
Thursday, January 17th, 2013 @ 7:00 pm

#### **City of Middletown - City Hall**

16 James Street, Middletown, NY  
Tuesday, February 5th, 2013 @ 7:00 pm

## Natural Hazard Mitigation Plan

# Public Meeting

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## Natural Hazards Mitigation Plan

# Public Meeting

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The public is invited to provide input on this effort and learn about the plan being developed. A public meeting has been scheduled in each municipality, as follows:



### **Town of Wallkill – Town Hall**

99 Tower Drive, Building A, Middletown, NY

Thursday, January 17<sup>th</sup>, 2013 @ 7:00pm



### **City of Middletown – City Hall**

16 James Street, Middletown, NY

Tuesday, February 5<sup>th</sup>, 2013 @ 7:00pm

Funds for this project have been provided by the New York State Office of Emergency Management's Hazard Mitigation Grant Program.

## Notice – Public Meeting

The Town of Wallkill and City of Middletown are each hosting a Public Meeting as part of work to prepare a Natural Hazards Mitigation Plan so that our communities can reduce the impact and damages from future natural disasters such as floods or hurricanes. The public is invited to attend a Public Meeting to provide input on local problems and potential solutions related to such natural hazards. The focus of this effort is to identify specific improvements which can be made to prevent avoidable damage from occurring in the first place, instead of responding to it afterwards or allowing it to repeat. Examples of this might include relocating power lines where they won't be damaged by falling trees, or adding flood control devices to waterways.

A public meeting has been scheduled in each municipality for the convenience of local residents, who may attend either event:

**Town of Wallkill - Thursday, January 17th, 2013 at 7pm** in the Town Hall at 99 Tower Drive, Building A.

**City of Middletown - Tuesday, February 5th, 2013 at 7pm** in the City Hall at 16 James Street.

Funds for this project have been provided by the New York State Office of Emergency Management's Hazard Mitigation Grant Program.



NEWS SPORTS COMMUNITY BUSINESS MULTIMEDIA OPINION ENTERTAINMENT LIFESTYLE HEALTH

## M'Town/Walkill disaster plan meeting Thursday



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**By Nathan Brown**

Published: 2:00 AM - 01/17/13

The first of two planned public hearings on the Town of Walkill and the City of Middletown's planned Natural Hazards Mitigation Plan will be held at 7 p.m. Thursday at Walkill Town Hall.

Officials need a plan in place to be able to apply for federal hazard mitigation funds. The Middletown meeting will be at City Hall on Feb. 5.

[nbrown@th-record.com](mailto:nbrown@th-record.com)

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# Natural Hazards Mitigation Plan

## Local Agency Questionnaire



The Town of Wallkill and City of Middletown have partnered prepare a FEMA *Natural Hazards Mitigation Plan* so that our communities can be better prepared to handle future natural disasters and reduce their potential impact. We would like your input on important questions regarding how natural disasters can affect your operations. Please take a few moments to fill out these questions and return the form to:

Dave Fritts, McGoey, Hauser & Edsall Engineers  
 by email: [dfritts@mhepc.com](mailto:dfritts@mhepc.com)  
 by fax: 570-296-2767  
 phone questions: 570-296-2765

**Note:** This form may be filled out electronically and returned via email, or printed and returned via fax.

### AGENCY INFORMATION

NAME OF YOUR AGENCY, DEPARTMENT OR OFFICE (E.G. FIRE DEPT DISTRICT, POLICE DEPT, SCHOOL DISTRICT, ETC.)

YOUR TITLE, OR ROLE IN AGENCY

PHONE NUMBER

STREET ADDRESS / LOCATION OF YOUR FACILITIES (IF MULTIPLE LOCATIONS OR PROPERTIES, PLEASE SPECIFY)

CITY OF MIDDLETOWN

TOWN OF WALLKILL

OTHER/ORANGE COUNTY

MUNICIPALITY (CHECK ONE)

### IMPACTS FROM PREVIOUS NATURAL HAZARDS

1. Have the operations of your (Agency, Department or Office) been impacted by a natural hazard in the past 10 years? (Examples of natural hazards may include high winds, ice storms, flooding, drought, excessive heat, extreme cold, etc.)

2. What types of natural hazards have affected your operations during this period? (See examples above)

3. Approximately how many times have your operations been affected during this period? *(If multiple facility locations / different street addresses, please specify.)*

4. Please describe how your operations were affected or reduced in capacity, and for how long. *(E.g., Facility lost electrical power for 2.5 days, Several key staff members were unable to make it to work, First floor of facility was flooded, etc.)*

5. Please describe how these events reduced your ability to provide services to the local community. *(E.g., Emergency vehicles were unable to access specific streets or neighborhood for several hours, Municipal water could not be provided to approximately 400 homes, etc.)*

#### **RECOMMENDED CHANGES**

6. Can you recommend any upgrades or changes to your facilities/properties which would reduce the impact to your operations if these events were to occur again in the future? *(Please note: Items or actions which occur after a hazard event, such as utilizing backup generators, are not considered mitigations for the purposes of this plan. Recommendations should be focused on changes which would preemptively reduce or avoid the disruptions to your operations from happening in the first place.)*

7. Can you recommend any upgrades or changes within your larger "area of service" (your district, town wide, etc) which should be investigated to reduce the impact to your operations if these events were to occur again in the future?

8. Use this space to include any additional information or suggestions you may have regarding natural hazard damage mitigation, or to elaborate on items above if you did not have sufficient space.

Thank you for taking the time to provide us with this information. Your response will be used in part to assess local hazard vulnerabilities so that the municipalities can make improvements and seek additional hazard mitigation funding in the future.

Responses should be submitted to Dave Fritts, at McGoey, Hauser & Edsall Engineers, by saving this pdf and sending via email to [dfritts@mhepc.com](mailto:dfritts@mhepc.com), or by printing and faxing to (570)-296-2767. If you have any questions, you may contact Mr. Fritts at (570)-296-2765.

## Meeting Email Announcement – Contact List

OC Water: ehelbig@orangecountygov.com

OC Water: ecruz@orangecountygov.com

OC DOT: richard.gaupman@dot.ny.gov; peter.schick@dot.ny.gov

Middletown FD: info@middletownfiredept.com

Silver lake FD: info@silverlakefd.com

Gary Lake/Planning Board: planning@townofwallkill.com

Mechanicstown FD: johneyoung9@yahoo.com

Howells FD: rwheels@warwick.net

Wallkill PD: chiefpolice@townofwallkill.com

Middletown PD: gmetakes@middletownpolice.com; jewanciw@middletownpolice.com

Wallkill Building Dept: ejaques@townofwallkill.com

Middletown City School Dist: info@ecsdm.org

mobile life – swoebse@mobilelife.com; mail@mobilelife.com

OC Regional Medical Center - info@ormc.org

Wallkill Fire Inspector - delia@townofwallkill.com, sgiacco@townofwallkill.com

Wallkill Highway - highway@townofwallkill.com

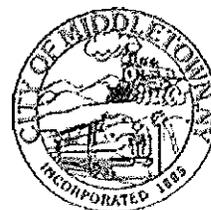
Dave Church - DChurch@co.orange.ny.us

O&R Utilities Eric Fuentes (845) 570-1933



# Natural Hazards Mitigation Plan

## Local Agency Questionnaire



The Town of Walkkill and City of Middletown have partnered prepare a FEMA *Natural Hazards Mitigation Plan* so that our communities can be better prepared to handle future natural disasters and reduce their potential impact. We would like your input on important questions regarding how natural disasters can affect your operations. Please take a few moments to fill out these questions and return the form to:

Dave Fritts, McGoey, Hauser & Edsall Engineers  
by email: dfritts@mhepc.com  
by fax: 570-296-2767  
phone questions: 570-296-2765

**Note:** This form may be filled out electronically and returned via email, or printed and returned via fax.

### AGENCY INFORMATION

Orange Regional Medical Center

NAME OF YOUR AGENCY, DEPARTMENT OR OFFICE (E.G. FIRE DEPT DISTRICT, POLICE DEPT, SCHOOL DISTRICT, ETC.)

Robin Dieckmann; Manager of Emergency Management

845-333-0261

YOUR TITLE, OR ROLE IN AGENCY

PHONE NUMBER

707 East Main Street Middletown, NY (main hospital)  
110 Crystal Run Road

75 Crystal Run Road (pavilion)  
420 East Main Street

STREET ADDRESS / LOCATION OF YOUR FACILITIES (IF MULTIPLE LOCATIONS OR PROPERTIES, PLEASE SPECIFY)

CITY OF MIDDLETOWN

TOWN OF WALLKILL

OTHER/ORANGE COUNTY

MUNICIPALITY (CHECK ONE)

### IMPACTS FROM PREVIOUS NATURAL HAZARDS

1. Have the operations of your (Agency, Department or Office) been impacted by a natural hazard in the past 10 years? (Examples of natural hazards may include high winds, ice storms, flooding, drought, excessive heat, extreme cold, etc.)

Yes

2. What types of natural hazards have affected your operations during this period? (See examples above)

At the new location for the Medical Center, we had the greatest impact on our operations from the road flooding at the bridge at the bend in East Main Street (aka Monkey Farm Bridge). This stretch of road which provides direct access from Route 17 was closed due to flooding for an extended period following Hurricane Irene in 2011. This and other storms have caused power outages at the other locations but most were corrected quickly.

3. Approximately how many times have your operations been affected during this period? *(If multiple facility locations / different street addresses, please specify.)*

We moved into the new facility August 2011; since then our operations were only seriously affected during the above mentioned road closure. Of course, inclement weather will always cause some effect when roads are slippery and people do not travel.

4. Please describe how your operations were affected or reduced in capacity, and for how long. *(E.g., Facility lost electrical power for 2.5 days, Several key staff members were unable to make it to work, First floor of facility was flooded, etc.)*

In 2011, during and following Hurricane Irene and Tropical Storm Lee there were many roads flooded/closed for extended periods. Of course the one that most greatly affected ORMC was the "monkey farm bridge" being closed. Signs were erected but people with emergencies still encountered difficulties getting to the Medical Center, as did visitors, ambulances, and staff members.

5. Please describe how these events reduced your ability to provide services to the local community. *(E.g., Emergency vehicles were unable to access specific streets or neighborhood for several hours, Municipal water could not be provided to approximately 400 homes, etc.)*

Emergency vehicles, as well as others coming to the Medical Center were unable to gain access directly from route 17 exit 122 due to the flooding over the above mentioned bridge.

#### **RECOMMENDED CHANGES**

6. Can you recommend any upgrades or changes to your facilities/properties which would reduce the impact to your operations if these events were to occur again in the future? *(Please note: Items or actions which occur after a hazard event, such as utilizing backup generators, are not considered mitigations for the purposes of this plan. Recommendations should be focused on changes which would preemptively reduce or avoid the disruptions to your operations from happening in the first place.)*

We are aware of the work in progress that will change the landscape and roadway and should hopefully mitigate that area from flooding once the work is complete.

7. Can you recommend any upgrades or changes within your larger "area of service" (your district, town wide, etc) which should be investigated to reduce the impact to your operations if these events were to occur again in the future?

As stated above

8. Use this space to include any additional information or suggestions you may have regarding natural hazard damage mitigation, or to elaborate on items above if you did not have sufficient space.

Thank you for taking the time to provide us with this information. Your response will be used in part to assess local hazard vulnerabilities so that the municipalities can make improvements and seek additional hazard mitigation funding in the future.

Responses should be submitted to Dave Fritts, at McGoey, Hauser & Edsall Engineers, by saving this pdf and sending via email to [dfritts@mhepc.com](mailto:dfritts@mhepc.com), or by printing and faxing to (570)-296-2767. If you have any questions, you may contact Mr. Fritts at (570)-296-2765.



# Natural-Hazards Mitigation Plan Information Sheet



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## What is a "Natural Hazards Mitigation Plan"?

A natural hazards mitigation plan is a research and engineering effort to identify potential threats to human safety and property damage from common natural hazards (such as hurricanes, floods, etc.), so that steps can be taken to reduce their impact in the future. It identifies and recommends changes which should be made now to reduce or mitigate the threat before it happens. An example of a mitigation would be constructing a flood-control device to reduce flooding, or relocating power and telephone lines underground where they would be less vulnerable to damage from falling trees. The emphasis is on prevention—fixing problems now before they happen—rather than reacting afterwards and repairing the damage.



## What are the benefits of a Natural Hazard Mitigation Plan?

A natural hazard mitigation plan can help communities reduce the safety risks and damages commonly experienced from severe storms and weather events. It also can reduce the long-term municipal costs of responding to and repairing damage every time it occurs, because it focuses on reducing the damage before it happens. Lastly, communities which adopt an approved mitigation plan become eligible for future Federal and State hazard mitigation grant funding, providing the municipality with money to fix the problems identified.

## Why are we having this meeting?

The Town of Wallkill and the City of Middletown jointly applied for grant funding to develop a hazards mitigation plan from the New York State Office of Emergency Management (SEMO). This grant application was approved, and funds have been provided for the development of the plan. Since then, staff members of both municipalities have been working with a team of engineering and planning consultants to research and develop it. We are inviting local residents to provide comments and suggestions for this plan, including identifying problem areas or risks they are concerned about.

## How are natural hazards assessed?

An assessment of all natural hazards which are experienced by this area is developed, including previous history and mapped locations, where available. This information is overlaid with the mapped inventory of all important critical infrastructure facilities and population centers, such as fire stations, hospitals, bridges, schools, senior housing centers and sewer treatment plants, etc. An assessment of the potential risk and damage is made for each hazard based on previous historic occurrences, computer modeling of future potential and known or projected damages.

Threats being assessed include:

- Flooding
- Severe storms / Nor'easter
- Extreme winds
- Tornados
- Ice jams
- Wildfires
- Winter storm / Blizzard
- Hurricane / Tropical storms
- Extreme heat
- Drought
- Earthquake
- Landslide
- Lightning

### **How are mitigation recommendations made?**

Based on the hazard assessments, a list of specific changes are recommended to reduce future human safety risks and damages. A separate priority list of recommended mitigations will be developed for both the Town of Wallkill and the City of Middletown. Rankings are generally based on 1) the potential damage / safety risk; 2) the likelihood of occurring; and 3) the relative cost to fix the problem. A hazard which is expected to cause a high amount of property damage, is likely to occur, and is relatively inexpensive to mitigate would be given a high priority ranking. Recommended mitigations must be pre-emptive rather than reactive.



### **How can I help?**

We are looking for input from the public on what concerns they may have or recommendations of potential threats or problem areas which should be looked at more closely. We are particularly interested in feedback from local emergency responders (police, fire, ambulance) due to their experience and local knowledge responding to these and similar events.

If you or someone you know has suggestions or comments on mitigating natural hazards, feel free to contact the planning team. Please try and be as specific as you can regarding the location or description of the problem.

Contact info: Michael Allen

(518) 583-4335

[mallen@behanplanning.com](mailto:mallen@behanplanning.com)

### **Will we have other opportunities to comment?**

Yes. A separate public meeting has been scheduled in the City of Middletown (City Hall) on February 5th to review this information with local residents in that area. Members of the public who were not able to attend the meeting tonight are welcome to attend that one instead. Also, before the final plan is approved and adopted, a public hearing will be conducted on the plan.

**Thank you for attending tonight.**



## Natural Hazards Mitigation Plan



Walkkill &  
Middletown  
Public Meeting

January 17th 2013  
Town Hall





## OVERVIEW

- The New York State Office of Emergency Management (SEMO) set aside grant funding to be available to local municipalities as part of their Hazard Mitigation Grant Program.
- The Town of Wallkill and City of Middletown jointly applied for this grant, and were awarded funds to develop a Hazards Mitigation Plan.
- Both municipalities have since been working with a team of their engineering and planning consultants to research and develop this plan.



## WHAT IS A HAZARDS MITIGATION PLAN?

- A Natural Hazards Mitigation Plan is a research and engineering effort to:
  - Identify potential threats to human safety and property damage from likely natural hazards.
  - It identifies and recommends changes which can be made to prevent or reduce this damage from happening again.
  - The primary focus is to fix recurring problems now, instead of spending money later repairing damage again and again each time it happens. (*Prevention, not Reaction*)



## BENEFITS

- A Hazard Mitigation Plan has three primary benefits:
  1. It helps communities reduce the risks and damages from common natural disasters.
  2. Reduces the costs of responding to / repairing repeated damage.
  3. It allows those communities to also apply for additional FEMA/SEMO grant funding to fix the problems it has identified.

In the wake of the more recent events of Hurricane Irene and Hurricane Sandy, these plans are becoming more important.



## PROCESS

1. Inventory all important critical infrastructure and population centers (fire stations, hospitals, bridges, power stations, schools, senior centers, etc.)
2. Catalog and map all likely or potential natural hazards.
3. Overlay this information together to determine which hazards are the greatest potential threat to human safety or damage to critical infrastructure. Estimate losses.
4. Devise specific changes which can be made to reduce (mitigate) potential damages if and when these events occur again in the future. Develop rankings.



## THE PLAN

- A priority list of recommended mitigations will be developed for both the Town of Walkkill and City of Middletown, since they may have separate needs.
- Rankings are generally based on 3 criteria:
  1. Amount of potential damage / safety risk;
  2. Likelihood of occurring;
  3. Relative cost to mitigate.

Not just interested in property damage, but risk to human safety (i.e., emergency vehicle access, etc.)

Mitigations must be pre-emptive, not reactive.



## THREATS ASSESSED

- Flood
- Severe Storm / Nor'easter
- Extreme Wind
- Tornado
- Ice Jam
- Wildfire
- Winter Storm
- Hurricane / Tropical Storm
- Extreme Heat
- Drought
- Earthquake
- Landslide
- Lightning

Other events, such as an avalanche, coastal erosion, tsunami, volcano, etc., have not been included in our threat list.



## WHERE WE ARE NOW

We have completed the inventory of critical facilities, population and infrastructure and have started estimating the potential risks and damage from different events.

# Natural Hazards Mitigation Plan

Wallkill & Middletown



- Legend**
- Municipal Boundaries
  - The Towns
  - Junction
  - State Roads
  - County Roads
  - Police
  - Schools
  - Hospitals
  - Emergency Shelter
  - Municipal Offices and Police
  - Rail Stations
  - Designs
  - Water Pump and/or Treatment
  - Power Lines
  - Sewer Treatment
  - Hazardous Waste Facilities
  - Telecommunications (see below)
  - Electrical Substation
- Colors**
- Hazard Condition A
  - Hazard Condition B
  - Hazard Condition C
  - Electrical Transmission Lines
  - Railroad
  - Public Highway Private Road
  - Public Road Private Road
  - Low
  - Medium Low
  - Medium
  - Medium High
  - High
  - Lake
  - Stream & Stream
  - 100-Year Floodplain
  - 500-Year Floodplain
  - Water Supply Treatment
  - Municipal Water Supply Band
  - Parks and Protected Land

**Town of Wallkill and City of Middletown, NY All Hazards Mitigation Plan Inventory Map**

Address	Name	Category	Notes
100 Main St	ABC Building	Commercial	...
101 Main St	DEF Building	Commercial	...
102 Main St	GHI Building	Commercial	...
103 Main St	JKL Building	Commercial	...
104 Main St	MNO Building	Commercial	...
105 Main St	PQR Building	Commercial	...
106 Main St	STU Building	Commercial	...
107 Main St	VWX Building	Commercial	...
108 Main St	YZA Building	Commercial	...
109 Main St	BCD Building	Commercial	...
110 Main St	EFG Building	Commercial	...
111 Main St	HIJ Building	Commercial	...
112 Main St	KLM Building	Commercial	...
113 Main St	NOP Building	Commercial	...
114 Main St	QRS Building	Commercial	...
115 Main St	TUV Building	Commercial	...
116 Main St	WXY Building	Commercial	...
117 Main St	ZAB Building	Commercial	...
118 Main St	BCD Building	Commercial	...
119 Main St	EFG Building	Commercial	...
120 Main St	HIJ Building	Commercial	...
121 Main St	KLM Building	Commercial	...
122 Main St	NOP Building	Commercial	...
123 Main St	QRS Building	Commercial	...
124 Main St	TUV Building	Commercial	...
125 Main St	WXY Building	Commercial	...
126 Main St	ZAB Building	Commercial	...
127 Main St	BCD Building	Commercial	...
128 Main St	EFG Building	Commercial	...
129 Main St	HIJ Building	Commercial	...
130 Main St	KLM Building	Commercial	...
131 Main St	NOP Building	Commercial	...
132 Main St	QRS Building	Commercial	...
133 Main St	TUV Building	Commercial	...
134 Main St	WXY Building	Commercial	...
135 Main St	ZAB Building	Commercial	...
136 Main St	BCD Building	Commercial	...
137 Main St	EFG Building	Commercial	...
138 Main St	HIJ Building	Commercial	...
139 Main St	KLM Building	Commercial	...
140 Main St	NOP Building	Commercial	...
141 Main St	QRS Building	Commercial	...
142 Main St	TUV Building	Commercial	...
143 Main St	WXY Building	Commercial	...
144 Main St	ZAB Building	Commercial	...
145 Main St	BCD Building	Commercial	...
146 Main St	EFG Building	Commercial	...
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148 Main St	KLM Building	Commercial	...
149 Main St	NOP Building	Commercial	...
150 Main St	QRS Building	Commercial	...
151 Main St	TUV Building	Commercial	...
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153 Main St	ZAB Building	Commercial	...
154 Main St	BCD Building	Commercial	...
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166 Main St	KLM Building	Commercial	...
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196 Main St	TUV Building	Commercial	...
197 Main St	WXY Building	Commercial	...
198 Main St	ZAB Building	Commercial	...
199 Main St	BCD Building	Commercial	...
200 Main St	EFG Building	Commercial	...

Structures In	Total Number			Approximate Value (x\$1,000)		
	Town	City	Total	Town	City	Total
<b>100-Year Floodplain</b>						
Houses / Condos	72	179	251	\$6,772	\$15,424	\$22,196
Commercial Buildings	3	47	50	\$1,967	\$13,705	\$15,672
Industrial Buildings	2	3	5	\$6,310	\$3,896	\$10,206
Pre-School	1	-	1	\$1,188	-	\$1,188
Garage / Barn / Shed	10	7	17	N/A	N/A	-
Utility Building (water)	5	1	6	N/A	N/A	-
Apartment Building	-	1	1	-	N/A	-
Retirement Home	-	1	1	-	N/A	-
State-run Housing	-	1	1	-	N/A	-
Electrical Substation	-	1	1	-	N/A	-
Equipment Storage Lot	-	9	9	-	N/A	-
<b>Total</b>	<b>93</b>	<b>250</b>	<b>343</b>	<b>\$16,237</b>	<b>\$33,025</b>	<b>\$49,262</b>
<b>500-Year Floodplain</b>						
Houses / Condos	17	5	22	\$3,284	\$498	\$3,782
Commercial Buildings	1	2	3	\$82	\$674	\$756
Garage / Barn / Shed	2	-	2	N/A	-	-
Apartment Building	1	1	2	N/A	N/A	-
Retirement Home	-	1	1	-	N/A	-
Dorm	1	-	1	N/A	-	-
Fire House	1	-	1	N/A	-	-
Utility Building (water)	1	-	1	N/A	-	-
<b>Total</b>	<b>24</b>	<b>9</b>	<b>33</b>	<b>\$3,366</b>	<b>\$1,172</b>	<b>\$4,538</b>



## WHERE WE ARE NOW

However, local knowledge is very important.

- We want to inform the public about this effort, and hear what suggestions you have.
- Particular importance on recurring events which could impact human safety.

The recent storm events of the past few years have given us some good indications of where some vulnerabilities exist.



Prattsville, NY – Hurricane Irene



Prattsville, NY – Hurricane Irene



Clarkstown, NY – Severe Storm Flooding



Long Island, NY – Hurricane Sandy



Long Lake, NY – Snow Melt Flooding



## YOUR KNOWLEDGE

- What problems have you seen over the past several years?
- Have there been problems in your neighborhood?
- Be specific as you can: location, scope of problem.
- What do you think needs to be fixed?



## Questions / Suggestions ?

Please send comments / suggestions to:

[mallen@behanplanning.com](mailto:mallen@behanplanning.com)

Phone: 518-583-4335

Fax: 518-583-6970

A duplicate public meeting similar to this one is scheduled  
To be held in the City of Middletown on February 5<sup>th</sup> at 7pm.



Thank you.



39 Columbia Avenue  
Middletown, NY 10940  
February 5, 2013

City of Middletown  
16 James Street  
Middletown, NY 10940

Dear FEMA Natural Hazards Mitigation Plan Committee,

In preparing for a flood or hurricane, hardening areas in anticipation of trouble is not without merits. What can be more effective is combining these upgrades and improvements with a plan to mitigate disasters as they are happening.

In the wake of Hurricane Irene and the need to change careers, I became certified by the Institute of Inspection, Cleaning and Restoration Certification (IICRC) in the following crafts: Odor Control Technician, Fire & Smoke Restoration Technician, Carpet Cleaning Technician, Upholstery Technician, Carpet Repair & Reinstallation Technician, Water Damage Restoration Technician and Oriental & Specialty Rug Cleaning Specialist. I am four months away from holding the following titles: Journeyman Fire & Smoke Damage Restoration Technician, Textile Care Technician and Water Damage Restoration Technician. I have a bit more classwork to complete, but in two years with 10 verified jobs, I will hold the title of Master in those crafts.

The ANSI and IICRC have written the standards such as the S500 for Water Damage Remediation and the S520 for Mold Damage Remediation. I have started a small cleaning business and one of our offerings is Water Damage Remediation services following the S500 Standard. It is imperative that local government has an understanding of these standards and the training to implement them for themselves.

I highly recommend Berks Fire & Water Restoration in Reading, Pa., where I was trained. This multi-million dollar company is quite impressive and a leader in disaster restoration in the Reading, Pa., area. Their newly formed educational branch is known as the Restoration Technical Institute. The instructor for three of the classes I have taken there were taught by Ron Valega, owner of TMC Group in Medina, Ohio. Valega was an early ServPro franchise owner and is still one of ServPro's primary trainers. He teaches all over the eastern United States.

One cannot discount the value of having professionals trained in disaster mitigation. The City of Middletown and Town of Wallkill would do well to hire or retain such people for times of disaster. In times of great disaster such as hurricanes Sandy and Irene, disaster restoration firms from well beyond the affected areas came in to work and lend a hand.

These firms can only be effective if the electrical power supply is not interrupted. In the case of Sandy, many restorers talked about the relatively low number of structures that received restoration compared to the number of structures that received demolition.

The problem was lack of power. A restorer may have been able to remove standing water and extract carpet and pad of moisture, which are the first steps one should be taking once safety and environmental concerns are addressed. Unable to leave power at the job site due to large number of impacted properties, no drying equipment such as blowers, fans, dehumidifiers and heaters could be left on site, the next step in the restoration process. Skipping this step is not consistent with ANSI/IICRC Standard S500, but in this circumstance, no other choice was available. After removal of water, many went straight to a later step, application of anti-microbials to moist contents and structures and hoped for the best. Now many structures have become infested with mold, which is very expensive to remediate.

In order for remediation to be effective, it must be done immediately. Water damage has three categories. Category 1 is "Clean Water" that does not pose substantial threat to humans. Examples of this would include a broken water supply line. Category 1 water left in a structure for 48 to 72 hours is likely to have become Category 2 or even Category 3.

Category 2 is referred to as "Grey Water" and contains significant contamination. Examples of this would include sump pump failures. Left standing, Category 2 water can reach the contamination level of Category 3 water in as little as 24 to 48 hours.

Category 3 is referred to as "Black Water" and is grossly unsanitary. Examples of this would be sea water, sewage and water rising from rivers and streams. The majority of the water damage done by hurricanes Irene and Sandy were to be immediately considered Category 3. A small portion may have fit the description of Category 2, but after 24 to 48 hours, it would need to be reclassified as Category 3.

If there had been power on scene to leave on site in the form of portable or towable generators, equipment could have been in place to dry homes that could have been remediated successfully. The first problem was lack of power. The second was lack of equipment. A company like Berk's Fire & Water Restoration owns more than 100 blowers and dozens of commercial dehumidifiers. At first glance, all this equipment is very impressive. The fact of the matter is it is only enough to provide restoration in a few structures at once and the process typically takes 4-7 days. Structures waiting 4-7 days for restoration are going to only receive limited benefit from restoration. To further compound these problems, most restoration companies only own enough generating power to power a fraction of the equipment they own. Tractor trailer loads of blowers, dehumidifiers, heaters and other equipment were made available for rental, purchase or loan from other parts of the country. Only a small amount of it could be deployed due to the lack of power to run it. Finding a generator then was impossible. Finding a generator now is still difficult and back orders are common.

The community - residences, commercial property, government facilities and institutions - need to have back-up power as one of their top priorities for disaster preparedness. No amount of hardening of infrastructure is going to eliminate the possibility of power outages. It will only reduce it at best. Public awareness of the need for power-generating equipment needs to be heightened. Perhaps a small tax incentive for those who purchase some sort of back-up power system will increase implementation. The question is: Can they afford it and is there a financial incentive to do it? Even if it was only 10% of the purchase price applied to that year's tax bill, it would certainly encourage investment. A homeowner may get a \$20-\$35 credit for a small, imported portable generator. A small business may get a \$200-\$300 credit for a medium-sized, high-quality generator with a professionally installed manual transfer switch. A larger company or institution may get a tax credit of \$500 or more for a professionally installed, stationary automatic transfer generating system suitable to their needs. This form of self-rescue is probably the best investment that can be made for disaster preparedness.

In summary, it is my opinion that disaster preparedness needs a three point approach, hardening of vulnerable infrastructure, training of professionals and volunteers to respond effectively to disasters following well established guidelines, and finally, encourage the purchase and use of power-generating equipment in order to assist in one's own self-rescue.

Sincerely,



Peter Hewel

845Clean.com

VP Operations, Bright Eyes 'n Bushy Tails Inc.