



9.31 TOWNSHIP OF PARSIPPANY-TROY HILLS

This section presents the jurisdictional annex for the Township of Parsippany-Troy Hills. The annex includes a general overview of the Township of Parsippany-Troy Hills; an assessment of the Township of Parsippany-Troy Hills' risk, vulnerability, and mitigation capabilities; and a prioritized action plan to implement prior to a disaster to reduce future losses and achieve greater resilience to natural hazards.

9.31.1 Hazard Mitigation Planning Team

The following individuals are the Township of Parsippany-Troy Hills' identified HMP update primary and alternate points of contact and NFIP Floodplain Administrator.

Table 9.31-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name / Title: John J. Wieners, OEM Coordinator Address: 3339 Route 46, Parsippany, NJ 07054 Phone Number: 973-263-4317 Email: jwieners@parpolice.com	Name / Title: Justin Lizza, Township Engineer Address: 3339 Route 46, Parsippany, NJ 07054 Phone Number: 973-263-7266 Email: jlizza@parsippany.net
NFIP Floodplain Administrator	
Name / Title: Justin Lizza, Township Engineer Address: 3339 Route 46, Parsippany, NJ 07054 Phone Number: 973-263-7266 Email: jlizza@parsippany.net	

9.31.2 Jurisdiction Profile

Parsippany-Troy Hills Township is located in the eastern section of Morris County; it is bordered by the Town of Boonton and Mountain Lakes to the north, Morris Plains Morris, East Hanover and Hanover to the south, Denville to the west and Montville to the east. Major roadways in the Township are US 46 and 202, Interstates 80, 280 and 287, and State Route 53. The Township has 6 sections which include Mount Tabor, Rainbow Lakes, Lake Interval, Lake Parsippany, Rockaway Neck and Lake Hiawatha. Lake Hiawatha and Mount Tabor are two neighborhoods that have their own zip codes. Major waterways include the Passaic River, Rockaway River, Whippany River, Troy Brook and West Brook. The Jersey City Reservoir, operated by United Water, is located to the northeast of the Route 80 / Route 287 intersection. The Township has a total area of 25.39 square miles, of which 23.56 square miles is land and 1.83 square miles is water. According to the U.S. Census, the 2010 population for the Township of Parsippany-Troy Hills was 53,238.

The Township is also located in the New Jersey Highlands Region, one of the 88 municipalities protected by and subject to the provisions of the Highlands Water Protection and Planning Act. The entire Township is located within the Highlands Planning Area (16,216 acres).

The Township has significant steep slope areas particularly in the northeast section of the township. Critical facilities include Centenary College, Greystone Hospital, Morris County Public Safety Facility, United Water reservoir / treatment plant, Rockaway Valley Sewerage Treatment Authority, Parsippany Wastewater Treatment Plant.

According to the U.S. Census, the 2010 population for the Township of Parsippany-Troy Hills was 55,238. The estimated 2017 population was 53,444, a 0.4 percent increase from the 2010 Census. Data from the 2017 U.S.





Census American Community Survey indicate that 5.0 percent of the population is 5 years of age or younger and 15.5 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.31.3 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction's overall risk to its hazards of concern. Table 9.31-2 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. Figures 9.31-1 and 9.31-2 at the end of this annex illustrate the geographically-delineated hazard areas and the location of potential new development.

Table 9.31-2. Recent and Expected Future Development

Type of Development	2014	2015	2016	2017	2018
Number of Building Permits for New Construction Issued Since the Previous HMP					
Single Family	Total number of permits by year are not available at this time.				
Multi-Family					
Other (commercial, mixed-use, etc.)					
Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zone(s)*	Description / Status of Development
Recent Major Development and Infrastructure from 2015 to Present					
Capital Grill	Restaurant	277 seat	202 / 6.04	1% and .2% Flood Zone	Under Construction
700 Mountain Way	Townhouse	97 RDU	14 / 6	None	Under Construction
10 Waterview Daycare	Office / Daycare	11,000 sf	421 / 29.2	None	Under Construction
Paul Miller Porsche	Auto Dealer	28,200 sf	411 / 20	1% and .2% Flood Zone	Built
Paul Miller Jaguar/ Land Rover	Auto Dealer	60,800 sf	693 / 12	None	Built
Smith Road Townhouse	Townhouse	52 RDU	734 / 64	1% and .2% Flood Zone	Built
Watersedge Townhouse	Townhouse	32 RDU	450 / 14	None	Built
Liquid Church	Religious	123,500 sf	736 / 20	None	Built
ISSO Temple	Religious	6,000 sf	725 / 8	None	Built
Yogi Devine Temple	Religious	26,000 sf	609 / 14	None	Built
Waterview Marketplace	Retail	150,150 sf	421 / 29.03	Not available	Built
Caggiano Orthodontics	Medical Office	7,400 sf	393 / 1	None	Built
Starbucks	Retail	5,100 sf	726 / 9	None	Built
Modera	Apartments	212 RDU	725 / 6	1% and .2% Flood Zone	
CVS	Retail	14,800 sf	411 / 1/	1% and .2% Flood Zone	
UPS	Office	296,700 sf	136 / 43.3	None	
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years					
District 1515	Mixed Use	100k sf Retail, 441 RDU	200 / 1.3	Not available	Board Application



La Quinta	Hotal/Restaurant	127 rooms /250 seat rest.	200 / 1	1% and .2% Flood Zone	Board Approved
Mountain Way Townhouses	Townhouse	14 RDU	14 / 12.01	None	Board Approved
MCC VI	Mixed Use	325 RDU, 5,000 sf retail	136 / 44	None	Concept Review
Lanidex	Mixed Use	600 RDU, 10,000 sf retail	392 / 1 & 2	None	Concept Review
Mack Cali	Mixed Use	410 RDU, retail	202 / 3.12	None	Concept Review

* Only location-specific hazard zones or vulnerabilities identified.

9.31.4 Capability Assessment

The Township of Parsippany-Troy Hills performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Information on National Flood Insurance Program (NFIP) compliance.
- Classification under various community mitigation programs.
- The community's adaptive capacity for the impacts of climate change.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration. Areas that mitigation is currently integrated are summarized below. The Township of Parsippany-Troy Hills identified specific integration activities that will be incorporated into municipal procedures are included in the updated mitigation strategy.

PLANNING, LEGAL AND REGULATORY CAPABILITY

The table below summarizes the legal and regulatory tools that are available to the Township of Parsippany-Troy Hills and where hazard mitigation has been integrated.

Table 9.31-3. Planning, Legal and Regulatory Capability

	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	State Mandated / Allowed	Has the HMP been integrated in the last 5 years? If yes- how?	
				If yes- how? Describe in comments	If no - can it be a mitigation action? If yes, add Mitigation Action #.
Codes, Ordinances, & Requirements					
Building Code	Yes	State & Local	Yes	No	-
Comment: State mandated on local level under NJAC 5:23-3.14. International Building Code – New Jersey Edition, 2018, NJAC 5:24-3.14. Administered by the Building Department.					



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	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	State Mandated / Allowed	Has the HMP been integrated in the last 5 years? If yes- how?	
				If yes- how? Describe in comments	If no - can it be a mitigation action? If yes, add Mitigation Action #.
Zoning Code	Yes	Local	Yes	No	-
<i>Comment: Per State of NJ Municipal Land Use Law (MLUL) L. 1975, s. 2, eff Aug 1, 1976, 40-55D-62: 49. Power to zone, requires all jurisdictions to have current zoning and other land development ordinances after the planning board has adopted the land use element and master plan. Zoning code, Chapter 430 of the municipal code. Administered by Planning/Zoning.</i>					
Subdivisions	Yes	Local	Yes	No	-
<i>Comment: Chapter 430 of the municipal code. Administered by Planning/Zoning.</i>					
Stormwater Management	Yes	Local	Yes	No	-
<i>Comment: Title 7 of the NJ Administrative Code (N.J.A.C. 7:8); Chapter 225 of the municipal code. Administered by the Engineer.</i>					
Post-Disaster Recovery	No	-	-	-	-
<i>Comment:</i>					
Real Estate Disclosure	Yes	State – Division of Consumer Affairs	Yes	Yes	-
<i>Comment: N.J.A.C. 13:45A-29.1; Before signing a contract of sale, all purchasers must receive a New Jersey Public Offering Statement (POS) approved by the New Jersey Real Estate Commission. The POS provides information such as proximity to hospitals, schools, fire and police, as well as any hazards, risks or nuisances in or around the subdivision.</i>					
Growth Management	No	-	Yes	-	-
<i>Comment: State mandated at local level;</i>					
Shoreline Development	No	-	Yes	-	-
<i>Comment: NJ Coastal Area Facility Review Act (N.J.S.A. 13:19) or CAFRA regulates almost all development along the coast for activities including construction, relocation, and enlargement of buildings or structures, and excavation, grading, shore protection structures, and site preparation. This law is implemented through NJ's Coastal Zone Management Rules N.J.A.C. 7:7E-1 et seq.</i>					
Site Plan Review	Yes	Local	No	No	-
<i>Comment: Chapter 225 of the municipal code. Administered by the Engineer.</i>					
Environmental Protection	Yes	State, Local	Yes	No	-
<i>Comment: The rules that are utilized by the NJDEP and other environmental agencies are codified at Title 7 of the NJ Municipal Administrative Code. Environmentally Critical Areas, Chapter 225-64L of the municipal code. Administered by the Engineer.</i>					
Flood Damage Prevention	Yes	Federal, State, Local	Yes	No	-
<i>Comment: Flood Hazard Protection, Chapter 175 of the municipal code. Administered by the Planning/Zoning and Engineer.</i>					
Wellhead Protection	Yes	Local	-	No	-
<i>Comment: Article XLIII of the municipal code.</i>					
Emergency Management	No	-	-	-	-
<i>Comment:</i>					
Climate Change	No	-	-	-	-
<i>Comment:</i>					
Disaster Recovery Ordinance	No	-	-	-	-
<i>Comment:</i>					
Disaster Reconstruction Ordinance	No	-	-	-	-
<i>Comment:</i>					
Other	No	-	-	-	-
<i>Comment:</i>					
Planning Documents					



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	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	State Mandated / Allowed	Has the HMP been integrated in the last 5 years? If yes- how?	
				If yes- how? Describe in comments	If no - can it be a mitigation action? If yes, add Mitigation Action #.
Comprehensive / Master Plan	Yes	Local	Yes	No	-
<i>Comment: Comprehensive Plan was adopted in 1976. Most recent reexamination took place in December 2014. The Township is currently working on an update. The Plan is administered by the Planning/Zoning departments.</i>					
Capital Improvement Plan	Yes	Local	Allowed	No	-
<i>Comment: Per NJSA 40:55D-29 the governing body is authorized to direct the planning board to prepare a CIP with at least a six year planning horizon. The Capital Improvement Plan is administered by the Planning Board.</i>					
Disaster Debris Management Plan	No	-	No	-	-
<i>Comment:</i>					
Floodplain or Watershed Plan	Yes	Local, County	No		
<i>Comment: Flood Acquisition Plan (with Morris County). Administered by OEM through collaboration with all departments.</i>					
Stormwater Management Plan	Yes/No	Local and State	Yes	No	-
<i>Comment: Per NJDEP Storm Water Management Rule (N.J.A.C. 7:8, et seq.). The Municipal Stormwater Regulation Program was developed in response to the U. S. Environmental Protection Agency's (USEPA) Phase II rules published in December 1999. The Department issued final stormwater rules on February 2, 2004 and four (4) NJPDES general permits authorizing stormwater discharges from Tier A and Tier B municipalities, as well as public complexes, and highway agencies that discharge stormwater from municipal separate storm sewers (MS4s). Chapter 357 of the municipal code, dated 12/20/05. Administered by Engineering.</i>					
Stormwater Pollution Prevention Plan	Yes/No		Yes	Yes/No	Yes/No
<i>Comment:</i>					
Urban Water Management Plan	Yes/No		No	Yes/No	Yes/No
<i>Comment:</i>					
Habitat Conservation Plan	Yes/No		No	Yes/No	Yes/No
<i>Comment:</i>					
Economic Development Plan	No	-	No	-	-
<i>Comment:</i>					
Shoreline Management Plan	Yes/No		No	Yes/No	Yes/No
<i>Comment:</i>					
Community Wildfire Protection Plan	Yes/No		No	Yes/No	Yes/No
<i>Comment:</i>					
Community Forest Management Plan	Yes/No		No	Yes/No	Yes/No
<i>Comment:</i>					
Transportation Plan	No	-	No	-	-
<i>Comment:</i>					
Agriculture Plan	Yes/No		No	Yes/No	Yes/No
<i>Comment:</i>					
Climate Action Plan	Yes/No		No	Yes/No	Yes/No
<i>Comment:</i>					
Tourism Plan	Yes/No		No	Yes/No	Yes/No
<i>Comment:</i>					
Business Development Plan	Yes/No		No	Yes/No	Yes/No





	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	State Mandated / Allowed	Has the HMP been integrated in the last 5 years? If yes- how?	
				If yes- how? Describe in comments	If no - can it be a mitigation action? If yes, add Mitigation Action #.
Comment:					
Findings Related to the Lake Hiawatha Flooding of August 2011	Yes	Local	No	No	-
Comment: Study to determine causes and solutions of flooding of Lake Hiawatha. Recommendations include: Make sure all residents are connected to Reverse 911, Monitor and clean all storm drains; study condition of all streams and rivers; inspect Lake Hiawatha retaining wall; Rebuild Passaic River Flood Tunnel.					
Response/Recovery Planning					
Comprehensive Emergency Management Plan (CEMP) / Emergency Operations Plan (EOP)	Yes	Local	Yes	No	-
Comment: Per the NJ Civilian Defense and Disaster Control Act (App.A:9_43.2) Counties and municipalities must have written Emergency Operations Plans to be reviewed every 2 years. Emergency Operations Plan (November 2009). Administered by OEM.					
Threat & Hazard Identification & Risk Assessment (THIRA)	No				
Comment:					
Post-Disaster Recovery Plan	No		No	No	-
Comment:					
Continuity of Operations Plan	Yes		No	No	-
Comment: Located in the EOP, administered by OEM.					
Public Health Plan	No	-	-	-	-
Comment:					
Other	No	-	-	-	-

Table 9.31-4. Development and Permitting Capability

Criterion	Response
Does your jurisdiction issue development permits? - If no, who does? If yes, which department?	Yes, Engineering
Does your jurisdiction have the ability to track permits by hazard area?	Yes, starting to use GIS
Does your jurisdiction have a buildable lands inventory? -If yes, please describe briefly. -If no, please quantitatively describe the level of buildout in the jurisdiction.	Yes, in Master Plan and COA reporting

ADMINISTRATIVE AND TECHNICAL CAPABILITY

- **Planning Board:** The Planning Board is made up of 15 members and includes the Minor Site Plan and Subdivision Committee.



- **Zoning Board of Adjustment:** The Zoning Board of Adjustment reviews all applications for relief from provisions of the Zoning Ordinance. The Board's principal duties are to hear appeals, grant variances and rule on "use" applications. The Zoning Board is comprised of seven regular members and two alternates appointed by the Township Council. All Board Members are Township residents. The Board reviews subdivisions and site plans with variances.
- **Zoning Division:** Staffed with a full time zoning officer, the Zoning Division is responsible for overseeing the administration and enforcement of all zoning regulations and ordinances. The Zoning Officer is required to review each application for proposed projects to assure that the project is in compliance with those laws.
- **Economic Development Advisory Committee:** The purpose of the Economic Development Advisory Committee is to serve in an advisory capacity and provide information, advice and recommendations relating to the promotion of Economic Development in the Township of Parsippany-Troy Hills. The Committee consists of 11 members; five appointed by the Mayor and six appointed by the Council. Members are Township residents who have knowledge of or have demonstrated an interest in the economic well-being of the Township.
- **Environmental Advisory Committee:** The Environmental Advisory Committee is comprised of eight members including a council liaison and a chairperson. The Committee assisted in the study of the cause of the 2011 Lake Hiawatha flood event.
- **Historical Preservation Advisory Committee:** The Parsippany Historical and Preservation Society is a seven-member advisory body of local citizens formed in 2003 by appointment of the Mayor and Township Council. The purpose of this committee is to educate and advocate for historic preservation in the Township of Parsippany-Troy Hills.
- **Open Space Committee:** The Open Space Committee makes an initial determination of which parcels of land should be acquired in fee and/or those parcels of land from which the Township should acquire development rights.
- **Recreation Advisory Committee:** The role of the Recreation Advisory Committee is to advise and assist the Recreation Department in the planning and development of public recreational programs and facilities and to promote coordination of such within the Township.
- **Traffic Advisory Committee:** The Traffic Advisory Committee is composed of nine township residents, five of whom are appointed by the Township Council, and four of whom are appointed by the Mayor. Their purpose is to serve in an advisory capacity to the Township Council, providing information, advice and recommendations relating to traffic management and safety issues.
- **Streets & Roads Division:** Planning Board: The Planning Board is made up of 15 members and includes the Minor Site Plan and Subdivision Committee.
- **Zoning Board of Adjustment:** The Zoning Board of Adjustment reviews all applications for relief from provisions of the Zoning Ordinance. The Board's principal duties are to hear appeals, grant variances and rule on "use" applications. The Zoning Board is comprised of seven regular members and two alternates appointed by the Township Council. All Board Members are Township residents. The Board reviews subdivisions and site plans with variances.
- **Parks & Forestry:** Parsippany has 31 parks throughout the township. The park system has preserved over 800 acres ranging from the 0.32 acre Lake Hiawatha Park to the 352-acre Knoll Park. This total surpasses the nationally recognized standard of having one acre of park land for every 100 residents. The goal has been to provide recreation within walking distance for every resident.
- **Building & Construction:** The Building and Construction Office serves to assist Parsippany residents and commercial contractors wishing to initiate construction within the Township of Parsippany-Troy Hills. The responsibilities of this office include compliance with all State rules and regulations



regarding construction. It is the duty of this office to issue permits and conduct inspections for new construction, repairs and renovations, additions, electric and gas service upgrades, demolition, roofing, siding, swimming pools, sheds, replacement of hot water heaters and removal of tanks, etc.

- **Fire Prevention:** The Parsippany Division of Fire Prevention is tasked with enforcing the New Jersey Uniform Fire Code in all commercial properties located within the Township of Parsippany. In addition, the Division is responsible for issuing appropriate permits, certificates for home sales and/or rentals, planning for events, assisting with emergency response, and public education in conjunction with the township's six Fire Districts, three EMS agencies, Police, and many other stakeholders. In order to accomplish these tasks, the Division is staffed by one (1) full time Fire Official, four (4) full time Fire Inspectors, and one (1) full time Administrative Assistant. The Fire Official and Fire Inspectors are state certified to requirements set forth by the State of New Jersey Division of Fire and Safety and completed required continuing education yearly.

In 2017, the Division started an aggressive education program that branched out from just the township schools. Inspectors now present Fire Safety to businesses including a variety of topics that encompass fire safety in the workplace, home, school, as well as time of year specific events. In addition to presentations, the Division owns and operates a Fire Safety Trailer and Fire Extinguisher prop that allows the user to practice extinguishing a real fire under a controlled environment. In 2018, the Division adopted "Prevention Through Education" as the standard to which all actions are measured to. Whether inspections in commercial settings or education at schools, the Division believes that Prevention is much more than code enforcement.

- **Emergency Management:** The Office of Emergency Management's mission is to protect the community from large-scale emergencies and disasters and to coordinate and respond to disasters, coordinate recovery efforts following a disaster, identify and mitigate potential threats, and prepare plans to deal with various disasters. The Office provides the following services:
 - CERT refers to the Community Emergency Response Team. The team is comprised of residents trained to be better prepared to deal with emergency situations for themselves and their families. CERT members can also give critical support to first responders, provide immediate assistance to victims, and organize spontaneous volunteers at a disaster site. CERT is part of a nationwide Citizens Corp program.
 - RACES refers to Radio Amateur Civil Emergency Service. Its' mission is to operate and maintain Amateur, Public Safety, and other communication systems, to assist government officials in the protection of life and property during emergencies.
 - Hazardous materials incident response
 - Planning for emergencies
 - Preparedness efforts for safety
- **Flood Acquisition Plan:** The Township has participated in the County's Flood Mitigation Program (FMP) and has an approved Flood Acquisition Plan (FLAP). The Morris County FMP is the first dedicated, county-level flood acquisition program in the State of New Jersey. The FMP allows Morris County to assist municipalities in moving people out of harm's way, lowering municipal costs due to intense flooding episodes, and create natural flood capture and storage areas which protect the remaining homes and businesses. The FMP is funded by the Morris County Open Space tax and provides grant monies for municipalities to purchase flood-prone residential properties.

The table below summarizes potential staff and personnel resources available to the Township of Parsippany-Troy Hills.



Table 9.31-5. Administrative and Technical Capabilities

Staff/Personnel Resource	Available?	Department/Agency/Position
Administrative Capability		
Planning Board	Yes	Planning Board
Mitigation Planning Committee	Yes	Engineer, OEM, Administration
Environmental Board / Commission	Yes	Environmental Advisory Committee
Open Space Board / Committee	Yes	Open Space Committee
Economic Development Commission / Committee	Yes	Economic Development Committee
Warning Systems / Services (reverse 911, outdoor warning signals)	Yes	Rave, Social Media, Reverse 911, Variable message boards
Maintenance program to reduce risk	No	-
Mutual aid agreements	Yes	Fire Departments and First Aid
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	Planner and Engineer
Engineers or professionals trained in building or infrastructure construction practices	Yes	Building Department and Engineering
Planners or engineers with an understanding of natural hazards	Yes	Planning and Engineering
Staff with training in benefit/cost analysis	No	-
Staff with training in green infrastructure	No	-
Staff with education/knowledge/training in low impact development	Yes	Stormwater regulations
Surveyor	No	-
Stormwater engineer	Yes	
Personnel skilled or trained in GIS applications	Yes	Engineering
Local or state water quality professional		
Scientist familiar with natural hazards in local area	No	-
Emergency manager	Yes	OEM
Grant writers	No	-
Resilience Officer	No	-
Watershed planner	No	-
Environmental specialist	No	-
Other	No	-

FISCAL CAPABILITY

The table below summarizes financial resources available to the Township of Parsippany-Troy Hills.

Table 9.31-6. Fiscal Capabilities

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	No
Incur Debt through Private Activity Bonds	Yes





Financial Resource	Accessible or Eligible to Use?
Withhold Public Expenditures in Hazard-Prone Areas	Yes
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes
Clean Water Act 319 Grants (Nonpoint Source Pollution)	
Other	No

EDUCATION AND OUTREACH CAPABILITY

The table below summarizes the education and outreach resources available to the Township of Parsippany-Troy Hills.

Table 9.31-7. Education and Outreach Capabilities

Criterion	Response
Do you have a public information officer or communications office?	Public Information Officer
Do you have personnel skilled or trained in website development?	Yes
Do you have hazard mitigation information available on your website? • If yes, briefly describe.	Yes, Hazard Mitigation Plan is linked on the website
Do you use social media for hazard mitigation education and outreach? • If yes, briefly describe.	Yes; Facebook, Twitter, etc.
Do you have any citizen boards or commissions that address issues related to hazard mitigation? • If yes, briefly describe.	Yes, Local Emergency Planning Committee
Do you have any other programs already in place that could be used to communicate hazard-related information? • If yes, briefly describe.	No
Do you have any established warning systems for hazard events? • If yes, briefly describe.	Yes; Rave, Social Media, Reverse 911, Variable message boards

COMMUNITY CLASSIFICATIONS

The table below summarizes the classifications for community programs available to the Township of Parsippany-Troy Hills.

Table 9.31-8. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System	No. The Township was last a member of the CRS program in 2007. Would be interested in returning.	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	Yes		
Public Protection (Fire ISO Protection Class)	Yes	5 at Class 4, 1 at Class 3	???
Storm Ready Certification	No	-	-
Firewise Community Classification	No	-	-
Sustainable Jersey	Yes	None	5/19/2009

**ADAPTIVE CAPACITY**

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2014). In other words, it describes a jurisdiction’s current ability to adjust to, protect from, or withstand a hazard event. This term is often discussed in reference to climate change; however, adaptive capacity also includes an understanding of local capacity for adapting to current and future risks and changing conditions. The table below summarizes the adaptive capacity for each hazard and the jurisdiction’s rating.

Table 9.31-9. Adaptive Capacity

Hazard	Adaptive Capacity (Capabilities) - High/Medium/Low
Dam Failure	Low
Disease Outbreak	Medium
Drought	Medium
Earthquake	Medium
Extreme Temperature	Medium
Flood	High
Geologic	Medium
Harmful Algal Bloom	Medium
Hazardous Substances	High
Infestation	Medium
Severe Weather	High
Severe Winter Weather	High
Wildfire	Low

Notes:

High = Capacity exists and is in use; Medium = Capacity may exist, but is not used or could use some improvement;

Low = Capacity does not exist or could use substantial improvement; Unsure = Not enough information is known to assign a rating.

NATIONAL FLOOD INSURANCE PROGRAM

This section provides specific information on the management and regulation of the regulatory floodplain.

Table 9.31-10. National Flood Insurance Program Compliance

Criterion	Response
What local department is responsible for floodplain management?	Engineering
Who is your floodplain administrator? (name, department/position)	Justin Lizza, Township Engineer
Are any certified floodplain managers on staff in your jurisdiction?	TBD
What is the date that your flood damage prevention ordinance was last amended?	TBD
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	TBD
When was the most recent Community Assistance Visit or Community Assistance Contact?	March 20, 2017
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state what they are.	TBD
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what they are.	TBD
Do your flood hazard maps adequately address the flood risk within your jurisdiction?	TBD



Criterion	Response
<ul style="list-style-type: none"> If no, state why. 	
Does your floodplain management staff need any assistance or training to support its floodplain management program?	TBD
<input type="checkbox"/> If so, what type of assistance/training is needed?	TBD
Does your jurisdiction participate in the Community Rating System (CRS)? <ul style="list-style-type: none"> If yes, is your jurisdiction interested in improving its CRS Classification? If no, is your jurisdiction interested in joining the CRS program? 	No, interested in rejoining.
How many flood insurance policies are in force in your jurisdiction? <ul style="list-style-type: none"> What is the insurance in force? What is the premium in force? 	Policies: 332 Insurance in force: \$92,365,500 Premium in force: \$595,082
How many total loss claims have been filed in your jurisdiction? <ul style="list-style-type: none"> How many claims are still open or were closed without payment? What were the total payments for losses? 	Total loss claims: 642 Claims open or closed without payment: 108 Total payments for losses: \$13,693,195
Do you maintain a list of properties that have been damaged by flooding?	TBD
Do you maintain a list of property owners interested in flood mitigation?	TBD

*According to FEMA statistics as of 09/30/2018

9.31.5 Hazard Event History Specific to the Jurisdiction

Morris County has a history of hazard events, as detailed in Section 4 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles in Section 4.4 (Hazard Profiles) and includes a chronology of events that affected Morris County and its jurisdictions. The Township of Parsippany-Troy Hills' history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Morris County. Table 9.31-11 provides details regarding municipal-specific loss and damages the Township experienced during hazard events. Information provided in the table below is based on reference material or local sources.

Table 9.31-11. Hazard Event History

Date(s) of Event	Event Type (disaster declaration if applicable)	Morris County Designated?	Summary of Event	Summary of Local Damages and Losses
January 21-24, 2016	Severe Winter Storm and Snowstorm (DR-4264)	Yes	A low-pressure system produced record snowfall in parts of New Jersey on January 23rd. It then moved out to sea after passing by the mid-Atlantic coast early on January 24th. Wind gusts up to 60 MPH produced blizzard conditions as visibilities dropped to one-quarter mile or less in spots. Snow began during the evening hours on the 22nd, then continued, heavy at times through the 23rd before ending early on the 24th. Snowfall totals included 30.0 inches in Long Valley, 29.0 inches in Madison, 26.0 inches in Budd Lake, 25.3 inches in Green Pond, 22.5 inches in Butler, 21.0	Although the County was impacted, the Township did not report significant damages or impacts.



Date(s) of Event	Event Type (disaster declaration if applicable)	Morris County Designated?	Summary of Event	Summary of Local Damages and Losses
			inches in Chatham, and 18.0 inches in Marcella. At one point during the storm, up to 270,000 customers were without power.	
March 14, 2017	Blizzard	No	Low pressure systems across the Ohio Valley and Carolinas phased. This led to a rapidly developing storm which tracked just offshore. Wind, coastal flooding, heavy rain and snow all occurred. Snowfall was over a foot across the county.	Snow Removal, power lines down, outages, detours.
March 6-7, 2018	Severe Winter Storm and Snowstorm (DR-4368)	Yes	12 to 24 inches was observed across large parts of Morris County. The snow contained large amounts of liquid, making it heavy and wet. This resulted in downed trees, limbs, and wires, leading to numerous power outages across portions of New Jersey, especially where the heaviest snow was reported. Many customers were still without power from the previous storm when this storm struck. Governor Murphy estimated about 350,000 customers state-wide lost power as a result of this second storm. Governor Phil Murphy declared a state of emergency which went into effect at 8 PM Tuesday March 6th.	Snow Removal, power lines down, outages, detours.
April 3, 2018	Winter Storm	No	Despite high temperatures in the 50's and 60's across the region on April 1st, a cold front moving through the area during the morning gradually brought in colder air, which moved into the region by April 2nd. Meanwhile, a weak wave of low pressure developed along this front, and tracked south of the area. To the north of this low and where temperatures were cold enough, snow accumulated, especially near the Interstate 195 corridor and points north. The snow began after midnight on April 2nd and continued into the mid-morning hours. A trained spotter reported	Snow Removal, power lines down, outages, detours.



Date(s) of Event	Event Type (disaster declaration if applicable)	Morris County Designated?	Summary of Event	Summary of Local Damages and Losses
			7.3 inches of snow in Green Pond.	

9.31.6 Jurisdiction-Specific Vulnerabilities and Hazard ranking

The hazard profiles in Section 4 (Risk Assessment) provide detailed information regarding each plan participant's vulnerability to the identified hazards. Table 9.31-12 summarizes the Township of Parsippany-Troy Hills risk assessment results and data used to determine the hazard ranking.

In an attempt to summarize the confidence level regarding the input utilized to populate the hazard ranking, a gradient of certainty was developed. A certainty factor of high, medium or low was selected and assigned to each hazard to provide a level of transparency and increased understanding of the data utilized to support the resulting ranking. The following scale was used to assign a certainty factor to each hazard:

- High—Defined scenario/event to evaluate; probability calculated; evidenced-based/quantitative assessment to estimate potential impacts through hazard modeling.
- Moderate—Defined scenario/event or only a hazard area to evaluate; estimated probability; combination of quantitative (exposure analysis, no hazard modeling) and qualitative data to estimate potential impacts.
- Low—Scenario or hazard area is undefined; there is a degree of uncertainty regarding event probability; majority of potential impacts are qualitative.



Table 9.31-12. Summary of Risk Assessment Results

Hazard of Concern	Hazard/ Scenario Area Evaluated	Population		Buildings		Economy (Loss)		Certainty Factor
Dam Failure	Partial or complete failure of a dam There are 18 dams in the Township, according to NJDEP.	Population impacted is dependent on the capacity of the dam, the extent of the dam failure inundation area and the severity of the failure.		The number of building impacted is dependent on the capacity of the dam, the extent of the dam failure inundation area and the severity of the failure.		Economic impacts include dam/building/infrastructure repairs; debris removal/disposal; utility impacts.		Low
Disease Outbreak	Disease Outbreaks which include: Mosquito-Borne Diseases, Tick-Borne Diseases, Campylobacteriosis, Influenza, Mumps, Ebola	Population impacted is dependent on the disease and severity of the outbreak; in some cases immuno-compromised persons are more vulnerable.		Structural impacts due to disease outbreak would be limited.		Economic losses can include County financial impacts to monitor/address outbreaks; lost wages or commercial interruptions; depends on the severity and type of disease outbreak. .		Low
Drought	Prolonged drought event - The County is serviced by water supplies who primarily get water from groundwater sources; some surface water sources.	Entire population exposed. Population on surface water supplies may be impacted first; water restrictions/contamination; increased wildfire risk.		Droughts are not expected to cause direct damage to buildings.		Losses include aesthetic, landscape/nursery/agricultural industry impacts.		Low
Earthquake	100, 500-, 2,500-Year Mean Return Period (MRP) Events evaluated	NEHRP D&E:	20,629	NEHRP D&E:	6,953	100-year Loss:	\$0	High
	NEHRP Soils D&E (soft soils that amplify ground shaking are present in the County)	Liquefaction Class 4:	2,503	Liquefaction Class 4:	833	500-year Loss:	\$13,254,493	
						2,500-year Loss:	\$190,432,053	
Extreme Temperature	Extreme temperature event (heat or cold)	Over 65 Population:	8,300	Physical impacts due to extreme temperatures would be limited.		Loss of business function is possible due to unexpected repairs (i.e. pipes bursting) or power failures.		Low



Hazard of Concern	Hazard/ Scenario Area Evaluated	Population		Buildings		Economy (Loss)		Certainty Factor
		Population Below Poverty Level:	2,352					
Flood	100- and 500-Year Mean Return Period Event	100-year	1,294	100-year	499	100-year Loss:	\$162,369,226	High
		500-year	3,324	500-year	1,080			
Geological	High Landslide Susceptibility Areas and Areas developed over carbonate rock	Class A:	0	Class A:	0	Class A:	0	Moderate
		Class B:	39	Class B:	10	Class B:	\$3,955,495	
		Carbonate Bedrock:	0	Carbonate Bedrock:	0	Carbonate Bedrock:	\$0	
Harmful Algal Bloom	Any body of water or area adjacent that is susceptible to harmful algal bloom.	Population in contact (e.g., swimming) or drinking water from surface water impacted can result in a range of health effects		General building stock impacts due to harmful algal bloom are not anticipated. Critical facilities (i.e., water treatment plants) could lead to plant closures.		Economic impacts range from recreational closure of impacted waterbodies; cost to sample/monitor/remediate.		Low
Hazardous Substance	Release of a hazardous substance from a fixed site.	Population impacted will depend on the type of material and scale of the incident. May include population within small radii of site.		The degree of damages to a building depends on the scale of the incident.		The degree of damages depends on the scale of the incident.		Low
Infestation	Infestation including: Insects [e.g. Gypsy Moth, Mosquitoes, Spotted Lanternfly, Emerald Ash Borer], White-Tailed Deer, Rodents	Population impacted will depend on the type and severity of infestation and may cause an increased risk for disease outbreak.		Physical impacts will be limited to indirect impacts from invasive species which affect crops and vegetation.		Economic impact will depend on the type and severity of infestation and may cause an increased risk for disease outbreak.		Low
Severe Weather	Severe Weather Event	Entire population exposed; The degree of impact to the population depends on the scale of the incident.		Entire building stock is exposed; The degree of impact depends on the scale of the incident.		Annualized Loss:	\$155,051	High
						100 -Year Loss:	\$2,345,617	
						500-year Loss:	\$13,187,086	
Severe Winter Weather	Severe Winter Weather Event	All residents/commuters/visitors are exposed; socially-vulnerable populations may be at increased risk.		All buildings are exposed; the degree of impact depends on the scale of the incident.		The cost of snow and ice removal and repair of roads/infrastructure can impact operating budgets.		Low
Wildfire	Wildfire Fuel Hazard areas (High, Very High, Extreme)	Wildfire:	45	Wildfire:	62	Wildfire:	\$67,155,304	Moderate

**REPETITIVE FLOOD LOSSES**

The following summarizes the repetitive and severe repetitive flood losses in the Township of Parsippany-Troy Hills.

- Number of repetitive loss (RL) properties: 45
- Number of severe repetitive loss (SRL) properties: 5
- Number of RL/SRL properties that have been mitigated: 15

Source: FEMA BureauNet, 2019

Note: RL and SRL as of 04/26/2019; The number of SRL properties excludes RL properties and includes properties that have been verified only (SRL_Indicator = V).

CRITICAL FACILITIES

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain.

Table 9.31-13. Potential Flood Losses to Critical Facilities and Lifelines

Name	Type	Exposure		Status of Mitigation
		1% Event	0.2% Event	
Rockaway Meadow Elementary School	School		x	
Arlington Plaza	Bus		x	
WXMC 1310	Communication	x	x	2020-Township of Parsippany-Troy Hills-012
Kakeout Dam	Dam	x	x	2020-Township of Parsippany-Troy Hills-011
Parsippany Dike	Dam	x	x	2020-Township of Parsippany-Troy Hills-011
Powder Mill Pond Dam	Dam	x	x	2020-Township of Parsippany-Troy Hills-011
Lake Parsippany Dam	Dam	x	x	2020-Township of Parsippany-Troy Hills-011
Littleton Well Property		x	x	2020-Township of Parsippany-Troy Hills-020

*Identified lifeline

ADDITIONAL IDENTIFIED VULNERABILITIES

The jurisdiction has identified the following vulnerabilities within their community:

- The Township has 45 repetitive loss properties and five severe repetitive loss properties.
- Drainage pipe from Lake Hiawatha School to Rockaway River needs to be inspected to ensure it is still functional. Fear of collapse due to age.
- Route 10 has a jersey barrier the entire length through the township. Have issues with cars getting stuck in snow as they try to u-turn.
- Lots of water main breaks. Aging water infrastructure.
- Need additional flood storage on major roadways. Heavy rainfall events are increasing and exceeding stormwater capabilities.
- New Road: municipal road links 246 and 280. Main cut through for travels from 280 to 80. Local cut through. When rockaway river overtops, the road is flooded.
- Levee is not certified.
- The transient community may be more vulnerable to disease outbreak.



- Closing off flooded roadways in a timely manner is difficult.
- The Township has numerous highways which may have various unknown substances.

HAZARD AREA EXTENT AND LOCATION

Hazard area extent and location maps were generated for the Township of Parsippany-Troy Hills that illustrate the probable areas impacted within the municipality. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Township of Parsippany-Troy Hills has significant exposure. Refer to Figures 9.31-1 and 9.31-2.

HAZARD RANKING

This section includes the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 5 (Risk Assessment). The ranking process involves an assessment of the likelihood of occurrence for each hazard; its potential impacts on people, property, and the economy; community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 4.3 (Hazard Ranking), each plan participant may have differing degrees of risk exposure and vulnerability compared to Morris County as a whole. Therefore, each jurisdiction ranked the degree of risk to each hazard as it pertains to their community factoring in their capabilities to withstand impacts and bounce back after the event. The table below summarizes the hazard rankings of potential natural hazards for the Township of Parsippany-Troy Hills. The Township of Parsippany-Troy Hills has reviewed the Morris County hazard ranking table, as well as its individual results, to reflect the relative risk of the hazards of concern to the community. During the review of the hazard ranking, the Township indicated the following:

- The Township of Parsippany-Troy Hills changed the hazard ranking for geological hazards from low to medium.

Table 9.31-14. Township of Parsippany-Troy Hills Hazard Ranking Input

Dam Failure	Drought	Earthquake	Extreme Temperature	Flood	Geological Hazard
High	Medium	Medium	Medium	High	Medium

Harmful Algal Bloom	Severe Storm	Severe Winter Storm	Wildfire	Hazardous Substances	Disease Outbreak	Infestation
Low	High	High	Medium	High	High	Medium

9.31.7 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and provides action prioritization.

**PAST MITIGATION INITIATIVE STATUS**

The following table summarizes the jurisdiction's progress on their mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and can also be found under 'Capability Assessment' presented previously in this annex.

Table 9.31-15. Status of Previous HMP Mitigation Actions

2015 Action Number Action Description	Responsible Party	Status (In Progress, No Progress, Ongoing Capability, or Completed)	Include in the 2020 HMP Update?	
			Check if Yes	Enter 2020 HMP Action #
PTH – 1: Support elevation/acquisition of SRL, RL and NFIP insured properties within the Township	Engineering	In Progress; refer to the updated mitigation strategy	X	2020-Township of Parsippany-Troy Hills-001
PTH – 2: Purchase and installation of generators (Parsippany-Troy Hills Township School District)	OEM	In Progress; refer to the updated mitigation strategy	X	2020-Township of Parsippany-Troy Hills-002
PTH – 3: Create/Enhance/Maintain Mutual Aid agreements with neighboring communities for continuity of operations	Municipality	In Progress; refer to the updated mitigation strategy	X	2020-Township of Parsippany-Troy Hills-003
PTH – 4: Engineering study to determine mitigation action for New Road, Vail Road between Carlson Place and Montville, Chesterfield Drive, Holmdel Drive, Sandalwood Drive, Larkspur Drive, and Sagamore Road to alleviate flooding.	Engineering	In Progress; refer to the updated mitigation strategy	X	2020-Township of Parsippany-Troy Hills-004
PTH – 5: Acquisition of repetitive loss properties on Sagamore Street, and South Beverwyck, River Road.	Engineering	In Progress; refer to the updated mitigation strategy	X	2020-Township of Parsippany-Troy Hills-001
PTH – 6: Flood wall along river Sagamore Street.	Engineering	In Progress; refer to the updated mitigation strategy	X	2020-Township of Parsippany-Troy Hills-005
PTH – 7: Relocation of EOC on 1 Pump House Road	OEM	In Progress; refer to the updated mitigation strategy	X	2020-Township of Parsippany-Troy Hills-006
PTH – 8: Backup power (generator) for Parsippany High School (shelter) on Baldwin Road.	OEM	Complete		
PTH – 9: Backup power for Police Athletic Building on Baldwin Road.	OEM	In Progress; refer to the updated mitigation strategy	X	2020-Township of Parsippany-Troy Hills-007
PTH – 10: Backup power for Community Center (shelter) on Knoll Road.	OEM	In Progress; refer to the updated mitigation strategy	X	2020-Township of Parsippany-Troy Hills-008
PTH – 11: Construct and extend current floodwall that runs between Cayuga Road and Hoffman Avenue.	Engineering	In Progress; refer to the updated mitigation strategy	X	2020-Township of Parsippany-Troy Hills-009
PTH – 12: Construct a backup pump system for pumping station on Rockaway Boulevard between Lakeshore Drive and Wilbur Avenue.	Engineering	In Progress; refer to the updated mitigation strategy	X	2020-Township of Parsippany-Troy Hills-010



2015 Action Number Action Description	Responsible Party	Status (In Progress, No Progress, Ongoing Capability, or Completed)	Include in the 2020 HMP Update?	
			Check if Yes	Enter 2020 HMP Action #
PTH – 13: Construct new/upgrade Mirror Lake Dam on Elmwood Drive.	Engineering	In Progress; refer to the updated mitigation strategy	X	2020-Township of Parsippany-Troy Hills-011
PTH – 14: Construct new/upgrade dams Manor Lake Dam on Lakeside Drive.	Engineering	Complete		
PTH – 15: Construct new/upgrade dams: Forge Pond Dam on Springfield Court.	Engineering	In Progress; refer to the updated mitigation strategy	X	2020-Township of Parsippany-Troy Hills-012
PTH – 16: Alert system downstream of Boonton Dam in conjunction with Boonton Town and Montville.	OEM	In Progress; refer to the updated mitigation strategy	X	2020-Township of Parsippany-Troy Hills-013
PTH – 17: Develop all-hazards public education and outreach program for hazard mitigation and preparedness.	County OEM	In Progress; refer to the updated mitigation strategy	X	2020-Township of Parsippany-Troy Hills-019
PTH – 18: Increase capacity of undersized culvert in Jefferson Road	Engineering	In Progress; Undersized. High volume of traffic. UPS hub nearby so it impacts commerce. When Route 287 was widened, the culvert wasn't upsized. Numerous cars have been lost including a police vehicle.	X	2020-Township of Parsippany-Troy Hills-014
PTH – 19: Install a gauge station on the Rockaway River at Vail Road	Engineering	In Progress; refer to the updated mitigation strategy where flooding is being addressed in	X	2020-Township of Parsippany-Troy Hills-004

PROPOSED HAZARD MITIGATION INITIATIVES FOR THE PLAN UPDATE

The Township of Parsippany-Troy Hills participated in a risk assessment workshop in November 2019 in which detailed information was provided about assets exposed and vulnerable to the identified hazards of concern. The Township of Parsippany-Troy Hills participated in a mitigation action workshop in March 2020 and was provided a Mitigation Toolbox that included a mitigation catalog developed specifically for Morris County and its hazards of concerns; challenges and opportunities identified during the capability and risk assessments; and the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 *Selecting Appropriate Mitigation Measures for Floodprone Structures* (March 2007) and FEMA *Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards* (January 2013). Section 6 (Mitigation Strategy) and Appendix F (Mitigation Strategy Supplement) provide a more complete description of the Mitigation Toolbox and its resources.

Table 9.31-16 summarizes the comprehensive-range of specific mitigation initiatives the Township of Parsippany-Troy Hills would like to pursue in the future to reduce the effects of hazards. Some of these initiatives might be previous actions carried forward for this HMP update. Initiatives are dependent upon available funding (grants and local match availability) and can be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the 4 FEMA mitigation action categories and the 6 CRS



mitigation action categories are listed in the table below to further demonstrate the wide-range of activities and mitigation measures selected.

As discussed in Section 6 (Mitigation Strategy), 14 criteria were used to evaluate each action, including an evaluation of the benefits and costs. For each new mitigation action, a numeric rank was assigned (-1, 0, or 1) for each of the 14 evaluation criteria. The results of this evaluation, in addition to input from the jurisdiction, were then used to prioritize the mitigation initiatives as 'High', 'Medium', or 'Low.' Table 9.31-17 summarizes the evaluation of each mitigation initiative and the resulting priority, listed by Action Number.



Table 9.31-16. Proposed Hazard Mitigation Initiatives and Associated Priority

Initiative Number	Mitigation Initiative Name	Description of the Problem	Description of the Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Cost	Timeline	Priority	Mitigation Category	CRS Category
2020-Township of Parsippany-Troy Hills-001	Support elevation/acquisition of SRL, RL and NFIP insured properties within the Township	The Township has 45 repetitive loss properties and 5 severe repetitive loss (SRL) properties	Support elevation/acquisition of SRL, RL and NFIP insured properties within the Township	Existing	Flood, Severe Storm	3, 4	Engineering	HMGP, HMA Grants	Eliminates flood damage to homes and residents, creates open space for the municipality increasing flood storage.	\$3 Million	Within 3 years	High	SIP	PP
2020-Township of Parsippany-Troy Hills-002	Parsippany-Troy Hills Township School District generators	Parsippany-Troy Hills Township School District lacks backup generator	Purchase and installation of generators	Existing	All hazards	3	Parsippany-Troy Hills Township School District, OEM	FEMA HMGP and PDM, USDA Community Facilities Grant Program, Emergency Management Performance Grants (EMPG) Program, Municipal Budget	Continuity of operation maintained	\$100,000	Within 3 years	High	SIP	ES



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Initiative Number	Mitigation Initiative Name	Description of the Problem	Description of the Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Cost	Timeline	Priority	Mitigation Category	CRS Category
2020-Township of Parsippany-Troy Hills-003	Mutual Aid agreements	The Township needs additional mutual aid agreements	Create/Enhance/Maintain Mutual Aid agreements with neighboring communities for continuity of operations	N/A	All hazards	3	Municipality	Municipal Budget	Continuity of operations maintained	Staff time	Within 1 year	Medium	LPR	PR
2020-Township of Parsippany-Troy Hills-004	Flood study for flood prone streets.	Flooding occurs on New Road, Vail Road between Carlson Place and Montville, Chesterfield Drive, Holmdel Drive, Sandalwood Drive, Larkspur Drive, and Sagamore Road.	Engineering study to determine appropriate mitigation action. Implement selected action.	Existing	Flood, Severe Storm	3	Engineering	HMGP, Municipal Budget	Reduction in flood risk in selected areas	Staff time	Within 5 years	Medium	LPR, SIP	PP
2020-Township of Parsippany-Troy Hills-005	Flood wall along river Sagamore Street.	Sagamore Street is flood prone	Construct flood wall along river along Sagamore Street	Existing	Flood	3	Engineering	HMGP, PDM, FMA, Municipal budget	Reduction in flooding	\$200,000	Within 3 years	High	SIP	SP
2020-Township of Parsippany-Troy Hills-006	Relocation of EOC on 1 Pump House Road	EOC on 1 Pump House Road is not located in an ideal position.	Relocate EOC.	Existing	All hazards	3	OEM	FEMA HMGP and PDM, USDA Community Facilities Grant Program, Emergency Management	Increased effectiveness of EOC	\$250,000	Within 5 years	Medium	SIP	ES



Initiative Number	Mitigation Initiative Name	Description of the Problem	Description of the Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Cost	Timeline	Priority	Mitigation Category	CRS Category
								Performance Grants (EMPG) Program, Municipal Budget						
2020-Township of Parsippany-Troy Hills-007	Backup power for Police Athletic Building on Baldwin Road.	The facility lacks backup power	Purchase and install backup generators and necessary electrical components.	Existing	All hazards	3	OEM	FEMA HMGP and PDM, USDA Community Facilities Grant Program, Emergency Management Performance Grants (EMPG) Program, Municipal Budget	Continuity of operations	\$25,000	Within 2 years	High	SIP	PP
2020-Township of Parsippany-Troy Hills-008	Backup power for Community Center (shelter) on Knoll Road.	The facility lacks backup power	Purchase and install backup generators and necessary electrical components.	Existing	All hazards	3	OEM	FEMA HMGP and PDM, USDA Community Facilities Grant Program, Emergency Management Performance Grants	Continuity of operations	\$25,000	Within 2 years	High	SIP	PP



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Initiative Number	Mitigation Initiative Name	Description of the Problem	Description of the Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Cost	Timeline	Priority	Mitigation Category	CRS Category
								(EMPG) Program, Municipal Budget						
2020-Township of Parsippany-Troy Hills-009	Floodwall extension on Cayuga Road and Hoffman Avenue.	The floodwall on Cayuga Road and Hoffman Avenue needs to be extended to provide proper flood protection	Construct and extend current floodwall that runs between Cayuga Road and Hoffman Avenue.	Existing	Flood	3	Engineering	HMGP, PDM, FMA, Municipal budget	Increased flood protection	\$250,000	Within 2 years	Medium	SIP	SP
2020-Township of Parsippany-Troy Hills-010	Backup pump for Rockaway Boulevard Pump Station	The Rockaway Boulevard Pump Station lacks a backup pump	Construct a backup pump system for pumping station on Rockaway Boulevard between Lakeshore Drive and Wilbur Avenue.	Existing	Flood	3	Engineering	Municipal budget	Continuity of operations	\$200,000	Within 5 years	High	SIP	SP
2020-Township of Parsippany-Troy Hills-011	Dams in flood zone	The Township has numerous dams located in the flood zone. It is already known that Forge Pond Dam on Springfield Court and Mirror Lake Dam on Elmwood Drive is in need of replacement or upgrade.	Engineering study to determine status of dams and level of flood protection. Upgrade dams or replace dams if upgrades are not possible.	Existing	Dam Failure, Flood	3	Engineering	HMGP, PDM, FMA, Municipal budget	Prevent dam failure	TBD by study	Within 5 years	Medium	SIP	SP
2020-Township of	WXMC 1310	WXMC 1310 is a critical communications	Conduct outreach to the property owner	Existing	Flood	1	FPA, Facility Manager	Municipal budget	Increased protec	Staff time	Within	Medium	EAP	PI



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Initiative Number	Mitigation Initiative Name	Description of the Problem	Description of the Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Cost	Timeline	Priority	Mitigation Category	CRS Category
Parsippany-Troy Hills-012		facility located in the 100-year floodplain.	to discuss flood exposure and potential mitigation actions						tion of critical facility		1 year			
2020-Township of Parsippany-Troy Hills-013	Alert system downstream of Boonton Dam	There is no alert system downstream of Boonton Dam.	Establish alert system downstream of Boonton Dam in conjunction with Boonton Town and Montville.	New and Existing	Dam Failure		OEM, Boonton Town, Montville	Municipal budgets of Parsippany, Boonton, Montville	Increase emergency notifications.	\$100,000	Within 5 years	High	EAP	PI, ES
2020-Township of Parsippany-Troy Hills-014	Increase capacity of undersized culvert in Jefferson Road	The culvert in Jefferson Road is undersized.	Replace the culvert with an upsized culvert.	Existing	Flood, Severe Storm	3	Engineering	HMGP, Municipal budget	Reduce flood risk	\$50,000	Within 3 years	Medium	SIP	SP
2020-Township of Parsippany-Troy Hills-015	Drainage pipe inspection	Drainage pipe from Lake Hiawatha School to Rockaway River needs to be inspected to ensure it is still functional. Fear of collapse due to age.	Engineering will inspect the pipe and make any necessary improvements	Existing	Flood	3	Engineering	Municipal budget	Prevent collapse	TBD by inspection	Within 3 years	High	SIP	SP
2020-Township of Parsippany-Troy Hills-016	Route 10 improvements	Route 10 has a jersey barrier the entire length through the township. Have issues with cars getting stuck in snow as they try to u-turn. Route 10 is a State Road.	OEM will contact the state DOT to determine possible improve conditions during snow.	Existing	Severe Winter Storm	3	NJ DOT, OEM	Municipal budget	Reduction in stranded motorists	Staff time	Within 6 months	High	SIP	PP



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Initiative Number	Mitigation Initiative Name	Description of the Problem	Description of the Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Cost	Timeline	Priority	Mitigation Category	CRS Category
2020-Township of Parsippany-Troy Hills-017	Survey of water infrastructure	Aging water infrastructure is leading to many water main breaks, specifically during extreme temperature events.	Engineering will complete a survey of water infrastructure system and complete necessary upgrades.	Existing	Extreme Temperature	3	Engineering	Municipal budget	Reduction in water breaks	TBD by survey	Within 5 years	High	SIP	PP
2020-Township of Parsippany-Troy Hills-018	Flood protection for New Road	New Road: municipal road links 246 and 280. Main cut through for travels from 280 to 80. Local cut through. When rockaway river overtops, the road is flooded.	Conduct flood study to determine possible mitigation actions. Implement selected action.	Existing	Flood	3	Engineering	Municipal budget, HMGP	Reduction in flooding	TBD by flood study	Within 5 years	High	SIP	PP
2020-Township of Parsippany-Troy Hills-019	Disease Outbreak, Flood, and Hazardous Materials outreach	The transient community may be more vulnerable to disease outbreak. Closing off flooded roadways in a timely manner is difficult. The Township has numerous highways which may have various unknown substances.	OEM will conduct outreach regarding disease outbreak, flood, and hazardous materials.	N/A	Disease Outbreak, Flood, Hazardous Materials.	1	OEM	Municipal budget	Educated public	\$5,000	Within 1 year	High	EAP	PI



Initiative Number	Mitigation Initiative Name	Description of the Problem	Description of the Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Cost	Timeline	Priority	Mitigation Category	CRS Category
2020-Township of Parsippany-Troy Hills-020	Littleton Well Property	The Littleton Well Property is a critical communications facility located in the 100-year floodplain.	Conduct outreach to the property owner to discuss flood exposure and potential mitigation actions	Existing	Flood	1	FPA, Facility Manager	Municipal budget	Increased protection of critical facility	Staff time	Within 1 year	Medium	EAP	PI

Notes:

Acronyms and Abbreviations:

CAV	Community Assistance Visit
CRS	Community Rating System
DPW	Department of Public Works
FEMA	Federal Emergency Management Agency
FPA	Floodplain Administrator
HMA	Hazard Mitigation Assistance
N/A	Not applicable
NFIP	National Flood Insurance Program
OEM	Office of Emergency Management

Potential FEMA HMA Funding Sources:

FMA	Flood Mitigation Assistance Grant Program
HMGP	Hazard Mitigation Grant Program
PDM	Pre-Disaster Mitigation Grant Program

Timeline:

The time required for completion of the project upon implementation

Cost:

The estimated cost for implementation.

Benefits:

A description of the estimated benefits, either quantitative and/or qualitative.

Mitigation Category:

- Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.
- Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.
- Natural Systems Protection (NSP) – These are actions that minimize damage and losses and preserve or restore the functions of natural systems.
- Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities.

CRS Category:

- Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.
- Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.
- Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.
- Natural Resource Protection (NR) - Actions that minimize hazard loss and preserve or restore the functions of natural systems. Actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
- Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.
- Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities.



Table 9.31-17. Summary of Evaluation and Action Priority

Initiative Number	Mitigation Initiative Name	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2020-Township of Parsippany-Troy Hills-001	Support elevation/acquisition of SRL, RL and NFIP insured properties within the Township	1	1	1	1	1	1	0	1	0	0	1	0	1	1	10	High
2020-Township of Parsippany-Troy Hills-002	Parsippany-Troy Hills Township School District generators	1	1	1	1	1	0	0	1	1	1	1	1	1	1	12	High
2020-Township of Parsippany-Troy Hills-003	Mutual Aid agreements	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2020-Township of Parsippany-Troy Hills-004	Flood study for flood prone streets.	0	1	0	1	1	1	0	1	0	0	1	0	1	1	8	Medium
2020-Township of Parsippany-Troy Hills-005	Flood wall along river Sagamore Street.	0	1	0	1	1	1	0	1	0	0	1	0	1	1	8	Medium
2020-Township of Parsippany-	Relocation of EOC on 1 Pump House Road	1	0	0	1	1	1	0	1	1	1	1	1	1	1	11	High



Initiative Number	Mitigation Initiative Name	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
Troy Hills-006																	
2020-Township of Parsippany-Troy Hills-007	Backup power for Police Athletic Building on Baldwin Road.	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
2020-Township of Parsippany-Troy Hills-008	Backup power for Community Center (shelter) on Knoll Road.	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
2020-Township of Parsippany-Troy Hills-009	Floodwall extension on Cayuga Road and Hoffman Avenue.	0	1	0	1	1	1	0	1	0	0	1	0	1	1	8	Medium
2020-Township of Parsippany-Troy Hills-010	Backup pump for Rockaway Boulevard Pump Station	1	0	1	1	1	1	0	0	1	1	0	1	1	1	10	High
2020-Township of Parsippany-Troy Hills-011	Dams in flood zone	1	1	1	1	1	1	0	1	1	1	1	0	1	1	12	High
2020-Township of Parsippany-	WXMC 1310	0	1	1	1	1	1	1	1	1	1	0	1	1	1	12	High



Initiative Number	Mitigation Initiative Name	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
Troy Hills-012																	
2020-Township of Parsippany-Troy Hills-013	Alert system downstream of Boonton Dam	1	0	1	1	1	1	1	1	1	1	0	1	1	1	12	High
2020-Township of Parsippany-Troy Hills-014	Increase capacity of undersized culvert in Jefferson Road	1	1	0	1	1	1	0	1	0	0	1	0	1	1	9	High
2020-Township of Parsippany-Troy Hills-015	Drainage pipe inspection	0	1	1	1	1	1	1	1	1	1	0	0	1	1	12	High
2020-Township of Parsippany-Troy Hills-016	Route 10 improvements	1	0	1	1	1	0	0	1	1	1	0	1	1	1	10	High
2020-Township of Parsippany-Troy Hills-017	Survey of water infrastructure	1	1	1	1	1	1	1	1	1	1	0	0	1	1	12	High
2020-Township of Parsippany-	Flood protection for New Road	0	1	0	1	1	1	0	1	0	0	0	0	1	1	7	Medium



Initiative Number	Mitigation Initiative Name	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
Troy Hills-018																	
2020-Township of Parsippany-Troy Hills-019	Disease Outbreak, Flood, and Hazardous Materials outreach	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2020-Township of Parsippany-Troy Hills-020	Littleton Well Property	0	1	1	1	1	1	1	1	1	1	0	1	1	1	12	High

Notes: Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions.



Table 9.31-18. Analysis of Mitigation Actions by Hazard and Category

Hazard	Prevention	Property Protection	Public Education and Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
Dam Failure	2020-Township of Parsippany-Troy Hills-003	2020-Township of Parsippany-Troy Hills-007, 2020-Township of Parsippany-Troy Hills-008	2020-Township of Parsippany-Troy Hills-013		2020-Township of Parsippany-Troy Hills-002, 2020-Township of Parsippany-Troy Hills-006, 2020-Township of Parsippany-Troy Hills-013	2020-Township of Parsippany-Troy Hills-011		
Disease Outbreak	2020-Township of Parsippany-Troy Hills-003	2020-Township of Parsippany-Troy Hills-007, 2020-Township of Parsippany-Troy Hills-008	2020-Township of Parsippany-Troy Hills-019		2020-Township of Parsippany-Troy Hills-002, 2020-Township of Parsippany-Troy Hills-006			
Drought	2020-Township of Parsippany-Troy Hills-003	2020-Township of Parsippany-Troy Hills-007, 2020-Township of Parsippany-Troy Hills-008			2020-Township of Parsippany-Troy Hills-002, 2020-Township of Parsippany-Troy Hills-006			
Earthquake	2020-Township of Parsippany-Troy Hills-003	2020-Township of Parsippany-Troy Hills-007, 2020-Township of Parsippany-Troy Hills-008			2020-Township of Parsippany-Troy Hills-002, 2020-Township of Parsippany-Troy Hills-006			
Extreme Temperature	2020-Township of Parsippany-Troy Hills-003	2020-Township of Parsippany-Troy Hills-007, 2020-Township of Parsippany-Troy Hills-			2020-Township of Parsippany-Troy Hills-002, 2020-Township of Parsippany-Troy Hills-006			



Hazard	Prevention	Property Protection	Public Education and Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
		008, 2020-Township of Parsippany-Troy Hills-017						
Flood	2020-Township of Parsippany-Troy Hills-003	2020-Township of Parsippany-Troy Hills-001, 2020-Township of Parsippany-Troy Hills-004, 2020-Township of Parsippany-Troy Hills-007, 2020-Township of Parsippany-Troy Hills-008, 2020-Township of Parsippany-Troy Hills-018	2020-Township of Parsippany-Troy Hills-012, 2020-Township of Parsippany-Troy Hills-019, 2020-Township of Parsippany-Troy Hills-020		2020-Township of Parsippany-Troy Hills-002, 2020-Township of Parsippany-Troy Hills-006	2020-Township of Parsippany-Troy Hills-005, 2020-Township of Parsippany-Troy Hills-009, 2020-Township of Parsippany-Troy Hills-010, 2020-Township of Parsippany-Troy Hills-011, 2020-Township of Parsippany-Troy Hills-014, 2020-Township of Parsippany-Troy Hills-015		
Geologic	2020-Township of Parsippany-Troy Hills-003	2020-Township of Parsippany-Troy Hills-007, 2020-Township of Parsippany-Troy Hills-008			2020-Township of Parsippany-Troy Hills-002, 2020-Township of Parsippany-Troy Hills-006			
Harmful Algal Bloom	2020-Township of Parsippany-Troy Hills-003	2020-Township of Parsippany-Troy Hills-007, 2020-Township of Parsippany-			2020-Township of Parsippany-Troy Hills-002, 2020-Township of Parsippany-Troy Hills-006			



Hazard	Prevention	Property Protection	Public Education and Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
		Troy Hills-008						
Hazardous Substances	2020-Township of Parsippany-Troy Hills-003	2020-Township of Parsippany-Troy Hills-007, 2020-Township of Parsippany-Troy Hills-008	2020-Township of Parsippany-Troy Hills-019		2020-Township of Parsippany-Troy Hills-002, 2020-Township of Parsippany-Troy Hills-006			
Infestation	2020-Township of Parsippany-Troy Hills-003	2020-Township of Parsippany-Troy Hills-007, 2020-Township of Parsippany-Troy Hills-008			2020-Township of Parsippany-Troy Hills-002, 2020-Township of Parsippany-Troy Hills-006			
Severe Weather	2020-Township of Parsippany-Troy Hills-003	2020-Township of Parsippany-Troy Hills-001, 2020-Township of Parsippany-Troy Hills-004, 2020-Township of Parsippany-Troy Hills-007, 2020-Township of Parsippany-Troy Hills-008, 2020-Township of Parsippany-Troy Hills-016			2020-Township of Parsippany-Troy Hills-002, 2020-Township of Parsippany-Troy Hills-006	2020-Township of Parsippany-Troy Hills-014		
Severe Winter Weather	2020-Township of Parsippany-Troy Hills-003	2020-Township of Parsippany-Troy Hills-007, 2020-Township of			2020-Township of Parsippany-Troy Hills-002, 2020-Township of Parsippany-			



Hazard	Prevention	Property Protection	Public Education and Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
		Parsippany-Troy Hills-008			Troy Hills-006			
Wildfire	2020-Township of Parsippany-Troy Hills-003	2020-Township of Parsippany-Troy Hills-007, 2020-Township of Parsippany-Troy Hills-008			2020-Township of Parsippany-Troy Hills-002, 2020-Township of Parsippany-Troy Hills-006			

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

9.31.8 Staff and Local Stakeholder Involvement in Annex Development

The Township of Parsippany-Troy Hills followed the planning process described in Section 2 (Planning Process). This annex was developed over the course of several months with input from many jurisdiction representatives. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization. The following table summarizes who participated and in what capacity. Additional documentation on the municipality's planning process through Planning Partnership meetings is included in Section 2 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.31-19. Contributors to the Annex

Entity	Title	Method of Participation
John J. Wieners	OEM Coordinator	Primary POC, reviewed annex, attended plan participant meetings, provided impact data, contributed to the mitigation strategy.
Justin Lizza	Township Engineer	Secondary POC, reviewed annex, attended plan participant meetings, provided impact data, contributed to the mitigation strategy.



Figure 9.31-1. Township of Parsippany-Troy Hills Hazard Area Extent and Location Map

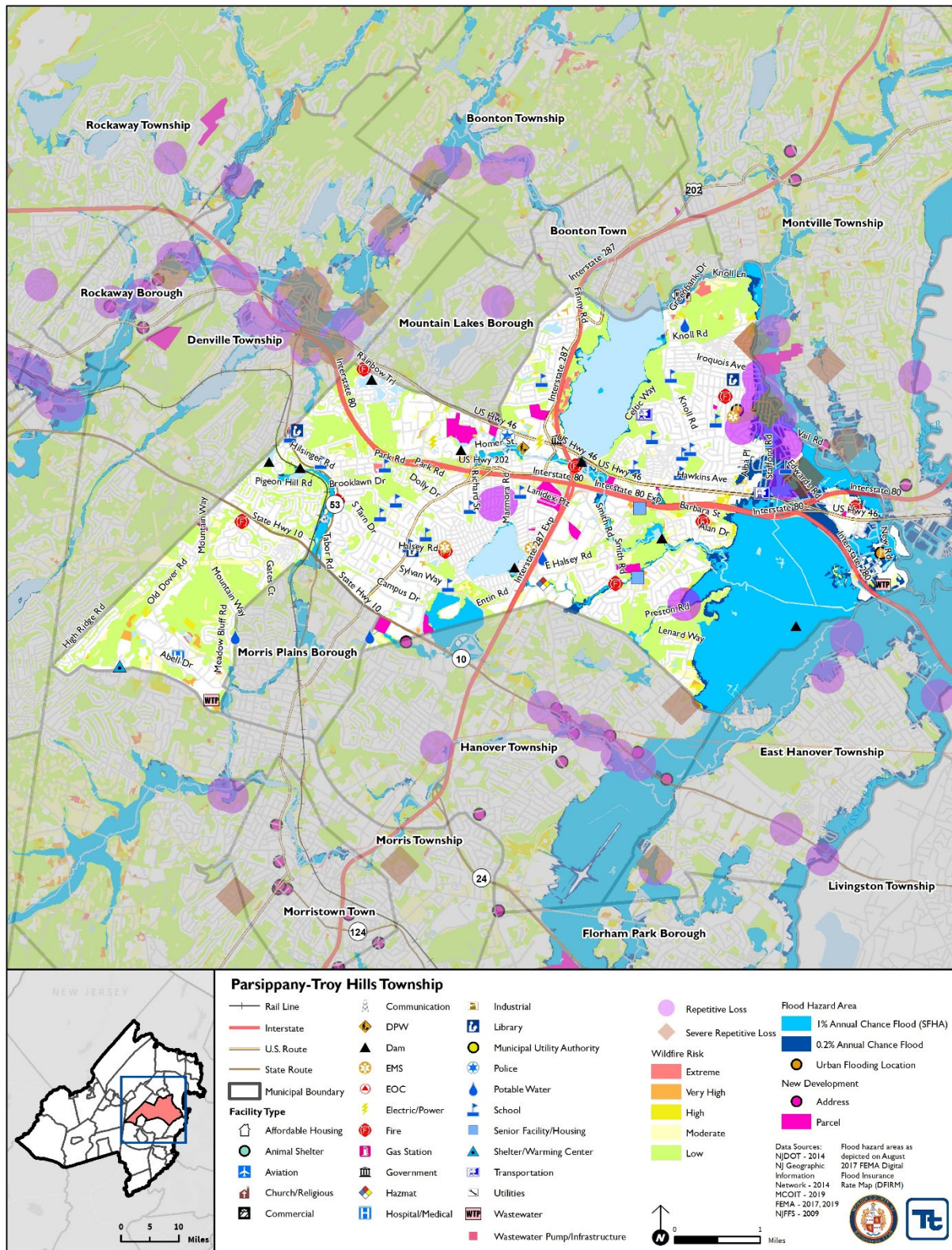
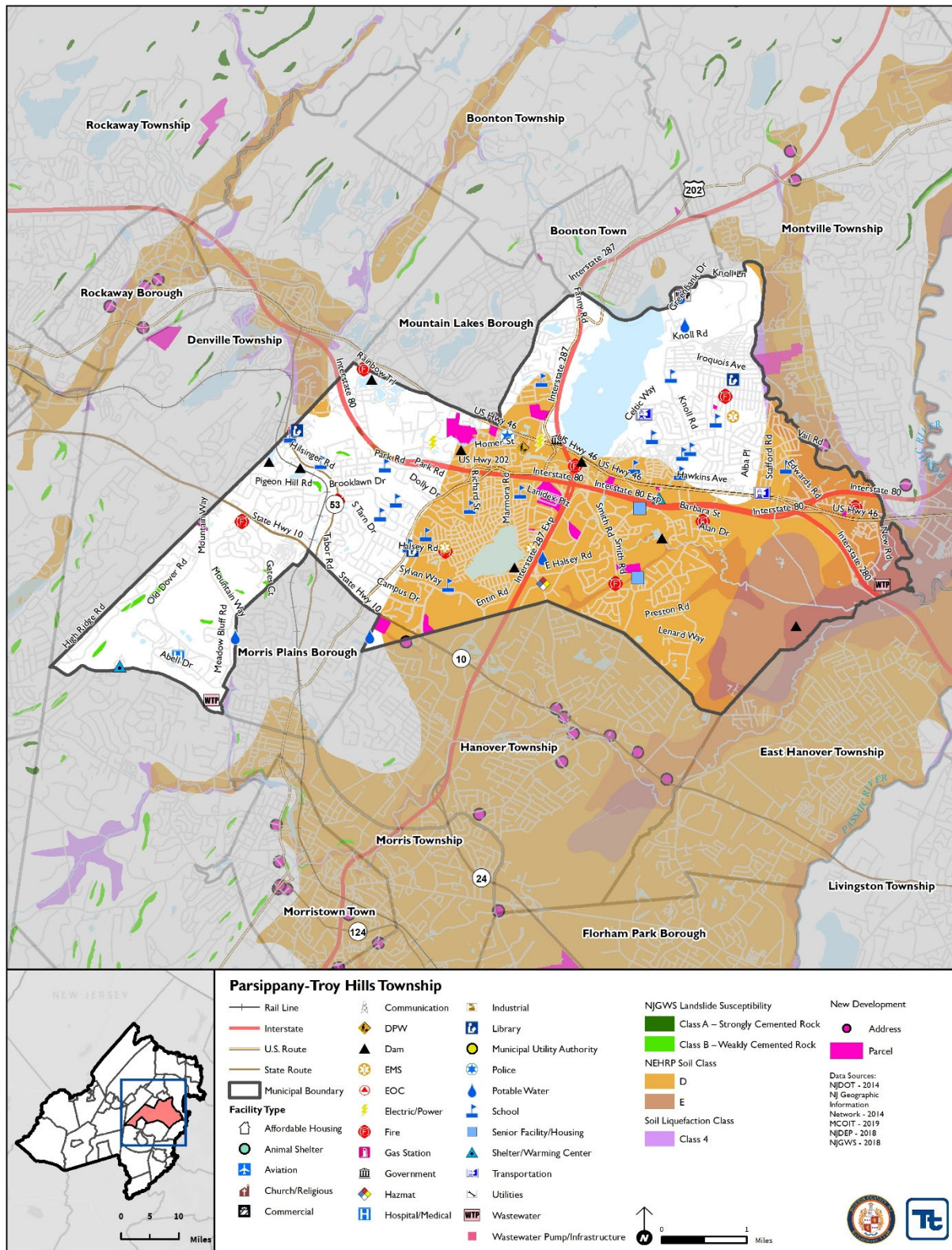




Figure 9.31-2. Township of Parsippany-Troy Hills Hazard Area Extent and Location Map





Action Worksheet			
Project Name:	Support elevation/acquisition of SRL, RL and NFIP insured properties within the Township		
Project Number:	2020-Township of Parsippany-Troy Hills-001		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm		
Description of the Problem:	Frequent flooding events have resulted in damages in flood prone areas . This area is residential, and these properties have been repetitively flooded as documented by paid NFIP claims. The Township has 45 repetitive loss properties and 5 severe repetitive loss (SRL) properties		
Action or Project Intended for Implementation			
Description of the Solution:	Conduct outreach to 30 flood-prone property owners, including RL/SRL property owners and provide information on mitigation alternatives. After preferred mitigation measures are identified, collect required property-owner information and develop a FEMA grant application and BCA to obtain funding to implement acquisition/purchase/moving/elevating residential homes in the floodprone areas that experience frequent flooding (high risk areas).		
Is this project related to a Critical Facility or Lifeline?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Level of Protection:	1% annual chance flood event + freeboard <i>(in accordance with flood ordinance)</i>	Estimated Benefits (losses avoided):	Eliminates flood damage to homes and residents, creates open space for the municipality increasing flood storage.
Useful Life:	Acquisition: Lifetime Elevation: 30 years (residential)	Goals Met:	3, 4
Estimated Cost:	\$3Million	Mitigation Action Type:	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	6-12 months
Estimated Time Required for Project Implementation:	Three years	Potential Funding Sources:	FEMA HMGP and FMA, local cost share by residents
Responsible Organization:	NFIP Floodplain Administrator, supported by homeowners	Local Planning Mechanisms to be Used in Implementation if any:	Hazard Mitigation
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
	Elevate homes	\$500,000	When this area floods, the entire area is impacted; elevating homes would not eliminate the problem and still lead to road closures and impassable roads
	Elevate roads	\$500,000	Elevated roadways would not protect the homes from flood damages
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Mitigate flood-prone properties, including RL/SRL properties	
Project Number:	2020-Township of Parsippany-Troy Hills-001	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Families moved out of high-risk flood areas.
Property Protection	1	Properties removed from high-risk flood areas.
Cost-Effectiveness	1	Cost-effective project
Technical	1	Technically feasible project
Political	1	
Legal	1	The Township has the legal authority to conduct the project.
Fiscal	0	Project will require grant funding.
Environmental	1	
Social	0	Project would remove families from the floodprone areas of the Township.
Administrative	0	
Multi-Hazard	1	Flood, Severe Storm
Timeline	0	
Agency Champion	1	NFIP Floodplain Administrator, supported by homeowners
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	Parsippany-Troy Hills Township School District generators		
Project Number:	2020-Township of Parsippany-Troy Hills-002		
Risk / Vulnerability			
Hazard(s) of Concern:	All hazards		
Description of the Problem:	Parsippany-Troy Hills Township School District lacks backup powers to support continuity of operations.		
Action or Project Intended for Implementation			
Description of the Solution:	The Township OEM will work with the school district to research what size generators is necessary to supply backup power the district's schools. The township will then assist with the purchase and installation of generators.		
Is this project related to a Critical Facility?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Level of Protection:	N/A	Estimated Benefits (losses avoided):	Ensures continuity of operations; provides a shelter for residents
Useful Life:	20 years	Goals Met:	3
Estimated Cost:	\$100,000	Mitigation Action Type:	Structure and Infrastructure Projects (SIP)
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Immediately after funding received
Estimated Time Required for Project Implementation:	1 year	Potential Funding Sources:	FEMA HMGP and PDM, USDA Community Facilities Grant Program, Emergency Management Performance Grants (EMPG) Program, Municipal Budget
Responsible Organization:	Parsippany-Troy Hills Township School District, OEM	Local Planning Mechanisms to be Used in Implementation if any:	Hazard Mitigation, Emergency Management
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Problem continues.
	Install solar panels	\$100,000	Weather dependent; need large amount of space for installation; expensive if repairs needed
	Install wind turbine	\$100,000	Weather dependent; poses a threat to wildlife; expensive repairs if needed
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Parsippany-Troy Hills Township School District generators	
Project Number:	2020-Township of Parsippany-Troy Hills-002	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Project will protect critical services of the School District.
Property Protection	1	Project will protect School District from power loss.
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	0	The Township does not have the legal authority to complete the project.
Fiscal	0	Project requires funding support.
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	All hazards
Timeline	1	1 year
Agency Champion	1	Parsippany-Troy Hills Township School District, OEM
Other Community Objectives	1	
Total	12	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	Flood study for flood prone streets.		
Project Number:	2020-Township of Parsippany-Troy Hills-004		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm		
Description of the Problem:	Flooding occurs on New Road, Vail Road between Carlson Place and Montville, Chesterfield Drive, Holmdel Drive, Sandalwood Drive, Larkspur Drive, and Sagamore Road.		
Action or Project Intended for Implementation			
Description of the Solution:	Engineering study to determine appropriate mitigation action. Implement selected action. Implement drainage solutions, including drainage basins and increased sewer capacity to carry excess stormwater away from these locations.		
Is this project related to a Critical Facility or Lifeline?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Level of Protection:	TBD	Estimated Benefits (losses avoided):	Reduction in flood risk in selected areas
Useful Life:	TBD by flood study	Goals Met:	3
Estimated Cost:	TBD by study	Mitigation Action Type:	Local Plans and Regulations, Structure and Infrastructure Projects
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 5 years
Estimated Time Required for Project Implementation:	5 years	Potential Funding Sources:	HMGP, municipal budget
Responsible Organization:	Engineering	Local Planning Mechanisms to be Used in Implementation if any:	Hazard mitigation planning, stormwater planning
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
	Elevate roadways	\$500,000	Costly and may not solve problem
	Relocate roadways	N/A	Not possible
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Action Worksheet



Project Name:	Flood study for flood prone streets.	
Project Number:	2020-Township of Parsippany-Troy Hills-004	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	.
Property Protection	1	Reduction in flooding risk
Cost-Effectiveness	0	
Technical	1	Technically feasible project
Political	1	
Legal	1	The Township has the legal authority to conduct the project.
Fiscal	0	Project will require grant funding.
Environmental	1	
Social	0	Project would reduce flooding impacts.
Administrative	0	
Multi-Hazard	1	Flood, Severe Storm
Timeline	0	
Agency Champion	1	Engineering
Other Community Objectives	1	
Total	8	
Priority (High/Med/Low)	Medium	

Action Worksheet	
Project Name:	Flood wall along river Sagamore Street.



Project Number:	2020-Township of Parsippany-Troy Hills-005		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood		
Description of the Problem:	Sagamore Street is impacted by flooding from the Rockaway River.		
Action or Project Intended for Implementation			
Description of the Solution:	Design and construct a flood wall along the Rockaway River along Sagamore Street.		
Is this project related to a Critical Facility or Lifeline?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Level of Protection:	TBD by flood wall design	Estimated Benefits (losses avoided):	Reduction in flood risk
Useful Life:	50 years	Goals Met:	3
Estimated Cost:	\$200,000	Mitigation Action Type:	Structure and Infrastructure Projects
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 3 years
Estimated Time Required for Project Implementation:	1 year	Potential Funding Sources:	HMGP, PDM, FMA, Municipal budget
Responsible Organization:	Engineering	Local Planning Mechanisms to be Used in Implementation if any:	Hazard mitigation planning
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
	Elevate roadways	\$100,000	Costly and may not solve problem
	Relocate roadways	N/A	Not possible
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Action Worksheet	
Project Name:	Flood wall along river Sagamore Street.



Project Number:	2020-Township of Parsippany-Troy Hills-005	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	.
Property Protection	1	Reduction in flooding risk
Cost-Effectiveness	0	
Technical	1	Technically feasible project
Political	1	
Legal	1	The Township has the legal authority to conduct the project.
Fiscal	0	Project will require grant funding.
Environmental	1	
Social	0	Project would reduce flooding impacts.
Administrative	0	
Multi-Hazard	1	Flood
Timeline	0	
Agency Champion	1	Engineering
Other Community Objectives	1	
Total	8	
Priority (High/Med/Low)	Medium	

Action Worksheet	
Project Name:	Relocation of EOC on 1 Pump House Road
Project Number:	2020-Township of Parsippany-Troy Hills-006



Risk / Vulnerability			
Hazard(s) of Concern:	All hazards		
Description of the Problem:	The Emergency Operations Center on 1 Pump House Road is not located in an ideal position to properly service the Township in the event of an emergency.		
Action or Project Intended for Implementation			
Description of the Solution:	OEM will research a more appropriate location and relocate the Emergency Operations Center.		
Is this project related to a Critical Facility?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Level of Protection:	N/A	Estimated Benefits (losses avoided):	Increase effectiveness of the Emergency Operations Center
Useful Life:	50 years	Goals Met:	3
Estimated Cost:	\$250,000	Mitigation Action Type:	Structure and Infrastructure Projects (SIP)
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 5 years
Estimated Time Required for Project Implementation:	1 year	Potential Funding Sources:	FEMA HMGP and PDM, USDA Community Facilities Grant Program, Emergency Management Performance Grants (EMPG) Program, Municipal Budget
Responsible Organization:	Office of Emergency Management	Local Planning Mechanisms to be Used in Implementation if any:	Hazard Mitigation, Emergency Management
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Problem continues.
	Build Secondary EOC location	\$250,000	Two EOC's are not needed and expensive to maintain
	Purchase mobile EOC	\$200,000	Expensive, requires deployment.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Relocation of EOC on 1 Pump House Road	
Project Number:	2020-Township of Parsippany-Troy Hills-006	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Increases effectiveness of EOC
Property Protection	0	
Cost-Effectiveness	0	
Technical	1	
Political	1	
Legal	1	The Township has the legal authority to complete the project.
Fiscal	0	Project requires funding support.
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	All hazards
Timeline	1	Within 5 years
Agency Champion	1	Office of Emergency Management
Other Community Objectives	1	
Total	11	
Priority (High/Med/Low)	High	

Action Worksheet



Project Name:	Backup power for Police Athletic Building on Baldwin Road.		
Project Number:	2020-Township of Parsippany-Troy Hills-007		
Risk / Vulnerability			
Hazard(s) of Concern:	All hazards		
Description of the Problem:	Currently, the Police Athletic Building on Baldwin Road does not have a generator to supply backup power during a power outage.		
Action or Project Intended for Implementation			
Description of the Solution:	The Township Engineer will research what size generator is necessary to supply backup power to the Police Athletic Building. The Township will then purchase and install the generator and necessary electrical components.		
Is this project related to a Critical Facility?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Level of Protection:	N/A	Estimated Benefits (losses avoided):	Ensures continuity of operations
Useful Life:	20 years	Goals Met:	3
Estimated Cost:	\$25,000	Mitigation Action Type:	Structure and Infrastructure Projects (SIP)
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 2 years
Estimated Time Required for Project Implementation:	1 year	Potential Funding Sources:	FEMA HMGP and PDM, USDA Community Facilities Grant Program, Emergency Management Performance Grants (EMPG) Program, Municipal Budget
Responsible Organization:	Engineering	Local Planning Mechanisms to be Used in Implementation if any:	Hazard Mitigation, Emergency Management
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Problem continues.
	Install solar panels	\$100,000	Weather dependent; need large amount of space for installation; expensive if repairs needed
	Install wind turbine	\$100,000	Weather dependent; poses a threat to wildlife; expensive repairs if needed
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Backup power for Police Athletic Building on Baldwin Road.	
Project Number:	2020-Township of Parsippany-Troy Hills-007	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Project will protect critical services of Community Center.
Property Protection	1	Project will protect Community Center from power loss.
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	The Township has the legal authority to complete the project.
Fiscal	0	Project requires funding support.
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	All hazards
Timeline	1	Within 2 years
Agency Champion	1	Engineering
Other Community Objectives	1	
Total	13	
Priority (High/Med/Low)	High	

Action Worksheet



Project Name:	Backup power for Community Center (shelter) on Knoll Road.		
Project Number:	2020-Township of Parsippany-Troy Hills-008		
Risk / Vulnerability			
Hazard(s) of Concern:	All hazards		
Description of the Problem:	Currently, the Community Center does not have a generator to supply backup power during a power outage. The Community Center is a sheltering location		
Action or Project Intended for Implementation			
Description of the Solution:	The Township Engineer will research what size generator is necessary to supply backup power to the Community Center. The Township will then purchase and install the generator and necessary electrical components.		
Is this project related to a Critical Facility?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Level of Protection:	N/A	Estimated Benefits (losses avoided):	Ensures continuity of operations; provides a shelter for residents
Useful Life:	20 years	Goals Met:	3
Estimated Cost:	\$25,000	Mitigation Action Type:	Structure and Infrastructure Projects (SIP)
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 2 years
Estimated Time Required for Project Implementation:	1 year	Potential Funding Sources:	FEMA HMGP and PDM, USDA Community Facilities Grant Program, Emergency Management Performance Grants (EMPG) Program, Municipal Budget
Responsible Organization:	Engineering	Local Planning Mechanisms to be Used in Implementation if any:	Hazard Mitigation, Emergency Management
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Problem continues.
	Install solar panels	\$100,000	Weather dependent; need large amount of space for installation; expensive if repairs needed
	Install wind turbine	\$100,000	Weather dependent; poses a threat to wildlife; expensive repairs if needed
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Backup power for Community Center (shelter) on Knoll Road.	
Project Number:	2020-Township of Parsippany-Troy Hills-008	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Project will protect critical services of Community Center.
Property Protection	1	Project will protect Community Center from power loss.
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	The Township has the legal authority to complete the project.
Fiscal	0	Project requires funding support.
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	All hazards
Timeline	1	Within 2 years
Agency Champion	1	Engineering
Other Community Objectives	1	
Total	13	
Priority (High/Med/Low)	High	

Action Worksheet



Project Name:	Floodwall extension on Cayuga Road and Hoffman Avenue.		
Project Number:	2020-Township of Parsippany-Troy Hills-009		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood		
Description of the Problem:	The floodwall on Cayuga Road and Hoffman Avenue needs to be extended to provide proper flood protection		
Action or Project Intended for Implementation			
Description of the Solution:	Construct and extend current floodwall that runs between Cayuga Road and Hoffman Avenue.		
Is this project related to a Critical Facility or Lifeline?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Level of Protection:	TBD by flood wall design	Estimated Benefits (losses avoided):	Reduction in flood risk
Useful Life:	50 years	Goals Met:	3
Estimated Cost:	\$250,000	Mitigation Action Type:	Structure and Infrastructure Projects
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 3 years
Estimated Time Required for Project Implementation:	1 year	Potential Funding Sources:	HMGP, PDM, FMA, Municipal budget
Responsible Organization:	Engineering	Local Planning Mechanisms to be Used in Implementation if any:	Hazard mitigation planning
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
	Elevate roadways	\$500,000	Costly and may not solve problem
	Relocate roadways	N/A	Not possible
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Action Worksheet



Project Name:	Floodwall extension on Cayuga Road and Hoffman Avenue.	
Project Number:	2020-Township of Parsippany-Troy Hills-009	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	.
Property Protection	1	Reduction in flooding risk
Cost-Effectiveness	0	
Technical	1	Technically feasible project
Political	1	
Legal	1	The Township has the legal authority to conduct the project.
Fiscal	0	Project will require grant funding.
Environmental	1	
Social	0	Project would reduce flooding impacts.
Administrative	0	
Multi-Hazard	1	Flood
Timeline	0	
Agency Champion	1	Engineering
Other Community Objectives	1	
Total	8	
Priority (High/Med/Low)	Medium	

Action Worksheet	
Project Name:	Backup pump for Rockaway Boulevard Pump Station



Project Number:	2020-Township of Parsippany-Troy Hills-010		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood		
Description of the Problem:	The Rockaway Boulevard Pump Station lacks a backup pump.		
Action or Project Intended for Implementation			
Description of the Solution:	The Township will construct a backup pump system for pumping station on Rockaway Boulevard between Lakeshore Drive and Wilbur Avenue.		
Is this project related to a Critical Facility or Lifeline?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Level of Protection:	Backup pump	Estimated Benefits (losses avoided):	Continuity of operations of the pump station
Useful Life:	20 years	Goals Met:	3
Estimated Cost:	\$200,000	Mitigation Action Type:	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 5 years
Estimated Time Required for Project Implementation:	1 year	Potential Funding Sources:	Municipal budget
Responsible Organization:	Engineering	Local Planning Mechanisms to be Used in Implementation if any:	Hazard mitigation, Stormwater management planning
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
	Relocate pump station to safer location	N/A	Pump stations need to remain in current locations
	Purchase deployable floodwall to protect from flooding	\$15,000	Requires deployment and only protects from one hazard.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Action Worksheet	
Project Name:	Backup pump for Rockaway Boulevard Pump Station



Project Number:	2020-Township of Parsippany-Troy Hills-010	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protects continuity of operations of pump station
Property Protection	0	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	The Township has the legal authority to complete the project
Fiscal	0	Project requires funding support
Environmental	0	
Social	1	
Administrative	1	
Multi-Hazard	0	Flood
Timeline	1	1 year
Agency Champion	1	Engineering
Other Community Objectives	1	Protection of critical functions
Total	10	
Priority (High/Med/Low)	High	

Action Worksheet	
Project Name:	Dams in flood zone
Project Number:	2020-Township of Parsippany-Troy Hills-011



Risk / Vulnerability			
Hazard(s) of Concern:	Dam Failure, Flood		
Description of the Problem:	The Township has numerous dams located in the flood zone. It is already known that Forge Pond Dam on Springfield Court and Mirror Lake Dam on Elmwood Drive is in need or replacement or upgrade.		
Action or Project Intended for Implementation			
Description of the Solution:	The Township will complete an engineering study to determine status of dams and level of flood protection. The Township will work to upgrade dams or replace dams if upgrades are not possible.		
Is this project related to a Critical Facility or Lifeline?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Level of Protection:	500-year flood	Estimated Benefits (losses avoided):	Dam failure avoided, meet safety requirements
Useful Life:	50 years	Goals Met:	
Estimated Cost:	TBD by results of engineering study	Mitigation Action Type:	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 5 years
Estimated Time Required for Project Implementation:	2 years	Potential Funding Sources:	HMGP, PDM, FMA, Municipal budget
Responsible Organization:	Engineering	Local Planning Mechanisms to be Used in Implementation if any:	Hazard Mitigation Planning
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
	Repair Only	\$100,000 per dam	Repairs may not be possible
	Remove Dams	\$500,000 per dam	Dams cannot be removed for safety reason.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Action Worksheet	
Project Name:	Dams in flood zone
Project Number:	2020-Township of Parsippany-Troy Hills-011



Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Project protects life from dam failure
Property Protection	1	Project protects property from dam failure
Cost-Effectiveness	1	
Technical	1	
Political	1	There is public support for the project
Legal	1	The Township has the legal authority to complete the project
Fiscal	0	The project requires funding support
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	Dam Failure, Flood
Timeline	0	Within 5 years
Agency Champion	1	Engineering
Other Community Objectives	1	
Total	12	
Priority (High/Med/Low)	High	

Action Worksheet	
Project Name:	Increase capacity of undersized culvert in Jefferson Road
Project Number:	2020-Township of Parsippany-Troy Hills-014
Risk / Vulnerability	



Hazard(s) of Concern:	Flood, Severe Storm		
Description of the Problem:	The culvert in Jefferson Road is undersized.		
Action or Project Intended for Implementation			
Description of the Solution:	The Engineering Department will replace the culvert with an upsized culvert.		
Is this project related to a Critical Facility or Lifeline?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Level of Protection:	25 year storm	Estimated Benefits (losses avoided):	Reduction in flood risk
Useful Life:	30 years	Goals Met:	3
Estimated Cost:	\$50,000	Mitigation Action Type:	Structure and Infrastructure Projects
Plan for Implementation			
Prioritization:	Medium	Desired Timeframe for Implementation:	Within 3 years
Estimated Time Required for Project Implementation:	6 months	Potential Funding Sources:	HMGP, municipal budget
Responsible Organization:	Engineering	Local Planning Mechanisms to be Used in Implementation if any:	Hazard mitigation planning
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
	Elevate roadway	\$500,000	Costly and may not solve problem
	Relocate roadway	N/A	Not possible
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Action Worksheet	
Project Name:	Increase capacity of undersized culvert in Jefferson Road
Project Number:	2020-Township of Parsippany-Troy Hills-014



Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protects life from flooding.
Property Protection	1	Protects culvert from flood damage
Cost-Effectiveness	0	
Technical	1	Technically feasible project
Political	1	
Legal	1	The Township has the legal authority to conduct the project.
Fiscal	0	Project will require grant funding.
Environmental	1	
Social	0	Project would reduce flooding impacts
Administrative	0	
Multi-Hazard	1	Flood, Severe Storm
Timeline	0	Within 3 years
Agency Champion	1	Engineering
Other Community Objectives	1	
Total	9	
Priority (High/Med/Low)	High	

Action Worksheet	
Project Name:	Flood protection for New Road
Project Number:	2020-Township of Parsippany-Troy Hills-018
Risk / Vulnerability	



Hazard(s) of Concern:	Flood		
Description of the Problem:	New Road is a municipal road linking Route 246 and Route 280 and functions as a main cut through for travels from Route 280 to Route 80. When the Rockaway River overtops, the road is flooded.		
Action or Project Intended for Implementation			
Description of the Solution:	The Township Engineering Department will conduct a flood study to determine possible mitigation actions. The Engineering Department will implement the selected action.		
Is this project related to a Critical Facility or Lifeline?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Level of Protection:	TBD	Estimated Benefits (losses avoided):	Reduction in flood risk in selected areas
Useful Life:	TBD by flood study	Goals Met:	3
Estimated Cost:	TBD by study	Mitigation Action Type:	Structure and Infrastructure Projects
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 5 years
Estimated Time Required for Project Implementation:	5 years	Potential Funding Sources:	HMGP, municipal budget
Responsible Organization:	Engineering	Local Planning Mechanisms to be Used in Implementation if any:	Hazard mitigation planning
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
	Elevate roadway	\$500,000	Costly and may not solve problem
	Relocate roadway	N/A	Not possible
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Action Worksheet	
Project Name:	Flood protection for New Road
Project Number:	2020-Township of Parsippany-Troy Hills-018



Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	.
Property Protection	1	Reduction in flooding risk
Cost-Effectiveness	0	
Technical	1	Technically feasible project
Political	1	
Legal	1	The Township has the legal authority to conduct the project.
Fiscal	0	Project will require grant funding.
Environmental	1	
Social	0	Project would reduce flooding impacts
Administrative	0	
Multi-Hazard	0	Flood
Timeline	0	
Agency Champion	1	Engineering
Other Community Objectives	1	
Total	7	
Priority (High/Med/Low)	Medium	