9.15 CITY OF NEWARK

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

9.15.2 Hazard Mitigation Planning Team

The following individuals are the City of Newark's identified hazard mitigation plan primary and alternate points of contact and NFIP Floodplain Administrator.

Table 9.15-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name / Title: Dorian Herrell, OEM Coordinator Address: 480 Clinton Ave, Rm 307, Newark, NJ 07108 Phone Number: 973-877-9262 Email: herrelld@ci.newark.nj.us	Name / Title: Juba Dowdell, OEM Deputy Coordinator Address: 480 Clinton Ave, Rm 307, Newark, NJ 07108 Phone Number: 973-877-9260 Email: dowdellj@ci.newark.nj.us
NFIP Floodplain Administrator	
Name / Title: Phil Scott, Director of the Engineering Department Address: 920 Broad St., Room 412, Newark, NJ 07102 Phone Number: 973-733-8520 Email: scottp@ci.newark.nj.us	

9.15.3 Jurisdiction Profile

The City of Newark is located West of Manhattan, South of Belleville, and East of East Orange along the Newark Bay. Both Newark Liberty International Airport and the Port of Elizabeth are located South and East of Newark (City of Newark New Jersey, 2014).

On April 11, 1836 Newark was incorporated as a City but its origin dates back to the Newark Tract in October 1693. Newark's Branch Brook Park is the oldest County park in the country and is home to the largest collection of cherry blossom trees in the country. The 1967 Newark Riots were a result of urban decline experienced in the city during the early 20th Century. Newark has experienced a revitalization since the late 20th Century and early 21st Century (City of Newark New Jersey, 2014).

According to the U.S. Census, the 2010 population for the City of Newark was 277,140. The estimated 2017 population was 282,803, which is a 2 percent increase in population from 2010. Data from the 2017 U.S. Census American Community Survey estimates that 7.5 percent of the City population is five years of age or younger, and 9.7 percent is 65 years of age or older. 8 percent of the population is estimated to be below the poverty line. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

Since the 1950's, the City of Newark has operated using the Mayor-Council for of government. The Council includes nine (9) members who serve five (5) year terms. Five (5) members are elected at large and four (4) are elected by the wards the individuals represent (City of Newark New Jersey, 2014).

9.15.4 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 9.15-2 summarizes recent and expected future development trends including major residential/commercial development and

major infrastructure development. Refer to Figure 9.15-1 and 9.15-2 at the end of this annex which illustrates the geographically-delineated hazard areas and the location of potential new development, where available.

Table 9.15-2. 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	8	0	0	2	0
Multi-Family	38	37	45	48	50
Other (commercial, mixed-use, etc.)	27	12	21	43	18
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					
10 Central Avenue	Residential	41	10 Central Ave, Newark, NJ 07102	-	Construction
60 Somerset Street	Residential	15	60 Somerset St, Newark, NJ 07103	-	Construction
50 Barclay Street	Residential	15	50 Barclay St, Newark, NJ 07103	-	Construction
35 Somerset Street	Residential	15	35 Somerset St, Newark, NJ 07103	-	Construction
25 Somerset Street	Residential	15	25 Somerset St, Newark, NJ 07103	-	Construction
505 Clinton Avenue	Residential	27	505 Clinton Ave, Newark, NJ 07108	-	Construction
141-145 NJRR Ave	Residential	32	141-145 NJRR Ave, Newark, NJ 07105	-	Construction
495-505 Washington St	Residential	34	494-505 Washington St, Newark, NJ 07102	-	Construction
4 Spring St	Residential	84	4 Spring Street, Newark, NJ 07104	-	Built
98 Clinton Ave	Residential	13	98 Clinton Ave, Newark, NJ 07114	-	Permit
145 Thomas St	Residential	3	145 Thomas St, Newark, NJ 07114	-	Built

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
80 Montclair St	Residential	3	80 Montclair Avenue, NJ 07104	-	Construction
578-580 S. 11th St	Residential	3	578-580 S. 11th Street, Newark, NJ 07103	-	Construction
230 Dr. Martin Luther King Blvd	Residential	4	230 Dr. Martin Luther King Jr Boulevard, Newark, NJ 07102	-	Built
58-60 Elm St	Residential	30	58-60 Elm Street, Newark, NJ 07105	-	Built
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years					
225-239 McWhorter St	Residential	46	225-239 McWhorter St, Newark, NJ 07105	-	Permit
1057 Bergen St	Residential	10	1057 Bergen Street, Newark, NJ 07112	-	Construction
915 Broad St	Residential	84	145 Thomas St, Newark, NJ 07114	-	Construction
96-112 Main St	Residential	60	96-112 Main Street, Newark, NJ 07105	-	Construction
100 Polk St	Residential	42	100 Polk Street, Newark, NJ 07105	-	Construction
1041 Bergen St	Residential	32	1041 Bergen Street, Newark, NJ 07112	-	Construction
195-197 Lincoln Ave	Residential	15	195-197 Lincoln Avenue, Newark., NJ 07104	-	Permit
437-451 Mulberry St	Residential	22	437-451 Mulberry St, Newark, NJ 07114	-	Construction
364 N. 10th St	Residential	2	264 N. 10th Street, Newark, NJ 07107	-	Construction
90 Chelsea Ave	Residential	2	90 Chelsea Avenue, Newark, NJ 07107	-	Construction

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
282 Broad St	Residential	2	282 Broad Street, Newark, NJ 07104		Permit
576 S. 11th St	Residential	3	576 S. 11th Street, Newark, NJ 07103	-	Construction
25-27 Garibaldi Ave	Residential	3	25-27 Garibaldi Avenue, Newark, NJ 07114	-	Permit
29 Garibaldi Ave	Residential	3	29 Garibaldi Avenue, Newark, NJ 07114	-	Permit
31 Garibaldi Ave	Residential	3	31 Garibaldi Avenue, Newark, NJ 07104	-	Permit
35 Garibaldi Ave	Residential	3	35 Garibaldi Avenue, Newark, NJ 07114	-	Permit
682-684 S. 19th Ave	Residential	3	682-684 S. 19th Avenue, Newark, NJ 07103	-	Permit
572-574 S. 11th St	Residential	3	572-574 S. 11th Street, Newark, NJ 07103	-	Permit
73-87 4th Ave	Residential	18	73-87 4th Avenue, Newark, NJ 07104	-	Permit
66-72 Dr. Martin Luther King Jr Blvd	Residential	10	68-72 Dr. Martin Luther King Jr Boulevard, Newark, NJ 07104	-	Construction

** Only location-specific hazard zones or vulnerabilities identified.*

9.15.5 Capability Assessment

The City of Newark performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) in Volume I of this plan 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

Planning, Legal and Regulatory Capability

The table below summarizes the legal and regulatory tools that are available to the City of Newark.

Table 9.15-3. 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	Local and State	Yes	No	2020-Newark-013, 2020-Newark-016
Comment: *State mandated on local level under NJAC 5:23-3.14. International Building Code – New Jersey Edition, 2018, NJAC 5:24-3.14. Ord. 6 S+FH, 4-19-06 § 1. Administered by Engineering. The city could include additional standards for stormwater components.*					
Zoning Code	Yes	Local and State	Yes	No	2020-Newark-013, 2020-Newark-016
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. R.O. 1966 C.S. § 27:1-1[a], Zoning Regulations Ordinance Title 40. Updated 2014. Administered by Economic and Housing Development.*					
Subdivisions	Yes	Local and State	Yes	No	2020-Newark-013, 2020-Newark-016
Comment: *State mandated - P.L.1975, c.291 (C.40:55D-47): 40:55D-37. Grant of power; referral of proposed ordinance; county planning board approval. Dictated by the Municipal Land Use Law. NJ Statute 40:27-6.2 The board of freeholders of any county having a county planning board shall provide for the review of all subdivisions of land within the county by said county planning board and for the approval of those subdivisions affecting county road or drainage facilities as set forth and limited hereinafter in this section. Ord. 6 S+FB, 2-17-82 § 1.1, Land Use Subdivision Ordinance Title 38. Administered by Economic and Housing Development.*					
Stormwater Management	Yes	Local	Yes	No	2020-Newark-015
Comment: *Title 7 of the NJ Administrative Code (N.J.A.C. 7:8). Adopted 9/9/2012, Ord. Title 38; Ord. 6 PSF-A, 9-19-12, Sewers and Sewage Disposal Title 32; Land Use Subdivision Title 37:10-47. Administered by Water and Sewer.*					
Post-Disaster Recovery	No	-	-	No	-
Comment:					
Real Estate Disclosure	Yes	State – Division of Consumer Affairs	Yes	No	-
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.*					
Growth Management	No	-	Yes	No	-
Comment: *State mandated at local level*					
Shoreline Development	No	-	Yes – if coastal community	No	-
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.*					

	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 #.
Site Plan Review	Yes	Local	Yes	No	-
Comment: *N.J.S.A. 40:55D-1 et. Seq., Municipal Land Use Law. Ch. 38 – Land Use Procedures. Administered by Engineering.*					
Environmental Protection	No	-	Yes	No	-
Comment: *The rules that are utilized by the NJDEP and other environmental agencies are codified at Title 7 of the NJ Municipal Administrative Code.*					
Flood Damage Prevention	Yes	Local	No	No	2020-Newark-016
Comment*: Adopted 2007, Ord. 6 S+FA (S-1), 6-1-07 § 1. Administered by Engineering.*					
Wellhead Protection	No	-	-	No	-
Comment:					
Emergency Management	No	-	-	-	-
Comment:					
Climate Change	No	-	-	-	-
Comment:					
Disaster Recovery Ordinance	No	-	-	-	-
Comment:					
Disaster Reconstruction Ordinance	No	-	-	-	-
Comment:					
Other	No	-	-	-	-
Comment:					
Planning Documents					
Comprehensive / Master Plan	Yes	Local	Yes	Yes/No	Yes/No
Comment: *No Ord. - Revised every 10 years with a periodic re-examination. Administered by Economic and Housing Development.*					
Capital Improvement Plan	Yes	Local	Allowed	Yes/No	Yes/No
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. No Ord. - Annual revision by Department Directors. Administered by Engineering.*					
Disaster Debris Management Plan	No		No	Yes/No	Yes/No
Comment:					
Floodplain or Watershed Plan	No	-	No	Yes/No	Yes/No
Comment:					
Stormwater Management Plan	Yes	Local and State	Yes	Yes/No	Yes/No
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).*					
Stormwater Pollution Prevention Plan	No	Local and State	Yes	Yes/No	Yes/No
Comment:					
Urban Water Management Plan	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:					
Habitat Conservation Plan	No	-	No	Yes/No	Yes/No
Comment:					
Economic Development Plan	Yes	Local	No	Yes/No	Yes/No
Comment: *No Ord. - Revision by Department Director*					
Shoreline Management Plan	No	-	No	Yes/No	Yes/No
Comment:					
Community Wildfire Protection Plan	No	-	No	Yes/No	Yes/No
Comment:					
Community Forest Management Plan	No	-	No	Yes/No	Yes/No
Comment:					
Transportation Plan	In development	Local	No	Yes/No	Yes/No
Comment: *Working on downtown circulation study, into other wards as well. Doesn't currently incorporate evacuation or emergency planning.*					
Agriculture Plan	No	-	No	Yes/No	Yes/No
Comment:					
Climate Action Plan	Yes	Local	No	Yes/No	Yes/No
Comment: *Draft Sustainability Action Plan 2020.*					
Tourism Plan	No	-	No	Yes/No	Yes/No
Comment:					
Business Development Plan	No	-	No	Yes/No	Yes/No
Comment:					
Other	Yes	Local, Federal	Yes/No	Yes/No	Yes/No
Comment: *Redevelopment Plans. Administered by City. Passaic River Tidal Protection Area, New Jersey Coastal Storm Risk Management Draft Integrated Hurricane Sandy General Reevaluation Report and Environmental Assessment. Administered by USACE. Draft from May 2018.*					
Response/Recovery Planning					
Comprehensive Emergency Management Plan (CEMP) / Emergency Operations Plan (EOP)	Yes	Local	Yes	Yes/No	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. Updated 2018 - No Ord.*					
Threat & Hazard Identification & Risk Assessment (THIRA)	No	-	-	-	-
Comment:					
Post-Disaster Recovery Plan	Yes	Local	No	-	-
Comment: *Post-Disaster Redevelopment Plan. 2015.*					
Continuity of Operations Plan	Yes	Local	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:					
Public Health Plan	No	-	-	-	-
Comment:					
Other	No	-	-	-	-
Comment:					

Table 9.15-4. Development and Permitting Capability

Criterion	Response
Does your jurisdiction issue development permits?	Yes, through the Office of Planning and Zoning
- If no, who does? If yes, which department?	
Does your jurisdiction have the ability to track permits by hazard area?	Yes, through Property Management
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, through Property Management

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the City of Newark.

Table 9.15-5. Administrative and Technical Capabilities

Staff/Personnel Resource	Available?	Department/Agency/Position
Administrative Capability		
Planning Board	Yes	Planning Board
Mitigation Planning Committee	No	-
Environmental Board / Commission	Yes	Environmental Commission
Open Space Board / Committee	Yes	Open Space Trust Fund operates with a board
Economic Development Commission / Committee	Yes	Department of Economic and Housing Development
Warning Systems / Services (reverse 911, outdoor warning signals)	Yes	CodeRed, City website, Dep of Public Safety Website, Facebook, Social Media, Reverse 911, Message Boards
Maintenance program to reduce risk	Yes	Stormwater maintenance, tree trimming
Mutual aid agreements	Yes	Police and Fire with Essex County and State OEM
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	Engineering, Economic and Housing Development

Staff/Personnel Resource	Available?	Department/Agency/Position
Engineers or professionals trained in building or infrastructure construction practices	Yes	Engineering
Planners or engineers with an understanding of natural hazards	Yes	Engineering, Economic and Housing Development
Staff with training in benefit/cost analysis	Yes	Engineering, Economic and Housing Development, Administration
Surveyors	Yes	Engineering
Personnel skilled or trained in GIS applications	Yes	Engineering, Economic and Housing Development, Office of Management and Budget
Scientist familiar with natural hazards in local area	No	-
Emergency manager	Yes	Newark OEM
Grant writers	Yes	Economic and Housing Development, Administration
Resilience Officer	No	-
Other	Yes	Sustainability Officer

Fiscal Capability

The table below summarizes financial resources available to the City of Newark.

Table 9.15-6. Fiscal Capabilities

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	Yes - Administration
Capital Improvements Project Funding	Yes - Administration
Authority to Levy Taxes for Specific Purposes	Yes - Administration, Office of Partnerships and Grants Management
User Fees for Water, Sewer, Gas or Electric Service	Yes - Water & Sewer Utilities
Incur Debt through General Obligation Bonds	Yes - Administration, Department of Finance
Incur Debt through Special Tax Bonds	Yes - Administration, Office of Special Taxes ex. Rental Car Tax
Incur Debt through Private Activity Bonds	Administration, Department of Finance
Withhold Public Expenditures in Hazard-Prone Areas	No
State-Sponsored Grant Programs	Yes - Administration, Economic and Housing Development, OEM
Development Impact Fees for Homebuyers or Developers	Yes, Administration, City Surveyor's Office
Other	No

Education and Outreach Capability

The table below summarizes the education and outreach resources available to the City of Newark.

Table 9.15-7. Education and Outreach Capabilities

Criterion	Response
Do you have a public information officer or communications office?	Yes, Department of Public Safety
Do you have personnel skilled or trained in website development?	Yes, though the Office of Emergency Management needs an additional IT person to be more efficient.
Do you have hazard mitigation information available on your website? • If yes, briefly describe.	Yes, the Department of Public Safety page hosts information on all hazards impacting the City.

Criterion	Response
Do you use social media for hazard mitigation education and outreach? • If yes, briefly describe.	Yes, the City uses Facebook and Instagram.
Do you have any citizen boards or commissions that address issues related to hazard mitigation? • If yes, briefly describe.	Environmental Commission
Do you have any other programs already in place that could be used to communicate hazard-related information? • If yes, briefly describe.	Yes, the City can utilize the following to communicate hazard-related information: CodeRed, City website, Dep of Public Safety Website, Facebook, Social Media, Reverse 911, Message Boards
Do you have any established warning systems for hazard events? • If yes, briefly describe.	Yes, the City can utilize the following to communicate warnings during hazard events: CodeRed, City website, Dep of Public Safety Website, Facebook, Social Media, Reverse 911, Message Boards

Community Classifications

The table below summarizes the classifications for community programs available to the City of Newark.

Table 9.15-8. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System	No	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	No	-	-
Public Protection (Fire ISO Protection Class)	Yes	4	2011
Storm Ready Certification	No	-	-
Firewise Community Classification	No	-	-
Sustainability Jersey	Yes	None	1/05/2011

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 referred to while discussing climate change adaptation; however, it also provides an understanding of local capacity for adapting to current and future risks and changing conditions. The table below summarizes the adaptive capacity for climate change and the jurisdiction's rating.

Table 9.15-9. Adaptive Capacity of Climate Change

Hazard	Adaptive Capacity (Capabilities) - High/Medium/Low
Coastal Erosion and Sea Level Rise	Low
Coastal Storm	High
Drought	Medium
Earthquake	Medium
Extreme Temperature	High
Flood	Medium
Geological Hazards	Low
Severe Weather	High
Winter Storm	High

Hazard	Adaptive Capacity (Capabilities) - High/Medium/Low
Wildfire	Low
Civil Disorder	Medium
Cyber Attack	Low
Disease Outbreak	Medium
Economic Collapse	Medium
Hazardous Substances	Medium
Utility Interruption	High
Terrorism	Medium
Transportation Failure	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 9.15-10. National Flood Insurance Program Compliance

Criterion	Response
What local department is responsible for floodplain management?	Engineering Department
Who is your floodplain administrator? (name, department/position)	Phillip Scott, Director of the Engineering Department
Are any certified floodplain managers on staff in your jurisdiction?	Yes
What is the date that your flood damage prevention ordinance was last amended?	March 23, 1980
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	Meet
When was the most recent Community Assistance Visit or Community Assistance Contact?	CAC-9/21/15; no CAV
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state what they are.	No
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what they are.	Yes, FIRM Update after the PFIRM was appealed and the RiskMAP process was restarted. The current FIRM is from 2007.
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If no, state why.	The City felt the PFIRMs overstated flood risk in the City.
Does your floodplain management staff need any assistance or training to support its floodplain management program?	Yes
□ If so, what type of assistance/training is needed?	City staff would appreciate any floodplain management training opportunities.
Does your jurisdiction participate in the Community Rating System (CRS)? • If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	The City does not participate in the CRS program. Costs of the program have kept the City from applying in the past but the City is interested in joining.
How many flood insurance policies are in force in your jurisdiction?* • What is the insurance in force? • What is the premium in force?	Policies: 205 Insurance in force: $91,922,800 Total premiums: $560,639
How many total loss claims have been filed in your jurisdiction?* • How many claims are still open or were closed without payment? • What were the total payments for losses?	Total loss claims: 287 Open claims: 84 Total payments: $18,131,114.62

Criterion	Response
Do you maintain a list of properties that have been damaged by flooding?	Individual departments have listing of properties but no master list.
Do you maintain a list of property owners interested in flood mitigation?	No official list but have the ability to get the word out through community groups.

**According to FEMA statistics as of March 31, 2019*

Additional Areas of Existing Integration

- **Department of Public Safety:** The creation of the Department of Public Safety consolidated the Police Division, Fire Division, and the Office of Emergency Management and Homeland Security. The consolidation has also resulted in the creation of a Communications Division. The operating budget for the Department of Public Safety is in excess of $200 million a year and is staffed more than 1,900 employees, with more than 990 sworn Police Officers and over 630 sworn firefighters.
    - The Police Division is entrusted to protect and serve the citizens of the City of Newark by securing neighborhoods, business districts, municipal assets and life, liberty and property. The Police Division currently responds to more than 520, 000 calls for service yearly.
    - The Fire Division is also tasked with protecting the lives and property of the citizens of the City of Newark. They accomplish this by fighting fires and responding to sudden medical emergencies and exposure to dangerous conditions whether natural or man-made. Each year, the Fire Division responds to over 16,720 calls for service.
    - The Division of Emergency Management and Homeland Security (OEM) is responsible for coordinating training, preparedness and response to man-made and natural disasters. These events include blizzards, hurricanes, extreme heat, acts of terrorism and special events. The Division of OEM works with its public and private partners to accomplish this goal.
    - The Communications Division unifies 911 calls and responses, as well as internal operational communication between the Police, Fire Divisions and OEM when necessary. The 911-call center handles approximately 960,000 emergency and non-emergency calls per year
- **Economic and Housing Development:** The mission of the Department of Economic and Housing Development is to create economic opportunity for Newark residents and enhance the vibrancy of our city. To this end, the department seeks to position Newark to take advantage of its unique assets, including its strategic location, a diverse and underutilized workforce, a large amount of developable land, concentration of corporate and business service firms, several major universities, and a wealth of arts and cultural assets.
- **Department of Engineering:** The Department of Engineering prepares, maintains, operates and repairs the City of Newark's infrastructures. This department is responsible for improvements and enhancements including: roadways, traffic and transportation, municipal parks, and the issuance of all construction permits. Through strategic planning and quality management, the department ensures that facilities provide citizens favorable and safe living conditions, conserving energy and improving the quality of lives. The department consists of the following divisions:
    - Building Division (UCC)
    - Code Enforcement
    - Traffic and Signals
- **Department of Public Works:** The Department of Public Works provides comprehensive services for the City's garbage collection, parks, buildings, vehicles, and properties. The Department was created by Mayor Baraka in 2016 from the consolidation of divisions from the Departments of Engineering, and Neighborhood and Recreational Services.
- **Department of Water and Sewer Utilities:** The Department of Water and Sewer Utilities' mission is to serve a continuous supply of safe, high quality and good tasting water for the City of Newark. The department works to

protect the utility investments by ensuring and maintaining the integrity and security of the City of Newark's water and sewer infrastructure.

- **Newark Community Economic Development Corporation:** Newark Community Economic Development Corporation (NCEDC) is the primary economic development catalyst for Newark. It is organized to retain, attract and grow businesses, enhance small and minority business capacity, and spur real estate development throughout the city's 20 diverse neighborhoods.
- **Sustainable Essex Alliance:** The Sustainable Essex Alliance (SEA) is a coalition of local municipal green teams and sustainability organizations working together to create solutions for local environments and economies. By operating as a single entity, the SEA has the opportunity to not only impact more environments, but also achieve more efficient results than we could alone. This helps to create the financial incentives needed to push sustainable actions such as reducing greenhouse gas emissions, using green energy solutions, and cutting waste while simultaneously increasing awareness and education in our communities. The Alliance is currently pursuing a renewable community energy aggregation program to provide residents of Essex County with the option of 100% green energy. The Alliance has also initiated the NJ Home Performance with ENERGYSTAR™ Program and Comfort Partners Program that offer rebates and financing for energy efficiency upgrades, insulation, and helpful assessments to reduce bills and environmental impact.
- **Coastal Vulnerability Assessment; Newark City Riverfront:** The City of Newark underwent a Coastal Vulnerability Assessment in 2017 (https://www.nj.gov/dep/bcrp/docs/cva/newark-riverfront-cva-final-05-2017.pdf). The report aimed to assess vulnerabilities to enable the city in the planning for future exposures and develop strategies for mitigating long-term risk, making the city more resilient. To do so, the report assessed community vulnerability to sea level rise projected for the year 2050 along with a category 1 hurricane storm surge. Funding for this project was provided by the U.S. Department of the Interior and administered by the National Fish and Wildlife Foundation as part of the Hurricane Sandy Coastal Resiliency Competitive Grant Program. The report identified connections to the 2016 Essex County Hazard Mitigation Plan and reinforced the following actions from the HMP:
    - Along the Passaic Riverfront, the city can mitigate flooding and damage to property through Green Infrastructure Implementation. Creating a buffer of vegetation between the Passaic River and inland development.
    - Passaic River Acquisition
    - Stormwater management through green infrastructure

  The report identified the following recommendations:
    - Consider site remediation that also includes stormwater management
    - Where applicable, consider shoreline stabilization and restoration projects
    - Conduct a repetitive loss areas analysis (RLAA)
- **Lead Service Line Replacement Program:** The City of Newark is committed to provide clean, safe and reliable drinking water to all Newark residents. To support this mission, the city has developed the Information About Lead Program. The program consists of a series of actions that Newark is undertaking to reduce or eliminate lead in drinking water at the customer's tap. The program also aims to educate the public on actions they can take to reduce their exposure to lead in drinking water.
- **Green Infrastructure:** The City of Newark is building green infrastructure into streetscape design.
- **Resiliency Studies:** The City of Newark has completed a Strategic Recovery Planning Report. The Ironbound Community went through a version of the NJ DEP's Getting to Resilience Process. The City of Newark is a participant in the NJ DEP Resilient New Jersey grant program. The program will provide funding and technical assistance to multi-municipal regions within New Jersey's nine Most Impacted and Distressed counties affected by Superstorm Sandy to undertake a comprehensive planning process. This program will assist municipalities to identify and address vulnerabilities to increased coastal and riverine flood risk and other climate stressors.

9.15.6 Hazard Event History Specific to the Jurisdiction

Essex County has a history of hazard events, as detailed in Volume I, Section 4 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles (Section 4.4) and includes a chronology of events that have affected Essex County and its jurisdictions. The City of Newark's history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Essex County. Table 9.15-11 provides details regarding municipal-specific loss and damages the City experienced during hazard events from 2014 to 2019. Information provided in the table below is based on reference material or local sources.

Table 9.15-11. Hazard Event History

Date(s) of Event	Event Type (disaster declaration if applicable)	Essex County Designated?	Summary of Event	Summary of Local Damages and Losses
January 22-23, 2016	Winter Storm, Blizzard; DR-4264	Yes	Low pressure moving across the deep South on Thursday January 21st and Friday January 22nd intensified and moved off the Mid Atlantic coast on Saturday January 23rd, bringing heavy snow and strong winds to northeast New Jersey, and blizzard conditions to the urban corridor and some nearby areas. Governor Chris Christie declared a state of emergency for New Jersey on Friday January 22nd. New Jersey Transit stopped running trains, buses and light rail at 2 AM Saturday January 23rd. Bridges and tunnels from New York City into New Jersey were shut down by mid-afternoon Saturday. More than 1,000 flights out of area airports were cancelled, and Teterboro Airport were shuttered due to whiteout conditions. At Newark Airport, the storm total snowfall was 24.5 inches, where winds gusted to 39 mph. Newark Airport ASOS observations showed blizzard conditions, with visibility less than one quarter mile in heavy snow and frequent wind gusts over 35 mph through the day and into the early evening on Saturday January 23rd.	Many trees were down and the airport was closed. Major highways and corridors were shut down.
August 19, 2016	Bus Crash	N/A	Two buses collided at the intersection of North Broad Street and Raymond Boulevard.	One bus driver and a passenger were killed. 18 people were injured. Six people were critically injured.
January 12, 2018	Utility Failure	N/A	Weather resulted in power outages across New Jersey	A transformer caught fire under a terminal at Newark Liberty International Airport, prompting an evacuation of the concourse and the use of backup generators.
October 20, 2018	Utility Failure	N/A	An underground transformer fire resulted in a widespread power outage in downtown Newark	City Hall was without power for 36 hours until a portable generator could be installed.
November 15, 2018	Winter Storm	N/A	Moisture associated with a trough and low pressure was able to produce moderate to heavy	Many trees were down and the airport was closed. Major

Date(s) of Event	Event Type (disaster declaration if applicable)	Essex County Designated?	Summary of Event	Summary of Local Damages and Losses
			bands of snow as the precipitation began across the entire Tri-State area due to the cold air in place. The moderate to heavy wet snowfall significantly impacted the evening rush hour with 1-2 inch per hour snowfall rates. Hundreds of trees, tree limbs, and branches were brought down by the weight of the snow, which caused many power outages. Numerous accidents were reported and many motorists were stranded on roads until the early morning hours the next day. There were over 1,000 flights cancelled at the New York City metro airports (Kennedy, La Guardia, and Newark). The FAA contract observer at nearby Newark Airport reported 6.4 inches of snow. Impacts were widely felt across eastern Essex county with major disruption to the evening commute.	highways and corridors were shut down. The snow resulted in numerous accidents including emergency vehicles which were out to do emergency response.

Notes:

9.15.7 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 9.15-12 summarizes the risk assessment results used to inform the City of Newark hazard ranking. For additional vulnerability information relevant to this jurisdiction, refer to Section 4 (Risk Assessment).

Repetitive Flood Losses

The following summarizes the repetitive and severe repetitive flood losses in the City of Newark.

- Number of repetitive loss (RL) properties: 21
- Number of severe repetitive loss (SRL) properties: 0
- Number of RL/SRL properties that have been mitigated: Unknown

Note: The number of SRL properties excludes RL properties.
RL and SRL as of 03/31/2019; SRL includes SRL properties that have been verified only (SRL_Indicator = V).

Table 9.15-12. Summary of Risk Assessment Results

Hazard of Concern	Hazard/ Scenario Area Evaluated	Population		Buildings		Economy (Loss)		Certainty Factor
Coastal Erosion and Sea Level Rise	Coastal Erosion: CEHA Sea Level Rise: NOAA +1ft and +3ft rise	CEHA:	270	CEHA:	42	CEHA:	$42,317,146	High
		SLR +1ft:	28	SLR +1ft:	8	SLR +1ft:	$18,754,730	
		SLR +3ft:	251	SLR +3ft:	43	SLR +3ft:	$68,375,036	
Coastal Storm	100- and 500- MRP Hurricane Wind Category 1 through Category 4 SLOSH	Category 1:	14,793	Category 1:	2,173	100-year Wind Loss:	$21,018,601	High
		Category 2:	44,505	Category 2:	6,352			
		Category 3:	63,077	Category 3:	8,953	500-year Wind Loss:	$159,024,073	
		Category 4:	69,865	Category 4:	9,773			
Drought	Drought event	Majority of the County is serviced by water supplies who get water from surface water.		Droughts are not expected to cause direct damage to buildings.		Losses would be limited, due to lack of major agricultural industry.		Low
Earthquake	100, 500-, 2,500-Year Mean Return Period Event	NEHRP D&E:	82,555	NEHRP D&E:	11,579	100-year Loss:	$1,195,466	High
		Liquefaction Class 4:	6,610	Liquefaction Class 4:	1,091	500-year Loss:	$86,036,956	
						2,500-year Loss:	$1,213,542,653	
Extreme Temperature	Extreme temperature event (heat or cold)	Over 65 Population:	27,341	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
		Population Below Poverty Level:	79,010					
Flood	100- and 500-Year Mean Return Period Event	100-year	16,688	100-year	2,411	100-year Loss:	$6,993,978,807	High
		500-year	32,935	500-year	545			
Geological	High Landslide Susceptibility Areas	Class A:	0	Class A:	0	Class A:	0	Moderate
		Class B:	0	Class B:	0	Class B:	$0	
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.		Economic losses could be similar to those of the coastal storm (wind and surge) and flooding hazards.		Low

Hazard of Concern	Hazard/ Scenario Area Evaluated	Population	Buildings	Economy (Loss)	Certainty Factor
Severe Winter Weather	Severe Winter 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.	The cost of snow and ice removal and repair of roads can impact local operating budgets.	Low
Wildfire	Wildfire Fuel Hazard areas (High, Very High, Extreme)	Wildfire: 139	Wildfire: 13	Wildfire: $13,311,804	Moderate
Civil Disorder	Civil disorder event	Population in the immediate vicinity will be impacted.	Buildings in the immediate vicinity will be most impacted.	Economic assets in the immediate vicinity will be most impacted.	Low
Cyber Attack	Cyber-attack event	The degree of impact to the population depends on the scale of the incident.	Damages due to a cyber attack may be limited.	The degree of damages depends on the scale of the incident. Loss of utilities/communication would have widespread economic impacts.	Low
Disease Outbreak	One of the following: West Nile Virus, Eastern Equine Encephalitis, St. Louis Encephalitis, La Crosse Encephalitis, Lyme Disease, Influenza, Ebola Virus	Entire population exposed; The degree of impact to the population depends on the scale of the incident	Disease outbreak would not have a direct impact on buildings.	Impacts to food supply and water supply; Costs of activities and programs implemented to address outbreaks and prevent spread.	Low
Economic Collapse	Recessions, Depressions, Interruption of normal economic conditions	The degree of impact to the population depends on the scale of the incident.	Damages due to economic collapse may be limited; property owners that cannot afford to maintain the structure may become abandoned/rundown.	The degree of damages depends on the scale of the incident. Massive impacts due to loss of jobs, businesses, and tax revenue are possible.	Low

Hazard of Concern	Hazard/ Scenario Area Evaluated	Population	Buildings	Economy (Loss)	Certainty Factor
Hazardous Substances	Port Newark is in Essex County (3rd largest port in the U.S.) Major highways/rail Pipelines 10 NPL Sites in County; Newark has 4	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
Utility Interruption	Disruption of power or potable water caused by accident, sabotage, natural hazards, or equipment failure.	The degree of impact to the population depends on the scale of the incident.	The degree of damages to buildings depends on the scale of the incident; Physical impacts to structures may occur if utilities are keeping critical functions online (i.e. sump pumps).	The degree of damages depends on the scale of the incident.	Low
Terrorism	Terrorist Attack	The degree of impact to the population depends on the scale of the incident; Population in the immediate vicinity will be impacted.	The degree of damages to buildings depends on the scale of the incident; Buildings in the immediate vicinity will be most impacted.	The degree of damages depends on the scale of the incident.	Low
Transportation Failure	One accident on any of the following: Roadway/vehicular, Aviation, Rail	The degree of impact to the population depends on the scale of the incident; Population in the immediate vicinity will be impacted.	The degree of damages to asset depends on the scale of the incident; Assets in the immediate vicinity will be most impacted.	The degree of damages depends on the scale of the incident; Assets in the immediate vicinity will be most impacted.	Low

CRITICAL FACILITIES

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

Table 9.15-13. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Status of Mitigation
		1% Event	0.2% Event	
Newark Liberty International Airport	Airport	X	X	No mitigation measures identified at this time
Central Maintenance Facility	Bus	X	X	No mitigation measures identified at this time
Newark Penn Station*	Bus		X	No mitigation measures identified at this time
Elan Chemical Company	Chemical Storage	X	X	No mitigation measures identified at this time
General Chemical Newark Plant Warf	Chemical Storage	X	X	No mitigation measures identified at this time
Messinger Trucking And Warehouse Corp.	Chemical Storage	X	X	No mitigation measures identified at this time
Essex County Correctional Facility	Correctional Institution	X	X	No mitigation measures identified at this time
Northern State Prison	Correctional Institution	X	X	No mitigation measures identified at this time
American Fuel Company of Essex	Electric Power	X	X	No mitigation measures identified at this time
Propane Power Corp.	Electric Power	X	X	No mitigation measures identified at this time
PSE&G Generating Station*	Electric Power	X	X	No mitigation measures identified at this time
Newark Fire Department Engine 14*	Fire	X	X	No mitigation measures identified at this time
Newark Fire Department Engine 19*	Fire		X	No mitigation measures identified at this time
ECSO Bureau of Narcotics	Government		X	No mitigation measures identified at this time
Bridge Street	Highway Bridge	X	X	No mitigation measures identified at this time
Clay Street	Highway Bridge	X	X	No mitigation measures identified at this time
Newark Penn Station	Light Rail		X	No mitigation measures identified at this time
Pennington Court	Newark Housing Authority	X	X	No mitigation measures identified at this time
Riverside Villa	Newark Housing Authority	X	X	No mitigation measures identified at this time
Seth Boyden Terrace	Newark Housing Authority		X	No mitigation measures identified at this time
Amerada Hess - Doremus Terminal	Oil Facility	X	X	No mitigation measures identified at this time

G J Chemical Company Incorporated	Oil Facility	X	X	No mitigation measures identified at this time
Getty Terminals Corporation	Oil Facility	X	X	No mitigation measures identified at this time
Sun Oil Pipe Line Company Newark Terminal	Oil Facility	X	X	No mitigation measures identified at this time
New Jersey State Police Troop D - Newark Station*	Police		X	No mitigation measures identified at this time
New Jersey Transit Police Department*	Police	X	X	No mitigation measures identified at this time
USCBP - Newark Inspection Site*	Police	X	X	No mitigation measures identified at this time
Port Newark Channel	Port	X	X	No mitigation measures identified at this time
Port Newark Marine Facility 1	Port	X	X	No mitigation measures identified at this time
Port Newark Marine Facility 2	Port	X	X	No mitigation measures identified at this time
Port Newark Marine Facility 3	Port	X	X	No mitigation measures identified at this time
East Side High School*	School		X	No mitigation measures identified at this time
Oliver Street Elementary School	School		X	No mitigation measures identified at this time
South Street Elementary School	School		X	No mitigation measures identified at this time
Waverly Elementary School	School	X	X	No mitigation measures identified at this time
Wilson Avenue Elementary School	School		X	No mitigation measures identified at this time
Newark Airport*	Train Station	X	X	No mitigation measures identified at this time
Passaic Valley Sewerage Commission*	Wastewater Treatment Plant	X	X	No mitigation measures identified at this time
Pvsc Newark Secondary Wastewater Treatment Plant*	Wastewater Treatment Plant	X	X	No mitigation measures identified at this time

Source:

Note:

**Identified lifeline*

Additional Identified Vulnerabilities

The jurisdiction has identified the additional following vulnerabilities within their community:

- The East Ward has reoccurring flooding issues.
- Frelinghuysen Avenue to the west of the airport has reoccurring flooding issues.
- The city has 21 repetitive loss properties
- OEM needs additional IT support/staff to ensure they are able to get messages out quickly and update educational information on their website, social media, etc. in a timely manner.
- Catch basins are clogged.

- Extreme Temperatures may result in power loss and cause increased risk to human life. Homeless and other populations lack resources to protect themselves.
- The area adjacent to the Clay Street combined sewerage outfall is prone to flooding, usually during times of rainfall and high tide.
- It is unknown if filtration stations for potable water have capacity to filter out microcystin from possible harmful algal blooms which have become more common in the region.

Hazard Area Extent and Location

Hazard area extent and location maps were generated for the City of Newark 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 considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the City of Newark has significant exposure; refer to Figures 9.15-1 and 9.15-2. These maps also display the location of the regulatory floodplain, as well as identified critical facilities, lifelines, and RL/SRL properties within the municipality.

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 of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy as well as 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 4.4 (Hazard Ranking), each plan participant may have differing degrees of risk exposure and vulnerability compared to Essex County as a whole. Therefore, each jurisdiction ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential hazards for the City of Newark. During the review of the calculated hazard ranking, the City adjusted the calculated rankings to incorporate the perceived adaptive capacity of the community with respect to the relevant hazard and any other changes needed. The City of Newark has reviewed the 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 City indicated the following:

- The City changed the hazard ranking of coastal storm from high to medium.
- The City changed the risk ranking of civil disorder from low to medium.
- The City changed the risk ranking of disease outbreak from low to medium.
- The City changed the risk ranking of hazardous substances from low to medium.
- The City changed the risk ranking of terrorism from low to medium.

Table 9.15-14. City of Newark Hazard Ranking Input

Coastal Erosion and Sea Level Rise	Coastal Storm	Drought	Earthquake	Extreme Temperature	Flood
Low	Medium	Medium	Medium	High	Medium

Geological Hazards	Severe Storm	Winter Storm	Wildfire	Civil Disorder	Cyber Attack

Low	High	High	Low	Medium	Low

Disease Outbreak	Economic Collapse	Hazardous Substances	Utility Interruption	Terrorism	Transportation Failure
Medium	Medium	Medium	High	Medium	Low

9.15.8 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and their 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 may also be found under 'Capability Assessment' presented previously in this annex.

Table 9.15-15. 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 #
Newark-1: McClellen St. stormwater pumping station - Project is still currently under design and will be entering construction in 2015. Project includes widening of the roadway under installation of a new drainage system and a pump	Newark Engineering	**In progress** Working with the NJ DOT to finalize design plans and execute new cost reimbursement agreement.	X	2020-Newark-004
Newark-2: Meadowland stormwater pumping station and emergency power supply–Installation of emergency backup electric generators so the pump station can remain operational during power outages to prevent flooding at Newark Airport and the low lying areas of the East and South Wards during hurricanes and/or heavy rain events	Newark Engineering	**In progress** Currently under construction, switch upgrade to be completed by Port Authority with a small cost share. Various upgrades to Newark's Meadowlands stormwater pump station is expected to be in service in 2020.	X	2020-Newark-005
Newark-3: Peddie St. outfall improvements – Replacement of undersized failing netting facility and the removal of sediment from the Peddie Ditch that cause impediments that restrict the flow of water in the existing pipe.	Newark Engineering	**In progress**	X	2020-Newark-006
Newark-4: Frelinghuysen/Empire/ Meeker St. stormwater improvements - This project would remove that blockage and restore capacity of the Queen Ditch so the existing Queen Street Outfall, and the connected upstream sewers, can drain and provide storm water conveyance as designed.	Newark Engineering	**In progress**	X	2020-Newark-007
Newark-5: Hazmat Material Command Vehicles and foam Fire Apparatus – The purchase of a hazardous materials quick response command vehicle and Hazmat/foam fire apparatus to more effectively respond to a hazardous material incident in the City/region.	Newark Fire Department	**Completed**		
Newark-6: Prevention of leakage, mold, mildew, and collapse of roof in 68 of our public buildings/facilities, particularly 17 of our most critical	Newark Engineering	**Completed**		
Newark-7: Flood prevention and mitigation in buildings in flood prone areas and on vacant city land in those areas potentially through reduction in Combined Sewer Overflow, implementation of green infrastructure projects and property acquisitions where appropriate.	Newark Engineering	**In progress**	X	2020-Newark-002
Newark-8: Newark Passaic Riverfront Acquisition	Newark Office of Emergency Management	**Completed**		

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 #
Newark-9: Installation of back-up generators at critical municipal buildings/facilities to ensure continuity of operations	Newark Office of Emergency Management	**Completed**		
Newark-10: Installation of back-up generators at critical designated shelter locations to ensure continuity of operations	Newark Office of Emergency Management	**Completed**		
Newark-11: Newark Back-up Uninterruptible Power Supply (UPS) systems for Critical Traffic Intersections	Newark Office of Emergency Management	**Completed**		
Newark-12: Newark Wayne Potable Water Pump Station emergency power supply & SCADA	Newark Office of Emergency Management	**Completed**		
Newark-13: Newark Chittenden Road Pump Station Generator & SCADA	Newark Office of Emergency Management	**Completed**		
Newark-14: Newark Vailsburg Ditch/Flood Control Mitigation Project	Newark Office of Emergency Management	**No progress**		
Newark-15: Newark Stormwater Management Through Green Infrastructure Project	Newark Office of Emergency Management	**In progress**		
Newark-16: Install Quick Connect Tap Boxes at Critical Facilities/Municipal Building Project	Newark Office of Emergency Management	**Completed**		
Newark-17: Hazard mitigation planning and project identification for Residential Flood Prevention	Newark Office of Emergency Management	**In progress**	X	2020-Newark-002
Newark-18: Newark Queen Ditch Drainage Upgrade Project	Newark Office of Emergency Management	**Completed**		
Newark-19: Newark Adams South and Wheeler Avenue Drainage Improvements Project	Newark Office of Emergency Management	**In progress**	X	2020-Newark-008
Newark-20: Newark Ironbound Recreation Center Flood Mitigation Project	Newark Office of Emergency Management	**Completed**		
Newark-21: Newark Community Education and Outreach Project	Newark Office of Emergency Management	**Completed**		

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 #
Newark-22: Newark Cedar Grove Reservoir Improvements Project	Newark Office of Emergency Management	**Completed**		
Newark-23: Newark Meadowlands Storm Water Pump Station Project	Newark Office of Emergency Management	**In progress** Project is 80% complete. Working in conjunction with Port Authority to complete the remaining	X	2020-Newark-009
Newark-24: Encourage compliance with FEMA's Preliminary Work maps	Newark Engineering	**In progress**	X	2020-Newark-010
Newark-25: Installing flood control measures in flood zone areas of the City, (i.e., levees, trenches, sump pump systems)	Newark Engineering	**In progress** Working with the US Army Corps of Engineers on implementing the Newark Flanking Plan.	X	2020-Newark-011
Newark-26: Implement renewable energy, smart grid technology and alternative back-up generation assets, would also be appropriate solutions to solve or energy related issues (if they arise)	Newark Office of Emergency Management	**No progress** The City currently does not have the capacity to implement this project.		
Newark-27: "Support the mitigation of vulnerable structures via retrofit (e.g. elevation, flood-proofing) or acquisition/relocation to protect structures from future damage, with repetitive loss and severe repetitive loss properties as a priority when applicable and if possible convert to open space and/or encourage green infrastructure. Phase 1: Identify appropriate candidates and determine most cost-effective mitigation option (in progress). Phase 2: Work with the property owners to implement selected action based on available funding from FEMA and local match availability. Specifically identified are properties in the following areas: Newark Passaic Riverfront Acquisition (refer to Newark-11 above)"	Newark Engineering, FPA	**In progress**		
Newark-28: Develop and implement an enhanced all-hazards, public outreach / education / mitigation information program on natural hazard risks and what they can do in the way of mitigation and preparedness, including flood insurance. This program will include: •Providing general natural hazard risk, preparedness and mitigation, and related NFIP information to the community through partnerships with community development corporations or community non-profit organizations. •Including natural hazard risk and risk reduction information through social media channels and email blast systems.	Supervisor's Office	**Ongoing** Active participant in FEMA Coastal Restudy process and engaging with NJ Department of Environmental Protection, Bureau of Climate Resilience Planning.		

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 #
•Posting of flyers and other readily available NFIP informational materials at City Hall or distributing at regular community meetings. •Preparation, distribution and analysis of public surveys. •Developing/maintaining a natural hazard risk management webpage on the municipal website where information and mapping can be posted. •Enhance public outreach to residents in NFIP floodplain areas to inform of annual grant opportunities, etc. which may include periodic articles and handouts in the annual newsletter.				
Newark-29: Develop and implement a post-event damage assessment program, including the following elements: •Conduct public outreach/education (see Public Education and Awareness Initiatives above) to inform property owners of the need to report property damage and obtain required permitting when making repairs. •Develop and organize local resources to conduct post-event damage assessments, including substantial damage determinations as warranted. •Develop an inventory (file system and/or database) of losses (incl. loss of service, property damage, economic losses, etc.) as reported to and/or identified by the Town/Village (e.g. building permit process).	Newark Engineering, FPA	**In progress**		
Newark-30: Support participation in the NFIP Community Rating System (CRS) program by attending CRS workshop(s) if offered within the county. Join the CRS program if adequate resources to support long term participation can be dedicated. See following related Community Assistance Visit (CAV) initiative.	FPA	**No progress** The City met with NJDEP CRS Coordinator to discuss program and local roles and responsibilities. The City does not currently have the capacity and resources to hire a Newark CRS Coordinator to support this activity.		
Newark-31: Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed. This is a part of the process of joining CRS (above initiative).	FPA	**No progress** The City does not currently have the capacity and resources to hire a Newark CRS Coordinator to support this activity.		
Newark-32: Have designated NFIP Floodplain Administrator (FPA), and other local officials who would benefit, become a Certified Floodplain Manager (CFM) through the Association of State Floodplain Managers (ASFPM) and New Jersey Association for Floodplain Management (NJAFM), and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis (BCA) and Substantial Damage Estimation (SDE).	FPA	**In progress** FPM has been identified, training to be conducted for certification	X	

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 #
Newark-33: Enhance/expand tree maintenance program and coordination with utilities (e.g., PSEG).	Newark Engineering	**Complete**		
Newark-34: Create/Enhance/Maintain Mutual Aid agreements with neighboring communities for continuity of operations	City of Newark	**Ongoing**		

In addition to the above progress, the City of Newark has identified the following mitigation projects/activities that have also been completed but were not identified in the 2015 HMP mitigation strategy:

- The City of Newark has developed and implemented their own fiber network for internet services. This will help provide another layer of protection from internet loss which prohibits distribution of emergency outreach during hazard events.
- The City of Newark has a potable water reservoir located in the Township of Cedar Grove. The city installed fencing around the reservoir. Trees have been removed from the area to prevent from falling on the fence.
- Newark Jackson Street Bridge has a tide gauge hooked into the Stevens Flood Advisory System. The system provides real time readings of water levels and flood forecasting.
- The city is completing traffic optimization studies focusing on the Raymond Boulevard corridor to optimize safety and flow.
- The city is working on a feasibility study for a stormwater fee. This process should take 2 years and may result in additional funding resources for stormwater mitigation in the city.
- The city has built a flood wall at Riverfront Park.

Proposed Hazard Mitigation Initiatives for the Plan Update

The City of Newark participated in a risk assessment workshop in September 2019 where detailed information was provided on assets exposed and vulnerable to the identified hazards of concern. The City of Newark participated in a mitigation action workshop in October 2019 and was provided a Mitigation Toolbox that included a mitigation catalog developed specifically for Essex 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). Refer to Section 6 and Appendix H (Mitigation Strategy Supplement) for a more complete description of the Mitigation Toolbox and its resources.

Table 9.15-16 summarizes the comprehensive-range of specific mitigation initiatives the City of Newark would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six 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 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' Table 9.15-17 provides a summary of the prioritization of all proposed mitigation initiatives for the HMP update and Table 9.15-18 summarizes the actions by type across hazards of concern.

Table 9.15-16. Proposed Hazard Mitigation Initiatives

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-Newark-001	420 Sandford Avenue Firehouse	The firehouse is located in an area that requires its service and a relocation is not possible at this time due to lack of available space. Over time the firehouse foundation has settled and sank into the soil, resulting in cracks in the foundation. The firehouse is at risk for continued damage and may be rendered unusable.	The city will perform a feasibility assessment to determine the best course of action to correct the settling issue and fix foundation issues. The city will then implement the most effective identified strategy.	Existing	Flood	1, 2, 6	Engineering Department	Assistance to Firefighters Grants (AFG), municipal budget	Firehouse maintains critical services to community	TBD by feasibility assessment	2-5 years	High	SIP	PP
2020-Newark-002	Mitigate flood-prone properties, including RL/SRL properties	Frequent flooding events have resulted in damages the East Ward and Frelinghuysen Avenue areas. These areas are residential, and these properties have been repetitively	Conduct outreach to 30 flood-prone property owners, including RL/SRL property owners and provide information on mitigation alternatives.	Existing	Flood	2	NFIP Floodplain Administrator, supported by homeowners	FEMA HMGP and FMA, local cost share by residents	Eliminates flood damage to homes and residents, creates open space for the municipality increasing flood storage.	$3 million	3 years	High	SIP	PP

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
		flooded as documented by paid NFIP claims. The city currently has 21 repetitive loss properties.	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 Brook, Drakes Lane, Lennox Avenue, and Lincoln Place area that experience frequent flooding (high risk areas).											
2020-Newark-003	Hire additional IT support/staff for OEM	OEM needs additional IT support/staff to ensure they are able to get messages out quickly and update	OEM will hire additional support staff to specialize in IT to aid outreach and	N/A	All hazards	3, 5	OEM	Municipal budget	Increased capacity for outreach and emergency messaging.	Salary	6 months	High	EAP, LPR	ES, 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
		educational information on their website, social media, etc. in a timely manner.	emergency messaging.											
2020-Newark-004	McClellen St. stormwater pumping station	McClellen St. requires widening and new stormwater system.	City will complete project which includes widening of the roadway under installation of a new drainage system and a pump.	Existing	Flood, Severe Storm	1, 2	Newark Engineering, NJ DOT	NJ DOT, municipal budget	Roadway widened and drainage improved	$65,000	Within 3 years	High	SIP	SP
2020-Newark-005	Meadowland stormwater pumping station and emergency power supply	The Meadowland stormwater pumping station lacks backup power.	Installation of emergency backup electric generators so the pump station can remain operational during power outages to prevent flooding at Newark Airport and the low lying areas of the East and South Wards during hurricanes	Existing	Utility Interruption, Flood	1, 2, 6	Newark Water and Sewer Utilities	Port Authority and City of Newark cost share	Protection of pump station from utility failure.	$35,000	1 year	High	SIP	SP

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
			and/or heavy rain events											
2020-Newark-006	Peddie St. outfall improvements	Peddie St. outfall is undersized	Replacement of undersized failing netting facility and the removal of sediment from the Peddie Ditch that cause impediments that restrict the flow of water in the existing pipe.	Existing	Flood, Severe Storm	1, 2	Newark Water and Sewer Utilities	Municipal budget	Increased outfall capacity, reduced flooding.	$15,000	Within 3 years	High	SIP	SP
2020-Newark-007	Frelinghuysen/Empire/ Meeker St. stormwater improvements	Queen Ditch needs additional capacity.	This project would remove that blockage and restore capacity of the Queen Ditch so the existing Queen Street Outfall, and the connected upstream sewers, can drain and provide storm water conveyance as designed	Existing	Flood, Severe Storm	1, 2	Newark Water and Sewer Utilities	Municipal budget	Increased capacity, reduced flooding	$30,000	Within 5 years	High	SIP	SP
2020-Newark-008	Newark Adams, South and Wheeler Avenue Drainage Improvements Project	Increased drainage improvements are necessary	The city will continue to make drainage improvements on the	Existing	Flood, Severe Storm	1, 2	Newark Office of Emergency Management	Municipal budget	Decrease in urban flooding	$25,000	Within 3 years	High	SIP	SP

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
			identified roadways.											
2020-Newark-009	Newark Meadowlands Storm Water Pump Station Project	Increased capacity for stormwater removal is necessary	Installation of Stormwater Pump Station.	Existing	Flood, Severe Storm	1, 2	Newark Office of Emergency Management, Port Authority	Municipal budget, Port Authority	Increased stormwater capacity	$20,000	1 year	High	SIP	SP
2020-Newark-010	Encourage compliance with FEMA's Preliminary Work maps	Construction needs to meet Preliminary Work map standards.	City will work to ensure all construction is meeting elevation requirements of Preliminary Work Map standards	New and Existing	Flood	2, 3, 4	Newark Engineering	Municipal budget	Increased building standards	$200	Within 1 year	High	LPR	PR
2020-Newark-011	Newark Flanking Plan	Additional flood control measures are needed in flood zones of the city.	The city will support the USACE Newark Flanking Plan.	New and Existing	Flood	1, 2	USACE, City Administration	USACE	Reduction in flooding	Staff time	Within 5 years	High	SIP	SP
2020-Newark-012	Train FPA to become CFM	The FPA is not a certified floodplain manager.	The city will support the training of the FPA to become a CFM	N/A	Flood	4, 5	City FPA	Municipal budget	Increased staff capability	Staff time	1 year	High	LPR	PR
2020-Newark-013	Include increased stormwater standards in municipal codes	Stormwater flooding is an issue in the city.	The city will explore updating construction requirements to include more stringent stormwater standards	New	Flood	2, 3, 4	Administration	Municipal budget	Increased stormwater standards, reduced stormwater flooding.	Staff time, $100	1 year	High	LPR	PR
2020-Newark-014	Determine ability of water system to	It is unknown if filtration stations for	The city will work to determine	Existing	Utility Interruption	4	Public Works	Municipal budget	Vulnerability to HAB and potential	Staff time	Within 1 year	High	LPR	PR

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
	handle harmful algal blooms	potable water have capacity to filter out microcystin from possible harmful algal blooms which have become more common in the region.	ability of system to handle harmful algal blooms and identify any necessary actions that should be taken.						water shortages determined					
2020-Newark-015	Update the Stormwater Ordinance	The Stormwater ordinance needs to be updated to include new information/ requirements.	The city will update the ordinance.	New	Flood	2, 3	Administration	Municipal budget	Meet state standards	Staff time	Within 1 year	High	LPR	PR
2020-Newark-016	Update the Flood Damage Prevention Ordinance	The ordinance needs to be updated with additional information to meet requirements.	The city will update the ordinance.	New	Flood	2, 3	Administration	Municipal budget	Meet state standards	Staff time	Within 6 months	High	LPR	PR

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. Such 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. These 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. Such 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 9.15-16. Summary of Prioritization of Actions

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-Newark-001	420 Sandford Avenue Firehouse	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
2020-Newark-002	Mitigate flood-prone properties, including RL/SRL properties	1	1	1	1	1	1	0	1	0	0	1	0	1	1	10	High
2020-Newark-003	Hire additional IT support/staff for OEM	1	1	0	1	1	1	1	1	1	1	1	1	1	1	13	High
2020-Newark-004	McClellen St. stormwater pumping station	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
2020-Newark-005	Meadowland stormwater pumping station and emergency power supply	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	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
2020-Newark-006	Peddie St. outfall improvements	1	1	1	1	1	1	1	1	1	1	1	0	1	1	13	High
2020-Newark-007	Frelinghuysen/Empire/ Meeker St. stormwater improvements	1	1	1	1	1	1	0	1	1	1	1	0	1	1	12	High
2020-Newark-008	Newark Adams, South and Wheeler Avenue Drainage Improvements Project	1	1	1	1	1	1	1	1	1	1	1	0	1	1	13	High
2020-Newark-009	Newark Meadowlands Storm Water Pump Station Project	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2020-Newark-010	Encourage compliance with FEMA's Preliminary Work maps	0	1	1	1	1	1	1	1	1	1	0	1	1	1	12	High
2020-Newark-011	Newark Flanking Plan.	1	1	1	0	1	0	0	1	1	1	0	0	1	1	9	High
2020-Newark-012	McClellen St. stormwater pumping station	1	1	1	1	1	1	1	1	1	1	0	1	1	1	13	High
2020-Newark-013	Include increased stormwater standards in municipal codes	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2020-Newark-014	Determine ability of water system to handle harmful algal blooms	1	0	0	0	1	1	1	1	1	1	0	1	1	1	10	High
2020-Newark-015	Update the Stormwater Ordinance	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2020-Newark-016	Update the Flood Damage Prevention Ordinance	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High

Note (1): Refer to Section 6, which conveys guidance on prioritizing mitigation actions.

Note (2): Low (0-4), Medium (5-8), High (9-14).

Table 9.15-18. 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
Coastal Erosion and Sea Level Rise			2020-Newark-003		2020-Newark-003			2020-Newark-003
Coastal Storm			2020-Newark-003		2020-Newark-003			2020-Newark-003
Drought			2020-Newark-003		2020-Newark-003			2020-Newark-003
Earthquake			2020-Newark-003		2020-Newark-003			2020-Newark-003
Extreme Temperature			2020-Newark-003		2020-Newark-003			2020-Newark-003
Flood	2020-Newark-010, 2020-Newark-012, 2020-Newark-013, 2020-Newark-015, 2020-Newark-016	2020-Newark-001, 2020-Newark-002	2020-Newark-003		2020-Newark-003	2020-Newark-004, 2020-Newark-005, 2020-Newark-006, 2020-Newark-007, 2020-Newark-008, 2020-Newark-009, 2020-Newark-011		2020-Newark-003, 2020-Newark-012
Geological Hazards			2020-Newark-003		2020-Newark-003			2020-Newark-003
Severe Weather			2020-Newark-003		2020-Newark-003	2020-Newark-004, 2020-Newark-006, 2020-Newark-007, 2020-Newark-008, 2020-Newark-009		2020-Newark-003
Winter Storm			2020-Newark-003		2020-Newark-003			2020-Newark-003
Wildfire			2020-Newark-003		2020-Newark-003			2020-Newark-003
Civil Disorder			2020-Newark-003		2020-Newark-003			2020-Newark-003
Cyber Attack			2020-Newark-003		2020-Newark-003			2020-Newark-003
Disease Outbreak			2020-Newark-003		2020-Newark-003			2020-Newark-003
Economic Collapse			2020-Newark-003		2020-Newark-003			2020-Newark-003
Hazardous Substances			2020-Newark-003		2020-Newark-003			2020-Newark-003

Hazard	Prevention	Property Protection	Public Education and Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
Utility Interruption	2020-Newark-014		2020-Newark-003		2020-Newark-003	2020-Newark-005		2020-Newark-003
Terrorism			2020-Newark-003		2020-Newark-003			2020-Newark-003
Transportation Failure			2020-Newark-003		2020-Newark-003			2020-Newark-003

Refer to Section 6 (Mitigation Strategy) for an explanation of the mitigation categories.

9.15.9 Staff and Local Stakeholder Involvement in Annex Development

The City of Newark followed the planning process described in Section 2 (Planning Process) in Volume I of this plan update. 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. In addition, several municipal representatives were asked to review and contribute to the draft annex as documented on the annex sign-off sheets in Appendix B (Participation Documentation). 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 9.15-18. Contributors to the Annex

Entity	Title	Method of Participation
Dorian Herrell	OEM Coordinator, Primary POC	Primary POC, provided information on past events, flood history, and emergency management operations and needs, reviewed the draft and provided comments.
Juba Dowdell	OEM Deputy Coordinator	Provided information on past events, flood history, and emergency management operations and needs, reviewed the draft and provided comments.
Phil Scott	Director of the Engineering Department	Provided impact data, contributed to the mitigation strategy, provided information on capabilities
Tanya Fraser	Domestic Preparedness Planner, City of Newark Department of Public Safety, Office of Emergency Management Division	Attended meetings, provided impact data, contributed to the mitigation strategy, provided information on capabilities, reviewed the draft and provided comments.

Figure 9.15-1. City of Newark Hazard Area Extent and Location Map

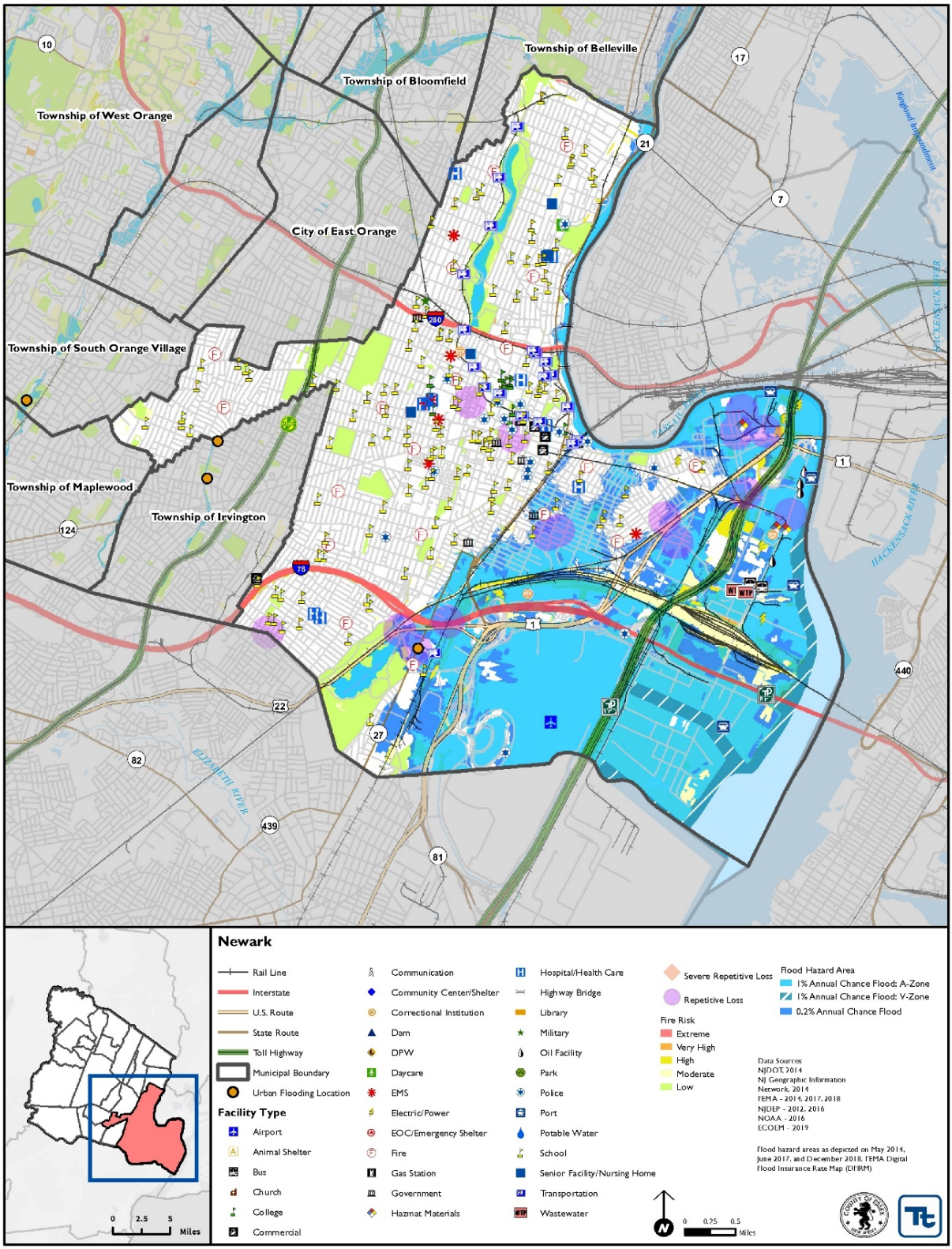
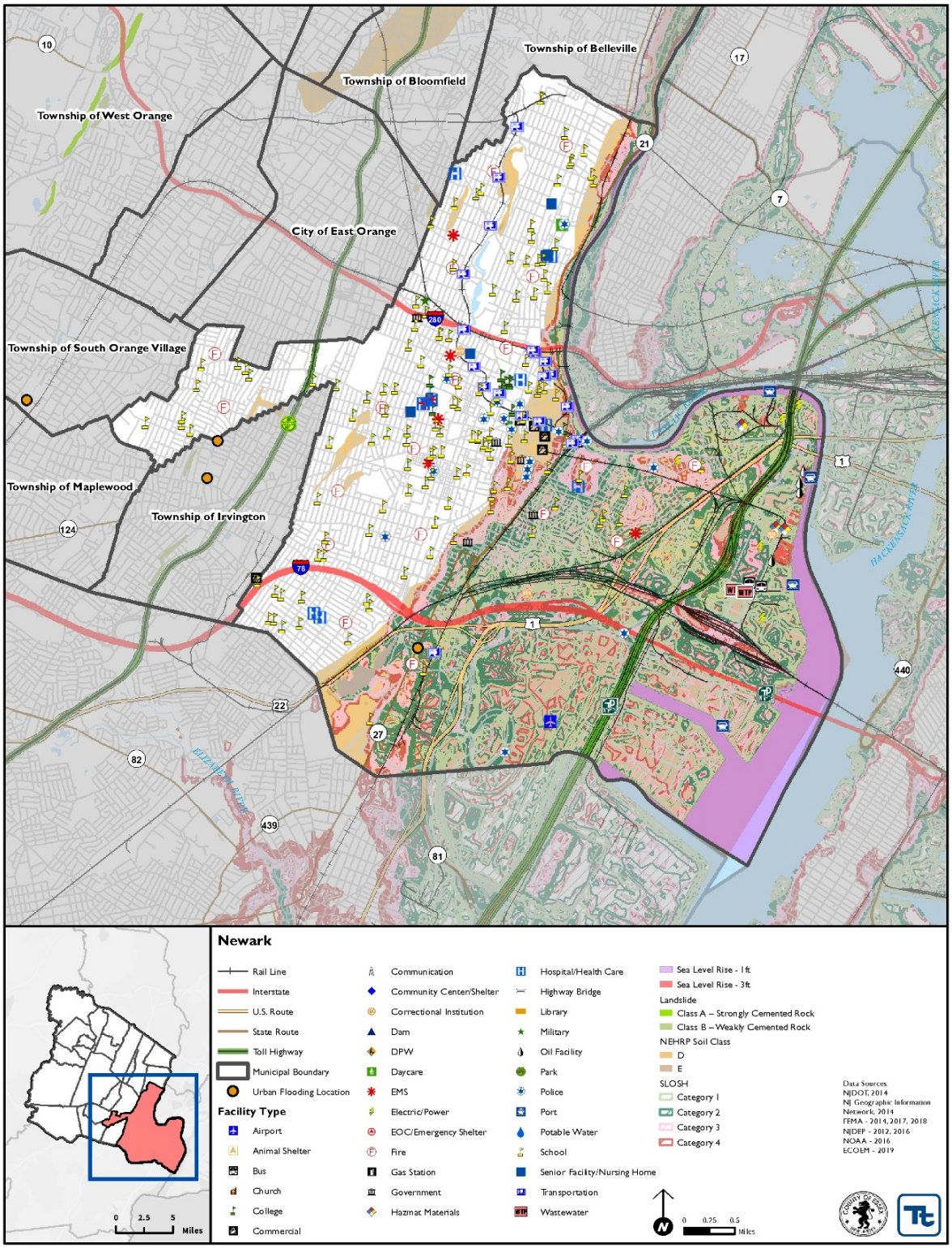


Figure 9.15-2. City of Newark Hazard Area Extent and Location Map 2



Action Worksheet			
Project Name:	420 Sandford Avenue Firehouse		
Project Number:	2020-Newark-001		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm		
Description of the Problem:	The firehouse located at 420 Sandford Avenue was built nearly 100 years ago over a brook. The firehouse is located in an area that requires its service and a relocation is not possible at this time due to lack of available space. Over time the firehouse foundation has settled and sank into the soil, resulting in cracks in the foundation. The firehouse is at risk for continued damage and may be rendered unusable.		
Action or Project Intended for Implementation			
Description of the Solution:	The city will perform a feasibility assessment to determine the best course of action to correct the settling issue and fix foundation issues. The city will then implement the most effective identified strategy.		
Is this project related to a Critical Facility or Lifeline?	Yes ☒	No ☐	
Level of Protection:	TBD by feasibility assessment	**Estimated Benefits (losses avoided):**	Firehouse maintains critical services to community
Useful Life:	TBD by feasibility assessment	**Goals Met:**	1, 2, 6
Estimated Cost:	TBD by feasibility assessment	**Mitigation Action Type:**	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	Within 1 year
Estimated Time Required for Project Implementation:	2 years to complete feasibility assessment, Full project TBD by feasibility assessment but estimated to be 2-5 years	**Potential Funding Sources:**	Assistance to Firefighters Grants (AFG), municipal budget
Responsible Organization:	Engineering Department	**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
	Relocate firehouse	N/A	No available land to relocate firehouse in a nearby location
	Rebuild firehouse	$500,000-$1M	May not be necessary, costly

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Action Worksheet

Project Name:	420 Sandford Avenue Firehouse	
Project Number:	2020-Newark-001	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Protects critical lifeline services
Property Protection	1	Protection of Firehouse and critical services to protect property
Cost-Effectiveness	1	Feasibility assessment will identify most cost-effective solution
Technical	1	Feasibility study
Political	1	
Legal	1	City owns the property
Fiscal	0	Project requires grant funding
Environmental	1	
Social	1	Benefits highly populated area
Administrative	1	
Multi-Hazard	1	Flood, Severe Storm
Timeline	1	2-5 years
Agency Champion	1	Engineering
Other Community Objectives	1	Protects critical asset
Total	13	
Priority (High/Med/Low)	High	

Action Worksheet	
Project Name:	Mitigate flood-prone properties, including RL/SRL properties

Project Number:	2020-Newark-002		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm		
Description of the Problem:	Frequent flooding events have resulted in damages in the East Ward and Frelinghuysen Avenue areas. These areas are residential, and these properties have been repetitively flooded as documented by paid NFIP claims. The city currently has 21 repetitive loss 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 East Ward and Frelinghuysen Avenue areas that experience frequent flooding (high risk areas).		
Is this project related to a Critical Facility or Lifeline?	Yes ☐	No ☒	
Level of Protection:	1% annual chance flood event + freeboard *(in accordance with flood ordinance)*	**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:**	2
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-Newark-002

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 city has the legal authority to conduct the project.
Fiscal	0	Project will require grant funding.
Environmental	1	
Social	0	Project would remove families from flood prone areas of the city.
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	