



Cumberland County Multi-Hazard Mitigation Plan Update
Participating Jurisdiction Appendices

Appendix 5
Downe Township, New Jersey

August 22, 2022

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Part 1: Overview

Part 1.1: Cumberland County Multi-Hazard Mitigation Plan Update

The Cumberland County Multi-Hazard Mitigation Plan Update (CC HMPU) incorporates input from all 15 participating jurisdictions in Cumberland County, including Cumberland County and 14 separate municipalities.

The CC HMPU is an update of the Mitigation Plan for Four New Jersey Counties (NJ4 HMP) that was completed by all fifteen jurisdictions in Cumberland County along with over 70 additional jurisdictions from Camden, Gloucester, and Salem Counties. The Cumberland County portions of the NJ4 HMP were adopted by the participating jurisdictions and approved by the Federal Emergency Management Agency in 2016.

The CC HMPU has two main parts:

- Cumberland County Multi-Hazard Mitigation Plan Update, or the “Base Plan”.
- County and Municipal Appendices.

The Base Plan includes descriptions and information common to all 15 participating jurisdictions organized according to the following three focus areas:

- Planning Process
- Hazard Identification and Risk Assessment
- Mitigation Measures

The County and Municipal Appendices include specific information for these same three focus areas for each of the 15 participating jurisdictions. Detailed tabulations are included in these Municipal Appendices for critical facilities, the status of past mitigation activities, and proposed mitigation measures for each municipality.

Part 1.2: Downe Township Municipal Appendix

This Municipal Appendix is focused on Downe Township in Cumberland County, New Jersey.

The Downe Township Municipal Working Group developed the Downe Township Municipal Appendix for adoption by the Downe Township Committee and subsequent approval by Region II of the Federal Emergency Management Agency.

Part 2: Participation

Part 2.1: Municipal Working Group Participation

Part 2.1 includes:

- *Municipal Working Group members including positions in the community, meetings and work sessions attended, and specific contributions to the Municipal Appendix*
- *Municipal positions and organizations that were invited but were not able to participate in the plan update process*
- *Municipal positions and organizations that have been recommended by the Federal Emergency Management Agency (FEMA) as candidates for participation on Municipal Working Groups but do not exist in the municipality*

Table 5-1 identifies the Municipal Working Group members. As detailed in *Section 2: Planning Process* of the Base Plan, the Municipal Working Groups are comprised of community representatives who worked to make sure mitigation measures included in the Municipal Appendix addressed the risks faced by residents, businesses, and property owners and reflected the priorities of the community.

Municipal Working Group members reviewed briefing materials and contributed during Work Sessions and Meetings and reviewed the Preliminary Draft and Public Review Draft versions of the CC HMPU Base Plan and Appendices. The Working Group will also continue to stay involved during the implementation and maintenance of the CC HMPU.

Due to the on-going COVID-19 pandemic during the plan update process, Working Group meetings were conducted in a variety of ways including virtual meetings. However, when local conditions permitted, in-person meetings were conducted.

Note: One member of the Working Group also participated in the development of the 2016 NJ4 HMP. This member is indicated with an () following their last name.*

Table 5-1: Downe Township Working Group

First Name	Last Name	Department	Position	Project Kickoff Meeting ¹	Round 1 Work Session ²	Round 2 Work Session ³	Contribution ⁴
Steve	Burt	Office of Emergency Management (OEM)	OEM Coordinator (through February 2022)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Charles	Lupton	OEM	OEM Coordinator (as of February 2022)				
Larry	Jordan *	OEM	Deputy OEM Coordinator (through February 2022)		<input checked="" type="checkbox"/>		
Curt	Silvers	OEM	Deputy OEM Coordinator (as of February 2022)				

¹ Project Kickoff Meeting was held on May 20, 2021

² Round 1 Work Session was held on August 30, 2021.

³ Round 2 Work Session was held on November 18, 2022.

⁴ Additional or unusual contributions are noted in the far-right hand column.

Part 2: Participation

First Name	Last Name	Department	Position	Project Kickoff Meeting ¹	Round 1 Work Session ²	Round 2 Work Session ³	Contribution ⁴
Mike	Rothman	Administration	Mayor		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Bob	Campbell	Administration	Council Member			<input checked="" type="checkbox"/>	
Nicole	Marlette	Administration	Council Member / Floodplain Administrator (as of February 2022)			<input checked="" type="checkbox"/>	
Nadine	Lockley	Administration	Township Clerk		<input checked="" type="checkbox"/>		
Maria	Disalvatore	Administration	Floodplain Administrator (through February 2022)		<input checked="" type="checkbox"/>		
Tom	Tedesco	Tedesco Consulting Services	Township Engineer		<input checked="" type="checkbox"/>		
Jim	Rutala	Rutala Associates	Township Planner		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Organized Working Group and Work Sessions.

The following lists candidate positions and organizations within the community that were extended invitations to participate during the development of the Municipal Appendix. These positions and organizations will continue to be extended invitations to participate during subsequent plan implementation and maintenance activities.

- Public Works Department
- Fire Department
- Community / Faith-Based Organizations
- Environmental Organizations
- School Board

The following lists positions and organizations that are generally recommended for consideration as members of the Municipal Working Groups by FEMA but do not currently exist within the community. An invitation to participate will be extended if positions are created or filled and as organizations are formed.

- GIS/IT Specialist (services provided by Cumberland County)
- Building Code Official (services provided by New Jersey Department of Community Affairs, Office of Local Code Enforcement)
- Transportation Department
- Police (services provided by New Jersey State Police)
- Emergency Medical Services (services provided by private company based in Millville City, New Jersey)
- Business Associations
- Major Employers and Businesses
- Healthcare Institutions

Part 2: Participation

Part 2.2: Public Participation

Part 2.2 includes all opportunities provided to the public and interested parties in the municipality to participate during the plan update process.

Table 5-2 identifies the date, type of involvement, and location (where applicable) for all opportunities provided to the public and interested parties to participate in the development of the plan update.

Table 5-2: Public Participation

Date	Type of Involvement	Location
August 3, 2021	Link to Project Website ⁵ established and maintained.	Township website ⁶
September 8, 2021	Preliminary Draft Municipal Appendix available for public comment.	Project Website ⁵
October 7, 2021	Notice posted re: Preliminary Draft Municipal Appendix review period with link to Project Website.	Township website ⁶
October 11, 2021	Public meeting conducted with presentation and open discussion.	Municipal Building, 288 Main Street, Newport
April 4, 2022	Notice posted re: Public Review Draft Municipal Appendix review period with link to Project Website.	Township website ⁶
April 19, 2022	Public Review Draft Municipal Appendix available for public comment.	Project Website ⁵

Public comments and input received for the Preliminary Draft and Public Review Draft versions of the Municipal Appendix were considered by the Municipal Working Group and incorporated into the Municipal Appendix where appropriate. In addition, the Municipal Appendix was adopted as part of a regularly scheduled public meeting (see Attachment B: Adoption Resolution).

Public education and outreach is an on-going mitigation measure included in the Municipal Appendix.⁷ In addition, public participation will continue to be encouraged during subsequent plan implementation and maintenance activities.⁸

⁵ www.downtwnpj.org

⁶ See Mitigation Measure M-1 in Part 4 of the Municipal Appendix.

⁷ Public education and outreach is described in *Section 4: Mitigation Measures* of the CC HMPU Base Plan.

Part 3: Hazard Identification and Risk Assessment

Part 3: Hazard Identification and Risk Assessment

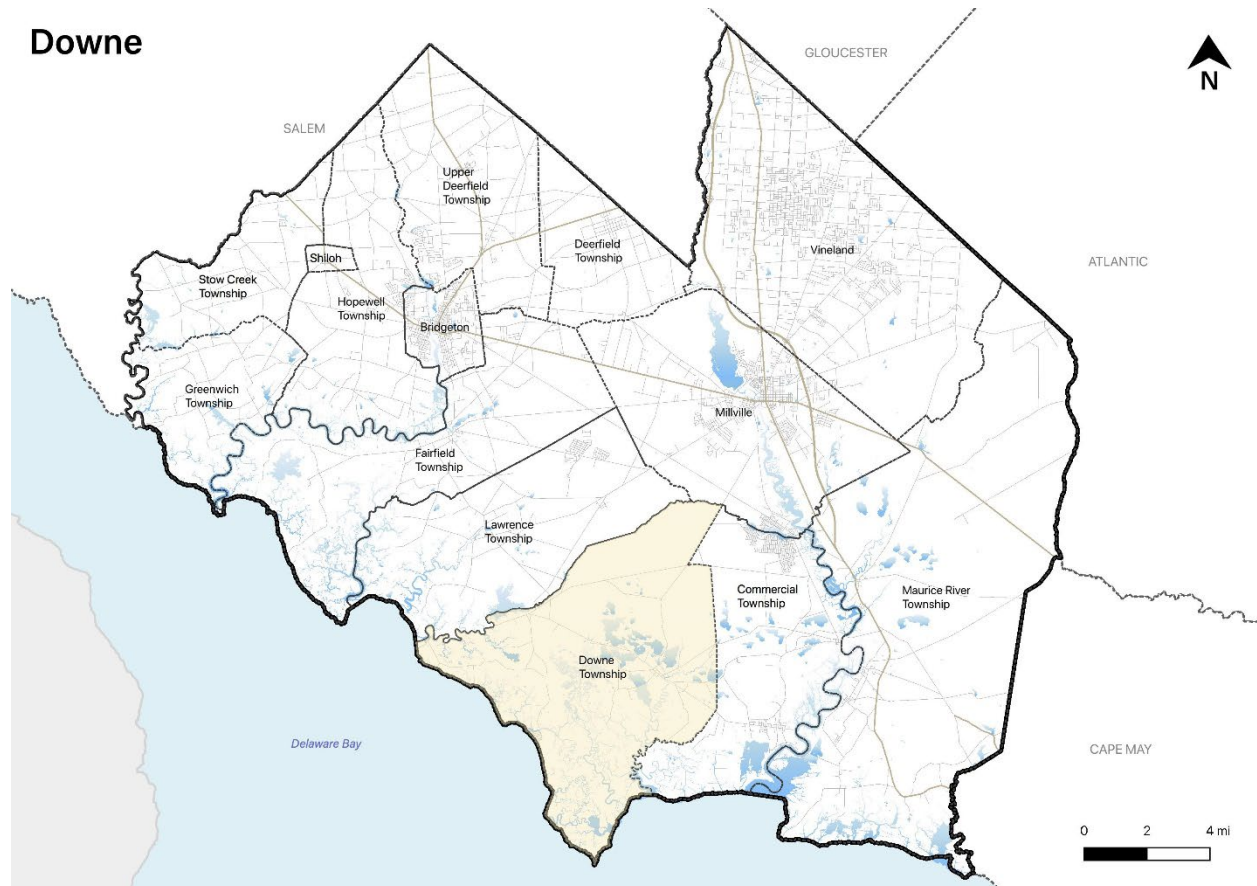
Part 3 includes seven subparts:

- *Part 3.1: Profile*
- *Part 3.2: General Building Stock*
- *Part 3.3: Critical Facilities*
- *Part 3.4: Hazard Exposure Assessment*
- *Part 3.5: Demographic Considerations*
- *Part 3.6: Observations*
- *Part 3.7: Hazard Priorities*

Part 3.1: Profile

Downe Township is located in the southwestern corner of Cumberland County (See Figure 5-1).

Figure 5-1: Downe Township Location Map

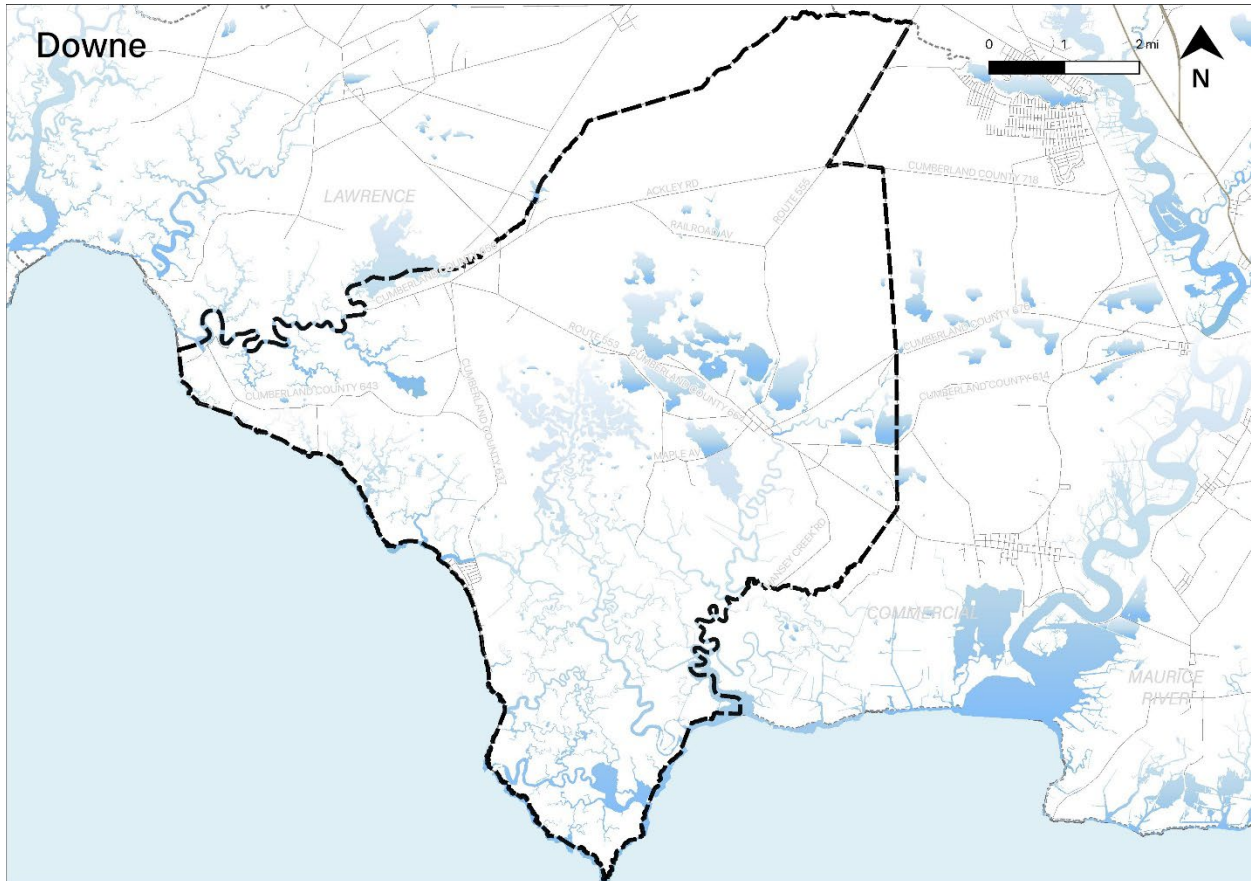


Part 3: Hazard Identification and Risk Assessment

Downe Township is a bay shore, rural residential community. Unincorporated communities in the municipality include Dividing Creek, Fortescue, and Newport.

Per Figure 5-2, major water bodies include the Delaware Bay, which forms the western border of the municipality, and Maple Creek. Major transportation routes include Cumberland County Routes 553 and 555. The land is predominantly flat, and a high percentage of existing land cover consists of forests and wetlands.

Figure 5-2: Downe Township Base Map



Part 3: Hazard Identification and Risk Assessment

Part 3.2: General Building Stock

As of 2015, there are 1,665 buildings in Downe Township with a total assessed value of improvements of \$133,411,800. Figure 5-3 shows the footprints of these buildings.

Figure 5-3: Downe Township Building Footprints⁹

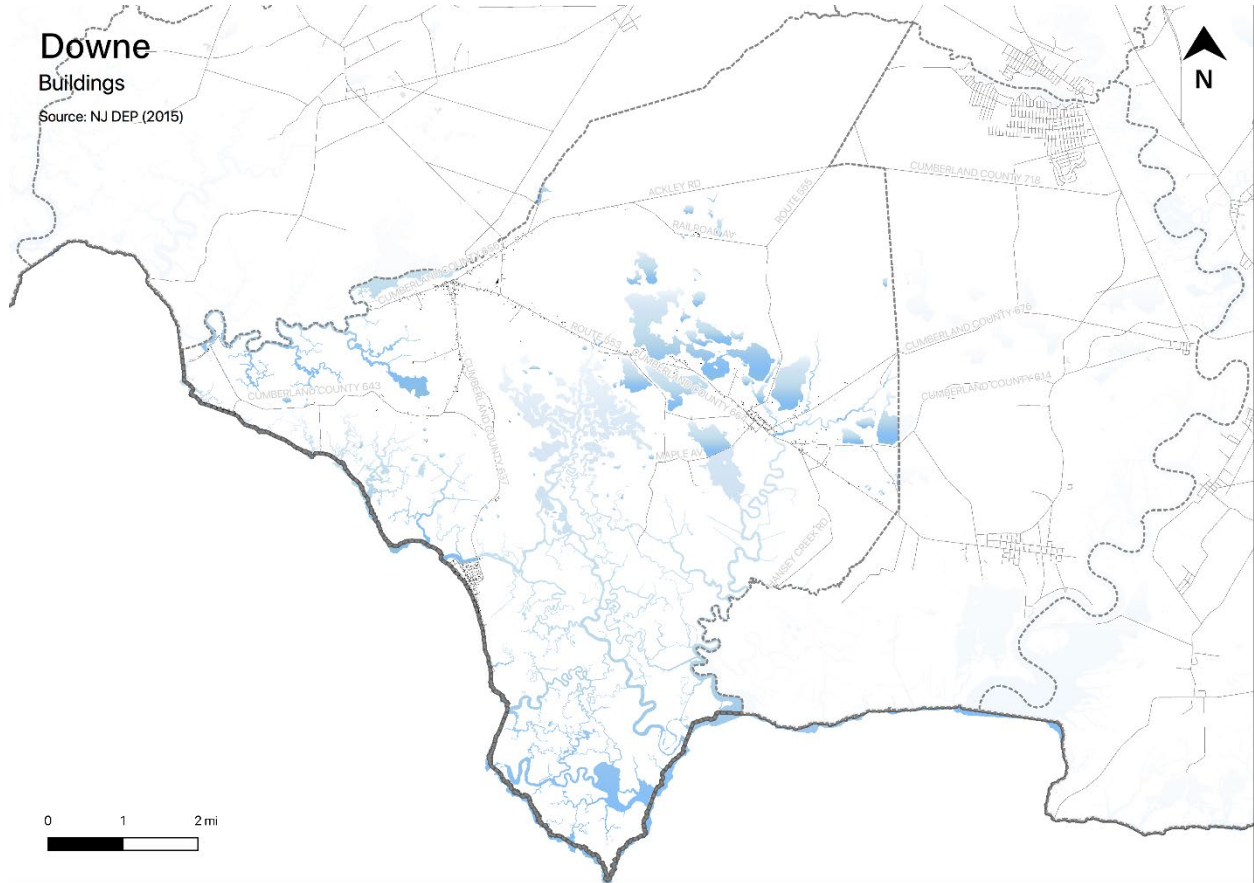


Table 5-3 shows the distribution of these structures according to land use distinctions.

Table 5-3: Downe Township Buildings per Land Use Type¹⁰

Land Use Type	Residential	Commercial	Industrial	Other
Number of Buildings	1,282	125	0	209
% of Total	79%	8%	0%	13%

⁹ Building footprint data was isolated from “Impervious Surfaces” data (2015) per <https://gisdata-njdep.opendata.arcgis.com/>. Note: This (map/publication/report) was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized or endorsed.

¹⁰ Land use types were isolated from MOD-IV Parcels and Tax Assessor data composite (2021) per <https://njogis-newjersey.opendata.arcgis.com/documents/parcels-and-mod-iv-of-cumberland-county-nj-shp-download/about> from the New Jersey Office of GIS

Part 3: Hazard Identification and Risk Assessment

Part 3.3: Critical Facilities¹¹

As of April 2022, there are ten critical facilities in Downe Township.

Critical facilities are prime candidates for mitigation measures due to important functions staged from these facilities prior to, during, and after natural hazards including emergency services and housing vulnerable populations.

Table 5-4 includes current inventory information for municipal critical facilities and cross-references to related mitigation measures identified in Part 4 of the Municipal Appendix. Figure 5.4 shows the location of these critical facilities.

Table 5-4: Downe Township Critical Facilities Inventory

CF #	Name	Type	Sub-Type	Address	Co-located CF #	Shelter (Y/N)	Generator (Y/N)	Comments	Mitigation Measure #
CF-1	Township Hall	Municipal	Administrative Offices	288 Main Street, Newport		N	N		
CF-2	Senior Center	Vulnerable Populations Facilities	Senior Centers	288 Main Street, Newport	CF-1	Y ¹²	N ¹³		
CF-3	Public Works Facilities	Public Works	Combined Administrative Office, Maintenance / Work Area, Equipment / Materials Storage, and Fueling Station	288 Main Street, Newport	CF-1	N	N		
CF-4	Downe Township OEM / Emergency Operations Center	EOC	Co-located Facilities	290 Main Street, Newport		N	N		M-2
CF-5	Downe Township - Newport Fire Station	FireStation/EMS	Stations	14 Hall Street, Newport		N	N		M-4

¹¹ Critical facility definitions and considerations are described in *Section 3: Hazard Identification and Risk Assessment* of the CC HMPU Base Plan.

¹² Downe Township Senior Center will operate as a reception center or temporary shelter until evacuees can be transported to a shelter maintained by the County or the American Red Cross.

¹³ As of November 24, 2014, back-up emergency power generator for the Senior Center is part of pending post-Superstorm Sandy Cumberland County OEM Energy Resiliency Grant Program application.

Part 3: Hazard Identification and Risk Assessment

CF #	Name	Type	Sub-Type	Address	Co-located CF #	Shelter (Y/N)	Generator (Y/N)	Comments	Mitigation Measure #
CF-6	Downe Township - Fortescue Fire Station	FireStation/EMS	Stations	10 Vassar Avenue, Fortescue		Y ¹⁴	N		
CF-7	Downe Township – Dividing Creek Fire Company	FireStation	Stations	529 Church Street, Port Norris		N	N		M-5
CF-8	Downe Township Elementary School	Schools	Public Schools	220 Main Street, Newport		Y ¹⁵	Y ¹⁶		M-3
CF-9	Fortescue Sewer Plant	Utilities - Wastewater	Treatment Plant	39.237181 -75.169319		N	Y ¹⁷	To be constructed in 2022	M-6
CF-10	Gandy's Beach Sewer Pump Station	Utilities - Wastewater	Pump Station	39.271600 -75.231087		N	Y ¹⁷	To be constructed in 2022	M-7

¹⁴ Downe Township Fortescue Fire Station will operate as a shelter for non-tidal events.

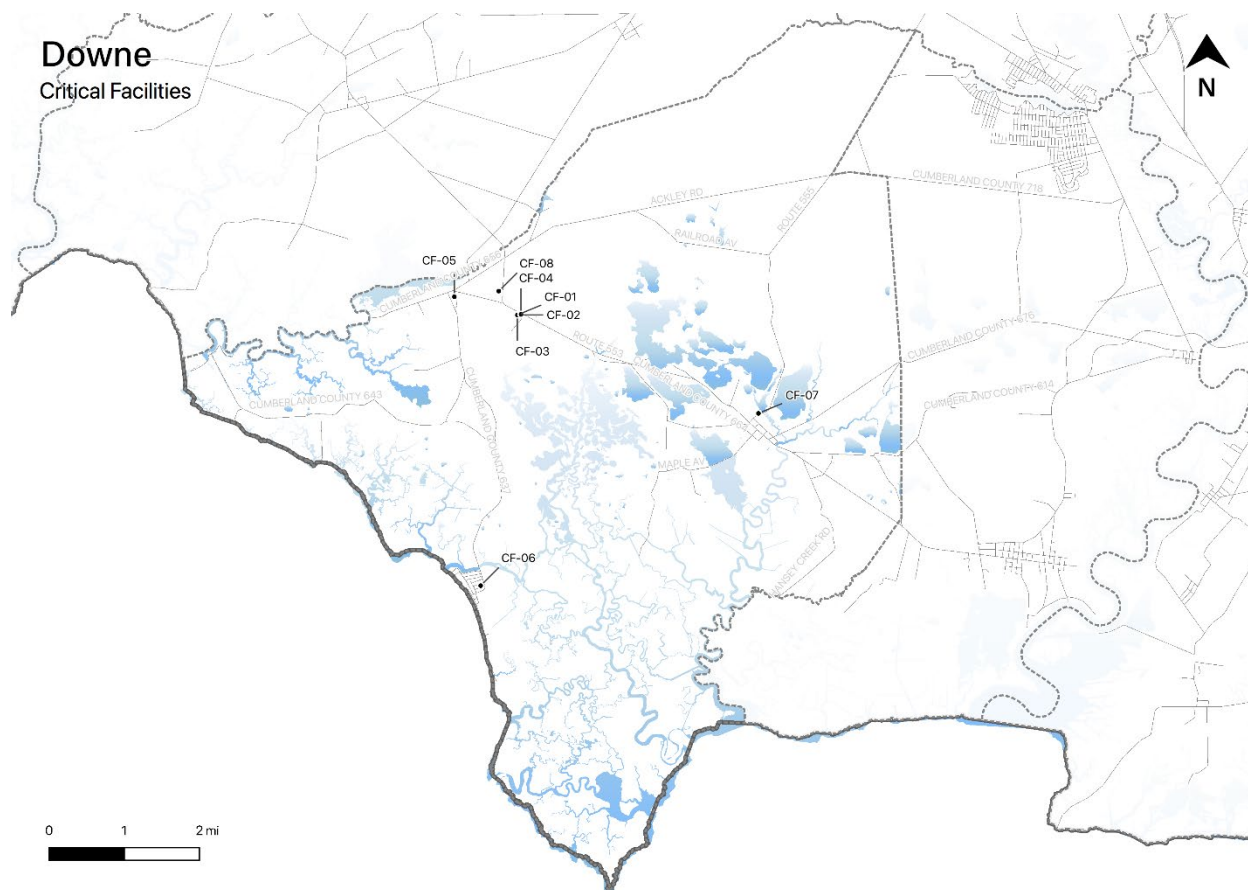
¹⁵ Downe Township Elementary School will operate as a reception center or temporary shelter until evacuees can be transported to a shelter maintained by the County or the American Red Cross.

¹⁶ Back-up power generator only provides power for emergency lighting.

¹⁷ Pending funding

Part 3: Hazard Identification and Risk Assessment

Figure 5-4: Downe Township Critical Facilities



Part 3.4: Hazard Exposure Assessment

Hazard exposure assessments were completed for the eleven (11) natural hazards identified in the CC HMPU Base Plan¹⁸.

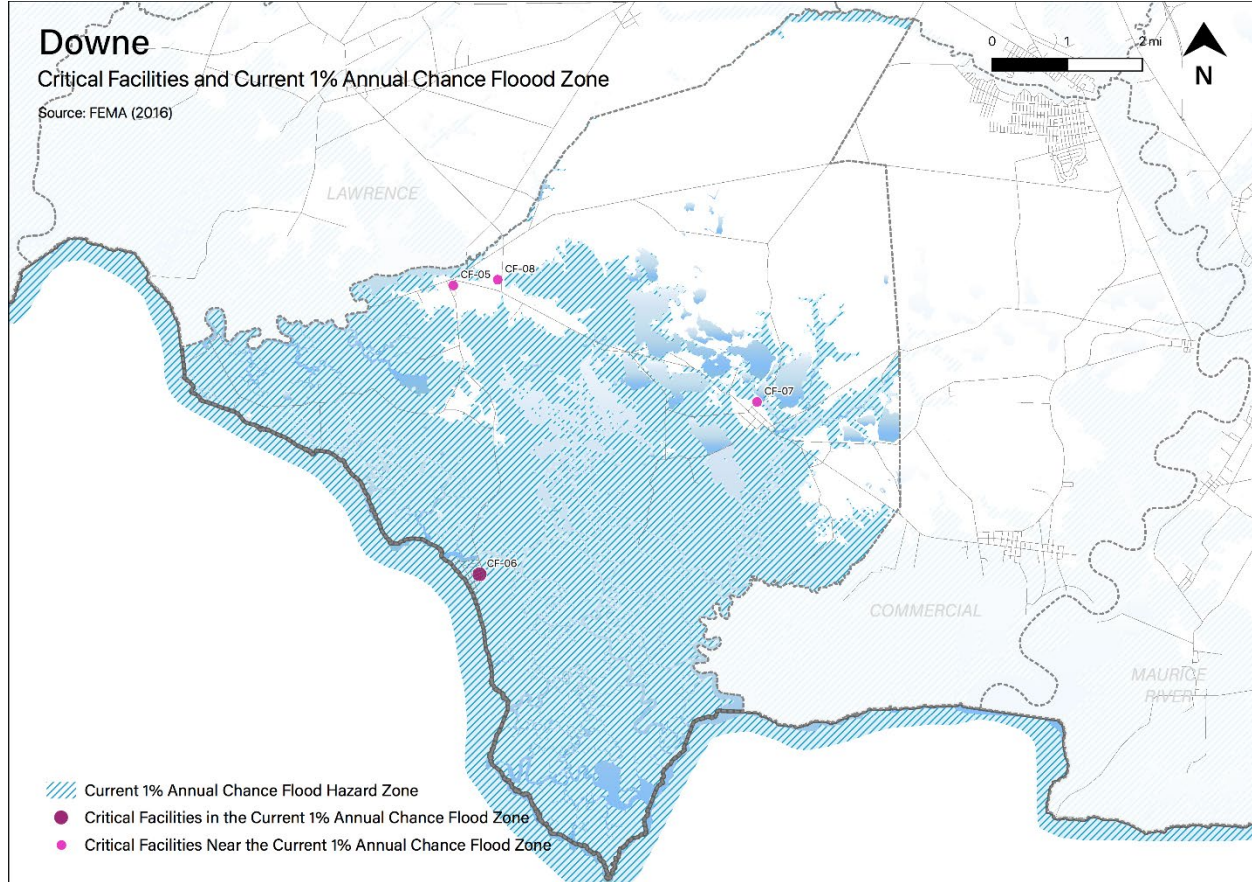
Key results for Downe Township are depicted in the following.

Mapping: Figure 5-5 is illustrative of the type of mapping available as a result of the hazard exposure assessment. This figure shows critical facilities that are located in or near (i.e., within 500 feet) the 1% annual flood zone on FEMA's Flood Insurance Rate Maps (FIRMs) or within a potential future 1% annual chance flood zone (i.e., within 1,000 feet).

¹⁸ Hazard profiles are included for all eleven natural hazards in *Section 3: Hazard Identification and Risk Assessment* of the CC HMPU Base Plan.

Part 3: Hazard Identification and Risk Assessment

Figure 5-5: Downe Township Critical Facilities and 1% Annual Chance Flood Zone



Mapping results are available for general building stock and critical facilities for the following hazards:¹⁹

- Coastal Erosion & Sea Level Rise
- Earthquake
- Extreme High Temperature
- Flood - per FEMA FIRM mapping
- High Wind and Severe Weather (heavy summer rains and winter snow loads)
- Wildfire

Tabulations: Selected data culled from the hazard exposure assessment process is displayed in the following tables:

- Table 5-5 indicates hazard exposure for general building stock
- Table 5-6 indicates hazard exposure for critical facilities

¹⁹ All mapping corresponding to results described in Parts 3.3 through 3.5 can be viewed in .pdf format at: https://www.dropbox.com/sh/ypr09n07qov9rzo/AABoq5nat8uBI9w4lBheSAo_a?dl=0.

Part 3: Hazard Identification and Risk Assessment

Table 5-5: Downe Township General Building Stock Hazard Exposure

Hazard	Number of Exposed Buildings	Percent of Total Buildings in the Jurisdiction	Value of Exposed Buildings	Percent of Total Value in the Jurisdiction
Coastal Erosion ²⁰	2	-	\$173,500	-
Sea Level Rise - 3 feet increase	628	37.72%	\$35,813,900	26.84%
Flood - Within 1 % Annual Chance Zone	828	50%	\$49,094,667	37%
Flood - Near (within 500 feet) of 1% Annual Chance Zone	620	37%	\$62,009,733	46%
Earthquake – Structure built before 1927 ²¹	315	36%	\$33,493,300	41%
High Winds / Severe Weather – Structure built before 1975	623	72%	\$55,660,800	69%
Wildfire – Composite score > 2.5 ²²	0	N/A	\$0	N/A

Table 5-6: Downe Township Critical Facilities Hazard Exposure²³

Hazard	Number of Critical Facilities	CF #s
Coastal Erosion	None	N/A
Sea Level Rise	None	N/A
Flood - Within 1 % Annual Chance Zone	1	CF-06
Flood - Near (within 500 feet) of 1% Annual Chance Zone	3	CF-05, CF-07, CF-08
Flood – Future potential (within 1,000 feet) 1% Annual Chance Zone	4	CF-01, CF-02, CF-03, CF-04
Wildfire	8	CF-01, CF-02, CF-03, CF-04, CF-05, CF-06, CF-07, CF-08

In addition, all critical facilities in Cumberland County are exposed to the following hazards and potentially subject to power outages, and structural and/or contents damage:

- Earthquake
- Extreme Temperatures
- High Winds
- Severe Weather – Summer (including heavy rains)
- Severe Weather – Winter (including heavy snow loads)

²⁰ All supporting data for Coastal Erosion, Sea Level Rise (3-foot rise), Flood (all) can be viewed at https://docs.google.com/spreadsheets/d/1fcN5hL3Jz4X7mldFyKs6wol6J6lAR9bSsvJPIgE_A0Q/edit?usp=sharing

²¹ All supporting data for Earthquake, High Winds, and Severe Weather can be viewed at <https://docs.google.com/spreadsheets/d/1Zx1LZwKQ8esgqv4c9hbbSZurtMjH4UITQWJY1LrZezc/edit?usp=sharing>

²² All supporting data for Wildfire can be viewed at https://docs.google.com/spreadsheets/d/1JAbfd3A-eCHI93pZFaPVuM_H2yvuUzeHCmoijv-oxsw/edit?usp=sharing

²³ All supporting data for critical facility hazard exposure can be viewed at <https://docs.google.com/spreadsheets/d/1MPLiOANm7fHoyKuxyWqyang26LTSPayTxJvLmK5lGPg/edit?usp=sharing>

Part 3: Hazard Identification and Risk Assessment

Information from the 2016 NJ4 HMP HIRA was also reviewed with the Working Group to determine the need for updates to hazard exposure results for Levee Failure.

Levee Failure

Per the South Jersey Levee Inventory²⁴:

- There is one (1) levee in the Township:
 - Maple Street (NCRS #88) with thirteen (13) parcels within a 1,000-foot buffer from the levee
- No (0) levee failure incidents had been recorded in the Township as of 2014

Working Group members were asked the following questions for Levee Failure:

- ✓ *Are these facilities still in operation?*
- ✓ *Are there updated Emergency Action Plans or inundation maps for these facilities?*
- ✓ *Have there been any other incidents of failure since the reported records?*

Per the Downe Township Working Group, there were no changes to the NJ4 HMP HIRA Levee Failure hazard exposure results.

National Flood Insurance Program Information

One additional metric discussed with the Working Group was statistical information from the National Flood Insurance Program (NFIP)²⁵. The following are relevant numbers for Downe Township as provided by the New Jersey Office of Emergency Management (NJOEM)²⁶:

- Active Policies – one hundred twenty-one (121) active NFIP flood insurance policies
- Claims History – four hundred twenty-four (424) claims made against the NFIP between 1977 and 2020
- Repetitive Loss Properties (RL) – forty-one (41) properties designated as RL

For comparison relative to the number of active NFIP flood insurance policies, the following are the number of potentially exposed buildings (per Table 5-5), which are significantly higher than the number of active policies:

- Flood - Within 1 % Annual Chance Zone: 828 buildings ~ 50% of total buildings, with a value of \$49,094,667 ~ 37% of the total building value in the Township.
- Flood - Near (within 500 feet) of 1% Annual Chance Zone: 620 buildings ~ 37% of total buildings, with a value of \$62,009,733~ 46% of the total building value in the Township.

²⁴ US Department of Agriculture, National Resources Conservation Services (NRCS) South Jersey Levee Inventory, 2010.

²⁵ Information on the NFIP is described in *Section 3: Hazard Identification and Risk Assessment* of the CC HMPU Base Plan.

²⁶ Spreadsheets provided by NJOEM in October 2021.

Part 3: Hazard Identification and Risk Assessment

Part 3.5: Demographic Considerations

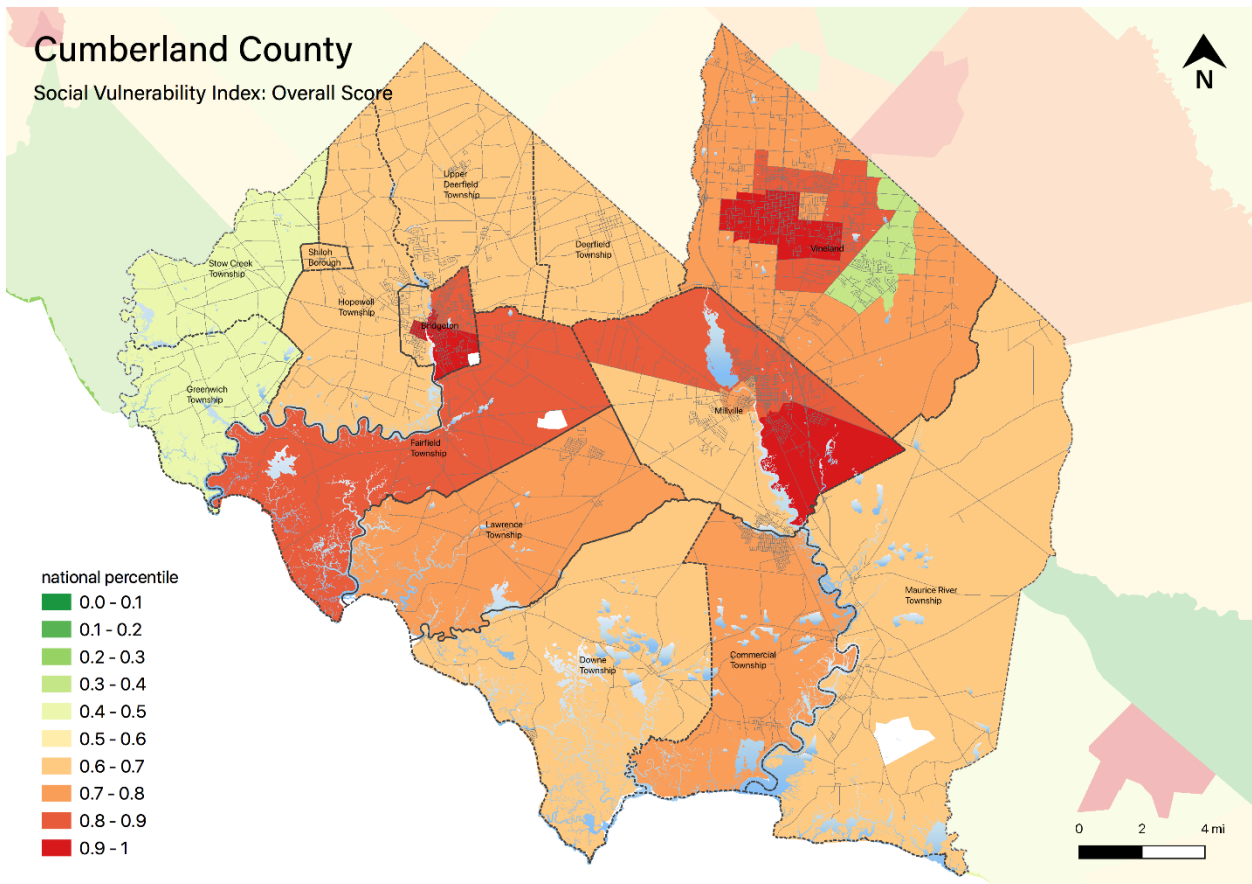
Demographic considerations include general population and land use factors. Table 5-7 includes current population estimates and changes since the previous US Census²⁷:

Table 5-7: Downe Township General Population Demographics

Metric	Current Estimates
2010 Population	1,585
2019 Population	1,447
Percent Population Change (2010-2019)	- 8.71%
Land Area	48.61 sq. miles
Population Density	29.8 / sq. mile

Demographic considerations also include differences in social vulnerability²⁸. Figure 5-6 shows the overall Social Vulnerability (SVI) Index overall scores for Cumberland County.

Figure 5-6: Cumberland County Social Vulnerability Index: Overall Scores



²⁷ US Census, 2019 ACS 5 Year Estimates, Table ID DP5

²⁸ Social vulnerability considerations are described in *Section 3: Hazard Identification and Risk Assessment* of the CC HMPU Base Plan.

Part 3: Hazard Identification and Risk Assessment

For Downe Township, Table 5-8 includes selected metrics where social vulnerability considerations are noteworthy when compared with all national census tracts:

Table 5-8: Downe Township Social Vulnerability Considerations²⁹

Metric	Comparison with all National Census Tracts
Percentage of persons: With a disability	Higher than 82%
Percentage of persons: Living in a mobile home	Higher than 98%
Percentage of persons: Living in group quarters	Higher than 88%

In addition, the percentage of residents earning below poverty level = 14.9% (compared with the average in New Jersey of 10.4%).

Part 3.6: Observations

- Outreach and guidance should be provided for residents, business owners, and property owners for:
 - Properties in or near coastal erosion, sea level rise, flood zones, or wildfire hazard areas.
 - Older buildings to help evaluate potential risk of damage due to hazards such as Earthquake, High Winds, and Severe Winter Weather (i.e., heavy snow loads).
- All critical facilities are potentially vulnerable to Earthquake, High Winds, and Severe Weather (heavy rains in summer and snow loads in winter).
- Several critical facilities are potentially vulnerable to Flood and Wildfire and will be identified as priorities for follow-up critical facility field evaluations.
- Priority for follow-up should also be focused on critical facilities housing vulnerable populations related to Extreme Temperature and Severe Weather hazards. For example, determining and documenting (cross referencing EOP) how residents will be moved to facilities providing shelter including cooling and warming centers (all of which would need adequate back-up power and hardening).

²⁹ All supporting data for SVI can be viewed at https://docs.google.com/spreadsheets/d/10zb_Qlg2CgGxb45_fcKiP46swaC16-fORxYTIOiAkP0/edit#gid=1481479799

Part 3: Hazard Identification and Risk Assessment

Part 3.7: Hazard Priorities

As a key step in the Hazard Identification and Risk Assessment (HIRA) process, the eleven (11) natural hazards identified in the CC HMPU Base Plan were discussed during the Municipal Working Group Work Sessions and the relative priority of these hazards was identified.

Based on their personal experience as well as the results of the HIRA, the Municipal Working Group rated the hazards as follows:

High Priority

- Coastal Erosion and Sea Level Rise
- Flood
- High Wind

Moderate Priority

- Extreme Temperature: Cold & Hot
- Severe Weather – Summer
- Severe Weather – Winter

Low Priority

- Drought
- Earthquake
- Levee Failure
- Wildfire

One additional hazard was considered but was not considered applicable to the municipality:

- Dam Failure

Part 4: Mitigation Measures

Part 4: Mitigation Measures

Part 4 includes six subparts:

- *Part 4.1: Mitigation Goals and Strategy*
- *Part 4.2: NJ4 HMP Mitigation Measures*
- *Part 4.3: Municipal Mitigation Measures – Identification*
- *Part 4.4: Municipal Mitigation Measures – Implementation*
- *Part 4.5: Multi-Jurisdictional Mitigation Measures*
- *Part 4.6: Authorities, Policies, Programs, Resources, and Plan Integration*

Part 4.1: Mitigation Goals and Strategy

Goals were originally established by the SDVR Hazard Mitigation Steering Committee and validated by the four County Hazard Mitigation Working Groups in response to risk and capability assessment results.

As part of the NJ4 HMP plan update process, these goals were reviewed and edited by the Municipal Working Groups for use in the Municipal Appendices. In addition, the Municipal Working Groups for the CC HMPU reviewed and reaffirmed these goals for continued use in the Appendices.

All mitigation measures in the Municipal Appendix are related to at least one of these four goal statements.

- **Goal 1: Improve education and outreach efforts** regarding potential risk of natural hazards and appropriate mitigation measures that can be used to reduce risk (including programs, activities, and projects)
- **Goal 2: Improve data collection, use, and sharing** to reduce the risk of natural hazards
- **Goal 3: Improve capabilities and coordination** at municipal, county, and state levels to plan and implement hazard mitigation measures
- **Goal 4: Plan and implement projects** to mitigate identified natural hazards, known problems, and areas of concern

Based on these goals, the results of the HIRA, and experience of participants in the plan update process, the Municipal Working Group identified an overarching strategy for mitigation:

- Identify and address known problems or areas of concern for critical facilities and vulnerable populations
- Provide opportunities for residents and property owners to access available information about risk reduction and mitigation measures, e.g., useful links added to municipal websites, in particular for Repetitive Flood Loss properties
- Institutionalize hazard mitigation into municipal activities and programs through regular interactions of the Municipal Working Group and integration of related regulatory programs and planning initiatives
- Stay informed regarding changing conditions and related improvements in hazard and risk data due to future natural hazard events and increasing understanding of the effects of climate change and use the information as part of periodic evaluations of and refinements or additions to the municipality's mitigation program

The mitigation measures [to be] described in Parts 4.3 through 4.5 of the Municipal Appendix reflect this strategy.

Part 4: Mitigation Measures

Part 4.2: NJ4 HMP Mitigation Measures

Known problems and areas of concern were the basis for mitigation measures identified in the NJ4 HMP. In cases where these problems and concerns still exist at the time of the CC HMPU, the related NJ4 HMP mitigation measures were candidates for inclusion in the Municipal Appendix.

Table 5-9 identifies the status of mitigation measures included in the NJ4 HMP. These entries were based on information provided by the Municipal Working Group. In some cases, the NJ4 HMP mitigation measures were carried over as part of the Municipal Appendix as indicated in the “Comments” column and the far right-hand column of Table 5-9.

Table 5-9: Status of Downe Township NJ4 HMP Mitigation Measures

Mitigation Action, Program, or Project	Status	Comments	Mitigation Measure # ³⁰ ₃₁
M-1: Identify and pursue outreach and education opportunities to inform municipal residents, businesses, and property owners.	Work-in-progress	Work-in-progress included: <ul style="list-style-type: none"> • Use of Township website for emergency or hazard information dissemination • Follow-up with facilities regarding projects • Informal discussions among Township officials ▪ Completed a Township Repetitive Loss Analysis 	Carried over as part of M-1
M-2: Prioritize critical facilities and complete site and facility surveys to identify vulnerabilities and potential mitigation measures.			
M-3: Prioritize recurrent drainage problem areas and initiate data collection to track unreimbursed damages and related response and recovery expenses.			
M-4: Conduct regular Municipal Working Group meetings.			
M-5: Install backup emergency power generator at Downe Township Senior Center / Township Hall (shelter) (CF-2).	Completed	Installed using HMGP funding from Superstorm Sandy ³²	N/A
M-6: Install backup emergency power generator at Downe Township OEM / EOC (CF-4).	No progress / lack of funding	Currently use Public Works Building	Carried over as M-2
M-7: Install backup emergency power generator at Downe Township Fortescue Fire Station (shelter) (CF-6).	Completed	Installed using HMGP funding from Superstorm Sandy ³²	N/A
M-8: Upgrade backup emergency power generator at Downe Township Elementary School (shelter) (CF-8).	Work-in-progress	School Board is seeking funding	Carried over as M-3

³⁰ Detailed information for identification and implementation of municipal (M-#) mitigation measures is included in Tables 5-10 and 5-11.

³¹ Detailed information for identification and implementation of multi-jurisdictional (MJ-#) mitigation measures is included in Table 5-12.

³² Cumberland County Generator Program 1

Part 4: Mitigation Measures

Mitigation Action, Program, or Project	Status	Comments	Mitigation Measure # ³⁰³¹
M-9: Install backup emergency power generator at Downe Township Newport Fire Station (shelter) (CF-5).	No progress / lack of funding		Carried over as M-4
M-10: Install backup emergency power generator at Downe Township Dividing Creek Fire Station (shelter) (CF-7).	No progress / lack of funding		Carried over as M-5
M-11: Address identified Repetitive Flood Loss Properties.	Work-in-progress	<i>Downe Township Floodplain Management Plan - Repetitive Loss Area Analysis</i> was completed in July 2021. Analysis resulted in clarifications regarding number of RLs, which was reported back to FEMA.	Carried over as M-6
MJ-1: Fortescue Area Improvement Plans	Work-in-progress		Carried over as multi-jurisdictional mitigation measure MJ-1
MJ-2: Dividing Creek / Maple Avenue Improvement Plans	Work-in-progress		Carried over as multi-jurisdictional mitigation measure MJ-2
MJ-3: Money Island Improvement Plans	Work-in-progress		Carried over as multi-jurisdictional mitigation measure MJ-3
MJ-4: Gandy's Beach Improvement Plans	Work-in-progress		Carried over as multi-jurisdictional mitigation measure MJ-4
MJ-5: Nantuxent Creek Improvement Plans	Work-in-progress		Carried over as multi-jurisdictional mitigation measure MJ-5
MJ-6: Newport Neck Road	Work-in-progress		Carried over as multi-jurisdictional mitigation measure MJ-6

Part 4: Mitigation Measures

Part 4.3: Municipal Mitigation Measures – Identification

Table 5-10 includes the list of mitigation measures that are considered the responsibility of the municipality. These mitigation measures:

- Reflect the goals and strategy identified in Part 4.1
- Include projects carried over from NJ4 HMP as detailed in Part 4.2
- Include new projects, programs or activities identified by the Municipal Working Groups including measures to address known problems or areas of concern for critical facilities and vulnerable populations
- Address Repetitive Flood Loss (RL) and Severe Repetitive Flood Loss Properties (SRL)³³ if applicable

Table 5-10 includes:

- Brief description of the mitigation action, program, or project
- Hazard(s) addressed by the measure
- Relevant goal(s) addressed by the measure
- Whether the measure pertains to existing or new structures or both

Table 5-10: Downe Township Municipal Mitigation Measures Identification

#	Mitigation Action, Program, or Project	Hazard(s)	Goal (s)	Existing or New Structures
M-1	<p><u>Township Mitigation Program</u> – including sustained efforts in cooperation with Cumberland County Office of Emergency Management (CC OEM) to:</p> <ul style="list-style-type: none"> ▪ Conduct outreach and education for residents, businesses, and property owners ▪ Complete critical facility field evaluations to identify potential vulnerabilities and mitigation measures ▪ Compile relevant data regarding hazard impacts ▪ Support regular interactions of the Township Working Group ▪ Seek integration of hazard mitigation with other parallel planning initiatives 	All	Goal #s 1, 2, and 3	All
M-2	Install backup emergency power generator at Downe Township OEM / EOC (CF-4).	Power outage due to multiple hazard types.	Goal #4	Existing
M-3	Upgrade backup emergency power generator at Downe Township Elementary School (shelter) (CF-8).	Power outage due to multiple hazard types.	Goal #4	Existing

³³ Section 3: Hazard Identification and Risk Assessment of the CC HMPU Base Plan includes a description of RL and SRL properties.

Part 4: Mitigation Measures

#	Mitigation Action, Program, or Project	Hazard(s)	Goal (s)	Existing or New Structures
M-4	Install backup emergency power generator at Downe Township Newport Fire Station (shelter) (CF-5).	Power outage due to multiple hazard types.	Goal #4	Existing
M-5	Install backup emergency power generator at Downe Township Dividing Creek Fire Station (shelter) (CF-7).	Power outage due to multiple hazard types.	Goal #4	Existing
M-6	Install backup emergency power generator for Fortescue Sewer Plant (CF-9) pending completion in 2022.	Power outage due to multiple hazard types.	Goal #4	Existing
M-7	Install backup emergency power generator for Gandy's Beach Sewer Pump Station (CF-10) pending completion in 2022.	Power outage due to multiple hazard types.	Goal #4	Existing
M-8	Address identified Repetitive Flood Loss Properties.	Coastal Erosion and Sea Level Rise, Flood, Levee Failure.	Goal #4	Existing
M-9	Implement recommendations from <i>Downe Township Floodplain Management Plan - Repetitive Loss Area Analysis</i>	Flood	Goal #4	Existing

Part 4.4: Municipal Mitigation Measures – Implementation

Table 5-11 includes information identified by the Municipal Working Group:

- Part(ies) responsible for following up with implementation of the measure
- Priority for implementation considering a range of criteria³⁴
- Project Type to help determine funding options and implementation mechanisms at the municipal level³⁵
- Estimated Cost, including estimates provided by the Municipal Working Group or approximate ranges for projects that are in early stages of development
- Target Date, indicating desired completion dates assuming availability of funding
- Next step(s) anticipated to implement the identified mitigation measures at the municipal level

³⁴ *Section 4: Mitigation Measures* of the CC HMPU Base Plan includes a description of evaluation criteria considered by the Municipal Working Group.

³⁵ *Section 4: Mitigation Measures* of the CC HMPU Base Plan includes a description of project types and related information regarding funding options and implementation mechanisms.

Part 4: Mitigation Measures

Table 5-11: Downe Township Municipal Mitigation Measures Implementation

#	Mitigation Action, Program, or Project	Responsible Part(ies)	Priority	Project Type	Estimated Cost (\$)	Target Date	Next Step(s)
M-1	Township Mitigation Program	Township OEM and Township Working Group	High	Program	Staff Time	On-going, sustained effort	<ul style="list-style-type: none"> ▪ Identify outreach and education objectives and methods (working with CC OEM) ▪ Set priorities (if necessary) and conduct critical facility field evaluations ▪ Identify schedule for plan updates (including sustained public participation and plan integration efforts)
M-2	Install backup emergency power generator at Downe Township OEM / EOC (CF-4).	Township OEM	High	Back-up Emergency Power Generator	< \$100K	One year	<ul style="list-style-type: none"> ▪ Conduct project scoping.³⁶ ▪ Identify funding source(s).
M-3	Upgrade backup emergency power generator at Downe Township Elementary School (shelter) (CF-8).	Township OEM	High	Back-up Emergency Power Generator	< \$100K	One year	Same as M-2
M-4	Install backup emergency power generator at Downe Township Newport Fire Station (shelter) (CF-5).	Township OEM	Moderate	Back-up Emergency Power Generator	< \$100K	One to three years	Same as M-2
M-5	Install backup emergency power generator at Downe Township Dividing Creek Fire Station (shelter) (CF-7).	Township OEM	Moderate	Back-up Emergency Power Generator	< \$100K	One to three years	Same as M-2
M-6	Install backup emergency power generator for Fortescue Sewer Plant (CF-9).	Township OEM	High	Back-up Emergency Power Generator	< \$100K	One year	<ul style="list-style-type: none"> ▪ Identify funding source(s).
M-7	Install backup emergency power generator for Gandy's Beach Sewer Pump Station (CF-10).	Township OEM	High	Back-up Emergency Power Generator	< \$100K	One year	<ul style="list-style-type: none"> ▪ Identify funding source(s).

³⁶ Project scoping for M-2 through M-5 to include determining feasibility to install hookups and transfer switch for using portable generator(s) to accommodate need, at least as a temporary measure

Part 4: Mitigation Measures

#	Mitigation Action, Program, or Project	Responsible Part(ies)	Priority	Project Type	Estimated Cost (\$)	Target Date	Next Step(s)
M-8	Address identified Repetitive Flood Loss Properties.	Floodplain Administrator	High	Private Property Flood Mitigation	Staff time commitment	Six months	Prior to initiating landowner contacts, identify flood insurance implications and mitigation options including eligible activities per FEMA HMA programs.
M-9	Implement recommendations from <i>Downe Township Floodplain Management Plan - Repetitive Loss Area Analysis</i>	Multiple parties	High	Flood Mitigation		One to five years	

The following are additional notes regarding the implementation of Mitigation Measure M-1 (consistent with *Part 3.6: Observations*):

- Outreach and guidance should be provided for owners of :
 - Properties with valid Repetitive Loss designations
 - Buildings potentially exposed to Coastal Erosion, Sea Level Rise, Levee Failure, and/or Wildfire.
 - Buildings in or near the 1% annual flood zone regarding potential risk and availability of NFIP flood insurance.
 - Older buildings to help evaluate potential risk of damage due to hazards such as Earthquake, High Winds, and Severe Weather (heavy rains in summer and heavy snow loads in winter).
- Considerations for prioritizing and conducting critical facility field evaluations should include:
 - All CFs are potentially vulnerable to Earthquake, High Winds, and Severe Weather (heavy rains in summer and heavy snow loads in winter).
 - In addition, some CFs are potentially vulnerable to Flood and/or Wildfire and should also be considered as candidates for follow-up facility-level evaluations.
 - Priority for follow-up should also be focused on critical facilities housing vulnerable populations, e.g., group homes, related to Extreme Temperature and Severe Weather hazards. For example, determining and documenting (cross referencing the jurisdiction's Emergency Operations Plan) how residents will be moved to facilities providing shelter including cooling and warming centers (all of which would need adequate back-up power and hardening).
- Provisions for Plan Maintenance include :
 - Sustain public outreach and participation (including but not limited to targeted outreach and guidance efforts)
 - Conduct regular interactions of the Working Group to keep the plan current (e.g., an annual plan review and amendment process at a minimum)
 - Track and take advantage of plan integration opportunities including noting all upcoming plan updates as part of regular Working Group interactions

Part 4: Mitigation Measures

Part 4.5: Multi-Jurisdictional Mitigation Measures

During the Municipal Working Group Work Sessions, the Working Group identified some NJ4 HMP mitigation measures to be carried over, as well as adding new areas of concern, all of which were designated as multi-jurisdictional mitigation measures. Implementation of these measures, in the opinion of the Municipal Working Groups, requires participation or leadership from other levels of government, including county, state, and federal agencies. These multi-jurisdictional mitigation measures have been compiled in Table 5-12.

These measures have been referred to the County Working Group for consideration. As part of the implementation of the CC HMPU, the County Working Group will be working with the municipalities to:

- Confirm identified issues are valid multi-jurisdictional measures
- Identify specific responsibilities amongst different level(s) of government to address these problem areas
- Identify mitigation measures or related projects which may address the described problem areas that are already acknowledged as County responsibilities including identifying the appropriate County agency or department taking the lead role and status of implementing these mitigation measures
- Identify which, if any, additional mitigation measures the member agencies of the County Working Group will assume responsibility to implement

Table 5-12: Downe Township Multi-Jurisdictional Mitigation Measures

#	Problem Description	Hazard(s) Addressed	Goal Addressed	Applies to Existing or New Structures	Potential Partners	Priority
MJ-1	Fortescue Area Improvement Plans ³⁷ .	Coastal Erosion and Sea Level Rise / Flood (Storm Surge & Tidal)	Goal #4	Both	Municipal OEM, Downe Township Initiative Partners	High
MJ-2	Dividing Creek / Maple Avenue Improvement Plans ³⁸ .	Coastal Erosion and Sea Level Rise / Flood (Storm Surge & Tidal) / Levee Failure	Goal #4	Both	Municipal OEM, Downe Township Initiative Partners	High
MJ-3	Money Island Improvement Plans ³⁹ .	Coastal Erosion and Sea Level Rise / Flood (Storm Surge & Tidal)	Goal #4	Both	Municipal OEM, Downe Township Initiative Partners	High

³⁷ See Downe Initiative - Page 110.

³⁸ See Downe Initiative - Page 114.

³⁹ See Downe Initiative - Page 123.

Part 4: Mitigation Measures

#	Problem Description	Hazard(s) Addressed	Goal Addressed	Applies to Existing or New Structures	Potential Partners	Priority
MJ-4	Gandy's Beach Improvement Plans ⁴⁰	Coastal Erosion and Sea Level Rise / Flood (Storm Surge & Tidal)	Goal #4	Both	Municipal OEM, Downe Township Initiative Partners	High
MJ-5	Nantuxent Creek Improvement Plans ⁴¹	Coastal Erosion and Sea Level Rise / Flood (Storm Surge & Tidal)	Goal #4	Both	Municipal OEM, Downe Township Initiative Partners	High
MJ-6	Newport Neck Road	Coastal Erosion and Sea Level Rise / Flood (Storm Surge & Tidal)	Goal #4	Both	Municipal OEM, Cumberland County DPW	High

⁴⁰ See Downe Initiative - Page 128.

⁴¹ See Downe Initiative - Page 132.

Part 4: Mitigation Measures

Part 4.6: Authorities, Policies, Programs, Resources, and Plan Integration

Part 4.6 includes three (3) subparts:

- Authorities, Policies, and Programs - Cross referencing relevant information and recommendations in the CC HMPU Base Plan regarding existing authorities, policies, and programs in the County and specific information about the Downe Township's participation and continued compliance in the National Flood Insurance Program (NFIP)
- Resources - Cross referencing relevant information and recommendations in the CC HMPU Base Plan regarding improving capabilities and coordination at the County and municipal level and specific information about Downe Township's available resources
- Plan Review and Integration – Identifying plans and programs included in the development of Plan Integration recommendations in the CC HMPU Base Plan

4.6.1: Authorities, Policies, and Programs

Section 4.6: Authorities, Policies, Programs, Resources, and Plan Integration of the CC HMPU Base Plan summarizes relevant authorities, policies, and programs related to hazard mitigation in Cumberland County including the NFIP.

Continuing participation in the NFIP as part of the implementation of the CC HMPU includes:

- Involvement of Floodplain Manager / Administrator during the CC HMPU implementation process
- Commitment to adopt updated FIRMs (if appropriate) and evaluate / update the municipality's Flood Damage Prevention Ordinance as appropriate per recommendations included in Section 4.6 of the CC HMPU Base Plan and under Part 4.6.3: Plan Review and Integration of this Appendix.

4.6.2: Resources

The update of the NJ4 HMP included reexamining participating jurisdictions' hazard mitigation and floodplain management capabilities; potential for improving capabilities and coordination within and between jurisdictions; and plan integration considerations, including:

- *Section 4: Mitigation Measures* of the CC HMPU Base Plan includes summary observations and recommendations concerning:
 - Capabilities for hazard mitigation planning and mitigation measure implementation and floodplain management for the participating jurisdictions
 - Coordination within municipal governments, between municipal governments and their communities, and between municipal, county, and state agencies responsible for hazard mitigation
- *Section 4.6: Authorities, Policies, Programs, Resources, and Plan Integration* of the CC HMPU Base Plan also includes summary statements regarding county and municipal resources and the impact of resource limitations on the overall approach to the CC HMPU mitigation strategies.

Table 5-13 compares the results of the Capability Assessment Survey for the County as a whole and Downe Township.

Part 4: Mitigation Measures

Table 5-13: Downe Township Capability Assessment Survey Results

Metric	Downe Township Results (n=5)	Cumberland County "as a whole" Results (n=85)
Position Type: Full-time	60.00%	51.76%
Position Type: Part-time	40.00%	36.47%
Position Type: Volunteer	0.00%	11.76%
Time in Position:		
Time in Position: Less than 1 year	40.00%	12.94%
Time in Position: 1 to 2 years	0.00%	8.24%
Time in Position: 2 to 5 years	40.00%	23.53%
Time in Position: More than 5 years	20.00%	55.29%
Prior Experience:		
Prior Experience: None	60.00%	57.65%
Prior Experience: with hazard mitigation planning	0.00%	31.76%
Prior Experience: with HMA grant administration	20.00%	12.94%
Prior Experience: with floodplain management	20.00%	7.06%
Training / Certifications:		
Training / Certifications: None	60.00%	75.29%
Training / Certifications: for hazard mitigation planning and implementation	0.00%	9.41%
Training / Certifications: for floodplain management	40.00%	15.29%

In general terms, when compared to the sampled individuals from across all the Working Groups, Downe Township has:

- Similar percentage of full-time staff
- Lower average time in current positions
- Lower percentage of staff with experience in hazard mitigation planning
- Higher percentage of staff with experience in HMA grant administration and floodplain management
- Lower percentage of staff with training for hazard mitigation planning and implementation
- Higher percentage of staff with training for floodplain management

Part 4: Mitigation Measures

4.6.3: Plan Review and Integration

Section 4.6: *Authorities, Policies, Programs, Resources, and Plan Integration* of the CC HMPU Base Plan includes:

- Table BP.4-2 that identifies primary plans and documents collected from each of the participating municipalities.
- Includes results of reviewing primary plans and documents to determine the extent to which these documents reflect up-to-date hazard risk and mitigation.
- Includes recommendations for integrating the results of the CC HMPU, including hazard mitigation data, goals, measures, and/or recommendations with existing plans and programs at the municipal level that are relevant to all participating municipalities and incorporated by reference in each of the jurisdiction-specific Appendices

The plan maintenance process articulates and specifies a commitment to review and follow these recommendations during future scheduled updates of these various documents as considered appropriate by the Working Group and the governing body of the municipality.

Specific documents obtained during the plan update process from the Downe Township Working Group include:

- Flood Damage Prevention Ordinance
- Floodplain Management Plan - Repetitive Loss Area Analysis July 2021
- Emergency Operations Plan (2012)
- Master Plan (2006)
- Downe Township Initiative (2012)⁴²
- Cumberland County Delaware Bayshore Recovery Plan (2013)
- Zoning Ordinance⁴³ and Map⁴⁴ (2000)
- Site Plan and Subdivision Review Procedures Ordinance (2000)⁴⁵
- 2014 Capital Improvement Budget and Capital Improvement Program
- 2021 Repetitive Loss Area Analysis

In addition, the following is status regarding the status of the Flood Damage Prevention Ordinance::

- Current version was adopted in 2016 and is consistent with the most recent FDPO per NJDEP]
- The Township Flood Map Official is the responsible party for enforcement. A member of the Township Council was designated by the Working Group to serve as the Floodplain Administrator / Flood Map Official. The individual who currently holds that position is included on the Working Group and has completed the capability assessment survey.
- The document is accessible to the public via internet⁴⁶.

⁴² <https://downetwpnj.org/wp-content/uploads/docs/mayor/ordinances/2016/Ord%2004-2016%20-%20Flood%20Damage%20Prevention%20Ordinance.pdf>