



Salem County New Jersey
Multi-Jurisdictional Multi-Hazard Mitigation Plan Update
Participating Jurisdiction Appendices

Appendix 2
Alloway Township

January 2025

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Part 1: Overview

Part 1.1: Salem County Multi-Jurisdictional Multi-Hazard Mitigation Plan Update

The *Salem County Multi-Jurisdictional Multi-Hazard Mitigation Plan Update* (SC HMPU) incorporates input from participating jurisdictions in Salem County, including Salem County and 14 separate municipalities.

The SC HMPU is an update of the *Mitigation Plan for Four New Jersey Counties* (NJ4 HMP) that was completed by all 16 jurisdictions in Salem County along with over 70 additional jurisdictions from Camden, Cumberland, and Gloucester, Counties. The Salem County portions of the NJ4 HMP were adopted by the participating jurisdictions and approved by the Federal Emergency Management Agency in January 2017.

The SC HMPU has two main parts:

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

The Base Plan includes descriptions and information common to all 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 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: Alloway Township Municipal Appendix

This Municipal Appendix is focused on Alloway Township in Salem County, New Jersey.

The Alloway Township Municipal Working Group developed the Alloway Township Municipal Appendix for adoption by the Alloway 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 3-1 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.

Working Group meetings were conducted as both in-person and virtual meetings. Municipal Working Group members reviewed briefing materials and contributed during meetings and reviewed the Preliminary Draft and Public Review Draft versions of the SC HMPU Base Plan and Appendices. The Working Group will also continue to stay involved during the implementation and maintenance of the SC HMPU.

Note: Four (4) members of the Working Group also participated in the development of the 2017 NJ4 HMP. These members are indicated with an () following their last names.*

Table 2-1: Alloway Township Working Group

First Name	Last Name	Department	Position	Project Kick-off Meeting ¹	Round 1 Work Session ²	Round 2 Work Session ³	Contribution ⁴
Gary	Remster, Jr. *	Alloway Township Office of Emergency Management (OEM) / Alloway Township Fire Company	OEM Coordinator / Fire Chief		☑	☑	Organized Working Group and Work Sessions.
Randy	Hitchner*	Alloway Township OEM	Deputy OEM Coordinator		☑		
Ed	McKelvey	Alloway Township Administration	Mayor			☑	

¹ Project Kickoff Meeting was held on February 27, 2023.

² Round 1 Work Session was held on April 6, 2023.

³ Round 2 Work Session was held on June 13, 2023. Working Group members also convened for the Alloway Township Joint Insurance Fund Safety Meeting on June 14, 2023.

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

Part 2: Participation

First Name	Last Name	Department	Position	Project Kick-off Meeting ¹	Round 1 Work Session ²	Round 2 Work Session ³	Contribution ⁴
Brian	Leady*	Alloway Township Administration / Alloway Township Ambulance	Committeemen / 1 st Lieutenant				
Charlotte	Cheeseman	Alloway Township Administration	Town Clerk			<input checked="" type="checkbox"/>	
John	Mahala	Alloway Township Fire Company	Chief		<input checked="" type="checkbox"/>		
Andy	Hoglen*	Alloway Township Code Enforcement	Construction Official / Floodplain Administrator				
David	Cobb	Alloway Township Public Works	Public Works Director			<input checked="" type="checkbox"/>	
Tom	Narolewski	Alloway Township Joint Insurance Fund	Representative			<input checked="" type="checkbox"/>	
Steve	Nardelli	Fralinger	Consulting Engineer				

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.

- Community / Faith-Based Organizations
- Environmental Committee
- Land Use Board / Economic Development Planner
- Major Employers and Businesses, including BR Williams
- 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.

- Business Associations
- Critical Infrastructure and Key Resources
- GIS/IT Specialist
- Healthcare Institutions
- Non-Governmental Organizations
- Police
- Transportation Department

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 2-2 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 2-2: Public Participation

Date	Type of Involvement	Location
March 24, 2023	Link to Project Website ⁵ established and maintained.	Township website ⁶
May 2023	Notice posted re: Preliminary Draft Appendix and Round 2 Working Group Meeting with link to Project Website.	Township website ⁶
June 2023	Preliminary Draft Appendix available for public comment.	Project website ⁵
June 14, 2023	Public meeting conducted with "SC HMPU" as agenda item with Township Committee.	Municipal Building
July 20, 2023	Public meeting conducted with "SC HMPU" as agenda item with Township Committee.	Municipal Building
August 4, 2023	Notice posted re: Public Review Draft Appendix review period with link to Project Website.	Township website ⁷
August 17, 2023	Availability of Public Review Draft announced at Township Committee Meeting	Municipal Building
August 18 through September 15, 2023	Public Review Draft Appendix available for public comment.	Project website ⁵
July 8, 2024	Revised Draft Municipal Appendix posted to Project Website	Project website ⁵
October 9, 2024 and November 14, 2024	Revised Draft Appendix Review Public Meetings (open to all County residents and interested parties)	PSEG Energy & Environmental Resource Center, Salem and Penn Towers South, Penns Grove
December 11, 2024	Final Municipal Appendix posted to Project Website	Project website ⁵

Public comments and input received for all 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.

Public education and outreach is an on-going mitigation measure included in the Municipal Appendix.⁸ In addition, public participation will continue to be encouraged during subsequent plan implementation and maintenance activities.⁹

⁵ <https://schmpu23.com/documents>

⁶ <http://allowaytownship.com/>

⁷ <http://allowaytownship.com/office-of-emergency-management>

⁸ See Mitigation Measure M-1 in Part 4 of the Municipal Appendix.

⁹ Public education and outreach is described in *Section 4: Mitigation Measures* of the SC HMPU Base Plan.

Part 3: Hazard Identification and Risk Assessment

Part 3: Hazard Identification and Risk Assessment

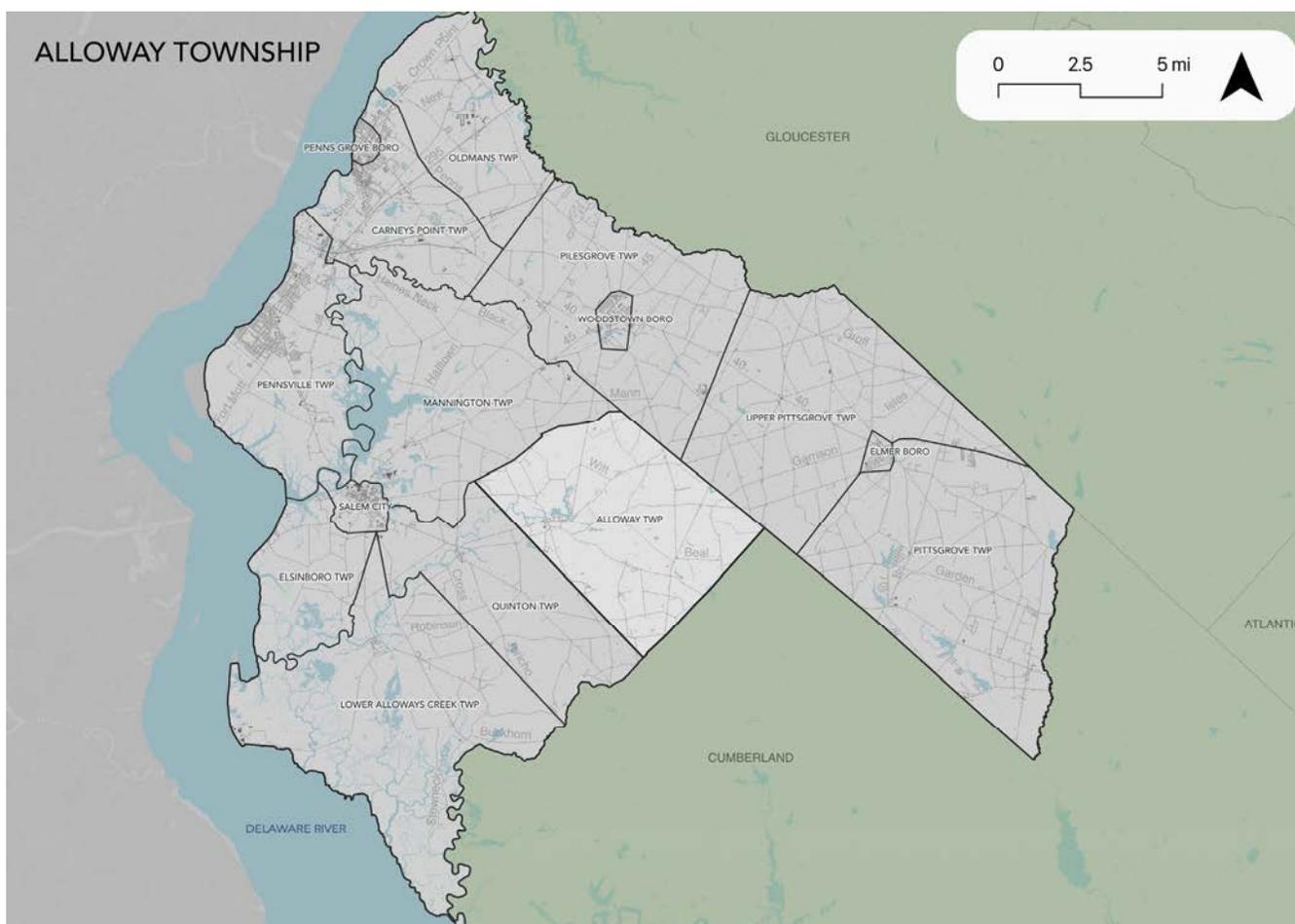
Part 3 includes seven subparts:

- *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

Alloway Township is located along the southeastern boundary of Salem County (See Figure 2-1).

Figure 2-1: Alloway Township Location Map



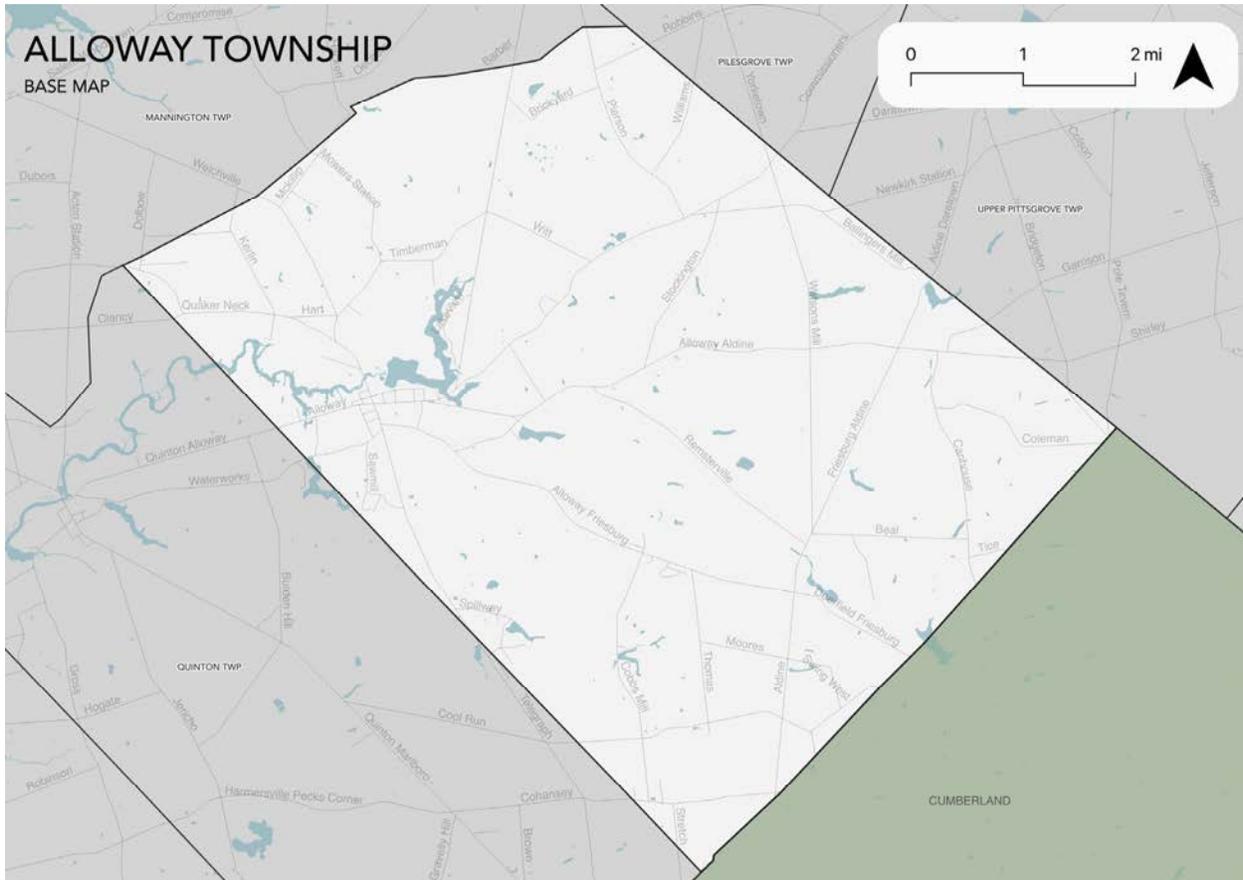
Part 3: Hazard Identification and Risk Assessment

Alloway Township is an area of forested wetlands, agricultural properties, and the Alloway Creek watershed that comprises 20% of Salem County. As a watershed, Alloway Creek is a valuable natural resource and habitat for fishing, recreation, and hunting.

Per Figure SC.2-2 the major water bodies include Alloway Lake and Cool Run. Major transportation routes include NJ State Route 77 and Salem County Routes 540, 581, and 635.

The land is gently rolling and is heavily covered in forests.

Figure 2-2: Alloway Township Base Map



Part 3: Hazard Identification and Risk Assessment

Part 3.2: General Building Stock

As of 2021, there are 2,132 buildings in Alloway Township with a total assessed value of improvements of \$ 157,145,500. Figure 2-3 shows the footprints of these buildings.

Figure 2-3: Alloway Township Building Footprints¹⁰

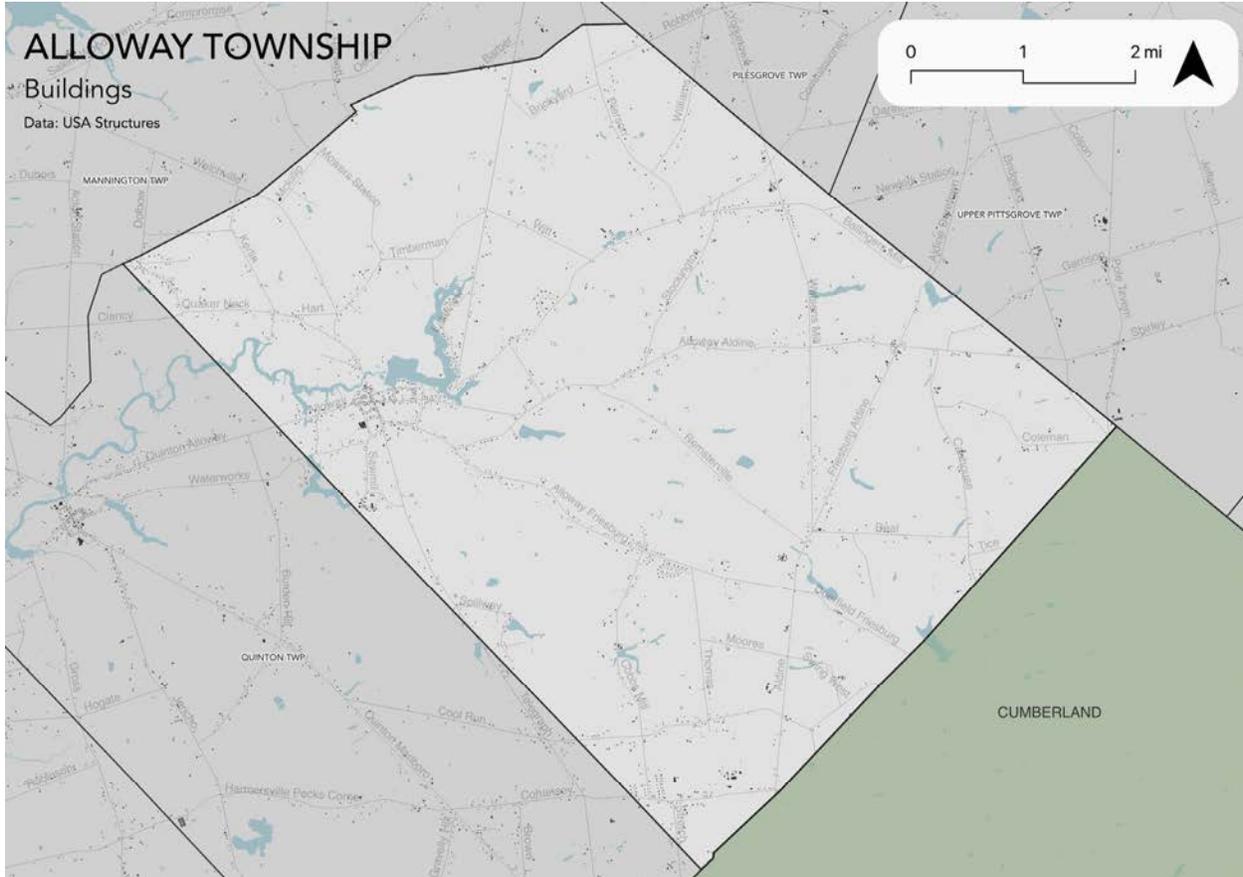


Table 2-3 shows the distribution of these structures according to land use distinctions.

Table 2-3: Alloway Township Buildings per Land Use Type¹¹

Land Use Type	Residential (<4 units)	Multi-Family	Farm	Commercial	Industrial	Other ¹²
Number of Buildings	1371	0	654	40	0	67
% of Total	64.3%	0.0%	30.7%	1.9%	0.0%	3.1%

¹⁰ Building footprint data was isolated from FEMA’s “USA Structures” data (2022) per https://disasters.geoplatform.gov/publicdata/Partners/ORNL/USA_Structures/New%20Jersey/.

¹¹ Land use types were isolated from MOD-IV Parcels and Tax Assessor data composite (2021) per <https://www.state.nj.us/treasury/taxation/pdf/lpt/modIVmanual.pdf>.

¹² Other includes: Schools, Public Use, and other Exempt uses

Part 3: Hazard Identification and Risk Assessment

Part 3.3: Critical Facilities

As of September 2023, there are eleven (11) critical facilities in Alloway 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 2-4 includes current inventory information for municipal critical facilities and includes cross-references to related mitigation measures identified in Part 4 of the Municipal Appendix. Figure 2.4 shows the location of these critical facilities.

Table 2-4: Alloway Township Critical Facilities Inventory

CF #	Name	Type ¹³	Sub-Type	Address	Co-located CF #	Shelter (Y/N)	Generator (Y/N)	Comments	Mitigation Measure #
CF-1	Municipal Building	Municipal	Administrative Offices	49 South Greenwich Street, Alloway		Y	Y	Shelter of last resort	M-4
CF-2	Emergency Operations Center	EOC	Co-located Facilities	17 East Main Street, Alloway	CF-3	N	Y		M-5
CF-3	Alloway Township Fire Company	FireStation	Stations	17 East Main Street, Alloway	CF-2	N	Y		M-5
CF-4	Alloway Township Ambulance	EMS	Municipal Stations	19 East Main Street, Alloway		N	N		M-2
CF-5	Public Works	Public Works	Combined Administrative Office, Maintenance / Work Area, Equipment / Material Storage, and Fueling Station	84 Camp Edge Road, Alloway		N	Y		
CF-6	Sewer Pump Station	Utilities – Wastewater	Pump stations / Lift Stations	88 West Main Street, Alloway		N/A	Y		
CF-7	Ranch Hope Sewer Pump Station	Utilities - Wastewater	Pump stations / Lift Stations	49 Sawmill Road, Alloway		N/A	N		

¹³ Critical facility type and subtype definitions and considerations are described in *Section 3: Hazard Identification and Risk Assessment* of the SC HMPU Base Plan.

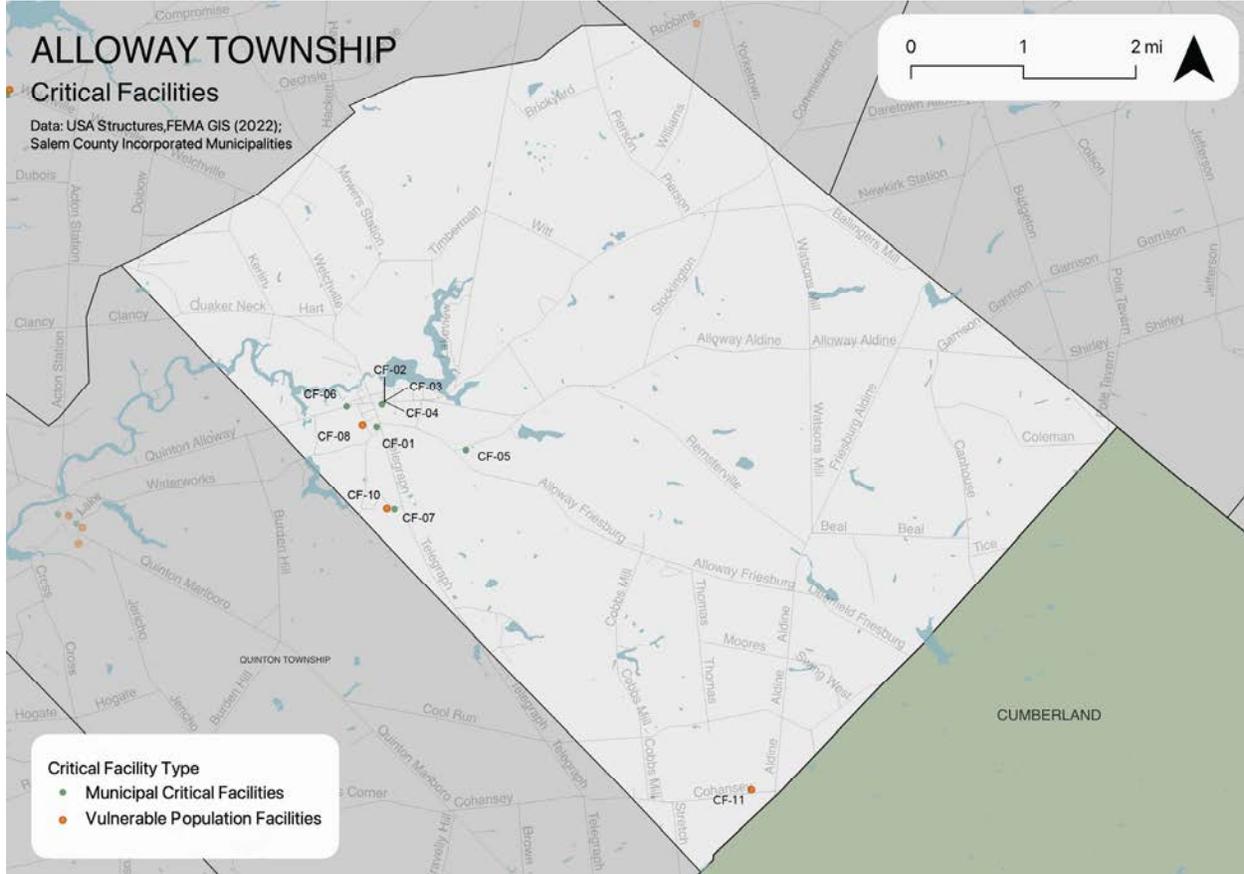
Part 3: Hazard Identification and Risk Assessment

CF #	Name	Type ¹³	Sub-Type	Address	Co-located CF #	Shelter (Y/N)	Generator (Y/N)	Comments	Mitigation Measure #
CF-8	Alloway Township Elementary School	Schools	Public Schools	43 Cedar Street / P.O. Box 327, Alloway		Y	N		M-3
CF-9	Mennonite School	Schools	Private Schools	256 Pecks Corner-Cohansey Road, Bridgeton		N	N		
CF-10	Ranch Hope, Inc.	Schools	Private Schools	37 Sawmill Road, Alloway		N	N		
CF-11 ¹⁴	Group Home	Vulnerable Population Facility	Private Group Home	316 Telegraph Road, Bridgeton		TBD	TBD		

¹⁴ CF-11 added for SC HMPU project by Working Group. As of September 2023, Alloway Township is seeking information from owner/operator regarding status, shelter planning, and back-up generator availability. CF-11 was not identified in time to be included in the Hazard Exposure Assessment in the plan update but will be assessed as part of plan implementation and maintenance activities.

Part 3: Hazard Identification and Risk Assessment

Figure 2-4: Alloway Township Critical Facilities



Part 3.4: Hazard Exposure Assessment

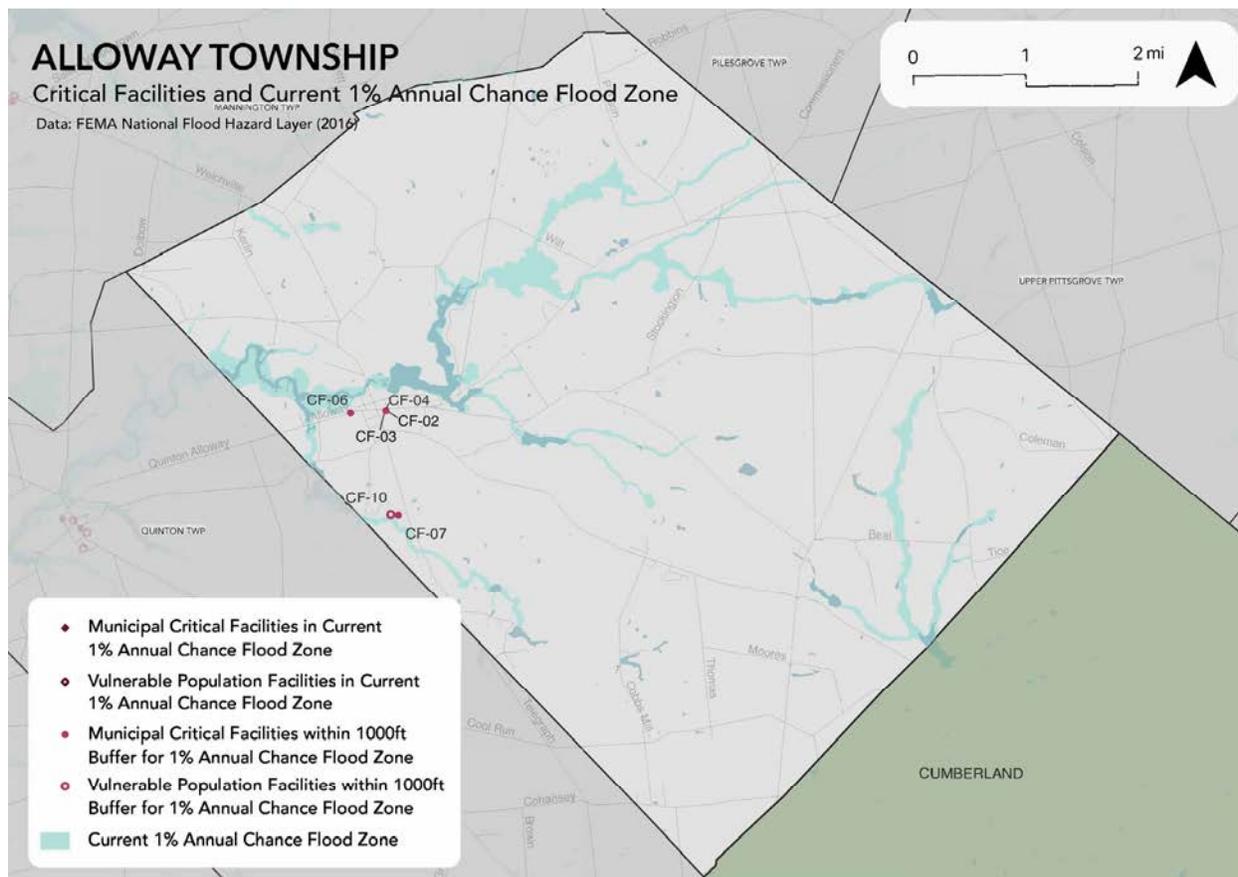
Hazard exposure assessments were completed for the eleven (11) natural hazards identified in the SC HMPU Base Plan¹⁵.

Key results for Alloway Township are depicted in the following.

Mapping: Figure 2-5 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 1,000 feet) the 1% annual chance flood zone on FEMA's Flood Insurance Rate Maps (FIRMs).

¹⁵ Hazard profiles are included for all eleven natural hazards in *Section 3: Hazard Identification and Risk Assessment* of the SC HMPU Base Plan.

Figure 2-5: Alloway Township Critical Facilities and 1% Annual Chance Flood Zone



Mapping results are available for general building stock and critical facilities for the following hazards:¹⁶

- Sea Level Rise
- Earthquake
- Flood - per FEMA flood hazard mapping
- High Wind and Severe Weather (heavy summer rains and winter snow loads)

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

- Table 2-5 indicates hazard exposure for general building stock
- Table 2-6 indicates hazard exposure for critical facilities, differentiated between municipal and vulnerable population critical facilities

In addition, available information regarding Wildfire is included.

¹⁶ All mapping corresponding to results described in Parts 3.3 through 3.5 are viewable in .pdf format at: <https://www.dropbox.com/sh/1om9p8vog03jxz/AABuCWd9odbr2KsbcD9YrFyCa?dl=0>.

Part 3: Hazard Identification and Risk Assessment

Table 2-5: Alloway 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
Sea Level Rise - 3 feet increase ¹⁷	1	0.05%	\$ 61,250	0.04%
Flood - Within 1 % Annual Chance Zone	6	0.3%	\$351,150	0.2%
Flood - Near (within 1,000 feet) of 1% Annual Chance Zone	869	40.8%	\$56,921,810	36.2%
Earthquake – Structure built before 1927 ¹⁸	329	23.5%	\$23,098,200	16.3%
High Winds / Severe Weather – Structure built before 1976	811	57.9%	\$61,294,800	43.3%

Table 2-6: Alloway Township Critical Facilities Hazard Exposure¹⁹

Hazard	Number of Critical Facilities	Municipal CF #s	Vulnerable Populations CF #s
Sea Level Rise	0	N/A	N/A
Flood - Within 1 % Annual Chance Zone	0	N/A	N/A
Flood – Future potential (within 1,000 feet) 1% Annual Chance Zone	6	CF-02, CF-03, CF-04, CF-06, CF-07	CF-10

Regarding Wildfire, according to the 2017 NJ4 HMP, Alloway Township is one of 7 municipalities in Salem County with more than one acre of land that intersects with an extreme level of potential fuel and potentially high levels of wildland urban interface. Alloway Township was the third highest in Salem County with 45.91 acres.

In addition, all critical facilities in Salem 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)

¹⁷ All supporting data for Sea Level Rise (3-foot rise), and Flood (all) are viewable at [SALEM Buildings Values SLR Flood](#)

¹⁸ All supporting data for Earthquake, High Winds, and Severe Weather are viewable at [SALEM Buildings Values EQ Wind SWW](#)

¹⁹ All supporting data for critical facility hazard exposure are viewable at [SALEM CFs HazardExposure](#)

Part 3: Hazard Identification and Risk Assessment

Information from the 2017 NJ4 HMP HIRA was also reviewed with the Working Group to determine the need for updates to hazard exposure results for Dam and Levee Failure.

Dam Failure

Per the New Jersey Department of Environmental Protection (NJDEP) data²⁰:

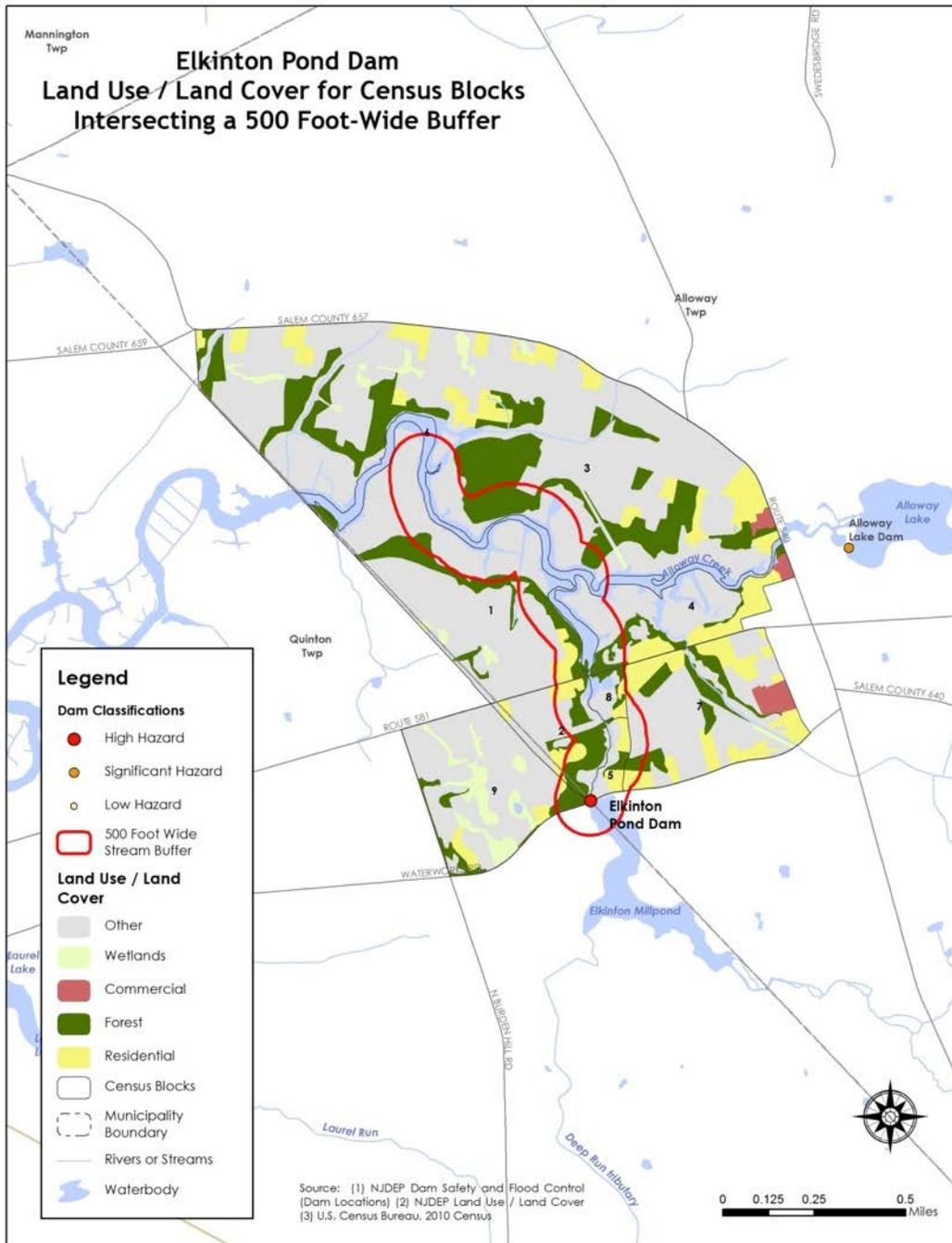
- There are no (0) “High Hazard” dams located in the Township. However, there is a High Hazard dam located in Quinton Township, the Elkinton Pond Dam, that potentially can impact property and residents within Alloway Township.
- There are four (4) “Significant Hazard” dams located in the Township
 - Roosevelt Camp Dam on Cool Run
 - Ballingers Mill Pond Dam on Cool Run
 - Alloway Lake Dam on Alloway Creek
 - Cobbs Mill Damon Deep Run
- No (1) dam failure incidents had been recorded in the Township as of 2014

Figure 2-6 depicts results from the 2017 NJ4 HMP HIRA showing land use within Census Blocks intersecting the Flood Breach Inundation Zone for the Elkinton Pond High Hazard dam.

²⁰ (1) NJDEP Dam Safety and Flood Control (Dam Locations); (2) NJDEP Land Use / Land Cover; (3) US Census Bureau 2010 Census

Part 3: Hazard Identification and Risk Assessment

Figure 2 -6: Elkinton Pond Dam Land Use/Land Cover for Census Blocks Intersecting Flood (With Breach) Inundation Zone
 (Source: U.S. Census Bureau, NJDEP Dam Safety, Land Use / Land Cover)



An estimated 45 housing units and 227 residents are potentially located downstream of the Elkinton Pond Dam of which 42 units and 220 residents are within Alloway Township.

Part 3: Hazard Identification and Risk Assessment

Levee Failure

Per the South Jersey Levee Inventory²¹:

- There are no (0) levees in the Township.

Working Group members were asked the following questions for Dam and 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 Alloway Township Working Group, there were no changes to the NJ4 HMP HIRA Dam Failure hazard exposure results and 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)²². The following depicts relevant numbers for Alloway Township as of September 2023 as provided by the Region II office of the Federal Emergency Management Agency (FEMA):

- Active Policies – One (1) active NFIP flood insurance policy, which represents 0.07% of all active policies in Salem County
- Total Premiums – \$1,292 paid in total annual premiums
- Average Premium – \$1,292 average annual premium per policy, as compared to the overall average for all Salem County of \$985

Repetitive Loss Properties

- Repetitive Loss Properties (RL) – no (0) properties are designated as RL
- Severe Repetitive Loss Properties (SRL) – no (0) properties are designated as SRL

For comparison relative to the number of active NFIP flood insurance policies, the following are the number of potentially exposed buildings (per Table 2-5), which are higher than the number of active policies:

- Flood - Within 1 % Annual Chance Zone: six (6) buildings ~ 0.3% of total buildings, with a value of \$351,150 ~ 0.2% of the total building value in the Township.
- Flood - Near (within 1,000 feet) of 1% Annual Chance Zone: 869 buildings ~ 40.8% of total buildings, with a value of \$56,921,810 ~ 36.2% of the total building value in the Township.

²¹ US Department of Agriculture, National Resources Conservation Services (NRCS) South Jersey Levee Inventory, 2010.

²² Information on the NFIP is described in *Section 3: Hazard Identification and Risk Assessment* of the SC HMPU Base Plan.

Part 3: Hazard Identification and Risk Assessment

Part 3.5: Demographic Considerations

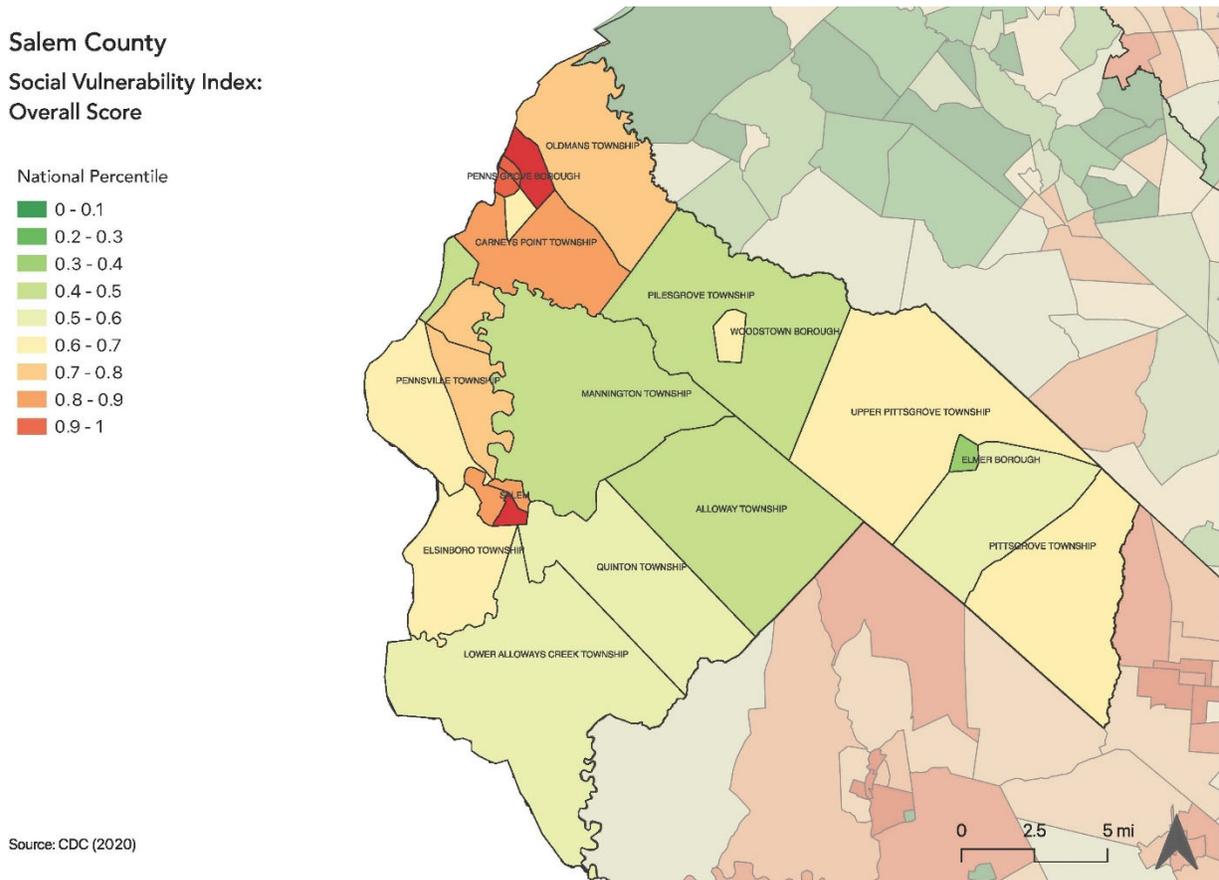
Demographic considerations include general population and land use factors. Table 2-7 includes current population estimates and changes since the previous US Census²³:

Table 2-7: Alloway Township General Population Demographics

Metric	Current Estimates
2020 Population	3,283
Percent Population Change (2010-2020)	- 5.33%
Land Area	33.40 sq. miles
Population Density	98.3 / sq. mile

Demographic considerations also include differences in social vulnerability²⁴. Figure 2-7 shows the overall Social Vulnerability (SVI) Index overall scores for Salem County.

Figure 2-7: Salem County Social Vulnerability Index: Overall Scores



²³ 2020 US Census

²⁴ Social vulnerability considerations are described in *Section 3: Hazard Identification and Risk Assessment* of the SC HMPU Base Plan.

Part 3: Hazard Identification and Risk Assessment

For Alloway Township, Table 2-8 includes selected metrics where social vulnerability considerations are noteworthy when compared with all national census tracts:

Table 2-8: Alloway Township Social Vulnerability Considerations²⁵

Metric	Comparison with all National Census Tracts
Socioeconomic Status	21 st percentile
Household Characteristics	40 th percentile
Racial and Ethnic Minority Status	12 th percentile
Housing Type and Transportation	61 st percentile

The following are notable issues where individual themes are near or above the 90th percentile:

- Housing Type and Transportation - Percentage of persons in group quarters

In addition, the percentage of residents earning below poverty level = 4% (compared with the average in Salem County of 12.6 % and 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 flood, dam failure, and/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).
- Some critical facilities are potentially vulnerable to flood, dam failure, and/or wildfire hazards 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).

²⁵ All supporting data for SVI is viewable at [SVI Data](#) .

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 SC 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

- Wildfire

Moderate Priority

- Dam Failure
- High Wind
- Severe Weather – Winter

Low Priority

- Drought
- Earthquake
- Extreme Temperature: Cold & Hot
- Flood
- Levee Failure
- Severe Weather – Summer

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

- Sea Level Rise

Part 3: Hazard Identification and Risk Assessment

Part 3.8: Climate Change Considerations

The following is based on results and assumptions from Sections 3.2 and 3.6 of the Base Plan regarding potential consequences of climate change. Table 2-9 is an excerpt from Table BP.3-44 that shows the potential impacts of climate change on a hazard-by-hazard basis for Alloway Township.

Table 2-9: Potential Climate Change Impacts

Municipality	Dam Failure	Drought	Earthquake	Extreme Temperature	Flood	High Wind	Levee Failure	Sea Level Rise	Wildfire	Composite Score
Alloway Township	M	M	L	L	L	M	N/A	L	M	M

Based on these results and assumptions, when compared to the other 13 participating municipalities, the overall potential for climate change impacts on Alloway Township is moderate.

The hazards where climate change may create the most impact for Alloway Township are:

- Dam Failure
- Drought
- High Wind
- Wildfire

See the discussion in Section 3.2 and summary points in Section 3.6 of the Base Plan regarding how these potential impacts can be reflected in the implementation of the SC HMPU and mitigation measures in the community's Appendix.

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 SC 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
- 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 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 SC HMPU, the related NJ4 HMP mitigation measures were candidates for inclusion in the Municipal Appendix.

Table 2-10 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 2-10.

Table 2-10: Status of Alloway Township NJ4 HMP Mitigation Measures

Mitigation Action, Program, or Project	Status	Comments	Mitigation Measure # <small>2627</small>
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 municipal website for long-term hazard information dissemination ▪ Use of reverse 911 for emergency information dissemination ▪ Formal Working Group Meetings (not including meeting for SCHMPU) on February 9, 2023 ▪ Informal discussions among municipal officials as part of monthly JIF Safety Meetings. 	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 permanent backup emergency power generator at Municipal Building (CF-1).	Completed	Completed in 2016 using Salem County generator grant fund.	N/A
M-6: Install permanent backup emergency power generator at EMS facility (CF-4).	Work-in-progress	Partial tie in to the Fire Hall established in 2018.	Carried over as M-2
M-7: Install permanent backup emergency power generator at Alloway Township Elementary School (CF-8).	No progress		Carried over as M-3
M-8: Upgrade pipe for stormwater off block of West Main Street, Cedar Street, Lambert Street, and Greenwich Street.	Complete	Completed in 2017 using Township funds.	N/A
M-9: Floodproof Municipal Building (CF-1).	Work-in-progress	Partial waterproofing completed in 2014.	Carried over as M-4

²⁶ Detailed information for identification and implementation of municipal (designated with “M”) mitigation measures are included in Tables 2-11 and 2-12.

²⁷ Detailed information for identification and implementation of multi-jurisdictional (designated with “MJ”) mitigation measures are included in Table 2-13.

Part 4: Mitigation Measures

Mitigation Action, Program, or Project	Status	Comments	Mitigation Measure # <small>2627</small>
M-10: Harden / retrofit Emergency Operations Center (EOC) (CF-2 and CF-3).	No progress	Windows need to be replaced.	Carried over as M-5
MJ-1: Risk Assessment - Camp Roosevelt Dam, Camp Grice Dam, and Camp Edge Dam. ²⁸	No progress		Carried over as MJ-1
MJ-2: Critical facilities in wildfire risk areas.	Work-in-progress	Clearing, improvements have been made for firefighting access and establishing protective barriers. Need continuing education and maintenance	Carried over as MJ-2

In addition, since the 2017 NJ4 HMP, the Township completed additional work efforts related to hazard mitigation including:

- DPW continually maintains stormwater drainage catch basins including recently clean outs for the detention basin and drain pipes on Lambert Street.

²⁸ Camp Roosevelt and Camp Grice are joint responsibility of BSA, Alloway and Salem County. Camp Edge is the responsibility of NJ DEP

Part 4: Mitigation Measures

Part 4.3: Municipal Mitigation Measures – Identification

Table 2-11 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)²⁹ if applicable

Table 2-11 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 2-11: Alloway Township Municipal Mitigation Measures Identification

#	Mitigation Action, Program, or Project	Hazard(s)	Goal (s)	Existing or New Structures
M-1	<p><u>Municipal Mitigation Program</u> – including sustained efforts in cooperation with Salem County Office of Emergency Management (SC 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 Municipal Working Group ▪ Seek integration of hazard mitigation with other parallel planning initiatives 	All	All	All
M-2	Install permanent backup emergency power generator at EMS facility (CF-4).	All	Goal #4	Both
M-3	Install permanent backup emergency power generator at Alloway Township Elementary School (CF-8).	All	Goal #4	Both
M-4	Floodproof Municipal Building (CF-1).	Flood	Goal #4	Both

²⁹ Section 3: Hazard Identification and Risk Assessment of the SC 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-5	Harden / retrofit Emergency Operations Center (EOC) (CF-2 and CF-3).	High Wind	Goal #4	Both

Part 4.4: Municipal Mitigation Measures – Implementation

Table 2-12 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 criteria³⁰
- Project Type to help determine funding options and implementation mechanisms at the municipal level³¹
- 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

Table 2-12: Alloway 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	Municipal Mitigation Program	Office of Emergency Management	High	Program	Staff Time	On-going, sustained effort	<ul style="list-style-type: none"> ▪ Identify outreach and education objectives and methods (working with SC OEM) ▪ Set priorities (if necessary) and initiate critical facility field assessments ▪ Identify schedule for plan updates (including sustained public participation and plan integration efforts)
M-2	Install permanent backup emergency power generator at EMS facility (CF-4).	Municipal OEM and EMS	Moderate	Back-up Emergency Power Generator	< \$100K	Three to five years	Conduct project scoping ³² .

³⁰ Section 4: Mitigation Measures of the SC HMPU Base Plan includes a description of evaluation criteria considered by the Municipal Working Group.

³¹ Section 4: Mitigation Measures of the SC HMPU Base Plan includes a description of project types and related information regarding funding options and implementation mechanisms.

³² Project scoping for M-2 and M-3 to include determining feasibility to install hookup 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-3	Install permanent backup emergency power generator at Alloway Township Elementary School (CF-8).	Municipal OEM and School Board	High	Back-up Emergency Power Generator	< \$100K	One to three years	Conduct project scoping ³² .
M-4	Floodproof Municipal Building (CF-1).	Municipal OEM and Public Works Department	Moderate	Public Property Flood Mitigation	\$148,000	Three to five years	Conduct project scoping.
M-5	Harden / retrofit Emergency Operations Center (EOC) (CF-2 and CF-3).	Municipal OEM and Public Works Department	High	Building Retrofit	\$100K - \$500K	One to three years	Conduct project scoping.

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 :
 - Buildings potentially exposed to Sea Level Rise, Dam 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 were reviewed as part of the Round 2 Working Group Meeting and 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, Dam Failure, 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 were compiled in Table 2-13.

These measures have been referred to the County Working Group for consideration. As part of the implementation of the SC 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 2-13: Alloway Township Multi-Jurisdictional Mitigation Measures

#	Problem Description	Hazard(s) Addressed	Goal Addressed	Applies to Existing or New Structures	Potential Partners	Priority
MJ-1	Risk Assessment - Camp Roosevelt Dam, Camp Grice Dam, and Camp Edge Dam. ³³	Dam Failure	Goal #4	Existing	Municipal OEM, NJ DEP, Salem County Engineering, Local Boy Scouts Chapter	Moderate
MJ-2	Critical facilities in wildfire risk areas.	Wildfire	Goal #4	Existing	Municipal OEM, NJ State Forest Fire Service	Moderate

³³ Camp Roosevelt and Camp Grice are joint responsibility of BSA, Alloway and Salem County. Camp Edge is the responsibility of NJ DEP

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

4.6.1: Authorities, Policies, and Programs

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

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

- Involvement of Floodplain Administrator during the SC 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 SC 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 SC 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 SC HMPU Base Plan also includes summary statements regarding county and municipal resources and the impact of resource limitations on the overall approach to the SC HMPU mitigation strategies.

Table 2-14 compares the results of the Capability Assessment Survey for the County as a whole and Alloway Township.

Part 4: Mitigation Measures

Table 2-14: Alloway Township Capability Assessment Survey Results

Metric	Alloway Township Results (n=2)	Salem County "as a whole" Results (n=52)
Position Type: Full-time	0%	29%
Position Type: Part-time	100%	71%
Position Type: Volunteer	0%	0%
Time in Position: Less than 1 year	0%	23%
Time in Position: 1 to 2 years	0%	12%
Time in Position: 2 to 5 years	0%	19%
Time in Position: More than 5 years	100%	46%
Prior Experience: None	50%	50%
Prior Experience: with hazard mitigation planning	50%	37%
Prior Experience: with HMA grant administration	0%	12%
Prior Experience: with floodplain management	0%	12%
Training / Certifications: None	100%	71%
Training / Certifications: for hazard mitigation planning and implementation	0%	19%
Training / Certifications: for floodplain management	0%	10%

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

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

- Table BP.4-2 that identifies primary plans and documents collected from each of the participating municipalities.
- Results of reviewing primary plans and documents to determine the extent to which these documents reflect up-to-date hazard risk and mitigation.
- Recommendations for integrating the results of the SC 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 Alloway Township Working Group include:

- Emergency Operations Plan - Base Plan (2023)
- Master Plan and Reexamination Report (2016)
- Land Use Ordinance (Chapter 75) (2016)³⁴
- Environmental Resource Inventory (2000)³⁵
- Farmland Preservation Plan (2023)³⁶
- Capital Improvement Program (2022)

In addition, the following is the status of the Flood Damage Prevention Ordinance (FDPO), Chapter 63 of the Alloway Township Code under Part II, General Legislation:

- Current version was adopted in April 2016 and is consistent with the most recent FDPO per NJDEP available at that time.
- The Construction Official is the responsible party for enforcement. The individual who currently holds that position is included on the Working Group and completed the capability assessment survey.
- The document is accessible to the public via internet³⁷.

³⁴ <http://ecode360.com/13785205#13785205>

³⁵ http://www.allowaytownship.com/downloads/Docs_Environmental/AllowayTwpERI_7-24-2000.pdf

³⁶ http://www.allowaytownship.com/downloads/Docs_Ag_Bd/AllowayFarmlandPlan.pdf

³⁷ <https://ecode360.com/31162186>

Part 4: Mitigation Measures

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