

RESOLUTION NO. 2016-191

A RESOLUTION OF THE CITY OF VINELAND ADOPTING
THE MITIGATION PLAN FOR FOUR NEW JERSEY
COUNTIES.

WHEREAS, the City Council of the City of Vineland recognizes the threat that natural hazards pose to people and property within the City of Vineland; and

WHEREAS, the City of Vineland has participated in the preparation of the Mitigation Plan for Four New Jersey Counties, a multi-jurisdictional, multi-hazard mitigation plan in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the Mitigation Plan for Four New Jersey Counties includes:

- The *Regional Hazard Mitigation Plan* and *Annexes* that include summary information common to all participating jurisdictions in the four county region, and
- The City of Vineland Appendix that identifies mitigation goals, strategies, and measures specifically for the City of Vineland to reduce or eliminate long-term risk to people and property from the impacts of future hazard events and disasters; and

WHEREAS, adoption by the City Council of the City of Vineland demonstrates commitment to hazard mitigation and achieving the goals outlined in the Mitigation Plan for Four New Jersey Counties.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Vineland, Cumberland County, New Jersey, that:

The City Council of the City of Vineland adopts the Mitigation Plan for Four New Jersey Counties and the City of Vineland Appendix including authorizing the formation and duties of the City of Vineland Hazard Mitigation Working Group (Working Group) as follows:

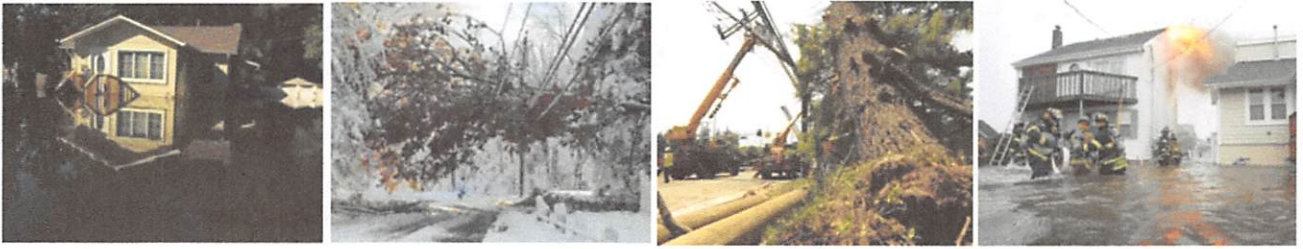
1. The Working Group shall be convened by the City of Vineland Emergency Management Coordinator and will include representatives of the departments, agencies, and organizations and other interested parties as provided on the attached list.
2. The Working Group shall convene to conduct plan implementation and maintenance activities as identified in the Regional Hazard Mitigation Plan and the City of Vineland Appendix including monitoring, evaluation, and updating the City of Vineland Appendix and providing annual reports to the City of Vineland City Council and the Cumberland County Office of Emergency Management.

Adopted:

President of Council

ATTEST:

City Clerk



Mitigation Plan for Four New Jersey Counties
Cumberland County Appendices

Appendix CuC.1
Cumberland County, New Jersey

April 15, 2016

Table of Contents

Table of Contents	CuC.1-i
Part 1 Overview	CuC.1-1
1.1: Mitigation Plan for Four New Jersey Counties	CuC.1-1
1.2: Cumberland County Appendix	CuC.1-1
Part 2 Participation	CuC.1-2
2.1: County Working Group Participation	CuC.1-2
2.2: Public Participation	CuC.1-5
Part 3 Hazard Identification and Risk Assessment	CuC.1-6
3.1: County Profile	CuC.1-6
3.2: Hazard Priorities	CuC.1-11
3.3: Hazard Mapping	CuC.1-12
3.4: Critical Facilities Inventory and Hazard Exposure Assessment	CuC.1-13
Part 4 Mitigation Measures	CuC.1-19
4.1: Mitigation Goals and Strategy	CuC.1-19
4.2: SDVR HMP Mitigation Measures	CuC.1-20
4.3: County Mitigation Measures – Identification	CuC.1-23
4.4: County Mitigation Measures – Implementation	CuC.1-25
4.5: Multi-Jurisdictional Mitigation Measures	CuC.1-27
4.6: Authorities, Policies, Programs, Resources, and Plan Integration	CuC.1-35

Table of Contents

List of Figures

Figure CuC.1-1: Cumberland County Location Map	CuC.1-6
Figure CuC.1-2: Cumberland County Base Map	CuC.1-7
Figure CuC.1-3: Cumberland County Housing Units by Year Built	CuC.1-10

List of Tables

Table CuC.1-1: Cumberland County Working Group	CuC.1-2
Table CuC.1-2: Public Participation	CuC.1-5
Table CuC.1-3: Cumberland County Demographics	CuC.1-8
Table CuC.1-4: Cumberland County Demographic Rankings	CuC.1-9
Table CuC.1-5: Cumberland County Economics and Housing	CuC.1-9
Table CuC.1-6: Cumberland County Ranking (Economics and Housing)	CuC.1-9
Table CuC.1-7: Supporting Mapping and Exhibits	CuC.1-11
Table CuC.1-8: Cumberland County Critical Facilities Inventory	CuC.1-14
Table CuC.1-9: Cumberland County Critical Facilities Hazard Exposure	CuC.1-18
Table CuC.1-10: Cumberland County Mitigation Program Accomplishments	CuC.1-20
Table CuC.1-11: Cumberland County Mitigation Measures Identification	CuC.1-23
Table CuC.1-12: Cumberland County Mitigation Measures Implementation	CuC.1-25
Table CuC.1-13: Cumberland County Multi-Jurisdictional Mitigation Measures	CuC.1-28

Attachments

Attachment CuC.1.A: Public Review Comments	CuC.1.A-1
Attachment CuC.1.B: Adoption Resolution	CuC.1.B-1
Attachment CuC.1.C: Approval Letter	CuC.1.C-1

Part 1: Overview

Part 1.1: Mitigation Plan for Four New Jersey Counties

The Mitigation Plan for Four New Jersey Counties (NJ4 HMP) incorporates input from approximately ninety (90) participating counties and municipalities in Camden, Cumberland, Gloucester, and Salem Counties. The NJ4 HMP is an update and expansion of the South Delaware Valley Region Multi-jurisdictional Hazard Mitigation Plans that were adopted by all four counties and approved by the Federal Emergency Management Agency in 2010 and 2011.

The NJ4 HMP has two main parts:

- Regional Hazard Mitigation Plan
- County and Municipal Appendices

The Regional Hazard Mitigation Plan includes descriptions and information that is common to all participating NJ4 HMP jurisdictions organized according to the following three main focus areas:

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

The Regional Hazard Mitigation Plan also includes Annexes that contain detailed background information for these three focus areas and additional reference materials for the implementation of the NJ4 HMP.

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

Part 1.2: Cumberland County Appendix

This Appendix is focused on Cumberland County, New Jersey.

The Cumberland County Working Group recommended the Cumberland County Appendix for adoption to the Cumberland County Board of Freeholders.

The Cumberland County Board of Freeholders adopted the Cumberland County Appendix by resolution (see Attachment B: Adoption Resolution).

Region II of the Federal Emergency Management Agency subsequently approved the Cumberland County Appendix (see Attachment C: Approval Letter).

Part 2: Participation

Part 2.1: County Working Group Participation

Part 2.1 includes:

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

Table CuC.1-1 identifies the County Working Group members. As explained in *Section 2: Planning Process* of the Mitigation Plan for Four New Jersey Counties (NJ4 HMP) Regional Hazard Mitigation Plan, the County Working Groups are comprised of representatives who worked to make sure mitigation measures included in the County Appendix addressed the risks faced by county assets that may affect delivery of services to residents, businesses, and property owners and reflected the priorities of the community. The Working Group was engaged via a variety of Work Sessions and meetings including:

- Round 1 and Round 2 Work Sessions
- Individual meetings with County agencies and departments

The Working Group will also continue to stay involved during the implementation and maintenance of the NJ4 HMP.

Table CuC.1-1: Cumberland County Working Group

First Name	Last Name	Department	Position	Round 1 Work Session ¹	Round 2 Work Session ²	Working Group Meeting ³	Contribution ⁴
Joseph	Sever	Cumberland County Office of Emergency Management (OEM)	OEM Coordinator	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	Organized Working Group and Work Sessions.
James	Manski	Cumberland County OEM	Deputy OEM Coordinator	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Organized Working Group and Work Sessions.
Melinda	Weisgerber	Cumberland County OEM	Conference Assistant	<input checked="" type="checkbox"/>			
James	Matlock, Sr.	Cumberland County Department of Emergency Services	Director	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

¹ Round 1 Work Session was held on July 23, 2014.

² Round 2 Work Session was held on November 20, 2014.

³ The County Working Group met on January 14, 2015 to review the Preliminary County Appendix.

⁴ County Working Group members reviewed briefing materials in advance of Work Sessions, contributed during Work Sessions, and reviewed the preliminary Mitigation Plan for Four New Jersey Counties. Additional or unusual contributions are noted in the far right hand column of Table CuC.1-1.

Part 2: Participation

First Name	Last Name	Department	Position	Round 1 Work Session ¹	Round 2 Work Session ²	Working Group Meeting ³	Contribution ⁴
Donald	Olbrich, Sr.	Cumberland County Department of Public Works and Public Property	Director	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Contributed detailed information regarding Cumberland County infrastructure issues.
John	Knoop	Cumberland County Department of Public Works and Public Property	County Engineer		<input checked="" type="checkbox"/>		
Douglas	Whitaker	Cumberland County Department of Engineering	Assistant County Engineer	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
Kimberly	Wood	Cumberland County Department of Administration / Cumberland County Planning Department	Deputy County Administrator / Department Head	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
Robert	Brewer	Cumberland County Planning Department	Planning Director	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Anthony	Buono	Cumberland County Planning Department	GIS Specialist	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	Provided support for critical facility inventory and evaluation process.

The following lists candidate positions and organizations within the community that were extended invitations but could not participate during the development of the County Appendix. These positions and organizations will continue to be extended invitations to participate during subsequent plan implementation and maintenance activities.⁵

- Board of Chosen Freeholders
- County Administrator's Office
- County Soil and Water Conservation District
- County Sheriff's Office
- County Fire Coordinator
- County Fire Marshall
- County Long-term Community Recovery Planning Committee
- Healthcare Institutions
- Educational Institutions

⁵ See Section 4: Mitigation Measures of the NJ4 HMP Regional Hazard Mitigation Plan.

Part 2: Participation

The following lists positions and organizations that are generally recommended for consideration as members of the County 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.

- Floodplain Administrator/Manager – There is no unincorporated land in Cumberland County so there are no parcels that could potentially be covered under the National Flood Insurance Program.
- Cumberland County Chamber of Commerce
- County Volunteers Active in Disaster
- Cumberland County environmental organizations

Part 2: Participation

Part 2.2: Public Participation

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

Since all county residents reside in an incorporated municipality, it is assumed that the main connections with the public are made through the municipalities and their respective Working Groups. However, Table CuC.1-2 identifies the date, type, and location (where applicable) for opportunities provided to the public and interested parties by Cumberland County to participate in the development of the plan update.

Table CuC.1-2: Public Participation

Date	Type of Involvement	Location
July 25, 2014	Link to Project Website (http://nj4hmp.com) established	Cumberland County OEM Mitigation webpage ⁶
August 28, 2014	Flyers posted	Cumberland County OEM Lobby and distributed to Municipal OEM Coordinators
December 8, 2014	Press release issued by Cumberland County OEM	Not applicable
December 16, 2014	Preliminary County Appendix posted to website for public comment	Cumberland County OEM Mitigation webpage ⁷
December 17, 2014	Newspaper article re: project and public hearing announcement	Cumberland County Reminder
December 18, 2014	Public hearing providing for open discussion, and public comment regarding the Preliminary County Appendix	Mauricetown Fire Hall, 9544 Noble Street, Mauricetown, New Jersey

Public comments and input received for the Preliminary County Appendix were considered by the County Working Group and incorporated into the Draft County Appendix where appropriate. Public comments received during the review of the Preliminary County Appendix were included in Attachment A to the County Appendix along with a brief explanation of how the comments were addressed in the Draft County Appendix.

In addition, the County 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 County Appendix.⁸ In addition, public participation will continue to be encouraged by the Cumberland County Working Group during subsequent plan implementation and maintenance activities at the municipal level.⁹

⁶ <http://www.co.cumberland.nj.us/content/173/251/765/1906/2918/default.aspx>

⁷ <http://www.co.cumberland.nj.us/content/173/251/765/1906/2918/default.aspx>

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

⁹ See Section 4: Mitigation Measures of the NJ4 HMP Regional Hazard Mitigation Plan.

Part 3: Hazard Identification and Risk Assessment

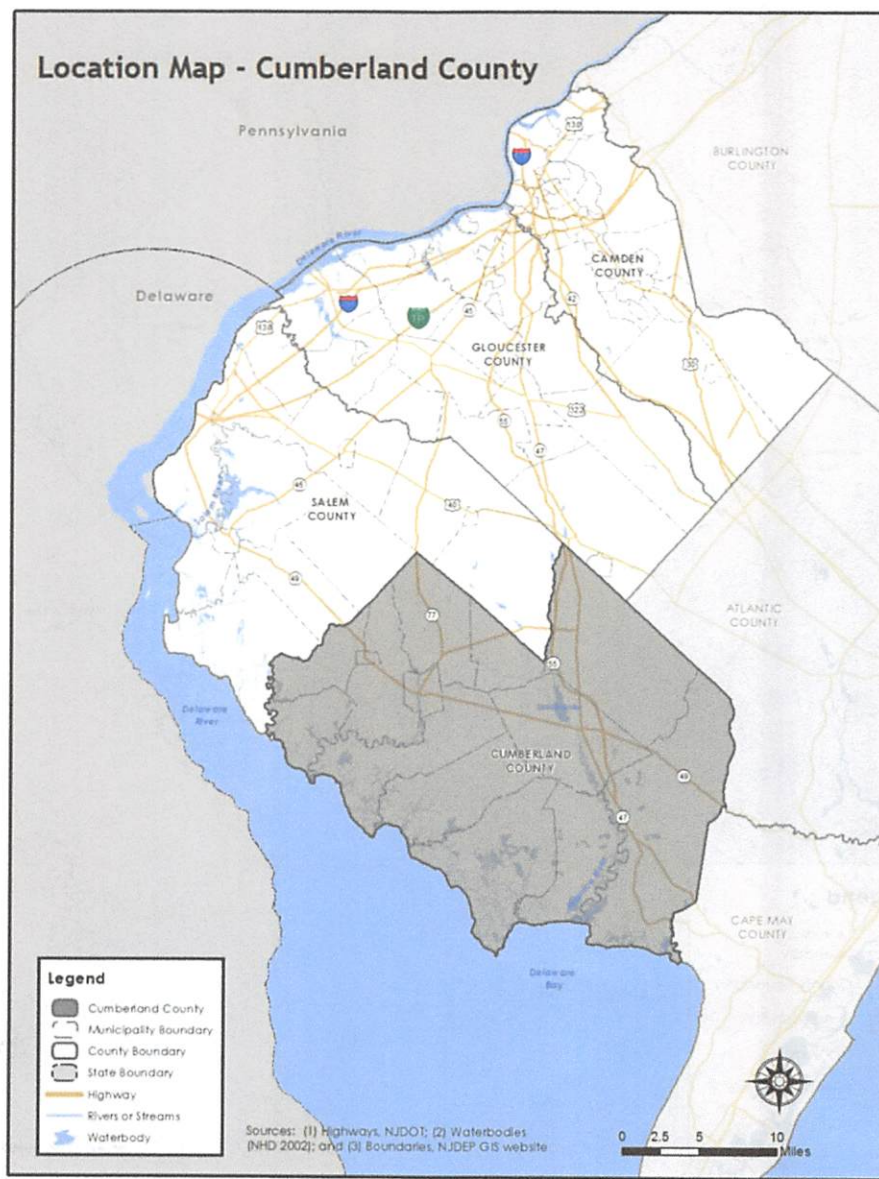
Part 3.1: County Profile

Part 3.1 includes:

- Selected data and information about the county that is generally relevant for emergency management planning and specifically for hazard mitigation
- A brief character sketch for the county that is only intended to portray a few of the most basic elements

Cumberland County is located in southwest New Jersey along the Delaware Bay and bordered by Gloucester and Salem Counties to the north, Atlantic County to the northeast, and Cape May County to the southeast (See Figure CuC.1-1).

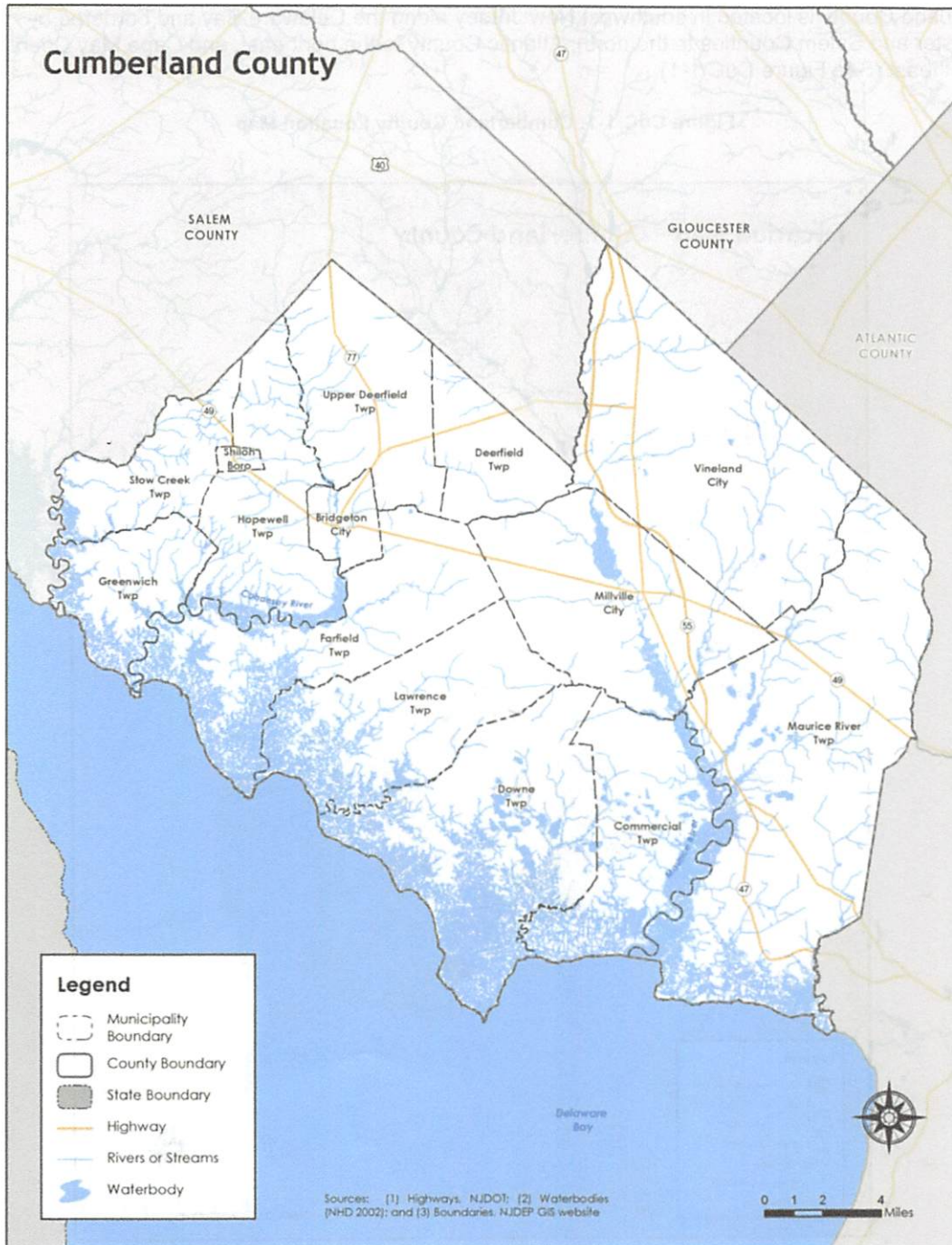
Figure CuC.1-1: Cumberland County Location Map



Part 3: Hazard Identification and Risk Assessment

Per Figure CuC.1-2, major water courses include the Delaware Bay which forms the southern boundary, Stow Creek which forms much of the boundary between Cumberland and Salem Counties, the tidal Cohansey and Maurice Rivers and Union Lake in Millville City which formed by a large dam on the upper reaches of the Maurice River. Major transportation routes include New Jersey Routes 47, 49, and 55. The land is predominantly flat including large areas of salt marsh and wetlands along the bayshore with the highest elevation only 140 feet above sea level.

Figure CuC.1-2: Cumberland County Base Map



Part 3: Hazard Identification and Risk Assessment

Figure CuC.1-2 also shows the 14 cities, townships, and boroughs that are located within Cumberland County. Like the other three counties in the region, Cumberland County includes communities influenced by their proximity to the Delaware Bay as well as inland municipalities although the influence of the bay on the development patterns in Cumberland County municipalities is more pronounced than in Gloucester and Camden Counties:

- City of Bridgeton
- Commercial Township
- Deerfield Township
- Downe Township
- Fairfield Township
- Greenwich Township
- Hopewell Township
- Lawrence Township
- Maurice River Township
- Millville City
- Shiloh Borough
- Stow Creek Township
- Upper Deerfield Township
- Vineland City

All 14 Cumberland County municipalities participated in the NJ4 HMP planning process. Individual information for each of these participating jurisdictions can be found in their respective Appendices.¹

In addition, Table CuC.1-3 is a compilation of demographic information for the county and comparison with the NJ4 HMP region and State of New Jersey.

Table CuC.1-3: Cumberland County Demographics
(Source: Census DP-1, 2010 ACS 5 Year Estimates, DP 3, 4)

	Cumberland County	Region	New Jersey	United States
2000 Population	146,438	974,328	8,414,350	281,421,906
2010 Population	156,898	1,024,926	8,791,894	308,745,538
Percent Change	7.14%	5.19%	4.49%	9.71%
Population Density	324.37 / sq. mile	754.25 / sq. mile	1,195.5 / sq. mile	87.3 / sq. mile
Land Area	483.70 sq. miles	1,358.86 sq. miles	7,354.22 sq. miles	3,534,905.43 sq. miles
% of Population under 18 years	24.0	24.1	23.5	24.0
% of Population 18 – 64	63.4	62.7	63.0	63.0
% of Population 65 and older	12.6	13.2	13.5	13.0

¹ See Appendices CuC.2 through CuC.15.

Part 3: Hazard Identification and Risk Assessment

Table CuC.1-4 illustrates how Cumberland County ranks in the NJ4 HMP region and New Jersey.

Table CuC.1-4: Cumberland County Demographic Rankings

	Region (n = 4)	New Jersey (n = 21)
Population Rank	3	16
Land Area Rank	1	4
Population Density Rank	3	17
Population Change Rank	2	-

Table CuC.1-5 includes information related to economic and housing statistics for Cumberland County, the NJ4 HMP region, and New Jersey.

Table CuC.1-5: Cumberland County Economics and Housing
(Source: USDA ERS, Census DP-1, 2010 ACS 5 Year Estimates, DP 3, 4; NJ LWD 2010)

	Cumberland County	Region	New Jersey	United States
Median Household Income	\$50,651	\$60,209	\$69,811	\$51,914
Total Number of Housing Units	55,834	397,990	3,529,033	131,704,730
Occupied Housing Units	51,931	372,472	3,176,069	116,716,292
Vacant Housing Units	3,903	25,518	352,964	14,988,438
Owner Occupied Housing Units	34,622	266,593	2,126,279	75,986,074
Renter Occupied Housing Units	17,309	105,879	1,049,790	40,730,218
Building Permits	246	1,554	13,535	594,800

Table CuC.1-6 illustrates how Cumberland County ranks in the NJ4 HMP region and New Jersey.

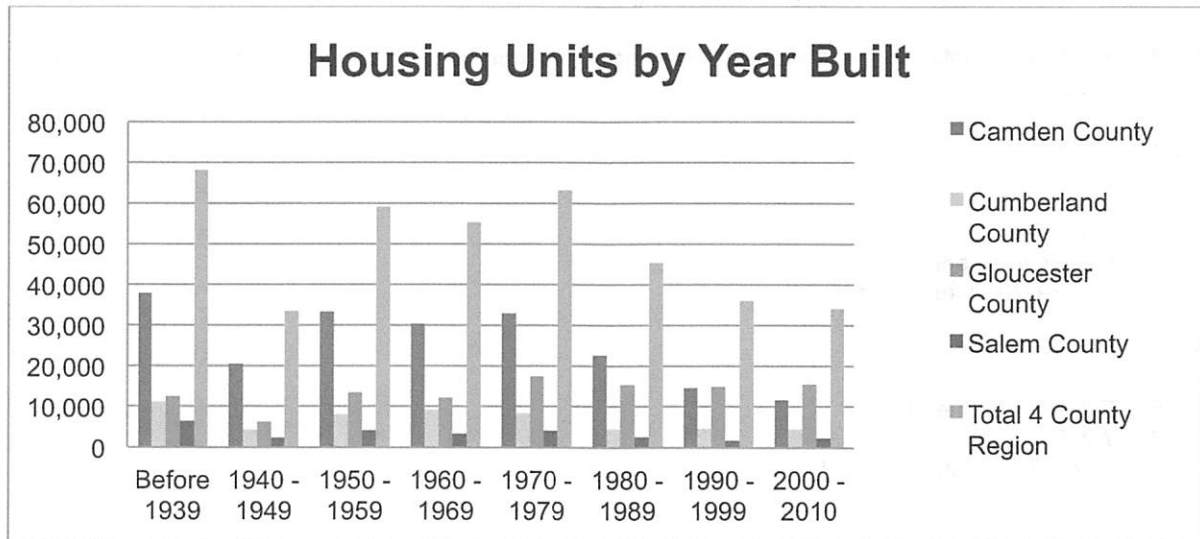
Table CuC.1-6: Cumberland County Ranking (Economics and Housing)

	Region (n = 4)	New Jersey (n = 21)
Median Household Income Rank	4	21
Vacant Housing Units Rank	3	18
Renter Occupied Housing Units Rank	3	16
Building Permits Rank	3	18

Part 3: Hazard Identification and Risk Assessment

Figure CuC.1-3 illustrates development patterns in the NJ4 HMP region and the individual counties by examining housing units by year built. Cumberland County has always been third in the region in terms of housing units built per year but has experienced lower levels of housing development over the most recent 30 years of data.

Figure CuC.1-3: NJ4 HMP Region Housing Units by Year Built
 (Source: 2010 ACS 5 Year Estimates, DP 4)



Part 3: Hazard Identification and Risk Assessment

Part 3.2: Hazard Priorities

Part 3.2 includes a summary of hazard priority determinations per the Municipal Working Groups in Cumberland County.

As a key step in the Hazard Identification and Risk Assessment (HIRA) process, the twelve (12) natural hazards identified in the NJ4 HMP² were discussed during the Municipal Working Group Work Sessions and the relative priority of these hazards was identified.

The following represents the average hazard ranking for Cumberland County municipalities (in order per average priority):

High Priority

1. High Wind
2. Flood
3. Severe Weather – Winter
4. Severe Weather – Summer

Moderate Priority

5. Extreme Temperature
6. Wildfire
7. Coastal Erosion and Sea Level Rise
7. Dam Failure

Low Priority

9. Drought
10. Earthquake
11. Levee Failure
12. Geologic Hazards

² See Section 3: Hazard Identification and Risk Assessment.

Part 3: Hazard Identification and Risk Assessment

Part 3.3: Hazard Mapping

Part 3.3 includes cross references to hazard inventory and risk assessment mapping included in the NJ4 HMP Regional Hazard Mitigation Plan.

Table CuC.1-7 provides information regarding hazard inventory mapping included in *Annex D: Hazard Profiles and Risk Assessments* of the NJ4 HMP that support the Hazard Identification and Risk Assessment (HIRA) for the Appendices for Cumberland County municipalities and are valid for Cumberland County as a whole. The information represented by these maps will be used in the Critical Facilities Hazard Exposure Assessment described in Part 3.4.

Table CuC.1-7: Supporting Mapping and Exhibits

Figure #	Hazard	Map	HIRA Contribution
Figure RP.D-3	Coastal Erosion and Sea Level Rise	Increased Inundation Areas (Coastal Scenarios) Coastal Water Level Increases of 1, 2, and 3 Feet	Identify areas where increased inundation due to sea level rise may occur
Figure RP.D-11	Dam Failure	Dam Locations and Hazard Classification	Identify areas in proximity to rated dams
Figure RP.D-52	Flood	FEMA Flood Hazard Zones Preliminary FIRM (PFIRM)	Identify areas subject to periodic flooding (work-in-progress for revisions to effective FIRM)
Figure RP.D-54	Flood (Storm Surge)	Coastal Flood Loss Atlas – SLOSH Model Maximum of Maximum	Identify areas where inundation due to storm surge may occur
Table RP.D-81	Levee Failure	Levee Inventory	Provide information about levee configuration
Figure RP.D-85	Levee Failure	Levee Locations	Identify locations of levees in and around the municipality
Figure RP.D-99	Wildfire	Wildland Fuel Hazard Risk	Identify areas subject to wildfire
Figure RP.D-106	Wildfire	Wildland Urban Interface (WUI)	Identify areas subject to wildfire

The following hazards are not referenced as these hazards occur uniformly across the County and have the same potential impact on all properties and assets:

- Drought
- Earthquake
- Extreme Temperatures – Cold and Hot
- High Wind
- Severe Weather – Summer
- Severe Weather – Winter

Part 3: Hazard Identification and Risk Assessment

Part 3.4: Critical Facilities Inventory and Hazard Exposure Assessment

Part 3.4 includes:

- *Inventory information for county critical facilities*
- *Hazard exposure analysis results for county critical facilities*

Consistent with the process described in Section 3 of the NJ4 HMP Regional Hazard Mitigation Plan, Table CuC.1-8 contains updated inventory information for county critical facilities.

Table CuC.1-9 provides the means to record results of overlaying critical facility locations with identified hazard inventory information for use in critical site and facility assessments per Mitigation Measure M-2 (see Part 4 of the County Appendix).

Hazards that apply to all critical facilities in the NJ4 region and will automatically be included in the proposed critical site and facility assessment process include:

- Earthquake
- High Winds
- Severe Weather – Summer
- Severe Weather – Winter

Hazards that do not relate to the proposed critical site and facility assessment process include:

- Drought
- Extreme Temperatures – Cold and Hot

As a result, these six (6) hazards are not included in the critical facility exposure assessment.

In addition, as part of the implementation of the Cumberland County Appendix, the Cumberland County Working Group will continue to refine the Critical Facility Inventory in Table CuC.1-8 per the following:

- The list will be segregated by "Owner/Operator" and circulated to representatives of those Cumberland County departments and agencies to request information to complete any missing entries for the categories listed above as well as the appropriate response for "Shelter (Y/N)", "Generator (Y/N)", and "Other?" where the latter column is used to indicate any known hazard exposure (e.g., repetitive flooding, structural concerns, etc.).
- Separate requests will be forwarded to other County agencies and departments with knowledge of other critical or essential facilities within the County that may not appear on the inventory (e.g., facilities caring for vulnerable populations).

The location of any additions to the Critical Facilities Inventory (per Longitude and Latitude) will be compared with the known extent of natural hazards included in the NJ4 HMP. The results of this assessment will be incorporated in Table CuC.1-9 and will also be available for use in critical site and facility assessments per Mitigation Measure M-2 (see Part 4 of the County Appendix).

Part 3: Hazard Identification and Risk Assessment

Table CuC.1-8: Cumberland County Critical Facilities Inventory

#	Name	Type	Subtype	Jurisdiction	Owner / Operator	Address	Shelter (Y/N)	Generator (Y/N)	Other?
CF-1	Cumberland County Central Administrative Offices ³	County	Administrative Offices	Bridgeton City	Cumberland County Board of Freeholders	790 Commerce Street, Bridgeton			
CF-2	Cumberland County Sheriff's Department	Law Enforcement Facilities	Administrative Offices	Bridgeton City	Cumberland County Sheriff's Department	220 North Laurel Street, Bridgeton	N	Y	
CF-3	Cumberland County Prosecutor's Office	Law Enforcement Facilities	Administrative Offices	Bridgeton City	Cumberland County Prosecutor's Office	115 Vine Street, Bridgeton			
CF-4	Cumberland County Public Works Facility #2	Public Works	Combined Administrative Office, Maintenance / Work Area, Equipment / Material Storage, and Fueling Station	Bridgeton City	Cumberland County Department of Public Works	800 East Commerce Street, Bridgeton	N	Y	
CF-5	Vacant ⁴	To be determined	To be determined	Bridgeton City	Cumberland County Board of Freeholders	43 Fayette Street, Bridgeton			
CF-6	Vacant ⁵	To be determined	To be determined	Bridgeton City	Cumberland County Board of Freeholders	70-74 Broad Street, Bridgeton	N		
CF-7	Vacant ⁶	To be determined	To be determined	Bridgeton City	Cumberland County Board of Freeholders	164 West Broad Street, Bridgeton	N	Y	
CF-8	Cumberland County Jail	Law Enforcement Facilities	Correctional Facility	Bridgeton City	Cumberland County Department of Corrections	54 West Broad Street, Bridgeton	N	Y ⁷	

³ Cumberland County Central Administrative Offices may relocate to vacant facility at CF 7P (164 West Broad Street, Bridgeton)

⁴ Formerly Cumberland County Prosecutor's Office. Vacant as of February 6, 2015. Possible future location for Cumberland County Tax Board.

⁵ Formerly Cumberland County Prosecutor's Office. Vacant as of February 6, 2015. Future location for Cumberland County Department of Human Services.

⁶ Formerly Cumberland County Prosecutor's Office. Vacant as of February 6, 2015. Possible future location for Cumberland County Central Administrative Offices.

⁷ Existing back-up emergency power generator limited to emergency lighting.

Part 3: Hazard Identification and Risk Assessment

#	Name	Type	Subtype	Jurisdiction	Owner / Operator	Address	Shelter (Y/N)	Generator (Y/N)	Other?
CF-9P ⁸	South Woods State Prison	Law Enforcement Facilities	Correctional Facility	Bridgeton City	State of New Jersey Department of Corrections	215 Burlington Road South, Bridgeton	N/A		
CF-10P	Cumberland County Public Works Facility #1	Public Works	Combined Administrative Office, Maintenance / Work Areas, and Equipment / Material Storage,	Commercial Township	Cumberland County Department of Public Works	North Avenue, Port Norris	N	N	
CF-11P	NJ State Police – Marine Service Bureau Shell-Pile	Law Enforcement Facilities		Commercial Township	NJ State Police	Ogden Avenue, Port Norris	N/A		
CF-12P	NJ State Police - Port Norris Barracks	Law Enforcement Facilities	Stations	Commercial Township	NJ State Police	8861 Highland Street, Port Norris	N/A		
CF-13P	Cumberland County Technology Education Center ⁹	Schools	Public School	Deerfield Township	Cumberland County Board of Education	601 Bridgeton Avenue, Bridgeton	Y	Y	
CF-14P	Cumberland County 911 Communications Center	Communications	Co-located 911 Communications / Dispatch Centers	Deerfield Township	Cumberland County Department of Emergency Services	637 Bridgeton Avenue, Bridgeton	N	Y	
CF-15P	4-H Extension Center			Deerfield Township	Rutgers University Cooperative Extension	291 Morton Avenue, Millville		N	
CF-16P	Cumberland County Fire / Rescue Training Academy	Schools	Public Training Center	Deerfield Township	Cumberland County Department of Emergency Services	601 Vineland Avenue, Bridgeton	Y	N ¹⁰	C-POD site and emergency worker shelter

⁸ Critical facility entries highlighted in blue are State of New Jersey, US Government or other non-Cumberland County Critical Facilities. These CF's will be segregated in later versions of the list as the County does not exert any control over the operation of these facilities.

⁹ Facility may be repurposed after planned relocation of Technology Education Center to new facility adjacent to Cumberland County College (CF-29)

¹⁰ Permanent back-up emergency power generator included in HMGP Grant Application Project #1862 under DR 4086, Hurricane Sandy.

Part 3: Hazard Identification and Risk Assessment

#	Name	Type	Subtype	Jurisdiction	Owner / Operator	Address	Shelter (Y/N)	Generator (Y/N)	Other?
CF-17P	CCIA Solid Waste Complex	Utilities – Solid Waste	Landfill / Transfer Station	Deerfield Township	Cumberland County Improvement Authority	169 Jesse Bridge Road Millville,	N/A	Y	
CF-18P	Federal Correctional Facility at Fairton	Law Enforcement Facilities	Correctional Facility	Fairfield Township	Federal	655 Fairton Millville Road, Fairton	N	Y	
CF-19P	Cumberland County Building and Grounds Maintenance Facility and Emergency Communications Center	Public Works	Combined Administrative Offices, Maintenance / Work Areas, and Equipment / Material Storage	Hopewell Township	Cumberland County Department of Buildings and Grounds	189 Trench Road, Bridgeton	N/A	N ¹¹	
CF-20P	Cumberland County Board of Elections	Municipal – Other	Administrative Offices	Hopewell Township	Cumberland County Board of Elections	555 Shiloh Pike, Bridgeton	N	Y	Back-up COG site
CF-21P	Cumberland County Juvenile Detention Center	Law Enforcement Facilities	Youth Detention Facility	Hopewell Township	Cumberland County Department of Corrections	135 Sunny Slope Drive, Bridgeton	N	Y	
CF-22P	Cumberland County Communications Tower	Communications	Communications Tower	Maurice River Township	Cumberland County Department of Emergency Services	10 Vassar Avenue, Fortescue	N/A	N ¹²	
CF-23P	Bayside State Prison	Law Enforcement Facilities	Correctional Facility	Maurice River Township	State of New Jersey Department of Corrections	4293 State Highway 47, Leesburg			
CF-24P	Southern State Prison	Law Enforcement Facilities	Correctional Facility	Maurice River Township	State of New Jersey Department of Corrections	4295 State Highway 47 Delmont, NJ			

¹¹ Permanent back-up emergency power generator included in HMGP Grant Application Project #1862 under DR 4086, Hurricane Sandy.

¹² Permanent back-up emergency power generator included in HMGP Grant Application Project #1862 under DR 4086, Hurricane Sandy.

Part 3: Hazard Identification and Risk Assessment

#	Name	Type	Subtype	Jurisdiction	Owner / Operator	Address	Shelter (Y/N)	Generator (Y/N)	Other?
CF-25P	Cumberland County Fire Station and Communication Tower	FireStations	Station	Millville City	Cumberland County Department of Emergency Services	5264 NJ Route 49, Millville	Y	N ¹³	
CF-26P	CCIA Administrative Office	Utilities – Solid Waste	Administrative Offices	Millville City	Cumberland County Improvement Authority	2 N. High Street Millville	N/A	Y	
CF-27P	NJ State Police Barracks	Law Enforcement Facilities	Stations	Upper Deerfield TWP	Upper Deerfield Township	1 Landis Avenue, Bridgeton	N/A		
CF-28P	Cumberland County Public Works Facility #3	Public Works	Combined Administrative Office, Maintenance / Work Area, Equipment / Material Storage, and Fueling Station	Vineland City	Cumberland County Department of Public Works	1728 West Sherman Avenue, Vineland	N	N ¹⁴	
CF-29P	Cumberland County College	Schools	Public Schools	Vineland City	Cumberland County College	3322 College Drive, Vineland	Y	Y ¹⁵	
CF-30P	Vineland Development Center	Vulnerable Populations Facilities	Residential Facilities	Vineland City	State of New Jersey Department of Human Services	1676 East Landis, Vineland			

¹³ Permanent back-up emergency power generator included in HMGP Grant Application Project #1862 under DR 4086, Hurricane Sandy.

¹⁴ Permanent back-up emergency power generator included in HMGP Grant Application Project #1862 under DR 4086, Hurricane Sandy.

¹⁵ Existing back-up emergency power generator is adequate but rewiring electrical systems for emergency operations is included in HMGP Grant Application Project #1862 under DR 4086, Hurricane Sandy.

Part 3: Hazard Identification and Risk Assessment

Table CuC.1-9: Cumberland County Critical Facilities Hazard Exposure

CF #	Name	Increased Inundation +1 Foot	Increased Inundation +2 Foot	Increased Inundation +3 Foot	Dam Failure	Flood – FIRM Zone V	Flood – FIRM Zone A	Flood – FIRM Zone 0.2%	Storm Surge – Category 1	Storm Surge – Category 2	Storm Surge – Category 3	Storm Surge – Category 4	Levee Failure	Wildfire Wildland High Density Urban Interface	Wildfire Extreme / High Fuel Level Risk
CF-1															

Part 4: Mitigation Measures

Part 4.1: Mitigation Goals and Strategy

Part 4.1 includes:

- *Goal statements reviewed and approved by the County Working Group based on goals included in the Southern Delaware Valley Region (New Jersey) Multi-Jurisdictional Hazard Mitigation Plans (SDVR HMPs) approved by FEMA in 2010 and 2011 for Camden, Cumberland, Cumberland, and Salem Counties*
- *Overarching strategy for the County's mitigation program*

Goals were originally established by the Southern Delaware Valley Region 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 plan update process, these goals were reviewed and edited by the County Working Group for use in the County Appendix. All mitigation measures included in the County 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 NJ4 HMP Regional Hazard Mitigation Plan HIRA, and experience of participants in the plan update process, the County Working Group identified an overarching strategy for mitigation:

- Focus on projects to address known problems or areas of concern for critical facilities and vulnerable populations as initial risk reduction efforts
- Identify additional areas of concern for critical facilities and vulnerable populations for future plan updates
- Work with Municipal OEMs, engineering, and public works officials to resolve multi-jurisdictional mitigation measures
- Work with Municipal OEMs to provide opportunities for residents and property owners to access available information about risk reduction and mitigation measures
- Institutionalize hazard mitigation into Municipal and County activities and programs through regular interactions of the Municipal and County Working Groups and better 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 Municipal and County mitigation programs

The mitigation measures described in Part 4.3 of the County Appendix reflect this strategy.

Part 4: Mitigation Measures

Part 4.2: SDVR HMP Mitigation Measures

Part 4.2 includes an overview of recent accomplishments for the county's hazard mitigation program.

The SDVR HMPs contained many specific mitigation measures for municipalities. The respective municipalities implemented some of the measures and several more were slated for implementation when the NJ4 HMP was developed in 2014 and 2015. Other municipal mitigation measures were deferred for a range of reasons. In the NJ4 HMP, many of the deferred measures were still considered valid by the Municipal Working Groups and carried over as part of the Municipal Appendices.¹ The nature of the mitigation measures identified for the four counties in the SDVR was quite different but the outcome was similar; some measures were implemented while others were deferred and are included in the County Appendices.

Mitigation measures identified for the four counties focused on programmatic support for their constituent municipalities. The measures closely mirrored the four goals of the project. The following provides examples of the types of mitigation measures that were attributed to each of the goals:

- Goal 1: Improve education and outreach efforts
 - Conduct yearly workshops related to FEMA hazard mitigation grant programs for local government officials
- Goal 2: Improve data collection, use, and sharing
 - Develop and maintain relationships with organizations that can provide technical assistance in the areas of hazard identification and risk assessment
- Goal 3: Improve capabilities and coordination
 - Encourage municipalities to participate in the CRS program, including potentially setting up CRS site visits and/or workshops for interested jurisdictions
- Goal 4: Plan and implement projects
 - Implement mitigation projects and programs intended to reduce risk to critical facilities

These are just a few examples. The program laid out in the SDVR HMPs included a wide variety of detailed actions and programs. Most of the responsibility for implementing the program fell to the County Offices of Emergency Management (OEM) and there were successes during the implementation of the SDVR HMP. Table CuC.1-10 identifies activities, projects, and programs that were undertaken during this period by Cumberland County OEM.

Table CuC.1-10: Cumberland County Mitigation Program Accomplishments

Mitigation Action, Program, or Project	Comments
General hazard mitigation support for Municipal OEM Coordinators.	Cumberland County OEM has held regularly scheduled meetings for several years. Hazard mitigation is a regular component of the agendas for the Municipal OEM Coordinator Meetings including recommendations for implementation of the SDVR HMP and work-in-progress for the NJ HMP in 2014 and 2015.
Cumberland County OEM public education and awareness program.	Cumberland County has trained and mobilized CERT teams to provide public education on a full array of emergency management issues including mitigation.

¹ See *Part 4.2: SDVR HMP Mitigation Measures* of Appendices CuC.2 through CuC.15 for descriptions of the disposition of these municipal mitigation measures.

Part 4: Mitigation Measures

Mitigation Action, Program, or Project	Comments
Support for municipal grant applications for FEMA HMA grant programs including those initiated following Superstorm Sandy.	Several LOIs were submitted for Cumberland County municipalities, coordinated through Cumberland County OEM.
Cumberland County Courthouse flooding and mitigation study and action.	Included in the Cumberland County SDVR HMP as "Cumberland 1", initial efforts to implement this mitigation measure included assessments of existing pipe systems using video cameras. <i>Note: This mitigation measure is carried over in the NJ4 HMP Cumberland County Appendix as Mitigation Measure M-9.</i>
Cumberland County Emergency Operations Center and 911 Center Floodproofing.	Included in the Cumberland County SDVR HMP as "Cumberland 2", additional concerns have been raised about the structural integrity of the roof system if exposed to high winds. Options are being considered for hardening the EOC or possible relocation. <i>Note: This mitigation measure is carried over in the NJ4 HMP Cumberland County Appendix as Mitigation Measure M-10.</i>
Hardening five Cumberland County Department of Emergency Services communications towers.	Included in the Cumberland County SDVR HMP as "Cumberland 3", issues include existing back-up emergency power generators located in floodprone areas and susceptibility to high winds. <i>Note: This mitigation measure is carried over in the NJ4 HMP Cumberland County Appendix as Mitigation Measure M-11.</i>
Sunset Lake Dam and Embankment Improvements.	Cumberland County, using funding from the US DOT, completed improvements to stabilize the West Park Drive embankment for Sunset Lake which is located between Hopewell and Upper Deerfield Townships near the City of Bridgeton.
Cumberland County Back-up Emergency Power Generator Program.	As of April 17, 2015, Cumberland County OEM has a pending Hazard Mitigation Grant Program application for eleven (11) back-up emergency power generators and related improvements to key county and municipal facilities including: <ol style="list-style-type: none"> 1. Buckshuttem School (diesel fuel; 1200 Kw) 2. Cumberland County Fuel Yard and County Area Transit System (diesel fuel; 150 Kw) 3. Cumberland County Hopewell Emergency Communications Tower (diesel fuel; 80 Kw) 4. Cumberland County Fire Training Center (diesel fuel; 75 Kw) 5. Cumberland Fire Company (diesel fuel; 100 Kw) 6. Downe Township Municipal Hall (diesel fuel; 150 Kw) 7. Fortescue Fire Department (diesel fuel; 100 Kw) 8. Greenwich School (diesel fuel; 150 Kw) 9. Haleyville School (diesel fuel; 1250 Kw) 10. Maurice River Township Hall (diesel fuel; 150 Kw) 11. Cumberland County College (retrofit electrical wiring to maximize existing generator use) <p>The total budget for the Cumberland County Generator Program is approximately \$1.4 million.</p> <p><i>Note: This mitigation measure is included in the NJ4 HMP Cumberland County Appendix as Mitigation Measure M-12.</i></p>

Part 4: Mitigation Measures

Mitigation Action, Program, or Project	Comments
Support for long-term recovery planning initiatives.	Cumberland County has been a leading participant in post-Sandy recovery planning efforts including participation in efforts such as the Cumberland County Delaware Bayshore Recovery Plan.
Support for FEMA Risk MAP roll-out programs.	Cumberland County OEM has hosted several rounds of meetings and encouraged participation by Municipal OEM Coordinators.

It is important to note that several components of the SDVR HMP mitigation measures were not implemented due to circumstances beyond the control of the County OEM Coordinators including:

- Economic impacts of the recession on both municipal and county budgets affected the available resources for what was a labor-intensive program.
- Frequent natural disasters required full attention of available resources for prolonged periods. As described in *Section 3: Hazard Identification and Risk Assessment* of the NJ4 HMP Regional Hazard Mitigation Plan, the region experienced seven presidential disaster declarations since the adoption and approval of the SDVR HMPs including damages from high winds, severe winter weather, and extensive flooding. The administrative aftermath of these disaster declarations carries over for months and can stretch out for years on large events like Superstorm Sandy.

However, essential components of several SDVR HMP mitigation measures were carried over as part of the County Appendix.

In hindsight, the conclusion of the four County OEM Coordinators, all of who were involved in the SDVR HMPs and the NJ4 HMP update, was that the program for the NJ4 HMP needed to be scaled at a more realistic level and focused on coordination activities more consistent with the role and resources of the County OEMs. The Mitigation Measures identified in Part 4.3 are in line with this direction.

Part 4: Mitigation Measures

Part 4.3: County Mitigation Measures – Identification

Part 4.3 includes brief descriptions of mitigation measures that are considered the sole responsibility of the county.

Table CuC.1-11 includes the list of mitigation measures that are considered the responsibility of the county. These mitigation measures:

- Reflect the goals and strategy identified in Part 4.1
- Include essential aspects of projects included in the SDVR HMPs as described in Part 4.2
- Include projects, programs or activities to support the implementation of mitigation measures by the Municipal Working Groups
- Include specific mitigation measures to address known problems or areas of concern for critical facilities and vulnerable populations that are the responsibility of County agencies and departments

Table CuC.1-11 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

Part 4: Mitigation Measures

Table CuC.1-11: Cumberland County Mitigation Measures Identification

#	Mitigation Action, Program, or Project	Hazard(s)	Goal (s)	Existing or New Structures
M-1	Support municipal outreach and education programs by providing access to current resources and reference materials that Municipal Working Groups can use to inform residents, businesses, and property owners regarding: <ul style="list-style-type: none"> • Current hazards and risks • Changing conditions and actions that may reduce / increase risk • Best practices for hazard mitigation at the individual or property level. 	All	Goal #1	Both
M-2	Prioritize county critical facilities and complete site and facility surveys to identify vulnerabilities and potential mitigation measures.	All	Goal #2	Existing
M-3	Support efforts by Municipal Working Groups to survey municipal critical facilities by providing data management services including facilitating periodic updates to inventory and hazard exposure data.	All	Goal #2	Existing
M-4	Support on-going plan maintenance and update processes by County and Municipal Working Groups by providing the most up-to-date information about natural hazards including refinements to flood mapping, evolving data regarding climate change, and related impacts of sea level rise and hazard event frequencies.	All	Goal #2	Existing
M-5	Prioritize recurrent drainage problem areas and initiate data collection with county and, where appropriate, municipal agencies ² to track unreimbursed damages and related response and recovery expenses.	Flood	Goal #2	Existing
M-6	Conduct regular County Working Group meetings consistent with the plan maintenance program and the County Adoption Resolution.	All	Goal #3	Both
M-7	Support regular Municipal Working Group meetings and related implementation efforts including reminders at quarterly Municipal OEM Coordinators' meetings, tracking progress toward implementation of municipal mitigation measures, training regarding implementation issues such as project scoping, identification of current available options for funding, etc.	All	Goal #3	Both
M-8	Facilitate meetings with state, county, and municipal officials to discuss and resolve implementation issues related to multi-jurisdictional mitigation measures. ⁴	All	Goal #4	Both
M-9	Cumberland County Courthouse flooding and mitigation study and action.	Flood	Goal #4	Existing
M-10	Cumberland County Emergency Operations Center and 911 Center Hardening.	Flood and High Wind	Goal #4	Existing
M-11	Hardening Cumberland County Department of Emergency Services communications towers.	Flood and High Wind	Goal #4	Existing

² See Part 4.5: Multi-Jurisdictional Mitigation Measures.

Part 4: Mitigation Measures

#	Mitigation Action, Program, or Project	Hazard(s)	Goal (s)	Existing or New Structures
M-12	Cumberland County Back-up Emergency Power Generator Program	All	Goal #4	Existing

Part 4.4: County Mitigation Measures – Implementation

Part 4.4 includes a tabulation of relevant aspects related to the implementation of the county mitigation measures.

Table CuC.1-12 includes information identified by the County Working Group:

- Part(ies) responsible for following up with implementation of the measure
- Priority for implementation considering a range of criteria³
- Project Type to help determine funding options and implementation mechanisms at the county level⁴
- Estimated Cost, including estimates provided by the County 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 county level

Table CuC.1-12: Cumberland County Mitigation Measures Implementation

#	Mitigation Action, Program, or Project	Responsible Part(ies)	Priority	Project Type	Estimated Cost (\$)	Target Date	Next Step(s)
M-1	Support municipal outreach and education programs.	Cumberland County OEM	Medium	Public Outreach and Education	Staff time commitment	On-going	<ul style="list-style-type: none"> ▪ Work with Municipal Working Groups to identify target audience(s). ▪ Work with County Working Group to identify available resources for producing, maintaining and providing information.
M-2	Prioritize critical facilities and complete site and facility surveys to identify vulnerabilities and potential mitigation measures.	Cumberland County OEM, Cumberland County Planning, and Facility Managers	High	Data Acquisition and Management	Staff time commitment	On-going	Review critical facility list and establish priorities, procedures, and tentative time schedule for conducting site and facility surveys.
M-3	Support efforts by Municipal Working Groups to survey municipal critical facilities by providing data management services.	Cumberland County OEM / Cumberland County Planning	High	Data Acquisition and Management	Staff time commitment	On-going	Develop and implement procedures and tools for soliciting, collecting, and managing data input from municipalities.

³ See Section 4: Mitigation Measures and related portions of Annex E of the NJ4 HMP Regional Hazard Mitigation Plan for a description of evaluation criteria considered by the County Working Group.

⁴ See Section 4: Mitigation Measures and related portions of Annex F of the NJ4 HMP Regional Hazard Mitigation Plan for a description of project types and related information regarding funding options and implementation mechanisms.

Part 4: Mitigation Measures

#	Mitigation Action, Program, or Project	Responsible Part(ies)	Priority	Project Type	Estimated Cost (\$)	Target Date	Next Step(s)
M-4	Support on-going plan maintenance and update processes by County and Municipal Working Groups by providing the most up-to-date information about natural hazards.	Cumberland County OEM / Cumberland County Planning	Low	Data Acquisition and Management	Staff time commitment	On-going	Work with Municipal Working Groups to identify needs for hazard and risk information for on-going plan implementation and future plan updates.
M-5	Prioritize recurrent drainage problem areas and initiate data collection with county and, where appropriate, municipal agencies.	Cumberland County OEM and County Working Group	Low	Data Acquisition and Management	Staff time commitment	On-going	Identify recurrent drainage problem areas, establish priorities, and identify data collection procedures.
M-6	Conduct regular County Working Group meetings.	Cumberland County OEM and County Working Group	Medium	Capabilities and Coordination	Staff time commitment	On-going	Establish regular County Working Group membership, reporting requirements, and meeting / work session schedule.
M-7	Support regular Municipal Working Group meetings and related implementation efforts.	Cumberland County OEM	Medium	Capabilities and Coordination	Staff time commitment	On-going	Identify agenda and briefing materials for quarterly Municipal OEM Coordinator meetings.
M-8	Facilitate meetings with state, county, and municipal officials to discuss and resolve implementation issues related to multi-jurisdictional mitigation measures. ⁴	Cumberland County OEM	Medium	Varies	Staff time commitment	On-going	Confirm Problem Descriptions and Potential Partners per Table CuC.1-13.
M-9	Cumberland County Courthouse flooding and mitigation study and action.	Cumberland County OEM	High	Public Property Flood Mitigation	To be determined	To be determined	Conduct project scoping.
M-10	Cumberland County Emergency Operations Center and 911 Center Hardening.	Cumberland County OEM	Moderate	Hardening Critical Facilities	\$1,500,000 ⁵	Project duration estimated at 12 months.	Conduct project scoping.
M-11	Hardening Cumberland County Department of Emergency Services communications towers.	Cumberland County OEM	High	Hardening Critical Facilities	To be determined	To be determined	Conduct project scoping.
M-12	Cumberland County Back-up Emergency Power Generator Program.	Cumberland County OEM	High	Back-up Emergency Power Generator	\$1,400,000 ⁶	One year	Continue to pursue grant approval.

⁵ Estimate based on addition to existing EOC that would be a hardened facility. Cumberland County has submitted EOC Grant Application to the DHS in recent grant cycles.

⁶ Mitigation Measure M-12 is part of HMGP Grant Application Project #1862 under DR 4086, Hurricane Sandy in the amount of 1,111,111.

Part 4: Mitigation Measures

Part 4.5: Multi-Jurisdictional Mitigation Measures

Part 4.5 includes brief descriptions of mitigation measures that require multiple jurisdictions to implement.

During the Municipal Working Group Work Sessions, the Municipal Working Groups identified some SDVR HMP mitigation measures as well as new areas of concern as mitigation measures where implementation requires participation or leadership from other levels of government, including county, state, and federal agencies. These multi-jurisdictional mitigation measures are included in Table CuC.1-13.

Section 4: Mitigation Measures of the NJ4 HMP Regional Hazard Mitigation Plan describes multi-jurisdictional implementation strategies in detail. Multi-jurisdictional mitigation measures that Municipal Working Groups believe are partly or wholly the responsibility of County agencies have been referred to the County Working Group for consideration. As part of the mitigation measures in the County Appendix to the NJ4 HMP Regional Hazard Mitigation Plan, the County Working Group will be working with the municipalities to:

- Confirm specific responsibilities amongst different level(s) of government to address these problem areas
- Identify mitigation measures or related projects which may address described problem areas acknowledged as County responsibilities including identifying an appropriate County agency or department taking the lead role and monitoring the status of implementing these mitigation measures

Note: It is important to recognize that some of the mitigation measures identified in Table CuC.1-13 may not be considered as county responsibilities by county agencies and departments. However, part of the process of reviewing these recommendations from Municipal Working Groups is to identify areas where there are different opinions and arrive at a common understanding of the best way to proceed to resolve these problem areas.

Part 4: Mitigation Measures

Table CuC.1-13: Cumberland County Multi-Jurisdictional Mitigation Measures

Municipality	#	Problem Description	Hazard(s) Addressed	Goal Addressed	Applies to Existing or New Structures	Potential Partners
Bridgeton City	MJ-1	Sunset Lake Dam ⁷ .	Dam Failure	Goal #4	Both	Municipal OEM, Cumberland County
Commercial Township	MJ-1	Sheet piles on Berry Avenue county bridge to protect against erosion.	Coastal Erosion and Sea Level Rise	Goal #4	Existing	Municipal OEM, Cumberland County DPW
Commercial Township	MJ-2	Bulkhead for public wharf area to protect shoreline.	Coastal Erosion and Sea Level Rise	Goal #4	New	Municipal OEM, Cumberland County OEM, and New Jersey Station Police
Commercial Township	MJ-3	Assess Laurel Lake Dam (private dam) to identify upgrade measures and work with private property owners to identify funding mechanisms. Dam located on a County Road and borders Millville Township.	Dam Failure	Goal #4	Existing	Municipal OEM, Private Owner, Millville OEM
Commercial Township	MJ-4	Alleviate flooding at county bridge at Berry Avenue.	Flood	Goal #4	Existing	Municipal OEM, Cumberland County DPW
Commercial Township	MJ-5	Alleviate flooding at State Police Barracks on Public Wharf.	Flood	Goal #4	New	Municipal OEM, State DOT
Commercial Township	MJ-6	Create safety zones around critical facilities in wildfire risk areas	Wildfire	Goal #4	Existing	Municipal OEM, NJ State Forestry
Deerfield Township	MJ-1	Communications / Coordination plan regarding dam releases during natural events.	Dam Failure	Goal #3	Existing	Municipal OEM, SC DPW, Pittsgrove TWP (SC) Municipal OEM
Deerfield Township	MJ-2	Alleviate flooding at Garton Road / Parvin's Mill.	Flood	Goal #4	Both	Municipal OEM, Cumberland County DPW
Deerfield Township	MJ-3	Alleviate flooding on Sherman Avenue.	Flood	Goal #4	Both	Municipal OEM, Cumberland County DPW

⁷ Problem involves needed improvements to the East and West Gate structures. As of October 2, 2014, repairs to the East Gate structure and related sheet piling installations were on-going. However, the West Gate is not part of the current project.

Part 4: Mitigation Measures

Municipality	#	Problem Description	Hazard(s) Addressed	Goal Addressed	Applies to Existing or New Structures	Potential Partners
Downe Township	MJ-1	Fortescue Area Improvement Plans ^{8, 9} .	Coastal Erosion and Sea Level Rise / Flood (Storm Surge & Tidal)	Goal #4	Both	Municipal OEM, Downe Township Initiative Partners
Downe Township	MJ-2	Dividing Creek / Maple Avenue Improvement Plans ^{10, 11} .	Coastal Erosion and Sea Level Rise / Flood (Storm Surge & Tidal)	Goal #4	Both	Municipal OEM, Downe Township Initiative Partners
Downe Township	MJ-3	Money Island Improvement Plans ¹² .	Coastal Erosion and Sea Level Rise / Flood (Storm Surge & Tidal)	Goal #4	Both	Municipal OEM, Downe Township Initiative Partners
Downe Township	MJ-4	Gandy's Beach Improvement Plans ¹³	Coastal Erosion and Sea Level Rise / Flood (Storm Surge & Tidal)	Goal #4	Both	Municipal OEM, Downe Township Initiative Partners
Downe Township	MJ-5	Nantuxent Creek Improvement Plans ¹⁴	Coastal Erosion and Sea Level Rise / Flood (Storm Surge & Tidal)	Goal #4	Both	Municipal OEM, Downe Township Initiative Partners
Downe Township	MJ-6	Newport Neck Road	Coastal Erosion and Sea Level Rise / Flood (Storm Surge & Tidal)	Goal #4	Both	Municipal OEM, Cumberland County DPW
Fairfield Township	MJ-1	Retaining wall at Mill Dam on Fairton Bridgeton Road	Dam Failure	Goal #4	Existing	Municipal OEM, Cumberland County DPW
Fairfield Township	MJ-2	Alleviate flooding at Back Neck Road at the Cohansey River.	Flood	Goal #4	Existing	Municipal OEM, Cumberland County DPW
Fairfield Township	MJ-3	Assessment of culvert system at Back Neck Road bordering the Cohansey River.	Flood	Goal #4	Existing	Municipal OEM, Cumberland County DPW
Fairfield Township	MJ-4	Safety zones for around critical facilities in or near wildfire risk areas.	Wildfire	Goal #4	Existing	Municipal OEM, Municipal Fire Departments, NJ State Forest Fire Service

⁸ See Downe Initiative - Page 110.

⁹ Mitigation Measures MJ-1 and MJ-2 part of HMGP Grant Application Project #315 under DR 4086, Hurricane Sandy. Total grant application for \$8,000,000.

¹⁰ See Downe Initiative - Page 114.

¹¹ Mitigation Measure MJ-4 part of HMGP Grant Application Project #1557 under DR 4086, Hurricane Sandy. Total grant application for \$1,300,000.

¹² See Downe Initiative - Page 123.

¹³ See Downe Initiative - Page 128.

¹⁴ See Downe Initiative - Page 132.

Part 4: Mitigation Measures

Municipality	#	Problem Description	Hazard(s) Addressed	Goal Addressed	Applies to Existing or New Structures	Potential Partners
Greenwich Township	MJ-1	Potential impacts to evacuation route at Sheppard's Mill Pond.	Dam Failure	Goal #4	Both	Greenwich Township School Board, Cumberland County Road Department
Greenwich Township	MJ-2	Construct a new levee parallel to and between Mounce Creek and County Route 607 (Bridgeton-Greenwich Road).	Coastal Erosion and Sea Level Rise, Flood, Levee Failure	Goal #4	Both	Greenwich Township School Board, Cumberland County Road Department
Greenwich Township	MJ-3	Short-term repairs and renovations to Mill Creek Levee ¹⁵	Coastal Erosion and Sea Level Rise, Flood, Levee Failure.	Goal #4	Existing	Greenwich Township School Board, Cumberland County Road Department
Greenwich Township	MJ-4	Short-term repairs and renovations to Market Lane Levee ¹⁶	Coastal Erosion and Sea Level Rise, Flood, Levee Failure.	Goal #4	Existing	Greenwich Township School Board, Cumberland County Road Department
Greenwich Township	MJ-5	Greenwich Township Levees Project proposal to elevate and armor Mill Creek Levee and install new flood gates.	Coastal Erosion and Sea Level Rise, Flood, Levee Failure.	Goal #4	Existing	Greenwich Township School Board, Greenwich Township Dike Committee, Cumberland County, NJDEP, USACE
Greenwich Township	MJ-6	Greenwich Township Levees Project proposal to construct the new Pine Mount Creek Levee and flood gates.	Coastal Erosion and Sea Level Rise, Flood, Levee Failure.	Goal #4	Existing	Greenwich Township School Board, Greenwich Township Dike Committee, Cumberland County, NJDEP, USACE
Greenwich Township	MJ-7	Greenwich Township Levees Project proposal to improve Market Lane Levee.	Coastal Erosion and Sea Level Rise, Flood, Levee Failure.	Goal #4	Existing	Greenwich Township School Board, Greenwich Township Dike Committee, Cumberland County, NJDEP, USACE

¹⁵ Short-term repairs and renovations to Mill Creek Levee will be integrated to the extent possible with long-term solution to problem identified in MJ-5.

¹⁶ Short-term repairs and renovations to Market Lane Levee will be integrated to the extent possible with long-term solution to problem identified in MJ-7.

Part 4: Mitigation Measures

Municipality	#	Problem Description	Hazard(s) Addressed	Goal Addressed	Applies to Existing or New Structures	Potential Partners
Greenwich Township	MJ-8	Alleviate flooding at Greenwich Road (County Route 607) at Mill Creek.	Flood	Goal #4	Existing	Greenwich Township School Board, Cumberland County Road Department
Greenwich Township	MJ-9	Alleviate flooding at Ye Greate Street (County Route 623) just north of Township Fire Hall.	Flood	Goal #4	Existing	Greenwich Township School Board, Cumberland County Road Department
Greenwich Township	MJ-10	Alleviate flooding at Ye Greate Street (County Route 623) at Pine Mount Run.	Flood	Goal #4	Existing	Greenwich Township School Board, Cumberland County Road Department
Greenwich Township	MJ-11	Alleviate flooding at Gum Tree Corner Road (County Route 639) at Pine Mount Run.	Flood	Goal #4	Existing	Greenwich Township School Board, Cumberland County Road Department
Greenwich Township	MJ-12	Alleviate flooding at Market Lane (County Route 641) at levee.	Flood	Goal #4	Existing	Greenwich Township School Board, Cumberland County Road Department
Greenwich Township	MJ-13	Alleviate flooding at Bacon Neck Road (County Route 642) at Pine Mount Run.	Flood	Goal #4	Existing	Greenwich Township School Board, Cumberland County Road Department
Greenwich Township	MJ-14	Conduct tree survey and develop tree trimming and removal program ¹⁷ .	High Wind	Goal #4	Existing	Greenwich Township Environmental Commission, Greenwich Township Shade Tree Committee, Cumberland County DPW
Hopewell Township	MJ-1	Alleviate flooding at Columbia Highway between Barrett's Run Road and Old Cohansey Road.	Flood	Goal #4	Both	Municipal OEM, Cumberland County DPW
Lawrence Township	MJ-1	Alleviate flooding at Bowers Creek Road.	Flood	Goal #4	Both	Municipal OEM, Cumberland County DPW

¹⁷ Per funding available under the New Jersey Shade Tree and Community Forestry Act administered by the New Jersey Department of Environmental Protection – Division of State Forestry Services.

Part 4: Mitigation Measures

Municipality	#	Problem Description	Hazard(s) Addressed	Goal Addressed	Applies to Existing or New Structures	Potential Partners
Maurice River Township	MJ-1	Alleviate flooding at Main Street, Dorchester at Crowder Run (CR 616).	Flood (Storm Surge & Tidal)	Goal #4	Existing	Municipal OEM, Cumberland County DPW
Maurice River Township	MJ-2	Alleviate flooding at Glade Road, between Heislerville and Delmont (CR 616).	Flood (Storm Surge & Tidal)	Goal #4	Existing	Municipal OEM, Cumberland County DPW
Maurice River Township	MJ-3	Alleviate flooding at NJ 47 in Bricksboro.	Flood (Storm Surge & Tidal)	Goal #4	Existing	Municipal OEM, Cumberland County DPW, NJ DOT
Maurice River Township	MJ-4	Alleviate flooding at Mauricetown Causeway (CR 670).	Flood (Storm Surge & Tidal)	Goal #4	Existing	Municipal OEM, Cumberland County DPW
Maurice River Township	MJ-5	Alleviate flooding at East Point Road.	Flood (Storm Surge & Tidal)	Goal #4	Existing	Municipal OEM, Cumberland County DPW
Maurice River Township	MJ-6	Alleviate flooding at River Road.	Flood (Storm Surge & Tidal)	Goal #4	Existing	Municipal OEM, Cumberland County DPW
Maurice River Township	MJ-7	Alleviate flooding at Newell Road (CR 616). ¹⁸	Flood (Storm Surge & Tidal)	Goal #4	Existing	Municipal OEM, Cumberland County DPW
Maurice River Township	MJ-8	Alleviate flooding at NJ 47 & Whitney Point. ¹⁹	Flood (Storm Surge & Tidal)	Goal #4	Existing	Municipal OEM, Cumberland County DPW, NJ DOT
Maurice River Township	MJ-9	Alleviate flooding at Carlisle Place Road at Crowder Run Branch Crossing in Dorchester (CR 709).	Flood (Storm Surge & Tidal)	Goal #4	Existing	Municipal OEM, Cumberland County DPW
Maurice River Township	MJ-10	Improvement of dike network in Heislerville at Matt's Landing. This network protects Delmont and Heislerville from flooding. ²⁰	Sea Level Rise / Levee Failure	Goal #4	Existing	Municipal OEM, Cumberland County DPW, USACOE, NJDEP (Fish & Wildlife), PSE&G
Maurice River Township	MJ-11	Impact of Sea Level Rise on septic systems and cess pools.	Sea Level Rise	Goal #4	Existing	Municipal OEM, Cumberland County Department of Health, NJ DEP

¹⁸ Mitigation Measure MJ-7 is part of HMGP Grant Application Project #449 under DR 4086, Hurricane Sandy. Total grant application for \$207,200.

¹⁹ Mitigation Measure MJ-8 is part of HMGP Grant Application Project #450 under DR 4086, Hurricane Sandy. Total grant application for \$408,000.

²⁰ Mitigation Measure MJ-10 is part of HMGP Grant Application Project #425 under DR 4086, Hurricane Sandy. Total grant application for \$2,000,000.

Part 4: Mitigation Measures

Municipality	#	Problem Description	Hazard(s) Addressed	Goal Addressed	Applies to Existing or New Structures	Potential Partners
Millville City	MJ-1	Address repetitive flooding in White Marsh Run Corridor.	Coastal Erosion and Sea Level Rise / Flood	Goal #4	Both	Municipal OEM, City Commission, Floodplain Administrator, Cumberland County Road Department
Millville City	MJ-2	Address repetitive flooding in Petticoat Stream Corridor including South 2 nd Street and Maylin Street and roadways in the vicinity of the Village Apartments.	Coastal Erosion and Sea Level Rise / Flood	Goal #4	Both	Municipal OEM, City Commission, Floodplain Administrator, Cumberland County Road Department
Millville City	MJ-3	Establish interconnection with Vineland City water system.		Goal #4	Both	City of Millville Water and Sewer Department, City of Vineland Municipal Utilities.
Shiloh Borough	MJ-1					
Stow Creek Township	MJ-1	Alleviate drainage problems along Roadstown Road near the Stow Creek-Hopewell Firehouse (County Roads 620 and 626) (CF-3).	Flood	Goal #4	Both	Municipal OEM, Cumberland County Road Department.
Stow Creek Township	MJ-2	Alleviate drainage problems on State Highway 49 north of Shiloh Borough.	Flood	Goal #4	Both	Municipal OEM, Hopewell Township OEM, Cumberland County Road Department, NJ DOT.
Stow Creek Township	MJ-3	Provide hardening against wind for Hopewell – Stow Creek Fire House (CF-1 and CF-2).	High Wind, Severe Weather - Winter	Goal #4	Existing	Municipal OEM, Hopewell Township OEM
Upper Deerfield Township	MJ-1	Install backup power for Cumberland Regional High School.	All	Goal #4	Both	Municipal OEM, Cumberland County DPW
Upper Deerfield Township	MJ-2	Alleviate flooding at East Deerfield Road (Rt. 540) between NJ Route 77 and Old Burlington Road.	Flood	Goal #4	Both	Municipal OEM, Cumberland County DPW, NJ State DOT
Upper Deerfield Township	MJ-3	Alleviate flooding on Freesburg Road.	Flood	Goal #4	Both	Municipal OEM, Cumberland County DPW, NJ State DOT

Part 4: Mitigation Measures

Municipality	#	Problem Description	Hazard(s) Addressed	Goal Addressed	Applies to Existing or New Structures	Potential Partners
Upper Deerfield Township	MJ-4	Alleviate flooding in the Hildreth Track.	Flood	Goal #4	Both	Municipal OEM, Cumberland County DPW, NJ State DOT
Upper Deerfield Township	MJ-5	Alleviate flooding on Finely Road and NJ Route 77.	Flood	Goal #4	Existing	Municipal OEM, Cumberland County DPW, NJ State DOT
Upper Deerfield Township	MJ-6	Alleviate flooding on NJ Route 77 and Hoover Road.	Flood	Goal #4	Existing	Municipal OEM, Cumberland County DPW, NJ State DOT
Upper Deerfield Township	MJ-7	Alleviate flooding on NJ Route 77 between Finley Road and Hoover Road.	Flood	Goal #4	Existing	Municipal OEM, Cumberland County DPW, NJ State DOT
Upper Deerfield Township	MJ-8	Alleviate flooding on Old Deerfield Pike and Center Road.	Flood	Goal #4	Existing	Municipal OEM, Cumberland County DPW
Vineland City	MJ-1	Dam replacement for Willow Grove Lake at Weymouth Road.	Dam Failure	Goal #4	Both	Municipal OEM, Cumberland County Engineering
Vineland City	MJ-2	Alleviate flooding problems on Sherman Avenue (west of Route 55).	Flood	Goal #4	Both	Municipal OEM, Cumberland County Road Department
Vineland City	MJ-3	Alleviate flooding problems at Cedar Crest Village Trailer Park.	Flood	Goal #4	Both	Municipal OEM, Cumberland County Engineering

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 NJ4 HMP Regional Hazard Mitigation Plan regarding existing authorities, policies, and programs in the region and specific information about the jurisdiction's participation and continued compliance in the National Flood Insurance Program (NFIP)
- **Capabilities and Coordination** - Cross referencing relevant information and recommendations in the NJ4 HMP Regional Hazard Mitigation Plan regarding improving capabilities and coordination at the municipal level and specific information about the jurisdiction's available resources
- **Plan Review and Integration** – Identifying plans and programs included in the development of Plan Integration recommendations in the NJ4 HMP Regional Hazard Mitigation Plan

Authorities, Policies, and Programs

Section 1.3: Existing Authorities, Policies, Programs, and Resources of the NJ4 HMP Regional Hazard Mitigation Plan summarizes relevant authorities, policies, and programs related to hazard mitigation in the region including the NFIP.

Continuing municipal participation in the NFIP as part of the implementation of the NJ4 HMP by the municipalities within Cumberland County, includes:

- Involvement of Floodplain Manager / Administrator during the NJ4 HMP implementation process
- Commitment to adopt updated FIRMs and evaluate / update the municipality's Flood Management Plan and/or Ordinance as appropriate per recommendations in Section 4.6 of the NJ4 HMP Regional Hazard Mitigation Plan

Note: There is no unincorporated land within Cumberland County. Therefore, participation by Cumberland County in the NFIP is not required as all flood insurance eligible properties occur within municipal boundaries.

Cumberland County will support these municipal efforts as part of Mitigation Measures M-1, M-7 and M-8.

Capabilities and Coordination

The update of the SDVR HMP included reexamining municipal hazard mitigation capabilities; potential for improving capabilities and coordination within and between jurisdictions; and, plan integration considerations. *Section 1.3: Existing Authorities, Policies, Programs, and Resources* of the NJ4 HMP Regional Hazard Mitigation Plan includes summary statements regarding regional resources and the impact of resource limitations on the overall approach to the NJ4 HMP mitigation strategies. *Section 4: Mitigation Measures* and related portions of Annex F of the NJ4 HMP Regional Hazard Mitigation Plan include summary observations and recommendations concerning:

- Hazard mitigation planning and mitigation measure implementation capabilities and coordination at the regional, county, and municipal levels
- Coordination within municipal governments, between municipal governments and their communities, and between municipal, county, and state agencies responsible for hazard mitigation

Cumberland County will continue to support improvements to municipal capabilities as part of Mitigation Measures M-1, M-7 and M-8.

Part 4: Mitigation Measures

Plan Review and Integration

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

- Cumberland County Emergency Operations Plan
- Cumberland County master plans and related documents

Table RP.4-4 in *Section 4.6: Plan Review and Integration* of the NJ4 HMP Regional Hazard Mitigation Plan identifies the primary plans and documents collected from each of the participating municipalities. In addition, Annex E.2 provides a complete list of all the plans and documents collected from the participating municipalities.

Section 4.6 also includes the results of reviewing the primary plans and documents to determine the extent to which these documents reflect up-to-date hazard risk and mitigation. In addition, Section 4.6 includes recommendations for integrating the results of the NJ4 HMP, 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 including:

- Hazard Assessments
- Emergency Operations Plans
- Floodplain Management Ordinances
- Master Plans and Reexamination Reports
- Other plans and documents

The plan maintenance process includes 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 each municipalities.

Cumberland County will continue to support improvements to municipal capabilities as part of Mitigation Measures M-1, M-3, M-4, M-7 and M-8.

Attachment A: Public Review Comments

The following comments were received during the public review of the Cumberland County Appendix:

Table CuC.1.A-1: Public Review Comments

Comment Date and Time	Comment	Response

Note: As of April 17, 2015, no public review comments were received for the Cumberland County Appendix.

Attachment B: Adoption Resolution

Following this page is the Adoption Resolution for the Cumberland County Appendix as approved by the Cumberland County Board of Chosen Freeholders.

Attachment C: Approval Letter

Following this page is the Approval Letter for the Cumberland County Appendix.



Mitigation Plan for Four New Jersey Counties
Cumberland County Appendices

Appendix CuC.15
Vineland City, New Jersey

April 15, 2016

Table of Contents

Table of Contents	CuC.15-i
Part 1 Overview	CuC.15-1
1.1: Mitigation Plan for Four New Jersey Counties	CuC.15-1
1.2: Vineland City (Cumberland County) Municipal Appendix	CuC.15-1
Part 2 Participation	CuC.15-2
2.1: Municipal Working Group Participation	CuC.15-2
2.2: Public Participation	CuC.15-5
Part 3 Hazard Identification and Risk Assessment	CuC.15-6
3.1: Municipal Profile	CuC.15-6
3.2: Hazard Priorities	CuC.15-10
3.3: Hazard Mapping	CuC.15-11
3.4: Critical Facilities Inventory and Hazard Exposure Assessment	CuC.15-12
Part 4 Mitigation Measures	CuC.15-31
4.1: Mitigation Goals and Strategy	CuC.15-31
4.2: SDVR HMP Mitigation Measures	CuC.15-32
4.3: Municipal Mitigation Measures – Identification	CuC.15-33
4.4: Municipal Mitigation Measures – Implementation	CuC.15-36
4.5: Multi-Jurisdictional Mitigation Measures	CuC.15-40
4.6: Authorities, Policies, Programs, Resources, and Plan Integration	CuC.15-42

Table of Contents

List of Figures

Figure CuC.15-1: Vineland City (Cumberland County) Location Map	CuC.15-6
Figure CuC.15-2: Vineland City Base Map	CuC.15-7
Figure CuC.15-3: Vineland City Housing Units by Year Built	CuC.15-9
Figure CuC.15-4: Vineland City Mitigation Project Locations	CuC.15-41

List of Tables

Table CuC.15-1: Vineland City (Cumberland County) Working Group	CuC.15-2
Table CuC.15-2: Public Participation	CuC.15-5
Table CuC.15-3: Vineland City Demographics	CuC.15-8
Table CuC.15-4: Vineland City Demographic Rankings	CuC.15-8
Table CuC.15-5: Vineland City Economics and Housing	CuC.15-8
Table CuC.15-6: Vineland City Ranking (Economics and Housing)	CuC.15-9
Table CuC.15-7: Supporting Mapping and Exhibits	CuC.15-11
Table CuC.15-8: Vineland City Critical Facilities Inventory	CuC.15-13
Table CuC.15-9: Vineland City Critical Facilities Hazard Exposure	CuC.15-23
Table CuC.15-10: Status of Vineland City SDVR HMP Mitigation Measures	CuC.15-32
Table CuC.15-11: Vineland City Municipal Mitigation Measures Identification	CuC.15-34
Table CuC.15-12: Vineland City Municipal Mitigation Measures Implementation	CuC.15-36
Table CuC.15-13: Vineland City Multi-Jurisdictional Mitigation Measures	CuC.15-40

Attachments

Attachment CuC.15.A: Public Review Comments	CuC.15.A-1
Attachment CuC.15.B: Adoption Resolution	CuC.15.B-1
Attachment CuC.15.C: Approval Letter	CuC.15.C-1

Part 1: Overview

Part 1.1: Mitigation Plan for Four New Jersey Counties

The Mitigation Plan for Four New Jersey Counties (NJ4 HMP) incorporates input from approximately ninety (90) participating municipalities in Camden, Cumberland, Gloucester, and Salem Counties. The NJ4 HMP is an update and expansion of the South Delaware Valley Region Multi-jurisdictional Hazard Mitigation Plans that were adopted by all four counties and approved by the Federal Emergency Management Agency in 2010 and 2011.

The NJ4 HMP has two main parts:

- Regional Hazard Mitigation Plan
- County and Municipal Appendices

The Regional Hazard Mitigation Plan includes descriptions and information that is common to all participating NJ4 HMP jurisdictions organized according to the following three main focus areas:

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

The Regional Hazard Mitigation Plan also includes Annexes that contain detailed background information for these three focus areas and additional reference materials for the implementation of the NJ4 HMP.

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

Part 1.2: Vineland City (Cumberland County) Municipal Appendix

This Municipal Appendix is focused on Vineland City in Cumberland County, New Jersey.

The Vineland City Municipal Working Group recommended the Vineland City (Cumberland County) Municipal Appendix for adoption to the Vineland City Council.

The Vineland City Council adopted the Municipal Appendix by resolution (see Attachment B: Adoption Resolution).

Region II of the Federal Emergency Management Agency subsequently approved the Municipal Appendix (see Attachment C: Approval Letter).

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 CuC.15-1 identifies the Municipal Working Group members. As explained in *Section 2: Planning Process* of the Mitigation Plan for Four New Jersey Counties (NJ4 HMP) Regional Hazard Mitigation 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. The Working Group will also continue to stay involved during the implementation and maintenance of the NJ4 HMP.

Table CuC.15-1: Vineland City (Cumberland County) Working Group

First Name	Last Name	Department	Position	Round 1 Work Session ¹	Round 2 Work Session ²	Contribution ³
Robert	Pagnini	Vineland Fire Department / Office of Emergency Management	Chief / OEM Coordinator	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Organized Working Group and Work Sessions.
Denise	Monaco	Vineland Department of Administration	Assistant Business Administrator	<input checked="" type="checkbox"/>		
John	Laurza	Vineland Police Department	Captain	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Christopher	Fulcher	Vineland Police Department	Sergeant	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Frank	Ippolito	Vineland Police Department	Police Chaplain		<input checked="" type="checkbox"/>	
Michael	Deem	Vineland Health Department	EMS Supervisor	<input checked="" type="checkbox"/>		
Alfred	Lincks	Vineland Department of Health / Emergency Medical Services	EMS Chief		<input checked="" type="checkbox"/>	
Robert	Aussenberg	Vineland Department of Licenses and Inspections	Construction Official / Floodplain Administrator		<input checked="" type="checkbox"/>	

¹ Round 1 Work Session was held on July 29, 2014.

² Round 2 Work Session was held on October 23, 2014.

³ Municipal Working Group members reviewed briefing materials in advance of Work Sessions, contributed during Work Sessions, and reviewed the preliminary Mitigation Plan for Four New Jersey Counties. Additional or unusual contributions are noted in the far right hand column of Table CuC.15-1.

Part 2: Participation

First Name	Last Name	Department	Position	Round 1 Work Session ¹	Round 2 Work Session ²	Contribution ³
David	Maillet	Vineland Department of Public Works, Division of Planning and Engineering	Principal Engineer	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Dam Emergency Actions Plans for use in Hazard Exposure Assessment.
Brian	Myers	Vineland Department of Public Works, Division of Planning and Engineering	City Engineer	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Kathleen	Hicks	Vineland Department of Public Works, Division of Planning and Engineering	Supervising Planner	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Joe	DiCriscio	Vineland Department of Public Works	Road Supervisor		<input checked="" type="checkbox"/>	
Michael	Lawler	Vineland Municipal Water Utility	Superintendent	<input checked="" type="checkbox"/>		Detailed information re: municipal water system assets.
Gregory	Henderson	Vineland Municipal Water Utility	Assistant Superintendent		<input checked="" type="checkbox"/>	
Joseph	Isabella	Vineland Municipal Utilities	Director/General Manager	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Gustav	Foster	Vineland Municipal Electric Utility	Chief Engineer	<input checked="" type="checkbox"/>		
John	Boyle	Vineland Municipal Electric Utility	Assistant General Manager, Utilities	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Detailed information re: municipal electrical system assets.
Diane	Amico	Vineland Municipal Electric Utility and Environmental Commission	Environmental Health Specialist		<input checked="" type="checkbox"/>	
Robert	Schwarz	The Landis Sewerage Authority	Field Engineer	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Detailed information re: wastewater system assets.
George	Papamihalakis	Vineland Information Systems	GIS Specialist	<input checked="" type="checkbox"/>		
Emmanuel	John	Vineland Information Systems	GIS Trainee	<input checked="" type="checkbox"/>		

Part 2: Participation

First Name	Last Name	Department	Position	Round 1 Work Session ¹	Round 2 Work Session ²	Contribution ³
Wayne	Weaver	Vineland Public Schools	Executive Director of Facilities		<input checked="" type="checkbox"/>	Updated status of public schools re: shelters and back-up power generators.
Robert	Pitocchi	Vineland Board of Education (Maintenance Department)	Coordinator of Maintenance Services	<input checked="" type="checkbox"/>		
Dale	Jones	Vineland Department of Health	Health Director	<input checked="" type="checkbox"/>		
Marlene	Fischer	Department of Safety and Security, Inspira Health Network	Emergency Preparedness Manager	<input checked="" type="checkbox"/>		
Dawn	Hunter	Greater Vineland Chamber of Commerce	Executive Director	<input checked="" type="checkbox"/>		

The following lists candidate positions and organizations within the community that were extended invitations but could not 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.⁴

- Elected and Appointed Officials
- Community / Faith-Based Organizations
- Environmental Organizations

⁴ See Section 4: *Mitigation Measures* of the NJ4 HMP Regional Hazard Mitigation Plan.

Part 2: Participation

Part 2.2: Public Participation

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

Table CUC.3-2 identifies the date, type, and location (where applicable) for opportunities provided to the public and interested parties to participate in the development of the plan update.

Table CuC.15-2: Public Participation

Date	Type of Involvement	Location
May 18, 2015	Flyers posted	City Hall
May 18, 2015	Social media posting regarding hazard mitigation and plan development issued	facebook, twitter
May 19, 2015	Link to Project Website (http://nj4hmp.com) established and Preliminary Municipal Appendix posted to website for public comment	Vineland City website ⁵
May 26, 2015	Public hearing included on Vineland City Council agenda providing for open discussion, and public comment regarding the Preliminary Municipal Appendix	City Hall

Public comments and input received for the Preliminary Municipal Appendix were considered by the Municipal Working Group and incorporated into the Draft Municipal Appendix where appropriate. Public comments received during the review of the Preliminary Municipal Appendix were included in Attachment A to the Municipal Appendix along with a brief explanation of how the comments were addressed in the Draft Municipal Appendix.

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.⁶ In addition, public participation will continue to be encouraged during subsequent plan implementation and maintenance activities.⁷

⁵ <http://www.vinelandcity.org>

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

⁷ See Section 4: Mitigation Measures of the NJ4 HMP Regional Hazard Mitigation Plan.

Part 3: Hazard Identification and Risk Assessment

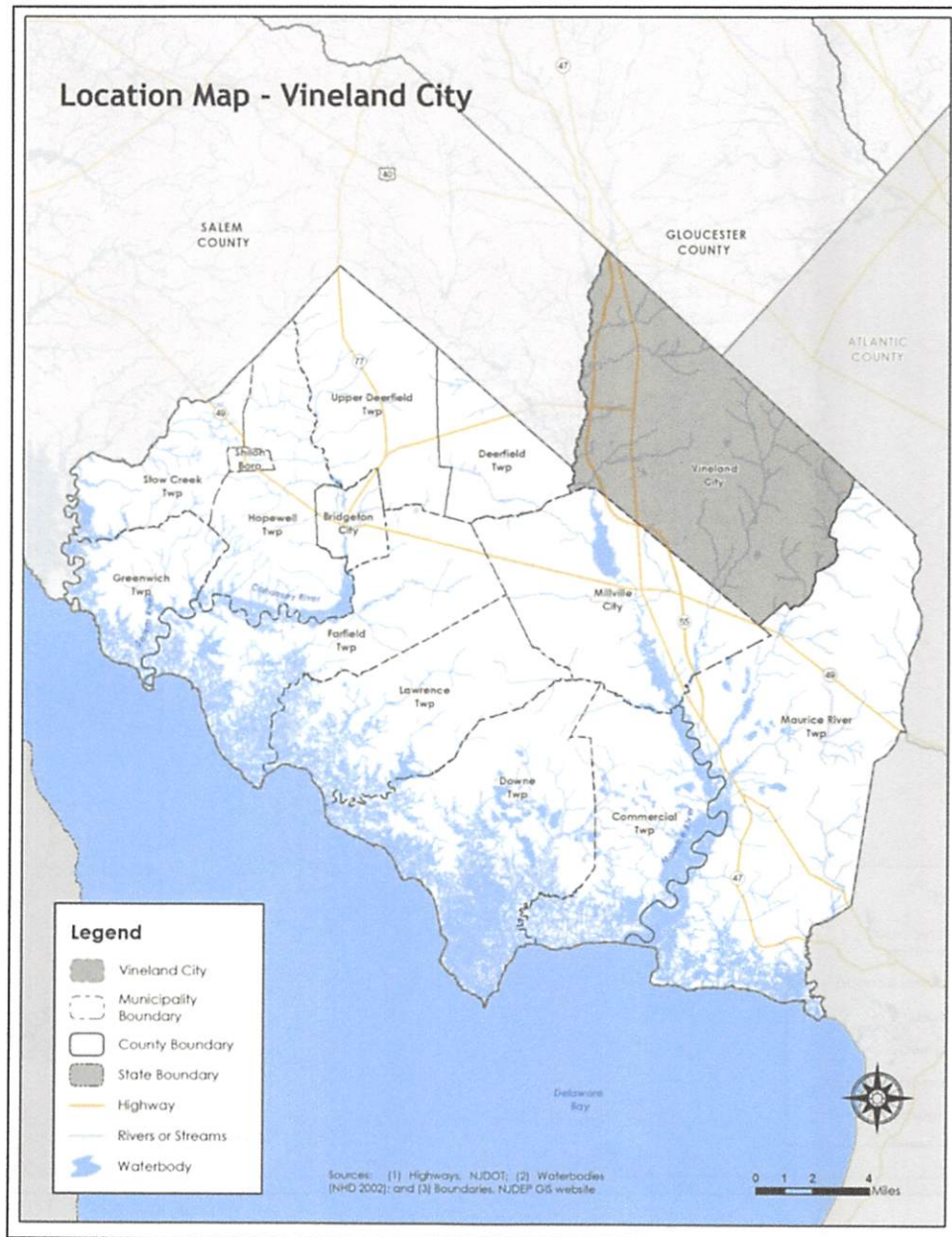
Part 3.1: Municipal Profile

Part 3.1 includes:

- Selected data and information about the municipality that is generally relevant for emergency management planning and specifically for hazard mitigation
- A brief character sketch for the municipality that is only intended to portray a few of the most basic elements

Vineland City is located in the northeast corner of Cumberland County (See Figure CuC.15-1).

Figure CuC.15-1: Vineland City (Cumberland County) Location Map

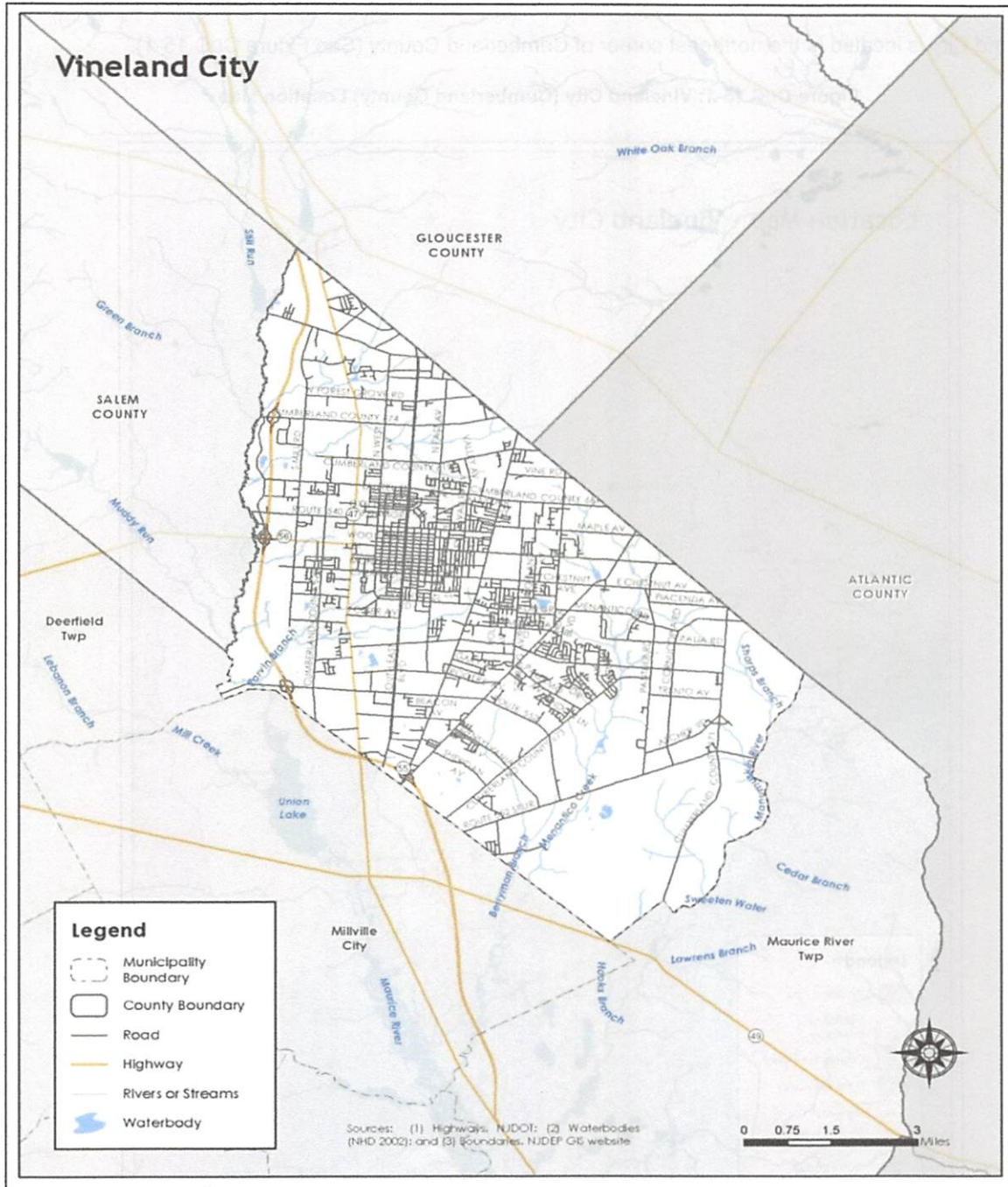


Part 3: Hazard Identification and Risk Assessment

Vineland City is an inland municipality with mixed urban and suburban development and the highest population of the fourteen municipalities in Cumberland County.

Per Figure CuC.15-2, major water courses include Parvin Branch and Menantico Creek. Major transportation routes include State Highway Routes 47 and 55. The land is gently rolling.

Figure CuC.15-2: Vineland City Base Map



Part 3: Hazard Identification and Risk Assessment

In addition, Table CuC.15-3 is a compilation of demographic information for the municipality and comparison with the county, the four county region, and State of New Jersey.

Table CuC.15-3: Vineland City Demographics
(Source: Census DP-1, 2010 ACS 5 Year Estimates, DP 3, 4)

	Vineland City	Cumberland County	Region	New Jersey
2000 Population	56,271	146,438	974,328	8,414,350
2010 Population	60,724	156,898	1,024,926	8,791,894
Percent Change	7.91%	7.14%	5.19%	4.49%
Population Density	887.5 / sq. mile	324.4 / sq. mile	754.25 / sq. mile	1,195.5 / sq. mile
Land Area	68.42 sq. miles	483.70 sq. miles	1,358.86 sq. miles	7,354.22 sq. miles
% of Population under 18 years	24.5	24	24.1	23.5
% of Population 18-64	61.6	63.4	62.7	63
% of Population 65 and older	13.9	12.6	13.2	13.5

Table CuC.15-4 illustrates how Vineland City ranks in the county, the four county region, and New Jersey.

Table CuC.15-4: Vineland City Demographic Rankings

	Cumberland County (total of 14)	Region (total of 90)	State (total of 565)
Population Rank	1	4	24
Land Area Rank	2	2	12
Population Density Rank	2	54	397
Population Change Rank	4	22	-

Table CuC.15-5 includes information related to economic and housing statistics for Vineland City, Cumberland County, the four county region, and New Jersey.

Table CuC.15-5: Vineland City Economics and Housing
(Source: USDA ERS, Census DP-1, 2010 ACS 5 Year Estimates, DP 3, 4; NJ LWD 2010)

	Vineland City	Cumberland County	Region	New Jersey
Date Incorporated	February 5, 1952	1748	-	-
Rural/Urban Status	Urban	Urban	Urban	Urban
Median Household Income	\$54,024	\$50,651	\$60,933	\$69,811
Total Number of Housing Units	22,051	55,834	397,990	3,529,033
Occupied Housing Units	20,771	51,931	372,472	3,176,069
Vacant Housing Units	1,280	3,903	25,518	352,964
Owner Occupied Housing Units	14,297	34,622	266,593	2,126,279
Renter occupied Housing Units	6,474	17,309	105,879	1,049,790
Building Permits	77	246	1,554	13,535
Largest Industry	Educational services, and health care and social assistance	Educational services, and health care and social assistance	Educational services, and health care and social assistance	Educational services, and health care and social assistance

Table CuC.15-6 illustrates how Vineland City ranks in the county and the four county region.

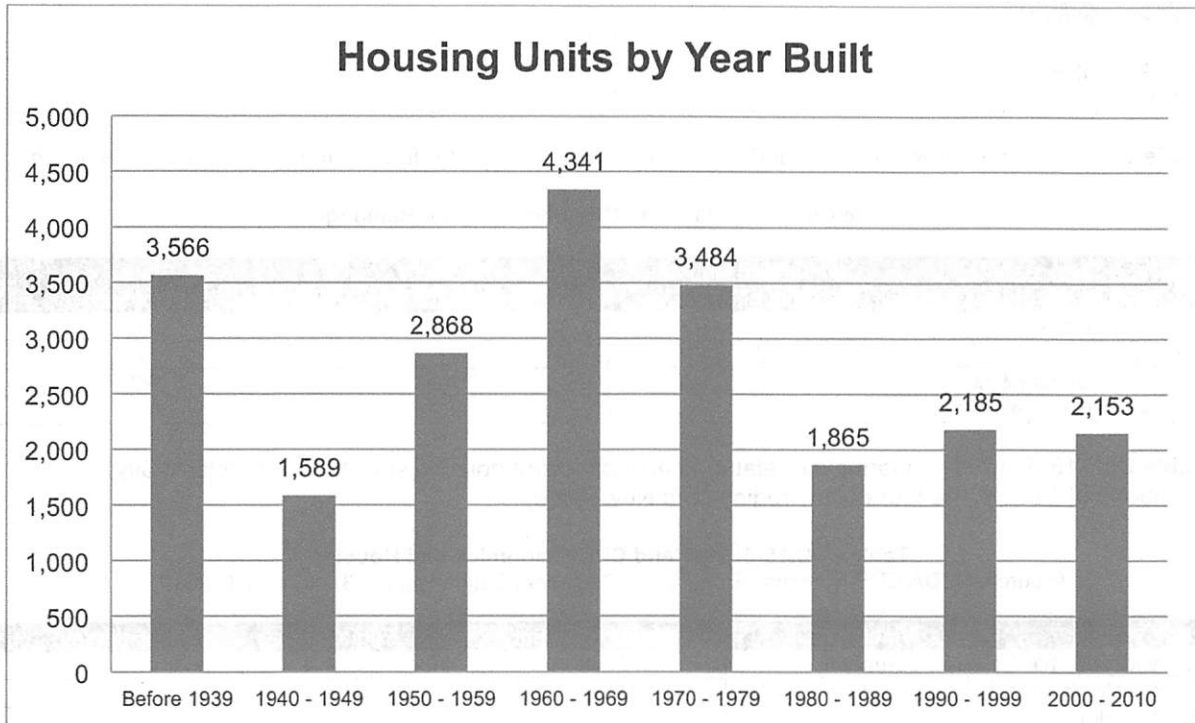
Part 3: Hazard Identification and Risk Assessment

Table CuC.15-6: Vineland City Ranking (Economics and Housing)

	Cumberland County (total of 14)	Region (Total of 90)
Median Household Income Rank	8	68
Vacant Housing Rank	1	3
Renter Occupied Housing Rank	1	2
Building Permits Rank	1	5

Figure CuC.15-3 illustrates development patterns in Vineland City by examining housing units by year built.

Figure CuC.15-3: Vineland City Housing Units by Year Built
(Source: 2010 ACS 5 Year Estimates, DP 4)



Part 3: Hazard Identification and Risk Assessment

Part 3.2: Hazard Priorities

Part 3.2 includes hazard priority determinations per the Municipal Working Group.

As a key step in the Hazard Identification and Risk Assessment (HIRA) process, the twelve (12) natural hazards identified in the NJ4 HMP¹ were discussed during the Municipal Working Group Work Sessions and the relative priority of these hazards was identified. The Municipal Working Group rated the hazards as follows:

High Priority

- Extreme Temperature: Hot & Cold
- High Wind
- Severe Weather – Winter

Moderate Priority

- Dam Failure
- Drought
- Earthquake
- Flood²
- Severe Weather – Summer
- Wildfire

Low Priority

- None

Three additional hazards were considered but were not considered applicable to the municipality:

- Coastal Erosion & Sea Level Rise
- Geologic Hazards
- Levee Failure

¹ See Section 3: Hazard Identification and Risk Assessment.

² The Municipal Working Group identified riverine flooding as a low priority but flooding due to drainage problems, including deferred maintenance of drainage channels, as a high priority.

Part 3: Hazard Identification and Risk Assessment

Part 3.3: Hazard Mapping

Part 3.3 includes cross references to hazard inventory and risk assessment mapping included in the NJ4 HMP Regional Hazard Mitigation Plan.

Table CuC.15-7 provides information regarding hazard inventory mapping included in *Annex D: Hazard Profiles and Risk Assessments* of the NJ4 HMP that support the Hazard Identification and Risk Assessment (HIRA) for the Municipal Appendix. The indicated maps and exhibits correspond to the hazards identified by the Municipal Working Group in Part 3.2. The information represented by these maps was used in the Critical Facilities Hazard Exposure Assessment described in Part 3.4.

Table CuC.15-7: Supporting Mapping and Exhibits

Figure #	Hazard	Map	HIRA Contribution
Figure RP.D-11	Dam Failure	Dam Locations and Hazard Classification	Identify areas in proximity to rated dams
Figure RP.D-52	Flood	FEMA Flood Hazard Zones Preliminary FIRM (PFIRM)	Identify areas subject to periodic flooding (work-in-progress for revisions to effective FIRM)
Figure RP.D-54	Flood (Storm Surge)	Coastal Flood Loss Atlas – SLOSH Model Maximum of Maximum	Identify areas where inundation due to storm surge may occur
Figure RP.D-99	Wildfire	Wildland Fuel Hazard Risk	Identify areas subject to wildfire
Figure RP.D-106	Wildfire	Wildland Urban Interface (WUI)	Identify areas subject to wildfire

The following hazards are not referenced as these hazards occur uniformly across the municipality and have the same potential impact on all properties and assets:

- Drought
- Earthquake
- Extreme Temperatures – Cold and Hot
- High Wind
- Severe Weather – Summer
- Severe Weather – Winter

Part 3: Hazard Identification and Risk Assessment

Part 3.4: Critical Facilities Inventory and Hazard Exposure Assessment

Part 3.4 includes:

- *Inventory information for municipal critical facilities*
- *Hazard exposure analysis results for municipal critical facilities*

Consistent with the process described in Section 3 of the NJ4 HMP Regional Hazard Mitigation Plan, Table CuC.15-8 contains updated inventory information for municipal critical facilities including cross-references to related mitigation measures identified in Part 4 of the Municipal Appendix.

Note: Shaded cells (if any) will be completed as part of follow-up efforts to be conducted as part of Mitigation Measure M-2 (see Part 4 of the Municipal Appendix).

Table CuC.15-9 provides the means to record results of overlaying critical facility locations with hazard mapping identified in Part 3.3. The results will indicate critical facilities that are potentially exposed to specific hazards.

Note: This information will be used in critical site and facility assessments to be conducted as part of Mitigation Measure M-2 (see Part 4 of the Municipal Appendix).

Hazards that apply to all critical facilities in the NJ4 region and will automatically be included in the proposed critical site and facility assessment process include:

- Earthquake
- High Wind
- Severe Weather – Summer
- Severe Weather – Winter

Hazards that do not relate to the proposed critical site and facility assessment process include:

- Drought
- Extreme Temperatures – Cold and Hot

As a result, these six (6) hazards are not included in the critical facility exposure assessment in Section 3 of the NJ4 HMP Regional Hazard Mitigation Plan.

Part 3: Hazard Identification and Risk Assessment

Table CuC.15-8: Vineland City (Cumberland County) Critical Facilities Inventory

CF #	Name	Type	Sub-Type	Address	Co-located CF #	Shelter (Y/N)	Generator (Y/N)	Comments	Mitigation Measure #
CF-1	City Hall	Municipal	Administrative Offices	640 E. Wood Street, Vineland	CF-10, CF-18	N	Y ³		M-5
CF-2	Emergency Operations Center	EOC	Stand-alone Facility	1010 N. Main Road, Vineland		N	Y		
CF-3	Police Station	Law Enforcement Facilities	Stations	810 East Chestnut Avenue, Vineland	CF-16	N	Y		M-6, M-20
CF-4	Fire Station 1	FireStations	Stations	18 N. East Avenue, Vineland		N	Y		
CF-5	Fire Station 2	FireStations	Stations	876 E. Sherman Avenue, Vineland	CF-11	N	Y		
CF-6	Fire Station 3	FireStations	Stations	185 W. Forest Grove Road, Vineland		N	Y		
CF-7	Fire Station 4	FireStations	Stations	1500 E. Oak Road, Vineland		N	Y		
CF-8	Fire Station 5	FireStations	Stations	4450 Italia Avenue, Vineland		N	Y		
CF-9	Fire Station 6	FireStations	Stations	110 N. 4 th Street, Vineland		N	Y		
CF-10	Emergency Medical Services Station	EMS	Municipal Stations	640 E. Wood Street, Vineland	CF-1, CF-18	N	Y ³		
CF-11	Emergency Medical Services Station	EMS	Municipal Stations	876 E. Sherman Avenue, Vineland	CF-5	N	Y		
CF-12	Emergency Medical Services Station	EMS	Municipal Stations	1045 E. Butler Avenue, Vineland		N	N		
CF-13	Emergency Medical Services Station	EMS	Municipal Stations	237 W. Chestnut Avenue, Suite B, Vineland		N	N		
CF-14	Emergency Medical Services Station	EMS	Municipal Stations	48 Howard Street, Vineland		N	N		
CF-15	Emergency Medical Services Station	EMS	Municipal Stations	1676 N. West Avenue, Vineland		N	N	Basement Flooding	M-7, M-17

³ Back-up emergency power generator only provides emergency lighting.

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-16	911 Communication / Dispatch Center	Communications	Co-located 911 Communications / Dispatch Centers	111 N. 6 th Street, Vineland	CF-3	N	Y		M-20
CF-17	Vineland Public Library	Emergency Staging Areas	Data Storage and Retrieval	1058 E Landis Ave, Vineland		Y	N	COG Plan location for back-up copies of vital records and cooling center.	M-8
CF-18	Public Health Facility	Health Care Facilities	Public Health Clinic / Treatment Centers	640 E. Wood Street, Vineland	CF-1, CF-10	N	Y ³		
CF-19	Sabatier Annex Public Health Facility	Health Care Facilities	Public Health Clinic / Treatment Centers	610 E. Montrose Street, Vineland		N	N		
CF-20	Inspira Medical Center	Health Care Facilities		1505 W. Sherman Avenue, Vineland		N	Y		
CF-21	HealthSouth Rehabilitation Hospital(In-patient Services)	Health Care Facilities	Rehabilitation Center	1237 W. Sherman Avenue, Vineland		N	Y		
CF-22	Public Works Facility	Public Works	Combined Administrative Office, Maintenance / Work Area, Equipment / Material Storage, and Fueling Station	1086 E. Walnut Road, Vineland		N	N ⁴		M-9
CF-23	Distribution Service Building	Utilities - Electric	Administrative Offices	415 N. West Avenue, Vineland	CF-24	N/A	N	Roof structure requires replacement	M-10, M-21
CF-24	Howard Down Generating Station	Utilities - Electric	Generating Station	415 N. West Avenue, Vineland	CF-23	N/A	N/A	Decommission Old Plant	M-26
CF-25	West Combustion Station	Utilities - Electric	Combustion Station	311 N. West Avenue, Vineland		N/A	N/A		
CF-26	Clayville Combustion Station	Utilities - Electric	Combustion Station	1185 New Peach Street, Vineland		N/A	N/A		

⁴ Generator for Vineland City Public Works Facility included in Cumberland County Energy Resiliency Program grant application to the Governors Office of Recovery and Rebuilding

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-27	Clayville Substation	Utilities - Electric	Substations	4087 S. Lincoln Avenue, Vineland	CF-28	N/A	N/A		
CF-28	Butler Substation	Utilities - Electric	Substations	4087 S. Lincoln Avenue, Vineland	CF-27	N/A	N/A		
CF-29	Central Substation	Utilities - Electric	Substations	346 W. Butler Avenue, Vineland		N/A	N/A		
CF-30	Central North Substation	Utilities - Electric	Substations	235 N. East Boulevard, Vineland		N/A	N/A		
CF-31	West Substation	Utilities - Electric	Substations	301 N. East Boulevard, Vineland		N/A	N/A		
CF-32	Manaway Substation	Utilities - Electric	Substations	1185 New Peach Street, Vineland		N/A	N/A		
CF-33	Spring Substation	Utilities - Electric	Substations	1543 Gallagher Drive, Vineland		N/A	N/A	Decommission	M-27
CF-34	Oak Substation	Utilities - Electric	Substations	425 N. Spring Road, Vineland		N/A	N/A	Decommission	M-28
CF-35	Mill Substation	Utilities - Electric	Substations	810 W. Oak Road, Vineland		N/A	N/A	Decommission	M-29
CF-36	Delsea Substation	Utilities - Electric	Substations	423 N. Mill Road, Vineland		N/A	N/A	Decommission	M-29
CF-37	East Grant Substation	Utilities - Electric	Substations	262 S. Delsea Drive, Vineland		N/A	N/A	Decommission	M-29
CF-38	West Grant Substation	Utilities - Electric	Substations	678 E Grant Avenue, Vineland		N/A	N/A	Decommission	M-29
CF-39	Circuit #s 170 and 172	Utilities - Electric	Priority Circuits ⁵	346 W. Butler Ave., Vineland		N/A	N/A	South Jersey Hospital Main and Alternate Feed	M-22
CF-40	Circuit #s 172 and 154	Utilities - Electric	Priority Circuits ⁵	346 W. Butler Ave. & 1185 New Peach St., Vineland		N/A	N/A	LSA Main and Alternate Feed	M-23
CF-41	Circuit #s 134 and 130	Utilities - Electric	Priority Circuits ⁵	235 N. East Blvd. & 301 N. East Blvd., Vineland		N/A	N/A	NJ State Home and Elwynn Institute Main and Alternate Feed	M-24

⁵ Areas where localized power disruptions are more frequent due to vegetation or other natural hazard conditions. These areas are considered as priority circuits for line clearance and distribution system hardening including reconducting, automation, and pole / cross arm replacements.

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-42	Circuit #s 134 and 135	Utilities - Electric	Priority Circuits ⁵	235 N. East Blvd., Vineland		N/A	N/A	City Hall and Vineland Police Department Main and Alternate Feed	M-25
CF-43	City of Vineland Water-Sewer Utility Offices	Utilities - Water	Administrative Offices	330 E. Walnut Road, Vineland		N	Y		
CF-44	Forest Grove Road Tank	Utilities – Water	Water Towers	71 W. Forest Grove Road, Vineland		N/A	N/A		
CF-45	Oak Road Tank	Utilities – Water	Water Towers	1690 E. Oak Road, Vineland		N/A	N/A		
CF-46	Magnolia Road Tank	Utilities – Water	Water Towers	2245 Magnolia Road, Vineland		N/A	N/A		
CF-47	Mill Road Tank	Utilities – Water	Water Towers	640 N. Mill Road, Vineland		N/A	N/A		
CF-48	6 th Street Tank	Utilities – Water	Water Towers	600 E. Pear Street, Vineland		N/A	N/A		
CF-49	Michigan Avenue Tank	Utilities – Water	Water Towers	912 Michigan Avenue, Vineland	C-52	N/A	N/A		
CF-50	S. East Avenue Tank	Utilities – Water	Water Towers	1939 S. East Avenue, Vineland		N/A	N/A		
CF-51	Butler Avenue Tank	Utilities – Water	Water Towers	382 W. Butler Avenue, Vineland		N/A	N/A		
CF-52	Well #s 2 and 3	Utilities - Water	Wellheads	311 N. West Avenue, Vineland		N/A	N ⁶		
CF-53	Well #4	Utilities - Water	Wellheads	912 Michigan Avenue, Vineland	C-49	N/A	N ⁶		
CF-54	Well #5	Utilities - Water	Wellheads	330 E. Walnut Road, Vineland		N/A	Y		
CF-55	Well #6	Utilities - Water	Wellheads	591 N. Valley Avenue, Vineland		N/A	N ⁶		
CF-56	Well #7	Utilities - Water	Wellheads	423 N. Mill Road, Vineland		N/A	N ⁶		
CF-57	Well #8	Utilities - Water	Wellheads	1633 Magnolia Road, Vineland		N/A	N ⁶		

⁶ Wellheads without standby generators are not currently equipped with hook-ups for portable back-up emergency generators. In the event of a power disruption, the Vineland Water-Sewer Utility directly wires portable generator to the main power panel at the wellhead.

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-58	Well #9	Utilities - Water	Wellheads	832 W. Walnut Road, Vineland		N/A	Y		
CF-59	Well #10	Utilities - Water	Wellheads	3353 N. Delsea Drive, Vineland		N/A	N ⁶		
CF-60	Well #11	Utilities - Water	Wellheads	615 N. Brewster Road, Vineland		N/A	N ⁶		
CF-61	Well #12	Utilities - Water	Wellheads	2180 Helen Avenue, Vineland		N/A	Y		
CF-62	Well #13	Utilities - Water	Wellheads	936 Magnolia Road, Vineland		N/A	Y		
CF-63	Well #14	Utilities - Water	Wellheads	2390 W. Weymouth Road		N/A	Y		
CF-64	Wastewater Treatment Plant	Utilities - Wastewater	Treatment Plants	1776 S Mill Rd, Vineland		N/A	Y	No history of flood problems.	
CF-65	Pump Station #1 (Brookhaven)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Standby generator available.	
CF-66	Pump Station #2 (Industrial Park South)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Standby generator available.	
CF-67	Pump Station #3 (Little Robin)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Standby generator available.	
CF-68	Pump Station #4 (Fisher Gardens)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Standby generator available.	
CF-69	Pump Station #5 (Anthony Court)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Portable generator available.	
CF-70	Pump Station #6 (Sears)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Standby generator available.	
CF-71	Pump Station #7 (Shirley Court)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Portable generator available.	
CF-72	Pump Station #8 (Oak Road)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Standby generator available.	
CF-73	Pump Station #9 (North East Avenue)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Portable generator available. Located next to a stream. Requires Vineland DPW periodic checks of bridge to determine if debris has accumulated.	

⁷ Landis Sewerage Authority maintains GPS coordinates for wastewater pumping stations.

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-74	Pump Station #10 (South East Avenue)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Portable generator available.	
CF-75	Pump Station #11 (New Pear)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Standby generator available.	
CF-76	Pump Station #12 (Ramada Inn)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Standby generator available.	
CF-77	Pump Station #13 (Linwood)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Standby generator available.	
CF-78	Pump Station #14 (Brewster Road)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Standby generator available.	
CF-79	Pump Station #15 (East Landis Avenue)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Portable generator available.	
CF-80	Pump Station #16 (Lincoln Avenue)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Standby generator available. Located in a low-lying area and adjacent grass areas accumulate surface water.	
CF-81	Pump Station #17 (Plum Street)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Portable generator available.	
CF-82	Pump Station #18 (Burnt Mill)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Standby generator available.	
CF-83	Pump Station #19 (Ramblewood)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Portable generator available. Located in Flood Zone but no problems with flooding.	
CF-84	Pump Station #20 (Petticoat Drainage Basin)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Standby generator available.	
CF-85	Pump Station #21 (Butler Avenue)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Portable generator available.	
CF-86	Pump Station #22 (Pennsylvania Avenue)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Standby generator available.	
CF-87	Pump Station #23 (South Jersey Hospital)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Standby generator available.	

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-88	Pump Station #24 (Blue Hole)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Standby generator available.	
CF-89	Pump Station #25 (Spring Hollow)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Portable generator available.	
CF-90	Pump Station #26 (Landis Pointe)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Standby generator available.	
CF-91	Pump Station #27 (ShopRite)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Standby generator available.	
CF-92	Pump Station #20A (Aunt Kitty (OCU))	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Portable generator available.	
CF-93	Pump Station #4A (Old North Industrial Park)	Utilities - Wastewater	Pump Stations	Per coordinates ⁷		N/A	Y	Portable generator available.	
CF-94	Vineland Senior High School South	Schools	Public Schools	2880 E. Chestnut Avenue, Vineland		Y	Y	Area prone to flooding	M-18
CF-95	Solve E. D'Ippolito Intermediate School	Schools	Public Schools	1578 N. Valley Avenue, Vineland		N	Y		
CF-96	Landis Intermediate School	Schools	Public Schools	61 W. Landis Avenue, Vineland		N	Y		
CF-97	Anthony Rossi Intermediate School	Schools	Public Schools	2572 Palermo Avenue, Vineland		N	N		
CF-98	Veterans Memorial Intermediate School	Schools	Public Schools	424 S. Main Road, Vineland		N	Y		
CF-99	Thomas W. Wallace Jr. Middle School	Schools	Public Schools	688 N. Mill Road, Vineland		N	Y		
CF-100	Vineland Public Charter	Schools	Public Schools	610 E. Montrose Street, Vineland		N	Y	Grades K-7	
CF-101	Dane Barse Elementary School	Schools	Public Schools	240 S. Orchard Road, Vineland		N	Y		
CF-102	Cunningham Elementary School	Schools	Public Schools	315 S. East Avenue, Vineland		N	N		
CF-103	Marie Durand Elementary School	Schools	Public Schools	371 W. Forest Grove Road, Vineland		N	N		
CF-104	Johnstone Elementary School	Schools	Public Schools	165 S. Brewster Road, Vineland		N	Y		

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-105	Max Leuchter Elementary School	Schools	Public Schools	519 N. West Avenue, Vineland		N	N		
CF-106	Dr. William Mennies Elementary School	Schools	Public Schools	361 E. Grant Avenue, Vineland		N	Y		
CF-107	Pauline J. Petway Elementary School	Schools	Public Schools	1115 S. Lincoln Avenue, Vineland		N	Y		
CF-108	Gloria M. Sabater Elementary School	Schools	Public Schools	301 S. East Boulevard, Vineland		N	Y		
CF-109	John H. Winslow Elementary School	Schools	Public Schools	1335 Magnolia Road, Vineland		N	Y		
CF-110	Casimer M. Dallago Early Learning Center	Schools	Public Schools	240 S. 6 th Street, Vineland		N	Y		
CF-111	Almond Road Preschool Center	Schools	Public Schools	860 N. Orchard Road, Vineland		N	N	Leased building	
CF-112	Ellison School	Schools	Private Schools	1017 S. Spring Road, Vineland		N	N	Private Grades K-8	
CF-113	Cumberland Christian School	Schools	Private Schools	1100 W. Sherman Avenue, Vineland		N	N	Private Grades K-12	
CF-114	Creative Achievement Academy	Schools	Private Schools	1667 E. Landis Avenue, Vineland		N	N	Private Grades K-12	
CF-115	New Life Academy	Schools	Private Schools	69 W. Landis Avenue, Vineland		N	N	Private Grades K-12	
CF-116	Pinelands Learning Center	Schools	Private Schools	520 N. 4th St, Vineland		N	N	Private Grades K-12	
CF-117	Sacred Heart Regional Grammar School	Schools	Private Schools	922 E. Landis Avenue, Vineland		N	N	Private Grades K-8	
CF-118	Spring Oak Assisted Living	Vulnerable Populations Facilities	Private Nursing Homes	1611 S. Main Road, Vineland		Y ⁸	Y ³		
CF-119	Bishop McCarthy Residence	Vulnerable Populations Facilities	Private Nursing Homes	1045 E. Chestnut Avenue, Vineland		Y ⁹	Y ³		

⁸ Shelter-in-place.

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-120	Lincoln Specialty Care Rehabilitation Center	Vulnerable Populations Facilities	Private Nursing Homes	1640 S. Lincoln Avenue, Vineland		Y ⁹	Y ³		
CF-121	Veterans Home	Vulnerable Populations Facilities	Private Nursing Homes	524 N. West Boulevard, Vineland		Y ⁹	Y ³		
CF-122	Municipal Courthouse	Municipal - Other	Courthouse	736 E. Landis Ave, Vineland		N	N		
CF-123	Senior Center	Vulnerable Populations Facilities	Senior Center	103 S. 6 th Street		Y	N	Cooling Center	M-11
CF-124	Trinity Episcopal Church	Vulnerable Populations Facilities	Warming Center	800 East Wood Street, Vineland		Y	N	Warming Center	M-12
CF-125	First Presbyterian Church	Vulnerable Populations Facilities	Warming Center	800 East Landis Avenue, Vineland		Y	N	Warming Center	M-13
CF-126	First United Methodist Church	Vulnerable Populations Facilities	Warming Center	700 East Landis Avenue, Vineland		Y	N	Warming Center	M-14
CF-127	ABC Learning Academy	Vulnerable Populations Facilities	Private Child Day-Care Center	321 West Grape Street		N	N	Ages 0-13	
CF-128	All Kids First, Inc.	Vulnerable Populations Facilities	Private Child Day-Care Center	1385 Magnolia Road, Vineland		N	N	Ages 0-6	
CF-129	All Kids First II, Inc.	Vulnerable Populations Facilities	Private Child Day-Care Center	1321 Stewart Street, Vineland		N	N	Ages 0-6	
CF-130	Bumble Bee Academy	Vulnerable Populations Facilities	Private Child Day-Care Center	1940 Southwest Boulevard, Vineland		N	N	Ages 0-13	
CF-131	Christ the Good Shepherd Preschool	Vulnerable Populations Facilities	Private Child Day-Care Center	1655 Magnolia Road, Vineland		N	N	Ages 2½-6	
CF-132	Cumberland Cape Atlantic YMCA	Vulnerable Populations Facilities	Private Child Day-Care Center	1159 East Landis Avenue, Vineland		N	N	Ages 0-13	
CF-133	DiBiase Infant Care Center	Vulnerable Populations Facilities	Private Child Day-Care Center	2040 East Oak Road, Vineland		N	N	Ages 0-13	

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-134	Golan Learning Center	Vulnerable Populations Facilities	Private Child Day-Care Center	2725 North Delsea Drive, Vineland		N	N	Ages 2½-6	
CF-135	Golden Gate Academy	Vulnerable Populations Facilities	Private Child Day-Care Center	2120 North Delsea Drive, Vineland		N	N	Ages 0-13	
CF-136	Greater Deliverance Learning Center	Vulnerable Populations Facilities	Private Child Day-Care Center	2106 West Landis Avenue, Vineland		N	N	Ages 0-13	
CF-137	King's Kids Child Care Center & Preschool	Vulnerable Populations Facilities	Private Child Day-Care Center	427 West Landis Avenue, Vineland		N	N	Ages 0-13	
CF-138	Linda Dechen Early Learning Center	Vulnerable Populations Facilities	Private Child Day-Care Center	237 West Chestnut Avenue, Vineland		N	N	Ages 0-13	
CF-139	Little Lamb Preschool-Keener Kids, Inc.	Vulnerable Populations Facilities	Private Child Day-Care Center	1005 East Wheat Road, Vineland		N	N	Ages 0-13	
CF-140	LML Compass Care	Vulnerable Populations Facilities	Private Child Day-Care Center	2384 East Landis Avenue, Vineland		N	N	Ages 6-13	
CF-141	The Courtyard School	Vulnerable Populations Facilities	Private Child Day-Care Center	1270 South East Avenue, Vineland		N	N	Ages 2½-13	
CF-142	Tiny Tots Pre-School & Child Care Center	Vulnerable Populations Facilities	Private Child Day-Care Center	158 East Elmer Road, Vineland		N	N	Ages 0-6	
CF-143	Vineland III HeadStart Center	Vulnerable Populations Facilities	Private Child Day-Care Center	116 Elmer Street, Vineland		N	N	Ages 2½-6	

Part 3: Hazard Identification and Risk Assessment

Table CuC.15-9: Vineland City (Cumberland County) Critical Facilities Hazard Exposure

CF #	Name	Increased Inundation +1 Foot	Increased Inundation +2 Foot	Increased Inundation +3 Foot	Dam Failure	Flood – FIRM Zone V	Flood – FIRM Zone A	Flood – FIRM Zone 0.2%	Storm Surge – Category 1	Storm Surge – Category 2	Storm Surge – Category 3	Storm Surge – Category 4	Levee Failure	Wildfire Wildland High Density Urban Interface	Wildfire Extreme / High Fuel Level Risk
CF-1	City Hall	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-2	Emergency Operations Center	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-3	Police Station	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-4	Fire Station 1	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-5	Fire Station 2	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-6	Fire Station 3	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-7	Fire Station 4	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-8	Fire Station 5	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-9	Fire Station 6	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-10	Emergency Medical Services Station	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-11	Emergency Medical Services Station	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-12	Emergency Medical Services Station	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-13	Emergency Medical Services Station	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-14	Emergency Medical Services Station	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-15	Emergency Medical Services Station	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-16	911 Communication / Dispatch Center	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-17	Vineland Public Library	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-18	Public Health Facility	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-19	Sabatier Annex Public Health Facility	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-20	Inspira Medical Center	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		

Part 3: Hazard Identification and Risk Assessment

CF #	Name	Increased Inundation +1 Foot	Increased Inundation +2 Foot	Increased Inundation +3 Foot	Dam Failure	Flood – FIRM Zone V	Flood – FIRM Zone A	Flood – FIRM Zone 0.2%	Storm Surge – Category 1	Storm Surge – Category 2	Storm Surge – Category 3	Storm Surge – Category 4	Levee Failure	Wildfire Wildland High Density Urban Interface	Wildfire Extreme / High Fuel Level Risk
CF-21	HealthSouth Rehabilitation Hospital(In-patient Services)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-22	Public Works Facility	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-23	Distribution Service Building	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-24	Howard Down Generating Station	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-25	West Combustion Station	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-26	Clayville Combustion Station	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-27	Clayville Substation	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-28	Butler Substation	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-29	Central Substation	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-30	Central North Substation	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-31	West Substation	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-32	Manaway Substation	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-33	Spring Substation	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-34	Oak Substation	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-35	Mill Substation	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-36	Delsea Substation	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-37	East Grant Substation	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-38	West Grant Substation	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-39	Circuit #s 170 and 172	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-40	Circuit #s 172 and 154	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-41	Circuit #s 134 and 130	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		

Part 3: Hazard Identification and Risk Assessment

CF #	Name	Increased Inundation +1 Foot	Increased Inundation +2 Foot	Increased Inundation +3 Foot	Dam Failure	Flood – FIRM Zone V	Flood – FIRM Zone A	Flood – FIRM Zone 0.2%	Storm Surge – Category 1	Storm Surge – Category 2	Storm Surge – Category 3	Storm Surge – Category 4	Levee Failure	Wildfire Wildland High Density Urban Interface	Wildfire Extreme / High Fuel Level Risk
CF-42	Circuit #s 134 and 135	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-43	City of Vineland Water-Sewer Utility Offices	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-44	Forest Grove Road Tank	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-45	Oak Road Tank	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-46	Magnolia Road Tank	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-47	Mill Road Tank	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-48	6 th Street Tank	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-49	Michigan Avenue Tank	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-50	S. East Avenue Tank	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-51	Butler Avenue Tank	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-52	Well #s 2 and 3	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-53	Well #4	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-54	Well #5	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-55	Well #6	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-56	Well #7	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-57	Well #8	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-58	Well #9	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-59	Well #10	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-60	Well #11	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-61	Well #12	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-62	Well #13	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-63	Well #14	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-64	Wastewater Treatment Plant	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-65	Pump Station #1 (Brookhaven)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-66	Pump Station #2 (Industrial Park South)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		

Part 3: Hazard Identification and Risk Assessment

CF #	Name	Increased Inundation +1 Foot	Increased Inundation +2 Foot	Increased Inundation +3 Foot	Dam Failure	Flood – FIRM Zone V	Flood – FIRM Zone A	Flood – FIRM Zone 0.2%	Storm Surge – Category 1	Storm Surge – Category 2	Storm Surge – Category 3	Storm Surge – Category 4	Levee Failure	Wildfire Wildland High Density Urban Interface	Wildfire Extreme / High Fuel Level Risk
CF-67	Pump Station #3 (Little Robin)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-68	Pump Station #4 (Fisher Gardens)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-69	Pump Station #5 (Anthony Court)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-70	Pump Station #6 (Sears)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-71	Pump Station #7 (Shirley Court)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-72	Pump Station #8 (Oak Road)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-73	Pump Station #9 (North East Avenue)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-74	Pump Station #10 (South East Avenue)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-75	Pump Station #11 (New Pear)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-76	Pump Station #12 (Ramada Inn)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-77	Pump Station #13 (Linwood)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-78	Pump Station #14 (Brewster Road)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-79	Pump Station #15 (East Landis Avenue)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-80	Pump Station #16 (Lincoln Avenue)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-81	Pump Station #17 (Plum Street)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-82	Pump Station #18 (Burnt Mill)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-83	Pump Station #19 (Ramblewood)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		

Part 3: Hazard Identification and Risk Assessment

CF #	Name	Increased Inundation +1 Foot	Increased Inundation +2 Foot	Increased Inundation +3 Foot	Dam Failure	Flood – FIRM Zone V	Flood – FIRM Zone A	Flood – FIRM Zone 0.2%	Storm Surge – Category 1	Storm Surge – Category 2	Storm Surge – Category 3	Storm Surge – Category 4	Levee Failure	Wildfire Wildland High Density Urban Interface	Wildfire Extreme / High Fuel Level Risk
CF-84	Pump Station #20 (Petticoat Drainage Basin)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-85	Pump Station #21 (Butler Avenue)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-86	Pump Station #22 (Pennsylvania Avenue)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-87	Pump Station #23 (South Jersey Hospital)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-88	Pump Station #24 (Blue Hole)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-89	Pump Station #25 (Spring Hollow)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-90	Pump Station #26 (Landis Pointe)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-91	Pump Station #27 (ShopRite)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-92	Pump Station #20A (Aunt Kitty (OCU))	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-93	Pump Station #4A (Old North Industrial Park)	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-94	Vineland Senior High School South	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-95	Solve E. D'Ippolito Intermediate School	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-96	Landis Intermediate School	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-97	Anthony Rossi Intermediate School	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-98	Veterans Memorial Intermediate School	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-99	Thomas W. Wallace Jr. Middle School	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		

Part 3: Hazard Identification and Risk Assessment

CF #	Name	Increased Inundation +1 Foot	Increased Inundation +2 Foot	Increased Inundation +3 Foot	Dam Failure	Flood – FIRM Zone V	Flood – FIRM Zone A	Flood – FIRM Zone 0.2%	Storm Surge – Category 1	Storm Surge – Category 2	Storm Surge – Category 3	Storm Surge – Category 4	Levee Failure	Wildfire Wildland High Density Urban Interface	Wildfire Extreme / High Fuel Level Risk
CF-100	Vineland Public Charter	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-101	Dane Barse Elementary School	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-102	Cunningham Elementary School	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-103	Marie Durand Elementary School	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-104	Johnstone Elementary School	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-105	Max Leuchter Elementary School	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-106	Dr. William Mennies Elementary School	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-107	Pauline J. Petway Elementary School	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-108	Gloria M. Sabater Elementary School	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-109	John H. Winslow Elementary School	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-110	Casimer M. Dallago Early Learning Center	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-111	Almond Road Preschool Center	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-112	Ellison School	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-113	Cumberland Christian School	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-114	Creative Achievement Academy	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-115	New Life Academy	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-116	Pinelands Learning Center	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		

Part 3: Hazard Identification and Risk Assessment

CF #	Name	Increased Inundation +1 Foot	Increased Inundation +2 Foot	Increased Inundation +3 Foot	Dam Failure	Flood – FIRM Zone V	Flood – FIRM Zone A	Flood – FIRM Zone 0.2%	Storm Surge – Category 1	Storm Surge – Category 2	Storm Surge – Category 3	Storm Surge – Category 4	Levee Failure	Wildfire Wildland High Density Urban Interface	Wildfire Extreme / High Fuel Level Risk
CF-117	Sacred Heart Regional Grammar School	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-118	Spring Oak Assisted Living	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-119	Bishop McCarthy Residence	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-120	Lincoln Specialty Care Rehabilitation Center	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-121	Veterans Home	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-122	Municipal Courthouse	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-123	Senior Center	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-124	Trinity Episcopal Church	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-125		N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-126		N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-127	ABC Learning Academy	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-128	All Kids First, Inc.	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-129	All Kids First II, Inc.	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-130	Bumble Bee Academy	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-131	Christ the Good Shepherd Preschool	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-132	Cumberland Cape Atlantic YMCA	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-133	DiBiase Infant Care Center	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-134	Golan Learning Center	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-135	Golden Gate Academy	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		

Part 3: Hazard Identification and Risk Assessment

CF #	Name	Increased Inundation +1 Foot	Increased Inundation +2 Foot	Increased Inundation +3 Foot	Dam Failure	Flood – FIRM Zone V	Flood – FIRM Zone A	Flood – FIRM Zone 0.2%	Storm Surge – Category 1	Storm Surge – Category 2	Storm Surge – Category 3	Storm Surge – Category 4	Levee Failure	Wildfire Wildland High Density Urban Interface	Wildfire Extreme / High Fuel Level Risk
CF-136	Greater Deliverance Learning Center	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-137	King's Kids Child Care Center & Preschool	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-138	Linda Dechen Early Learning Center	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-139	Little Lamb Preschool-Keener Kids, Inc.	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-140	LML Compass Care	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-141	The Courtyard School	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-142	Tiny Tots Pre-School & Child Care Center	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		
CF-143	Vineland III HeadStart Center	N/A	N/A	N/A		N/A			N/A	N/A	N/A	N/A	N/A		

Part 4: Mitigation Measures

Part 4.1: Mitigation Goals and Strategy

Part 4.1 includes:

- *Goal statements reviewed and approved by the Municipal Working Group based on goals included in the Southern Delaware Valley Region (New Jersey) Multi-Jurisdictional Hazard Mitigation Plans (SDVR HMPs) approved by FEMA in 2010 and 2011 for Camden, Cumberland, Gloucester, and Salem Counties*
- *Overarching strategy for the municipality's mitigation program*

Goals were originally established by the Southern Delaware Valley Region 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 plan update process, these goals were reviewed and edited by the Municipal Working Group for use in the Municipal Appendix. 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 NJ4 HMP Regional Hazard Mitigation Plan HIRA, and experience of participants in the plan update process, the Municipal Working Group identified an overarching strategy for mitigation:

- Focus on projects to address known problems or areas of concern for critical facilities and vulnerable populations as additional initial risk reduction efforts
- Provide opportunities for residents and property owners to access available information about risk reduction and mitigation measures
- Identify additional areas of concern for critical facilities and vulnerable populations for future plan updates
- Institutionalize hazard mitigation into municipal activities and programs through regular interactions of the Municipal Working Group and better 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: SDVR HMP Mitigation Measures

Part 4.2 includes the status of mitigation measures identified for the municipality in the SDVR HMP.

Known problems and areas of concern were the basis for mitigation measures identified in the SDVR HMP. In cases where these problems and concerns still existed at the time of the plan update, the related SDVR HMP mitigation measures were candidates for inclusion in the Municipal Appendix.

Table CuC.15-10 identifies the status of mitigation measures included in the SDVR HMP. These entries were based on information provided by the Municipal Working Group. In some cases, the SDVR 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 CuC.15-10.

Table CuC.15-10: Status of Vineland City (Cumberland County) SDVR HMP Mitigation Measures

Mitigation Action, Program, or Project	Status	Comments	Mitigation Measure # (Notes A & B)
Vineland 1: Dam replacement for Willow Grove Lake at Weymouth Road- dam is currently failing.	On-going	As of October 23, 2014, the project is under construction. Cumberland County and Salem County are jointly funding the project using grant money from NJDOT. Revised multi-jurisdictional mitigation measure included in updated Municipal Appendix.	MJ-1
Vineland 2: Dam replacement for Burnt Mill Pond-dam does not meet current NJDEP standards.	On-going	As of October 23, 2014, project is pending NJDEP Permits. Construction will be funded using \$600,000 +/- in bond revenue. Revised mitigation measure included in updated Municipal Appendix.	M-16
Vineland 3: Dam replacement for Memorial Park Pond - dam does not meet current NJDEP standards.	Not completed.	Maintenance and emergency repairs were made in 2013. Revised mitigation measure included in updated NJ4 HMP and Municipal Appendix.	M-15
Vineland 4: Storm-water management system upgrade and improvement at Cedar Crest Village Trailer Park to eliminate retention in the park and reduce backflow into the city drainage system.	Not completed.	Joint discussions with Cedar Crest Village property owner and Cumberland County did not yield a viable solution yet. Revised multi-jurisdictional mitigation measure included in updated Municipal Appendix.	MJ-3
Vineland 5: Acquisition of four homes (RL) that are on the east bank of the Maurice River at Riverside Drive.	Not completed.	Vineland Floodplain Administrator is updating records regarding status of all current Repetitive and Severe Repetitive Loss Properties in the City. Revised mitigation measure included in Municipal Appendix.	M-19
Vineland 6: Provide back-up power to the City Hall and City wide computer network.	Not completed, not funded.	Revised mitigation measure included in updated Municipal Appendix.	M-5
Vineland 7: Provide offsite digital back-up of essential documents for City Hall and City wide computer network.	Not completed, not funded.	Revised mitigation measure included in updated Municipal Appendix.	M-6

Part 4: Mitigation Measures

Mitigation Action, Program, or Project	Status	Comments	Mitigation Measure # (Notes A & B)
Vineland 8: Provide hardening against wind and flood damage for police department/PSAP (citywide 9-1-1 answering point).	On-going.	Vineland Police Department following through with planning to address problems with existing structure including consideration of options such as building retrofits or new construction. Revised mitigation measure included in updated Municipal Appendix.	M-20
Vineland 9: Conduct all-hazards public education and outreach program for hazard mitigation and preparedness.	Not completed.	Revised mitigation measure included in updated Municipal Appendix.	M-1

Table CuC.15-10 Notes:

- A. See Tables CuC.15-11 and CuC.15-12 for municipal (M-#) mitigation measures
- B. See Table CuC.15-13 for multi-jurisdictional (MJ-#) mitigation measures

Part 4.3: Municipal Mitigation Measures – Identification

Part 4.3 includes brief descriptions of mitigation measures that are considered the sole responsibility of the municipality.

Table CuC.15-11 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 SDVR HMPs 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)¹ if applicable

Table CuC.15-11 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

Note: Mitigation measures with discrete locations are shown in Figure CuC.15-4.

¹ See Section 3: Hazard Identification and Risk Assessment and related portions of Annex D of the NJ4 HMP Regional Hazard Mitigation Plan for a description of RL and SRL properties.

Part 4: Mitigation Measures

Table CuC.15-11: Vineland City (Cumberland County) Municipal Mitigation Measures Identification

#	Mitigation Action, Program, or Project	Hazard(s)	Goal (s)	Existing or New Structures
M-1	Identify and pursue outreach and education opportunities to inform municipal residents, businesses, and property owners regarding: <ul style="list-style-type: none"> • Current hazards and risks • Changing conditions and actions that may reduce / increase risk • Best practices for hazard mitigation at the individual or property level.² 	All	Goal #1	Both
M-2	Prioritize critical facilities and complete site and facility surveys to identify vulnerabilities and potential mitigation measures.	All	Goal #2	Existing
M-3	Prioritize recurrent drainage problem areas and initiate data collection to track unreimbursed damages and related response and recovery expenses.	Flood	Goal #2	Existing
M-4	Conduct regular Municipal Working Group meetings consistent with the plan maintenance program and the Municipal Adoption Resolution.	All	Goal #3	Both
M-5	Provide back-up emergency power to City Hall (CF-1) and City-wide computer network.	All	Goal #4	Existing
M-6	Provide offsite digital back-up of essential documents for City Hall and City-wide computer network.	All	Goal #4	Existing
M-7	Provide back-up emergency power generator for EMS (CF-15).	All	Goal #4	Existing
M-8	Provide back-up emergency power generator for Vineland Public Library (CF-17).	All	Goal #4	Existing
M-9	Provide back-up emergency power generator for Public Works Facility (CF-22).	All	Goal #4	Existing
M-10	Provide back-up emergency power generator for Distribution Service Building (CF-23).	All	Goal #4	Existing
M-11	Provide back-up emergency power generator for Senior Center (cooling center) (CF-123).	All	Goal #4	Existing
M-12	Provide back-up emergency power generator for Trinity Episcopal Church (warming center) (CF-124).	All	Goal #4	Existing
M-13	Provide back-up emergency power generator for First Presbyterian Church (warming center) (CF-125).	All	Goal #4	Existing
M-14	Provide back-up emergency power generator for First United Methodist Church (warming center) (CF-126).	All	Goal #4	Existing
M-15	Dam replacement for Memorial Park Pond.	Dam Failure	Goal #4	Both
M-16	Dam replacement for Burnt Mill Pond.	Dam Failure	Goal #4	Both

² For example, individual property owners can be informed about back-up power alternatives such as initial battery back-up for power disruptions.

Part 4: Mitigation Measures

#	Mitigation Action, Program, or Project	Hazard(s)	Goal (s)	Existing or New Structures
M-17	Address basement flooding at EMS (CF-15).	Flood	Goal #4	Existing
M-18	Address flooding at Vineland Senior High School South (shelter) (CF-94).	Flood	Goal #4	Existing
M-19	Address identified Repetitive Flood Loss Properties.	Flood	Goal #4	Existing
M-20	Provide hardening against wind and flood damage for Police Department / 911 Center (CF-3 and CF-16).	Flood, High Wind	Goal #4	Existing
M-21	Provide hardening against wind damage to roof of Distribution Service Building (CF-23).	High Wind	Goal #4	Existing
M-22	Conduct line clearing and/or distribution system hardening for Circuit #s 170 and 172 (CF-39).	High Wind / Severe Weather – Summer, Severe Weather - Winter	Goal #4	Both
M-23	Conduct line clearing and/or distribution system hardening for Circuit #s 172 and 154 (CF-40).	High Wind / Severe Weather – Summer, Severe Weather - Winter	Goal #4	Both
M-24	Conduct line clearing and/or distribution system hardening for Circuit #s 134 and 130 (CF-41).	High Wind / Severe Weather – Summer, Severe Weather - Winter	Goal #4	Both
M-25	Conduct line clearing and/or distribution system hardening for Circuit #s 13 and 135 (CF-42).	High Wind / Severe Weather – Summer, Severe Weather - Winter	Goal #4	Both
M-26	Decommission Howard Down Generating Station	Structural Failure	#4	Existing
M-27	Decommission Spring Substation	Equipment Failure	#4	Existing
M-28	Decommission Oak Substation	Equipment Failure	#4	Existing
M-29	Decommission Mill, Delsea, East Grant, and West Grant Substations	Equipment Failure	#4	Existing
M-30	Consider use of Landis Sewerage Authority portable generators as possible interim source of back-up emergency power for municipal critical facilities assuming adequate wiring and hook-ups are available and if LSA is not otherwise using portable generators.	All	#4	Existing

Part 4: Mitigation Measures

Part 4.4: Municipal Mitigation Measures – Implementation

Part 4.4 includes a tabulation of relevant aspects related to the implementation of the municipal mitigation measures.

Table CuC.15-12 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 criteria³
- Project Type to help determine funding options and implementation mechanisms at the municipal level⁴
- 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 CuC.15-12: Vineland City (Cumberland County) Municipal Mitigation Measures Implementation

#	Mitigation Action, Program, or Project	Responsible Part(ies)	Priority	Project Type	Estimated Cost (\$)	Target Date	Next Step(s)
M-1	Identify and pursue outreach and education opportunities.	Municipal OEM, Vineland Department of Health (Health Educators)	Low	Public Outreach and Education	Staff time commitment	On-going	<ul style="list-style-type: none"> ▪ Work with County Working Group to identify resource needs and availability. ▪ Identify target audience(s).
M-2	Prioritize critical facilities and complete site and facility surveys to identify vulnerabilities and potential mitigation measures.	Municipal OEM and Facility Managers	Low	Data Acquisition and Management	Staff time commitment	On-going	Review critical facility list and establish priorities, procedures, and tentative time schedule for conducting site and facility surveys.
M-3	Prioritize recurrent drainage problem areas and initiate data collection to track unreimbursed damages and related response and recovery expenses.	Municipal OEM and Municipal Working Group	Moderate	Capabilities and Coordination	Staff time commitment	On-going	Identify recurrent drainage problem areas, establish priorities, and identify data collection procedures.
M-4	Conduct regular Municipal Working Group meetings.	Municipal OEM and Municipal Working Group	Moderate	Capabilities and Coordination	Staff time commitment	On-going	Establish regular Municipal Working Group membership, reporting requirements, and meeting / work session schedule.

³ See Section 4: Mitigation Measures and related portions of Annex E of the NJ4 HMP Regional Hazard Mitigation Plan for a description of evaluation criteria considered by the Municipal Working Group.

⁴ See Section 4: Mitigation Measures and related portions of Annex F of the NJ4 HMP Regional Hazard Mitigation Plan for a description of project types and related information regarding funding options and implementation mechanisms.

Part 4: Mitigation Measures

#	Mitigation Action, Program, or Project	Responsible Part(ies)	Priority	Project Type	Estimated Cost (\$)	Target Date	Next Step(s)
M-5	Provide back-up emergency power to City Hall (CF-1) and City-wide computer network.	Vineland Department of Business Administration, Division of Information Systems	High	Back-up Emergency Power Generator	< \$100K	One year	Conduct project scoping.
M-6	Provide offsite digital back-up of essential documents for City Hall and City-wide computer network.	Vineland Department of Business Administration, Division of Information Systems	High	Data Management	To be determined.	One year	Conduct project scoping.
M-7	Provide back-up emergency power generator for EMS (CF-15). ⁵	Vineland Health Department, EMS Division	High	Back-up Emergency Power Generator	< \$100K	One to three years	Complete grant application process with FEMA.
M-8	Provide back-up emergency power generator for Vineland Public Library (CF-17).	Municipal OEM	High	Back-up Emergency Power Generator	< \$100K	One to three years	Complete grant application process with FEMA.
M-9	Provide back-up emergency power generator for Public Works Facility (CF-22). ⁶	Vineland Department of Public Works	High	Back-up Emergency Power Generator	< \$100K	One to three years	Conduct project scoping.
M-10	Provide back-up emergency power generator for Distribution Service Building (CF-23).	Vineland Municipal Electric Utility	High	Back-up Emergency Power Generator	< \$100K	One to three years	Conduct project scoping.
M-11	Provide back-up emergency power generator for Senior Center (cooling center) (CF-123).	Municipal OEM	High	Back-up Emergency Power Generator	< \$100K	One to three years	Conduct project scoping.
M-12	Provide back-up emergency power generator for Trinity Episcopal Church (warming center) (CF-124).	Municipal OEM	High	Back-up Emergency Power Generator	< \$100K	One to three years	Conduct project scoping.
M-13	Provide back-up emergency power generator for First Presbyterian Church (warming center) (CF-125).	Municipal OEM	High	Back-up Emergency Power Generator	< \$100K	One to three years	Conduct project scoping.
M-14	Provide back-up emergency power generator for First United Methodist Church (warming center) (CF-126).	Municipal OEM	High	Back-up Emergency Power Generator	< \$100K	One to three years	Conduct project scoping.

⁵ As of May 29, 2015, Vineland City OEM is working with FEMA on a Superstorm Sandy Energy Resiliency Grant for this project.

⁶ Part of HMGP Grant Application Project #414 under DR 4086, Hurricane Sandy. Total grant application for \$25,000.

Part 4: Mitigation Measures

#	Mitigation Action, Program, or Project	Responsible Part(ies)	Priority	Project Type	Estimated Cost (\$)	Target Date	Next Step(s)
M-15	Dam replacement for Memorial Park Pond.	Vineland Department of Public Works, Division of Engineering	High	Dam Rehabilitation	To be determined	To be determined	Conduct project scoping.
M-16	Dam replacement for Burnt Mill Pond.	Vineland Department of Public Works, Division of Engineering	High	Dam Rehabilitation	To be determined	To be determined	Conduct project scoping.
M-17	Address basement flooding at EMS (CF-15).	Vineland Health Department, EMS Division	Moderate	Public Property Flood Mitigation	To be determined	To be determined	Conduct project scoping.
M-18	Address flooding at Vineland Senior High School South (shelter) (CF-94).	Vineland Board of Education	Moderate	Public Property Flood Mitigation	To be determined	To be determined	Conduct project scoping.
M-19	Address identified Repetitive Flood Loss Properties. ⁷	Floodplain Administrator	Moderate	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-20	Provide hardening against wind and flood damage for Police Department / 911 Center (CF-3 and CF-16).	Vineland Police Department	High	Building Retrofits	To be determined	To be determined	Conduct project scoping.
M-21	Provide hardening against wind damage to roof of Distribution Service Building (CF-23).	Vineland Municipal Electric Utility	Moderate	Building Retrofits	To be determined	To be determined	Conduct project scoping.
M-22	Conduct line clearing and/or distribution system hardening for Circuit #s 170 and 172 (CF-39).	Vineland Municipal Electric Utility	Moderate	Infrastructure Hardening	To be determined	To be determined	Conduct project scoping.
M-23	Conduct line clearing and/or distribution system hardening for Circuit #s 172 and 154 (CF-40).	Vineland Municipal Electric Utility	Moderate	Infrastructure Hardening	To be determined	To be determined	Conduct project scoping.
M-24	Conduct line clearing and/or distribution system hardening for Circuit #s 134 and 130 (CF-41).	Vineland Municipal Electric Utility	Moderate	Infrastructure Hardening	To be determined	To be determined	Conduct project scoping.
M-25	Conduct line clearing and/or distribution system hardening for Circuit #s 13 and 135 (CF-42).	Vineland Municipal Electric Utility	Moderate	Infrastructure Hardening	To be determined	To be determined	Conduct project scoping.

⁷ Part of HMGP Grant Application Project #304 under DR 4086, Hurricane Sandy. Total grant application for \$2,000,000.

Part 4: Mitigation Measures

#	Mitigation Action, Program, or Project	Responsible Part(ies)	Priority	Project Type	Estimated Cost (\$)	Target Date	Next Step(s)
M-26	Decommission Howard Down Generating Station Decommissioning phase started, Contract out for bid	Vineland Municipal Electric Utility	Moderate	Building Demolition	to be determined	5 years	Select Contractors
M-27	Decommission Spring Substation Conversion work orders completed, conversion underway	Vineland Municipal Electric Utility	High	Infrastructure Hardening	Staff Time Commitment	2 years	Complete Voltage Conversion
M-28	Decommission Oak Substation Conversion work orders being prepared, conversion underway	Vineland Municipal Electric Utility	High	Infrastructure Hardening	Staff Time Commitment	3 years	Complete Work Orders
M-29	Decommission Mill, Delsea, East Grant, and West Grant Substations Work orders must be prepared & conversion work scheduled	Vineland Municipal Electric Utility	Moderate	Infrastructure Hardening	Staff Time Commitment	5 years	Start Work Orders
M-30	Consider use of Landis Sewerage Authority portable generators as possible interim source of back-up emergency power for municipal critical facilities assuming adequate wiring and hook-ups are available and if LSA is not otherwise using portable generators.	Municipal OEM and Landis Sewerage Authority	Moderate	Back-up Emergency Power Generator	Staff Time Commitment	One to three years	Compile project scoping results from individual municipal critical facilities to determine similar wiring and hook-up deficiencies.

Part 4: Mitigation Measures

Part 4.5: Multi-Jurisdictional Mitigation Measures

Part 4.5 includes brief descriptions of mitigation measures that require multiple jurisdictions to implement.

During the Municipal Working Group Work Sessions, the Municipal Working Group identified some SDVR HMP mitigation measures as well as new areas of concern as mitigation measures where implementation requires participation or leadership from other levels of government, including county, state, and federal agencies. These multi-jurisdictional mitigation measures are included in Table CuC.15-13.

Section 4: Mitigation Measures of the NJ4 HMP Regional Hazard Mitigation Plan describes multi-jurisdictional implementation strategies in detail. Section 4 identifies multi-jurisdictional mitigation measures that Municipal Working Groups believe are partly or wholly the responsibility of County agencies. These measures have been referred to the County Working Group for consideration. As part of the mitigation measures in the County Appendix to the NJ4 HMP Regional Hazard Mitigation Plan, the County Working Group will be working with the municipalities to identify:

- Specific responsibilities amongst different level(s) of government to address these problem areas
- 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
- Which, if any, additional mitigation measures the member agencies of the County Working Group will assume responsibility to implement

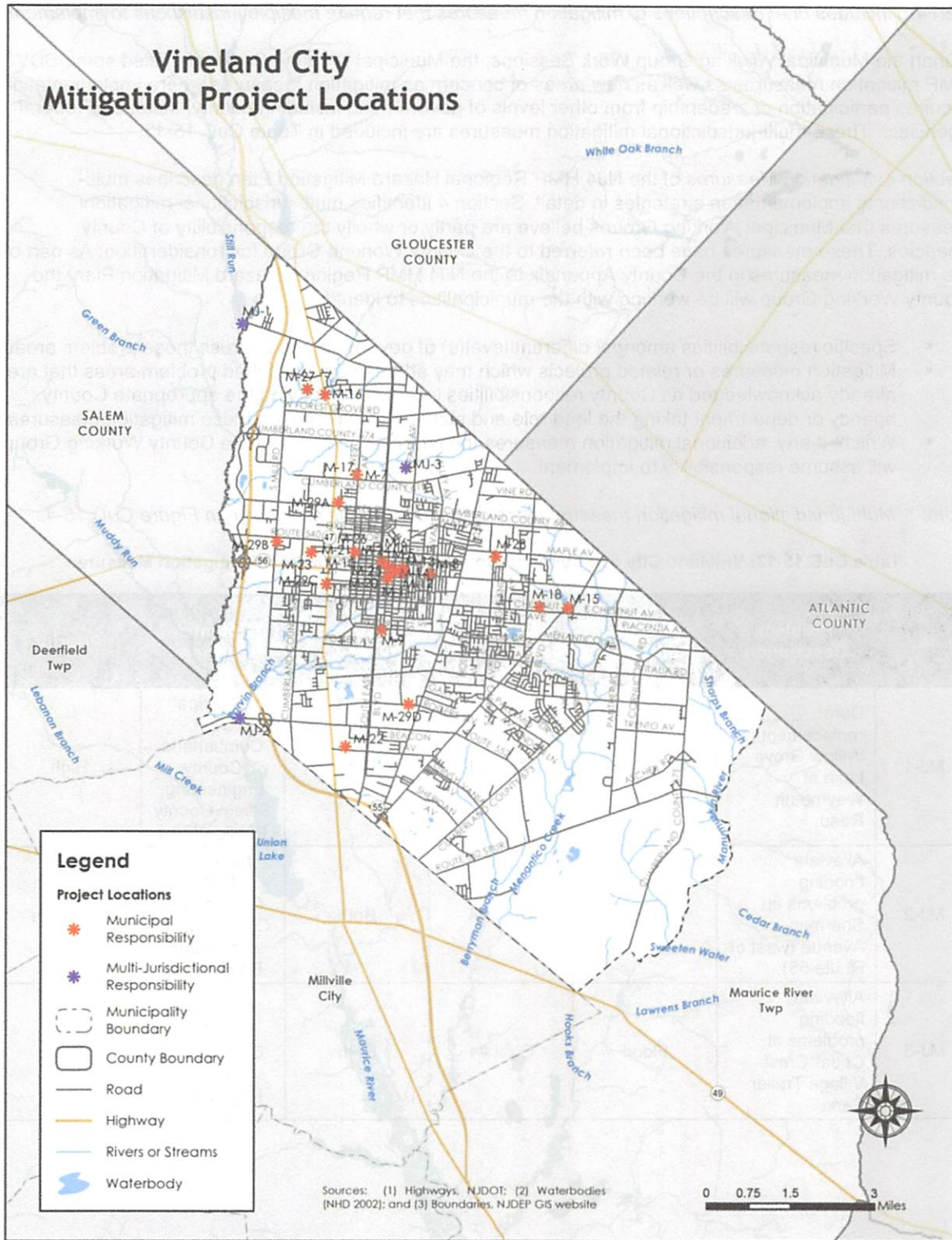
Note: Multi-jurisdictional mitigation measures with discrete locations are shown in Figure CuC.15-4.

Table CuC.15-13: Vineland City (Cumberland County) Multi-Jurisdictional Mitigation Measures

#	Problem Description	Hazard(s) Addressed	Goal Addressed	Applies to Existing or New Structures	Potential Partners	Priority
MJ-1	Dam replacement for Willow Grove Lake at Weymouth Road.	Dam Failure	Goal #4	Both	Municipal OEM, Cumberland County Engineering, Salem County Public Works	High
MJ-2	Alleviate flooding problems on Sherman Avenue (west of Route 55).	Flood	Goal #4	Both	Municipal OEM, Cumberland County Public Works and Engineering	Moderate
MJ-3	Alleviate flooding problems at Cedar Crest Village Trailer Park.	Flood	Goal #4	Both	Municipal OEM, Cumberland County Engineering	High

Part 4: Mitigation Measures

Figure CuC.15-4: Vineland City Mitigation Project Locations



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 NJ4 HMP Regional Hazard Mitigation Plan regarding existing authorities, policies, and programs in the region and specific information about the jurisdiction's participation and continued compliance in the National Flood Insurance Program (NFIP)
- **Capabilities and Coordination** - Cross referencing relevant information and recommendations in the NJ4 HMP Regional Hazard Mitigation Plan regarding improving capabilities and coordination at the municipal level and specific information about the jurisdiction's available resources
- **Plan Review and Integration** – Identifying plans and programs included in the development of Plan Integration recommendations in the NJ4 HMP Regional Hazard Mitigation Plan

Authorities, Policies, and Programs

Section 1.3: *Existing Authorities, Policies, Programs, and Resources* of the NJ4 HMP Regional Hazard Mitigation Plan summarizes relevant authorities, policies, and programs related to hazard mitigation in the region including the NFIP.

Continuing municipal participation in the NFIP as part of the implementation of the NJ4 HMP by the municipality, includes:

- Involvement of Floodplain Manager / Administrator during the NJ4 HMP implementation process
- Commitment to adopt updated FIRMs and evaluate / update the municipality's Flood Management Plan and/or Ordinance as appropriate per recommendations in Section 4.6 of the NJ4 HMP Regional Hazard Mitigation Plan

Capabilities and Coordination

The update of the SDVR HMP included reexamining municipal hazard mitigation capabilities; potential for improving capabilities and coordination within and between jurisdictions; and, plan integration considerations. *Section 1.3: Existing Authorities, Policies, Programs, and Resources* of the NJ4 HMP Regional Hazard Mitigation Plan includes summary statements regarding regional resources and the impact of resource limitations on the overall approach to the NJ4 HMP mitigation strategies. *Section 4: Mitigation Measures* and related portions of Annex F of the NJ4 HMP Regional Hazard Mitigation Plan include summary observations and recommendations concerning:

- Hazard mitigation planning and mitigation measure implementation capabilities and coordination at the regional, county, and municipal levels
- Coordination within municipal governments, between municipal governments and their communities, and between municipal, county, and state agencies responsible for hazard mitigation

Part 4: Mitigation Measures

Plan Review and Integration

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

- City of Vineland Emergency Operations Plan (2014)
- City of Vineland Master Plan and Reexamination Report (2008)⁸
- City of Vineland Zoning Map⁹
- City of Vineland Environmental Resource Inventory (2010)¹⁰
- City of Vineland GIS Viewer¹¹
- Dam Inundation Studies

Table RP.4-4 in *Section 4.6: Plan Review and Integration* of the NJ4 HMP Regional Hazard Mitigation Plan identifies the primary plans and documents collected from each of the participating municipalities. In addition, Annex E.2 provides a complete list of all the plans and documents collected from the participating municipalities.

Section 4.6 also includes the results of reviewing the primary plans and documents to determine the extent to which these documents reflect up-to-date hazard risk and mitigation. In addition, Section 4.6 includes recommendations for integrating the results of the NJ4 HMP, 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 including:

- Hazard Assessments
- Emergency Operations Plans
- Floodplain Management Ordinances
- Master Plans and Reexamination Reports
- Other plans and documents

The plan maintenance process includes 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.

⁸ http://www.vinelandcity.org/Master%20Plan/Master%20Plan_DRAFT_April%202008.pdf

⁹ http://www.vinelandcity.org/Zoning%20Map/zone%20map%202008%201_2.pdf

¹⁰ <http://www.vinelandcity.org/Documents/City%20of%20Vineland%20Natural%20Resource%20Inventory.pdf>

¹¹ <http://maps.vinelandcity.org/>

Attachment A: Public Review Comments

The following comments were received during the public review of the Vineland City Municipal Appendix:

Table CuC.15.A-1: Public Review Comments

Comment Date and Time	Comment	Response

Note: As of May 29, 2015, no public review comments were received for the Vineland City Municipal Appendix.

Attachment B: Adoption Resolution

Following this page is the Adoption Resolution for the Vineland City Municipal Appendix as approved by the Vineland City Council.

Attachment C: Approval Letter

Following this page is the Approval Letter for the Vineland City Municipal Appendix.

First Name	Last Name	Department	Position	Round 1 Work Session ¹	Round 2 Work Session ²	Contribution ³
Robert	Pagnini	Vineland Fire Department / Office of Emergency Management	Chief / OEM Coordinator	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Organized Working Group and Work Sessions.
Denise	Monaco	Vineland Department of Administration	Assistant Business Administrator	<input checked="" type="checkbox"/>		
John	Laurza	Vineland Police Department	Captain	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Christopher	Fulcher	Vineland Police Department	Sergeant	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Frank	Ippolito	Vineland Police Department	Police Chaplain		<input checked="" type="checkbox"/>	
Michael	Deem	Vineland Health Department	EMS Supervisor	<input checked="" type="checkbox"/>		
Alfred	Lincks	Vineland Department of Health / Emergency Medical Services	EMS Chief		<input checked="" type="checkbox"/>	
Robert	Aussenberg	Vineland Department of Licenses and Inspections	Construction Official / Floodplain Administrator		<input checked="" type="checkbox"/>	

¹ Round 1 Work Session was held on July 29, 2014.

² Round 2 Work Session was held on October 23, 2014.

³ Municipal Working Group members reviewed briefing materials in advance of Work Sessions, contributed during Work Sessions, and reviewed the preliminary Mitigation Plan for Four New Jersey Counties. Additional or unusual contributions are noted in the far right hand column of Table CuC.15-1.

First Name	Last Name	Department	Position	Round 1 Work Session ¹	Round 2 Work Session ²	Contribution ³
David	Maillet	Vineland Department of Public Works, Division of Planning and Engineering	Principal Engineer	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Dam Emergency Actions Plans for use in Hazard Exposure Assessment.
Brian	Myers	Vineland Department of Public Works, Division of Planning and Engineering	City Engineer	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Kathleen	Hicks	Vineland Department of Public Works, Division of Planning and Engineering	Supervising Planner	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Joe	DiCriscio	Vineland Department of Public Works	Road Supervisor		<input checked="" type="checkbox"/>	
Michael	Lawler	Vineland Municipal Water Utility	Superintendent	<input checked="" type="checkbox"/>		Detailed information re: municipal water system assets.
Gregory	Henderson	Vineland Municipal Water Utility	Assistant Superintendent		<input checked="" type="checkbox"/>	
Joseph	Isabella	Vineland Municipal Utilities	Director/General Manager	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Gustav	Foster	Vineland Municipal Electric Utility	Chief Engineer	<input checked="" type="checkbox"/>		
John	Boyle	Vineland Municipal Electric Utility	Assistant General Manager, Utilities	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Detailed information re: municipal electrical system assets.
Diane	Amico	Vineland Municipal Electric Utility and Environmental Commission	Environmental Health Specialist		<input checked="" type="checkbox"/>	
Robert	Schwarz	The Landis Sewerage Authority	Field Engineer	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Detailed information re: wastewater system assets.
George	Papamihalakis	Vineland Information Systems	GIS Specialist	<input checked="" type="checkbox"/>		
Emmanuel	John	Vineland Information Systems	GIS Trainee	<input checked="" type="checkbox"/>		

First Name	Last Name	Department	Position	Round 1 Work Session ¹	Round 2 Work Session ²	Contribution ³
Wayne	Weaver	Vineland Public Schools	Executive Director of Facilities		<input checked="" type="checkbox"/>	Updated status of public schools re: shelters and back-up power generators.
Robert	Pitocchi	Vineland Board of Education (Maintenance Department)	Coordinator of Maintenance Services	<input checked="" type="checkbox"/>		
Dale	Jones	Vineland Department of Health	Health Director	<input checked="" type="checkbox"/>		
Marlene	Fischer	Department of Safety and Security, Inspira Health Network	Emergency Preparedness Manager	<input checked="" type="checkbox"/>		
Dawn	Hunter	Greater Vineland Chamber of Commerce	Executive Director	<input checked="" type="checkbox"/>		