

## SECTION 1 - INTRODUCTION

### Purpose

Atlantic County is susceptible to a number of different natural hazards. Each hazard event has the potential to cause property loss, loss of life, economic hardship, and threats to public health and safety. The time and money required to recover from these events often strain or exhaust local resources. While an important aspect of emergency management deals with disaster recovery (those actions that a community must take to repair damages and make itself whole in the wake of a disaster), an equally important aspect of emergency management involves **hazard mitigation** - sustained actions taken to reduce long-term risk to life and property. They are things you do today to be more protected in the future. Hazard mitigation actions are essential to breaking the typical disaster cycle of damage, reconstruction, and repeated damage. With careful selection, they can be long-term, cost-effective means of reducing risk and helping to create a more sustainable and disaster-resilient community. Hazard mitigation actions are most effective when they are based on a comprehensive, long-term plan that is developed before a disaster occurs. When community leaders, businesses, citizens, and other stakeholders undertake a joint process of evaluating the hazards that can affect their area, and use this knowledge to develop a strategy for reducing risk and the potential for future losses, this process is known as hazard mitigation planning. A **hazard mitigation plan**<sup>1</sup> describes an area's vulnerability to the various natural hazards that are typically present, along with an array of actions and projects for reducing key risks. This list of actions and projects is known as a **mitigation strategy**. While natural disasters cannot be prevented from occurring, the continued implementation of mitigation strategies identified in the plan will gradually, but steadily, increase community sustainability and disaster-resilience.

**Initial Plan.** The initial Multi-Jurisdictional Natural Hazard Mitigation Plan for Atlantic County was prepared between 2008 and 2010 to meet the requirements of the Disaster Mitigation Act of 2000 (DMA 2000), which requires all states and local governments to have a hazard mitigation plan in order to be eligible to apply for certain types of federal hazard mitigation project grants. FEMA grant monies were received to cover the costs of the plan's development. Atlantic County used a 'multi-jurisdictional' approach, inviting all of the municipalities within the County to participate in the plan. At that time, 19 of the County's 23 jurisdictions participated<sup>2</sup> (and became eligible to apply to FEMA for hazard mitigation project funding, including monies that became available under the recent Federal disaster declarations for Superstorm Sandy. Participating jurisdictions have been working to implement their mitigation actions since the plan was initially approved by FEMA in 2010.

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<sup>1</sup>Hazard mitigation plans are not intended to serve as a reference for immediate disaster response. They focus on actions that can be implemented prior to disaster events in order to reduce potential loss of life and property damage; however, they are referred to in the recovery process.

<sup>2</sup> The four non-participating communities (Buena Vista, Egg Harbor City, Port Republic, and Somers Point) later went on to create their own, multi-jurisdictional plan as the "Atlantic County 4" (with that document being approved by FEMA on February 4, 2015).

**First Update.** Hazard mitigation plans must be: (a) implemented on an ongoing basis, and (b) updated every five years to ensure that they remain applicable representations of local risk and locally preferred risk reduction strategies. Atlantic County and its jurisdictions initiated the first required plan update in August 2014. At that time, all 23 municipalities in the County opted to participate. Each jurisdiction attended meetings, provided feedback in a wide range of topic areas, reached out to the public and other key stakeholders in their community, and developed an updated mitigation strategy. The 2016 Plan Update was reapproved by FEMA February 2016 and adopted by all communities. It is maintained on the County web site at <https://www.atlantic-county.org/hazard-mitigation/index.asp>.

**Second Update.** In 2018, as the end of the second five-year update cycle approached, the County has, once again, obtained FEMA grant funding to cover costs associated with the update, and has opted to continue its multi-jurisdictional approach. Again, all 23 municipal jurisdictions participated in this latest plan update process and updated their respective mitigation strategies. To maintain eligibility to apply for mitigation project grants, each jurisdiction must formally adopt the plan and participate in the plan's ongoing maintenance and implementation. The second plan update began in 2021. Information is maintained on the County web site at: <https://www.atlantic-county.org/hazard-mitigation/index.asp>.

*Note: While the plan update was deemed Approvable by FEMA in January 2022, the entirety of the planning update process took place during 2021, hence the text of this plan refers to the 2021 Plan Update rather than 2022.*

For questions or other feedback, or to find out how you can become involved, contact your community's local elected officials or Emergency Management Coordinator. At the County level, please feel free to reach out to Mr. Vincent Jones, County OEM Coordinator, Atlantic County Office of Emergency Preparedness (ACOEP) at 609-407-6740 or via email to [jones\\_vincent@aclink.org](mailto:jones_vincent@aclink.org); or Ms. Karen Koptic, Operations and Training Officer, ACOEP at 609-407-6767 or via email to [koptic\\_karen@aclink.org](mailto:koptic_karen@aclink.org). More information about the plan is maintained on the County web site at: <https://www.atlantic-county.org/hazard-mitigation/>

## Document Organization

This Multi-Jurisdictional Hazard Mitigation Plan for Atlantic County is organized into the following major sections.

- **Section 1 - Introduction.** Plan purpose, overview of the planning area, summary of plan development process, document organization, and key terms.
- **Section 2 - Identification of Potential Hazards.** Documentation of the Planning Committee's evaluation of a full range of natural hazards, and indication of which hazards were identified for inclusion in this plan (and why) versus those that were not identified (and why not).
- **Section 3 - Risk Assessment.** Hazard profiles, identification and characterization of assets in hazard areas, damage estimates, summary of land uses and development trends in hazard areas, and key risk findings.

- **Section 4 - Capabilities and Resources.** Overview of local, state, and federal resources for hazard mitigation.
- **Section 5 -Mitigation Goals.** Summary of hazard mitigation goals for the State Hazard Mitigation Plan and also for this county-wide multi-jurisdictional hazard mitigation plan.
- **Section 6 – Mitigation Strategies.** Information about the hazard mitigation actions identified by each jurisdiction to address their key risk findings.
- **Section 7 – Plan Maintenance and Integration.** Procedures selected for monitoring, evaluating, and updating this mitigation plan, including participation of the public and other stakeholders in plan maintenance, and plan integration.
- **Section 8 – For More Information.** Contact information for questions, comments, or how to become involved in the plan’s ongoing maintenance and implementation, and future updates.
- **Section 9 – Jurisdictional Annexes.** For each jurisdiction, a municipality-specific annex has been prepared to capture key information from the main text, along with a summary of all feedback provided by each community for the purposes of the plan update. Key information from the main text that is incorporated into each annex includes things such as the community’s highest hazards and key risks. Local feedback incorporated into each annex includes information such as: who participated in the process on the local Jurisdictional Assessment Team (JAT), internal activities of the JAT, the JAT’s outreach activities to the public and other stakeholders, its updated assessment of local capabilities, feedback on growth and development trends, information regarding the community’s local implementation of the National Flood Insurance Program (NFIP), its status of past projects from the prior version of the plan, its updated hazard mitigation strategy, and its intended plan integration approach for the next plan maintenance cycle.

## Key Terms

For the purpose of clarity throughout this document, the following definitions are briefly outlined:

- A **natural hazard** is any hazard that occurs or results from acts of nature such as floods, earthquakes, hurricanes, tornadoes and coastal storms, to name a few. *This plan addresses natural hazards only. It does not assess man-made / technological hazards or terrorism.*
- A **disaster** is any catastrophic event that causes loss of life, injuries and widespread destruction to property. For the purpose of this document, a disaster is the result of a natural hazard, whether anticipated (such as flash floods with warnings) or fortuitous (such as earthquakes).

- **Hazard mitigation** is the method by which measures are taken to reduce, eliminate, avoid or redirect natural hazards in order to diminish or eradicate the long-term risks to human life and property.
- A **hazard mitigation plan** is a well-organized and well-documented evaluation of the natural hazards and the extent that the events will occur. In addition, the plan identifies the vulnerability to the effects of the natural hazards typically present in a certain area, as well as the goals, objectives and actions required for minimizing future loss of life and property damage as a result of natural hazards.
- **Hazard mitigation planning** is the process of managing actions taken by individual citizens and professional organizations involved in mitigation activities. The process involves carrying out plans to reduce loss of life, injuries and damage to property, as well as reducing the costs associated with losses from natural hazards. It is a long-term process with benefits best realized over time.

## About the Planning Area

The planning area for this plan encompasses the whole of Atlantic County. Atlantic County is located in south-eastern New Jersey. It is on New Jersey's southern shore of the Atlantic Ocean. Atlantic County is bounded by Ocean, Burlington, Camden, Gloucester, Cumberland, and Cape May Counties (from Ocean County in the northeast and moving in a counterclockwise direction to Cape May County in the south). Eastern sections of Atlantic County are bounded by the Atlantic Ocean. Atlantic County has a land area of 561 square miles, making it New Jersey's third largest county in terms of area. As of July 2019, it had a population of approximately 266,105<sup>3</sup>, according to US Census Bureau estimates.

Atlantic County is the home to 23 municipalities each with its own distinct character, including 13 cities, three boroughs, six townships and one town. They are the Cities of Absecon, Atlantic City, Brigantine, Corbin City, Egg Harbor City, Estell Manor, Linwood, Margate City, Northfield, Pleasantville, Port Republic, Somers Point and Ventnor City; Boroughs of Buena, Folsom and Longport; Townships of Buena Vista, Egg Harbor, Galloway, Hamilton, Mullica and Weymouth; and the Town of Hammonton.

Atlantic County is approximately 100 miles to the south of New York City and is located 60 miles to the east of Philadelphia. The close proximity to urban areas has had a profound effect on the County's past and will no doubt influence its future. Located on the outer coastal plain of New Jersey, Atlantic County has significant natural amenities.

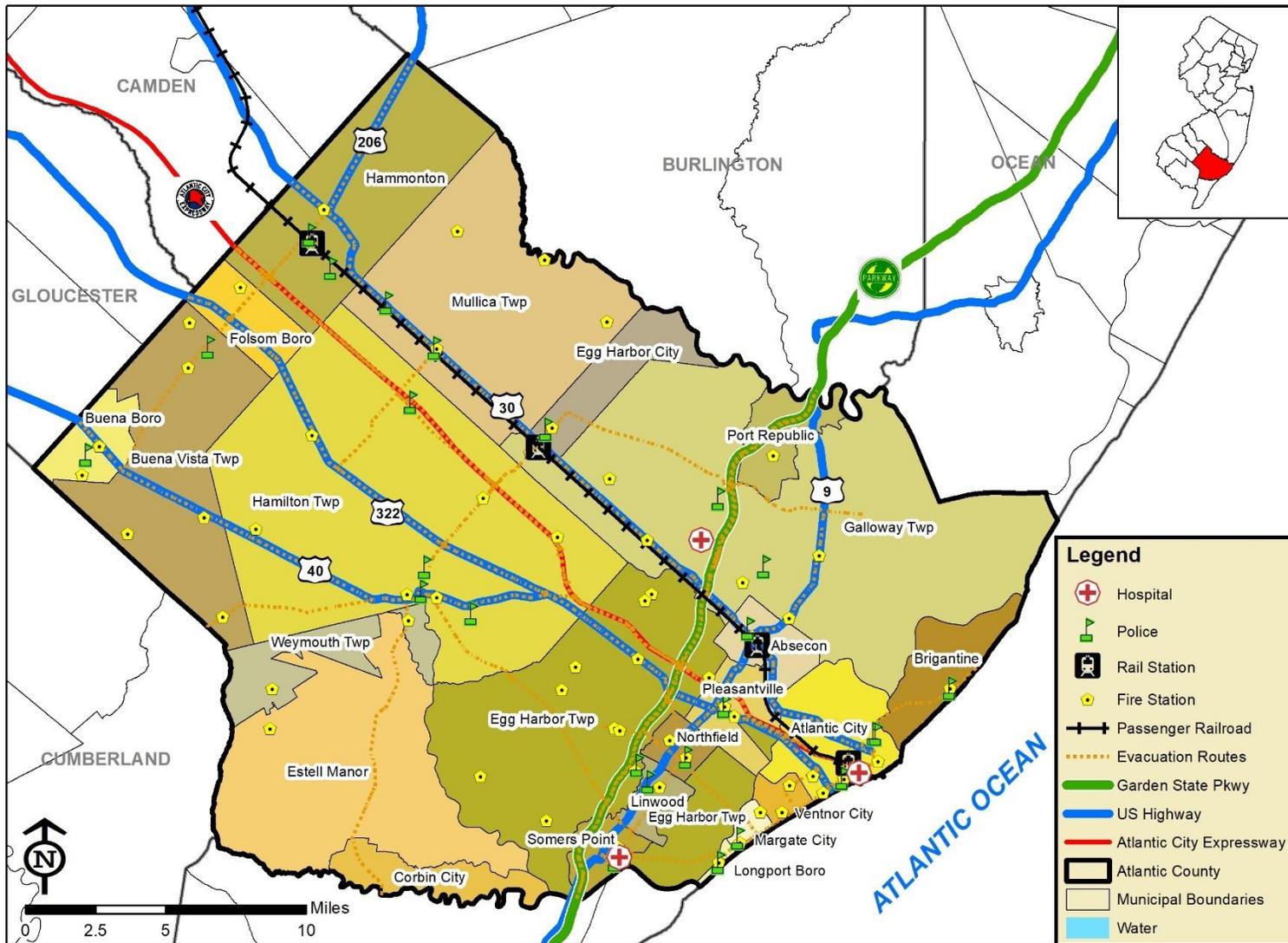
The coastal plain dips gently from west to east, so that most of the hills and highest elevations occur in the western part of the County. The soil of Atlantic County is sandy, with low clay content. As a result, it is low in natural fertility, buffering and filtering ability. It is also extremely permeable, being well to excessively drained in upland locations. The sand, along with layers of clay, forms a wedge a mile thick at the shore. Within this wedge are two aquifers: the Cohansey and Kirkwood Formations. These contain great quantities of pure, readily available

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<sup>3</sup> U.S. Census Bureau, Annual Population Estimates and American Community Survey 2019 5-Year Estimates <https://www.census.gov/quickfacts/fact/table/atlanticcountynewjersey,US/PST045219>

groundwater. Water from the Cohansey provides the base flow for all of the streams and rivers in the County.

On the east, the County borders the Atlantic Ocean and three narrow, flat, barrier beach islands: Little Beach, Brigantine and Absecon. The northern boundary is the Mullica River with the Great Egg Harbor and Tuckahoe Rivers forming the southern border. The estuaries of these rivers and the bays behind the barrier islands encompass wide areas of salt marsh. The western boundary is a man-made line separating Atlantic from Gloucester and Camden Counties, roughly halfway between the Delaware River and the Atlantic Ocean. Most of the interior of the County is part of the Pine Barrens region, a unique ecological area whose vegetation responds to soil and water conditions, and which has a history of forest fires. Upland is typically oak-pine forest on droughty soils, while lowland is often hardwood swamp, pitch pine or white cedar on saturated soil. Some lowland areas provide prime conditions for growing blueberries. Around the Borough of Buena, Buena Vista Township, Egg Harbor City, Hammonton and Galloway Township prime agricultural land is abundant supporting a significant area of upland agriculture including both row crops and orchards.



SOURCE: Atlantic County Office of GIS: Hospital, Police, Fire Station, Evacuation Route, 2021; US Highway, Atlantic City Expressway, and Garden State Pkwy, 2003. NJGIN: NJ Passenger Rail Station and Line, 2021; County Boundary, 2021; Municipal Boundary, 2021. NJDEP: Atlantic County Lakes (Open Water Areas), 2002.

Figure 1.1: Atlantic County Base Map

As noted in the County's Open Space Plan<sup>4</sup>, pressure to develop and redevelop land in Atlantic County remains strong due to the revitalization of Atlantic City and the subsequent secondary growth during the past two decades. The challenge in the County is to provide ample open space facilities for a growing population while facing growing competition for suitable land. A growing population, competition for diminishing land resources, escalating property values, and increasing public demand for control of growth and provision of recreation services point toward the importance of preserving open space. As of 2018, Atlantic County contains over 108,000 acres of publicly owned open space. Approximately 74,765 acres are preserved by the State, 19,400 acres consist of a Federal wildlife refuge, 7,435 acres are owned and managed by the County, and 6,475 acres are preserved by municipal governments. In total, these preserved open spaces account for approximately 27% of the County's total land area. Much of Atlantic County is flat and low-lying. Buena Borough contains the tallest point in the County at approximately 124 feet above sea level.

The City of Atlantic City has always been a major driving force in the overall development of the County. Historically, Atlantic City served as a seaside destination while today it is world renowned as a casino resort.

During the Great Depression and war years, growth slowed to a standstill in Atlantic County. After World War II and into the 1950s, Atlantic City retained its popularity as a resort and remained relatively prosperous. However, its population began to decrease while the rest of the County's population was increasing, reflecting the national trend of suburban growth and urban decline. In marked contrast to Atlantic City, the rest of Atlantic County continued to grow and prosper as its economy diversified and became less dependent on the resort/convention industry in the city.

During the 1970s, suburban growth moved out of the bay communities and into Egg Harbor and Galloway Townships. In November 1976, the New Jersey State Legislature was authorized to allow casino gambling in Atlantic City, bringing with it a spike in not only casino development and construction of new hotels but also condominium and housing development. A Casino Control Commission was established to revitalize Atlantic City without using public funds; to reduce unemployment in the area; and to allocate a percentage of the casino revenue in the form of aid to the elderly.

Atlantic County continued to grow substantially during the 1980s, and the County experienced explosive population growth from 1980 to 1990 as a direct result of the maturation of the casino industry. Substantial retail, warehousing, office, hotel, and residential development on the mainland bolstered the regional economy. Within Atlantic County the passage of the Coastal Area Facilities Review Act of 1973 (CAFRA) and the Pinelands Protection Act of 1979 has resulted in significant growth in CAFRA Coastal Centers and Pinelands Regional Growth Areas such as Egg Harbor, Galloway, and Hamilton Townships.

Throughout the 1990s there was generally a moderation in population growth. Many municipalities (including Somers Point, Absecon, Brigantine, Hammonton, and Hamilton Township) expanded through the addition of regional shopping centers. The County witnessed

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<sup>4</sup>Atlantic County Open Space Plan, 2018.

a surge in the popularity of golf due to the construction of the Galloway National, Blue Heron Pines, and Harbor Pines Golf Courses. In Atlantic City, growth was characterized primarily by casino improvements (addition of hotel rooms, construction improvements/expansions at existing facilities), though several new facilities were constructed such as the Atlantic City Convention Center, New Jersey Transit Bus Terminal, and the Renaissance Plaza -- a modern shopping center located in the heart of Atlantic City.

In the early part of this century, Atlantic County was in the midst of what was commonly referred to as the "second wave" of development spurred by a relatively strong economy, low inflation, and unyielding demographic trends. Traditional single-family developments tended to replace the 1980s multi-family development. Age restricted units (those limited to persons age 55 and above, for instance) and assisted living facilities for those needing varying degrees of medical assistance have also been on the rise as the nation's population ages. These housing developments have been predominately located in the Pinelands Regional Growth Areas of the County: Egg Harbor, Galloway, and Hamilton Townships. Over time, it appears residential and commercial growth will continue to move farther west while the Island and Bay communities will demonstrate slower growth because of their already developed condition.

The goal of Atlantic County and the communities in the County is to provide a safe place to work and live. Atlantic County Executive Dennis Levinson has noted that "Atlantic County services touch the lives of every family in providing access to health care services, job training, recreation and cultural activities, senior services, road improvements, human services, public safety and more. We are here to protect and enhance the lives of our residents and the communities in which they live."

**Population.** According to the US Census, the population of Atlantic County in 1990 was 224,327, whereas in 2000 it increased to 252,552 – an increase of approximately 12.6 per cent over ten years. The U.S. Census Bureau, 5-Year American Community Survey (2009-2013) estimated the population of the County at 274,960 - approximately 9 per cent of increase since the year 2000. Current Census Bureau estimates (2019 ACS 5-year) give Atlantic County a population of 266,105 as of 2019, which represents a decrease of 3.2% from 2013. **Table 1.1** shows key County population changes (county-wide and for each municipality) as reported in the Atlantic County Master Plan and by the U.S. Census Bureau from 1970 to 2019.

Current publications from the New Jersey Department of Labor and Workforce Development (NJDLWD)<sup>5</sup> are in agreement with the Census Bureau that the population of Atlantic County has recently declined, but they also continue to project a future population increase in the County. By 2034, the NJDLWD<sup>6</sup> estimates that the county's overall population will increase by roughly 7,900 people over 2013 values to a total of 282,900 persons.

While the 2000 Atlantic County Master Plan divided the County into three areas (the Shore Area, the regional Growth Area, and the Rural Area), the 2018<sup>7</sup> version of the Plan now considers the County to be comprised of four distinct regions:

<sup>5</sup> New Jersey Department of Labor and Workforce Development, June 2021). <https://nj.gov/labor/lpa/pub/factbook/atlfacts.pdf>

<sup>6</sup> [https://www.nj.gov/labor/lpa/dmograph/lfproj/lfproj\\_index.html](https://www.nj.gov/labor/lpa/dmograph/lfproj/lfproj_index.html)

<sup>7</sup> [atlantic-county.org/documents/planning/Master%20Plan\\_5-1-18.pdf](https://atlantic-county.org/documents/planning/Master%20Plan_5-1-18.pdf)

- The Barrier Island Region: comprising the easternmost barrier islands in the County, and containing the municipalities of Brigantine, Atlantic City, Ventnor, Margate City, and Longport.
- The Back Bay Region: the portion of the County bound by Route 9 on its western edge and the Barrier Island Region at its eastern edge, containing the municipalities of Port Republic, Galloway, Absecon, Pleasantville, Northfield, Linwood, Somers Point, and Egg Harbor Township.
- The Suburban Region: three non-contiguous portions of the County sharing similar characteristics and coverage by various planning initiatives, and containing large sections of Galloway, Egg Harbor Township, Hamilton, smaller areas within Egg Harbor City, Mullica, and Hammonton, along with the portions of Absecon, Pleasantville, Northfield, Linwood City, and Somers Point that are not within the Back Bay Region.
- The Rural Region: consisting of the remainder of the County and including the entire municipalities of Folsom, Buena Vista, Buena, Weymouth, Estell Manor, and Corbin City, plus the portions of Hammonton, Mullica, Egg Harbor City, Port Republic, Galloway, Hamilton, and Egg Harbor Township that are not within the other Regions.

According to the U.S. Census Bureau, Atlantic County has a total area of 671 square miles, of which 561 square miles is land and 110 square miles is water.

The 1990 U.S. Census population density per square mile of land in Atlantic County was 312 persons per square mile; whereas, in the 2000 U.S. Census, there were 450 persons per square mile – an increase of 44.2 per cent. The 2010 U.S. Census<sup>8</sup> showed Atlantic County population density was 494 persons per square mile, while the 2019 Census estimates translate to a population density of 479 persons per square mile. By 2034, the population density based on NJDLWD data is projected to be 504 persons per square mile – an increase of 12 per cent over the year 2000 values.

Atlantic County's population is also aging. In 2000, the median age in the County was 37 and by 2010 this had increased to 40.5, according to the 2018 County Master Plan, with the 45 to 54 and 55 to 64 age cohorts the most rapidly growing segments of the population. This trend is expected to continue in the near future, with consequent policy and planning implications regarding the demand for healthcare services and facilities and flexible transportation options.

**Roads and Bridges.** The Atlantic County Department of Public Works maintains over 371 miles of county roads and rights of way, 254 bridges and over 100 traffic signals. Atlantic County has excellent access to all major modes of transportation. Major highways include the Garden State Parkway; The Atlantic City Expressway (toll road); U.S Routes 9, 30, 40, 206, and 322; and, State Routes 49, 50, 52, 54, 87, and 152.

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<sup>8</sup> <http://quickfacts.census.gov/qfd/states/34/34001.html>

**Table 1.1**  
**Key County Population Changes**

| Municipality             | Population 1970 Census | Population 1980 Census | Population 1990 Census | Population 2000 Census | Population 2013 Census | Population 2019 Census | Absolute Change 1970-2000 | Absolute Change 2000-2013 | Absolute Change 2013-2019 |
|--------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|---------------------------|---------------------------|---------------------------|
| <b>Atlantic County</b>   | <b>175,043</b>         | <b>194,119</b>         | <b>224,387</b>         | <b>252,552</b>         | <b>274,960</b>         | <b>266,105</b>         | <b>77,509</b>             | <b>22,408</b>             | <b>-8,855</b>             |
| Absecon, City of         | 6,094                  | 6,859                  | 7,298                  | 7,638                  | 8,394                  | 8,362                  | 1,544                     | 756                       | -32                       |
| Atlantic City, City of   | 47,859                 | 40,199                 | 37,986                 | 40,517                 | 39,591                 | 37,999                 | -7,342                    | -926                      | -1,592                    |
| Brigantine, City of      | 6,741                  | 8,318                  | 11,354                 | 12,594                 | 9,480                  | 8,832                  | 5,853                     | -3,114                    | -648                      |
| Buena Vista, Township of | 4,239                  | 6,959                  | 7,655                  | 7,436                  | 7,576                  | 7,295                  | 3,197                     | 140                       | -281                      |
| Buena, Borough of        | 3,283                  | 3,642                  | 4,441                  | 3,873                  | 4,620                  | 4,356                  | 590                       | 747                       | -264                      |
| Corbin City, City of     | 258                    | 254                    | 412                    | 468                    | 573                    | 537                    | 210                       | 105                       | -36                       |
| Egg Harbor City, City of | 4,304                  | 4,618                  | 4,583                  | 4,545                  | 4,232                  | 4,100                  | 241                       | -313                      | -132                      |
| Egg Harbor, Township of  | 9,882                  | 19,381                 | 24,544                 | 30,726                 | 43,403                 | 42,714                 | 20,844                    | 12,677                    | -689                      |
| Estell Manor, City of    | 539                    | 848                    | 1,404                  | 1,585                  | 1,708                  | 1,728                  | 1,046                     | 123                       | 20                        |
| Folsom, Borough of       | 1,767                  | 1,892                  | 2,181                  | 1,972                  | 1,813                  | 1,697                  | 205                       | -159                      | -116                      |
| Galloway, Township of    | 8,276                  | 12,176                 | 23,330                 | 31,209                 | 37,356                 | 36,094                 | 22,933                    | 6,147                     | -1,262                    |
| Hamilton, Township of    | 6,445                  | 9,499                  | 16,012                 | 20,499                 | 26,568                 | 25,973                 | 14,054                    | 6,069                     | -595                      |
| Hammonton, Town of       | 11,464                 | 12,298                 | 12,208                 | 12,604                 | 14,781                 | 14,139                 | 1,140                     | 2,177                     | -642                      |
| Linwood, City of         | 6,159                  | 6,144                  | 6,866                  | 7,172                  | 7,099                  | 6,742                  | 1,013                     | -73                       | -357                      |
| Longport, Borough of     | 1,225                  | 1,249                  | 1,224                  | 1,054                  | 1,001                  | 869                    | -171                      | -53                       | -132                      |
| Margate City, City of    | 10,576                 | 9,179                  | 8,431                  | 8,193                  | 6,385                  | 5,997                  | -2,383                    | -1,808                    | -388                      |
| Mullica, Township of     | 3,391                  | 5,243                  | 5,896                  | 5,912                  | 6,164                  | 5,925                  | 2,521                     | 252                       | -239                      |
| Northfield, City of      | 8,646                  | 7,795                  | 7,305                  | 7,725                  | 8,608                  | 8,153                  | -921                      | 883                       | -455                      |
| Pleasantville, City of   | 14,007                 | 13,435                 | 16,027                 | 19,012                 | 20,391                 | 20,301                 | 5,005                     | 1,379                     | -90                       |
| Port Republic, City of   | 586                    | 837                    | 992                    | 1,037                  | 1,016                  | 1,121                  | 451                       | -21                       | 105                       |
| Somers Point, City of    | 7,919                  | 10,330                 | 11,216                 | 11,614                 | 10,807                 | 10,321                 | 3,695                     | -807                      | -486                      |
| Ventnor City, City of    | 10,385                 | 11,704                 | 11,065                 | 12,910                 | 10,681                 | 10,095                 | 2,525                     | -2,229                    | -586                      |
| Weymouth, Township of    | 998                    | 1,260                  | 1,957                  | 2,257                  | 2,713                  | 2,755                  | 1,259                     | 456                       | 42                        |

**Rail.** New Jersey Transit provides passenger service on the Atlantic City Line between Philadelphia and Atlantic City, with additional passenger stations in Atlantic County serving Absecon, Egg Harbor City, and Hammonton. The Atlantic City Line also serves additional stations in neighboring Camden County, some of which incorporate connections to the Port Authority Transit Corporation (PATCO) Speedline rapid transit system which connects communities in the Philadelphia – Camden area. In addition, New Jersey Transit operates a weekend express service between Atlantic City and Penn Station in New York, in association with some of the Atlantic City casino owners.

**Bus.** Although rural parts of the County have minimal service provided to transit dependents, mass transit in Atlantic County has proven to be a highly successful mode of travel for day-visitors, work commuters and others. This is particularly true on Absecon Island communities of Atlantic City, Ventnor, Margate, Longport and the island of Brigantine. Given the high volume of ridership in these areas, it does have an impact on reducing traffic volume and vehicular pollution. There are high ridership volumes on all of the intracounty routes providing service between Atlantic City and the island communities, and the 553 route providing service between Cumberland County and Atlantic City has proven to be one of the most successful regional routes in the State. Franchise bus service to Atlantic City peaked in 1986/1987 and has gradually leveled off at approximately 515,000 visitors per year.

**Airports.** Air Travel has recently seen a marked increase at Atlantic City International Airport. This increase has been driven primarily by expansion of service by Spirit Airlines and increased charter activity. According to the 2018 County Master Plan, Atlantic City International Airport handled just over 1.2 million commercial and charter passengers in 2015. The only other airport in the County is the Hammonton Municipal Airport, which, at the time of writing, does not operate scheduled services.

**Public Water and Sewer.** Atlantic County communities rely on both surface and ground water supply sources for their water needs. According to the 2018 Atlantic County Master Plan, average water demand in the County in 2010 (when the County population was around 274,500) was approximately 60 million gallons per day (MGD), up from 44 MGD in 2000. Approximately 55 MGD was derived from groundwater sources such as the Kirkwood-Cohansey aquifer and the Atlantic City 800-foot sand aquifer, and 5 MGD from surface water sources including two reservoirs operated by the Atlantic City Municipal Utilities Authority (ACMUA). The NJDEP Water Supply Plan of October 2017<sup>9</sup> projects that while demand for water will continue to rise across the whole state, the demand due to population increases may be tempered by reductions in non-residential water use and the integration of more efficient plumbing fixtures and appliances. The NJDEP's report "The Status of the Water Supply in Southeastern New Jersey" dated September 2003 concluded that some aquifers supplying Atlantic County were already being over-drawn beyond sustainable yields, and that migration of salt water into coastal aquifers was a potential future problem. The NJDEP Water Supply Plan of October 2017 reported that water extraction from the confined Cohansey and Atlantic City 800-foot sand aquifers have lowered water levels and caused the intrusion of salt water inland in neighboring Cape May County.

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<sup>9</sup> New Jersey Water Supply Plan 2017-2022: NJDEP, October 2017

For planning purposes, the County is divided into three regions to facilitate the design and implementation of County-wide sewage systems, based on the specific sewage treatment plant which is authorized to accept and treat wastewater from each region: Coastal Region, Lower Great Egg Harbor River region, and Mullica/Upper Great Egg Harbor River Region. Rural areas rely on individual septic disposal systems, but principal wastewater treatment plants for the sewer service regions are located in Buena Borough, the Town of Hammonton, and on City Island in the City of Atlantic City. The 2018 County Master Plan notes that since development trends in the County have slowed considerably since the mid-2000s, future impacts on wastewater demand are anticipated to be less than previously projected. The 2018 County Master Plan also identifies the City Island plant as particularly vulnerable to flooding from storm surges and states that the Atlantic County Utility Authority intends to use funds from the New Jersey Environmental Infrastructure Trust to implement resiliency projects including portable flood barriers, seawalls, and sumps installed in the lower elevated buildings of the plant.

**Income.** According to the 2000 U.S. Census, median household income in Atlantic County was \$43,933 and in the 2013 estimates the income had risen to \$54,235. By 2019 the median household income in the county had risen to \$62,110. In Atlantic County, the percentage of individuals below the poverty level was 11.3% in 2019 versus a State per centage of 9.2 per cent.

**Employment.** According to the U.S. Census Bureau data for 2019, 64.6 per cent of the population 16 years or over were in the labor force and 8.4 per cent were unemployed. The Census Bureau data records the three largest employment sectors of the County economy in 2019 as education, healthcare, and social services (23.8 per cent), arts, entertainment, recreation, and accommodation (22.5 per cent) and retail (11.6 per cent).

**Tourism.** While the 2018 County Master Plan recognizes that troubles in the casino industry have caused a recent decline in tourism to Atlantic County, tourism is still the dominant economic sector, accounting for approximately 73 per cent of the local economy in Atlantic County. The County also contributes 17 per cent of the entire State of New Jersey's overall tourism sales, including 33 per cent of the State's accommodation revenue and 13 per cent of food and beverage expenditures. In 2019<sup>10</sup>, more than 16 per cent of the tourism workforce in the State was employed in Atlantic County, more than double the share of any other county. The COVID-19 pandemic which began to affect the USA in early 2020 had a devastating impact on employment and the economy in Atlantic County: temporary closures of casinos and convention venues contributed to a loss of 33,000 jobs in the county in June 2020, compared to June of the previous year, which at 34% was the biggest decrease of any county in the Nation<sup>11</sup>. While the casinos and hotels in Atlantic City have subsequently reopened at or near full capacity, in the Spring of 2021 Atlantic County still had the highest unemployment rate in the state (11%<sup>12</sup>, down from a peak of 33% in the summer of 2020), and the long-term impacts of the COVID pandemic will not be fully known for some time.

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<sup>10</sup> Economic Impact of Tourism in New Jersey, 2019: <https://www.visitnj.org/sites/default/files/2019-nj-economic-impact.pdf>

<sup>11</sup> <https://www.nj.com/atlantic/2020/11/this-nj-county-suffered-the-biggest-job-losses-in-america-this-year-new-study-shows.html>

<sup>12</sup> [https://www.nj.gov/labor/lpa/content/maps/laus\\_month.pdf](https://www.nj.gov/labor/lpa/content/maps/laus_month.pdf)

While the City of Atlantic City and its casinos are obviously the major attraction, visitors are also drawn to Atlantic County for golf, boating, fishing, camping, bird watching, wineries, shopping, and general beach recreation. There are almost 12,000 second or vacation homes in Atlantic County, ranking Atlantic County third in the state, behind Cape May and Ocean Counties.

***FEMA Disaster Declarations.*** Disaster declarations, for the county or counties affected by a disaster, are declared by the President of the United States under the authority of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (the "Stafford Act"). FEMA then manages the entire process, including making federally-funded Public Assistance (PA) and/or Individual Assistance (IA) available in declared areas; coordinates emergency rescue and response efforts; provides emergency resources; and provides other related activities/funding in the process of aiding citizens and local governments in a nationally-declared disaster. Tables 1.2, 1.3 and 1.4 provide a summary of disaster and emergency declarations for the State of New Jersey (based on review of the FEMA web site and the New Jersey State Hazard Mitigation Plan), with an indication as to whether Atlantic County was part of the declared area. Since the last version of this plan was updated during 2015, Atlantic County has been a part of three new major disaster declarations, and one new emergency declaration.

| Year | Date   | Disaster Type   | Disaster Number | Was Atlantic County Declared? |
|------|--------|---|-----------------|-------------------------------|
| 2021 | 28-Apr | Severe Winter Storm and Snowstorm   | 4597            | No                            |
| 2020 | 11-Dec | Tropical Storm Isaias   | 4574            | Yes                           |
| 2020 | 25-Mar | COVID-19 Pandemic   | 4488            | Yes                           |
| 2018 | 8-Jun  | Severe Winter Storm and Snowstorm   | 4368            | No                            |
| 2016 | 7-Jul  | Severe Winter Storm and Snowstorm   | 4264            | Yes                           |
| 2015 | 23-Jun | Severe Storm  | 4231            | Yes                           |
| 2012 | 30-Oct | Hurricane Sandy   | 4086            | Yes                           |
| 2012 | 19-Jul | Severe Storms and Straight-Line Winds   | 4070            | Yes                           |
| 2011 | 30-Nov | Severe Storm  | 4048            | No                            |
| 2011 | 14-Oct | Remnants of Tropical Storm Lee  | 4039            | No                            |
| 2011 | 15-Sep | Severe Storms and Flooding  | 4033            | No                            |
| 2011 | 31-Aug | Hurricane Irene   | 4021            | Yes                           |
| 2011 | 4-Feb  | Severe Winter Storm and Snowstorm   | 1954            | Yes                           |
| 2010 | 2-Apr  | Severe Storms and Flooding  | 1897            | Yes                           |
| 2010 | 23-Mar | Severe Winter Storm and Snowstorm   | 1889            | Yes                           |
| 2010 | 5-Feb  | Snowstorm   | 1873            | Yes                           |
| 2009 | 22-Dec | Severe Storms and Flooding Associated with Tropical Depression Ida and a Nor'easter | 1867            | Yes                           |
| 2007 | 26-Apr | Severe Storms and Inland and Coastal Flooding                                       | 1694            | Yes                           |
| 2006 | 7-Jul  | Severe Storms and Flooding  | 1653            | No                            |
| 2005 | 19-Apr | Severe Storms and Flooding  | 1588            | No                            |
| 2004 | 1-Oct  | Tropical Depression Ivan  | 1563            | No                            |
| 2004 | 16-Jul | Severe Storms and Flooding  | 1530            | No                            |
| 2000 | 17-Aug | Severe Storms, Flooding and Mudslides   | 1337            | No                            |

**Table 1.2**  
**New Jersey State Major Disaster Declarations: 1955 – 2021**  
 (Source: FEMA, online at <http://www.fema.gov/disasters>)

| Year | Date   | Disaster Type                                   | Disaster Number | Was Atlantic County Declared? |
|------|--------|---|-----------------|-------------------------------|
| 1999 | 18-Sep | Hurricane Floyd                                 | 1295            | No                            |
| 1998 | 3-Mar  | Coastal Storm                                   | 1206            | Unknown                       |
| 1997 | 23-Sep | Flooding  | 1189            | Unknown                       |
| 1996 | 19-Nov | Severe Storms/Flooding                          | 1145            | Unknown                       |
| 1996 | 13-Jan | Blizzard  | 1088            | Unknown                       |
| 1992 | 18-Dec | Coastal Storm, High Tides, Heavy Rain, Flooding | 973             | Unknown                       |
| 1992 | 3-Mar  | Severe Coastal Storm                            | 936             | Unknown                       |
| 1985 | 15-Oct | Hurricane Gloria                                | 749             | Unknown                       |
| 1984 | 12-Apr | Coastal Storms, Flooding                        | 701             | Unknown                       |
| 1977 | 8-Feb  | Ice Conditions                                  | 528             | Unknown                       |
| 1976 | 21-Aug | Severe Storms, High Winds, Flooding             | 519             | Unknown                       |
| 1975 | 23-Jul | Heavy Rains, High Winds, Hail, Tornadoes        | 477             | Unknown                       |
| 1973 | 7-Aug  | Severe Storms, Flooding                         | 402             | Unknown                       |
| 1971 | 4-Sep  | Heavy Rains, Flooding                           | 310             | Unknown                       |
| 1968 | 18-Jun | Heavy Rains, Flooding                           | 245             | Unknown                       |
| 1965 | 18-Aug | Water Shortage                                  | 205             | Unknown                       |
| 1962 | 9-Mar  | Severe Storm, High Tides, Flooding              | 124             | Unknown                       |
| 1955 | 20-Aug | Hurricane, Floods                               | 41              | Unknown                       |

**Table 1.3**  
**New Jersey State Emergency Declarations: 1955 – 2021**  
 (Source: FEMA, online at <http://www.fema.gov/disasters>)

| Year | Date   | Emergency Type                         | Declaration Number | Was Atlantic County Declared? |
|------|--------|--|--------------------|-------------------------------|
| 2020 | 3-Mar  | COVID-19 Pandemic                      | 3451               | Yes                           |
| 2012 | 28-Oct | Hurricane Sandy                        | 3354               | Yes                           |
| 2011 | 27-Aug | Hurricane Irene                        | 3332               | Yes                           |
| 2005 | 19-Sep | Hurricane Katrina Evacuation           | 3257               | Yes                           |
| 2003 | 23-Sep | Power Outage                           | 3188               | No                            |
| 2003 | 20-Mar | Snowstorm                              | 3181               | Yes                           |
| 2001 | 19-Sep | Terrorist Attack Emergency Declaration | 3169               | Unknown                       |
| 2000 | 1-Nov  | Virus Threat                           | 3156               | Unknown                       |
| 1999 | 17-Sep | Hurricane Floyd                        | 3147               | Unknown                       |
| 1993 | 17-Mar | Severe Blizzard                        | 3106               | Unknown                       |
| 1980 | 19-Oct | Water Shortage                         | 3083               | Unknown                       |
| 1974 | 24-Dec | Severe Storms, High Winds & High Tides | 3005               | Unknown                       |

| Year | Date   | Emergency Type      | Declaration Number | Was Atlantic County Declared?                          |
|------|--------|---------------------|--------------------|--|
| 2007 | 16-May | Warren Grove Fire   | 2695               | No – fire was located in Burlington and Ocean Counties |
| 2002 | 2-Jun  | Double Trouble Fire | 2411               | No-fire was located in Ocean County                    |

**Participating Jurisdictions**

Atlantic County took a multi-jurisdictional approach to preparing its initial hazard mitigation plan and subsequent updates including this one, inviting all 23 of its municipalities to participate. County and local levels of government bring unique resources to the table. The County has personnel, funding, data, and capabilities that many local jurisdictions lack, while municipalities have the legal authority to enforce compliance with land use planning and development issues.

For the initial 2010 Plan, 19 of the County’s municipalities opted to participate in, and were covered by, the Plan with the exceptions of Buena Vista, Egg Harbor City, Port Republic, and Somers Point. These four communities later went on to create their own, multi-jurisdictional plan as the “Atlantic County 4” (with that document being approved by FEMA on February 4, 2015). For the first Plan Update (2016) and the current Plan Update approved for adoption in January 2022), Atlantic County and all 23 of its constituent municipalities participated – including the “Atlantic County 4” communities.

Jurisdictions covered by this plan update are:

**County of Atlantic**

- |                          |                       |                        |
|--------------------------|-----------------------|------------------------|
| Absecon, City of         | Estell Manor, City of | Mullica, Township of   |
| Atlantic City, City of   | Folsom, Borough of    | Northfield, City of    |
| Brigantine, City of      | Galloway, Township of | Pleasantville, City of |
| Buena Vista, Township of | Hamilton, Township of | Port Republic, City of |
| Buena, Borough of        | Hammonton, Town of    | Somers Point, City of  |
| Corbin City, City of     | Linwood, City of      | Ventnor City, City of  |
| Egg Harbor City, City of | Longport, Borough of  | Weymouth, Township of  |
| Egg Harbor, Township of  | Margate City, City of |                        |

At the outset of the current plan update process in 2021, participation commitments were demonstrated through each jurisdiction submitting a fully executed **Statement of Authority to Participate** to ACOEP<sup>13</sup>. **Figure 1.2** shows a blank version of this letter of commitment. Completed statements are included in **Appendix 1.1 – Statements of Authority to Participate**.

<sup>13</sup> Some municipalities opted to pass a formal resolution in lieu of, or in addition to, the referenced Statement of Authority to Participate. Either or both were deemed to be acceptable.

**Statement of Authority - Participating**

**Atlantic County Multi-Jurisdictional Hazard Mitigation Plan**  
**Second Update**

Jurisdiction: **Jurisdiction Name**  
**Address**  
**City, State Zip**  
 Primary Contact: **Name, Title**

This document is prepared as a statement of the authority advising the Atlantic County Office of Emergency Management that the \_\_\_\_\_ of \_\_\_\_\_ has opted to participate in the second update of the Atlantic County Multi-Jurisdictional Hazard Mitigation Plan. Our municipality has committed to participating in the development of an updated county-wide, multi-jurisdictional hazard mitigation plan. We have authorized the following two individuals: \_\_\_\_\_ and \_\_\_\_\_ (“Representative” and “Alternate”, respectively) as local members serving on the Multi-Jurisdictional Core Planning Group and to actively participate as requested throughout the planning process.

We understand that our municipality will be required to name its own local hazard mitigation planning committee (“Jurisdictional Assessment Team”).

At the end of the project, when FEMA deems the updated plan approvable, it is understood that our municipality will need to pass a resolution formally adopting the final document if we are in agreement with said plan and wish to apply for future funding for mitigation projects. This resolution will be provided immediately to the Atlantic County Office of Emergency Management for submittal to FEMA, who requires the resolution on file.

Name of Municipality: \_\_\_\_\_

Name & Title of Authorizing Individual: \_\_\_\_\_

Authorizing Signature and Date: \_\_\_\_\_

Representative’s Name & Title: \_\_\_\_\_

Representative’s Address: \_\_\_\_\_

Representative’s Phone, Fax and Email: \_\_\_\_\_

Alternate’s Name & Title: \_\_\_\_\_

Alternate’s Address: \_\_\_\_\_

Alternate’s Phone, Fax and Email: \_\_\_\_\_

Figure 1.2 – Statement of Authority

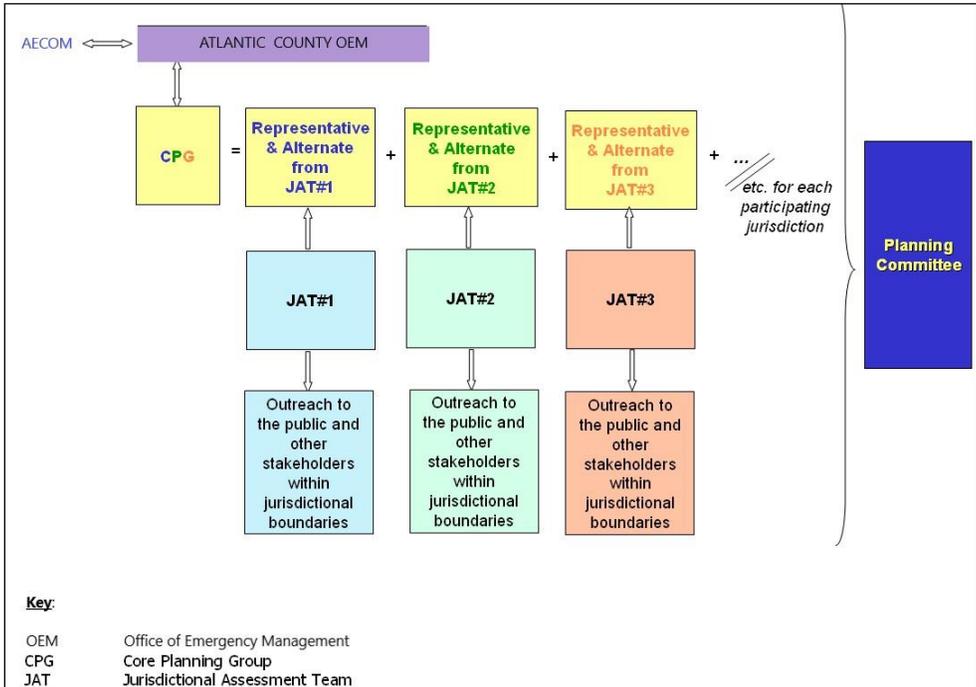
### Hazard Mitigation Planning Team Organizational Structure

The Atlantic County Multi-Jurisdictional Hazard Mitigation Plan has been developed by the Atlantic County Hazard Mitigation Planning Committee (the “**Planning Committee**”), with support from outside consultants (AECOM Technical Services, Inc.<sup>14</sup> – Clifton, NJ, “AECOM”) who guided all jurisdictions through the planning process and ultimately authored the initial plan in 2010, the 2016 Plan Update, and this current plan update.

As was the case with the initial plan’s development and the first update, the overall Planning Committee for this plan update consisted of representatives for Atlantic County, each participating jurisdiction, and the public and other stakeholders. The Planning Committee did not meet together in one place during the planning process; instead, a team concept was used to more evenly distribute responsibilities and to make best of use of every participant’s unique capabilities. The overall Planning Committee was divided into a Core Planning Group (CPG) and

<sup>14</sup> The consultant for the original plan and the first update was URS Corporation, which merged with AECOM in 2015. The key URS personnel who authored the original plan and 2016 update were retained and also authored the 2021 update.

a series of Jurisdictional Assessment Teams (JATs), with one JAT for each participating jurisdiction (see **Figure 1.3**). The Core Planning Group includes representation of the participating jurisdictions.



**Figure 1.3 – Planning Committee Organizational Structure**

The **County JAT** is the Hazard Mitigation Plan Steering Committee, who is responsible for managing overall plan formulation activities under the direction of ACOEP’s Vincent Jones and Karen Koptic. **ACOEP** was responsible for setting meeting dates and times and notifying all team members of upcoming meetings. They also played a very large role in reminding CPG members of certain project deadlines. The Consultant prepared meeting agendas, handouts, and PowerPoint presentations for delivery in the virtual meetings hosted via online webinar platforms. ACOEP ensured that all meeting materials and report deliverables were posted on the County web site.

**Local JATs** were identified for each participating jurisdiction, and included a range of expertise - from elected officials and administrators to staff in planning, public works, and engineering, for example. Each JAT was responsible for coordinating and facilitating local planning efforts; providing information and feedback to the contractor regarding a wide range of topic areas from land uses and development trends, to local capabilities and floodplain management initiatives through completing various worksheets; involving the public and local community stakeholders in the planning process; assessing mitigation alternatives; selecting a course of action to be followed for their community; adopting the plan; reviewing draft documents; and participating in plan monitoring and implementation. JATs fulfilled these responsibilities under the leadership of their CPG members (the “representative” and “alternate” designated on the Statement of Authority to Participate).

While the composition of each JAT demonstrated a wide range of relevant administrative, technical, legal, and fiscal professional experience and responsibility, FEMA also encourages the planning process to be more inclusive; that is, in addition to local governmental agencies and officials, it should also involve private sector and community organizations. It is acknowledged that outside participation in the 2021 plan update process was limited, and hence a greater effort will be made for future updates. This enhanced future effort is anticipated to include more concerted and targeted outreach to the public and other stakeholders, and also possibly the inclusion of JAT members who are not elected or appointed municipal officials, or who are not contracted by municipalities to provide professional services.

The **CPG** as a whole - made up of head members of each JAT – was the day-to-day planning team for the overall multi-jurisdictional planning process. CPG members were the primary local points of contact for both the County Steering Committee and the consultant and were the go-betweens between the local JATs and the larger CPG. CPG members were responsible for fulfilling their jurisdiction’s plan update process obligations, with assistance and direct support from the members of their JAT. CPG members attended planning meetings; conveyed meeting information back to their JAT members; solicited information and feedback needed from JAT members for incorporation into the plan (typically, on an as-needed basis depending upon the nature of the information request as compared to JAT member areas of specialty), and had primary responsibility for providing opportunities for the public and other stakeholders within their jurisdiction to be involved in the planning process. Readers are invited to review the jurisdictional annexes of **Section 9** for a list of JAT members for each jurisdiction. CPG Representatives and Alternates are identified on the Statements of Authority of **Appendix 1.1**.

At the end of the plan update process, each jurisdiction will formally adopt the Final Plan, documenting their commitment to strive to implement the actions and projects identified in the mitigation strategy to reduce or eliminate long-term risk from natural hazards and disasters in their community.

## Planning Team Meetings

The initial version of this plan was prepared between 2008 and 2010. It was approved by FEMA and adopted by local communities in 2010, and subsequently updated for re-approval by FEMA in 2016. Participating jurisdictions have been working since the approval of the initial plan to implement the actions that were listed in their respective mitigation strategies. FEMA requires ongoing plan implementation, regular monitoring of progress, and formal updates every five years thereafter. The 2016 Plan provided the details of the initial plan development process and the first update, which will not be reiterated here. Instead, this subsection will focus strictly on the process undertaken during the current (second) plan update.

For this update, the County advertised a Request for Proposals (RFP#202008.3) from qualified bidders for the hazard mitigation plan update in May 2020, and bids were received in June 2020. A resolution was passed by the Board of County Commissioners on March 2, 2021. A contract was executed in April, with AECOM in receipt of an executed contract on April 19, 2021. Key planning team meetings held during the plan update process are summarized in **Table 1.5**.<sup>15</sup>

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<sup>15</sup> Local JAT meetings are not presented in this table. Individual JATs met on a fairly ad-hoc basis throughout the plan update process as they deemed necessary.

Meeting materials such as agendas, sign in sheets, and presentations are provided in **Appendix 1.3**.

| Table 1.5<br>Key Planning Team Meetings   |   |  |
|---|---|--|
| Date  | Title   | Details  |
| April 21, 2021  | Project Initiation Meeting (Atlantic County OEP, AECOM)   | Project Initiation Meeting – Atlantic County OEP met with AECOM to discuss the details of the scope of work and project approach and to work hand in hand with the County to establish a more definitive and mutually-achievable schedule (based on the ultimate date of the Notice to Proceed of April 19, 2021), tailoring the timing of execution of key tasks such as meeting dates based on the County's particular preferences and constraints where possible while working within the framework of the overall project timeline.  |
| May 20, 2021  | CPG Kickoff Meeting                                       | Topics discussed included: the importance of the plan update, overview of the 2016 plan, benefits of continued participation in the plan update, key steps of the plan update process, participation requirements for the update, project timeline, near term actions items for participating jurisdictions, outreach to the public and other stakeholders, long term action items for participating jurisdictions, expanded mitigation strategies. The importance of their ongoing and future activities to reach out to the public and key stakeholders in their communities was stressed (using Guidance Memo 1 as a guide, and documenting their activities in the provided Outreach Log). Feedback would be provided on various worksheets. Atlantic County OEP distributed copies of the worksheets after the Kickoff Meeting on May 27, 2021.   |
| June 14 – 19, 2021<br><i>(with one make-up session on each of June 22, June 23, and July 6)</i> | Plan Update Worksheet Assistance Sessions for CPG Members | During the week of June 14, 2021, the AECOM project manager was available to meet virtually with each participating jurisdictions for up to one hour per community, individually, for Plan Update Worksheet Assistance Sessions. The purpose of these sessions was to provide guidance and support with plan update feedback required (worksheets) and additional outreach requirements. AECOM also provided an introduction to the new, password-protected CPG internal information website, online at <a href="http://www.atlantichmp2021.com">www.atlantichmp2021.com</a> , Signup Genius was used to distribute the dates and timeslots, and each municipality and the County had an opportunity to sign up for a time that was convenient for them. Five time slots were available per each of five days from June 14 <sup>th</sup> through the 19 <sup>th</sup> (9:15 am, 10:30 am, 1:30 pm, 2:45pm, and 7pm). Make up sessions were scheduled as needed to accommodate municipal requests and availability, with one makeup session held on 6/22/21 at 1:30 pm, another on 6/23/21 at 9:15 am, and the last on 7/6/21 at 10 am. CPG members left their respective sessions with a clear understanding of the process and their role in it at both the CPG and JAT levels, as well as a clear picture of the updated information they would need to be providing to the consultant, the outreach that would be required, and the platform that would be used for information exchange during the update (CPG internal website, <a href="http://www.atlantichmp2021.com">www.atlantichmp2021.com</a> ). |
| July 15, 2021   | CPG Progress Meeting                                      | At this meeting of the CPG, AECOM presented an overview of the project timeline, key activities since the May 20 <sup>th</sup> CPG Kickoff Meeting, a reintroduction to the CPG internal website ( <a href="http://www.atlantichmp2021.com">www.atlantichmp2021.com</a> ) and its contents, and presented reminders of to-do actions for CPG members.  |
| November 9, 2021  | Review of Draft Plan                                      | At this CPG meeting, AECOM presented the full draft plan (posted online at <a href="http://www.atlantichmp2021.com">www.atlantichmp2021.com</a> the previous day), highlighted findings and changes from the previous version, outlined the next steps in the process. AECOM also requested that the JAT members review the plan and return and submit comments for inclusion in the draft version of the plan to be submitted for agency review. Immediately following the meeting ACOEP distributes a copy of the draft to all CPG members via email, posted the draft sections to the main Atlantic County OEM Hazard Mitigation website, and encouraged CPG members to similarly update their municipal websites, to be shared with the public and other stakeholders.   |

## Roles and Responsibilities – County, Municipalities, and Contractor

**County.** In addition to acting as a participating jurisdiction in its own right, Atlantic County took on the role of lead agency and facilitator in the plan development and update processes. ACOEP secured the grant funding for the 2010 Plan, its 2016 and 2021 Plan Updates, and solicited the participation of all 23 jurisdictions. They selected the consultant and administered the contract; managed communications between the consultant and the CPG (principally through email); distributed deliverables and outreach materials to jurisdictions, the public, other stakeholders, and reviewing agencies; facilitated meetings; procured meeting venues and presentation equipment; distributed meeting invitations; and conducted an extensive outreach strategy for the public and other stakeholders. They continue to maintain a central hazard mitigation planning website and use social media (Facebook, Twitter) to solicit feedback.

**Municipalities.** Each participating jurisdiction contributed throughout the overall plan development and update processes under the support and guidance of ACOEP and AECOM. Municipal JATs conducted outreach to the public and other stakeholders within their respective jurisdictions, assessed risk and hazard mitigation alternatives, and ultimately developed a mitigation action plan for their community. Each JAT was responsible for providing staff to participate in the CPG, attending CPG meetings, and holding their own JAT meetings as they deemed necessary. JATs were responsible for reviewing information, data and documents; submitting feedback to the consultant; completing questionnaires/forms; reaching out to the public and other stakeholders in their respective jurisdictions; developing a unique updated mitigation strategy for their jurisdiction; and reviewing and commenting on draft documents. CPG members documented activities undertaken by their municipal JAT for AECOM incorporation into the document, and prepared the following written documentation at key junctures in the plan update process:

- Each municipality formally advised ACOEP of their desire to participate in the multi-jurisdictional hazard mitigation plan update process. Statements of “Authority to Participate” from participating jurisdictions are included in **Appendix 1.1**.
- Each CPG member was responsible for developing a local JAT for their community. “Worksheet 1 – JAT Membership” documents, for a range of position titles, who was approached by the CPG member and when, and whether or not that person agreed to participate in the plan update (along with their contact information). In this worksheet, CPG members also tracked the activities of their respective JATs, including who was invited to which events and who attended. Information from the Worksheet 1 submittals has been incorporated into the jurisdictional annexes of **Section 9**.
- At the CPG project kickoff meeting on May 20, 2021, CPG members learned about the plan update process and their role in it. They also were asked to provide feedback on whether they felt any hazards should be added to – or omitted from – the list of hazards that were previously included in the updated 2016 plan. Meeting materials from this kickoff meeting and others throughout the plan update process are provided in **Appendix 1.3**.

- All of Atlantic County's municipalities participate in FEMA's NFIP. Each CPG member coordinated with their local floodplain manager to describe their community's participation in the NFIP and describe their floodplain management program for continued compliance with NFIP requirements. "Worksheet 2 – NFIP Participation" documents this information, and copies of each response are included in jurisdictional annexes of **Section 9**.
- Each CPG member coordinated with their JAT to document changes in land uses and development trends since the last plan was prepared. "Worksheet 3 - Land Uses and Development Trends Worksheet" documents this step. Each JAT's Worksheet 3 response has been incorporated into the jurisdictional annexes of **Section 9**.
- Each CPG member coordinated with their JAT to document changes in local capabilities since the last plan was prepared. "Worksheet 4 – Capability Assessment" documents this step, elaborating on each jurisdiction's existing authorities, policies, programs and resources, and its ability to expand on and improve these existing policies and programs. Each JAT's Worksheet 4 response has been incorporated into the jurisdictional annexes of **Section 9**.
- Each CPG member coordinated with their JAT to evaluate and demonstrate progress made in the past five years in achieving goals and implementing actions outlined in their community's 2016 mitigation strategy, including an explanation of if and how any priorities may have changed since the plan was previously approved; and a summary of all mitigation initiatives undertaken by the community since the last 2016 Plan was approved, regardless of whether or not they were in the plan at that time or whether they were completed with local or outside funding. "Worksheet 5 – Status of Past Projects" documents this step, and copies of each JAT's response are included in jurisdictional annexes of **Section 9**.
- Each CPG member coordinated with their JAT to document the status of plan integration<sup>16</sup> activities over the first plan maintenance cycle, and jurisdiction-specific activities projected for the next plan maintenance cycle. "Worksheet 6 – Plan Integration" documents this step, and copies of each JAT's response are included in jurisdictional annexes of **Section 9**.
- Each CPG member coordinated with their JAT to develop an updated mitigation strategy. "Worksheet 7 – Action Worksheets" document this step (with one worksheet for each action). Each JAT's action plan describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction. Copies of the action worksheets for projects comprising each jurisdiction's local mitigation strategy are included in jurisdictional annexes of **Section 9**.

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<sup>16</sup> Plan integration is the process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate.

- Each JAT provided opportunities for the general public and other stakeholders to be made aware of the plan update process, and to be given the opportunity for them to participate and provide feedback. Outreach to both public and stakeholder groups was undertaken throughout the plan update timeline, and was undertaken using various methods (such as in-person meetings, print media, website online, social media sites, etc.) Outreach Logs were completed by each JAT to document these opportunities as activities were undertaken. Comments Logs were completed by each JAT to document public/stakeholder feedback as a result of these efforts. Information from each jurisdiction's Outreach Log and Comments Log are included in jurisdictional annexes of **Section 9**.

A detailed summary of the participation demonstrated by each jurisdiction, including attendance at meetings and submission of requested deliverables, is presented in **Table 1.6** on the next page. **Please note: detailed information regarding each JAT member's activities are included in the jurisdictional annexes of Section 9.**

**Contractor.** AECOM was contracted by the County to guide participating jurisdictions through the process and author the plan in a manner consistent with applicable regulations, criteria, and guidance. AECOM was the lead firm for this assignment for the 2010 Plan, the 2016 Plan Update and the 2021 Update. AECOM was the direct County point of contact, and assisted in all aspects of the plan update, guided local municipalities through their participation in key aspects of the update in a manner that would meet current requirements, led the hazard mitigation planning efforts, was the primary presenter at CPG meetings, authored the plan document, and provided overall contract administration. AECOM conducted the analyses necessary to provide team members with the information they needed to make sound decisions, and helped guide them through the necessary steps of the plan development and update processes. AECOM also prepared a project fact sheet; sample press release about the plan update for use by municipalities, at their option (in full or in part); also for use by municipalities, at their option (in full or in part) - both to facilitate consistent messaging across participating municipalities and for the sake of efficiency by ensuring that 23 different municipalities didn't have to each spend time generating separate presentation materials. These were provided to participating jurisdictions via the CPG Internal Website [www.atlantichmp2021.com](http://www.atlantichmp2021.com) for their use throughout the project.

**Table 1.6:  
Atlantic County Jurisdictions Plan Participation**

| Entity  | Returned Statement of Authority to Participate | Planning Team Meetings              |                              |   |                               |                            |                                 | Worksheets Submitted  |                   |   |   |   |   |   | Outreach to Public and Other Stakeholders |     |
|---|--|-------------------------------------|------------------------------|---|-------------------------------|----------------------------|---------------------------------|---|-------------------|---|---|---|---|---|---|-----|
|   |  | Project Initiation Meeting 04/21/21 | CPG Kickoff Meeting 05/20/21 | Worksheet Assistance Sessions (June 2021) | CPG Progress Meeting 07/15/21 | County JAT meeting 7/22/21 | CPG Plan Review Meeting 11/9/21 | 1   | 2                 | 3 | 4 | 5 | 6 | 7 |   |     |
| <b>Atlantic County:</b>                         | N/A  | ■                                   | ■                            | 6/22/21                                   | ■                             | ■                          | ■                               | ■   | N/A <sup>17</sup> | ■ | ■ | ■ | ■ | ■ | ■   | ■   |
| Office of Emergency Preparedness                | N/A  | ■                                   | ■                            | 6/22/21                                   | ■                             | ■                          | ■                               | County JAT members provided feedback for various worksheets and assisted with outreach. |                   |   |   |   |   |   | ■   |     |
| Department of Regional Planning and Development | N/A  |                                     |                              |   |                               | ■                          |                                 |   |                   |   |   |   |   |   |   |     |
| Department of Public Works                      | N/A  |                                     |                              |   |                               | ■                          |                                 |   |                   |   |   |   |   |   |   |     |
| Treasurer's Office                              | N/A  |                                     |                              |   |                               | ■                          |                                 |   |                   |   |   |   |   |   |   |     |
| Manager/Administrator                           | N/A  |                                     |                              |   |                               | ■                          |                                 |   |                   |   |   |   |   |   |   |     |
| Elected Officials                               | N/A  |                                     |                              |   |                               | ■                          |                                 |   |                   |   |   |   |   |   |   |     |
| <b>Municipalities</b>                           |  |                                     |                              |   |                               |                            |                                 |   |                   |   |   |   |   |   |   |     |
| Absecon, City of                                | ■  |                                     | ■                            | 6/15/21                                   | ■                             |                            | ■                               | ■   | ■                 | ■ | ■ | ■ | ■ | ■ | ■   | ■   |
| Atlantic City, City of                          | ■  |                                     | ■                            | 6/16/21                                   | ■                             |                            | ■                               | ■   | ■                 | ■ | ■ | ■ | ■ | ■ | ■   | ■   |
| Brigantine, City of                             | ■  |                                     | ■                            | 6/14/21                                   | ■                             |                            | ■                               | ■   | ■                 | ■ | ■ | ■ | ■ | ■ | ■   | ■   |
| Buena Vista, Borough of                         | ■  |                                     | ■                            | 6/16/21                                   | ■                             |                            | ■                               | ■   | ■                 | ■ | ■ | ■ | ■ | ■ | ■   | ■   |
| Buena, Township of                              | ■  |                                     | ■                            | 6/18/21                                   | ■                             |                            | ■                               | ■   | ■                 | ■ | ■ | ■ | ■ | ■ | ■   | ■   |
| Corbin City, City of                            | ■  |                                     | ■                            | 6/16/21                                   | ■                             |                            | ■                               | ■   | ■                 | ■ | ■ | ■ | ■ | ■ | ■   | ■   |
| Egg Harbor City, City of                        | ■  |                                     | ■                            | 6/14/21                                   | ■                             |                            | ■                               | ■   | ■                 | ■ | ■ | ■ | ■ | ■ | ■   | ■   |
| Egg Harbor, Township of                         | ■  |                                     | ■                            | 6/17/21                                   | ■                             |                            | ■                               | ■   | ■                 | ■ | ■ | ■ | ■ | ■ | ■   | ■   |
| Estell Manor, City of                           | ■  |                                     | ■                            |   | ■                             |                            | ■                               | ■   | ■                 | ■ | ■ | ■ | ■ | ■ | ■   | ■   |
| Folsom, Borough of                              | ■  |                                     | ■                            | 6/17/21                                   | ■                             |                            | ■                               | ■   | ■                 | ■ | ■ | ■ | ■ | ■ | ■   | ■   |
| Galloway, Township of                           | ■  |                                     | ■                            | 6/15/21                                   | ■                             |                            | ■                               | ■   | ■                 | ■ | ■ | ■ | ■ | ■ | ■   | ■   |
| Hamilton, Township of                           | ■  |                                     | ■                            | 6/18/21                                   | ■                             |                            | ■                               | ■   | ■                 | ■ | ■ | ■ | ■ | ■ | ■   | ■   |
| Hammonton, Town of                              | ■  |                                     | ■                            | 6/18/21                                   | ■                             |                            | ■                               | ■   | ■                 | ■ | ■ | ■ | ■ | ■ | ■   | ■   |
| Linwood, City of                                | ■  |                                     | ■                            | 6/18/21                                   | ■                             |                            | ■                               | ■   | ■                 | ■ | ■ | ■ | ■ | ■ | ■   | ■   |
| Longport, Borough of                            | ■  |                                     | ■                            | 6/14/21                                   | ■                             |                            | ■                               | ■   | ■                 | ■ | ■ | ■ | ■ | ■ | ■   | ■   |
| Margate City, City of                           | ■  |                                     | ■                            | 6/18/21                                   | ■                             |                            | ■                               | ■   | ■                 | ■ | ■ | ■ | ■ | ■ | ■   | ■   |
| Mullica, Township of                            | ■  |                                     | ■                            | 6/21/21                                   | ■                             |                            | ■                               | ■   | ■                 | ■ | ■ | ■ | ■ | ■ | ■   | ■   |
| Northfield, City of                             | ■  |                                     | ■                            | 6/17/21                                   | ■                             |                            | ■                               | ■   | ■                 | ■ | ■ | ■ | ■ | ■ | ■   | ■   |
| Pleasantville, City of                          | ■  |                                     | ■                            | 7/6/21                                    | ■                             |                            | ■                               | ■   | ■                 | ■ | ■ | ■ | ■ | ■ | ■   | ■   |
| Port Republic, City of                          | ■  |                                     | ■                            | 6/15/21                                   | ■                             |                            | ■                               | ■   | ■                 | ■ | ■ | ■ | ■ | ■ | ■   | ■   |
| Somers Point, City of                           | ■  |                                     | ■                            | 6/15/21                                   | ■                             |                            | ■                               | ■   | ■                 | ■ | ■ | ■ | ■ | ■ | ■   | ■   |
| Ventnor City, City of                           | ■  |                                     | ■                            | 6/16/21                                   | ■                             |                            | ■                               | ■   | ■                 | ■ | ■ | ■ | ■ | ■ | ■   | ■   |
| Weymouth, Township of                           | ■  |                                     | ■                            | 6/17/21                                   | ■                             |                            | ■                               | ■   | ■                 | ■ | ■ | ■ | ■ | ■ | ■   | ■   |
| <b>Stakeholders</b>                             |  |                                     |                              |   |                               |                            |                                 |   |                   |   |   |   |   |   |   |     |
| Atlantic County Utilities Authority             | N/A  |                                     |                              |   |                               |                            |                                 |   |                   |   |   |   |   |   |   |     |
| NJOEM   | N/A  |                                     |                              |   | ■                             |                            | ■                               |   |                   |   |   |   |   |   |   |     |
| Red Cross                                       | N/A  |                                     | ■                            |   |                               |                            |                                 |   |                   |   |   |   |   |   |   |     |
| Salvation Army                                  | N/A  |                                     | ■                            |   | ■                             |                            |                                 |   |                   |   |   |   |   |   |   |     |
| Stockton College                                | N/A  |                                     |                              |   |                               |                            |                                 |   |                   |   |   |   |   |   |   |     |
| <b>Consultant</b>                               |  |                                     |                              |   |                               |                            |                                 |   |                   |   |   |   |   |   |   |     |
| AECOM   | N/A  | ■                                   | ■                            | ■   | ■                             |                            | ■                               |   |                   |   |   |   |   |   |   | N/A |

**Key:** [Blank] = Not invited    ■ = Invited and attended / Submitted relevant worksheet    [Blank] = Invited but did not attend / did not submit relevant worksheet

<sup>17</sup> Worksheet 2 regarding jurisdictional implementation of FEMA's NFIP is not an applicable document for the County as the County government is not a participating community in the NFIP (this is done at the municipal level in the State of NJ)

## Outreach to the Public and Other Stakeholders

A key element in the mitigation planning process is the discussion it promotes among community members about creating safer, more disaster-resilient communities. To meet Federal requirements, opportunities must be provided for the general public and other stakeholders<sup>18</sup> to be involved throughout hazard mitigation planning and plan update processes.

Outreach to the public and other stakeholders was undertaken concurrently by both the County and each participating jurisdiction. County outreach activities were broader efforts aimed at a larger, county-wide scale; while each participating jurisdiction's JAT was responsible for providing outreach opportunities for the general public and other stakeholders within their municipal borders. Additionally, JATs provided additional opportunities at a more local level. **While this subsection of the plan presents a general overview of County-led activities for outreach to the public and other stakeholders, details of the specific activities undertaken by the County and each participating jurisdiction are provided in each jurisdictional annex of Section 9.**

- Stakeholders on the County Jurisdictional Assessment Team (JAT). The County formed a JAT to provide feedback on the plan and on mitigation actions. A list of specific member names and position titles is included in the County's annex within **Section 9**. The County JAT consisted of the following entities:

*Atlantic County Office of Emergency Preparedness  
Atlantic County Department of Public Safety  
Atlantic County Department of Regional Planning and Development  
Atlantic County Department of Public Works  
Atlantic County Treasurer's Office  
Atlantic County Administrator's Office*

- Other Stakeholders Attending Key Planning Team Meetings. The following additional stakeholders also participated by attending one or more multi-jurisdictional planning team meetings (see **Table 1.6**):

*NJOEM  
Salvation Army  
Red Cross*

- Press. Information regarding the plan update appeared in various news outlets over the course of the project to provide opportunities for the public and other stakeholders to be informed and to participate in the process. A press release was issued by the County

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<sup>18</sup> A stakeholder is any person, group, or institution that can affect or be affected by a course of action, such as neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, businesses, academia, and other private and nonprofit interests.

on May 21, 2021, discussing the plan update process (<https://www.atlantic-county.org/news/details.asp?ID=5073>); and August 3, 2021, seeking public input for the plan (<https://www.atlantic-county.org/news/details.asp?ID=5154>).

- The County also used social media posts on County Facebook and Twitter pages and the mitigation plan web site. Copies of County Press Releases and a sampling of local media<sup>19</sup> articles are in **Appendix 1.3**.
- **Public Meetings.** The plan update was included in the annual Downbeach Community meeting, held on July 22, 2021 to educate the public on municipal and county-level emergency services and mitigation plans.
- **External Website.** A public-facing hazard mitigation planning page was initiated by ACOEP in 2008 at the onset of development of the initial plan. The County maintained this web presence (<https://www.atlantic-county.org/hazard-mitigation/>), and updated its content to reflect subsequent updates. Most recently, for the current plan update, the website was updated in May 2021. The purpose of the web content is to inform the public and other stakeholders about the purpose and need for the plan and the update and to solicit their feedback and participation. Content includes general information about the process, participating jurisdictions, planning group and meeting information, contact information, a link for the plan, and more. **Figure 1.4** shows a screen capture of the main page for the plan update. **Figure 1.5** shows a screen capture of the General Information page.

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<sup>19</sup> News articles in **Appendix 1.4** do not represent comprehensive coverage of the plan update by local news media. Other articles may have been published that do not appear in the appendix. The appendix is intended to give a flavor for the type of articles that appeared throughout the update.



Figure 1.4 – Plan Update Web Content on <https://www.atlantic-county.org/hazard-mitigation/>

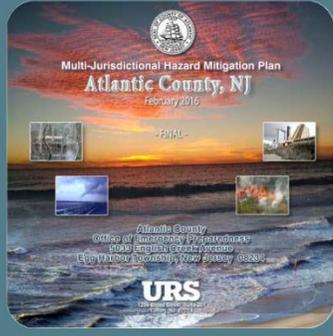
The screenshot shows a web browser window displaying the Atlantic County website. The URL is [atlantic-county.org/hazard-mitigation/general-information.asp](https://www.atlantic-county.org/hazard-mitigation/general-information.asp). The page features a navigation menu with options for Residents, Visitors, Business, County Government, and Home. The main content area is titled 'General Information' and includes sections for 'What is Hazard Mitigation?', 'What is a Hazard Mitigation Plan?', and 'Purpose and Need for the Plan'. A sidebar on the right provides contact information for the Department of Public Safety, Office of Emergency Preparedness, and a list of links including 'New Jersey Office of Emergency Management', 'Federal Emergency Management Agency (FEMA)', and 'FEMA-Hazard Mitigation Assistance Grants'.

**Figure 1.5 – Plan Update Web Content on <https://www.atlantic-county.org/hazard-mitigation/general-information.asp>**

- **Fact Sheet.** Participating jurisdictions found the use of the plan update fact sheet to be of great use for getting the word out regarding the initial plan, and the CPG opted to use this as one component of its outreach strategy for the plan update as well. **Figure 1.6** on the next page shows the fact sheet used for the second plan update. In addition to describing the purpose and need for the plan, and information about the plan update, the fact sheet also gave ACOEP contact information for interested parties to reach out to for questions or other feedback, or to learn more about how they could become involved in the plan update process. CPG members distributed this fact sheet on notice boards and at various meetings with the public and other stakeholders. Some examples of ways the County, in particular, used the fact sheet for its outreach strategy include but are not limited to: ACOEP distribution of the fact sheet to interested parties at its various outreach meetings and events, including the Annual Downbeach Community Meeting on July 22, 2021.

The fact sheet was also distributed throughout the process by County staff and participating jurisdictions, and was posted on the plan update web site. Details are included in the Jurisdictional Annexes of **Section 9**.

## Atlantic County Multi-Jurisdictional Hazard Mitigation Plan Update




### Planning Timeline

- The initial hazard mitigation plan was adopted in 2010
- Regular updates are required by FEMA
- The first plan update was completed in 2016
- This second plan update process began in April 2021 and is targeted for completion in 2022

Natural hazards are a part of life throughout Atlantic County. All of these hazard events have the potential to cause property loss, economic hardship, environmental degradation, and threats to public health and safety including loss of life. An important part of emergency management involves hazard mitigation

### Purpose and Need for the Plan

The **Multi-Jurisdictional Natural Hazard Mitigation Plan for Atlantic County** was initially adopted in 2010 to meet the requirements of the Disaster Mitigation Act of 2000 (or "DMA 2000"). Its development was led by the County under a FEMA planning grant that covered the costs of its preparation. Though it wasn't required, Atlantic County opted to use what FEMA calls a 'multijurisdictional' approach – meaning that instead of the plan being limited in scope to the County government, every municipality was invited to participate as an equal partner with the County. Adopting a FEMA approved hazard mitigation plan opens the door for all participating jurisdictions to

### For More Information

For questions or other feedback, or to find out how you can become involved, please contact the Atlantic County Office of Emergency Management. Vincent Jones, Chief of Staff, can be reached at [jones\\_vincent@aclink.org](mailto:jones_vincent@aclink.org) and Karen Koptic,

planning aimed at minimizing these impacts and improving resiliency. The Plan describes the hazard risks that can occur, identifies vulnerable community assets, and presents mitigation strategies comprised of actions and projects that will be implemented to reduce key hazard risks.

be in compliance with DMA 2000 and eligible to apply for hazard mitigation project grants. To stay in compliance with DMA 2000, the plan must be updated every five years. The update ensures that the plan remains current in its discussion of local risks and risk reduction strategies. The County has once again obtained FEMA grant funding to cover the cost of this second plan update, and has opted to continue its 'multi-jurisdictional' approach. Each jurisdiction in the County is attending meetings, providing feedback in a series of topic areas, reaching out to the public and other key stakeholders, and updating their local mitigation strategy.

Operations and Training Officer, can be reached at [koptic\\_karen@aclink.org](mailto:koptic_karen@aclink.org). Information about the project is also maintained on our web site at: <https://www.atlantic-county.org/hazard-mitigation/>

***Natural hazard events cannot be prevented from occurring. However, by implementing the hazard mitigation projects identified in the Plan, we can reduce vulnerabilities, risks, and future damage. Over time, our hazards will result in fewer disasters.***



Atlantic County Multi-Jurisdictional Hazard Mitigation Plan Update • "PlanFacts" • April 2021 •

Figure 1.6 – Fact Sheet for the Second Plan Update

- Municipal OEM Coordinators Meetings: ACOEP hosted meetings of the Municipal OEM Coordinators on May 21, and September 23, 2021. At each meeting, coordinators were made aware of the plan update and invited to participate in the process.
- Public Information Video on Hazard Mitigation. A video about the hazard mitigation plan update was prepared jointly with the ACOEP and the County Public Information Officer, and posted in July 2021 on YouTube and on the County mitigation planning page at <https://www.youtube.com/watch?v=wBIVo6STwts&t=7s> and <https://www.atlantic-county.org/hazard-mitigation/>, respectively.
- Social Media: Facebook and Twitter. Facebook and Twitter accounts registered to the County and various participating jurisdictions were used periodically throughout the plan update process to inform the public and other stakeholders about the plan update and solicit their feedback and participation. One such example includes an ACOEP Facebook and Twitter posts in May and July 2021.

It is acknowledged that outreach and participation of non-governmental stakeholders was limited for this plan update, in part due to constraints arising from the Coronavirus pandemic and the timeframe in which the update process was conducted. In accordance with FEMA guiding principles for inclusive participation at various levels, the Core Planning Group will place a high priority on an expanded effort regarding non-governmental stakeholder participation in future plan updates.<sup>20</sup>

## Feedback from the Public and Other Stakeholders

As discussed in the preceding subsection and detailed in the Outreach Logs for each jurisdiction (as provided in municipal annexes of **Appendix 1.2**) the County and each participating jurisdiction collectively undertook many actions to raise awareness of the plan update process and provide the public and other stakeholders with a forum for participating in - and providing feedback throughout - the plan update. These activities ranged from web site and social media postings to use of print media, public meetings, and targeted outreach to key stakeholder groups.

### [Overview of Feedback Provided by the General Public](#)

The feedback provided by the general public during the course of the second plan update resulted from outreach sessions conducted at various meetings/events throughout the County. Also, outreach to the public was conducted at local fairs and festivals, including the National Night Out August 3, 2021, and the County 4-H Fair on August 6-8, 2021. Comments and questions by the public regarding the plan from all outreach activities included the identification of locations of localized flooding that need to be addressed, facilities with a need for generators, and shoreline areas requiring beach stabilization. Other questions were related to the cost of

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<sup>20</sup> In the comments provided with the FEMA review, suggested targets for expanded outreach in the next update include the New Jersey Pinelands Commission, the US Army Corps of Engineers, the New Jersey Forest Fire Service, the South Jersey Transportation Planning Organization, the Casino Reinvestment Development Authority, the New Jersey Builders Association, the Builders League of South Jersey, private sector utilities, major healthcare facilities, and all five neighboring counties.

flood insurance premiums, the location of emergency shelters, and the availability of funding to elevate floodprone homes.

## Review and Incorporation of Existing Plans, Studies, Reports, and Technical Information

In the process of preparing this hazard mitigation plan update, many other existing plans, studies, reports, and technical information were evaluated. These sources are noted throughout this report as various topics are discussed. As shown in **Table 1.7**, the development of this hazard mitigation plan included the review and incorporation of data from existing plans, studies, reports, and technical information. Relevant information was referenced or included, as applicable, to form the content of this mitigation plan.

| <b>Data Source</b>   | <b>How Incorporated</b>   |
|--|---|
| Readily available on-line information from federal and state agency web sites such as: FEMA, NJOEM, NJ Department of Environmental Protection, NJ Geological and Water Survey, US Forest Service National Avalanche Center, US Geological Survey, National Oceanic and Atmospheric Administration (including National Weather Service, National Climatic Data Center, National Centers for Environmental Information, and the National Severe Storms Laboratory), University of Buffalo Multidisciplinary Center for Earthquake Engineering Research (MCEER), USGS National Earthquake Information Center, NASA Space Environment Center, and the US Department of Transportation Federal Highway Authority. | Referenced throughout this report as various topics are discussed. Primarily, these sources were consulted to develop lists of historic occurrences of various hazards as well as areas at risk, probability of future occurrences, and impact information.   |
| New Jersey State Hazard Mitigation Plan (2019)   | Hazard information including historic occurrences, areas at risk, probability of future occurrences, and impact information. Also: State capabilities that can support local hazard mitigation efforts, State goals and actions (to compare against local goals and actions to ensure that the two go hand-in-hand), etc. |
| FEMA Flood Map Data and Municipal Flood Insurance Studies  | Areas susceptible to flooding. Also, FISs included information about local flood protection features. DFIRMs were combined with parcel data in GIS to evaluate the area of the floodplain in each municipality, the value of improvements in each area.   |
| Atlantic County GIS data   | Quantification of assets at risk from various hazards. County GIS data included: fire stations, police stations, hospitals, public works facilities, schools, and emergency shelters.   |
| New Jersey Geographic Information Network (NJGIN)  | Used to obtain GIS improved property parcel data (MODIV data, 2021) and additional critical facility data.  |
| FEMA's HAZUS-MH  | The database of assets from HAZUS was imported on a GIS platform to determine assets at risk from delineable hazards for: emergency operations centers, power generating stations,  |

| <b>Table 1.7</b>  |  |
|---|--|
| <b>Review and Incorporation of Data from Outside Sources</b>  |  |
| <b>Data Source</b>  | <b>How Incorporated</b>  |
|   | potable water treatment plants, wastewater treatment plants, significant public works buildings, airports, and ferry ports   |
| Atlantic County Master Plan (2018)  | Used to describe historic land uses and development trends as well as overall future growth and development of Atlantic County, as well as current and expected future trends.   |
| Atlantic County Open Space and Recreation Plan (2018)   | Used to describe historic land uses and development trends as well as overall future growth and development of Atlantic County, as well as current and expected future trends.   |
| Atlantic County Flood Insurance Study   | Areas susceptible to flooding. Also, FISs included information about local flood protection features. DFIRM data was combined with parcel data in GIS to evaluate the area of the floodplain in each municipality, the value of improvements in each area. |
| USGS Earthquake History of New Jersey   | Historic earthquake event occurrences  |
| NJGS Earthquakes Epicentered in New Jersey  | Historic earthquake event occurrences  |
| NEHRP Soil Class Mapping  | The severity of impact of an earthquake can be exacerbated by certain soil types, and soils mapping was used in the earthquake hazard profile to inform the degree to which soil type might exacerbate earthquake impacts.                                 |
| New Jersey Geological Survey Landslide Event Database   | Historic landslide event occurrences. Landslides are more likely to occur in areas where they have happened in the past.   |
| USGS National Landslides Program Landslide Mapping  | Historic landslide event occurrences. Landslides are more likely in areas where they have happened in the past.  |
| USGS Fact Sheet 165-00, Land Subsidence in the United States  | Land subsidence hazard maps were evaluated to determine whether land subsidence is a significant hazard  |
| USDA National Agricultural Statistics Service, Census of Agriculture, Atlantic County   | Information regarding agricultural uses in the County to characterize how widespread the potential impacts of some hazards might be (drought and hail, for example).   |
| Stanford University National Performance of Dams Program web site   | Dam inventory data was used to quantify the number, type, and hazard ranking of dams in the County (as applicable for the flood hazard).   |
| U.S. Army Corps of Engineers National Inventory of Dams   | Dam inventory data was used to quantify the number, type, and hazard ranking of dams in the County. (as applicable for the flood hazard).  |
| Atlantic County Department of Regional Planning and Development, Division of Engineering  | Emergency Action Plans for High and Significant Hazard dams (Lake Lenape Dam (2020, 6th Revision), Bargaintown Mill Pond Dam (2020, 7th Revision), and Pleasant Mills Dam (2020)).   |
| The American Society of Civil Engineers Standard 7-02, Minimum Design Loads for Buildings and Other Structures; and "Wind Zones in the United States" map | Map used to determine which wind region the County is in; this informed the wind hazard profile.   |
| FEMA Publication 320 - Taking Shelter from the Storm: Building a Safe Room for your Home or Small Business  | Typical damage for each Enhanced Fujita scale tornado and hurricane category, as well as wind zones and tornado activity maps  |
| FEMA NFIP Community Status Book   | NFIP participating communities, numbers of policies, historic numbers and values of paid claims, etc.  |
| FEMA data for NFIP Repetitive Loss Properties and Community Rating System communities   | Numbers of losses, value of paid claims, communities with repetitive loss properties, communities participating in the CRS (and their class), etc.   |
| FEMA's "NFIP Floodplain Management Requirements: A Study Guide and Desk Reference for Local Officials (FEMA-480)"   | Types of mitigation measures, definitions of the different categories of flooding for the hazard profile, and a table showing  |

| <b>Table 1.7</b>  |  |
|---|--|
| <b>Review and Incorporation of Data from Outside Sources</b>  |  |
| <b>Data Source</b>  | <b>How Incorporated</b>  |
|   | the odds of being flooded (for various time periods and flood events)  |
| Rutgers University Science and Technical Advisory Panel (STAP) Report (2019)  | Reviewed for projections of sea level rise under a range of future scenarios.  |
| Stockton University Coastal Research Center   | For information on sea level rise, coastal erosion, renourishment projects.  |
| National Tsunami Hazard Mitigation Program  | Incidence of tsunamis affecting New Jersey and Atlantic County   |
| Maine State Hazard Mitigation Plan  | Reviewed for information on tsunami risk   |
| USGS Landslide Overview Map of the Conterminous United States, prepared in hard copy format in 1982 by Dorothy H. Radbruch-Hall, Roger B. Colton, William E. Davies, Ivo Lucchitta, Betty A. Skipp, and David J. Varnes (Geologic Survey Professional Paper 1183), compiled digitally by Jonathan W. Godt (USGS Open File Report 97-289), as viewed on NationalAtlas.gov  | Landslide incidence and susceptibility   |
| American Society of Civil Engineers (ASCE) Standard 7-98: Minimum Design Loads for Buildings and Other Structures   | Minimum design loads for wind  |
| FEMA's "Multi-Hazard Identification and Risk Assessment" (1997)   | Several hazard definitions and information to support the hazard profile, as well as ideas for types of mitigation approaches  |
| American Meteorological Society "Glossary of Meteorology"   | Definitions of meteorological hazards  |
| FEMA's "Mitigation Ideas"   | Provided information to the CPG about a range of mitigation measures for various types of hazards.   |
| Local plans, codes, and ordinances (such as building codes, zoning ordinances, subdivision ordinances, special purpose ordinances, site plan review requirements, growth management ordinances, comprehensive plans, capital improvements plans, economic development plans, emergency response plans, post-disaster recovery plans, post-disaster recovery ordinances, local waterfront revitalization plans, and real estate disclosure ordinances) | Jurisdictions were asked to review local plans and ordinances and consider all local capabilities when developing their mitigation strategies as the enhancement of existing capabilities, or bridging identified gaps in capabilities, can further mitigation goals and objectives. Responses were recorded in the Capability Assessments of Section 4. |
| US Census (2019 ACS)  | Population, people per household, income, age, etc.  |
| <i>New Jersey State Development and Redevelopment Plan</i> (State Plan) and Atlantic County's Cross Acceptance Report   | Areas envisioned for growth, limited growth, and conservation; development trends.   |
| USDA Understanding Soil Risks and Hazards (2004)  | Reviewed for information regarding expansive soils   |
| USGS Hydrologic Atlas 730-L (1997)  | Reviewed to evaluate groundwater resources   |
| New Jersey Drought Emergency Plan (1991)  | Reviewed to determine how actions during a drought emergency mitigate impacts  |
| USDA Atlantic County Soil Survey  | Reviewed for local potential for expansive soils   |
| <i>In the Wake of Doria</i> (1971)  | Reviewed for local event impacts   |
| NJDEP Floods of August and September 1971 in New Jersey, Special Report 37 (1972)   | Reviewed for local event impacts   |

| Table 1.7<br>Review and Incorporation of Data from Outside Sources  |   |
|---|---|
| Data Source   | How Incorporated  |
| USGS Open File Report 79-559, Flood of November 8-10, 1977 in Northeastern and Central New Jersey (April 1979)  | Reviewed for local event impacts  |
| National Weather Service, Eastern Region, Disaster Survey Report, The Great Nor'easter of December 1992 (June 1994)   | Reviewed for local event impacts  |
| New Jersey Historic Preservation Office GIS shape files for state and federally listed historic and cultural resources  | Used to identify historic and culturally significant assets in hazard areas   |
| New Jersey Administrative Code 7:7E; Coastal Zone Management Rules  | Reviewed for information about management of the county's coastal zones   |
| FEMA's "NFIP Floodplain Management Requirements: a Study Guide and Desk Reference for Local Officials (FEMA-480)"   | Used to evaluate the impact of future development in flood hazard areas on overall risk (i.e., how well do existing regulations provide protection for new development where new development is in compliance with current codes and standards)   |
| NOAA's Atlantic Oceanographic and Meteorological Laboratory's mapping – "Empirical Probability of a Named Storm"  | Reviewed to report on annual probability of a named storm for the hurricane and tropical storm risk assessment  |
| New Jersey Department of Labor and Workforce Development, Division of Labor Market and Demographic Research, County Community Fact Book, Atlantic County Edition, June 2013 | Used to show change in exposure and potential vulnerability of people to natural hazards  |
| Earthquake Risk in New Jersey, NJOEM  | Used in the earthquake risk assessment  |
| "Getting to Resilience" Recommendations Reports, New Jersey Resilient Coastal Communities Initiative, prepared by the Resilience Team at JCNERR                             | New Jersey Resilient Coastal Communities Initiative. The Resilience Team at JCNERR provides assistance to communities in New Jersey, guiding municipal leadership in discussing their community's current and future risk preparedness. Mitigation action recommendations are included in their "Getting to Resilience" Recommendations Reports. Atlantic County communities with Resiliency initiatives include Atlantic City, Somers Point, and Ventnor City ( <a href="http://www.prepareyourcommunitynj.org/municipal-maps/atlantic-county/">www.prepareyourcommunitynj.org/municipal-maps/atlantic-county/</a> ). Other work has been undertaken in Brigantine and Hamilton. Communities considered Resiliency Recommendations Report initiatives when formulating their mitigation strategies as part of this plan update |

## Regulatory Compliance

This Hazard Mitigation Plan was prepared in a manner consistent with applicable regulations, criteria, and guidance. The Plan's components address the local hazard mitigation planning requirements of the DMA 2000. The planning team used FEMA's Local Mitigation Planning Handbook (March 2013) and its "Regulation Checklist" as a guide. Each element of the Regulation Checklist must be addressed satisfactorily for a plan to be approved by FEMA. **Table 1.8** summarizes the FEMA regulations, and where the regulation is addressed in this plan.

| <b>Table 1.8<br/>FEMA Plan Review Criteria</b>   |  |
|--|--|
| <b>Regulation</b>  | <b>Location in the Plan<sup>21</sup></b> |
| <b>Element A - Planning Process</b>  |  |
| <b>A1.</b> Does the Plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction (Requirement 201.6(c)(1))  | Section 1                                |
| <b>A2.</b> Does the Plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development as well as other interest to be involved in the planning process? (Requirement 201.6(b)(2)) | Section 1                                |
| <b>A3.</b> Does the Plan document how the public was involved in the planning process during the drafting stage? (Requirement 201.6(b)(1))   | Section 1                                |
| <b>A4.</b> Does the Plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement 201.6(b)(3))   | Section 1                                |
| <b>A5.</b> Is there discussion of how the community(ies) will continue public participation in the plan maintenance process? (requirement 2016(c)(4)(iii))   | Section 7                                |
| <b>A6.</b> Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a 5-year cycle)? (Requirement 201.6(c)(4)(i))  | Section 7                                |
| <b>Element B – Hazard Identification and Risk Assessment</b>   |  |
| <b>B1.</b> Does the Plan include a description of the type, location, and extent of all natural hazards that can affect each jurisdiction? (Requirement 201.6 (c)(2)(i))   | Sections 2 and 3a                        |
| <b>B2.</b> Does the Plan include information on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction? (Requirement 201.6(c)(2)(i))   | Section 3a                               |
| <b>B3.</b> Is there a description of each identified hazard's impact on the community as well as an overall summary of the community's vulnerability for each jurisdiction? (Requirement 2016(c)(2)(ii))   | Sections 3b,3c, 3d, and 3e               |
| <b>B4.</b> Does the Plan address NFIP insured structures within the jurisdiction that have been repetitively damaged by floods? (Requirement 201.6(c)(2)(ii))  | Sections 3a and 6                        |
| <b>Element C – Mitigation Strategy</b>   |  |
| <b>C1.</b> Does the plan document each jurisdiction's existing authorities, policies, programs, and resources and its ability to expand on and improve these existing policies and programs? (Requirement 201.6(c)(3))   | Section 4                                |
| <b>C2.</b> Does the Plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement 201.6(c)(3)(ii))  | Section 3a                               |
| <b>C3.</b> Does the Plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement 201.6(c)(3)(i))   | Section 5                                |
| <b>C4.</b> Does the Plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement 201.6(c)(3)(ii))                   | Section 6                                |
| <b>C5.</b> Does the Plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction? (Requirement 201.6(c)(3)(iii))  | Section 6                                |
| <b>C6.</b> Does the Plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement 201.6(c)(4)(ii))  | Section 7                                |
| <b>Element D – Plan Review, Evaluation, and Implementation (applicable to plan updates only)</b>   |  |
| <b>D1.</b> Was the plan revised to reflect changes in development? (Requirement 201.6(d)(3))   | Section 3d                               |

<sup>21</sup> "Location in the Plan" is referring to the primary plan Section where the requirement is met, and any appendices referenced in that section.

| <b>Table 1.8<br/>FEMA Plan Review Criteria</b>  |  |
|---|--|
| <b>Regulation</b>   | <b>Location in the Plan<sup>21</sup></b> |
| <b>D2.</b> Was the plan revised to reflect progress in local mitigation efforts? (Requirement 201.6(d)(3))  | Section 6                                |
| <b>D3.</b> Was the plan revised to reflect changes in priorities? (Requirement 201.6(d)(3))   | Section 6                                |
| <b>Element E – Plan Adoption</b>  |  |
| <b>E1.</b> Does the Plan include documentation that the Plan has been formally adopted by the governing body of the jurisdiction requesting approval? (Requirement 201.6(c)(5)) | Page i <sup>22</sup>                     |
| <b>E2.</b> For multi-jurisdictional plans, has each jurisdiction requesting approval of the plan documented formal plan adoption? (Requirement 201.6(c)(5))                     | Page i <sup>21</sup>                     |
| <b>Element F – Additional State Requirements</b>  |  |
|   |  |

## General Overview of Modifications to the 2016 Plan as part of the 2021 Plan Update

This section documents how the planning team reviewed and analyzed each section of the prior version of the plan (February 2016) and whether each section was revised as part of the 2021 Plan Update. As part of this update, every section of the earlier plan has been reviewed and comprehensively updated as needed to achieve compliance with FEMA mitigation planning requirements outlined in the Local Mitigation Plan Review Guide in October 2011 and the Local Mitigation Planning Handbook in March 2013.

The document has been streamlined, with a good deal of supporting documentation moved into appendices reproduced only on CD but not in hard copy in order to make the hard copy version of the plan more portable and user-friendly for those benefiting from its contents. Printed hard copies of all data and appendices reproduced on CD will be kept on file by ACOEP for inspection upon request. Applicable and relevant information from the last version of the plan has been carried through to the updated text on a case by case basis.

Highlights of some key additional information appearing in this updated document include:

- A description of the planning process and associated outreach activities (to the public and other stakeholders) that was undertaken as part of this update.
- A listing of historical occurrences of the identified hazards since the last version of the plan was prepared in 2016 (including but not limited to major disaster and emergency declarations).
- Current information regarding changes in development, progress on local mitigation efforts, and any changes in priorities.

<sup>22</sup> Participating jurisdictions will each be responsible for passing their resolutions after agency reviews are completed and FEMA indicates that the plan is "Approvable Pending Adoption". Each jurisdiction is responsible for providing a copy of their adoption resolution to ACOEP. ACOEP is responsible for providing a copy of all resolutions to FEMA, and inserting hard copies into the bound document following Page i.

- The status of past projects and plan maintenance activities, as well as identification of new mitigation strategies, for the County and each of the 23 municipalities who participated in the plan update.
- A full summary of local capabilities with local assessments of how their capabilities could be improved to foster mitigation goals.
- Incorporation of recently published information not available at the time of the 2016 Plan (such as the New Jersey State Hazard Mitigation Plan of 2019).

**Table 1.9** documents how each section of the plan was reviewed and analyzed, and whether each section was revised as part of the update process.

| <b>Table 1.9<br/>Overall Summary of Plan Transition – 2016 to 2022</b>     |  |  |
|--|--|--|
| <b>2016 Plan Section (s)</b>   | <b>2021 Plan Update Section(s)</b>   | <b>Comments</b>  |
| Plan Adoption Resolutions Placeholder                                      | Plan Adoption Resolutions Placeholder                                      | Reviewed and updated to refer to the 2021 Plan Update, but presentation remains largely unchanged.   |
| Acknowledgements   | Acknowledgements   | Reviewed and updated to present details for the 2021 Plan Update.  |
| Executive Summary  | Executive Summary  | Reviewed and updated to reflect current conditions, detailed table of mitigation actions by jurisdiction added.  |
| Section 1 – Introduction   | Section 1 – Introduction   | Reviewed and updated to present details of the 2021 Plan Update process but presentation remains largely unchanged.  |
| Section 2 – Identification of Potential Hazards                            | Section 2 – Identification of Potential Hazards                            | Reviewed and updated to present details for the 2016 Plan Update, and to align more closely with the setup of the 2019 State HMP.  |
| Section 3a – Hazard Profiles   | Section 3a - Hazard Profiles   | All hazard profiles were updated to incorporate the latest readily available data, including NFIP data, hazard occurrences and their impacts since the last plan update, plus information for hazards not previously profiled in detail. |
| Section 3b – Identification and Characterization of Assets in Hazard Areas | Section 3b – Identification and Characterization of Assets in Hazard Areas | Updated for the latest asset data from Atlantic County GIS and HAZUS. Historical properties updated according to state and national sources.   |
| Section 3c – Damage Estimates  | Section 3c – Damage Estimates  | Damage estimates updated to incorporate current data. Also HAZUS-based damage analysis methodology used in place of previous approach for applicable hazards.  |
| Section 3d – Land Uses and Development Trends in Hazard Areas              | Section 3d – Land Uses and Development Trends in Hazard Areas              | Updated to reflect jurisdictional reassessments of current trends and developments.  |
| Section 3e – Conclusions on Hazard Risk                                    | Section 3e – Conclusions on Hazard Risk                                    | Priority Risk Index analysis updated to include additional hazards previously not included.  |
| Section 4 – Capabilities and Resources                                     | Section 4 – Capabilities and Resources                                     | Updated to reflect jurisdictional reassessment of capabilities.  |
| Section 5 – Mitigation Goals   | Section 5 – Mitigation Goals   | Updated to reflect current state plan goals, and to include plan vision statement and streamlined set of Atlantic County goals.  |

| <b>Table 1.9<br/>Overall Summary of Plan Transition – 2016 to 2022</b> |  |   |
|--|--|---|
| <b>2016 Plan Section (s)</b>   | <b>2021 Plan Update Section(s)</b>           | <b>Comments</b>   |
| Section 6 – Mitigation Actions   | Section 6 – Mitigation Actions               | Presentation changed to restructure and simplify the description of the strategy development process, and to present a revised array of potential mitigation actions in line with current FEMA reference literature. Overview of all jurisdictional strategies replaced with table presenting comprehensive list of all actions in the plan and the hazards they address. |
| Section 7 – Plan Maintenance and Integration                           | Section 7 – Plan Maintenance and Integration | Reviewed and updated to reflect current conditions and jurisdictional preferences.  |
| Section 8 – For More Information                                       | Section 8 – For More Information             | Presentation remains unchanged; contact information was updated to reflect change in staffing at Atlantic County OEP since the prior update.  |