



Northern Virginia Hazard Mitigation Plan  
**Annex 17: Prince William County**

November 2022





# Prince William County Overview

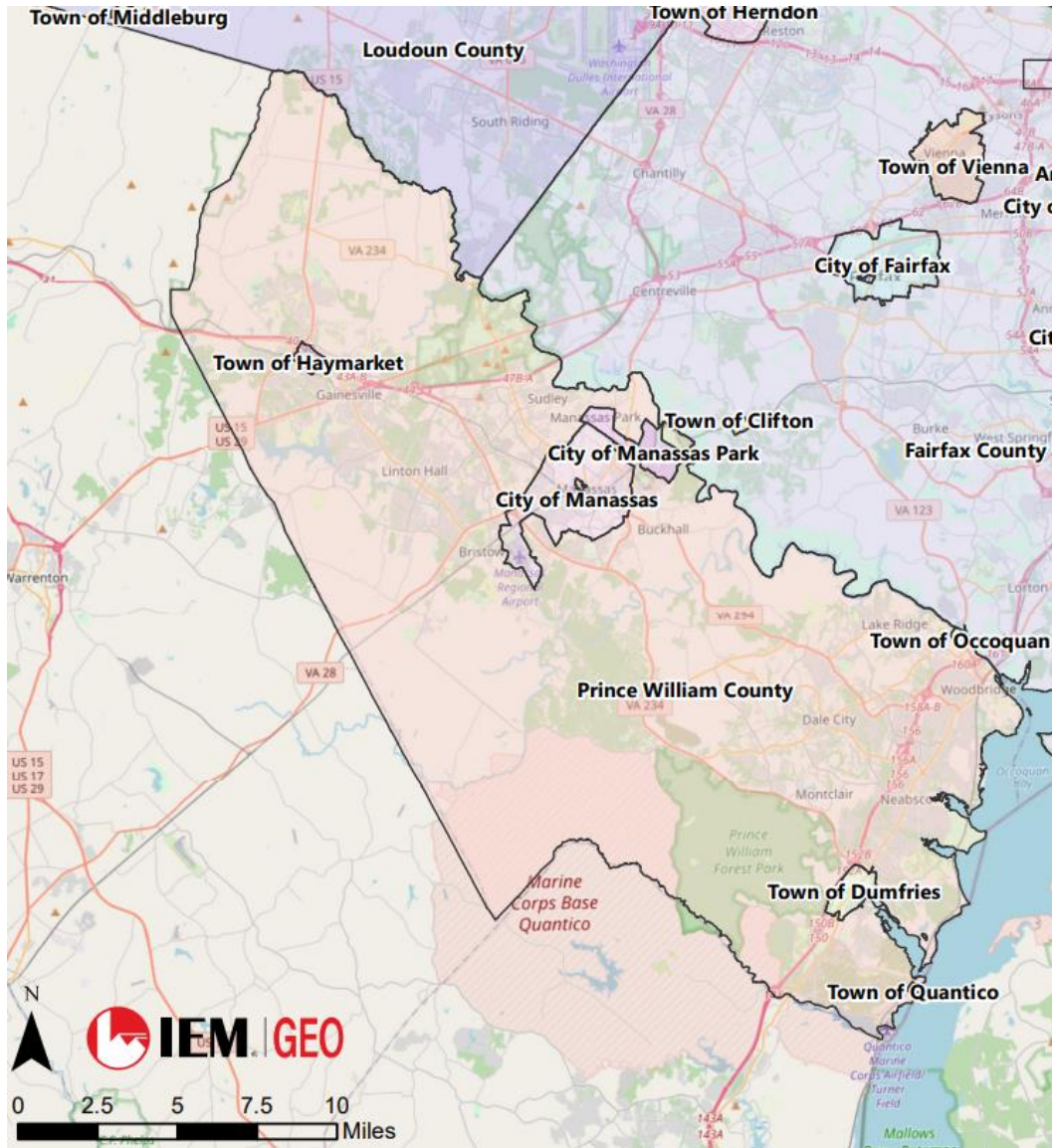








Table 1: Specific Jurisdictional Data

 <b>ESTABLISHED</b>	 <b>LAND AREA</b>	 <b>2020 POPULATION</b>	 <b>GOVERNMENT ADDRESS</b>	 <b>HOUSEHOLDS</b>	 <b>MITIGATION FOCUS</b>
1730	348 sq. mi.	482,204	1 County Complex Court, Prince William, VA 22192	158,525	Severe Storms, Flooding, and Winter Weather

# Prince William County's Risk Environment

This overview is the basis for the details in this annex.

## Hazard Event History

National Centers for Environmental Information (NCEI), 1950–June 2021

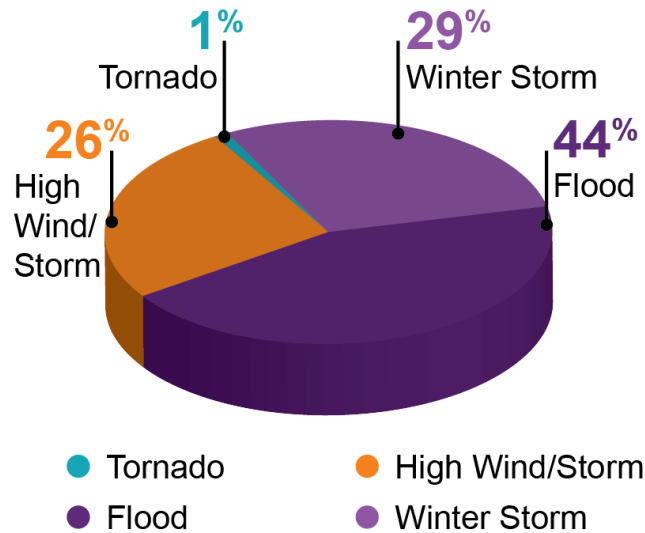


Figure 1: Percentage of Hazard Events

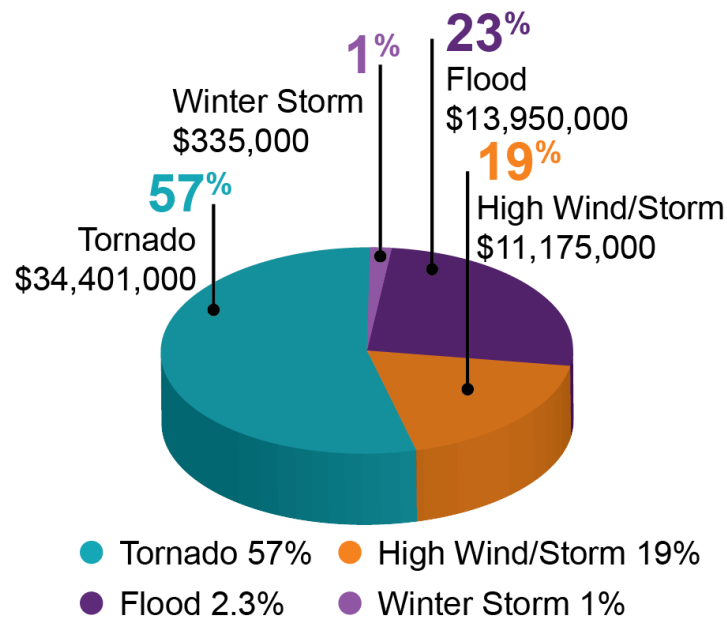


Figure 2: Property Damage Costs from Natural Hazard Events

## Natural Hazard Risk Ranking

**Table 2: Ranking of Natural Hazards by Risk**

Hazard	Hazard Ranking
High wind/severe storm	High
Winter weather	High
Flood/flash flood	High
Dam failure	High
Tornado	Medium
Earthquake	Medium
Drought	Medium
Extreme temperatures	Medium
Wildfire	Low
Landslide	Low
Karst/sinkhole/land subsidence	Low

## Community Lifelines and Respective Critical Assets

**Table 3: Number of Critical Assets for Community Lifelines/Sectors**

Lifeline/Sector	Number of Assets
Safety and Security	164
Food, Water, Shelter	96
Health and Medical	156
Energy	57
Communications	104
Transportation	732
Hazardous Materials	11
Education	147
Cultural/Historical	455
High and Significant Hazard Dams	19

A lifeline enables the continuous operation of government and business functions which are critical for human health, safety, or economic security. Lifelines are the most fundamental services for a community that, when stabilized, enable all other aspects of society to function. These lifelines are assets that may be a facility, infrastructure, operation, or entity.



Figure 3: Community Lifeline Components

### Community Lifelines Outlined

- **Safety and Security:** Law Enforcement/Security, Fire Service, Search and Rescue, Government Service, Community Safety
- **Food, Water, Shelter:** Food, Water, Shelter, Agriculture
- **Health and Medical:** Medical Care, Public Health, Patient Movement, Medical Supply Chain, Fatality Management
- **Energy:** Power Grid, Fuel
- **Communications:** Infrastructure, Responder Communications, Alerts Warnings and Messages, Finance, 911 and Dispatch
- **Transportation:** Highway/Roadway/Motor Vehicle, Mass Transit, Railway, Aviation, Maritime
- **Hazardous Materials:** Facilities, HAZMAT, Pollutants, Contaminants

## Mitigation Capabilities Summary

**Table 4: Capability Assessment Summary Ranking for Prince William County**

Capability	Ranking
Planning and Regulatory	Moderate
Administrative and Technical	Moderate
Safe Growth	Moderate
Financial	Moderate
Education and Outreach	Moderate

## Hazard Mitigation Plan Points of Contact

**Table 5: Points of Contact Information**

Contact Type	Contact Information
Primary Point of Contact	Katie Kitzmiller, Deputy Emergency Management Coordinator Office of Emergency Management 703-792-7047 KKitzmiller@pwcgov.org 3 County Complex Court Prince William, VA 22192
Secondary Point of Contact	Brian Misner, Emergency Management Coordinator Office of Emergency Management 703-792-5828 BMisner@pwcgov.org 3 County Complex Court Prince William, VA 22192

# Prince William County

This annex presents the following jurisdiction-specific information provided by Prince William County for the 2022 update to the *Northern Virginia Hazard Mitigation Plan (NOVA HMP)*.

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# 1. Jurisdiction Profile

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<b>Established</b>	1730
<b>Incorporated Towns</b>	4
<b>County Population</b>	482,204
<b>Total Land Area</b>	348 square miles (336 on land, 12 on water)
<b>Geographic Region</b>	Piedmont/Coastal Plain
<b>Persons Per Household</b>	3.04
<b>Persons Per Square Mile</b>	1,435.13
<b>Median Age</b>	35.4 (as of 2020)

## 1.1. Location

Prince William County (PWC) is situated along the Potomac River approximately 25 miles southwest of the Washington, D.C., metropolitan area. It is the second most populous county in Virginia, just behind Fairfax County, with a population of 482,204.<sup>1</sup> Of its 347.33 square miles, PWC encompasses 11 square miles of water, including Lake Manassas to the north and Lake Montclair in the south, nine watershed areas, and 19 high and significant hazard dams. The entire county is considered a resource management area consisting of floodplains, highly eroded soils, and other sensitive areas adjacent to resource protection areas that comprise certain tidal and non-tidal wetlands and other lands considered necessary to protect the quality of Virginia waters.

## 1.2. History

In 1608, Captain John Smith and other English explorers arrive in what is now Prince William County on an expedition up the Potomac River. They found the region inhabited by Iroquois, Piscataway, Anacostans, and Doeg (an Algonquian-speaking sub-group of the Powhatan Tribal confederation). The documented name of the village that the Doeg Indians inhabited is *Pemacocack*, which means “plenty of fish” in the Algonquian language. This village was located on the west bank of the Potomac River, approximately 30 miles south of present-day Alexandria.

The first known colonial settlement was founded in 1722, and in 1730, the Virginia General Assembly allocated approximately 2,000 square miles of land from Stafford County and named it Prince William County in honor of the third son of King George II, Prince William Augustus, Duke of Cumberland. Prince William County originally included what later became Fairfax County (1742), Loudoun County (1757), Fauquier County (1759), and Arlington County (1801) and the cities of Alexandria, Fairfax, Falls Church, Manassas, and Manassas Park.

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<sup>1</sup> U.S. Census. (2020). [QuickFacts](https://www.census.gov/quickfacts/fact/table/princewilliamcountyvirginia,US/POP010220).  
(<https://www.census.gov/quickfacts/fact/table/princewilliamcountyvirginia,US/POP010220>)

### 1.3. Demographics, Economy, and Governance

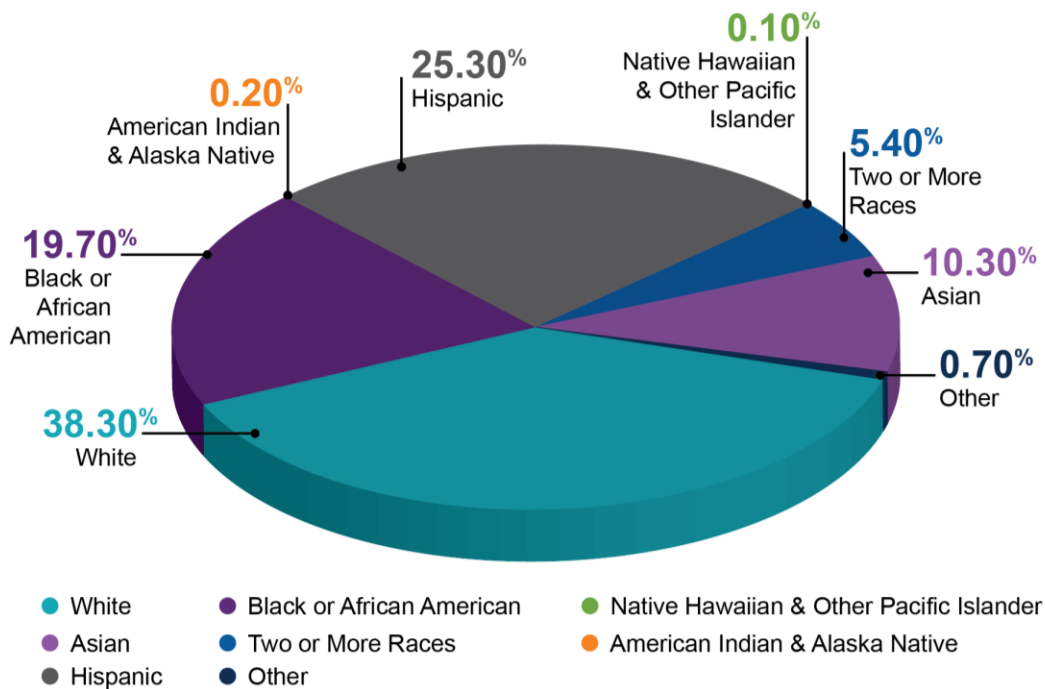
Prince William County’s population is 482,204, according to the 2020 U.S. Census, which is an increase of 19.95% since 2010. The County is densely populated, with 1,435.13 residents per square mile. The following tables and figures help summarize PWC’s demographic, economic, and governance characteristics, and provides details about the County’s economy.

**Table 6: Population and Growth Rate<sup>2</sup>**

Year	Population	Percent Increase over Previous Census
1970	111,102	
1980	144,703	30.24%
1990	215,686	49.05%
2000	280,813	30.20%
2010	402,002	43.16%
2020	482,204*	19.95%

Note: \*Institutionalized population: 1,437

#### Race and Ethnicity



**Figure 4: Race and Ethnicity Demographics from US Census**

<sup>2</sup> U.S. Census (1970–2020), [City-Data](http://www.city-data.com) (www.city-data.com), [U.S. Census Bureau](http://www.census.gov) (www.census.gov), and [Prince William County](https://www.pwcva.gov/department/gis/2020-census) (https://www.pwcva.gov/department/gis/2020-census)



**Table 7: Economic Data<sup>34</sup>**

Economy	Data
Median Household Income (in 2020 dollars) 2016–2020	\$107,707
Unemployment Rate (June 2020)	9.2%
Per Capita Income (in 2020 dollars) 2016–2020	\$42,298
Median House or Condo Market Value 2016-2020	\$390,500
Percentage Below Poverty (2020)	4.9%
Number of Businesses (2019)	8,726

Prince William County is governed by the Board of County Supervisors (BOCS), which consists of representatives from seven magisterial districts and one at large representative who also serves at the Chair of the Board. The BOCS directly supervises the County Executive, who is responsible for managing the day-to-day operations of county government.

The County consistently ranks among the top 20 wealthiest counties in the country. Far fewer PWC residents and households have incomes below the poverty level than the national average (the percentage of PWC households below poverty is 6.1%; the national average is 11.4%). While trends indicate that the population as a whole experiences less poverty than the national average, several communities in PWC have significantly higher percentages than the national average.

Similarly, while far fewer residents obtain direct cash assistance, such as Temporary Assistance for Needy Families or Supplemental Nutrition Assistance Program (SNAP) benefits, than the national average, 7.8% of households in the County receive some form of SNAP benefits.<sup>5</sup>

Nearly 8% of County residents reported having a disability. While this is lower than the national average, it equates to more than 35,000 individuals. Nearly 30% of people 65 and older report having a disability. Older adults are also more likely to have chronic health conditions, thus increasing their disaster-related susceptibility. Aging may also correlate with difficulty in completing activities of daily living that include eating, bathing, dressing, toileting, transferring, walking, and continence. Understanding the overlapping and disparate needs of each generational group and the demographic subgroup in each group is vital to effective planning.

Eight of the top 25 employers are local, state, or federal government agencies, including schools and institutions of higher education. According to the Virginia Employment Commission, the following list are the top 11 largest employers in PWC:

1. Prince William County Schools – 10,000 – 15,000
2. US Marine Corps – 3,000-4,000
3. Prince William County Government – 5,000-6,000
4. Wal Mart – 1,000 – 2,000
5. Sentara Healthcare – 1,000-2,000

<sup>3</sup> <https://www.census.gov/quickfacts/princewilliamcountyvirginia>

<sup>4</sup> [https://www.bls.gov/regions/mid-atlantic/news-release/unemployment\\_washingtondc.htm](https://www.bls.gov/regions/mid-atlantic/news-release/unemployment_washingtondc.htm)

<sup>5</sup> Virginia Department of Social Services (2021). [SNAP Participation Reports](https://www.dss.virginia.gov/geninfo/reports/financial_assistance/snap_participation.cgi). ([https://www.dss.virginia.gov/geninfo/reports/financial\\_assistance/snap\\_participation.cgi](https://www.dss.virginia.gov/geninfo/reports/financial_assistance/snap_participation.cgi))

6. The Fishel Co. – 500-1,000
7. Temporary Solutions Inc. – 500-1,000
8. Target Corp – 500-1,000
9. Northern Virginia Community College – 500-1,000
10. Ruppert Landscape 500-1000
11. Wegmans Food Markets – 500-1000

## 1.4. Built Environment and Community Lifelines

The information on PWC’s community lifelines and critical assets has been collected from multiple sources, including Prince William County Emergency Management, ArcGIS datasets, Hazus-MH<sup>®</sup> software (Version 4.2), and county government websites. The Hazus Level 1 assessment data indicate that the County has an estimated 206 critical and historic assets. Because of the time lag in collecting and verifying data, and the method in Hazus of documenting location and jurisdiction, this might not reflect the current inventory maintained by the County.

FEMA developed the concept of community lifelines to increase the effectiveness of disaster operations and to better position jurisdictions to respond to incidents. Table 8 lists the numbers of assets in the seven types of community lifelines. They are discussed in the sections that follow.

**Table 8: Number of Assets per Community Lifeline<sup>6</sup>**

Lifeline/Sector	Number of Assets
Safety and Security	164
Food, Water, Shelter	96
Health and Medical	156
Energy	57
Communications	104
Transportation	732
Hazardous Materials	11
Education*	147
Cultural/Historical	455
High Hazard Dams	19

\*See the Education section for more information.

### 1.4.1. Safety and Security

As of July 2022, the County had one emergency operations center, 22 fire stations, three county police stations, and one police station in each of the four incorporated towns.

### 1.4.2. Food, Water, Shelter

Food commodities are available throughout Prince William County from public retailers, wholesalers, and contracted services for specific institutions and facilities. Should the need arise, PWC may enter into

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<sup>6</sup> Hazus

memorandums of understanding or mutual agreements with viable entities in the region to assist with post-disaster needs.

Water and wastewater services are provided to county residents through two utility providers, Prince William County Service Authority and Virginia American Water. Both receive their water supply from Fairfax Water. There are three wastewater treatment facilities within the County. There are a total of eight separately permitted water systems within the County.

According to the 2020 Census, the County has 158,525 total housing units with a 3% vacancy rate<sup>7</sup>. Most housing units in the County are owner-occupied (73.1%<sup>8</sup>), while renter-occupied housing makes up 25.5%.

**Table 9: Housing Demographics Trends, Occupied and Vacant<sup>910</sup>**

Category	2016	2020	2020 Percent
Total Housing Units	144,314	150,283	—
Total Occupied Units	138,102	144,159	95.9%
Total Vacant Units	6,212	6,124	4.1%

**Table 10: Housing Demographics, Owner Occupied vs. Renter Occupied<sup>1112</sup>**

Category	2016	2020	2020 Percent
Owner-Occupied	98,292	105,332	70.1%
Renter-Occupied	39,810	38,827	25.8%
Total Vacant Units	6,212	6,124	4.1%

### 1.4.3. Health and Medical

Four hospitals offer patient care, urgent care, emergency rooms, and other healthcare services in PWC:

- Sentara Lake Ridge – Woodbridge, VA
- Sentara Northern Virginia Medical Center – Woodbridge, VA
- UVA Haymarket Medical Center – Haymarket, VA
- UVA Prince William Medical Center – located in the City of Manassas, but provides services PWC

<sup>7</sup> <https://www.pwcva.gov/department/gis/2020-census>

<sup>8</sup> <https://www.census.gov/quickfacts/princewilliamcountyvirginia>

<sup>9</sup> <https://data.census.gov/cedsci/table?q=Prince%20William%20County,%20Virginia%20housing&g=0500000US51153&tid=DECENNIALPL2020.H1>

<sup>10</sup> <https://data.census.gov/cedsci/table?g=0500000US51153&d=ACS%205-Year%20Estimates%20Detailed%20Tables&tid=ACSDT5Y2016.B25002>

<sup>11</sup> [https://data.census.gov/cedsci/table?tid=ACSDP5Y2020.DP04&g=0400000US51\\_0500000US51153&hidePreview=true](https://data.census.gov/cedsci/table?tid=ACSDP5Y2020.DP04&g=0400000US51_0500000US51153&hidePreview=true)

<sup>12</sup> <https://data.census.gov/cedsci/table?g=0500000US51153&d=ACS%205-Year%20Estimates%20Detailed%20Tables&tid=ACSDT5Y2016.B25003>

In addition, Kaiser Permanente is another large healthcare in the County that have three large outpatient facilities that provide advanced medical services for their patients.

#### *1.4.4. Energy*

Power providers in the County include Dominion Energy Virginia, and the Northern Virginia Electric Cooperative (NOVEC). Washington Gas and Columbia Gas operate within PWC with pipelines running throughout the County. There is also one natural gas compressor plant and one power plant located in the County.

#### *1.4.5. Communications*

There are two broadcast facilities in the County. The transmitter for WNVT Channel 53 is located in PWC, and WPWC is a broadcast radio station with a Spanish Christian format licensed to Dumfries Triangle.

Most communications and information system infrastructure in the United States is privately owned. However, the County maintains authority and control over public safety communications for fire, police, and other responding agencies. In recent years, the federal government has taken a stronger role in protecting information and communications infrastructure, which may present a challenge in relation to the impacts of disasters. Increasing reliance on this infrastructure by individuals, businesses, and the government could cause vulnerabilities that emergency managers should consider in pre- and post-incident planning and operations.

#### *1.4.6. Transportation*

The County is served by the following major highways:

- Interstate highways: I-66 and I-95
- U.S. routes: U.S. 1, 15, and 29
- State routes: 28, 123, 234, and 294 (Prince William Parkway)

The County is served by the following Bus and Passenger Rail providers:

- Potomac and Rappahannock Transportation Commission (PRTC) OmniRide (Bus Service)
- Virginia Railway Express (VRE)
- Amtrak

The County also has two major freight rail lines: CSX and Norfolk Southern.

According to the 2020 American Community Survey, the average commute time to work in PWC is 39.8 minutes, which is well above the national average of 27.6 minutes. Seven percent of the County workforce commutes for over 90 minutes. According to the 2020 Census, 39.9% of the population worked in the County of residence, 48.2% worked outside the County of residence, and 11.9% worked outside the state of residence.

Only 2.5% of residents do not have access to a vehicle. Although there are robust public transit resources, the high number of individuals with access to a private vehicle should be considered in evacuation planning. PWC has six commuter rail stops on two rail lines. PRTC operates OmniRide buses and paratransit resources for PWC. OmniRide provides commuter service to Northern Virginia and downtown Washington DC as well as connecting bus services to Metro stations, allowing service from the community to the greater Washington D.C. metropolitan area.



Most workers commute by automobile, either alone or in a carpool. The County partners with the Virginia Department of Transportation to provide 17 commuter lots with space for 8,631 vehicles.<sup>13</sup>

#### *1.4.7. Hazardous Materials*

There is one natural gas compressor plant, one power plant, and four natural gas pipelines located in the County.

Natural gas service in the County is provided by Columbia Gas of Virginia and Washington Gas Light Company. Both companies maintain a significant network of distribution lines within the County.

The County is transited by four natural gas pipelines, one of which originates from a port on the Potomac River within the County.

The County is also transited by both major east coast liquid petroleum pipelines. The Colonial Pipeline runs through the west central portion of the County and the Kinder Morgan Pipeline runs along the eastern edge of the County, parallel to the CSX rail line.

#### *1.4.8. Education*

Prince William County Public Schools is the second largest school system in Virginia and the 34 largest in the nation. The system consists of 62 elementary, 17 middle, and 18 high schools, three (3) K-8 & Traditional schools as well as a virtual high school, and two non-traditional schools. There were 89,076 students in the district in 2021. Forty-seven percent of full-time students are considered economically disadvantaged, 26% of full-time students are non-native English speakers, and 13% of full-time students have a disability.<sup>14</sup><sup>15</sup> There are also faith-based, pre-school, special education, and alternative day care schools within the County.<sup>16</sup>

There are four higher education facilities in the County:

- George Mason University - Science and Technology Campus
- Northern Virginia Community College (NVCC) – Manassas Campus
- NVCC – Woodbridge Campus
- Strayer University Woodbridge Campus

Prince William County Libraries operates eleven library branches located throughout the County as well one branch located within the City of Manassas. In Fiscal year 2021 there were over 365,000 visits to the library system.

#### *1.4.9. Recreational, Cultural, and Historic Sites and Assets*

The Prince William County Department of Parks, Recreation, and Tourism operates a park system comprising 81 properties and over 60 miles of trails on over 4,400 acres. The staff operates a large portfolio of recreational facilities, services, and programs, hosting over 2 million visitors annually and providing unique leisure experiences for residents of all ages, abilities, and recreational interests. In addition to the County's recreational assets, the County is home to Leesylvania State Park, Prince William Forest Park (National Park Service), and the Manassas Battlefield Park (National Park Service).

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<sup>14</sup> <https://www.pwcs.edu/cms/One.aspx?portalId=340225&pageId=769123>

<sup>15</sup> [PWCS Student and Staff Demographics](#)

<sup>16</sup> FEMA Hazus Inventory Data

The Area Agency on Aging operations two senior centers, one in Woodbridge and one in Manassas, that provide recreational and cultural opportunities to the County's senior citizen population.

The Prince William County Office of Historic Preservation, located with the Department of Parks, Recreation, and Tourism, serves as steward of county-owned historic structures, interiors, archaeological resources, natural resources, historic landscapes, artifacts, and collections. In addition to the properties and land that the office oversees, there are many landmarks on the National Historic Register of Places, part of the National Park Service.

#### *1.4.10. High & Significant Hazard Dams*

PWC has 21 high and significant hazard dams used for various purposes, including flood control, stormwater management (SWM), and recreation. Of these dams, 16 are classified as high-hazard dams and 5 are classified as significant hazard.

### 1.5. Growth and Development Trends

Over the past two decades, Prince William County has experienced significant growth pressures and while population continues to grow, the supply of land capable of supporting development continues to decrease. PWC is a diverse, growing county with demographic and population features that pose unique disaster- and emergency-related challenges and resilience opportunities.<sup>17</sup> The County population has grown substantially since the 1960s, increasing by approximately 20% between 2010 and 2020, or an annual rate of 1.85%. As of the 2020 U.S. Census, the County had 482,204 residents.

Land development in PWC is monitored and controlled at the County level and is a key focus area on the PWC Comprehensive Plan update. The County's land use plan incorporates best planning practices that encourage the provision of diverse housing choices, mixed land uses, while protecting the established character of existing urban, suburban, and rural neighborhoods. The County will continue to be a planning partner with local jurisdictions and regional entities to identify hazard mitigation opportunities that reduce risk.

The Prince William County Comprehensive Plan from 2021<sup>18</sup> details growth and development trends and is regularly updated. The following is a summary of the Comprehensive Plan:

- Since 1980, Prince William County's population has increased from 144,703 to 467,900, for an increase of 323,197 population or an average annual rate of 5.6%. This rapid growth makes Prince William County one of the fastest growing counties in the Commonwealth of Virginia over this period.
- The Northwest submarket has experienced the fastest and most significant nominal growth (82,437 people) since 2000, increasing from a population of 24,896 in 2000 to 107,333 in 2020. This has resulted in 16.6% annual growth, driven largely by development moving west from the DC Metropolitan Area along Interstate 66.
- Over the next 20 years, the Washington DC Metropolitan Council of Governments projects that the greatest population gains will occur in the I-95 submarket, with the addition of 74,500 new residents, followed by over 40,500 in the Northwest submarket. The Central PWC submarket is considerably smaller with a 2020 population of 58,714.

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<sup>17</sup> Where available, this assessment uses data from the 2020 Census. The remaining data are from the 2019 5-year American Community Survey.

<sup>18</sup> [PWC Demographic and Housing](#) August 2021

- While viewed as a Washington, DC suburb, Prince William County is becoming more diverse in terms of its population. This is less so in the Northwest and Central PWC submarkets which have majority white populations greater than 70% in 2019. However, the County is fairly representative of the MSA's diversity. It has a slightly larger white population but is comparable in terms of other non-white racial groups and has a larger Hispanic population (20.6%), even when you remove the Greater Manassas submarket.
- The Hispanic population, which is an ethnic category including all people of Hispanic ancestry, is much higher in some areas. For example, 27.1% of the I-95 submarket population is classified as Hispanic or Latino and it's the first submarket that has a majority non-white population.

Any trends in growth and development should be monitored and documented in the next planning cycle with the intent of providing a more detailed statistical analysis of vulnerable populations and how this could affect the analysis of hazards and opportunities for mitigating risks.

## 2. Jurisdiction Planning Process

For the 2022 NOVA HMP update, PWC followed the planning process described in [Section 2 of the Base Plan](#). Besides providing representation to the Northern Virginia Hazard Mitigation Planning Team, the County supported the local planning process by coordinating with representatives from other departments and agencies in its jurisdiction primarily through the PWC Hazard Mitigation Workgroup.

**Table 11: PWC Hazard Mitigation Workgroup Participants**

Name	Position/Title	Department/Agency
Katie Kitzmiller	Deputy Emergency Management Coordinator	Prince William County Office of Emergency Management
Matt Smolsky	Assistant Fire Chief/Fire Marshal	Prince William County Department of Fire and Rescue
Madan Mohan	Floodplain Manager	Prince William County Department of Public Works Environmental Services Division
Raj Bidari	CRS Coordinator	Prince William County Department of Public Works Environmental Services Division
Eric Mays	Building Official	Prince William County Department of Development Services
Tom Smith	Director	PWC Department of Public Works
Brian Misner	Emergency Management Coordinator	PWC Office of Emergency Management

PWC Emergency Management (PWC EM) is the lead coordinating agency for all hazard mitigation program activities. PWC EM coordinated planning updated with the PWC Hazard Mitigation Workgroup and coordinated with identified town points of contact throughout this planning process. In addition, PWC EM provided oversight and representation for the regional planning process at the Northern Virginia Emergency Manager's Group and the Northern Virginia Emergency Manager's Planning Group. The County also identified the following among its mitigation planning responsibilities:

- Providing management support for the planning effort
- Serving as planning group resources/subject matter experts
- Assessing hazard risk and vulnerability
- Providing technical data and hazard information
- Conducting a capabilities assessment
- Developing mitigation strategies
- Sponsoring mitigation actions
- Reviewing plans and providing input
- Furthering public outreach
- Implementing the plan
- Maintaining the plan
- Ensuring adequate project administration



PWC planning participants coordinated primarily by means of virtual meetings during the planning process, and as needed, they worked independently on planning activities, completed through a series of worksheets that provided background information on the history of hazard events, hazard risks and vulnerabilities, capabilities, and past mitigation efforts. In addition, the Draft Plan documents were sent to all PWC department directors, the PWC Office of Executive Management, and key PWC EM program stakeholders for review and comment. Additional documentation of the NOVA Planning Group's process and meetings is included in [Appendix A of the Base Plan](#).

## 2.1. Public Participation

Several opportunities for public involvement were provided during the planning process, including a public hazard survey and access to the Draft Plan for review and input. These opportunities were placed on the Prince William County Emergency management Facebook, Twitter, and website, and email notification systems to maximize public visibility. Documentation of the public survey advertisement and Draft Plan review is in [Attachment 2](#) of this annex.

### 3. Jurisdiction-Specific Hazard Event History

PWC's comprehensive hazard history is described in [Section 5 of the Base Plan](#). The diversity of the County's landscape increases its vulnerability to a variety of hazards, most notably flooding, severe storms, and winter weather. PWC experiences all five types of flooding. In addition to inland flooding and flash flooding related to snowmelt and rain, low-lying areas along the Potomac River are subject to tidal, coastal and storm surge flooding. As sea levels rise, permanent inundation of low-lying areas along and near the river also is a threat.

The National Oceanic and Atmospheric Administration National Center for Environmental Information (NCEI) Storm Events Database includes 873 recorded natural meteorological events in the County between January 1, 1950, and May 2021. The County was included in three Federal Disaster Declarations and emergencies between 2017 and May 2021 (see Table 12).

**Table 12: Federal Disaster and Emergency Declarations (2017–2021), Prince William County<sup>19</sup>**

Declaration	Date	Hazard	Assistance Type
DR-4512-VA	4/2/2020 (continuing)	COVID-19 Pandemic	Individual Assistance, Public Assistance
EM-3448-VA	3/13/2020 (continuing)	COVID-19 Pandemic	Public Assistance (Category B)
EM-3403-VA	9/11/2018	Hurricane Florence	Public Assistance (Category B)

The PWC Hazard Mitigation Workgroup has submitted additional details related to significant hazard events since the 2017 plan. They are noted in Table 13.

**Table 13: Significant Hazard Events Identified by Prince William County (2017–2021)**

Date	Hazard	Event and Description
March 2018	Severe Storm and High Wind	The entire county was impacted by high wind between March 2 and March 4, 2018. There were approximately 42,000 power outages, and all southbound lanes on Interstate 95 were closed after high winds caused a 140-foot Potomac Mills sign to lean. In addition, Telegraph Road was closed between Prince William Parkway and Opitz Boulevard because of the damaged sign.
May 2018	Severe Storm	The entire county experienced severe thunderstorms and hail on May 15, 2018. Moreover, there was concentrated storm activity in the towns of Haymarket and the unincorporated area of Antioch. There was minor property damage, approximately 15,500 power outages, and roads closed because of downed trees and power lines.
June 2018	Severe Storm and Flooding	On June 9, 2018, in the Gainesville area, approximately 60 vehicles in the Jiffy Lube Live parking lot were partially submerged in water when a clogged drain in a stormwater management pond caused flooding. The stormwater issue that led to this event has been rectified.

<sup>19</sup> FEMA

Date	Hazard	Event and Description
June 2018	Severe Storm and Flooding	Between June 21 and June 24, 2018, the entire county was impacted by severe storms and flooding. Numerous roads were closed because of high water, and three injuries occurred. Based on this event, the County was able to identify and solidify the top 10 road closure areas on which to focus mitigation activities.
January 2019	Winter Weather	The entire county experienced moderate snow, with accumulation up to 4.5 inches. This caused numerous minor vehicle accidents. Snowfall rates and low temperatures caused hazardous conditions on untreated roads.
February 2019	Winter Weather	The entire county experienced snow accumulation from 3 to 6 inches and ice accumulations ranging from less than 0.10 inch to 0.25 inch. This caused two rollover vehicle accidents and numerous minor vehicle accidents. Snowfall rates, ice accumulation, and low temperatures caused hazardous conditions on untreated roads.
March 2019	Flooding	Western PWC and the town of Haymarket were impacted by flooding on March 22, 2019. Several homes were damaged, roads were closed because of high water, swift water rescue calls were received, and canoers went missing temporarily.
May 2019	Severe Storm	The eastern portion of the County, including the towns of Dumfries, Occoquan, and Quantico, were impacted by severe storms on May 30, 2019. Multiple houses were damaged by fallen trees, and one house had to be evacuated. There were approximately 5,000 power outages during the event.
June 2019	Severe Storm and High Wind	On June 2, 2019, the County experienced localized, moderate straight-line wind damage in the vicinity of Yates Ford Road and Occoquan Forest. Numerous trees and power lines were down, including trees on vehicles on Yates Ford Road, which was closed. Dominion Energy reported 3,246 customer outages. One house was placarded unsafe by the Building Inspector because of moderate damage from tree impact.
June 2019	Severe Storm and Flooding	On June 17, 2019, the entire county experienced severe storms and flooding. Numerous houses were damaged by fallen trees, and numerous roads were blocked by trees or debris.
May 2020	Civil Unrest	On May 30, 2020, a planned protest in the city of Manassas became an unlawful assembly because of several unruly protesters in the area of Sudley Road and Sudley Manor Drive. County Police coordinated the response with the Virginia State Police; mutual aid from the Prince William Sheriff, Manassas City Police Department, and Fairfax County Police Department was activated. All vehicle traffic between Interstate 66 and Lomond Drive was unable to approach or cross Sudley Drive until the situation was resolved. In addition, a second planned protest on May 31, 2020 was also declared an unlawful assembly occurring on Liberia Avenue impacting both PWC and the City of Manassas.

## 4. Hazard Risk Ranking

After developing hazard profiles, the Prince William County Hazard Mitigation Workgroup conducted a two-step quantitative risk assessment for each hazard. The assessments considered population vulnerability, geographic extent/location, probability of future occurrence, and potential impacts and consequences. The numerical scores for each category were totaled to obtain an overall risk score, which was summarized according to these risk and vulnerability classifications:

- **Low:** Two or more criteria fall in lower classifications or the event has a minimal impact on the planning area. This rating is sometimes used for hazards with a minimal or unknown record of occurrences or for hazards with minimal mitigation potential.
- **Medium:** The criteria fall mostly in the middle ranges of classifications and the event's impacts on the planning area are noticeable but not devastating. This rating is sometimes used for hazards with a high extent rating but very low probability rating. The potential damage is more isolated and less costly than a widespread disaster.
- **High:** The criteria consistently fall in the high classifications and the event is likely/highly likely to occur with severe strength over a significant to extensive portion of the planning area.

The two-step hazard risk ranking methodology is detailed in [Section 4.2 of the Base Plan](#).

The overall risk score for each hazard served as the basis for determining whether a vulnerability assessment should be conducted. Natural hazard profiles are presented in the hazard sub-sections in [Section 5 of the Base Plan](#), and local detail is provided in the jurisdiction annexes. Non-natural hazard profiles are presented in [Volume II of the Base Plan](#).

**Table 14: Hazard Risk Ranking Summary, Natural Hazards**

Hazard	Total Probability Score	Total Consequence Score	Overall Risk Score	Hazard Ranking
High wind/severe storm	3.3	5.4	8.7	High
Winter weather	3.7	4.8	8.5	High
Flood/flash flood	2.3	5.7	8.0	High
Dam failure	1.3	5.2	6.5	High
Tornado	1.3	4.8	6.1	Medium
Earthquake	2.3	3.7	6.0	Medium
Drought	2.3	3.4	5.7	Medium
Extreme temperatures	3.0	2.5	5.5	Medium
Wildfire	1.0	3.0	4.0	Low
Landslide	1.0	2.7	3.7	Low
Karst/sinkhole/land subsidence	1.0	2.5	3.5	Low

**Table 15: Hazard Risk Ranking Summary, Non-Natural Hazards**

Hazard	Total Probability Score	Total Consequence Score	Overall Risk Score	Hazard Ranking
Infectious disease/public health	3.0	6.3	9.3	High
Terrorism	1.0	6.4	7.4	High
Cyberattack	2.3	5.0	7.3	High
Hazardous materials	1.3	5.4	6.7	Medium
Communication disruption	2.0	4.3	6.3	Medium
Active violence	1.0	3.6	4.6	Medium
Civil unrest	1.3	4.9	6.2	Low

Based on the hazard risk scores, PWC evaluated the level of risk for 18 hazards—11 natural and 7 non-natural.

Eight natural hazards were identified as high- or medium-risk hazards to which the jurisdiction is vulnerable:

- **High:** High Wind/Severe Storm, winter weather, flood/flash flood, and dam failure
- **Medium:** Tornado, earthquake, drought, and extreme temperatures

Five non-natural hazards were ranked as high or medium risk:

- **High:** Infectious disease/public health, terrorism, and cyber attack
- **Medium:** communications disruption, hazardous materials, and active violence

Active violence was moved to Medium from Low after discussions within the County. All other hazards were ranked as “low,” signifying a minimal risk to PWC.

## 4.1. Additional Hazard Risk Considerations

Based on the Hazard Risk Ranking, four hazards were identified as High Risk for Prince William County. Additional considerations for those hazards are provided below. More information can be found for all hazards in [Section 5 of the Base Plan](#).

### 4.1.1. Dam/Levee Failure

PWC has 21 high and significant hazard dams, which are used for various purposes, including flood control, stormwater management, and recreation. Of these dams, 16 are classified as high-hazard dams and 5 are classified as significant hazard.<sup>20</sup> Appendix C includes a description of the location and extent of risk for each dam. The following assets were determined to be vulnerable to this hazard in PWC:

- 4520 Homes
- 106 Businesses
- 2 Schools
- 5 Critical Infrastructure

<sup>20</sup> High hazard: dams that upon failure would cause probably loss of life or serious economic damage. Significant: dams that upon failure might cause loss of life or appreciable economic damage. economic damage.

- 3 Railroads
- 4 Utilities
- 2 Parks
- 2 Golf Courses
- 38 Roadways
- 1 Dam Downstream

#### 4.1.2. Flood/Flash Flood

The PWC Hazard Mitigation Workgroup noted that the frequency of flash flooding has increased in recent years, which is attributed to more frequent excessive rainfall events combined with increases in impermeable surfaces, aging drainage systems, and inadequate stormwater infrastructure which reduces capacity for handling storm runoff. See the summary in Table 16. The County is addressing this issue through increased public education, buying out as many severe repetitive loss (SRL) properties as feasible, installing gauges and warning systems, creating a Community Energy and Sustainability Master Plan, and completing studies of frequently flooded areas and roads to determine the mitigation actions that would be the most beneficial.

**Table 16: Flood/Flash Flood Events, 1950–May 31, 2021<sup>21</sup>**

Impact	Data
Flood/Flash flood event	227
Direct deaths	0
Direct injuries	0
Property damage	\$15,591,000
Crop damage	\$100,000
Total property and crop damage	\$15,691,000

*Note:* \*The impact in Prince William County, including the towns of Dumfries, Haymarket, Occoquan, and Quantico

#### 4.1.3. High Wind/Severe Storm

Table 17 presents the number of severe storm events documented in the NCEI Storm Events Database, including high wind and impacts on people, property, and crops.

**Table 17: Severe Storm/High Wind Events\*, 1950–May 31, 2021<sup>22</sup>**

Impact	Data
Severe storm and high wind events	134
Direct deaths	0
Direct injuries	3
Property damage	\$19,627,950

<sup>21</sup> NCEI Storm Events Database

<sup>22</sup> NCEI Storm Events Database



Impact	Data
Crop damage	\$81,750
Total property and crop damage	\$19,709,700

Note: \*Including the towns of Dumfries, Haymarket, Occoquan, and Quantico

#### 4.1.4. Winter Storm

Table 18 presents the number of severe winter storm events documented in the NCEI Storm Events Database, including blizzard, heavy snow, winter storms, and winter weather.

**Table 18: Severe Winter Storm Events, 1950–May 31, 2021<sup>23</sup>**

Impact	Data
Severe winter storm events	148
Direct deaths	0
Direct injuries	0
Property damage	\$35,001
Crop damage	\$0
Total property and crop damage	\$35,001

Note: \*Including the towns of Dumfries, Haymarket, Occoquan, and Quantico.

Additional hazard information for PWC is presented in the [Base Plan](#).

<sup>23</sup> NCEI Storm Events Database

## 5. Vulnerability Assessment

The method for calculating loss estimates presented in this annex is the same as that described in [Section 4 of the Base Plan](#). Quantitative loss estimates are provided when available. Qualitative measurement considers hazard data and characteristics, including potential impacts and consequences based on past occurrences. Accompanying the data is a discussion of community assets potentially at risk during a hazard event.

The assets at risk were identified during the planning process as potentially vulnerable to one or more hazards.

### 5.1. National Flood Insurance Program and Community Rating System

PWC is a participant in the National Flood Insurance Program (NFIP; see FEMA NFIP Community Status Report). It also participates in the voluntary Community Rating System (CRS) program under the NFIP. It has a CRS Class of 7, which is associated with a 15 percent flood insurance discount for policyholders.

**Table 19: Prince William County NFIP Participation**

NFIP Data	Date
Initial flood hazard boundary map (FHBM) identified	1/10/1975
Initial flood insurance rate map (FIRM) identified	12/1/1981
Date of the current effective map	8/3/2015
Regular-Emergency date	12/1/1981
Digital flood insurance rate map (DFIRM)/Q3	DFIRM

**Table 20: NFIP Status, October 27, 2021<sup>24</sup>**

Category	NFIP Topic	Source of Information	Comments
Insurance	<ul style="list-style-type: none"> <li>How many NFIP policies are in the community?</li> <li>What is the total premium and coverage?</li> </ul>	<ul style="list-style-type: none"> <li>State NFIP Coordinator or FEMA NFIP Specialist</li> <li>Community Information System Database</li> </ul>	<ul style="list-style-type: none"> <li>1,248 policies</li> <li>\$848,332 premiums</li> <li>\$349,291,100 in force</li> </ul>
Insurance	<ul style="list-style-type: none"> <li>How many claims have been paid in the community?</li> <li>How many claims were for substantial damage?</li> <li>What is the total amount of paid claims?</li> </ul>	<ul style="list-style-type: none"> <li>FEMA NFIP or Insurance Specialist</li> <li>Community Information System Database</li> </ul>	<ul style="list-style-type: none"> <li>431 claims paid</li> <li>25 claims for substantial damage</li> <li>Total amount of claims paid is \$5,327,804</li> </ul>

<sup>24</sup> Prince Williams County

Category	NFIP Topic	Source of Information	Comments
Insurance	How many structures are exposed to flood risk in the community?	<ul style="list-style-type: none"> <li>Community Floodplain Administrator (FPA)</li> <li>Estimate from FEMA</li> </ul>	4,582 structures are exposed to flooding, repetitive loss, and dam inundation
Insurance	Describe any areas of flood risk with limited NFIP policy coverage	Community FPA and FEMA Insurance Specialist	Specific repetitive loss areas and certain dam inundation areas
Staff Resources	Is the Community FPA or NFIP Coordinator certified?	Community FPA	Yes
Staff Resources	Is floodplain management an auxiliary function?	Community FPA	No
Staff Resources	Provide an explanation of NFIP administration services (e.g., permit review, GIS, education or outreach, inspections, engineering capability)	Community FPA	Special Flood Hazard Area (SFHA) review, engineering compliance with floodplain ordinance, permit review/issuance, education, and outreach, building compliance, and post-disaster damage inspections
Staff Resources	What are the barriers to running an effective NFIP program in the community, if any?	Community FPA	Purchase conversion by residents in potential flood-prone areas
Compliance History	Is the community in good standing with NFIP?	State NFIP Coordinator, FEMA NFIP Specialist, community records	Yes
Compliance History	Are there any outstanding compliance issues (i.e., current violations)?		No
Compliance History	When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?		CAV: 02/23/2011 CAC: 03/19/2015

## 5.2. Population

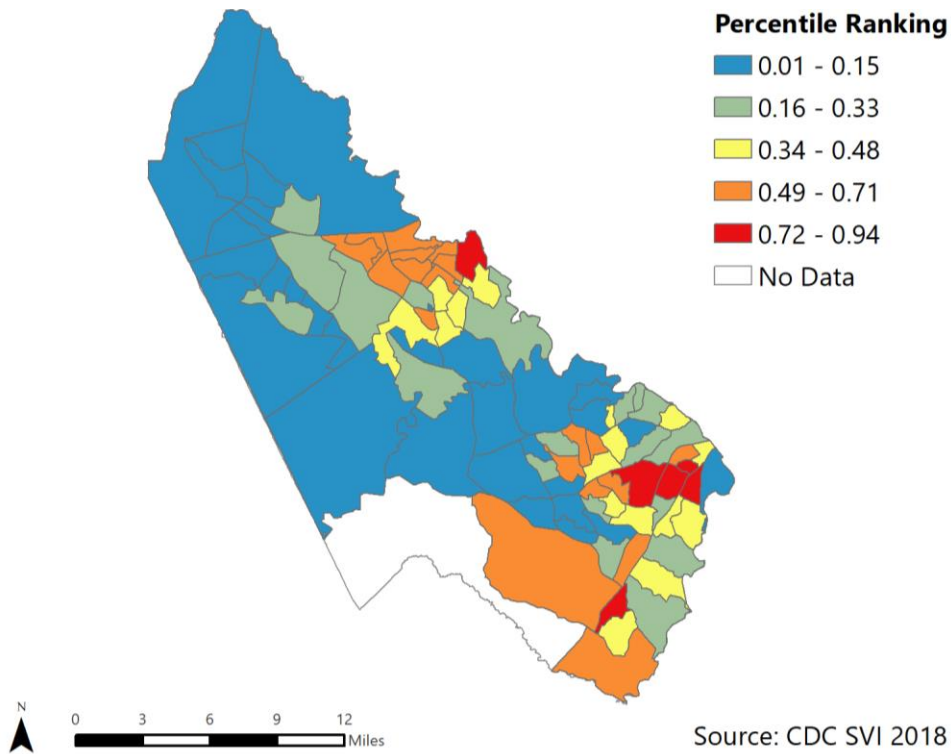
Estimates of the number of residents in PWC vulnerable to each hazard are presented in the various hazard sections of the [Base Plan](#).

In the 2010 Census, PWC became a major-minority County, with more individuals reporting being of a “race other than white” versus “white alone” as broken down in the U.S. Census. More than 30% of PWC’s population speaks a language other than English at home, and 59,204 (12.3%) indicate they speak English “less than very well.” It is important that all mitigation and preparedness information is translated into the languages most spoken within Prince William County, including English, Spanish, Arabic, Korean, and Vietnamese.

The Centers for Disease Control and Prevention’s (CDC) Social Vulnerability Index (SVI) is a tool that helps identify specific vulnerable populations. The CDC SVI depicts the vulnerability of communities at

the census tract level, by county, into fifteen census-derived factors grouped into four themes: socioeconomic status, household composition/disability, race/ethnicity/language, and housing type/transportation. Social vulnerability refers to a community’s capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters, such as tornadoes or disease outbreaks, to human-caused threats, such as toxic chemical spills.

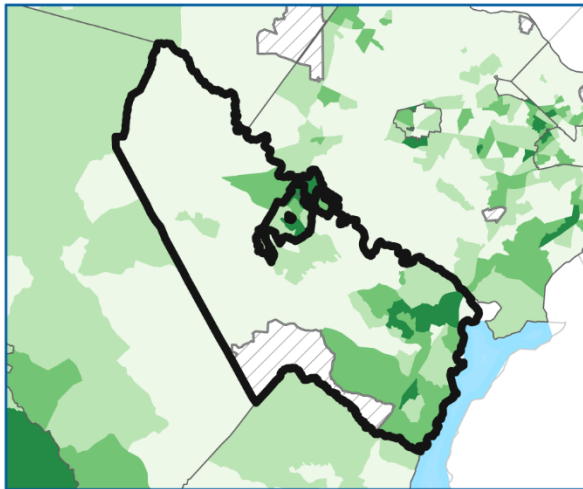
According to the overall CDC SVI, the locations with the highest overall vulnerability are in the central and eastern portions of the County. Several census tracts in the County, including the Yorkshire and Woodbridge areas and within the Town of Dumfries have an SVI percentile ranking of .72–.94 percent, identifying them as the highest areas of social vulnerability.



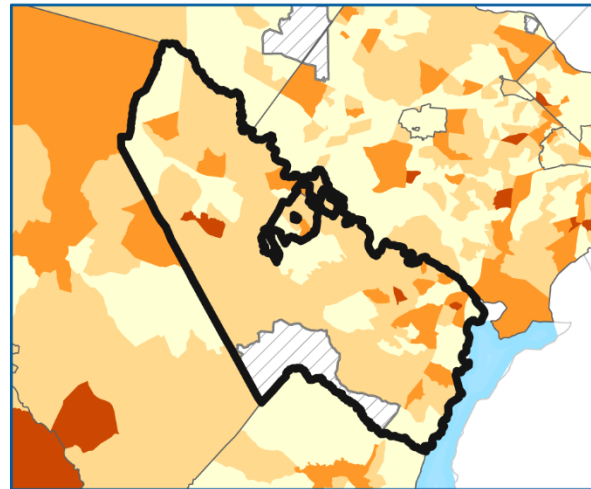
**Figure 5: Overall Social Vulnerability (2018), Prince William County<sup>25</sup>**

<sup>25</sup> [Centers for Disease Control and Prevention \(https://svi.cdc.gov/map.html\)](https://svi.cdc.gov/map.html)

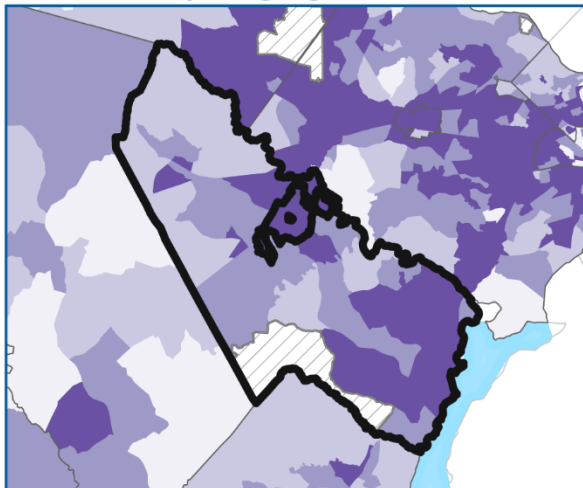
**Socioeconomic Status<sup>5</sup>**



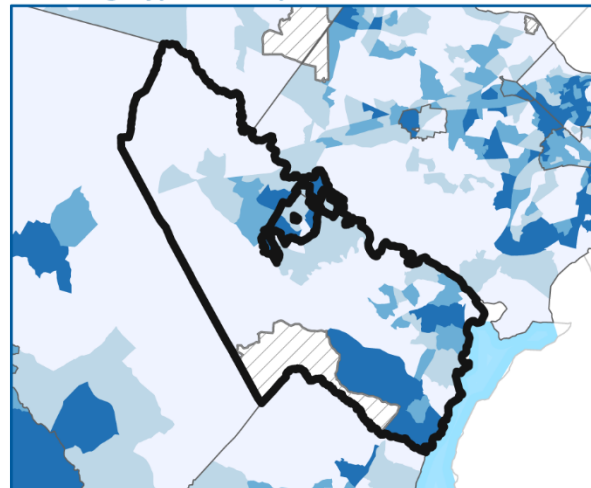
**Household Composition/Disability<sup>6</sup>**



**Race/Ethnicity/Language<sup>7</sup>**



**Housing Type/Transportation<sup>8</sup>**



**Data Sources:** <sup>2</sup>CDC/ATSDR/GRASP, U.S. Census Bureau, Esri® StreetMapTM Premium.

**Notes:** <sup>1</sup>Overall Social Vulnerability: All 15 variables. <sup>3</sup>Census tracts with 0 population. <sup>4</sup>The CDC SVI combines percentile rankings of US Census American Community Survey (ACS) 2014-2018 variables, for the state, at the census tract level. <sup>5</sup>Socioeconomic Status: Poverty, Unemployed, Per Capita Income, No High School Diploma. <sup>6</sup>Household Composition/Disability: Aged 65 and Over, Aged 17 and Younger, Single-parent Household, Aged 5 and over with a Disability. <sup>7</sup>Race/Ethnicity/Language: Minority, English Language Ability. <sup>8</sup>Housing Type/Transportation: Multi-unit, Mobile Homes, Crowding, No Vehicle, Group Quarters.

**Projection:** NAD 1983 Virginia Lambert.

**References:** Flanagan, B.E., et al., A Social Vulnerability Index for Disaster Management. *Journal of Homeland Security and Emergency Management*, 2011. 8(1).

CDC SVI web page: <http://svi.cdc.gov>.

**Figure 6: Social Vulnerability, by Theme, Prince William County<sup>26</sup>**

The maps in Figure 7 illustrate the County's higher levels of vulnerability in the race/ethnicity/language theme, demonstrating the importance of communicating essential hazard mitigation, preparedness, response, and recovery information to the public in alternate formats and multiple languages.

<sup>26</sup> Centers for Disease Control and Prevention. [SVI Interactive Map](https://svi.cdc.gov/map.html). (<https://svi.cdc.gov/map.html>)

### 5.3. Built Environment

Based on data currently available through Hazus, the tables in this section provide the numbers of exposed facilities and properties in relation to earthquakes, floods, and hurricane winds. They include structures, systems, resources, and other assets defined by the community as susceptible to damage and loss from hazard events. The vulnerability of critical infrastructure is presented according to the lifeline sector categories identified by FEMA.

**Table 21: Community Lifeline Facilities and Critical Assets**

Lifeline/Sector	Number of Assets
Safety and Security	164
Food, Water, Shelter	96
Health and Medical	156
Energy	57
Communications	104
Transportation	732
Hazardous Materials	11
Education*	147
Cultural/Historical	455
High Hazard Dams	19

**Table 22: Prince William County Building Stock Exposure by General Occupancy<sup>27</sup>**

Type	Amount
Residential	\$48,430,503,000
Commercial	\$4,155,696,000
Industrial	\$758,100,000
Agricultural	\$171,771,000
Religion	\$396,989,000
Government	\$123,270,000
Education	\$330,279,000
<b>TOTAL</b>	<b>\$54,366,608,000</b>

*Note:* Building stock exposure totals reflect data for those census tracts/blocks included in the study region.

PWC has more than \$54 billion in buildings exposure to flood and earthquake according to the Hazus flood scenario and the Hazus earthquake scenario.

Hazus identified 570 structures that would be damaged, with 69 being at least 50% damaged, and 208 having substantial damage from a 6.5 magnitude earthquake.

<sup>27</sup> Hazus



## 5.4. Community Lifelines and Assets

PWC reviewed its community lifelines and assets to identify critical facilities, systems, and infrastructure that have the most significant risks and exposure. Vulnerabilities include structures, systems, resources, and other assets defined by the community as susceptible to damage and loss from hazard events.<sup>28</sup> The vulnerability of critical infrastructure is presented in the lifeline sector categories identified by FEMA.

**Table 23: Vulnerable Community Lifeline Assets<sup>29</sup>**

Sector	Dollar Exposure
Safety and Security	\$5,189,980
Food, Water, Shelter	Undetermined
Health and Medical	Undetermined
Energy	\$2,145,060,000
Communications	Undetermined
Transportation	\$2,286,081,000
Hazardous Materials	Undetermined

*Note:* Building Stock Exposure totals reflect data for those census tracts/blocks included in the study region.

## 5.5. Natural Environment

Information related to environmental vulnerability is presented in the hazard-specific sections in **Section 5 of the Base Plan**.

Additional environmental community assets in PWC include Neabsco Boardwalk on the Potomac Heritage National Scenic Trail and several public parks that have the potential for flooding, severe weather, and hurricanes. Leesylvania State Park is susceptible to hazardous material incidents because of the presence of a natural gas pipeline, in addition to impacts from flooding, severe weather, and hurricanes.

The County identified the Featherstone National Wildlife Refuge and Occoquan Bay National Wildlife Refuge as critical habitats because of their forests, meadows, marshes, grasslands, and the presence of many bird species.

## 5.6. Economy

Information related to economic vulnerability is presented in the hazard-specific sections of the **Base Plan**. Specific direct economic losses (in thousands of dollars) related to a 2500-year, 6.5 magnitude earthquake event, 100-year flood event, and probabilistic hurricane wind event are identified by Hazus for specific assets.

**Table 24: Direct Economic Losses (in Thousands of Dollars)<sup>30</sup>**

<sup>28</sup> Information used in this analysis is extracted from Hazus. Prince William County maintains a separate critical facilities inventory which is inconsistent with Hazus and numbers vary. Hazus data was used here to maintain consistency with other jurisdictions.

<sup>29</sup> Hazus

<sup>30</sup> Hazus 2500-year, 6.5 magnitude scenario, 100-year flood event, and probabilistic hurricane wind event

Hazard	Buildings (Capital Stock and Income)	Transportation	Utilities
Earthquake	\$724,815	\$10,717	\$36,923
Flood	\$574,803	\$0	\$37,162.80
Hurricane wind	\$46,603	[Not available]	[Not available]

Additional economic concerns for PWC are related to the area's economic base, which relies on government, information technology, and finance. Major employers include Fortune 500 companies, the federal government, and the military.

## 5.7. Cultural/Historical

Information related to the vulnerability of cultural and historical assets is presented in the hazard-specific sections of the [Base Plan](#).

PWC has significant historical and cultural landmarks linked to the founding and development of the United States, including battlefields, historic districts, and historic buildings. The entire town of Occoquan is listed on the National Register of Historic Places along with many other sites within the County.

## 6. Capability Assessment

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PWC reviewed its legislative and departmental capabilities to identify resources, strengths, and gaps for implementing hazard mitigation efforts. Using a capabilities assessment worksheet, PWC documented existing institutions, plans, policies, ordinances, programs, and resources that could be brought to bear on implementing the mitigation strategy. The capabilities in relation to hazard mitigation were assessed in the following categories:

- Planning and regulatory
  - Implementation of ordinances, policies, site plan reviews, local laws, state statutes, plans, and programs that relate to guiding and managing growth and development
- Administrative and technical
  - County, city, and town staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions
- Safe growth
  - Use of community planning through comprehensive plans as hazard mitigation to increase community resilience
- Financial
  - Resources that a jurisdiction has access to or is eligible to use to fund mitigation actions
- Education and outreach
  - Programs and methods that could be used to implement mitigation activities and communicate hazard-related information

In addition to the Capabilities Assessment Worksheet, PWC completed a jurisdictional needs identification questionnaire that summarized changes in and enhancements of capabilities since the last plan. This information is integrated into the summaries in this section.

### 6.1. Capability Assessment Summary Ranking and Gap Analysis

The jurisdiction ranked the levels of capability in relation to each assessment category as a means of identifying where elements could be strengthened or enhanced. Capabilities were ranked on a qualitative basis as demonstrated by the jurisdiction's authorities, programs, plans, and/or resources:

- **Limited:** The jurisdiction is generally unable to implement most mitigation actions.
- **Low:** The jurisdiction has some capabilities and can implement a few mitigation actions.
- **Moderate:** The jurisdiction has some capabilities, but improvement is needed to implement some mitigation actions.
- **High:** The jurisdiction has significant capabilities, as demonstrated by its authorities, programs, plans, and/or resources, and it can implement most mitigation actions.

**Table 25: Capability Assessment Ranking Summary**

Capability	Ranking
Planning and Regulatory	Moderate
Administrative and Technical	Moderate
Safe Growth	Moderate
Financial	Moderate
Education and Outreach	Moderate

### 6.1.1. Planning and Regulatory Capabilities Summary<sup>31</sup>

The County utilizes the all-hazards approach when developing any jurisdictional plans, including the Comprehensive Plan, a Capital Improvement Plan, and an Emergency Operations Plan, in addition to the Hazard Mitigation Plan (HMP). The County has also set planning goals related to climate change.

The following plans and goals have been newly developed or updated since the 2017 HMP:

- Prince William County Comprehensive Plan, updated 2019
- Prince William County Capital Improvement Plan FY2022–FY2027, adopted by the Board of County Supervisors in April 2021
- Prince William County Emergency Operations Plan, adopted by the Board of County Supervisors in December 2020
- Prince William County 2021–2024 Strategic Plan, adopted by the Board of County Supervisors in July 2021
- Regional Climate Mitigation and Resiliency Goals, endorsed by the Board of Supervisors on November 21, 2020. They include:
  - Achieving 100% renewable electricity for county government operations by 2030
  - For county government operations to be 100% carbon neutral by 2050
  - 100% of the County’s electricity to be from renewable sources by 2035
  - Creating a public advisory body to direct the County in reaching those goals

The resolution that endorsed these goals does not commit to any specific initiatives or policy changes. However, a Community Energy and Sustainability Master Plan will be created for 2023.

#### Capability Analysis: Moderate

Moderate planning and regulatory tools are in place in PWC, and they demonstrate initial successes in integrating hazard mitigation planning with existing planning mechanisms. Although the County has several plans that could incorporate hazard mitigation goals and strategies, they have not traditionally included relevant components of hazard mitigation. The County’s 2021-2024 Strategic Plan was adopted on July 20, 2021 and includes several hazard mitigation-related items across multiple goal areas. The PWC Hazard Mitigation Workgroup is committed to ensuring the addition of relevant hazard mitigation strategies when various agency and county plans are updated in order to increase planning and regulatory capabilities and resiliency.

<sup>31</sup> Prince William County jurisdictional capabilities assessment.

There are many planning and regulatory tools in place to address flooding, which is one of the top hazards in the County. These tools include stormwater projects in the capital improvement plan, a stormwater management (SWM) Plan that could be enhanced to include mitigation actions, an active SWM program, enforced building codes and zoning, subdivision, and flood plain ordinances, and FEMA-updated flood insurance rate maps that take effect in 2022. In addition, the 2021-2024 PWC Strategic Plan contains several objectives that address various aspects of flooding, in particular Objective EC-5 to “reduce and mitigate the impacts of flooding in communities” with several action strategies and key performance indicators to meet this objective. PWC is also a participant in the Community Rating System, committed to continually increasing planning and program areas to address flooding.

The PWC Hazard Mitigation Workgroup was established in 2017 to implement the PWC-specific mitigation strategies outlined in the NOVA HMP. The Workgroup is facilitated by PWC EM and includes representatives from the Departments of Public Works, Development Services, Transportation, Information Technology, Parks, Recreation, and Tourism (DPRT), Public Safety Communications, Police (PD), the Fire and Rescue System (FRS), and the Virginia Department of Transportation (VDOT). Additional agencies and partners, such as utility or transportation providers, the School Division, town representatives and others are consulted on hazard-specific and project-specific strategies, as they are identified. To date, the Workgroup has utilized a project management framework to coordinate efforts around specific grant programs and individual mitigation strategies.

While the workgroup has been successful in identifying small projects for specific grant opportunities, the County need to develop a local mitigation framework that coordinates mitigation strategy implementation for all hazards – particularly flooding – in a cohesive and holistic way.

### *6.1.2. Administrative and Technical Capabilities Summary<sup>32</sup>*

- Staff in the Planning Office, Department of Public Works, and Department of Development Services include planners, engineers, and a floodplain manager with an understanding of natural and non-natural hazards. They are integrated into mitigation planning.
- The County has personnel skilled in GIS in the Fire and Rescue System, the Department of Information Technology, the Police Department, and the Department of Public Works.
- Staff in the Office of Emergency Management, Fire and Rescue System, Police Department, Department of Public Works, Department of Public Safety Communications and elsewhere are familiar with the community’s hazards.
- The County partners with scientists at Virginia Tech’s Occoquan Watershed Monitoring Laboratory to monitor flooding and with the Virginia Department of Conservation and Recreation to review dam safety. The County has installed an Automated Flood Warning System (AFWS) at several known flooding locations and is continuing to build out the AFWS network.
- The Office of Emergency Management has emergency management personnel, operates county-wide warning systems for internal and external notifications and warnings, and it has a grant writer who coordinates with the hazard mitigation program.
- The County has created an Office of Environmental and Energy Sustainability, which will create a Community Energy and Sustainability Master Plan and focus on flooding because of several high-profile routine problem areas.
- The County has created an Office of Equity and Inclusion, which serves the PWC government in partnership with the Board of County Supervisors, the Office of Executive Management, departments, and the community. It provides leadership, guidance, and coordination for the organization’s continuing efforts toward building an equitable and inclusive culture, where

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<sup>32</sup> Prince William County jurisdictional capabilities assessment

diversity is leveraged as a strength of our workforce and how we deliver services to residents, businesses, and visitors. This includes language-support services and demographic data dashboards to help increase the impact of community outreach on hazard mitigation.

- The County has identified the following departments and agencies as key stakeholders in its hazard mitigation planning process and implementation of the plan:
  - Development Services
  - Emergency Management
  - Fire and Rescue System
  - Planning Office
  - Police Department
  - Public Works
    - ◆ Environmental Services Division
    - ◆ Construction and Operations Division
  - Parks, Recreation, and Tourism
  - Virginia Department of Transportation
  - Department of Information Technology
  - Department of Public Safety Communications
  - Office of Environmental and Energy Sustainability
  - Transportation Department
  - Town representatives

### Capability Analysis: Moderate

To strengthen the administrative and technical capabilities of the County, all agencies with a role in hazard mitigation should continue to be incorporated into the PWC Hazard Mitigation Workgroup to effectively coordinate issues that cross agencies, with participation, at minimum, in the annual review of the HMP. This integration will provide a high level of coordination for the purpose of mitigation planning and action implementation. Additional agencies and partners, such as utility or transportation providers, the School Division, town representatives and others should continue to be consulted on hazard-specific and project-specific strategies, as they are identified.

#### 6.1.3. Safe Growth Capabilities Summary<sup>33</sup>

- Growth guidance instruments such as future land-use policies, regulations, and maps identify natural hazard areas such as floodplains, and they discourage or prohibit development or redevelopment in these areas.
- The Comprehensive Plan includes a transportation element that addresses the appropriate placement and use of transportation systems.
- Environmental policies encourage appropriate development to protect ecosystems.

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<sup>33</sup> Prince William County jurisdictional capabilities assessment



- Public safety plans and procedures address emergency evacuation and other emergency measures associated with safe growth.
- The building code and floodplain regulations provide for a Base Flood Elevation (BFE) sufficient to protect property from 100-year flood events.

#### 6.1.3.1. Capability Analysis: Moderate

PWC has established a moderate level of safe growth regulatory and enforcement capabilities to limit or prevent inappropriate development in identified hazard areas and protect the natural environment. Additional enhancements to these capabilities include limiting transportation access to identified hazard areas in the County's transportation plan, creating environmental policies that provide incentives for development outside protective ecosystems, including provisions for mitigation of natural hazards in economic development or redevelopment strategies, and including projects in the mitigation Plan in the County's Capital Improvement Plan (CIP).

The current CIP does not provide funding for projects identified in the 2017 HMP. However, PWC's CIP program has funded a few projects based on countywide prioritization of service delivery to meet growth, such as constructing police and fire stations, roadways, and mass transit facilities. Relevant projects identified by the PWC hazard mitigation program are submitted in the CIP process when they are identified.

#### 6.1.4. Financial Capabilities Summary<sup>34</sup>

- The County has the authority to incur debt through general obligation bonds, private activities, and/or special tax bonds. It collects fees for utility services and stormwater and impact fees for new development.
- The County participates in multiple federal funding programs, such as Community Development Block Grants, the Urban Areas Security Initiative program (UASI), the State Homeland Security Program (SHSP), and Emergency Management Performance Grant (LEMPG) to support PWC emergency management program components for all hazards.
- FEMA's Flood Mitigation Assistance program (FMA) provided funding in 2019 for acquiring and demolishing a severe repetitive loss (SRL) property in the County.
- Applications have been submitted to the Hazard Mitigation Grant Program (HMGP), the Pre-Disaster Mitigation Program, and the Building Resilient Infrastructure and Communities (BRIC) to enhance the County's automated flood warning system.
- The County's automated flood warning system was funded through the Virginia Department of Conservation and Recreation Dam and Flood Safety Grant program.
- The County participates in several state funding programs and has submitted applications to the Virginia Community Flood Preparedness Fund grant and the Virginia Emergency Shelter grant and continues to monitor all state and federal grant programs for grant opportunities for eligible projects identified to support PWC's mitigation actions.

#### Capability Analysis: Moderate

The Office of Emergency Management continues to identify funding opportunities for mitigation activities. The past focus was on federal and state grant programs as the primary sources of funding for any mitigation activity. There has been a recent shift to utilizing other county funding sources for mitigation projects. For example, the Department of Parks, Recreation, and Tourism has used general funds to buy

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<sup>34</sup> Prince William County jurisdictional capabilities assessment

automated gauges for two of their high-hazard dams. In addition, as part of the environmental review for a project to construct a roadway bypass, the Department of Transportation has funded automated flood and rain gauges in an area with a history of flooding. Cross-agency mitigation conversations will continue to be strengthened to leverage non-grant funds to support mitigation projects. Most agencies do not know the options available or understand the need to include mitigation actions as an element of their projects. PWC should look for opportunities to integrate Emergency Management into existing county processes and procedures for strategic and comprehensive planning implementation and capitol project initiation to assess proposed projects for potential mitigation actions.

### *6.1.5. Education and Outreach Capabilities Summary<sup>35</sup>*

- PWC is designated as a StormReady community, which includes components of public education and training.
- The County partners with local schools in the Safe Alone, Safe at Home program, which incorporates hazard and safety information for schools.
- PWC is a participant in the Community Rating System and routinely implements community outreach and engagement efforts focused on general preparedness, flood safety awareness, dam safety awareness. This includes the County's flood safety information webpage (<https://www.pwcva.gov/flooding>) which has information about dam safety, flood control and safety, flood risk mapping, real-time stream gauges, and information about flood insurance.

Emergency preparedness and mitigation outreach is implemented by the Ready Prince William Outreach Program, especially as it relates to flooding and dam safety. This program is currently expanding to incorporate more community groups and councils and to develop enhanced materials to provide additional hazard information. In addition, the [Office of Emergency Management website](https://www.pwcva.gov/department/office-emergency-management) (<https://www.pwcva.gov/department/office-emergency-management>) highlights key information on a variety of hazards. Ready Prince William integrates multiple mediums for dissemination of preparedness information including printed materials at County libraries, dissemination of materials at public outreach and community events, targeted social media campaigns, detailed hazard-specific information on the County website, and conducting community presentations.

#### **Capability Analysis: Moderate**

Jurisdictions have multiple opportunities to promote hazard mitigation and increase the involvement of stakeholders and the public. There is a critical need to inform additional stakeholders and the public about the benefits of hazard mitigation planning and implementation.

The Office of Emergency Management will continue to focus on and expand public-private partnership initiatives that address key preparedness topics. These initiatives were leveraged during the COVID-19 response and recovery operations to address the key economic recovery needs of the PWC business community. Expanding these initiatives would provide an opportunity to increase preparedness and mitigation efforts in the County.

The Office of Emergency Management is continuing to enhance its Ready Prince William outreach and community engagement program to ensure increased participation by community leaders and organizations and will continue to enhance the distribution of preparedness materials and programs into the community, as specific areas of need and enhancement are identified.

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<sup>35</sup> Prince William County jurisdictional capabilities assessment

## 6.2. Capability Summary – Activities that Reduce Natural Hazard Risk or Impacts

As a component of the capability assessment, PWC identified activities related to each natural hazard that support risk reduction. They are listed in 26.

**Table 26: Capability Summary – Activities that Reduce Natural Hazard Risk or Impacts<sup>36</sup>**

Hazard	Capability
Dam failure	<ul style="list-style-type: none"> <li>All high and significant hazard dams in the County have emergency action plans for potential incidents and are reviewed by the Office of Emergency Management</li> <li>Public education and operational plans address preparedness and response to reduce risk.</li> </ul>
Drought	<ul style="list-style-type: none"> <li>Public education and operational plans address preparedness and response to reduce risk.</li> <li>Land use and environmental policies acknowledge the importance of protecting the natural environment.</li> </ul>
Earthquake	<ul style="list-style-type: none"> <li>State and International building codes provide for seismic design regulations.</li> <li>Public education and operational plans address preparedness and response to reduce risk.</li> </ul>
Extreme temperature	<ul style="list-style-type: none"> <li>Public education and operational plans address preparedness and response to reduce risk.</li> </ul>
Flood/Flash flood	<ul style="list-style-type: none"> <li>Floodplain administration and regulations ensure that inappropriate activities and development in the floodplain are prohibited.</li> <li>A stormwater management program and projects address flood prevention and risk reduction.</li> </ul>
High wind/severe storm	<ul style="list-style-type: none"> <li>State and International building codes provide minimum design requirements for a structure to resist the loads which they are likely to encounter such as including windborne debris.</li> </ul>
Karst/Sinkhole/Land subsidence	<ul style="list-style-type: none"> <li>Land use and environmental policies acknowledge the importance of protecting the natural environment.</li> </ul>
Landslide	<ul style="list-style-type: none"> <li>Land use and environmental policies acknowledge the importance of protecting the natural environment.</li> </ul>
Tornado	<ul style="list-style-type: none"> <li>Public education and operational plans address preparedness and response to reduce risk.</li> </ul>
Wildfire	<ul style="list-style-type: none"> <li>Public education and operational plans address preparedness and response to reduce risk.</li> </ul>
Winter storm	<ul style="list-style-type: none"> <li>Public education and operational plans address preparedness and response to reduce risk.</li> </ul>
Non-natural hazards	<ul style="list-style-type: none"> <li>Public education and operational plans address preparedness and response to reduce risk.</li> <li>Beginning with the 2022 NOVA HMP, hazard mitigation planning is being integrated into existing planning and risk reduction activities for technological and human-caused hazards.</li> </ul>

<sup>36</sup> Prince William County jurisdictional capabilities assessment

Hazard	Capability
Climate change	<ul style="list-style-type: none"><li>• Resilience planning and achieving the Regional Climate Mitigation and Resiliency Goals endorsed by the Board of Supervisors will allow for the identification and mitigation of climate change-related issues in future planning cycles.</li></ul>

## 7. Resilience to Hazards

### 7.1. National Risk Index

The National Risk Index (NRI) provides an overview of hazard risk, vulnerability, and resilience. It is a dataset and online tool developed by the Federal Emergency Management Agency (FEMA) and other partners to help illustrate communities in the United States that are potentially at risk to 18 natural hazards. Hazard risk is calculated from data of a single hazard type and reflects the relative risk for that hazard type. This data is presented for general comparison with the local hazard risk ranking in the Hazard Risk Ranking section of this annex. The NRI defines some hazards differently from the hazards in this plan, so a direct hazard-to-hazard comparison of risk cannot be determined.

The designation of “low risk” is driven by lower loss because of natural hazards, lower social vulnerability, and higher community resilience. The levels of risk are described in Figure 7.

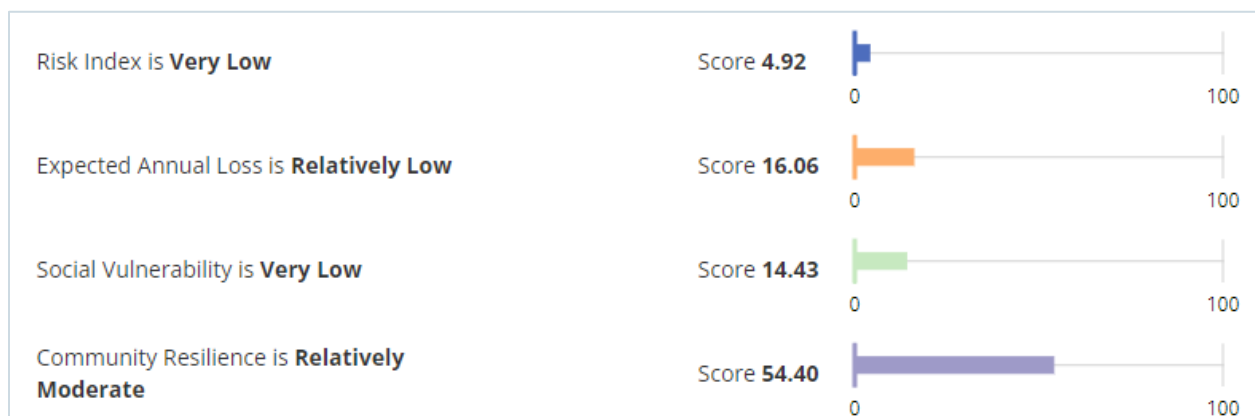


Figure 7: Summary of National Risk Index Findings, Prince William County<sup>37</sup>

Table 27: Comparison of Prince William County Scores with Virginia and National Average<sup>38</sup>

Index	Prince William County	Virginia Average	National Average
Risk	4.92	6.50	10.60
Expected Annual Loss	16.06	9.22	13.33
Social Vulnerability	14.43	35.32	38.35
Community Resilience	54.40	54.92	54.59

<sup>37</sup> National Risk Index, FEMA; [Community Report - Prince William County, Virginia | National Risk Index](https://hazards.fema.gov/nri/report/viewer?dataLOD=Counties&dataIDs=C51153) (fema.gov) (https://hazards.fema.gov/nri/report/viewer?dataLOD=Counties&dataIDs=C51153)

<sup>38</sup> National Risk Index, FEMA; [Community Report - Prince William County, Virginia | National Risk Index](https://hazards.fema.gov/nri/report/viewer?dataLOD=Counties&dataIDs=C51153) (fema.gov) (https://hazards.fema.gov/nri/report/viewer?dataLOD=Counties&dataIDs=C51153)

**Table 28: Prince William County Risk Ranking Summary<sup>39</sup>**

Index	Rank
Risk	Very Low
Expected Annual Loss	Relatively Low
Social Vulnerability	Very Low
Community Resilience	Relatively Moderate

PWC's NRI for community resilience is 54.40, indicating a moderate ability, compared to the rest of the United States, to prepare for natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions.

## 7.2. Community Resilience Estimates

Community Resilience Estimates (CREs) are produced by the U.S. Census Bureau, beginning August 10, 2021. They combine data from several sources to analyze individual and household-level risk factors for areas like a census tract, county, or state. They can be used to determine the potential of the community to respond to disasters.<sup>40</sup>

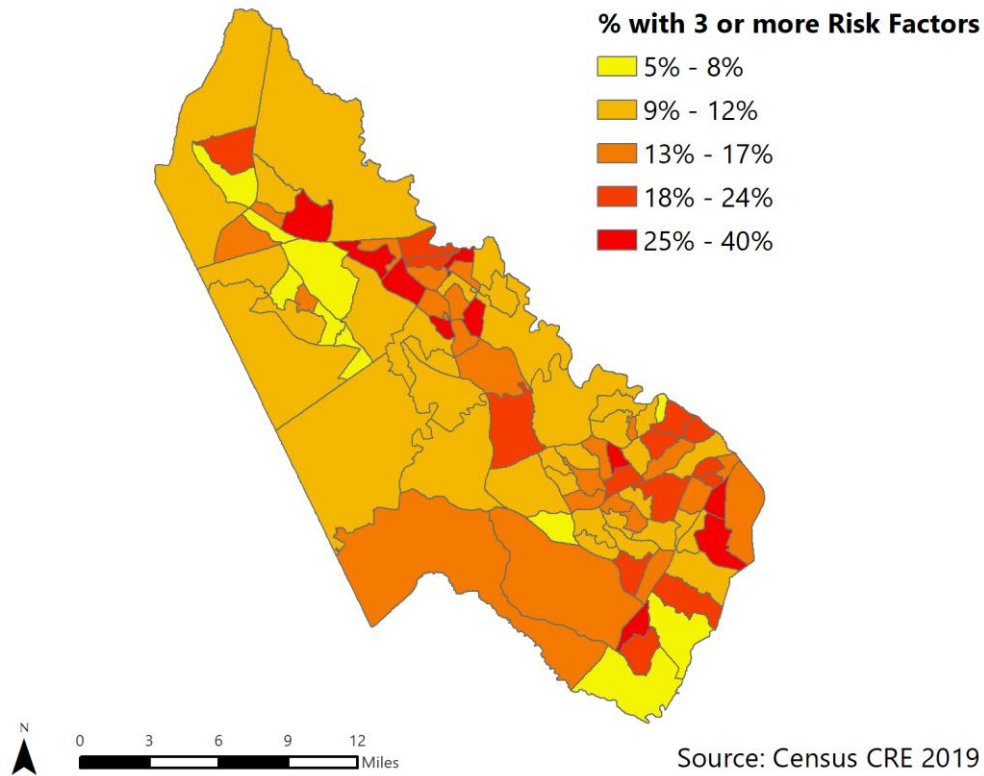
CREs can help determine the vulnerability to disasters of specific neighborhoods because of characteristics that may make segments of the population more susceptible to their impacts and consequences. CREs aggregate the following 10 risk factors:

12. Income-to-poverty ratio
13. Single or zero caregiver household
14. Unit-level crowding
15. Communication barriers
16. Aged 65 years or older
17. Lack of full-time or year-round employment (household)
18. Disability
19. No health insurance coverage
20. No vehicle access (household)
21. No broadband internet access (household)

<sup>39</sup> National Risk Index

<sup>40</sup> The methodology is described at the [U.S. Census Bureau Community Resilience Methodology page](https://www.census.gov/programs-surveys/community-resilience-estimates/technical-documentation/methodology.html) (https://www.census.gov/programs-surveys/community-resilience-estimates/technical-documentation/methodology.html).





**Figure 8: Community Resilience Estimates, Prince William County<sup>41</sup>**

### 7.3. New Hazard Risk Challenges or Obstacles to be Monitored in the Next Planning Cycle

The Prince William County Hazard Mitigation Workgroup identified specific hazard challenges and obstacles to be monitored in the next planning cycle:

- The risk of cyber-related incidents on critical infrastructure and key resource sites
- Impacts of climate change
- Increases in the number of excessive rainfall events that impact new areas with flooding
- Increase in potential for stormwater infrastructure failure due to aging infrastructure which will exacerbate flooding issues in older, already developed areas of the County
- Continued development will aggravate flooding conditions
- Increase of special events with soft targets and crowded places through the County
- Increase in the frequency and severity of severe weather, extreme heat and extreme cold events
- Increasing age of critical infrastructure, including road and dam infrastructure will increase the risk for potential failure

<sup>41</sup> U.S. Census Bureau, Community Resilience Estimates

## 8. Mitigation Actions

### 8.1. Goals and Objectives

The Prince William County Hazard Mitigation Workgroup adopted the regional goal statement presented in **Section 8 of the Base Plan**. In addition, the PWC Emergency Operations Plan (EOP), dated December 2020, defines mitigation as “activities providing a critical foundation in the effort to reduce the loss of life and property from natural and/or human-caused disasters by avoiding or lessening the impact of a disaster and providing value to the public by creating safer communities”. Mitigation seeks to fix the cycle of disaster damage, reconstruction, and repeated damage. These activities or actions, in most cases, will have a long-term sustained effect (*Prince William County EOP*, p. F-3).

The Plan also identifies mitigation as one of the five mission areas of the County’s emergency management program and part of an integrated operational process that also involves prevention, preparedness, response, and recovery. (*Prince William County EOP*, p. 8) The County’s emergency management approach is driven by a focus on equity to support the whole community with a commitment to promoting justice and fairness across all emergency management phases (*Prince William County EOP*, p. 1). The link between the goals of the *NOVA HMP* and the *EOP* increases the likelihood of success in implementing mitigating actions.

### 8.2. Status of Previous Actions

PWC monitors actions and tracks progress through the periodic review, evaluation, revision, and updating of the *NOVA HMP*. Some projects that contribute to risk reduction have been completed or are currently in progress but have not been included in this Plan for one of the following reasons:

- Project funding has been approved, received, or identified, and additional resources are not needed to complete the project.
- The project scope is inconsistent with the hazard mitigation planning goals defined in this plan.
- The responsible department, agency, or organization maintains an internal tracking system that documents progress and the resulting risk reduction.

**Table 29: Status of Previously Identified Mitigation Actions, Prince William County**

Previous Action Item #	Agency/Department Mitigation Action	Status
2006-7	Promotion of structural mitigation	Ongoing
2010-3	Public outreach and education	Ongoing
2010-7	Parent notification	Ongoing
2010-9	Stormwater inventory framework/monitoring system	<b>Completed</b>
2010-13	NFIP compliance	Ongoing
2010-14	County Debris Management Plan	<b>Completed</b>
2017-1	Continuity of Operations Plan and Agency Continuity of Operations Plans	Ongoing
2017-2	Disaster recovery program	Ongoing
2017-3	Flood Mitigation Assistance Pilot Grant Program	<b>Completed</b>
2017-4	Mitigation of flood-prone structures	Ongoing

Three of the County's previous action items are completed, and seven are ongoing. Previous action items are from the 2006, 2010, and 2017 HMPs. They include planning efforts, structural projects, alert systems, training, and maintaining compliance with the National Flood Insurance Program.

### 8.3. New Mitigation Actions

The Prince William County Hazard Mitigation Workgroup identified nine new natural hazard and three new non-natural hazard mitigation actions to include in this plan. **Attachment 3** of this annex includes a table that summarizes each new and continued mitigation action for natural hazards, describing the proposed activity, priority level, estimated cost, interim measures of success, and lead agency. PWC's non-natural hazard actions are identified in **Section 10** of the **NOVA HMP Base Plan**.

**Table 30: New Mitigation Actions, Prince William County Summary**

2022 Action Item #	Agency/Department Mitigation Action
2022-1	Automated flood warning system
2022-2	Climate Resiliency Planning
2022-3	Emergency Operations Plan annexes
2022-4	Mitigate flood prone areas
2022-5	Lake Jackson Dam flooding issues
2022-6	Generators at identified mass care facilities
2022-7	Flood Mitigation study on Old Church Road
2022-8	Enhance and optimize alert and warning capabilities to improve public information and warning, situational awareness, and operational coordination.
2022-9	Training and exercises to maintain operational readiness

### 8.4. Action Plan for Implementation and Integration

The Prince William County Office of Emergency Management (PWC EM) is responsible for coordinating with county departments and agencies that participate in hazard mitigation activities. The PWC EM-designated mitigation coordinator is responsible for implementing the HMP on two levels: executing the jurisdiction's actions and facilitating the implementation of the multi-jurisdictional regional plan. Tasks to ensure that the jurisdiction's actions are implemented are integrated into the Action Plan for Implementation and Integration (which includes the prioritized list of mitigation actions) and Plan maintenance procedures described in the next section.

The Action Plan describes how the County's hazard mitigation risk assessment and goals will be incorporated into its existing plans and procedures.

**Table 31: Action Plan for Implementation and Integration of Mitigation into Existing Plans and Procedures**

Existing Plan or Procedure	Description of How Mitigation Will Be Incorporated or Integrated
Integrate goals into local comprehensive plans.	The goal of “providing a safe and secure community through prevention, readiness, and service excellence” was adopted in 2019 in the Comprehensive Plan. The newly adopted 2021–2024 Strategic Plan includes an objective to ensure “continued and enhanced preparation for and response to public health and other emergencies,” and to “reduce and mitigation the impacts of flooding in communities.” The Prince William County Office of Emergency Management (PWC EM) will continue to coordinate additional integration in all relevant plans as they come due for updates.
Review/update land development regulations for consistency with mitigation goals.	The PWC Hazard Mitigation Workgroup will be expanded to include agencies involved in land use planning and building code enforcement to ensure that all policies and procedures are reviewed annually and updated to address any identified mitigation projects, actions, or impacts to such plans.
Review/update building/zoning codes for consistency with mitigation goals.	The PWC Hazard Mitigation Workgroup will incorporate building and zoning codes into a review process. However, some components of building and zoning codes cannot be changed as they are adopted at the Commonwealth level.
Maintain regulatory requirements of the National Flood Insurance Program (NFIP).	The PWC Public Works Environmental Services Division in coordination with PWC EM will continue to maintain regulatory requirements for floodplain management in accordance with NFIP.
Enhance floodplain management through the Community Rating System (CRS).	PWC just completed its 5-year review cycle, and it anticipates increasing at least one CRS class. The PWC Hazard Mitigation Workgroup is developing a strategic plan for ongoing maintenance and implementation of CRS programs with the goal of becoming at least a class 5 community.
Review/update Economic Development Plan and policies for consistency with mitigation goals.	PWC EM will coordinate with PWC Economic Development to continue to develop the business and industry function for response and recovery operations and explore avenues for integration with mitigation goals, as applicable.
Continue public engagement in mitigation planning.	PWC EM will continue to coordinate community outreach and engagement efforts through the “Ready Prince William” program. These efforts will focus on expanding reach to multiple areas of the community, creating focused information and engagement programs for specific community needs or the hazards they face, and continuing to promote general preparedness and mitigation efforts to increase community resiliency.
Identify opportunities for mitigation education and outreach.	The PWC Hazard Mitigation Workgroup will continue its efforts to provide mitigation information to the community as a whole and address community and individual-specific concerns, as they arise.
Review/update stormwater management (SWM) plans and procedures for consistency with mitigation goals.	PWC Department of Public Works will continue its SWM program. All SWM plans and procedures will be incorporated into the PWC Hazard Mitigation Workgroup review of plans, policies, and procedures to ensure alignment with and enhancement of relevant mitigation goals.

Existing Plan or Procedure	Description of How Mitigation Will Be Incorporated or Integrated
Review/update emergency plans to address evacuation and sheltering.	The PWC EOP was readopted in December 2020, and it will be readopted in 2024, per state requirements. PWC EM will continue to coordinate the development, updating, maintenance, and training and exercising of all emergency operations plans, policies, and procedures. This includes functional annexes, hazard-specific annexes, and all documentation related to the emergency operations center.
Maintain ongoing enforcement of existing policies.	The PWC Hazard Mitigation Workgroup will continue to review all policies to ensure necessary enforcement is being completed.
Monitor funding opportunities.	PWC EM will continue to monitor all possible funding opportunities and coordinate with the PWC Hazard Mitigation Workgroup and other stakeholders to identify and expand previously untapped funding sources for mitigation projects as they are identified and for which PWC is eligible. PWC EM will also work with stakeholders to integrate mitigation actions and projects into other CIP projects to maximize use of all funding options.
Incorporate goals and objectives into day-to-day government functions.	PWC EM will continue to work with the PWC Mitigation Workgroup and the PWC Office of Executive Management to continue to identify ongoing integration of mitigation activities, where applicable, in day-to-day government functions.
Incorporate goals into day-to-day development policies, reviews, and priorities.	PWC EM will continue to work with the PWC Mitigation Workgroup and the PWC Office of Executive Management to continue to identify ongoing integration of mitigation activities, where applicable, in day-to-day development of policies, reviews, and priorities.

## 9. Annex Maintenance Procedures

### 9.1. Maintenance of the NOVA HMP Base Plan

The point of contact for the Northern Virginia Mitigation Project Team is the facilitator for the process to monitor, evaluate, and update the **NOVA HMP, Base Plan**. This facilitator is responsible for initiating the annual activities, convening the NOVA Planning Team (made up of the Emergency Managers Group and Planning Group), and providing follow-up reports to designated entities defined in the method and schedule for the Plan maintenance process, as outlined in **Section 3, Base Plan**. These responsibilities are summarized in Table 32.

**Table 32: Prince William County Plan Maintenance Responsibilities for the NOVA Hazard Mitigation Plan (Base Plan)**

Activity	Responsibilities
Monitoring the plan	<ul style="list-style-type: none"> <li>• Represent the jurisdiction during the monitoring process.</li> <li>• Collect, analyze, and report data to the NOVA Planning Group.</li> <li>• Maintain records and documentation of all jurisdictional monitoring activities.</li> <li>• Help disseminate reports to stakeholders and the public.</li> <li>• Promote the mitigation planning process with the public and solicit public input.</li> </ul>
Evaluating the plan	<ul style="list-style-type: none"> <li>• Represent the jurisdiction during the evaluation process.</li> <li>• Collect and report data to the NOVA Planning Group.</li> <li>• Maintain records and documentation of all jurisdictional evaluation activities.</li> <li>• Help disseminate information and reports to stakeholders and the public.</li> </ul>
Updating the plan	<ul style="list-style-type: none"> <li>• Represent the jurisdiction during the planning cycle, including plan review, revision, and updating.</li> <li>• Collect and report data to the NOVA Planning Group.</li> <li>• Maintain records and documentation of all reviews and revisions of the plan by the jurisdiction.</li> <li>• Help disseminate reports to stakeholders and the public.</li> </ul>

### 9.2. Maintenance of the Jurisdiction Annex

In addition to maintaining the **NOVA HMP Base Plan**, the Prince William County Mitigation Planning Coordinator will facilitate the method and schedule for maintaining the **Jurisdiction Annex**.

#### 9.2.1. Plan Maintenance Schedule

- **Monitor:** Annually and/or following major disaster(s)
- **Evaluate:** Annually and/or following a major disaster(s)
- **Update:** Annual tasks over the five-year planning cycle; planning process in the fifth year

**Table 33: Prince William County Annex Maintenance Procedures**

Activity	Procedure and Schedule	Outcome
Monitoring the annex	<ol style="list-style-type: none"> <li>1. Schedule the annual plan review with the jurisdiction planning team.</li> <li>2. Review the status of all mitigation actions, using the Mitigation Action Implementation Worksheet (<b>NOVA HMP Base Plan, Section 3, Attachment A</b>).</li> </ol>	<ul style="list-style-type: none"> <li>• Produce an annual report that includes the following: <ul style="list-style-type: none"> <li>▪ Status update of all mitigation actions</li> <li>▪ Summary of any changes in hazard risk or vulnerabilities and capabilities</li> <li>▪ Summary of activities conducted for the Action Plan for Implementation and Integration</li> </ul> </li> </ul>
Evaluating the annex	<ol style="list-style-type: none"> <li>1. Schedule the annual plan evaluation with the jurisdiction planning team.</li> <li>2. Evaluate the current hazard risks and vulnerabilities and hazard mitigation capabilities using the Planning Considerations Worksheet (<b>NOVA HMP Base Plan, Section 3, Attachment C</b>).</li> </ol>	<ul style="list-style-type: none"> <li>• Submit the annual report to the NOVA HMP Project Team Point of Contact.</li> </ul>
Updating the annex	<ol style="list-style-type: none"> <li>1. Coordinate with Northern Virginia jurisdictions to identify the process and schedule for the five-year update of the NOVA HMP.</li> <li>2. Participate in the planning process.</li> <li>3. Provide input related to plan components.</li> <li>4. Following FEMA Approvable Pending Adoption (APA) designation, adopt the updated plan.</li> </ol>	<ul style="list-style-type: none"> <li>• Adoption of the FEMA-approved plan every five years helps maintain the jurisdiction's eligibility for federal post-disaster funding.</li> </ul>

Mitigation actions presented in the PWC Jurisdiction Annex may be reviewed, revised, and updated at any time. PWC will continue to be a planning partner with multiple jurisdictions and regional entities to identify hazard mitigation opportunities that reduce risk to the hazards identified in this plan.



## 10. Annex Adoption

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The PWC Jurisdiction Annex will be adopted simultaneously with the adoption of the *NOVA HMP*.

## 11. Prince William County Attachments

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- Attachment 1: Adoption Resolution
- Attachment 2: Documentation of Public Participation
- Attachment 3: Mitigation Actions

## 11.1. Attachment 1: Adoption Resolution

[This page is a placeholder for the Adoption Resolution for this jurisdiction.]

## 11.2. Attachment 2: Documentation of Public Participation



Figure 9: Public Participation Outreach through Facebook Screenshot<sup>42</sup>



Figure 10: Public Participation Outreach through Twitter Screenshot<sup>43</sup>

<sup>42</sup> [www.facebook.com/ReadyPWC/photos/a.126388788690207/555621955766886](https://www.facebook.com/ReadyPWC/photos/a.126388788690207/555621955766886)

<sup>43</sup> [www.twitter.com/ReadyPWC/status/1435966448564785155](https://www.twitter.com/ReadyPWC/status/1435966448564785155)

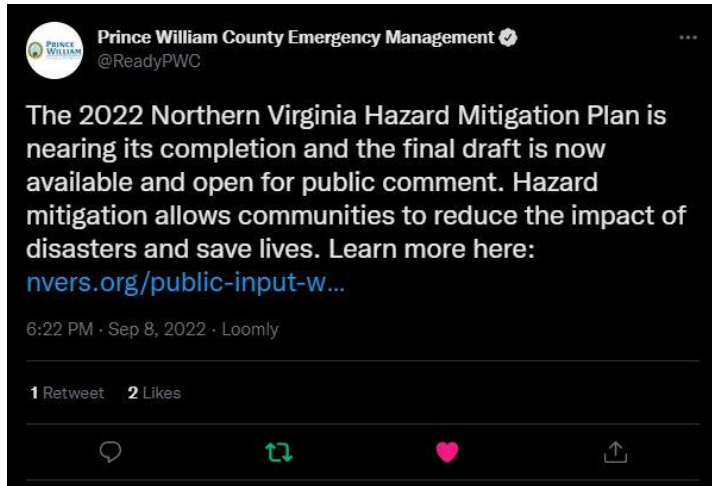


Figure 11: Final Draft Public Comment Outreach through Twitter

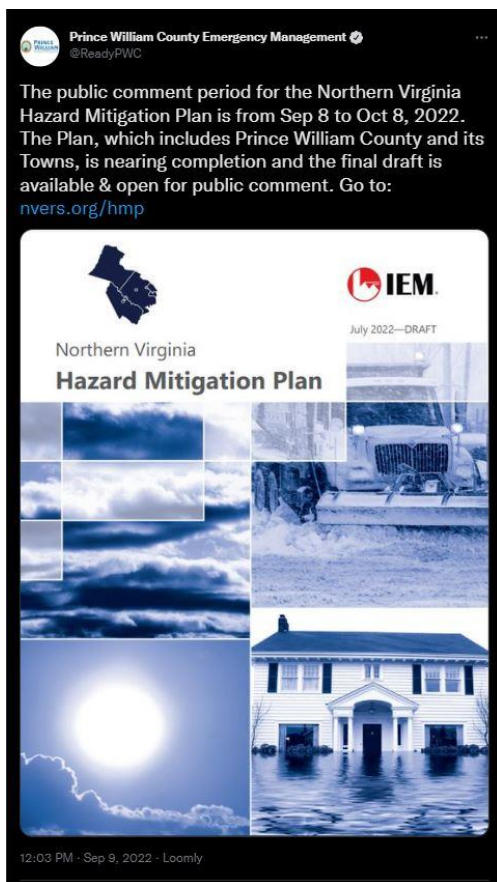


Figure 13: Final Draft Public Comment Outreach through Twitter



Figure 12: Final Draft Public Comment Outreach through Twitter

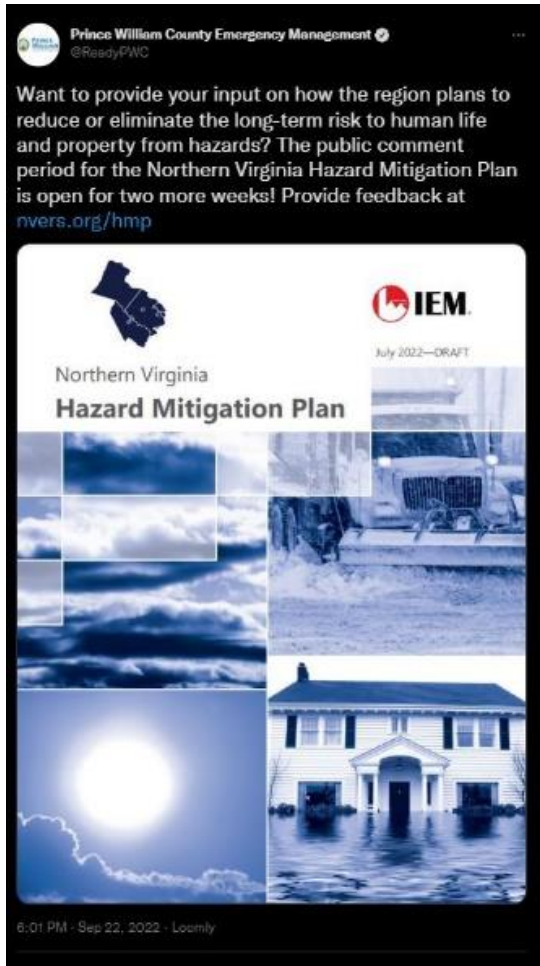


Figure 15: Final Draft Public Comment Outreach through Twitter

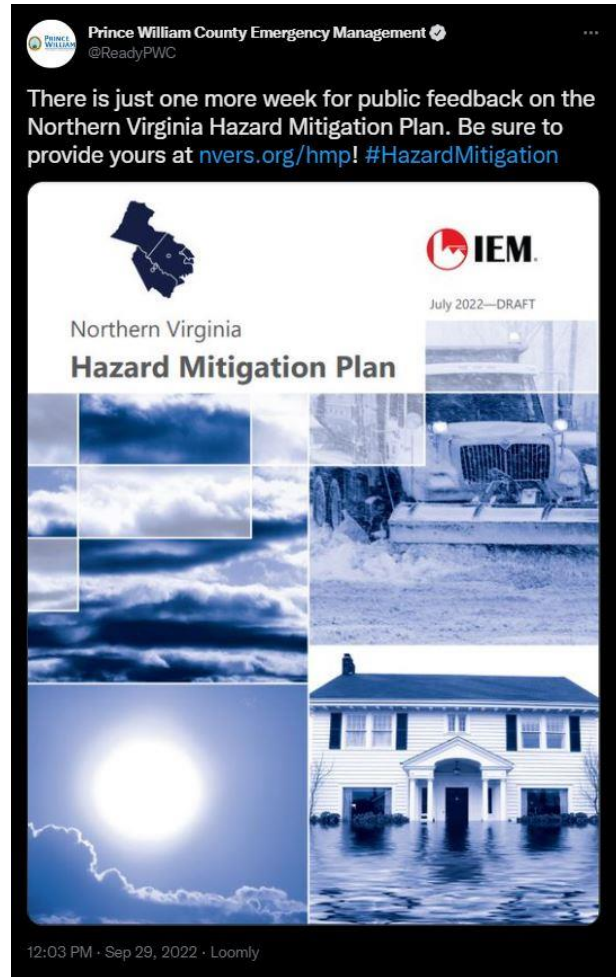


Figure 14: Final Draft Public Comment Outreach through Twitter



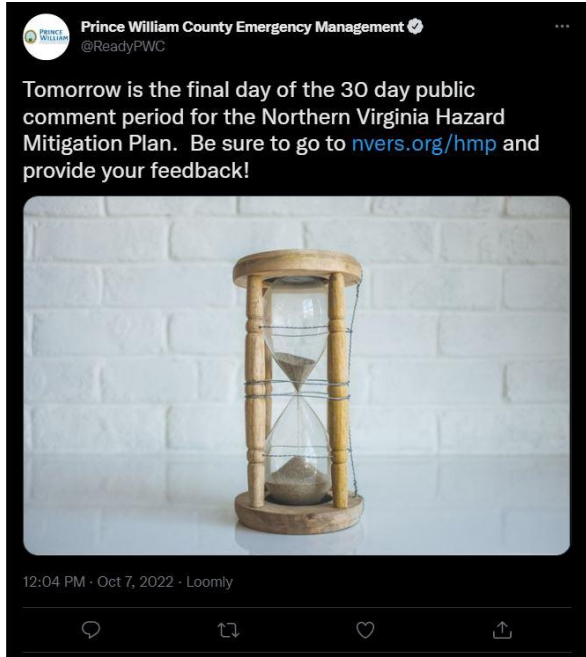


Figure 17: Final Draft Public Comment Outreach through Twitter

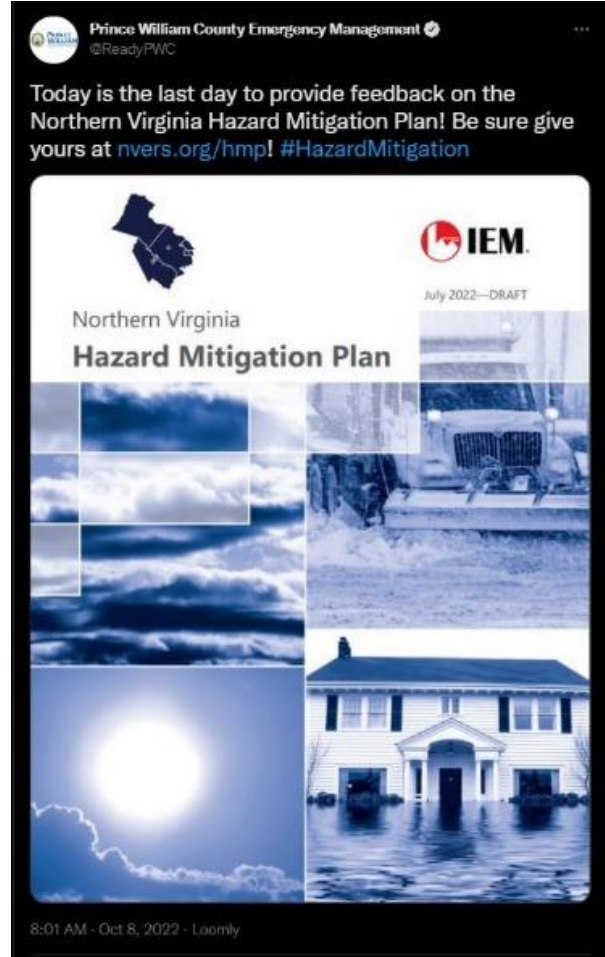


Figure 16: Final Draft Public Comment Outreach through Twitter



### 11.3. Attachment 3: Mitigation Actions

Table 34: Previous Mitigation Action

Project No.	Agency/ Department Mitigation Action	Lead Agency/ Department/ Organization	Hazard	Funding Source	Target Completion Date	Interim Measure of Success	Priority	Comment	Current Status	Justification of Current Status
2006-7	Promote structural mitigation to assure redundancy of critical facilities, to include but not limited to roof structure improvement, to meet or exceed building code standards, upgrade of electrical panels to accept generators, etc.	Department of Development Services, Department of Fire and Rescue, Department of Public Works	<ul style="list-style-type: none"> <li>• Earthquake</li> <li>• Flood</li> <li>• High wind/ severe storm</li> <li>• Tornado</li> <li>• Winter storm</li> </ul>	FEMA Unified Hazard Mitigation Assistance Funding	Ongoing	Continue to adhere to building code and flood plain ordinance.	Medium	Action carried over from previous plan; Still relevant and necessary	Ongoing	Through the PWC Hazard Mitigation Working Group, agencies worked to ensure that all building code and flood plain ordinances were adhered to through all building permitting processes. In addition, the Working Group reviewed and updated several processes and procedures in 2021 to ensure continued compliance and that all members of the public had information related to structural mitigation options, where applicable.
2010-3	Provide outreach and educate to those citizens who are at risk of flooding	Office of Emergency Management, Department of Public Works and Virginia Cooperative Extension	<ul style="list-style-type: none"> <li>• Flood</li> <li>• High wind/ severe storm</li> </ul>	FEMA Unified Hazard Mitigation Assistance Grants, Hazard Mitigation Grant Program-5% initiative funds	Ongoing	N/A	High	No	Ongoing	As part of PWC's Ready Prince William whole community outreach campaign, several initiatives were ongoing during 2021 focusing on All-hazard preparedness and, more specific flood preparedness and awareness information, as flooding is the highest natural hazard risk impacting PWC. Outreach materials including PWC Emergency Preparedness Handbook, Flood Preparedness brochure and other hazard-specific information were developed, updated, and maintained and made available online and available during all Community Outreach activities and events conducted by PWC. Materials were also made available to community partners, on a requested basis. PWC Emergency Management also maintained and updated the general Ready Prince William website ( <a href="http://pwcva.gov/ready">pwcva.gov/ready</a> ) and also enhanced the <a href="http://pwcva.gov/flooding">pwcva.gov/flooding</a> webpages to provide members of the public additional in-depth information about flooding.

Project No.	Agency/ Department Mitigation Action	Lead Agency/ Department/ Organization	Hazard	Funding Source	Target Completion Date	Interim Measure of Success	Priority	Comment	Current Status	Justification of Current Status
										<p>Targeted outreach campaigns in 2021 relating to flooding include:</p> <ul style="list-style-type: none"> <li>- Mailing of letters to all properties located in area that has a history of repeated flooding with key information about protecting their property from flooding.</li> <li>-Highlighting flooding hazards during the first ever Flood Awareness Week in PWC and Virginia.</li> <li>-Highlighting flooding hazards relating to dams in PWC during Dam Safety Day and mailing a post card to all properties located downstream of a high or significant hazard dam in PWC.</li> <li>-Flood preparedness and flood insurance brochures information distributed at the Prince William County Fair and the PWC Public Safety Day.</li> </ul> <p>Several publications have been made available online and at several PWC libraries for public access including Bull Run Library, Central Library, Chinn Park Library, Haymarket Gainesville Library, Montclair Library, Potomac Library, and Dumfries Neighborhood Library. These publications include:</p> <ol style="list-style-type: none"> <li>1. Prince William County Flood Insurance Rate Map (FIRM) – January 5, 1995/August 3,</li> <li>2. 2015 Prince William County Flood Insurance Study (FIS) January 5, 1995</li> <li>3. Prince William County Flood Preparedness Brochure</li> <li>4. Prince William County Northern Virginia Hazard Mitigation Plan</li> </ol>
2010-05	Review and update Emergency Action Plans (EAP) for Dams owned by the County and work with private dam owners on	Department of Public Works, Office of Emergency Management	<ul style="list-style-type: none"> <li>• Extreme Temperature</li> <li>• Flood</li> </ul>	Hazard Mitigation Grant Program-5% initiative funds, Virginia	Ongoing	Continue to evaluate as required	High	Lake Jackson and Silver Lake Dams have been rehabilitated and meet all currents	Ongoing	PWC Emergency Management continued to review Dam Emergency Action Plans for all High and Significant Hazard Dams in PWC and participated in two dam exercises, as requested by private dam owners. In addition,

Project No.	Agency/ Department Mitigation Action	Lead Agency/ Department/ Organization	Hazard	Funding Source	Target Completion Date	Interim Measure of Success	Priority	Comment	Current Status	Justification of Current Status
	inspections, maps and updates		<ul style="list-style-type: none"> <li>High wind/ severe storm</li> </ul>	Floodplain Management Fund (administered by DCR Division of Dam Safety and Floodplain Management), County Funding				standards. Non-County owned dam EAP are reviewed when received from the dam owner and recommendations are made to the owner of the dam		PWC EM staff reviewed the Dam inventory in PWC to ensure all updated EAPs are on file digitally, available in the Emergency Operations Center in hard copy format, included in a publicly viewable Dam-inundation mapper. PWC EM also developed the Dam Emergency Response Hazard-Specific Annex as part of the PWC Emergency Operations Plan update that also includes Quick Response Guides for all high and significant hazard Dams in PWC to ensure all first responders have quick response information during a potential or actual dam incident.
2010-7	Evaluate parent notification process at schools in include language evaluation	Prince William County Schools	<ul style="list-style-type: none"> <li>All Hazards</li> </ul>	No cost-internal County School Staff support	Ongoing	Continue to increase language evaluation capability	Medium	Numerous methods of communications with parents and guardians. Will continue to evaluate and address language evaluation.	Completed	This mitigation action has been completed and is no longer relevant as PWC Schools have a program they continuously implement.
2010-9	Development of a storm water inventory framework/monitoring system	Department of Public Works	<ul style="list-style-type: none"> <li>Dam failure</li> <li>Flood</li> <li>High wind/ severe storm</li> </ul>	PWC Storm water management fee funds this ongoing initiative	Ongoing	Update and maintain inventory database	Medium	Utilize current manual system to provide flood checks before major storm events as well as County maintained facilities	Completed	PWC Department of Public Works developed and maintains a stormwater inventory.
2010-13	Review locality's compliance with the National Flood Insurance Program to include an annual review of the Floodplain Ordinances and any newly permitted activities in the 100-year floodplain. Additionally,	Department of Public Works, Office of Emergency Management	<ul style="list-style-type: none"> <li>Dam failure</li> <li>Flood</li> <li>High wind/ severe storm</li> </ul>	Hazard Mitigation Grant Program, County floodplain management program	Ongoing	Annual Review	Medium	No	Ongoing	PWC Emergency Management and Public Works reviews the repetitive loss and severe repetitive loss properties within PWC on an annual basis. Due to a backlog with FEMA, the 2021 list is still pending, however, a review has been conducted including all problem areas and past known areas with repetitive loss properties. In addition, PWC EM and Public Works has also reviewed all

Project No.	Agency/ Department Mitigation Action	Lead Agency/ Department/ Organization	Hazard	Funding Source	Target Completion Date	Interim Measure of Success	Priority	Comment	Current Status	Justification of Current Status
	conduct annual review of repetitive loss and severe repetitive loss property list requested from VDEM to ensure accuracy and conduct outreach as appropriate. Review will include verification of the geographic location of each repetitive loss property and determination if that property has been mitigated and by what means. Provide corrections if needed by filing form FEMA AW-501									CRS/NFIP and Flood Insurance guidance and changes to ensure that all impacts are addressed in the PWC Hazard Mitigation Program. The PWC Hazard Mitigation Working Group also continued to address any homeowner questions relating to problem site flooding and financial questions about assistance available to support flooding concerns, even if they are not noted as RL or SRL properties. In addition, PWC developed the 2021 <i>Substantial Damage Management Plan</i> .
2010-14	Review and update County Debris Management Plan as required	Department of Public Works	<ul style="list-style-type: none"> <li>• Earthquake</li> <li>• Flood</li> <li>• High wind/ severe storm</li> <li>• Karst/Sinkholes/ Land subsidence</li> <li>• Landslides</li> <li>• Tornado</li> <li>• Winter storm</li> </ul>	Internal Staff; PWC Contracted services	Ongoing	Annual training and exercise on Debris Management Plan	Low	Update sent to FEMA for formal review and approval by December 2016	Completed	The Department of Public Works continued to maintain the PWC <i>Debris Management Plan</i> . The Plan was last adopted in 2017 in accordance with FEMA requirements. Public Works conducted the annual plan familiarization seminar in 2019. The seminar was put on hold in 2020 and 2021 due to COVID. This mitigation strategy will be replaced with a broad action for all Emergency Plans.
2017-1	Develop, test and exercise County Continuity of Operations Plan and Agency Continuity of Operations (COOP) Plans	Office of Emergency Management	<ul style="list-style-type: none"> <li>• All Hazards</li> </ul>	PWC funding	Ongoing	Annual review of County and Agency COOP Plans, and completion of annual training and exercise matrix	High	N/A	Ongoing	PWC Emergency Management coordinated and maintains the County Continuity of Operations Program. All County agency COOP annexes were reviewed and significantly updated in 2020-2021 due to operational changes during COVID-19 to ensure all agencies-maintained mission essential functions, particularly as it relates to virtual service provision and widespread telework implementation. PWC EM will conduct the annual agency plan reviews through the end of 2021. In addition, PWC is conducting a significant revision of the

Project No.	Agency/ Department Mitigation Action	Lead Agency/ Department/ Organization	Hazard	Funding Source	Target Completion Date	Interim Measure of Success	Priority	Comment	Current Status	Justification of Current Status
										Countywide Continuity of Operations and Continuity of Governance plan to include several job aids and decision-making tools identified as an area of improvement during the COVID-19 Interim Action Review. This planning process is expected to be completed in 2022.
2017-2	Create a Disaster Recovery program for information technology systems	Department of Information Technology	<ul style="list-style-type: none"> <li>All Hazards</li> </ul>	County Funding	Ongoing	Conduct annual contingency test on mission critical systems	Medium	N/A	Ongoing	PWC Department of Information Technology continues to conduct testing, updates, and maintenance on all mission critical systems. These updates are conducted on a system-specific basis to ensure optimum usability and ensure system redundancy during disaster.
2017-3	Prince William County Flood Mitigation Assistance Pilot Grant Program to Acquire Severe Repetitive Loss properties and create green space	Office of Emergency Management	<ul style="list-style-type: none"> <li>Flood</li> </ul>	Flood Mitigation Assistance (FMA) Grant	Grant Period of Performance ends October 2018	FEMA Grant awarded May 26, 2016	Medium	Pending evaluation of pilot program and homeowner participation	Completed	PWC Emergency Management coordinated the implementation of the first Acquisition and Demolition of a Severe Repetitive Loss property in PWC. This project was completed in accordance with all FEMA Flood Mitigation Assistance Grant requirements and was successfully closed out in 2019. PWC Emergency Management continues to provide advice to County agencies and homeowners who have an RL or SRL designation to ensure all relevant program information is readily and easily accessible.
2017-04	Support mitigation of priority flood-prone structures through promotion of acquisition/demolition, elevation, flood proofing, minor localized flood control projects, mitigation reconstruction and where feasible using FEMA HMA programs where appropriate	Department of Public Works	<ul style="list-style-type: none"> <li>Flood</li> <li>High wind/severe storm</li> </ul>	FEMA Unified Hazard Mitigation Assistance Funding	Ongoing	Identify all priority flood-prone structures by December 2019	Medium	Action carried over from previous plan; Still relevant and necessary	Ongoing; would like to remove wording in red	The PWC Hazard Mitigation Working Group formally meets at least twice a year to review all problem areas to review impacts to identify existing opportunities to increase, enhance, and implement new and meaningful mitigation strategies. As part of this process, all flooded areas and road closures are reviewed by PWC EM and any new areas or reoccurring problem areas identifying the cause of flooding (if possible), and any short-term or long-term mitigation actions. Most new problem areas identified during flooding events are a result to construction or the

Project No.	Agency/ Department Mitigation Action	Lead Agency/ Department/ Organization	Hazard	Funding Source	Target Completion Date	Interim Measure of Success	Priority	Comment	Current Status	Justification of Current Status
										<p>failure or exceedance of temporary erosion and stormwater control measures. The Working Group review will also include, but are not limited to, other potential causes including potential failure of existing stormwater control measures and equipment, environmental or ecological impacts like a new beaver dam, coastal erosion, or water level changes. Once mitigation actions are determined, the Working Group will assign a lead agency and track the implementation and impacts in future flooding events. This analysis also contributes to identification of opportunities for outreach and PWC EM's ongoing enhancements to the Program for Public Information, which provides the public with information needed to increase flood-hazard awareness and to motivate actions to reduce flood damage, encourage flood insurance coverage, and protect the natural functions of floodplains. Where funding is required to implement a project, the Working Group will review all local, state, and Federal opportunities to determine the best course of action and PWC EM tracks the development of all eligible project applications in accordance with funding guidelines.</p>

**Table 35: New Mitigation Actions**

Project No.	Agency/Department Mitigation Action	Lead Agency/Department/Organization	Hazard	Funding Source	Target Completion Date	Interim Measure of Success	Priority	Comment
2022-01	Implement PWC Automated Flood Warning System in areas of frequent flooding and dams	Office of Emergency Management	<ul style="list-style-type: none"> <li>Dam failure</li> <li>Flood</li> <li>High wind/ severe storm</li> </ul>	Various funding sources	Ongoing	Continue to add locations, as funding is identified	High	
2022-02	Develop a Community Energy and Sustainability Master Plan, and implement it, where applicable, across County programs.	Department of Public Works	<ul style="list-style-type: none"> <li>All Hazards</li> </ul>	Various funding sources	2023	Develop Plan	High	
2022-03	Continue to Develop and Enhance hazard-specific and functional annexes of the PWC Emergency Operations Plan	Office of Emergency Management	<ul style="list-style-type: none"> <li>All Hazards</li> </ul>	Various funding sources	2024	Develop draft annexes	High	All first draft annexes should be completed no later than 2024.
2022-04	Continue to address frequent flooding problem areas and evaluate for specific mitigation actions	Office of Emergency Management/PWC Hazard Mitigation Workgroup	<ul style="list-style-type: none"> <li>Dam failure</li> <li>Flood</li> <li>High wind/ severe storm</li> </ul>	Various funding sources	Ongoing	Quarterly review of all problem sites by Work group	Medium	
2022-05	Address reoccurring flooding issues on Lake Jackson and Dam components that have reached the end of their service life	Department of Public Works	<ul style="list-style-type: none"> <li>Dam failure</li> <li>Flood</li> </ul>	Various funding sources	Ongoing	Approval by BOCS or approval of funding to move forward	Medium	
2022-06	Coordinate the purchase and installation of emergency generators or mobile generator docking stations for pre-identified facilities that could be used as emergency mass care facilities	Department of Facilities and Fleet; Department of Parks, Recreation and Tourism; Libraries, Office of Emergency Management	<ul style="list-style-type: none"> <li>All Hazards</li> </ul>	Various funding sources	Ongoing	Develop a prioritized list of facilities and needs for potential grant programs	High	



Project No.	Agency/Department Mitigation Action	Lead Agency/ Department/ Organization	Hazard	Funding Source	Target Completion Date	Interim Measure of Success	Priority	Comment
2022-07	Conduct a study to determine mitigation options for recurring flooding on Old Church Road	Office of Emergency Management/ Department of Public Works	<ul style="list-style-type: none"> <li>Dam failure</li> <li>Flood</li> <li>High wind/ Severe storm</li> </ul>	Federal HMA grant	2023	Secure funding for a study to determine long-term mitigation action	Medium	
2022-08	Enhance and optimize alert and warning capabilities to improve public information and warning, situational awareness, and operational coordination	Office of Emergency Management	<ul style="list-style-type: none"> <li>All Hazards</li> </ul>	Various Funding Sources	Ongoing	Complete capability buildout and increase opt-in users	High	
2022-09	Continue to train and exercise field/EOC coordination and integration	Office of Emergency Management, PWC Fire and Rescue System, Police Department	<ul style="list-style-type: none"> <li>All Hazards</li> </ul>	Various Funding Sources	Ongoing	Develop and conduct PWC-Specific Field/EOC Coordination Course for Command Staff	Medium	