

County of York

Floodplain Annual Report 2010

A draft annual report evaluating the progress toward implementing the floodplain portion of the Hazard Mitigation action plan's objectives and/or the recommendations is provided below. Portions of the evaluation report have already been submitted to the governing body, released to the media, and made available to the public:

1. A report addressing the stormwater portion is prepared by October 1 each year and submitted to the Virginia Department of Conservation and Recreation (DCR). This report is called **the VSMP Annual Report. In the future, the Floodplain Annual Report will be done in conjunction with this report.**

The repetitive loss properties are located along waterways affected by tidal flooding related to Hurricanes and Nor'easters. Repetitive loss properties that were over 50% damaged and were pre firm structures have elevated the structures or built new after Hurricane Isabel.

This past year as in previous years, the County has applied for Grants to assist others in elevating their homes. The County received notice later this year that we did not receive the grant. Homeowners were asked to participate but have been notified that they did not receive the grant.

The County is in the process of updating its Zoning Ordinance including the floodplain portion. The floodplain ordinance section is being revised to include repetitive losses needing improvements after 2 events in 10 years totaling 25%. This was advertised for public hearing, on September 7, 2010.

The main focus of the floodplain program over the last few years has been the map changes and insurance issues based on the map changes. York County received notification that the maps were being changed in 2008. The actual adoption occurred on June 16, 2009. As a result of the map changes over 500 properties were newly mapped in.

FEMA then stated that those newly mapped in would receive a break on their insurance for 2011-2012 period because of the map changes.

2. How the reader can obtain a copy of the original plan or area analysis report; This report was provided to the Public Information Office, the York County Board of Supervisors and is posted on the York County Environmental/Development Services website. <http://www.yorkcounty.gov/Default.aspx?tabid=3570>. The County has also worked with
3. A review of each recommendation or action item in the action plan or area analysis report, including a statement on how much was accomplished during the previous year;

The Draft report for 2011 is included below and addresses some of the items that have been completed to date.

4. A discussion of why any objectives were not reached or why implementation is behind schedule;
Most of the Stormwater Projects listed for drainage improvements have been completed as listed below:

The 2006 plan notes drainage improvements in progress for the following locations within York County:

- Tabb Lakes outfall - Completed
 - Foxwood outfall - Completed
 - Moores Creek, which drains Woodlake, Running Man, and properties in-between – Phase I and IIA completed; Phase IIB under construction.
 - Edgehill Drainage Study – South portion under construction; North portion being prepared for construction bids.
 - Brandywine subdivision – Under construction
- The BOS has limited Capital Improvement programs for this and next Fiscal Years due to budget constraints.

and

5. Recommendations for new projects or revised recommendations.
Since the 2006 report the County has updated its Strategic Capital Plan for Stormwater Improvements adding additional projects to the plan based on flooding and drainage problems. The County has also improved its maintenance program and posts its maintenance schedule on the website. This information is also included in the VSMP annual report.

York County is in the planning stages for the update to the Hazard Mitigation Plan. The following is the draft update to be prepared and adopted in 2011 followed by the original 2006 plan.

York County
Capability Assessment

Please provide responses to the questions in red below.

Capability Matrix Update – York County

The following capability matrix was included in the 2006 hazard mitigation plan. It displays the status of various capabilities (i.e. documents, ratings, programs, and projects) that impact the degree to which each jurisdiction can implement hazard mitigation strategies. Please update the status of each of these items in the column labeled “York County (2011 Update)”.

<u>Hazard Mitigation Plan Sections</u>	<u>York County (2006 Plan)</u>	<u>York County (2011 Update)</u>
<u>Land Use Plan</u>	<u>Yes, part of the Comprehensive Plan</u>	
<u>Subdivision Ordinance</u>	<u>Yes</u>	
<u>Zoning Ordinance</u>	<u>Yes</u>	
<u>Floodplain Management Ordinance</u>	<u>Yes</u>	<u>Yes</u>
<u>-Effective Flood Insurance Rate Map Date</u>	<u>12-16-88</u>	<u>6-16-2009</u>
<u>-Substantial Damage Language</u>	<u>Yes</u>	
<u>-Certified Floodplain Manager</u>	<u>No</u>	<u>Yes</u>
<u>-Number of Floodprone Buildings</u>	<u>4,265 parcels</u>	
<u>-Number of NFIP policies</u>	<u>2,079</u>	
<u>-Maintain Elevation Certificates</u>	<u>Yes</u>	<u>Yes</u>
<u>-Number of Repetitive Losses</u>	<u>30</u>	<u>60+</u>
<u>CRS Rating</u>	<u>Class 9</u>	<u>Class 8</u>
<u>Stormwater Program</u>	<u>Yes</u>	<u>Yes</u>
<u>Building Code Version</u>	<u>VUSBC (IBC 2003)</u>	
<u>Full-time Building Official</u>	<u>Yes</u>	
<u>- Conduct “As-built” Inspections</u>	<u>Yes</u>	<u>Yes</u>
<u>- BCEGS Rating</u>	<u>3</u>	
<u>Office of Emergency Management</u>	<u>YES</u>	YES

<u>Hazard Mitigation Plan Sections</u>	<u>York County (2006 Plan)</u>	<u>York County (2011 Update)</u>
<u>Certified Emergency Manager</u>	<u>NO</u>	<u>YES</u>
<u>Emergency Operations Plan</u>	<u>Yes</u>	<u>YES (Adopted 2008)</u>
<u>Hazard Mitigation Plan</u>	<u>Yes</u>	<u>YES (Adopted 2006)</u>
<u>Peninsula Local Emergency Response Plan (PLEPC)</u>	<u>YES</u>	<u>YES</u>
<u>Warning Systems in Place</u>	<u>Yes</u>	<u>YES</u>
<u>-Storm Ready Certified</u>	<u>No</u>	<u>YES</u>
<u>-Weather Radio Reception</u>	<u>Yes</u>	<u>YES</u>
<u>-Outdoor Warning Sirens</u>	<u>Yes, just for Surry</u>	<u>Yes, for Surry Nuclear Power Station as well as Weather Warning Sirens on Langley Off-Base Housing in Tabb (Landings at Langley)</u>
<u>-Emergency Notification (R-911)</u>	<u>Route alerting plans and an automated system in the planning phase.</u>	<u>In Procurement Phase</u>
<u>-other (e.g., cable override)</u>	<u>Cable override & agreement with radio station.</u>	<u>Cable override & agreement with radio station.</u>
<u>GIS system</u>	<u>Yes</u>	
<u>-Hazard Data</u>	<u>Yes</u>	
<u>-Building footprints</u>	<u>Yes</u>	
<u>-Tied to Assessor data</u>	<u>Yes</u>	
<u>-Land Use designations</u>	<u>Yes</u>	
<u>Structural Protection Projects</u>	<u>Yes</u>	
<u>Property Owner Protection Projects</u>	<u>Yes</u>	
<u>Critical Facilities Protected</u>	<u>Partially</u>	
<u>Natural Resources Inventory</u>	<u>Yes – limited</u>	<u>Yes</u>
<u>Cultural Resources Inventory</u>	<u>Yes – limited</u>	
<u>Erosion Control Procedures</u>	<u>Yes</u>	<u>Yes</u>
<u>Sediment Control Procedures</u>	<u>Yes</u>	<u>Yes</u>
<u>Public Information Program/Outlet</u>	<u>Web site & online Customer Service Utility</u>	<u>Web site & online Customer Service Utility</u>
<u>Environmental Education Program</u>	<u>Yes</u>	<u>Yes</u>

Guiding Community Documents

The 2006 plan included a section detailing guiding community documents. Please answer the following questions below.

Stormwater Program

The 2006 plan notes drainage improvements in progress for the following locations within York County:

- Tabb Lakes outfall - Completed
- Foxwood outfall - Completed
- Moore's Creek, which drains Woodlake, Running Man, and properties in-between – Phase I and IIA completed; Phase IIB under construction.
- Edgehill Drainage Study – South portion under construction; North portion being prepared for construction bids.
- Brandywine subdivision – Under construction

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1) What is the status of these projects? Have any additional projects been initiated in the interim? If so, please list below.

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The 2006 plan notes the following educational documents provided by the Stormwater Advisory Committee:

The SAC has electronically posted and distributed copies of the committee's brochure, *A Homeowner's Guide to a Healthy Stormwater Drainage System*, and two important Fact Sheets entitled, *What You Can Do to Reduce Flooding in Your Area*, and *What You Can Do to Reduce Pollution In Your Area*. These documents are a means of educating the public about preventing flooding and maintaining drainage systems.

The Committee developed a presentation entitled *How to Reduce the Chance of Flooding* that is presented at HOA meetings and on the County's Community TV during hurricane season. The Committee also worked with the U.S. Army and U.S. Air Force, whose property borders York County, to ensure a coordinated approach to stormwater maintenance.

2) Are these documents still current? If not, please update the list of available documents.

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Public Education

The 2006 plan lists the following public outreach mechanisms for York County that could be used to educate the public on hazard mitigation:

- The County website (<http://www.yorkcounty.gov>)
- o Pertinent information, Frequently Asked Questions
- o Guiding documents, including the Comprehensive Plan
- Citizen News (mailed newsletter)

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- Government access TV channel
- Safety Town
- Online Customer Service System
- Public Service Announcements (television/Internet)
- York County Youtube Channel

3) Has the County developed any other public education/outreach programs (i.e. social media accounts, etc) since the previous plan that should be included in the update? If so, please list below.

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Emergency Preparedness

The 2006 plan lists the following emergency preparedness programs:

- Emergency Alert System (EAS)
- 2008 update to the County's Emergency Operations Plan (EOP)
- Multi-Year Exercise Program
- Department of Fire and Life Safety
 - o Office of Emergency Management
 - o Emergency Operations Center (EOC)
- WXGM 99.1 FM emergency information broadcast
- Neighborhood Emergency Information Distribution System (NEIDS)
- Database of addresses for special needs residents
- Community Emergency Response Teams (CERT)
- Storm Ready Community
- Developing: Community Animal Shelter Team
- Participant in the Hampton Roads Special Needs Registry
- Procuring Community Notification System

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4) Has the City developed any other emergency preparedness programs since the 2006 plan that should be included in the update? If so please list below.

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Evacuation Planning

The 2006 plan notes the following complications with evacuation procedures:

County planners note that storm surge zones located in the eastern part of the County are heavily developed with mostly single-family residential units. Evacuation of such a large number of people onto Route 17 and north across the Coleman Bridge through low-lying Gloucester County and on into Fredericksburg, while maintaining emergency vehicle access to all parts of the County, is challenging.

This is still a challenge however, members of the department of Fire and Life Safety Office of Emergency Management serve on both the VDEM Hurricane Evacuation Coordination Group and well as the Regional Catastrophic Planning team to address these issues.

York County has also developed a Large Scale Emergency/Disaster traffic Management Plan which is an annex of the Emergency operations Plan.

5) Is there any additional information you would like to provide on evacuation plan developments since the 2006 hazard mitigation plan?

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YORK COUNTY 2006 HAZARD MITIGATION PLAN FLOODPLAIN SECTION

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5.5 York County Profile

The following sections present a detailed assessment of critical hazards that affect York County. Understanding these hazards will assist the Peninsula region in its process of identifying specific risks and developing a mitigation strategy to address those risks.

5.5.1 Flooding – York County

The geographic location of York County makes it extremely susceptible to coastal flooding. Storms associated with coastal flooding include tropical cyclones and nor'easters. These types of events typically drop large amounts of rain and generate high winds that result in storm surge. Storm surge is essentially the water that is pushed toward the shore by the persistent force of the winds of an approaching storm. It should be noted that astronomical tides occur independent of climatic conditions. Depending on the tide level at the time of land-falling storms, surge may be elevated. Flash flooding and urban flooding are also a concern within the County limits.

As part of the NFIP, FEMA created a Flood Insurance Study (FIS) and Flood Insurance Rate Maps (FIRMs) for York County. In addition, the NCDC tracks the occurrence of flooding events for communities across the nation. York County has developed surge elevations for its parcel data set. All of these data sources were utilized in developing the hazard identification and vulnerability assessment.

FEMA published a FIS for York County, dated December 16, 1988. The FIRMs, which accompany this FIS delineate the 100- and 500-year flood hazard boundaries for flooding sources identified in areas of growing development or areas predicted to have future development, at the time of the report. A detailed wave height analysis was developed in order to delineate the 100- and 500-year flood hazard boundaries for the County. This analysis resulted in a 100-year stillwater elevation of 8.5 feet for the County and a maximum 100-year wave crest of 11 to 13 feet.

York County's FEMA FIRM maps were updated in 2008 and adopted in **June 16, 2009**. The new maps added several more properties into the Flood Zone while also taking others out. Property owners were notified by mail of these map changes.

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The significant flood events outlined in the FIS are given below in Table 5.5.1a.

Table 5.5.1a- Significant Flood Events – York County

Date	Storm	Tide Elevations
August 1933	Hurricane	Max tide heights averaged 8 feet
April 1956	Nor'easter	Not given
October 1957	Hurricane – Not Named	Not given
September 1960	Hurricane Donna	Not given
March 1962	Nor'easter	Max tide heights averaged 6.8 feet

Source: FEMA 1988

The NCDC operated by NOAA keeps a record of significant weather related events and damage estimates for the entire country. Listed below (Table 5.5.1b) are the significant events that have affected York County, according to that database.

Table 5.5.1b- NCDC Listed Significant Flood Events –York County

Date	Event	Precipitation	Comments
1989 (not in NCDC database)	Thunderstorm with urban flooding	Not given	<ul style="list-style-type: none"> Urban flooding costs estimated at \$500,000 in York County.
September 22, 1994	Coastal Flooding	Not given	<ul style="list-style-type: none"> Caused minor local flooding along Water Street in Yorktown
April 23, 1997	Coastal Flooding	Not given	<ul style="list-style-type: none"> Minor coastal flooding was reported in portions of Newport News and York County
January 27, 1998	Coastal Flooding	Not given	<ul style="list-style-type: none"> Residential homes sustained severe damages Gale force winds caused damage to power lines which caused power outages locally
February 4, 1998	Coastal Flooding Nor'easter	Not given	<ul style="list-style-type: none"> Caused severe flooding Buildings were evacuated Widely spread power outage \$314,000 in costs incurred by York County government
September 15 to 17, 1999	Hurricane Floyd	12 to 18 inches	<ul style="list-style-type: none"> Numerous roads washed out due to flooding Flooding considered 500-year flood Enormous crop damage

As with the entire Peninsula planning area, there are obvious data gaps when combining the FIS and NCDC databases. Recent, noteworthy urban-type flood events in the County have included:

- Hurricane Floyd (1999) affected the neighborhoods of Tabb Lakes, Coventry, Running Man and Foxwood. Insufficiently sized culverts, culvert blockages, and intense rainfall contributed to the drainage problems.
- July 24, 2000, intense rainfall affected the Tabb Lakes and Coventry subdivisions.
- Hurricane Isabel (2003) resulted in flooding of some streets and intersections in many of the same subdivisions listed above, but no significant flooding of structures was noted.
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The County has been working with residents recently to identify and abate these drainage problems. As a result of Hurricane Floyd, Newport News Waterworks made changes to their reservoir management practices to be more proactive in adjusting reservoir elevations ahead of storm systems that are predicted to produce excessive rainfall amounts. Residents indicate that Little Brick Kiln Creek, which is on the Newport News/York County boundary, is a major outfall for several York County tributaries with very low slopes. Maintenance of the creek by all stakeholders (including the U.S. Army which also has land holdings in the area) is critical to maintaining sufficient drainage using existing infrastructure.

5.5.2 Hurricanes – York County

The FIS for York County identified four historic hurricanes that affected the County (see Table 5.5.1a above); however, specific damage estimates were not given. The NCDC dataset listed five hurricanes for York County for the period between 1950 to June 2004. These storms are listed in Table 5.4.2. County records and other National Weather Service data provide dates of earlier storms and identify a number of hurricanes to include the damaging event in August 1933. These storms are included in Table 5.5.2.

Hurricane Fran (1996) created power losses to 140,000 people across the Peninsula. Additionally, four people died within York County as a result of Fran.

Hurricane Floyd (1999) moved through the area dropping 18 inches of rain within 24 hours. Trees and power lines were knocked down and roads were flooded; over 5,500 homes were left without power.

Hurricane Isabel made landfall on September 18, 2003, as a Category 2 hurricane near Drum Inlet, North Carolina. Hurricane Isabel is considered to be one of the most significant tropical cyclones to hit this area since hurricane Hazel (1954) and the Chesapeake-Potomac Hurricane of 1933. Isabel produced storm surges six to eight feet above normal high tide levels and is directly responsible for 10 deaths in Virginia and indirectly responsible for 22 deaths. Isabel caused widespread wind and storm surge damage in eastern North Carolina and southeastern Virginia, currently estimated at \$925 million in Virginia. All of the above data was taken from the NOAA Tropical Cyclone Report for Hurricane Isabel (Beven and Cobb, 2004).

In York County, Hurricane Isabel reportedly destroyed 55 homes. Debris removal alone cost the county over \$10.6 million. There were 900 flood insurance claims through the NFIP, which represent only a small portion of the total number of homes that were damaged by floodwaters. The Small Business Administration provided loans for home repair totaling \$9 million, and loans for businesses totaling \$909,000. FEMA housing assistance other needs assistance in the County totaled \$2.6 million

Table 5.5.2- Historic Hurricanes – York County

Date	Storm Name	Category	Descriptions
August 23, 1933	Chesapeake-Potomac Hurricane	Category 1/Tropical Storm	<ul style="list-style-type: none"> • Extensive damage to areas along the York River and Chesapeake Bay. Tide levels of 6-9 feet above MLLW over a large portion of the Bay. Peak wind gusts at Cape Henry were 88 mph.
August 19, 1985	Danny	Extratropical System	<ul style="list-style-type: none"> • Tracked over York County
September 6, 1996	Fran	Tropical Storm	<ul style="list-style-type: none"> • 4 deaths in York County associated with the storm • Water Street and other areas flooded • High winds, and 140,000 on the Peninsula without power.
July 12, 1996	Bertha	Tropical Storm	<ul style="list-style-type: none"> • 170,000 people on the Peninsula without power. Tracked over York County.
August 29, 1998	Bonnie	Tropical Storm	<ul style="list-style-type: none"> • 51,000 people on Peninsula without power.
September 1, 1999	Dennis	Hurricane/Tropical Storm	<ul style="list-style-type: none"> • Prolonged period of tropical cyclone • Highest sustained winds at Langley 52 mph • Tide 3 feet above normal • Coastal flooding • 2 to 5 inches of rain • \$27,000 damage
September 15, 1999	Floyd	Category 1/Tropical Storm	<ul style="list-style-type: none"> • Spawned 2 tornados • Hundreds of downed tress • Tide 3.9 feet above normal • Numerous roads washed out • \$99.4 million in property damage over the entire affected area • 18" of rainfall in York County
September 18, 2003	Isabel	Category 1/Tropical Storm	<ul style="list-style-type: none"> • Hundreds of downed tress • Loss of power • Damaged residents and businesses • Greatest storm surge since Hazel
August 18, 2004	Charley	Hurricane	<ul style="list-style-type: none"> • Uprooted of trees and downed numerous power lines • Over 2 million Virginians without power • Heavy rain and wind gusts

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August 30, 2004	Gaston	Tropical Depression	<ul style="list-style-type: none"> • Hard rains that produced flooding • Roads under water • Power outage (99,600 statewide) • 2 F0 Tornados confirmed in York County.
September 8, 2004	Frances	Hurricane	<ul style="list-style-type: none"> • Generated 9 tornados in Central Virginia • High winds • Large amounts of rainfall/flooding
September 17, 2004	Ivan	Hurricane	<ul style="list-style-type: none"> • Spawned unconfirmed tornados • Power outage (66,000) • Heavy rain/flooding
September 28, 2004	Jeanne	Hurricane	<ul style="list-style-type: none"> • Flash flooding/heavy rainfall • Power outage