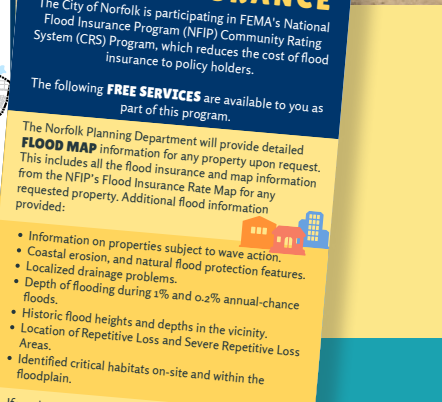
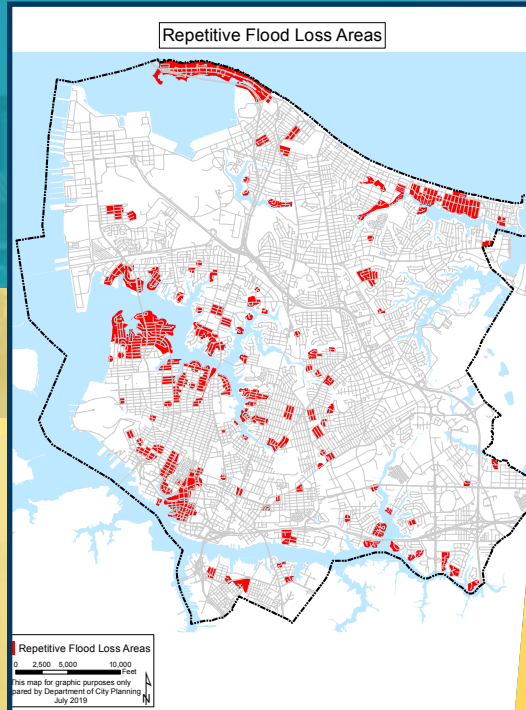




# City of Norfolk Flood Information - Program for Public Information & Flood Insurance Coverage Improvement Plan





# City of Norfolk Flood Information - Program for Public Information & Flood Insurance Coverage Improvement Plan

**DRAFT AUGUST 2020**

## **Authors:**

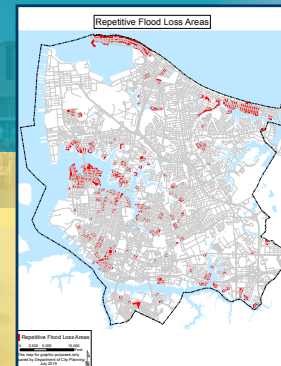
Matthew Simons AICP, CZM, CFM - *City of Norfolk Principal Planner and Floodplain Administrator*  
Leigh Chapman, CFM – *Salter’s Creek Consulting*  
David Stroud, CFM – *Wood Environment & Infrastructure Solutions, Inc*

## **Contributing Staff from the City of Norfolk:**

*Tristian MacKinnon-Barnes, CRS Coordinator*  
*Janice Hurley, Principal Planner*  
*Jalesha Smith, Municipal Intern*  
*Robert Tajan, former Zoning & Floodplain Administrator*  
*Matt Straley, GIS Specialist*  
*Austin Peters, Municipal Intern*  
*Paula Shea, AICP, Planning Department Assistant Director*  
*Justin Shafer, Project Manager, Division of Stormwater*  
*Kyle Spencer, Deputy Resilience Officer*  
*Steven Pyle, former Deputy Emergency Management Coordinator*  
*Christine Morris, former Chief Resilience Officer*

## **Program for Public Information (PPI) and Coverage Improvement Plan (CP) Committee:**

*Matthew Simons, AICP, CFM – Floodplain Administrator, City of Norfolk*  
*Mary-Carson Stiff – Policy Director for Wetlands Watch*  
*Kelly Staub – Bureau Manager of Communications, City of Norfolk*  
*Dr. Katerina Oskarsson – Chief Strategy Officer of RISE Resilience Innovations*  
*Delk Koolman – Neighborhood Development Specialist, City of Norfolk*  
*Rob Spurgeon – Shoreline Insurance Group*  
*Daniel Hudson – Deputy Emergency Management Coordinator, City of Norfolk*  
*Tom Warburton – Howard Hanna Realty*  
*Matt Straley, CFM – GIS Specialists, City of Norfolk*  
*Chris Topping – 504 Capital Corporation*



## Table of Contents

---

<b>PURPOSE</b>	<b>5</b>
<b>BACKGROUND</b>	<b>5</b>
<b>STEP 1: ESTABLISH A PPI AND CP COMMITTEE</b>	<b>6</b>
1.1 MEMBERSHIP AND STAKEHOLDERS	6
Committee Meetings	7
Goals for the PPI and CP	8
<b>STEP 2: ASSESS THE COMMUNITY’S PUBLIC INFORMATION NEEDS</b>	<b>9</b>
2.1 DELINEATE TARGET AREAS	10
Target Area #1: The Special Flood Hazard Area	10
Target Area #2: Repetitive Loss Areas	10
Target Area #3: Moderate Risk Zones and Known Problem Areas	10
2.2 FLOOD INSURANCE COVERAGE ASSESSMENT (CRS 372.A – FIA)	10
Flood Insurance Coverage Assessment (FIA) Conclusions:	20
FIA Recommendations for Coverage Improvement Plan Implementation:	20
2.3 DETERMINE TARGET AUDIENCES	21
Target Audience #1: Real Estate, Lending, and Insurance Entities	21
Target Audience #2: Civic Organizations, Faith-Based and Community Partners	21
Target Audience #3: Entire Community	22
Stakeholders	22
2.4 INVENTORY OF OTHER PUBLIC INFORMATION EFFORTS	22
<b>STEP 3: FORMULATE MESSAGES</b>	<b>24</b>
<b>STEP 4: IDENTIFY OUTREACH PROJECTS TO CONVEY THE MESSAGES</b>	<b>25</b>
<b>STEP 5: EXAMINE OTHER PUBLIC INFORMATION INITIATIVES</b>	<b>25</b>
<b>STEP 6: PREPARING THE PPI AND CP DOCUMENT</b>	<b>26</b>
6.1 COORDINATION	26
6.2 ADOPTION	26
<b>STEP 7: IMPLEMENT, MONITOR AND EVALUATE THE PROGRAM</b>	<b>26</b>

## Tables

---

Table 1 – Summary of PPI and CP Committee Meeting Dates .....	7
Table 2 – Properties with an Active Flood Insurance Policy by Flood Zone .....	13
Table 3 – Pre-FIRM Policies, Premiums, Total Coverage and Claims by Flood Zone .....	14
Table 4 – Post-FIRM Policies, Premiums, Total Coverage and Claims by Flood Zone.....	14
Table 5 – Policy Breakdown by Structure Type.....	14
Table 6 – Policy Coverage Percentage by Structure Type Citywide.....	15
Table 7 – History of Claims by Decade.....	15
Table 8 – History of NFIP Claims by Structure Type.....	15
Table 9 – Summary of Repetitive Losses and Flood Insurance.....	17
Table 10 – Summary of Severe Repetitive Losses and Flood Insurance .....	17
Table 11 – Existing Public Information Efforts .....	22
Table 12 – Topics, Messages, and Outcomes .....	24
Table 13 – PPI, CP and CPI Projects and Initiatives .....	27

## Figures

---

Figure 1 – Flood Insurance Coverage and Flood Zones .....	11
Figure 2 – Flood Insurance Coverage by Median Household Income .....	12
Figure 3 – Repetitive Loss Areas .....	18
Figure 4 – Severe Rep Loss Areas (SRLs) within the Rep Loss Areas (RLs) and Flood Zones.....	19

# City of Norfolk, VA

## Program for Public Information (PPI) and Coverage Improvement Plan (CP)

### Purpose

The purpose of this document is to provide guidance to staff of the City of Norfolk regarding public information efforts related to flood hazards, flood mitigation, flood protection, and flood insurance. This document is prepared in accordance with the 2017 Community Rating System (CRS) Coordinator's Manual (CRS Manual) and is meant to fulfill the requirements of the Program for Public Information (PPI) and flood insurance Coverage Improvement Plan (CP) as outlined in the manual.

### Background

The Community Rating System (CRS) is a voluntary incentive program of the National Flood Insurance Program (NFIP) that provides reductions to flood insurance premiums for policyholders in participating communities. Communities participate in CRS by earning credit for activities intended to manage floodplains, reduce flood risk, and minimize flood vulnerability. Creating a Program for Public Information (PPI) and flood insurance Coverage Improvement Plan (CP) to better inform the public on a range of flood-related topics is one way that communities can earn CRS credit. A PPI and CP program is an ongoing effort to prepare, implement, and monitor a range of public information activities, and to increase flood insurance coverage throughout the community.

The City of Norfolk, in coordination with outside agencies and stakeholder groups has already prepared multiple outreach messages to educate the public on the hazards associated with flooding. The City has recognized that in order to provide greater impact, this outreach must be more than just a summary of what is already being done to protect the City against flooding. The City must evaluate its public outreach program, identify messages most important to communicate, target groups and areas where outreach is most needed, and develop a strategy to better impart this information and involve all of Norfolk on what "we" as a community can do. The City has realized that using online platforms for outreach may reach a wider audience than relying solely on mailing information directly to property owners. The PPI and CP planning process provided an opportunity for the City to consider other options for disseminating and targeting messages about the flood hazard to the community.

In 2014 the City began enforcing higher regulatory standards for construction within the areas subject to flooding. This effort, along with the rising cost of flood insurance, placed a new emphasis on Norfolk's standing within the CRS program and the benefits of program participation.

Table 110-1. CRS classes, credit points, and premium discounts.			
CRS Class	Credit Points (cT)	Premium Reduction	
		In SFHA	Outside SFHA
1	4,500+	45%	10%
2	4,000–4,499	40%	10%
3	3,500–3,999	35%	10%
4	3,000–3,499	30%	10%
5	2,500–2,999	25%	10%
6	2,000–2,499	20%	10%
7	1,500–1,999	15%	5%
8	1,000–1,499	10%	5%
9	500–999	5%	5%
10	0–499	0	0

As of January 2020, Norfolk’s CRS rating is a Class 7, which provides a 15% discount to property owners with flood insurance policies that are within the Special Flood Hazard Area (SFHA), and a 5% discount to property owners with flood insurance policies outside of the SFHA. Through implementation of higher standards and the formation of this PPI and CP document, the City plans to improve this rating significantly.

This PPI and CP is used to help support the three goals of the CRS program:

- Reduce and avoid flood damage to insurable property,
- Strengthen and support the insurance aspects of the NFIP, and
- Foster comprehensive floodplain management.

The following document reviews the planning process and details the outreach strategies used for the development of this PPI and CP document.

### Step 1: Establish a PPI and CP Committee

A PPI and CP should assess all the community’s needs for flood-related information and coordinate all the resources that can deliver information. It should recommend a range of activities that convey information to residents, businesses, students, commuters, and other audiences in and around the community. It should have an objective review of what is being done and how public information activities could be improved. Therefore, a PPI and CP needs to be developed by a committee that consists of members from both inside and outside local government.

#### 1.1 Membership and Stakeholders

The PPI and CP Committee’s membership must meet the following CRS criteria:

- There must be at least five people on the Committee.
- There must be representation from Norfolk’s floodplain management office.
- There must be representation from Norfolk’s public information office.
- There must be representation from a local insurance agency.
- At least half of the members must be from outside the local government (“stakeholders”).

The CRS encourages engagement of groups and people outside the local government in planning and conducting outreach projects. As outlined above, at least one-half of the members of the PPI and CP Committee must be representatives from outside the local government. These could be members of the public, representatives of key community organizations, and/or agencies and organizations that would likely implement the recommended outreach projects.

The PPI and CP Committee is charged with the development of the Program for Public Information and flood insurance Coverage Improvement Plan.

City of Norfolk Staff	Private Stakeholders
Matthew Simons, AICP, CFM – Floodplain Administrator, City of Norfolk	Mary-Carson Stiff – Policy Director for Wetlands Watch
Kelly Staub – Bureau Manager of Communications, City of Norfolk	Dr. Katerina Oskarsson – Chief Strategy Officer of RISE Resilience Innovations
Delk Koolman – Neighborhood Development Specialist, City of Norfolk	Rob Spurgeon – Shoreline Insurance Group
Daniel Hudson – Deputy Emergency Management Coordinator, City of Norfolk	Tom Warburton – Howard Hanna Realty
Matt Straley, CFM – GIS Specialists, City of Norfolk	Chris Topping – 504 Capital Corporation

### Committee Meetings

The PPI and CP Committee met four (4) times during the planning process to complete the outreach program. The meeting dates and objectives covered are summarized in Table 1 and detailed below.

**Table 1 – Summary of PPI and CP Committee Meeting Dates**

Meeting Topic		Meeting Date
PPI/CP #1	Review of CRS program goals, assessment of the community’s current public information needs (PPI and CP planning process, assessment of the flood hazard, exposed buildings, flood insurance coverage, and identification of target audiences and areas).	11/29/2018
PPI/CP #2	Define target outreach messages and other potential outreach projects along with dissemination methods.	1/9/2019
PPI/CP #3	Development of the Flood Insurance Assessment; review of target areas.	3/21/2019
PPI/CP #4	Endorsement of the final PPI and CP document, Stakeholders, Outreach Projects (OP), Flood Response Preparations (FRP) and Public Information Initiatives (PII)	6/30/2020

The Committee made the following observations regarding current public outreach efforts during a Needs Assessment exercise:

- Not all impacted groups were receiving the flood awareness message
- A more unified public message should be communicated to the community
- Relaying information can be difficult because flooding issues can be block or street-specific
- Use of different media forms for raising public awareness should be explored

Committee input led to staff creation of this document with proposed projects for the Committee to review. Staff then created a framework for a comprehensive flooding awareness message that will be used to focus public outreach for the entire City. The Committee also determined the target areas/audiences for each message. In reviewing the flood information available on the City’s website, the Committee agreed that website modifications would be part of the PPI/CP outreach projects; see Table 13 (CRS 352.c; WEB1).

### **Six Target Areas/Audiences identified by the Committee:**

- Target Areas:
  - Special Flood Hazard Areas
  - Repetitive Loss Areas
  - Moderate Risk Zones and Known Problem Areas
- Target Audiences:
  - Real Estate, Lending and Insurance Entities
  - Civic Organizations, Faith-Based and Community Partners
  - Entire Community

### **Ten Messages:**

- Six messages required by CRS:
  - Know your flood hazard
  - Insure your property
  - Protect people from risk
  - Protect property from risk
  - Build responsibility
  - Protect natural floodplain functions
- Four additional messages later identified by the PPI & CP Committee:
  - Drive safe/park safe: Avoid the flood
  - Hurricane preparedness
  - Financial benefits of mitigation
  - Reduce stormwater runoff

The Committee also discussed promotional efforts that were already taking place in Norfolk. They discussed how these programs and activities fit in the PPI and CP document, and how they can be modified to serve the overall effort.

The Committee was provided with the Flood Insurance Analysis (FIA – CRS 372.a) and provided additional input on what areas should be targeted in the City. Generally, the Committee found that properties in the City do not have enough flood insurance coverage and that a comprehensive campaign of flood awareness was needed to improve flood insurance coverage.

The conclusions of the Flood Insurance coverage Assessment (FIA) were discussed by the Committee, which informed the Committee’s final recommendations of the FIA.

### **Goals for the PPI and CP**

The members of the PPI and CP Committee share a common vision for a better-informed public that is educated about the flood risks, what they can do to decrease future damage, and the benefits of flood insurance. The PPI and CP is the tool to achieve that vision. The City’s PPI and CP Committee was guided in the development of this PPI and CP by the following two goals:

1. Encourage residents to adopt behaviors that improve flood hazard preparedness and decrease future flood damage through outreach materials and methods.
  - a. Provide relevant information to City residents regarding flood hazards; place added focus on residents who reside in Special Flood Hazard Areas and those that reside in areas that may be re-mapped to be in the Special Flood Hazard Area.
  - b. Provide detailed information through social media and publications. Encourage businesses to place brochures within sight of residents and visitors to increase awareness.



- c. Provide quick response to residents after they have been flooded. Have relevant information they may need available and ready to distribute.
2. Develop an aggressive outreach campaign to get information to the public using the following guidelines:
  - a. Share resources with other organizations to ensure information is getting to diverse groups.
  - b. Committee members agreed to do outreach during community and/or business meetings. These activities should be recorded for assurance of credits.

## **Step 2: Assess the Community's Public Information Needs**

The City of Norfolk is an independent city in the Hampton Roads metropolitan area of Virginia. Norfolk has a total land area of approximately 54 square miles and a water area of approximately 42 square miles. The Hampton Roads area is experiencing the highest rate of relative sea level rise on the East Coast due to the exacerbating effect of land subsidence. While global sea levels have risen 5-8 inches over the last century, in Norfolk, water levels are effectively 14 inches higher since the 1930s. Additionally, seven of the ten most significant storms that affected Norfolk since 1933 occurred in the last 15 years, clearly demonstrating that the risk is accelerating. With relative sea level rise projected locally between 1.5-foot and 3.9-foot by 2100 as documented by the Virginia Institute of Marine Science, the risk will only continue to increase.

Norfolk sits along the Chesapeake Bay and Elizabeth River, with 7 miles of Chesapeake Bay waterfront and 144 total miles of shoreline along lakefront, rivers, and the bay. The City is roughly 15 miles inland from the Atlantic coast. The City has 10 major watersheds, with the Elizabeth River, Lafayette River, Pretty Lake, Chesapeake Bay and Mason Creek watersheds having the greatest impact on properties. Because of the City's coastal location, low elevation, and flat topography, it is particularly susceptible to flooding from high tides and storm surge. Flood impacts on the City come from tidal flooding, storm surge, and heavy rainfall, with each having different impacts on property owners in each of the watersheds.

According to the U.S. Census Bureau's American Community Survey 2016 5-Year estimates, the City had an estimated total population of 245,724 in 2016. The City of Norfolk is the most densely developed in the Southside Hampton Roads area, with an average population density of 4,550 people per square mile.

Much of the City of Norfolk's shoreline is composed of estuarine and marine wetlands. It is important to realize, respect, and maintain the natural flood protection benefits and floodplain functions provided by these sensitive lands, and the natural and beneficial functions of this undeveloped coastal flood zone should be incorporated into local outreach and flood mitigation programs.

Given the military and university populations within the City of Norfolk, unique methods must be considered to effectively reach these communities. Residents may be living in Norfolk temporarily while on assignment to the Norfolk Naval Base (ship or shore duty) or to the universities; they may be homeowners or renters who do not consider themselves to be long-term residents of the City. Norfolk's transient population must be convinced that the long-term needs of the City are in their best interests as well. The PPI and CP Committee agreed that reaching out to those in the area temporarily on military assignment and providing them with flood risk and flood insurance information is necessary to make the program work effectively.

## **2.1 Delineate Target Areas**

---

To develop an effective local outreach program that raises public awareness about flood related issues, it is necessary to identify and assess the areas within the community that are considered flood prone. The PPI and CP Committee identified the following target areas and concluded that outreach projects should be directed to all properties (residential, commercial and public) within these areas:

### **Target Area #1: The Special Flood Hazard Area**

The City of Norfolk's floodplains were last mapped in February 2017. Under the Effective FIRM, the City of Norfolk currently has 9,902 properties within a designated flood area that is subject to a 1% annual chance flood event (AE (includes Coastal A), AH, AO, and VE), where the Special Flood Hazard Area (SFHA) intersects an insurable building. This number constitutes 15% of the parcels in the City. The SFHA represents 17% of the total land area of the City.

### **Target Area #2: Repetitive Loss Areas**

Structures categorized as repetitive loss have two or more claims of \$1,000 or more paid by the National Flood Insurance Program (NFIP) within any ten-year period. These structures have a greater need for flood mitigation. These structures are known to be vulnerable to flood and will continue to experience losses unless they are mitigated.

### **Target Area #3: Moderate Risk Zones and Known Problem Areas**

Flood risk in the City of Norfolk is not limited to the identified SFHA on the Flood Insurance Rate Map. A coastal community experiences impacts in multiple areas that extend beyond the traditional overbank floodplains of rivers and shorelines. This includes precipitation flooding and localized ponding. Also, if a significant storm event were to impact the region, a large number of properties outside of the SFHA would be affected by flooding. These areas are normally in the 0.2% annual chance risk zones and are not required to maintain flood insurance in most cases. The protection afforded by having flood insurance in these areas greatly outweighs the costs of flood insurance premiums.

## **2.2 Flood Insurance Coverage Assessment (CRS 372.a – FIA)**

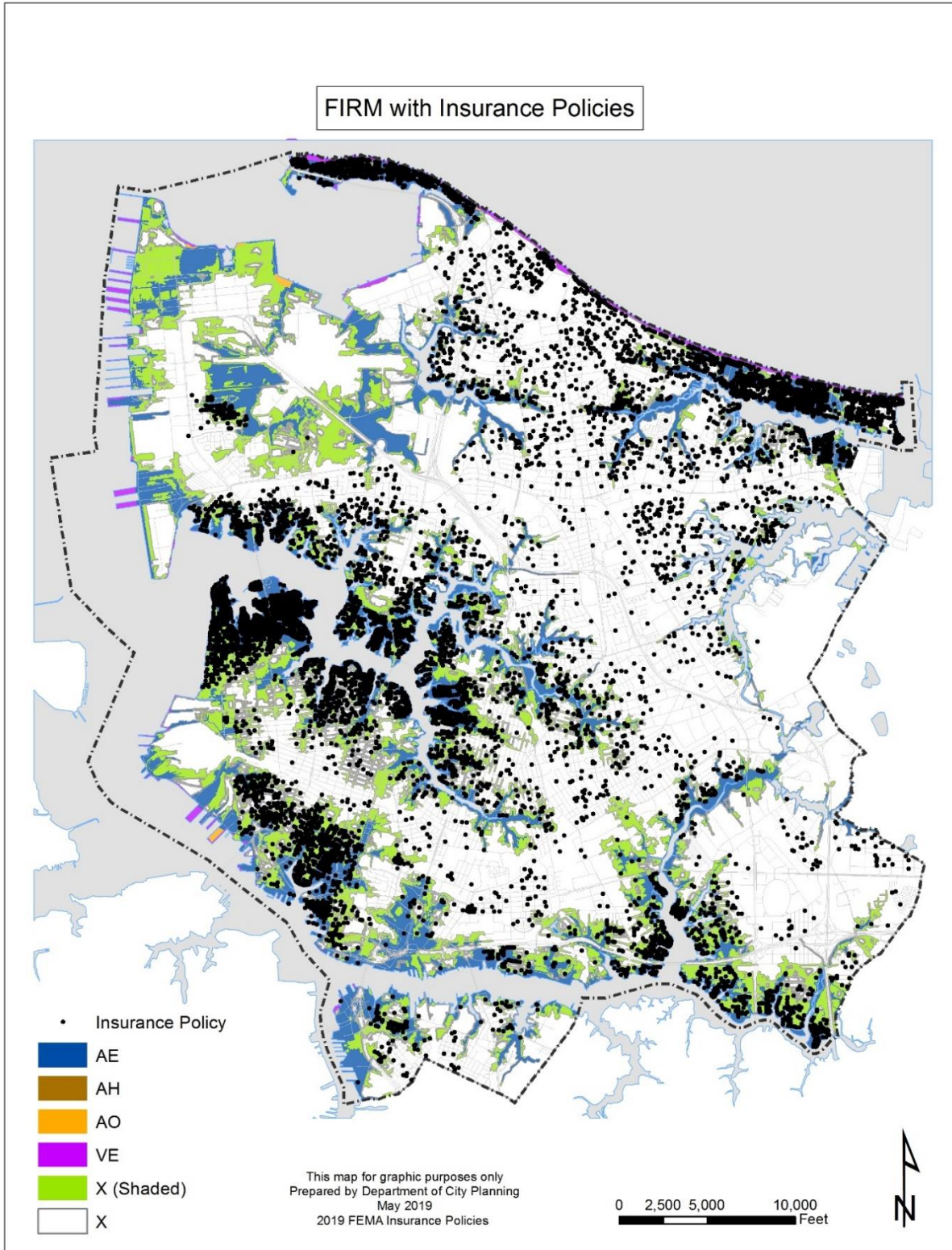
---

One valuable source of information on flood hazards is current flood insurance data for active policies and past claims. Flood insurance is required as a condition of federal aid or a mortgage or loan that is federally insured for a building located in a FEMA flood zone. An analysis of the NFIP data provided the following insight into areas susceptible to flooding in the City:

1. Where do active flood insurance policies exist?
2. Where have flood insurance claims been paid in the past?
3. How many buildings are exposed to the flood hazard versus how many buildings have coverage?
4. How does the average amount of coverage compare to the amount of expected flood damage?

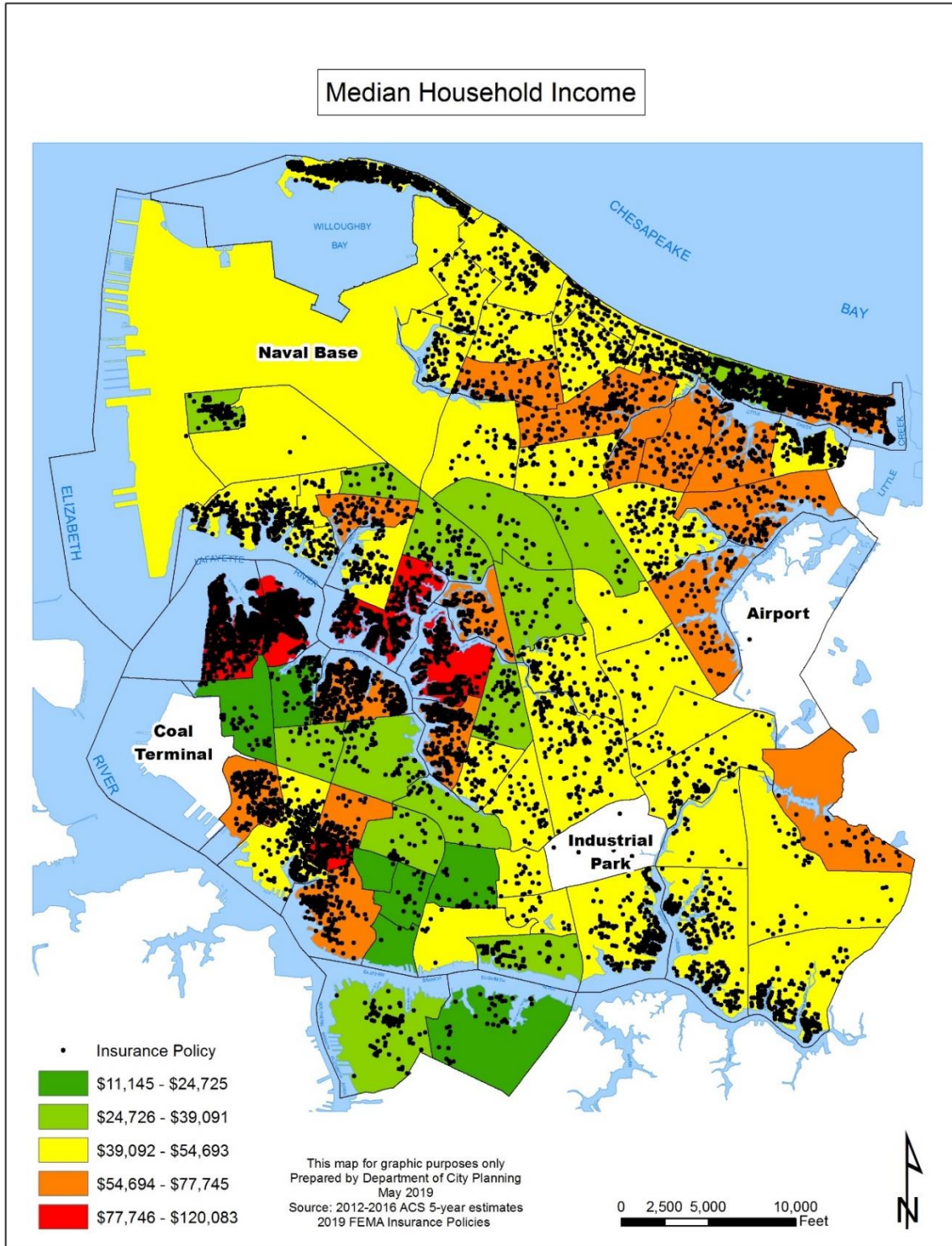
A visual analysis of the flood insurance data from January 2019 was performed by the Department of City Planning to provide data on which geographic locations and areas of household income would benefit from targeted outreach. The spatial distribution of flood insurance policies as of January 2019 is shown in Figure 1. The PPI and CP Committee also evaluated policy distribution relative to median household income in Figure 2.

Figure 1 – Flood Insurance Coverage and Flood Zones



Source: NFIP Flood Insurance Policy Data, January 2019

**Figure 2 – Flood Insurance Coverage by Median Household Income**



Source: NFIP Flood Insurance Policy Data, January 2019

As of January 2020, the City of Norfolk had a total of 12,374 active flood insurance policies in effect. Of those policies, 6,859 were regular policies for properties located within the Special Flood Hazard Area (VE, AE, AH, AO zones) and 5,515 were either Standard X-Zone or Preferred Risk Policies for properties located in the low to moderate risk flood zones (X and X shaded).

Table 2 details the number and percentage of properties with an active flood insurance policy.

**Table 2 – Properties with an Active Flood Insurance Policy by Flood Zone**

Flood Zone	Policies	Parcels with an Insurable Structure*	Condo Records	Total No. of Insurable Properties	Percentage Range***	Median Percentage
Within the SFHA	6,859 Total	7,596	2,306	9,902	69% - 90%	<b>80%</b>
<b>AE</b>	6,834	7,528	2,250	9,778	70% - 91%	<b>80%</b>
<b>AH</b>	18	14	19	33	55% - 100%	<b>77.5%</b>
<b>AO</b>	5	9	10	19	26% - 55%	<b>40.5%</b>
<b>VE</b> (Coastal High Hazard)	2	45	27	72	3% - 4%	<b>3.5%</b>
Outside the SFHA	5,515 Total	53,197	3,264	56,461	10%	<b>10%</b>
<b>X (Shaded)</b> (within 0.2% annual)	**	9,209	1,513	10,722	N/A	N/A
<b>X</b> (outside 0.2% annual)	**	43,988	1,751	45,739	N/A	N/A
<b>Total:</b>	<b>12,374</b>	<b>60,793</b>	<b>5,570</b>	<b>66,363</b>	<b>19% - 20%</b>	<b>19.5%</b>

Source: CRS Community Information System (CIS); January 16, 2020

\* Includes condo structures, which may have multiple policies within a structure; the building total counts condominium buildings only once. For example, the AH flood zone area contains a condominium building with multiple units, all located above the ground floor; the condo building may have one policy to cover building and contents damage to the ground floor only. The source of the building data is Norfolk Department of Public Works, GIS shapefile, classified using the FIRM shapefile and spatial analysis. Buildings that are located within more than one flood zone are assigned to the most severe flood zone.

\*\* FEMA Insurance data not broken down by policies in Zone X (unshaded) versus Zone X (shaded).

\*\*\* Ranges are given to account for the condo discrepancy: the higher percentage is a result of dividing the number of policies by the total number of parcels with an insurable structure in the SFHA, the lower percentage results from dividing the number of policies by the total number of insurable properties in the SFHA, which includes each individual condo even though some buildings only have one flood policy covering the entire building. This occurs in multi-level condos and co-op's because flood damage is often assumed to only impact the ground floor. Without knowing the true coverage in force for each condo complex, the real percentage of NFIP coverage is somewhere in the range shown. For clarity, the median percentage is shown in bold.

According to the City's historical Hazard Mitigation plans, the number of flood insurance policies in the City has only gradually increased in the recent past. January 2011 data indicated 12,021 policies, while April 2015 data indicated 12,324 policies. Table 2 shows 12,374 policies in April 2019, an increase of 353 policies since 2011.

The PPI and CP Committee reviewed the summary data in Tables 3 through 5 which provide policy breakdowns by Pre- and Post-FIRM structures, and further broken down by structure type. City staff divided the amount of coverage (total insurance coverage) by the number of policies by per flood zone, and by structure type, to determine the average amount of coverage by category. The results are shown in the locally determined, "averages" column.

**Table 3 – Pre-FIRM Policies, Premiums, Total Coverage and Claims by Flood Zone**

Flood Zone	Pre-FIRM Policies	Total of Annual Premiums	Total Insurance Coverage	No. of Claims Filed	Total of Paid Losses	Averages (Premium/Coverage*)
Within the SFHA	3,479	\$4,908,127	\$841,334,800	3,885	\$53,332,580	\$1,410 / \$241,832
<b>AE</b>	3,467	\$4,879,270	\$836,242,900	3,878	\$53,293,171	\$1,407 / \$241,200
<b>AH</b>	6	\$17,737	\$3,600,000	0	\$0	\$2,956 / \$600,000
<b>AO</b>	5	\$5,390	\$1,119,900	0	\$0	\$1,078 / \$223,980
<b>VE</b> (Coastal High Hazard)	1	\$5,730	\$372,000	7	\$39,407	\$5,730 / \$372,000
Outside the SFHA	3,664	\$1,651,545	\$1,131,785,300	1,058	\$7,844,376	\$450 / \$308,893
<b>Standard X-Zone</b>	776	\$542,268	\$237,590,300	399	\$4,235,495	\$699 / \$306,173
<b>Preferred Risk</b>	2,888	\$1,109,076	\$894,195,000	662	\$3,753,337	\$384 / \$309,624
<b>Total:</b>	<b>7,143</b>	<b>\$6,599,672</b>	<b>\$1,973,120,210</b>	<b>4,943</b>	<b>\$61,176,956</b>	<b>\$923 / 276,231</b>

Source: CRS Community Information System (CIS); January 16, 2020

\*The average amount of flood insurance coverage is also referred to as “insurance in force” within the CRS Coordinator’s Manual.

**Table 4 – Post-FIRM Policies, Premiums, Total Coverage and Claims by Flood Zone**

Flood Zone	Post-FIRM Policies	Total of Annual Premiums	Total Insurance Coverage	No. of Claims Filed	Total of Paid Losses	Averages (Premium/Coverage*)
Within the SFHA	3,380	\$1,701,348	\$850,048,700	699	\$4,975,602	\$503 / \$251,493
<b>AE</b>	3,367	\$1,683,591	\$845,358,700	695	\$4,955,103	\$500 / \$251,071
<b>AH</b>	12	\$13,860	\$4,500,000	0	\$0	\$1,155 / \$375,000
<b>AO</b>	0	0	0	0	\$0	
<b>VE</b> (Coastal High Hazard)	1	\$3,897	\$190,000	4	\$20,499	\$3,897 / \$190,000
Outside the SFHA	1,851	\$876,653	\$557,164,900	155	\$1,669,304	\$473 / \$301,007
<b>Standard X-Zone</b>	588	\$341,475	\$146,907,900	87	\$1,160,161	\$581 / \$249,843
<b>Preferred Risk</b>	1,263	\$543,178	\$410,257,000	68	\$509,142	\$430 / \$324,827
<b>Total:</b>	<b>5,231</b>	<b>\$2,577,001</b>	<b>\$1,407,213,600</b>	<b>854</b>	<b>\$6,644,907</b>	<b>\$492 / \$269,014</b>

Source: CRS Community Information System (CIS); January 16, 2020

\*The average amount of flood insurance coverage is also referred to as “insurance in force” within the CRS Coordinator’s Manual.

**Table 5 – Policy Breakdown by Structure Type**

Structure Type	Total No. of Policies	Total of Annual Premiums	Total Insurance Coverage	Averages (Premium/Coverage*)
Single-family	8,469	\$6,167,830	\$2,424,193,300	\$728 / \$286,243
2 to 4-family	768	\$610,176	\$171,088,100	\$795 / \$222,770
All other residential including mixed-use	2,748	\$1,274,670	\$610,181,000	\$464 / \$220,045
Non-residential	389	\$1,084,597	\$174,906,200	\$2,788 / \$449,630
<b>Total:</b>	<b>12,374</b>	<b>\$9,137,273</b>	<b>\$3,380,368,600</b>	<b>\$738 / \$273,183</b>
Condo	2,810	\$941,115	\$563,841,700	\$335 / \$200,655
Non-Condo	9,562	\$8,196,158	\$2,816,526,900	\$857 / \$294,554

Source: CRS Community Information System (CIS); January 16, 2020

\*The average amount of flood insurance coverage is also referred to as “insurance in force” within the CRS Coordinator’s Manual.

After reviewing Table 5, the Committee did not conclude whether the average coverage was either adequate or inadequate. The Committee also reviewed a breakdown of the total number of policies and properties and a percentage of those properties by structure type that have a flood insurance policy. Table 6 shows this Citywide breakdown of policy coverage by structure type.

**Table 6 – Policy Coverage Percentage by Structure Type Citywide**

Structure Type	Total No. of Policies	No. of properties by structure type	Percentage
Single-family	8,469	48,299	17.5%
2 to 4 family	768	4,451*	17.2%
All other residential including mixed-use	2,748	1,425*	--
Non-residential	389	3,916	9.9%
<b>Total:</b>	<b>12,374</b>	<b>58,091</b>	<b>21.3%</b>

Source: CRS Community Information System (CIS); January 16, 2020

\*Includes condo structures, which may have multiple policies within a structure. The source of the property data is the Norfolk Real Estate Assessor's File, properties with improvement value.

Seven weeks after Norfolk officially joined the NFIP, a flood claim occurred on September 5, 1979, and the most recent claim occurred on September 6, 2019 (remnants of Hurricane Dorian). Table 7 shows the breakdown of claims by decade (excluding the tail end of 1979), and Table 8 shows the history of claims by structure type; according to data from March 2, 2020.

**Table 7 – History of Claims by Decade\***

Structure Type	Total No. of Paid Claims	Total Claim Amount	Average Claim Amount	Percentages of: (Total claims & Total costs)
1980's	80	**\$266,568	**\$3,332	1.7% of claims / 0.4% of costs
1990's	565	**\$3,303,828	**\$5,847	12.2% of claims / 4.8% of costs
2000's	2,701	**\$43,421,442	**\$16,076	58.3% of claims / 63.8% of costs
2010's	1,290	\$21,058,044	\$16,324	27.8% of claims / 30.9% of costs
<b>Total:</b>	<b>4,636</b>	<b>\$68,049,882</b>	<b>\$14,678</b>	

\*Includes lots now vacant

\*\*Older costs are not adjusted for inflation.

Source: NFIP Policy Data, March 2, 2020

**Table 8 – History of NFIP Claims by Structure Type**

Structure Type	Total No. of Paid Claims	Total Claim Amount	Average Claim Amount	Percentages of: (Total claims & Total costs)
Single family	3,452	\$ 42,381,808	\$ 12,277	77% of claims / 66% of costs
2 to 4 family	648	\$ 10,074,090	\$ 15,546	15% of claims / 16% of costs
All other residential including mixed-use	184	\$ 4,931,998	\$ 26,804	4% of claims / 8% of costs
Non-residential	187	\$ 6,956,526	\$ 37,201	4% of claims / 11% of costs
<b>Total</b>	<b>**4,471</b>	<b>\$ 64,344,422</b>	<b>\$ 14,392</b>	

\*Total does not include lots that are now vacant or combined with other properties; the original structure type is now unknown.

Source: FEMA CIS, March 2, 2020

A further dive into the history of claims data as of March 2020 indicates that the total number of claims being filed peaked in the 2000's (2,701 claims). The worst ten years occurred between 2003 to 2012, when nearly 77% of all Norfolk flood claims (3,607 claims) were paid by the NFIP. This included hurricanes Isabel (2003), "Nor'Ida" (2009), Irene (2011), Sandy (2012) and others, which represents 85% (\$58,009,276) of all claim dollars paid-out in the City of Norfolk by the NFIP.

Paid flood claims have ranged from \$5 (2003) to \$503,403 (2016), and all claims data includes both building damage and damage to contents, if covered on the policy. Additionally, there is a

disproportionate relationship between the percentage of flood claims by structure type, and the percentage of costs that such claims have drawn from the NFIP. While non-residential structures represent only 5% of total NFIP flood claims, these structures have accounted for 11% of the total costs paid out. Eight of the ten highest flood claims paid by the NFIP have been for non-residential structures, all of which are unmitigated Repetitive Loss structures, and five of which are Severe Repetitive Loss structures.

The majority of paid NFIP flood claims in the City have resulted from tidal storm surge associated with named storm events (nor'easters or tropical cyclones). None of the storm events at any time in Norfolk's history have reached the base flood elevations (1% annual chance flood elevation) mapped on the Flood Insurance Rate Map. Since Norfolk joined the NFIP in 1979, the highest flood stage was reached during Hurricane Isabel in 2003 (el. 6.28' NAVD88), followed by "Nor'Ida" in 2009 (el. 6.13' NAVD88). For perspective, these measurements were taken at the Sewells Point NOAA tide station, where the base flood elevation during a 1% annual chance storm would occur at elevation 7.2'. Storms "Isabel" & "Nor'Ida" didn't even reach the 2% annual chance flood level (50-year storm), which would occur at elevation 6.8' (FEMA Flood Insurance Study for the City of Norfolk<sup>i</sup>).

These "high-water marks" for Norfolk do not serve as proper community benchmarks for illustrating the true exposure that Norfolk would face during the 1% annual chance flood level, as oftentimes residents will conceptualize their tolerance for risk in reference to the highest flood level in recent memory, rather than in relation to the actual Base Flood Elevation as shown on the Flood Insurance Rate Map.

Generally, the number of flood insurance policies versus total parcels in the City is low. As compared to the number of parcels in the SFHA, the number of flood insurance policies is considered high to moderate (over 70%), especially relative to the national average, which is around 30%<sup>ii</sup>. As stated earlier, 15% of the parcels in the City are developed with an insurable building within the SFHA, however, only 19.5% of properties in the City carry flood insurance, which includes properties both inside and outside the SFHA. Given that as many as 30% of the insurable parcels located in the SFHA do not have flood insurance, and since flood insurance for federally-backed mortgages are required in the SFHA, the PPI & CP Committee believes that the total number of policies in the City could be greater.

It is difficult to determine whether flood insurance coverage is correlated with income based on the analyses performed. Census tracts alone are poor indicators of determining the percentage of flood insurance policies per housing unit because the tracts are not contiguous with the boundaries of the SFHA. Future analyses should be performed to map flood insurance policies by census tract and geocode both within and without the SFHA boundaries, as well as the X and X (shaded) boundaries. This will allow insurance coverage (up-take) to be compared amongst census tracts by income, to understand how the percentage of up-take within the SFHA varies with household income.

**Repetitive Flooding Analysis:** According to 2020 NFIP records, there are 975 unmitigated Repetitive Loss (RL) structures with a total payment of \$47,847,267. Of these 975 structures, 84 are considered Severe Repetitive Loss (SRL) structures.

A Severe Repetitive Loss (SRL) structure is a structure that has incurred flood damage for which:

- a. Four or more separate NFIP claim payments have been made with the amount of each such claim exceeding \$5,000, and with the cumulative amount of such claim payments exceeding \$20,000; or,
- b. At least two separate NFIP claims payments have been made with the cumulative amount of such claim payments exceeding the fair market value of the insured building on the day before each loss.



Approximately 77% of all RL structures remain insured through the NFIP. Tables 9 and 10 below details RL and SRL building and payment totals by FEMA flood zones and insurance coverage.

**Table 9 – Summary of Repetitive Losses and Flood Insurance**

Flood Zone	AE, AO, AH	VE	X and X (shaded)	TOTAL
RL Buildings (Total)	849	1	125	*975
RL Losses (Total)	2,560	3	319	2,882
<b>RL Payments (Total)</b>	<b>\$42,706,171</b>	<b>\$26,621</b>	<b>\$5,114,473</b>	<b>\$47,847,267</b>
<i>Building</i>	<i>\$39,559,267</i>	<i>\$26,621</i>	<i>\$4,602,491</i>	<i>\$44,188,379</i>
<i>Contents</i>	<i>\$3,146,904</i>	<i>\$0</i>	<i>\$511,982</i>	<i>\$3,658,887</i>

Source: FEMA Community Information System, March 2020

\*Mitigated homes not included.

Twenty-six (26) RL and SRL structures have been mitigated, primarily through home elevation (raising) projects. 7.8% of the City’s 12,374 NFIP flood policies are for a RL structure (7.2%) or SRL (0.6%) structure. However, 76% (\$51.6M) of all NFIP flood claim payments (\$68.2M) in Norfolk have been paid to RL or SRL structures. Additionally, 15% (\$10.2M) of the total claim payments, have been paid for claims to the 84 SRL structures, even though these 84 SRL structures represent less than 1% of the City’s insured properties (12,374 total).

Historically in Norfolk, the average total pay-out for an NFIP flood policy has been as follows:

- Severe Repetitive Loss structures: (\$10,189,591 / 84 structures) = **\$121,305 per structure**
- Repetitive Loss structures (no SRLs): (\$41,478,584 / 891 structures) = **\$46,553 per structure**
- Non-Repetitive Loss structures: (\$16,638,723 / 11,397 structures) = **\$1,460 per structure**

On average, the total costs of flood claims paid-out by one of Norfolk’s 975 RL policies is over **31 times greater** than the average total pay-out for a non-RL flood policy; the average total pay-out of an SRL policy is **83 times greater** than a non-RL flood policy.

**Table 10 – Summary of Severe Repetitive Losses and Flood Insurance**

Flood Zone	AE, AO, AH	VE	X and X (shaded)	TOTAL
RL Buildings (Total)	84	0	0	*84
RL Losses (Total)	469	0	0	469
<b>RL Payments (Total)</b>	<b>\$10,189,591</b>	<b>\$0</b>	<b>\$0</b>	<b>\$10,189,591</b>
<i>Building</i>	<i>\$9,431,103</i>	<i>\$0</i>	<i>\$0</i>	<i>\$9,431,103</i>
<i>Contents</i>	<i>\$758,468</i>	<i>\$0</i>	<i>\$0</i>	<i>\$758,468</i>

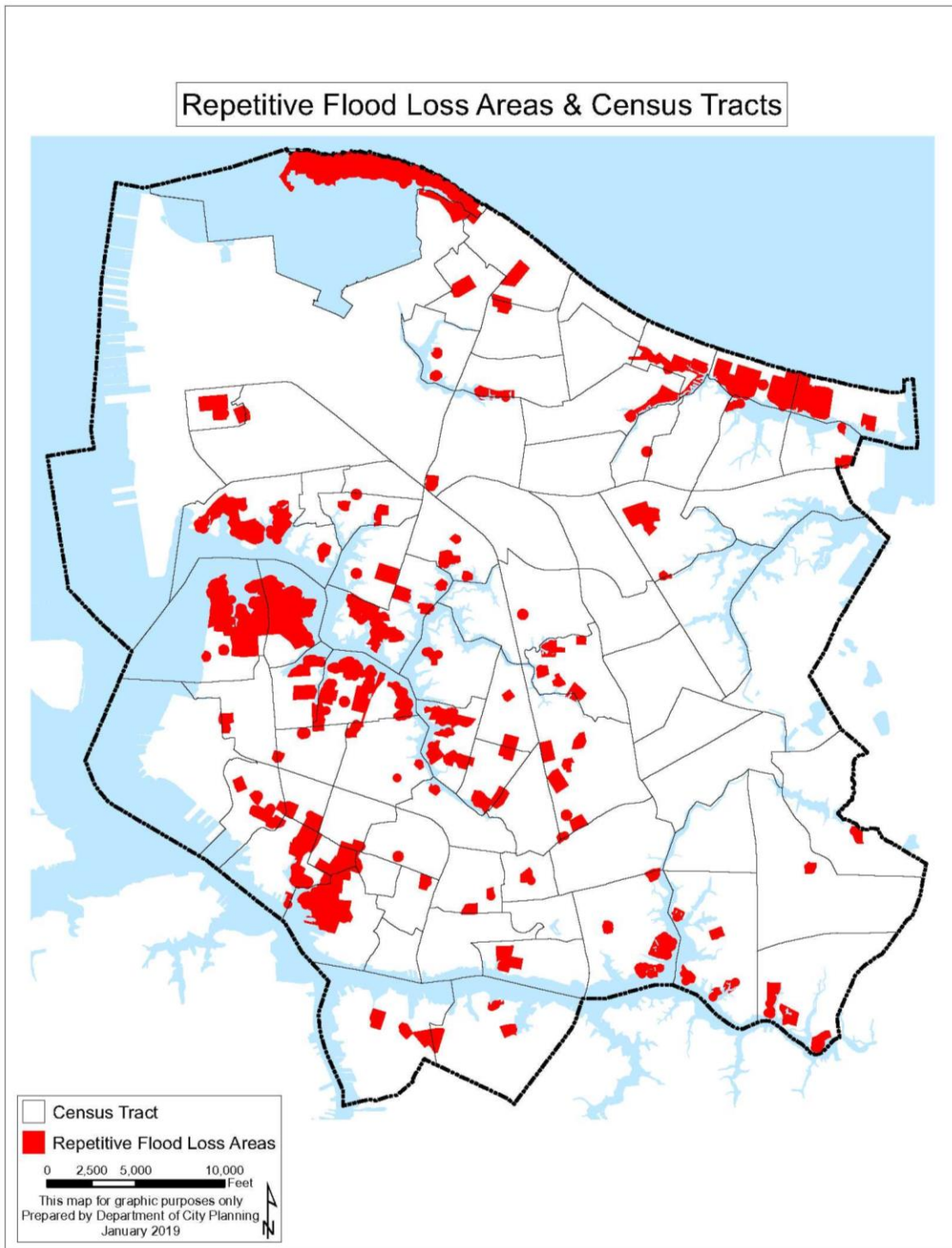
Source: FEMA Community Information System, March 2020

\*Mitigated homes not included.

Given the concentration of payments to RL and SRL structures, the PPI & CP Committee determined that outreach efforts should focus on RL and SRL structures and nearby policies and claims histories for structures located within the RL areas. In the future, the City should explore SRL areas to uncover trends that may be occurring in these hot spots. In addition to the individual RL structures, the RL areas include other structures, which have had one claim against the NFIP and the potential to become repetitive loss structures, as well as surrounding properties with similar flooding conditions.

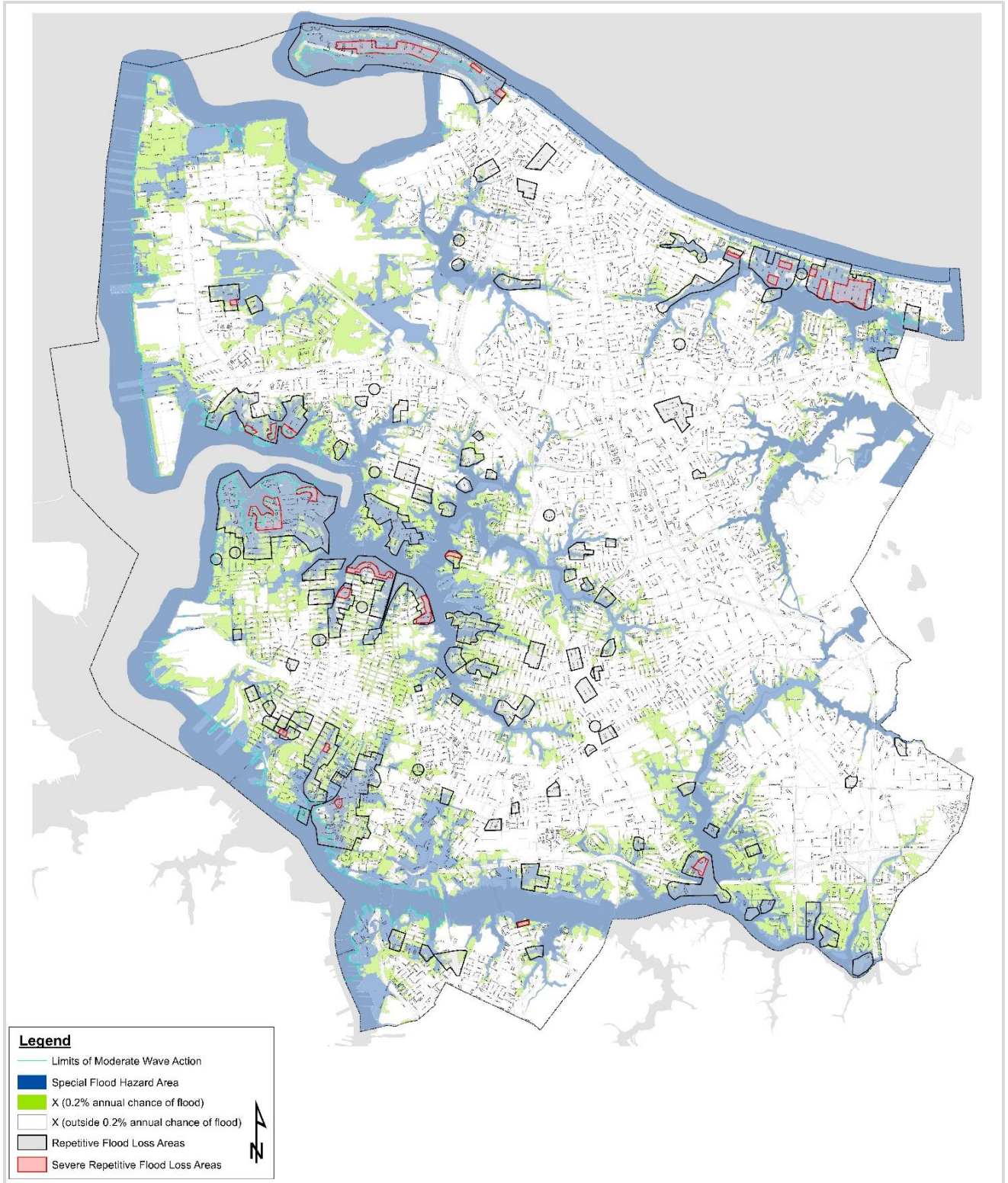
Figure 3 illustrates the location of the repetitive loss areas defined for the City, based on the known repetitive loss structures, other flood claims, and other surrounding properties with similar flood conditions.

**Figure 3 – Repetitive Loss Areas**



Source: NFIP Repetitive Loss Data, April 2020

**Figure 4 – Severe Rep Loss Areas (SRLs) within the Rep Loss Areas (RLs) and Flood Zones**



Source: NFIP Repetitive Loss Data, April 2020

Note: All of the RL and SRL structures in Norfolk are located in one of the areas shown on the map, but most of the properties in each area do not contain a RL or SRL structure.

The Commonwealth of Virginia Hazard Mitigation Plan (2018) provides excellent figures for how Norfolk's flood claims compare to other localities throughout Virginia. Statewide, the City of Norfolk has the 4<sup>th</sup> highest total of paid NFIP flood claims at \$68.3M; behind Poquoson (\$71.5M), Hampton (\$73.6M), and Virginia Beach (\$86M), respectively, which represents approximately 9.8% of all statewide flood claims paid (\$690.9M). However, among unmitigated RL structures, Norfolk policyholders have been paid the highest amount in total claims statewide (\$47.8M). Norfolk also has the highest amount in total statewide claims for SRL structures (\$11.4M).

It is important to note, that while Poquoson has comparable flood claims to Norfolk, Poquoson's population is only 5% of Norfolk's, and the number of NFIP policies are 25% of Norfolk's total policies. However, Poquoson has focused intently on home elevation projects and successfully elevated approximately 275 RL structures, as compared to 124 RL structures mitigated in Norfolk (65 elevated, 54 demolished and rebuilt, 4 acquired for open space).

### **Flood Insurance Coverage Assessment (FIA) Conclusions:**

1. Approximately 95% of past claims have been made on residential properties, with the majority attributable to single-family homes.
2. While only 19.5% of insurable properties in the City have an active NFIP flood policy, over 70% of insurable properties in the SFHA have an active policy, much higher than the National average (30%). However, less than 3% of insurable properties in VE zones have an active policy. The V zone properties faces one of the highest levels of flood risk yet has the lowest flood insurance coverage rate.
3. Only 10% of structures outside the SFHA are insured. This includes insurable properties in the X zone and the Shaded X zone, which is the area at risk to the 0.2% annual chance flood.

### **FIA Recommendations for Coverage Improvement Plan Implementation:**

1. Further Analysis:
  - a. The City should further break down the coverage within flood zones by occupancy type for Pre- and Post-FIRM structures separates, to better understand the impact that rising premiums will have on the coverage in force.
  - b. The City should better analyze coverage outside the SFHA, by mapping these policies to find the numbers of X (unshaded) versus X (shaded) policies.
  - c. Additional analysis of the minus-rated properties, broken down by Pre- and Post-FIRM structures should be performed as these properties are not receiving the CRS discount and there may be simple messages (flood vents) that could dramatically improve premiums for these properties.
2. Additional Outreach:
  - a. The City should consider providing targeted information about the importance of maintaining a flood insurance policy regardless of whether the policy is required by your mortgage lender.
  - b. Due to the high level of risk faced in the SFHA, the City should continue to target properties in this area for increased policy coverage. **The City should especially focus efforts on uninsured properties in VE zones**, promoting affordable mitigation tools.
  - c. The City should development outreach projects to target the moderate-risk X (Shaded) zone and hotspot areas in the X (Unshaded) zone to increase policy coverage. These areas are eligible to purchase lower cost Preferred Risk Policy. Educating residents on the availability of these policy may increase policy coverage.

- d. The City should further analyze the building and environmental conditions within the Severe Repetitive Loss (SRL) areas. Staff should further investigate the flood-damage conditions that are occurring in these areas by creating 2-percent (50-year) and 10-percent (10-year) annual chance flood inundation maps, as well as an inventory of building foundations in these areas (crawl, slab-on-grade, basement, etc.), in order to inform future messaging strategies for these SRL areas.
    - e. Due to the disproportionate relationship between the low number of non-residential flood claims, and the relatively high total costs (payments) of non-residential claims amongst all NFIP claims, the City should consider future outreach strategies targeted at high costs, Repetitive Loss, non-residential structures.
  3. Elected Official Outreach: To improve flood insurance coverage in the City, the PPI and CP Committee have identified an Elected Official Flood Insurance Outreach Project, which can be found at the bottom of Table 13.

### **2.3 Determine Target Audiences**

---

In deciding on target audiences for outreach, the PPI and CP Committee considered communities, group types, and the FIA Conclusions and Recommendations. The Committee also evaluated a number of social and economic factors when identifying target audiences to ensure that the right messages, tools and resources will be used to overcome obstacles. These factors are summarized in the introduction to Section 2, “Step 2: Assess the Community’s Public Information Needs” of this document.

The Committee decided to focus on a number of specific groups (target audiences) due to the distinct differences in the City’s population. Each identified group is considered key to efforts to provide information to protect the city and will play an essential role in relaying information without intensive City efforts. The Committee recognized that messages would need to be distributed in different forms and using different sources in order to reach all target audiences. The following groups have been identified as target audiences who need special messages on flood protection:

#### **Target Audience #1: Real Estate, Lending, and Insurance Entities**

These three specific stakeholder groups consistently work with new home buyers and have the best opportunity to provide information when it is needed. These groups need to be informed of what data the City has available to help residents make better decisions on home buying and asset protection. These groups are often relied upon to provide accurate information and consequently need as much, or more, information on flooding as the average citizen. The PPI and CP Committee will make sure this group is informed and equipped with the tools needed to convey flood risk and flood insurance information to residents. This group needs information that they can easily share with their clients.

#### **Target Audience #2: Civic Organizations, Faith-Based and Community Partners**

Civic organizations are often trusted information sources for the public. Residents in the community will often “trust” information from these sources more than from City officials. Since these organizations comprise residents who play a role in neighborhood development, civic leagues and other community partners should understand their communities’ flood hazard and be aware of ways to protect properties that depend upon community-wide participation. Using these important colleagues to help grow trust and to better inform the public are keys to assuring the public is well informed and protected. These partners often have the ability to quickly disseminate information in terms that can be better understood by the public and to provide forums at well-attended standing meetings.

**Target Audience #3: Entire Community**

Almost everyone in Norfolk is at risk from flooding. The level of risk depends on whether a property is in a high-risk flood zone (FEMA mapped VE, AE, AH, or AO zone), a moderate-risk zone (FEMA mapped X Shaded zone) or a low-risk flood zone (FEMA mapped X zone). While, there is at least a 26 percent chance that a building in the SFHA will experience flooding in the course of a 30-year mortgage, on average over 20% of all flood losses nationwide occur outside any designated FEMA mapped high- or moderate-risk flood zones<sup>iii</sup>. To better illustrate this risk, in Norfolk the most expensive flood claim paid-out by the NFIP was due to basement flooding to a commercial building during Hurricane Matthew (2016), located within the X (Unshaded) zone; typically the lowest-risk flood zone. When combined with sea level rise, urbanization, and increases in impervious surfaces, flooding can occur anywhere.

**Stakeholders**

Flood problems can occur anywhere in City due to local stormwater issues. In addition to the target audiences detailed above, the PPI & CP Committee identified the following Stakeholders as able to provide support and informational materials to supplement and enhance the outreach efforts detailed in this PPI & CP:

- Federal Emergency Management Agency’s (FEMA) National Flood Insurance Program (NFIP)
- Virginia Department of Emergency Management (VDEM)
- Virginia Department of Conservation and Recreation (VDCR)
- Civic, faith-based and community partners
- Wetlands Watch
- Hampton Roads Sanitation District (HRSD)
- Hampton Roads Utility Billing Service (HRUBS)
- Coastal Virginia CRS Workgroup
- WHRO Public Media
- Hampton Roads Realtor Association

**2.4 Inventory of Other Public Information Efforts**

A key part of developing a public information program is becoming aware of other public information activities targeted at City residents. The information in Table 11 came from past projects, staff research, and PPI & CP Committee members. Knowing what messages are currently reaching the residents of the City is essential in determining what types of projects or messages are effective and which ones may need to be revised or what new projects are necessary to encourage residents and businesses to adopt behaviors to protect their property and their lives and make the City more resilient.

**Table 11 – Existing Public Information Efforts**

Organization	Project	Subject Matter	Frequency
Norfolk Planning Dept.	Mailings	Repetitive Loss Area mailing	Annually
Norfolk Planning Dept. and Public Works Division of Stormwater	Handouts and brochures at outreach events, website	Coastal resilience, flood zones, flood insurance, keeping storm drains clear	Year-round
Norfolk Dept. of Public Works – Division of Stormwater	Programs	“Adopt-a-Drain” neighborhood program to adopt a storm drain and keep it clear	Continuous
Norfolk Dept. of Public Works	Presentations	Stormwater flooding mitigation, water pollution, including outreach to Norfolk Public Schools	Year-round
Norfolk Dept. of Public Works	Storm Drain Medallions	Medallions for public education on “no dumping” rules	Year-round

Organization	Project	Subject Matter	Frequency
Norfolk Dept. of Public Works	Yard Waste Website	Information and videos on the need to keep storm drains clear of yard debris	Year-round
Norfolk Dept. of Public Works and Dept. of Utilities	Brochures and messages inserted in utility bills	Storm water management, flood insurance	Year-round
Norfolk Office of Resilience and Norfolk Department of Public Works	Workshops, brochures and website	<a href="#">Retain-Your-Rain</a> program – promoting the use of small-scale green infrastructure to hold rainwater where it falls	Continuous
Norfolk Office of Emergency Preparedness and Response and VA Dept. of Emergency Mgmt.	Presentations and workshops	Hurricane preparedness, emergency and disaster planning	Year-round (Hurricane Season)
Elizabeth River Project	Workshops	Rain barrels, Bay Star and River Star Homes aimed at increasing homeowner responsibility for flood mitigation	Year-round
Hampton Roads Planning District Commission	Brochure and messages inserted in utility bills	<a href="#">Flood Fluent Campaign</a> – Insure your property, protect your property from the hazard	Annually
VA Dept. of Conservation and Recreation	Outreach Campaign – social media, door hangers, post cards	<a href="#">Flood Awareness Week</a> – all six PPI Topics disseminated	2 <sup>nd</sup> week in March
American Red Cross	<a href="#">American Red Cross Hurricane Safety Checklist</a>	Protect yourself and your family and property from the hazard, insure your property	Year-round
VA State Corporation Commission Bureau of Insurance	Q&A guides for <a href="#">homeowners</a> and <a href="#">businesses</a>	What to do after an insured loss – Protect your property from the hazard, insure your property	Year-round
Wetlands Watch	<a href="#">Coastal VA CRS Workgroup</a>	Regional workshop for CRS Coordinators and planning agencies	Six meetings annually
FEMA National Flood Insurance Program	<a href="#">Floodsmart.gov</a>	Know your flood hazard, insure your property, protect yourself, your family and property from the hazard, financial benefits of mitigation	Year-round

### Examples of Existing Outreach Efforts



### Step 3: Formulate Messages

After reviewing the Community Needs Assessment, the PPI and CP Committee reviewed the existing outreach projects and their dissemination methods and developed the following priority messages. Table 12 summarizes each message and the desired outcome. Topics A through F are the CRS Activity 330 Priority Topics and Topics G through J are the additional topics which were identified by the PPI and CP Committee.

The 10 topics identified below are covered by various projects which are listed in Table 13. In addition, the 6 Target Audiences are addressed through these projects.

**Table 12 – Topics, Messages, and Outcomes**

Topic	Message	Outcome(s)
A. Know your flood hazard	1. Your property is subject to flooding	Increase number of FIRM inquires
	2. Your property is in a repetitively flooded area	Reduce future repetitive loss properties
B. Insure your property	1. Obtain flood insurance	Increase number of flood insurance policies
	2. Contact your homeowner’s insurance to understand why a homeowner’s policy does not cover flooding	Increase number of flood insurance policies
	3. <b>Additional CPI message only:</b> Reduce (or eliminate) ground floor enclosures to less than 300 sq.ft. in VE zones to <b>obtain NFIP flood insurance</b> (improves affordability)	Increase number of VE flood policies through improved affordability; protecting more properties with increased Coverage in Force
C. Protect yourself and your family	1. Listen to official warnings	Reduce rescues and deaths
	2. Know the flood warning signals	Reduce rescues and deaths
D. Protect your property from the hazard	1. Elevate exterior HVAC units and other utilities	Reduce number of flood damaged utility systems
	2. Install flood openings in ground floor residential enclosures and garages	Reduce foundation damage
E. Build responsibly	1. Get a permit before you start construction	Reduce citations
	2. Keep areas open (setbacks) between homes and property lines	Maintain proper drainage
F. Protect natural floodplain functions	1. Don’t dump in storm drains – Adopt-a-Drain	Reduce drainage blockages
	2. Don’t disturb natural floodplain areas with land disturbance or hazardous materials	Reduce grading, fill, earth movement, and contamination
G. Drive Safe/Park Safe	1. Don’t drive through flood water. Know where to drive or park and where not to.	Reduce damages to vehicles, emergency rescues, and responders
H. Hurricane Preparedness	1. Know your evacuation zone and evacuation routes	Reduce rescues and deaths; increase compliance with evacuation orders
I. Financial Benefits of Mitigation	1. Understand your mitigation options and the financial support available	Increase mitigation measures undertaken by property owners
J. Reduce Stormwater Runoff	1. Install rain barrels, permeable pavers, or other stormwater management tools on your property	Reduce stormwater peak flows



## Step 4: Identify Outreach Projects to Convey the Messages

The overall strategy is to make information available to target areas and audiences in a manner that will encourage each recipient to adapt behaviors that will decrease future flood damage. Table 13 provides the full list of outreach projects, which include various public information pieces, website information, and various meetings to neighborhood groups, etc. The final PPI and CP document contains projects that have been implemented by the City over the past several years as well as new projects identified and developed by the PPI and CP Committee over the course of this planning process. There are 12 projects and initiatives that will be implemented during 2020.

### **Flood Response Preparations (CRS 332.b – FRP)**

In addition to projects that are implemented every year, the PPI and CP Committee recommends projects that will be implemented during and after a flood. These eight projects are drafted and made ready for production and dissemination after a flood warning. These projects are listed at the end of Table 13.

## Step 5: Examine Other Public Information Initiatives

The PPI and CP Committee and City staff worked together to identify other Public Information Initiatives (PIIs) which provide additional information to citizens in the City and to improve access to information and services provided by the City. The PPI and CP document will centralize these efforts so that they can be adequately implemented, monitored, and their effectiveness will be annually evaluated by the PPI and CP Committee. Each PII is outlined below within the description of the CRS Activity in which they support:

**Activity 320 (Map Information Service):** The City publicizes Activity 320 on its website to encourage more map information requests by listing the types of information available and the benefits of this information to the public. This information will also be added to the City’s website to make it more visible to the public. See **PII #1**.

**Activity 340 (Hazard Disclosure):** As part of the effort to target real estate, lending, and insurance entities with flood protection outreach, real estate agents have been sent annual materials to inform them about the flood hazard that they can share with potential buyers to encourage them to investigate the flood hazard for a property. See **PII #2**.

**Activity 350 (Flood Protection Information):** The City has enhanced its website to include updated information consistent with the 10 topics on the flood protection brochure along with continued availability of Elevation Certificates and LOMAs. The updated website includes links to various stakeholder groups such as FEMA, VDEM, VDEQ, VCDR, Norfolk Division of Emergency Management, etc. Virginia Department of Conservation and Recreation (VDCR) provides all the LOMCs on the State [VFRIS](#) website, which is linked from the City’s website. See **PII #3**. Additionally, the local library maintains information on flooding and flood protection. See **PII #4**.

**Activity 360 (Flood Protection Assistance):** The City provides one-on-one property protection advice and will make site visits to assess a property owner’s site-specific flood conditions. The City also provides one-on-one advice regarding financial assistance programs available to support mitigation. These services of property protection advice, protection advice provided after a site visit, and financial assistance advice are also publicized on the 10-Topic Flood Protection Brochure and on the City’s website. See **PII #5**.

**Activity 370 (Flood Insurance Promotion):** The City has heavily promoted NFIP flood insurance at the annual *Engage Norfolk* Civic Expo hosted by Councilwoman Andria McClellan. This includes a flood insurance presentation outlined in **EO #1** Elected Official Flood Insurance Project at the end of Table 13.

## **Step 6: Preparing the PPI and CP Document**

### **6.1 Coordination**

---

The PPI and CP document will be sent to the FEMA Region III Insurance Liaison for review of the Flood Insurance Coverage Improvement Plan. The Outreach Projects, Flood Response Preparations, Public Information Initiatives and Elected Official Flood Insurance Project will all be coordinated with the Office of Communications and the City's Floodplain Administrator and CRS Coordinator.

### **6.2 Adoption**

---

This document will become effective when it is adopted by the City Council.

## **Step 7: Implement, Monitor and Evaluate the Program**

The PPI and CP Committee, along with City staff, will monitor the projects as they are developed, as well as the results. They will record inputs from PPI and CP Committee members and suggestions from other City employees and stakeholders participating in the activities. That input will be sent to Committee members for consideration and evaluation.

The PPI and CP Committee will meet at least once per year to review the implementation of these projects and initiatives. At that time, the status of the projects will be explained and progress toward the desired outcomes outlined in Table 12 will be discussed. The Committee will recommend to the appropriate City offices and the stakeholders who implement projects whether the projects and messages should be changed or discontinued. The Committee will meet and review the outcomes of each individual activity to change, add, or approve them. Table 13 will be revised as needed.

The outcomes and revisions will be submitted as part of the City's annual recertification package to the Community Rating System and submitted to the City Council for their review and consideration. An annual report will be submitted to the City Council explaining the annual changes to the PPI and CP – projects, messages, and outcomes.

Table 13 – PPI, CP and CPI Projects and Initiatives

Target Area / Audience(s)	Topic(s) (See Table 12)	Message(s) (See Table 12)	Project(s)	Assignment	Schedule	Stakeholder	
<b>Outreach Projects</b>							
<b>Target Area #1: Special Flood Hazard Area (SFHA)</b>	<b>Topic A</b> Know Your Flood Hazard <b>Topic B</b> Insure Your Property <b>Topic C</b> Protect Yourself and Your Family <b>Topic D</b> Protect Your Property from the Hazard <b>Topic E</b> Build Responsibly <b>Topic F</b> Protect Natural Floodplain Functions <b>Topic G</b> Drive Safe/Park Safe <b>Topic H</b> Hurricane Preparedness <b>Topic I</b> Financial Benefits of Mitigation <b>Topic J</b> Reduce Stormwater Runoff	A.1; B.1; C.1, 2; D.1, 2; E.1, 2; F.1, 2; G.1; H.1 I.1; J.1	<b>OP #1</b> Mail the <u>10-Topic Flood Protection Brochure</u> to all property owners in the SFHA.	City Planning	Annually	N/A	
		A. 1; B. 1	<b>OP #2</b> Place the <u>10-Topic Flood Protection Brochure</u> placed at <b>5 different locations</b> , which are listed on page 29.	City Planning	Year-Round	N/A	
		A.1; B.1; C.1, 2; D.1, 2; E.1, 2; F.1, 2; G.1; H.1 I.1; J.1	<b>OP #3</b> Provide NFIP brochures ( <u>Answers to Questions about the NFIP &amp; Benefits of Flood Insurance versus Disaster Mitigation</u> ) on benefits of flood insurance at <b>5 different locations</b> , which are listed on page 29.	City Planning	Year-Round	FEMA (NFIP)	
		A. 1; B.1; C.1, 2; D.1, 2; E.1, 2; F.1, 2; G.1; H.1 I.1; J.1	<b>OP #4</b> Post information on the 6 Priority and 4 additional topics on the City’s social media accounts such as Facebook, Twitter, YouTube, Nextdoor or Instagram and link to information from Virginia Department of Emergency Management, FEMA and the NFIP	Communications & City Planning	Monthly	VDEM, FEMA (NFIP)	
		A. 1; D. 1, 2; E. 1, 2	<b>OP #5</b> Place FEMA packet <u>Protect Your Property from Flooding</u> at <b>5 different locations</b> , which are listed on page 29.	City Planning	Year-Round	FEMA (NFIP)	
<b>Target Area #2: Repetitive Loss Properties/Areas</b>	<b>Topic A</b> Know Your Flood Hazard <b>Topic B</b> Insure Your Property <b>Topic C</b> Protect Yourself and Your Family <b>Topic D</b> Protect Your Property from the Hazard <b>Topic E</b> Build Responsibly <b>Topic F</b> Protect Natural Floodplain Functions <b>Topic G</b> Drive Safe/Park Safe <b>Topic H</b> Hurricane Preparedness <b>Topic I</b> Financial Benefits of Mitigation <b>Topic J</b> Reduce Stormwater Runoff	A. 1, 2; B. 1; C. 1, 2; D. 1, 2; E. 1, 2; F. 1, 2; G. 1; H. 1 I. 1; J. 1	<b>OP #6</b> Mail the <u>10-Topic Flood Protection Brochure</u> to all property owners in <u>Repetitive Loss Areas</u> .	City Planning	Annually	N/A	
<b>Target Area #3: Moderate Risk Zones and Known Problem Areas</b>			<b>OP #3</b> (NFIP Brochures at 5 locations) & <b>OP #4</b> (10-Topics on Nextdoor in Rep Loss Areas) also applies in this Target Area	City Planning	Year-Round	N/A	
<b>Target Audience #4: Real Estate, Lending, and Insurance Entities</b>			<b>OP #7</b> Provide one topic per month from the <u>10-Topic Flood Protection Brochure</u> on the City’s Nextdoor account, targeting to those neighborhoods within the X (shaded) flood zone.	Communications & City Planning	Monthly	N/A	
<b>Target Audience #5: Civic Organizations, Faith-Based and Community Partners</b>			<b>OP #8</b> In accordance with CRS 342.c (REB), provide information about CRS Activity 320 (Map Information Services) through a direct mailing to real estate, lending, and insurance entities by promoting the <u>Flood Zone Determination Letter</u> service to customers of these entities; providing information about flood zones, flood risk, flood insurance, the mandatory purchase requirement, including the <u>10-Topic Flood Protection Brochure</u> . <i>(The PPI Committee found the 10-Topic Brochure and the Flood Insurance Handout directed to the Flood Zone Determination Letter service to be the best way for the Realtor Association to reach all real estate purchasers)</i>	Communications & City Planning	Annually	Hampton Roads Realtor Association & FEMA (NFIP)	
<b>Target Audience #6: Entire Community</b>			<b>OP #9</b> Give a presentation to Civic Organizations, Faith-Based and Community Partners at least twice annually to discuss and distribute the <u>10-Topic Flood Protection Brochure</u> as well as flood risk, insurance options, property protection, and where to find additional information on the City’s website.	City Planning	Twice Annually	Civic organization or community partner sponsoring the presentation.	
			<b>OP #10</b> Work with HRSD to include publicity for <u>Activity 320 Map Information Service</u> and <u>Activity 360 Flood Protection (PPA, RRV, FFA, TA)</u> through the Hampton Roads Utility Billing Service (HRUBS), which includes a direct link to request a <u>Flood Zone Determination Letter</u> , containing all the map information services; issuance of the letter will include the <u>10-Topic Flood Protection Brochure</u> .	Utilities and Public Works	Annually	HRSD & HRUBS	
			<b>OP #11</b> Continue the <u>Adopt-a-Drain</u> program and provide information on the 10 Topics to participants. <i>(The PPI &amp; CP Committee found Adopt-a-Drain to be the most effective method to disseminate the “No Stream Dumping” regulations through the community – promotes “ownership” of the runoff)</i>	Public Works and Norfolk Environmental Commission	Year-Round	N/A	
			A. 1; E. 2; F. 1 I. 1; J. 1	<b>OP #12</b> Continue to hold workshops as part of the <u>Retain-your-Rain</u> program promoting the use of small-scale green infrastructure to hold rainwater where it falls.	City Planning, Office of Resilience	Annually	N/A
			F. 1	<b>OP #13</b> Continue marking storm drains with <u>medallions</u> informing the public of the importance to keep drains clean and unobstructed.	Public Works	Year-Round	N/A

Target Area / Audience(s)	Topic(s) (See Table 12)	Message(s) (See Table 12)	Project(s)	Assignment	Schedule	Stakeholder
<b>Outreach Projects</b>						
<b>Flood Response Preparations (FRPs)</b>						
<b>(All projects prepared on print material ahead of time, to be left in plastic baggies; either on front door, stoop, porch, mailbox as deemed safe for the condition during Damage Assessment – within 72 hours following storm)</b>						
<b>FRPs BEFORE a flood event</b>						
<b>FRP Target Audience #1 Entire Community</b>	<b>Topic A</b> Know Your Flood Hazard <b>Topic B</b> Insure Your Property <b>Topic C</b> Protect Yourself and Your Family <b>Topic D</b> Protect Your Property from the Hazard <b>Topic E</b> Build Responsibly <b>Topic F</b> Protect Natural Floodplain Functions <b>Topic G</b> Drive Safe/Park Safe <b>Topic H</b> Hurricane Preparedness <b>Topic I</b> Financial Benefits of Mitigation <b>Topic J</b> Reduce Stormwater Runoff	C.1, 2 G.1; H.1	<b>Pre-Flood FRP #1: Norfolk Alerts.</b> Hampton Roads Utility Billing Service (HRUBS) mailing insert: Text NORFOLKVA to 888777 to enroll in Norfolk Alerts on your smartphone, or register at <a href="http://nixle.com">nixle.com</a> . Also includes a direct link <a href="http://Norfolk.gov/emergency">Norfolk.gov/emergency</a> , containing information on evacuation zones and shelter info.	Dept. of Emergency Preparedness and Response, Dept. of Utilities, Office of Communications,	Annually	HRSD & HRUBS
		C.1, 2 H.1	<b>Pre-Flood FRP #2: Are You Ready?</b> Hurricane Preparedness HRUBS mailing insert. Preparedness measures for Hurricane Watches vs Warnings + Know Your Evacuation Zone with links to zones through VDEM: <a href="http://KnowYourZoneVA.org">KnowYourZoneVA.org</a>			HRSD & HRUBS; VDEM
		F.1; G.1; H.1	<b>Pre-Flood FRP #3: BE READY WITH THESE TIPS;</b> make sure you and your family are ready for hurricane season: prepare an emergency supply kit and have an evacuation plan, keep gutters and storm drains clear, report clogged storm drains, never walk/drive through standing water, put all litter in trash. HRUBS mailing insert.	Dept. of Utilities, Office of Communications, Dept. of PW, Division of Stormwater		HRSD & HRUBS
		F.2; H.1	<b>Pre-Flood FRP #4 Prepping for Hurricane Season?</b> Don't forget to clean out your hazardous waste. During storms, these items can contaminate the ecosystem. Sponsor: Southeastern Public Service Authority (SPSA) Waste Service HRUBS insert.			HRSD & HRUBS; SPSA
		F.1	<b>Pre-Flood FRP #5 Leaf piles at curblines</b> cause problems: clogs drains, causes flooding, obstructs sweepers. HRUBS insert.			HRSD & HRUBS
<b>DURING a flood event:</b>						
<b>Refer to <i>Emergency Operation &amp; Resilience Framework Hazard-Specific Annex for Tropical Storm / Hurricane / Nor'Easter</i> for comprehensive list of various communications for various storm postures</b>						
<b>FRPs FOLLOWING a flood damaging event (within 72 hours of storm)</b>						
<b>(All projects prepared on print material ahead of time, to be left in plastic baggie; either on front door, stoop, porch, mailbox as deemed safe for the condition during Damage Assessment – within 72 hours following storm)</b>						
<b>FRP Target Audience #2: Flooded property owners and residents</b>	<b>Topic A</b> Know Your Flood Hazard <b>Topic B</b> Insure Your Property <b>Topic C</b> Protect Yourself and Your Family <b>Topic D</b> Protect Your Property from the Hazard <b>Topic E</b> Build Responsibly <b>Topic F</b> Protect Natural Floodplain Functions <b>Topic G</b> Drive Safe/Park Safe <b>Topic H</b> Hurricane Preparedness <b>Topic I</b> Financial Benefits of Mitigation <b>Topic J</b> Reduce Stormwater Runoff	C.1, 2 G.1	<b>Post-Flood FRP #6</b> Provide " <b>After a Flood: The First Steps</b> " brochure to flooded property owners which provides information on the dangers of flood water, listen for local warnings, don't drive through flooded streets, stay healthy (emotional stress), and cleaning up and repairing your home	Communications, Neighborhood Development and City Planning	Ready to go	FEMA and American Red Cross
		A.1; B.1 C.1, 2; D.1, 2 E.1, 2; F.1, 2 G.1; H.1; I.1	<b>Post-Flood FRP #7</b> Provide copies of " <b>Repairing your flooded home</b> " FEMA 234 publication to flooded property owners which provides information on protecting your home from further damage, getting organized, drying out your flooded home, restoring utilities, clean up, rebuilding and preparing for the next flood	Communications, Neighborhood Development and City Planning	Ready to go	FEMA and American Red Cross
		D.1, 2 E.1, 2	<b>Post-Flood FRP #8</b> Provide informational flyer on the City's <b>Substantial Damage rules</b>	Communications, Neighborhood Development and City Planning	Ready to go	N/A
		I.1	<b>Post-Flood FRP #9</b> Provide FEMA <b>Increased Cost of Compliance Brochure</b>	Communications, Neighborhood Development and City Planning	Ready to go	FEMA (NFIP)
		A.1; B.1 C.1, 2; D.1, 2 E.1, 2; F.1, 2 G.1; H.1; I.1; J.1	<b>Post-Flood FRP #10</b> Copies of <b>10-Topic Flood Protection Brochure</b> made available to handout before, during and after a flood	Communications, Neighborhood Development and City Planning	Ready to go	N/A
		C.1	<b>Post-Flood FRP #11</b> Provide copies of <b>Homeowner's guide to cleaning up mold</b>	Communications, Neighborhood Development and City Planning	Ready to go	EPA
<b>Public Information Initiatives</b>						
<b>All City of Norfolk Residents</b>	<b>Topic A</b> Know Your Flood Hazard <b>Topic B</b> Insure Your Property <b>Topic C</b> Protect Yourself and Your Family <b>Topic D</b> Protect Your Property from the Hazard <b>Topic E</b> Build Responsibly	A. 1 B. 1, 2 C. 1, 2 D. 1, 2 E. 1, 2	<b>PII #1</b> (CRS Activity 320): Identify areas of localized stormwater flooding, repetitive loss areas, and flood depths, and publicize this service on the <b>10-Topic Flood Protection Brochure</b> and City's website.	City Planning	Year-Round	VDCR
			<b>PII #2</b> (CRS Activity 340): Include information about CRS Activity 320 <b>Flood Zone Determination Letter</b> on social media such as Facebook and Twitter so that real estate, lending, and insurance entities will know information about flood zones, and flood insurance and the flood risk. See OP #8.	City Planning	Year-Round	N/A

Target Area / Audience(s)	Topic(s) (See Table 12)	Message(s) (See Table 12)	Project(s)	Assignment	Schedule	Stakeholder
<b>Outreach Projects</b>						
	<b>Topic F</b> Protect Natural Floodplain Functions <b>Topic G</b> Drive Safe/Park Safe <b>Topic H</b> Hurricane Preparedness <b>Topic I</b> Financial Benefits of Mitigation <b>Topic J</b> Reduce Stormwater Runoff	F. 1, 2 G. 1 H. 1 I. 1 J. 1	<b>P11 #3</b> (CRS Activity 350): Website includes updated information on the 6 Priority and 4 additional topics, Elevation Certificates, LOMCs, with links to <a href="http://Floodsmart.gov">Floodsmart.gov</a> , Norfolk Department of Emergency Preparedness & Response, Virginia Department of Emergency Management, Virginia Department of Conservation and Recreation (VDCR), and FEMA. <b>VDCR provides all the LOMCs on the State VFRIS website, linked from the City's website.</b>	City Planning and Emergency Preparedness & Response	Update Annually	FEMA, VDEM, VDCR
			<b>P11 #4</b> (CRS Activity 350): Ensure that the local library maintains information on flooding and flood protection, including both LIB – FEMA publications and LPD – locally pertinent documents.	City Planning	Year-Round	FEMA/NFIP
			<b>P11 #5</b> (CRS Activity 360): Promote Property Protection Advice, Protection Advice after a Site Visit, Financial Assistance Advice and Advisor Training services in the <a href="#">10-Topic Flood Protection Brochure</a> and on the City's Website.	City Planning	Year-Round	N/A
<b>Flood Insurance Promotion – Coverage Improvement Plan (CPI) Projects</b>						
<b>All City of Norfolk Residents</b>	<b>Topic A</b> Know Your Flood Hazard <b>Topic B Insure Your Property</b> <b>Topic C</b> Protect Yourself and Your Family <b>Topic D</b> Protect Your Property from the Hazard <b>Topic E</b> Build Responsibly <b>Topic F</b> Protect Natural Floodplain Functions <b>Topic G</b> Drive Safe/Park Safe <b>Topic H</b> Hurricane Preparedness <b>Topic I</b> Financial Benefits of Mitigation <b>Topic J</b> Reduce Stormwater Runoff	A. 1; B. 1, 2* C. 1, 2; D. 1, 2 E. 1, 2; F. 1, 2 G. 1; H. 1 I. 1; J. 1	<b>Activity 370 CPI Elected Official Flood Insurance Project</b> <b>OP #14 / CPI #1</b> “Living with the Water – Flooding and Flood Insurance” A presentation by Councilwoman Andria McClellan to the public and other local and state elected officials at the annual <i>Engage Norfolk</i> Civic Expo. <b>Presentation will include information on all 10 topics and messages.</b>  <b>(One unique flood insurance message for this CPI project, in addition to OP points for standard 10 Topics)</b>	Andria P. McClellan – Norfolk City Council Member	Annually	“Engage Norfolk” by WHRO Public Media
<b>CPI Target Area: Properties located in the VE zone</b>	<b>Topic B Insure Your Property</b>	A.1; B.1, C. 1, 2; D. 1, 2 E. 1, 2; F. 1, 2 G. 1; H. 1 I. 1; J. 1	<b>OP # 15 / CPI #2 &amp; CPI #3:</b> Mail the <a href="#">10-Topic Flood Protection Brochure</a> to all property owners in the VE zone (OP points) +  In addition to these OP points, <b>two unique CPI flood insurance messages (CPI #2 &amp; CPI #3)</b> are part of this project and listed below:	City Planning	Annually	N/A
	<b>Topic B Insure Your Property</b>	B.2*	<b>CPI #2</b> Summer letter mailed to all property owners in the VE zone informing owners that <b>homeowner's insurance does NOT cover damage that resulted from flooding or wave-action.</b>			N/A
	<b>Topic B Insure Your Property</b>	B.3**	<b>CPI #3</b> Autumn letter mailed to all property owners in the VE zone informing owners to: <b>Reconsider Seeking Flood Insurance</b> – affordable flood insurance coverage may actually be obtainable if the size of your ground floor enclosure is reduced to less than 300 square feet, or eliminated, in order to meet the Free-of-Obstruction requirements – provide owners a copy of FEMA Technical Bulletin 5, <a href="#">Free-of-Obstruction Requirements for Buildings Located in the Coastal High Hazard Area in accordance with the NFIP.</a>			FEMA (NFIP)

\*Message 2 in Project CPI #1 is a unique Flood Insurance message for CPI projects; all other Topics and Messages in this project not shown in bold will count for OP credit, not CPI credit.

\*\*Message 3 in project CPI #2 is a unique Flood Insurance message for project CPI #2; all other Topics and Messages in this project not shown in bold will count for OP credit, not CPI credit.

**Locations for Outreach Materials:**

1. Planning Department, 810 Union Street, Norfolk, VA 23510
2. Mary Pretlow Library, 111 W. Ocean View, Norfolk, VA 23503
3. Larchmont Library, 6525 Hampton Boulevard, Norfolk, VA 23508
4. Neighborhood Development, 500 E. Main Street, 9<sup>th</sup> Fl, Norfolk, VA 23510
5. Slover Library, 235 E. Plume Street, Norfolk, VA 23510

## End of Report

---

- <sup>i</sup> FEMA Flood Insurance Study (FIS) for the City of Norfolk, VA (FIS No. 510104V000C). Revised February 17, 2017.
- <sup>ii</sup> Kousky, C., and H. Kunreuther, et. als. July 2018. [\*The Emerging Private Residential Flood Insurance Market in the United States\*](#). University of Pennsylvania: Wharton Risk Management and Decision Processes Center.
- <sup>iii</sup> National Flood Insurance Program (NFIP). March 2011. FEMA F-084; [Answers to Questions about the NFIP](#).