



## 2021 Virginia Community Flood Preparedness Fund

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Historic Seatack  
Neighborhood  
Stormwater  
Improvements



## Table of Contents

- I. Appendix A: Application Form
- II. Appendix B: Scoring Criteria for Flood Prevention and Protection Projects
- III. Appendix D: Checklist for All Categories
- IV. Required Application Components
  - B. Scope of Work Narrative – Projects
  - D. Budget Narrative
  - E. Supporting Documentation
    - 1. Detailed Construction Estimate
    - 2. Virginia Beach Resilience Plan DCR Approval
    - 3. Budget Funding Approval
    - 4. City of Virginia Beach Floodplain Administrator Support Letter
    - 5. Copy of Floodplain Ordinance

## I. Appendix A: Application Form

## **Appendix A: Application Form for Grant Requests for All Categories**

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Virginia Department of Conservation and Recreation  
Virginia Community Flood Preparedness Fund Grant Program

**Name of Local Government:**

City of Virginia Beach

**Category of Grant Being Applied for (check one):**

Capacity Building/Planning

Project

Study

**NFIP/DCR Community Identification Number (CID)** 515531

**If a state or federally recognized Indian tribe, Name of tribe** N/A

**Name of Authorized Official:** Toni Utterback, P.E.

**Signature of Authorized Official:** TPU

**Mailing Address (1):** 2875 Sabre Street, Suite 250

**Mailing Address (2):** \_\_\_\_\_

**City:** Virginia Beach      **State:** Virginia      **Zip:** 23452

**Telephone Number:** (757) 385-8746      **Cell Phone Number:** (\_\_\_\_\_) \_\_\_\_\_

**Email Address:** TPUtterback@vbgov.com

**Contact Person (If different from authorized official):** Charles Bodnar

**Mailing Address (1):** 2875 Sabre Street, Suite 250

**Mailing Address (2):** \_\_\_\_\_

**City:** Virginia Beach      **State:** Virginia      **Zip:** 23452

**Telephone Number:** (757) 385-8430      **Cell Phone Number:** (\_\_\_\_) \_\_\_\_\_

**Email Address:** cbodnar@vbgov.com

Is the proposal in this application intended to benefit a low-income geographic area as defined in the Part 1 Definitions? Yes  No

**Categories (select applicable project):**

**Project Grants (Check All that Apply)**

- Acquisition of property (or interests therein) and/or structures for purposes of allowing floodwater inundation, strategic retreat of existing land uses from areas vulnerable to flooding; the conservation or enhancement of natural flood resilience resources; or acquisition of structures, provided the acquired property will be protected in perpetuity from further development.
- Wetland restoration.
- Floodplain restoration.
- Construction of swales and settling ponds.
- Living shorelines and vegetated buffers.
- Structural floodwalls, levees, berms, flood gates, structural conveyances.
- Storm water system upgrades.
- Medium and large scale Low Impact Development (LID) in urban areas.
- Permanent conservation of undeveloped lands identified as having flood resilience value by *ConserveVirginia* Floodplain and Flooding Resilience layer or a similar data driven analytic tool.
- Dam restoration or removal.
- Stream bank restoration or stabilization.
- Restoration of floodplains to natural and beneficial function.
- Developing flood warning and response systems, which may include gauge installation, to notify residents of potential emergency flooding events.

**Study Grants (Check All that Apply)**

- Studies to aid in updating floodplain ordinances to maintain compliance with the NFIP or to incorporate higher standards that may reduce the risk of flood damage. This must include establishing processes for implementing the ordinance, including but not limited to, permitting, record retention, violations, and variances. This may include revising a floodplain ordinance when the community is getting new Flood Insurance Rate Maps (FIRMs), updating a floodplain ordinance to include floodplain setbacks or freeboard, or correcting issues identified in a Corrective Action Plan.
- Revising other land use ordinances to incorporate flood protection and mitigation goals, standards and practices.
- Conducting hydrologic and hydraulic studies of floodplains. Applicants who create new maps must apply for a Letter of Map Revision or a Physical Map Revision through the Federal Emergency Management Agency (FEMA). For example, a local government might conduct a hydrologic and hydraulic study for an area that had not been studied because the watershed is less than one square mile. Modeling the floodplain in an area that has numerous letters of map change that suggest the current map might not be fully accurate or doing a detailed flood study for an A Zone is another example.
- Studies and Data Collection of Statewide and Regional Significance.
- Revisions to existing resilience plans and modifications to existing comprehensive and hazard.
- Other relevant flood prevention and protection project or study.

**Capacity Building and Planning Grants**

- Floodplain Staff Capacity.
- Resilience Plan Development
  - Revisions to existing resilience plans and modifications to existing comprehensive and hazard mitigation plans.
  - Resource assessments, planning, strategies and development.
    - Policy management and/or development.
    - Stakeholder engagement and strategies.

**Location of Project (Include Maps):** South Birdneck Road between Hughes Avenue and Sea Street

**NFIP Community Identification Number (CID#):(See appendix**

F 515531

**Is Project Located in an NFIP Participating Community?**  Yes  No

**Is Project Located in a Special Flood Hazard Area?**  Yes  No

**Flood Zone(s) (If Applicable):** Zone AE (EL 8)

**Flood Insurance Rate Map Number(s) (If Applicable):** 5155310128G

**Total Cost of Project:** \$3,500,000.00

**Total Amount Requested** \$1,750,000.00

## **II. Appendix B: Scoring Criteria for Flood Prevention and Protection Projects**

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## Appendix B: Scoring Criteria for Flood Prevention and Protection Projects

Virginia Department of Conservation and Recreation  
Virginia Community Flood Preparedness Fund Grant Program

Applicant Name:		City of Virginia Beach	
<b>Eligibility Information</b>			
Criterion	Description		Check One
<b>1. Is the applicant a local government (including counties, cities, towns, municipal corporations, authorities, districts, commissions, or political subdivisions created by the General Assembly or pursuant to the Constitution or laws of the Commonwealth, or any combination of these)?</b>			
Yes	Eligible for consideration		✓
No	Not eligible for consideration		
<b>2. Does the local government have an approved resilience plan and has provided a copy or link to the plan with this application?</b>			
Yes	Eligible for consideration under all categories		✓
No	Eligible for consideration for studies, capacity building, and planning only		
<b>3. If the applicant is <u>not</u> a town, city, or county, are letters of support from all affected local governments included in this application?</b>			
Yes	Eligible for consideration		
No	Not eligible for consideration		
<b>4. Has this or any portion of this project been included in any application or program previously funded by the Department?</b>			
Yes	Not eligible for consideration		
No	Eligible for consideration		✓
<b>5. Has the applicant provided evidence of an ability to provide the required matching funds?</b>			
Yes	Eligible for consideration		✓
No	Not eligible for consideration		
N/A	Match not required		

Project Eligible for Consideration		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Applicant Name:	City of Virginia Beach		
Scoring Information			
Criterion	Point Value	Points Awarded	
<b>6. Eligible Projects (Select all that apply)</b>			
<p>Projects may have components of both 1.a. and 1.b. below; however, only one category may be chosen.</p> <p>The category chosen must be the primary project in the application.</p>			
1.a. Acquisition of property consistent with an overall comprehensive local or regional plan for purposes of allowing inundation, retreat, or acquisition of structures.	50		
<input type="checkbox"/> Wetland restoration, floodplain restoration <input type="checkbox"/> Living shorelines and vegetated buffers. <input type="checkbox"/> Permanent conservation of undeveloped lands identified as having flood resilience value by <i>ConserveVirginia</i> Floodplain and Flooding Resilience layer or a similar data driven analytic tool <input type="checkbox"/> Dam removal <input type="checkbox"/> Stream bank restoration or stabilization. <input type="checkbox"/> Restoration of floodplains to natural and beneficial function. <input type="checkbox"/> Developing flood warning and response systems, which may include gauge installation, to notify residents of potential emergency flooding events.	45		
1.b. any other nature-based approach	40		
All hybrid approaches whose end result is a nature-based solution	35		
All other projects	25	25	
<b>7. Is the project area socially vulnerable? (Based on <a href="#">ADAPT VA's Social Vulnerability Index Score.</a>)</b>			
Very High Social Vulnerability (More than 1.5)	15		
High Social Vulnerability (1.0 to 1.5)	12		
Moderate Social Vulnerability (0.0 to 1.0)	8	8	
Low Social Vulnerability (-1.0 to 0.0)	0		
Very Low Social Vulnerability (Less than -1.0)	0		
<b>8. Is the proposed project part of an effort to join or remedy the community's probation or suspension from the NFIP?</b>			

Yes	<b>10</b>	
No	<b>0</b>	0
<b>9. Is the proposed project in a low-income geographic area as defined in this manual?</b>		
Yes	<b>10</b>	10
No	<b>0</b>	
<b>10. Projects eligible for funding may also reduce nutrient and sediment pollution to local waters and the Chesapeake Bay and assist the Commonwealth in achieving local and/or Chesapeake Bay TMDLs. Does the proposed project include implementation of one or more best management practices with a nitrogen, phosphorus, or sediment reduction efficiency established by the Virginia Department of Environmental Quality or the Chesapeake Bay Program Partnership in support of the Chesapeake Bay TMDL Phase III Watershed Implementation Plan?</b>		
Yes	<b>5</b>	
No	<b>0</b>	0
<b>11. Does this project provide “community scale” benefits?</b>		
Yes	<b>20</b>	20
No	<b>0</b>	
<b>Total Points</b>		63

### **III. Appendix D: Checklist for All Categories**

## Appendix D: Checklist All Categories

Virginia Department of Conservation and Recreation

Community Flood Preparedness Fund Grant Program

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Scope of Work Narrative		
Supporting Documentation	Included	
Detailed map of the project area(s) (Projects/Studies)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
FIRMette of the project area(s) (Projects/Studies)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Historic flood damage data and/or images (Projects/Studies)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
A link to or a copy of the current floodplain ordinance	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Non-Fund financed maintenance and management plan for project extending a minimum of 5 years from project close	<input type="checkbox"/> Yes	<input type="checkbox"/> No
A link to or a copy of the current hazard mitigation plan	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
A link to or a copy of the current comprehensive plan	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Social vulnerability index score(s) for the project area from <a href="#">ADAPT VA's Virginia Vulnerability Viewer</a>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
If applicant is not a town, city, or county, letters of support from affected communities	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Completed Scoring Criteria Sheet in Appendix B, C, or D	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Budget Narrative		
Supporting Documentation	Included	
Authorization to request funding from the Fund from governing body or chief executive of the local government	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Signed pledge agreement from each contributing organization	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

## IV. Required Application Components

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## B. Scope of Work Narrative – Projects

### 1. Project Information

The City of Virginia Beach is pleased to submit the Seatack Neighborhood Stormwater Improvements project for consideration under the Flood Prevention and Protection Projects category of the 2021 Virginia Community Flood Preparedness Fund.

The following project information details the project site description including the scope of work to mitigate the flooding, and highlights the proposed impacted population, residential and commercial structures, and critical facilities in and around the project site.

#### a. Project Site Description

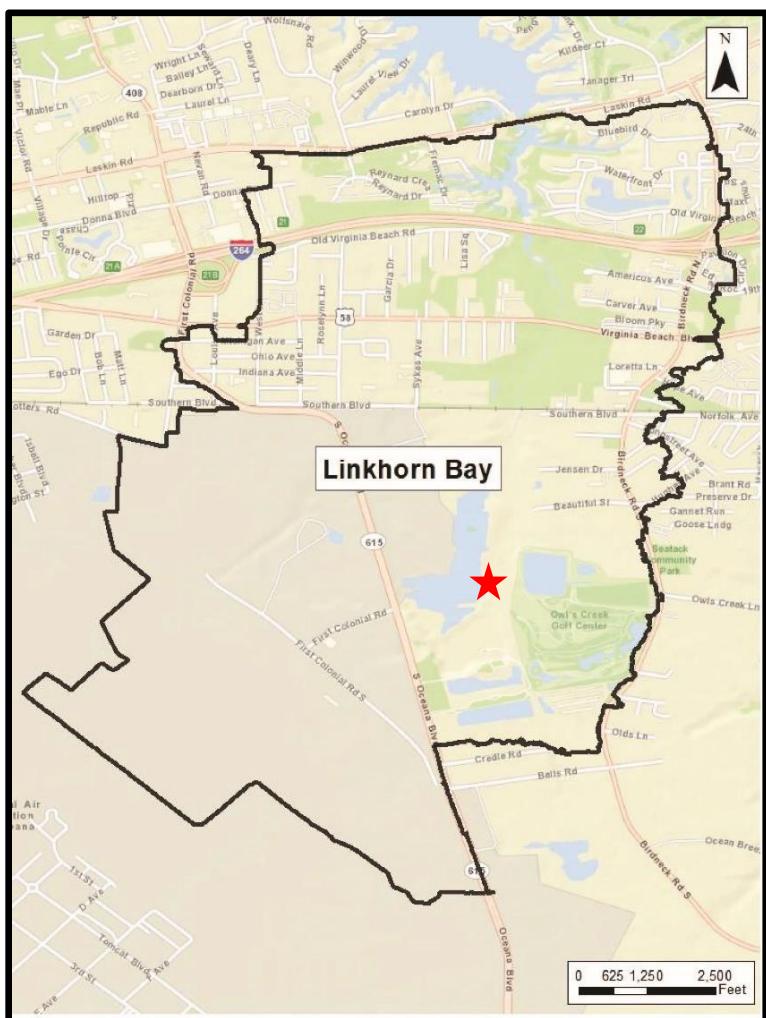


Figure 1: Project Location

The project is located south of Interstate 264, about 1.5 miles from the oceanfront. The project area is included in the Linkhorn Bay drainage basin within the City of Virginia Beach shown in Figure 1. The Seatack neighborhood and South Birdneck Road, between Hughes Avenue and Sea Street, experience flooding due to undersized pipes. The City of Virginia Beach's Master Stormwater Management Models (SWMM) indicate the Seatack Neighborhood begins to experience simulated flooding in a 25-year storm event. Multiple habitable structures and public streets are flooded throughout the neighborhood during this storm event. The location of the Simulated Flooding Area (SFA) is shown in Figure 2 below.

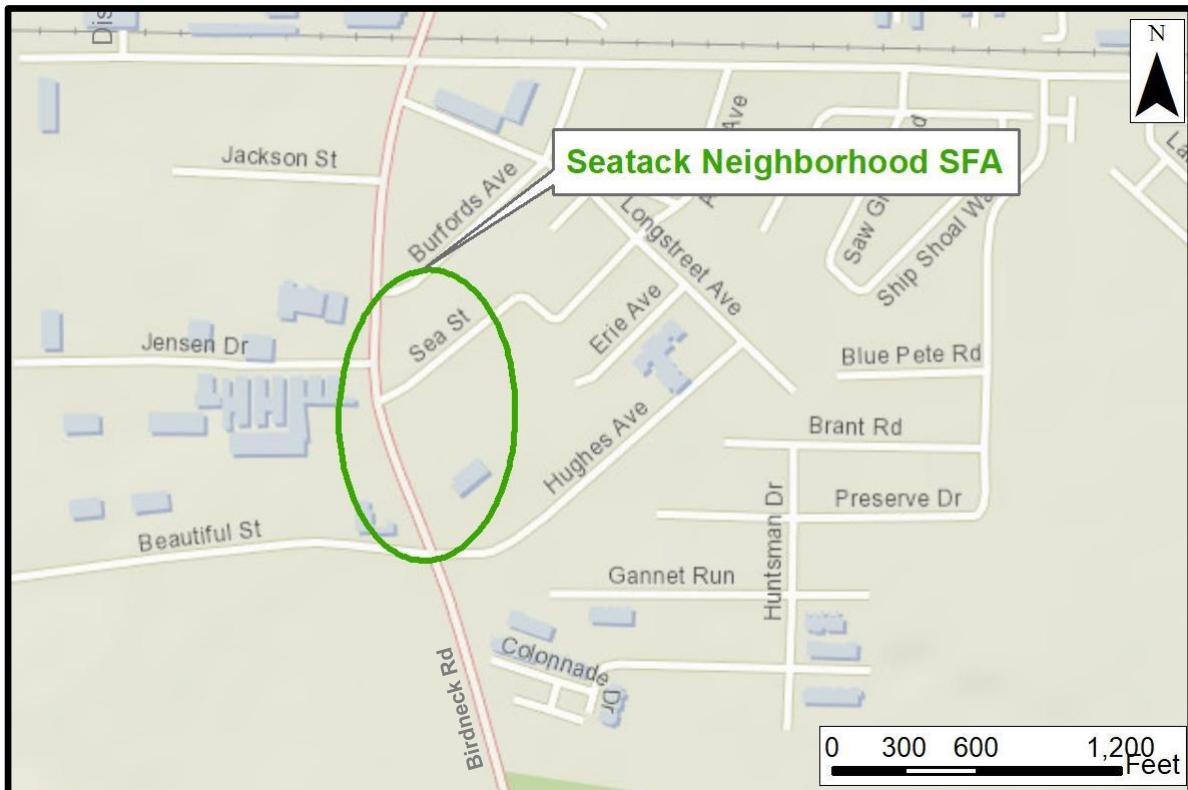


Figure 2: Seatack Neighborhood SFA

The scope of work includes constructing large stormwater pipes along South Birdneck Road, between Jackson Street and Sea Street. These pipes would replace the existing smaller pipes that collect runoff along South Birdneck Road and from the Seatack neighborhood. In addition, large stormwater pipes would replace existing smaller pipes along Jackson Street to provide additional capacity in the stormwater conveyance system in order to accommodate the larger storm events. Figure 3 shows a concept plan of the stormwater improvements required. Figure 4 shows the flood depth of the existing 100-year storm before and after the stormwater improvements are constructed.

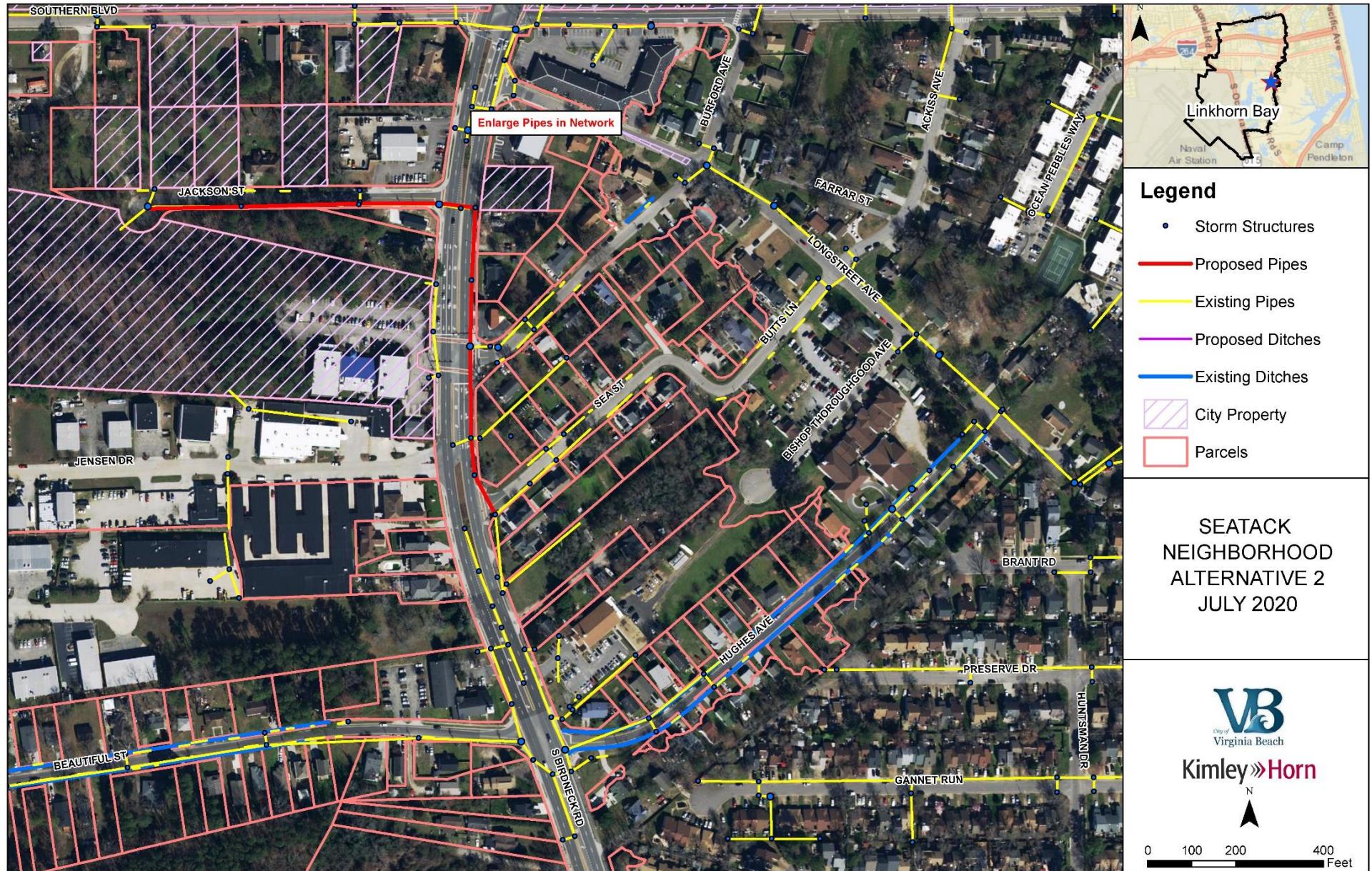
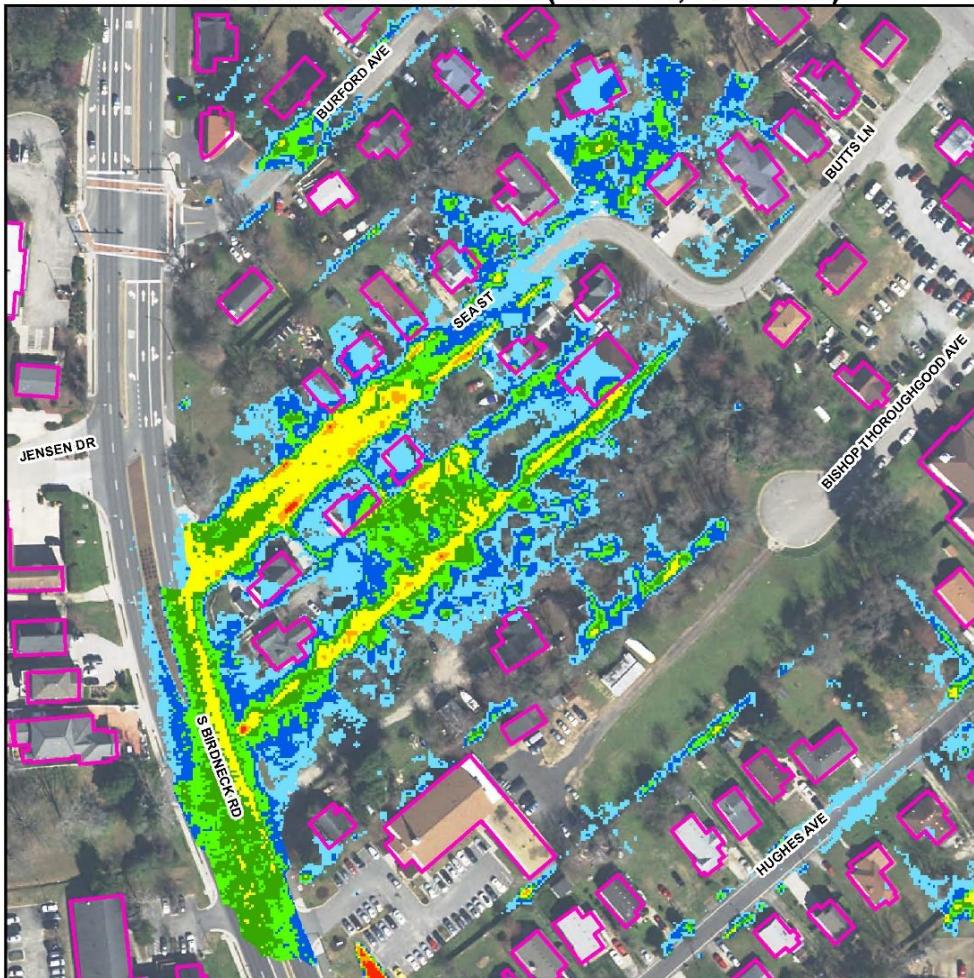
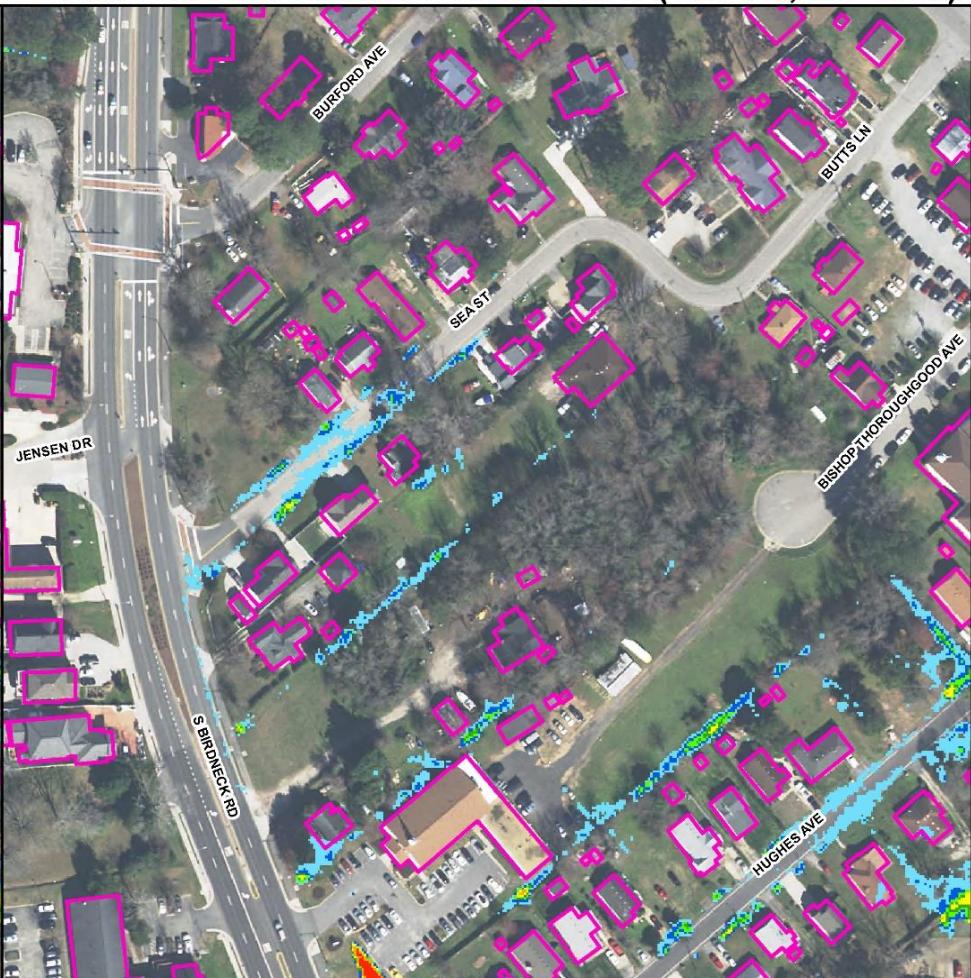


Figure 3: Project Concept Plan

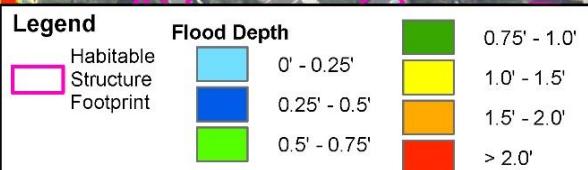
EXISTING CONDITION (100-YR, NO SLR)



PROPOSED PROJECT CONDITION (100-YR, 1.5' SLR)



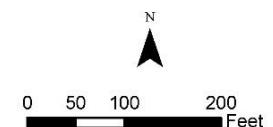
SEATACK  
NEIGHBORHOOD  
PROJECT



100-yr Storm Before Improvements



Kimley » Horn



100-yr Storm After Improvements

Figure 4: Flood Depth Map

### a. Project Site Description (continued)

The major benefits of the project include the mitigation of habitable structure flooding in the Seatack neighborhood and street flooding along South Birdneck Road, Sea Street, Hughes Avenue, and Butts Lane. South Birdneck Road serves as a secondary evacuation route, and this project allows the road to be passable in the 100-year storm with 1.5 feet Sea Level Rise (SLR). The project also addresses several flood reports that have been documented in the area and relieves flooding in an economically disadvantaged area.

The project is among the highest ranked projects within the City because it does not involve additional operation and maintenance (O&M) or land acquisition. The project's limit of disturbance is within the existing right-of-way (ROW) and upsizing existing pipes does not require additional maintenance responsibilities that do not currently exist.

There is no available Average Annualized Loss (AAL) data for the habitable structures that flood in the Seatack neighborhood based on the City of Virginia Beach's HAZUS data. Applying the Benefit Cost Ratio (BCR) methodology, the project is given a BCR of one (1); however, as additional HAZUS data becomes available, the score should be re-evaluated and the ranking score appropriately adjusted. The project is given a BCR of one (1) because all street flooding is mitigated.

No property or easement acquisition is required as all the construction will occur within the ROW. Utility relocations are included in the cost estimate. Maintenance of traffic will need to be provided for the eastern half of South Birdneck Road.

### b. Population

The Seatack project is located in census block group 518100442.001, as shown in Figure 5, which has a population of 1,788. The residential population has grown approximately 12% in the past two decades. The median household income in 2021 dollars is \$75,716. There are approximately 870 residential housing units, 55% which are owner-occupied, 37% which are renter occupied, and 8% which are vacation rentals. Residents are 62% white, 28% black, 5% Hispanic, and 5% other.

The Seatack project is located within a designated qualified opportunity zone by the U.S. Secretary of the Treasury via his delegation of authority to the Internal Revenue Service, as shown in Figure 6.

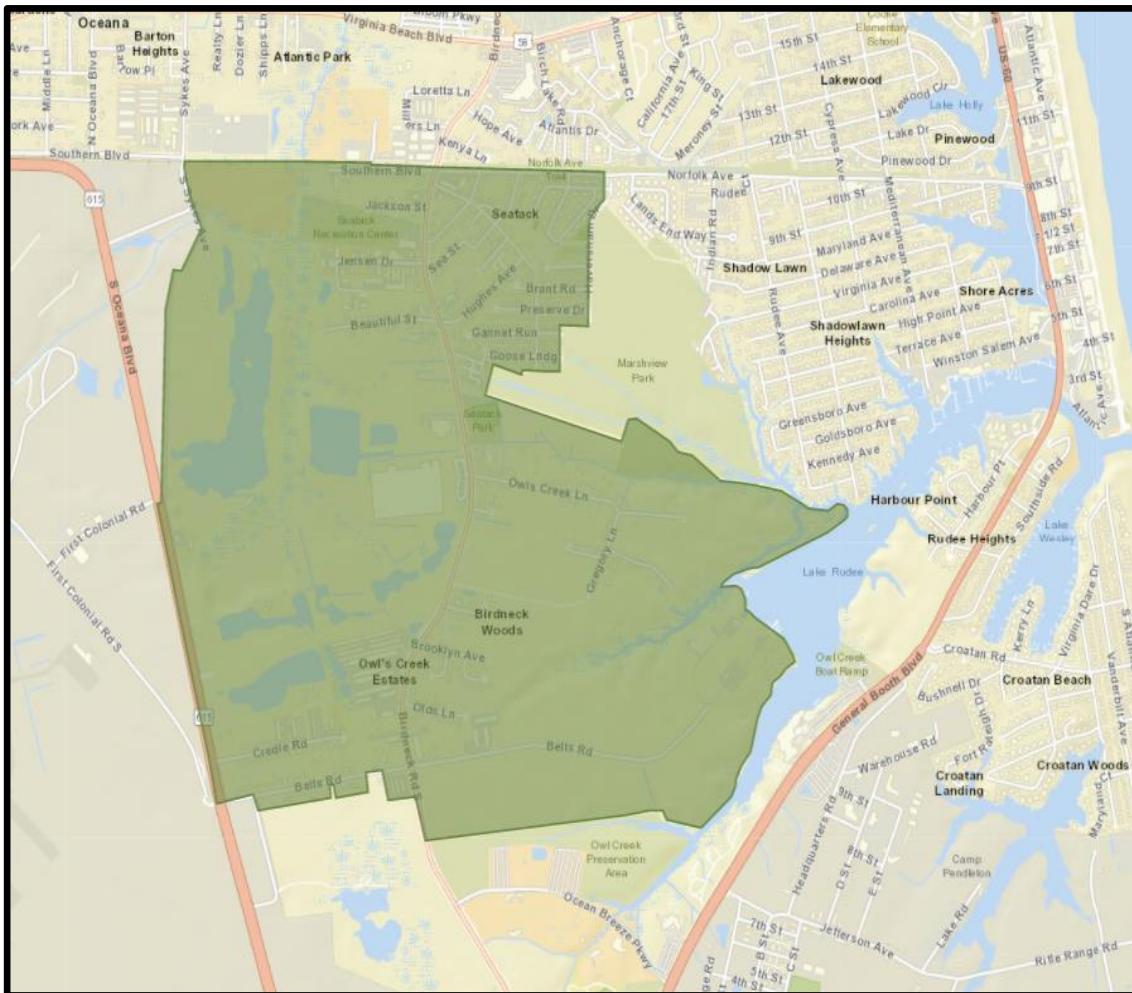


Figure 5: Census Block Group for Seatack Neighborhood

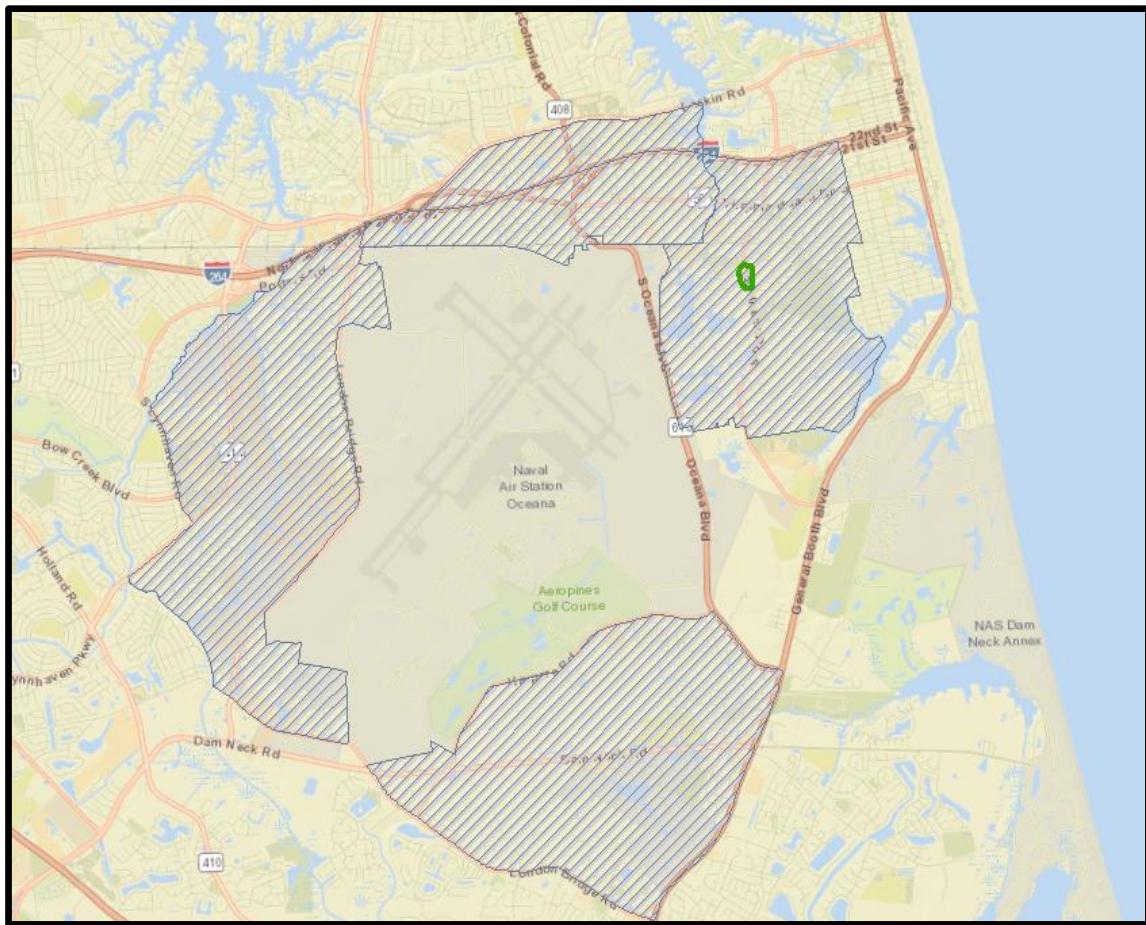


Figure 6: Opportunity Zone for Seatack Neighborhood

**c. Historic Flooding Data and Hydrologic Studies Projecting Flood Frequency**

The City maintains records of where residents report flood issues, and what type of flooding is causing the issue. Residents regularly report flood issues through a hotline which is then recorded in a flood event database. Within a half-mile radius around the project location, there have been many instances of flood reports associated with heavy rain or high tide recorded in the database between 2001 and 2019.

**d. Local Government to Provide its Share of the Cost**

The City of Virginia Beach is fully prepared to cover the cost share of the proposed project, as highlighted in *Section D. Budget Narrative – Amount of Cash Funds Available*. The funding for the grant match is contained within the City budget.

### e. Local Floodplain Management Regulations

The City recognizes the vital importance of floodplains in the natural movement of water through the community.

Appendix K of the Virginia Code of Ordinances regulates development in the community's floodplains. The City requires that a permit is obtained for any construction or development in the special flood hazard area (SFHA).

For more information and details regarding the City's floodplain management and ordinances, please see:

- [Virginia Beach Floodplain Ordinance](#)

In addition, a copy of the floodplain ordinance has been included in *Section E. Supporting Documentation*.

### f. Repetitive Loss and/or Severe Repetitive Loss Properties

The repetitive loss database from 2019-2020 shows two repetitive loss properties within a quarter of a mile radius around the project area – see support letter from City of Virginia Beach Floodplain Administrator in *Section E. Supporting Documentation*.

The larger issue is that the project serves to alleviate flooding within the roadways serving the Seatack Community. By improving roadway flooding, neighborhood streets will enjoy improved access for residents and first responders. In addition, Birdneck Road, the main arterial for the Seatack Community, experiences frequent flooding restricting travel to, from, and through the community. Birdneck Road serves as a vital link to Interstate 264, a designated Hurricane Evacuation Route, as well as the eleven (11) critical facilities listed in *Section 1h. Critical Facilities*. This project will provide uninhibited travel along Birdneck Road which is imperative for the safety of the Seatack and surrounding communities, first responders, and general public needing to access I-264 and/or the aforementioned critical facilities.

### g. Residential and/or Commercial Structures

The project area consists of 110 residential structures and 14 commercial structures.

#### **h. Critical Facilities**

The following eleven (11) critical facilities are located within a two-mile radius around the proposed project site:

1. Naval Air Station Oceana
2. Camp Pendleton
3. Virginia Beach Convention Center
4. Virginia Beach Fire Training Center
5. Fire Station #12 Seatack
6. Virginia Beach Middle School
7. Seatack Elementary School
8. Birdneck Elementary School
9. Cooke Elementary School
10. Virginia Beach Rescue Squad Station 14
11. Virginia Beach Police Department Second Precinct

Naval Air Station Oceana is the sole East Coast Master Jet base and is home to all east coast strike fighter jet squadrons.

The Virginia Beach Convention Center is used as a command center during severe snowstorms and is used a mass vaccination site.

## **2. Need for Assistance**

The City of Virginia Beach has invested significant time, money, and resources in understanding, planning for, and communicating the threats of sea level rise and recurrent flooding to the community. This planning stage is now complete, and the City is ready to turn to implementation. Virginia Beach understands that the costs of mitigating the community is substantial and is seeking funds to support the implementation of vital mitigation projects, alongside dedicated resources that the City is procuring.

Monetary support to implement this project, benefits not only Virginia Beach and the surrounding community members, but will have trickle down impacts for the broader Linkhorn Bay Drainage Basin watershed.

This project is in a moderate social vulnerability classification with an index score of 0.3, per ADAPT Virginia's Virginia Vulnerability Viewer – Figure 7.

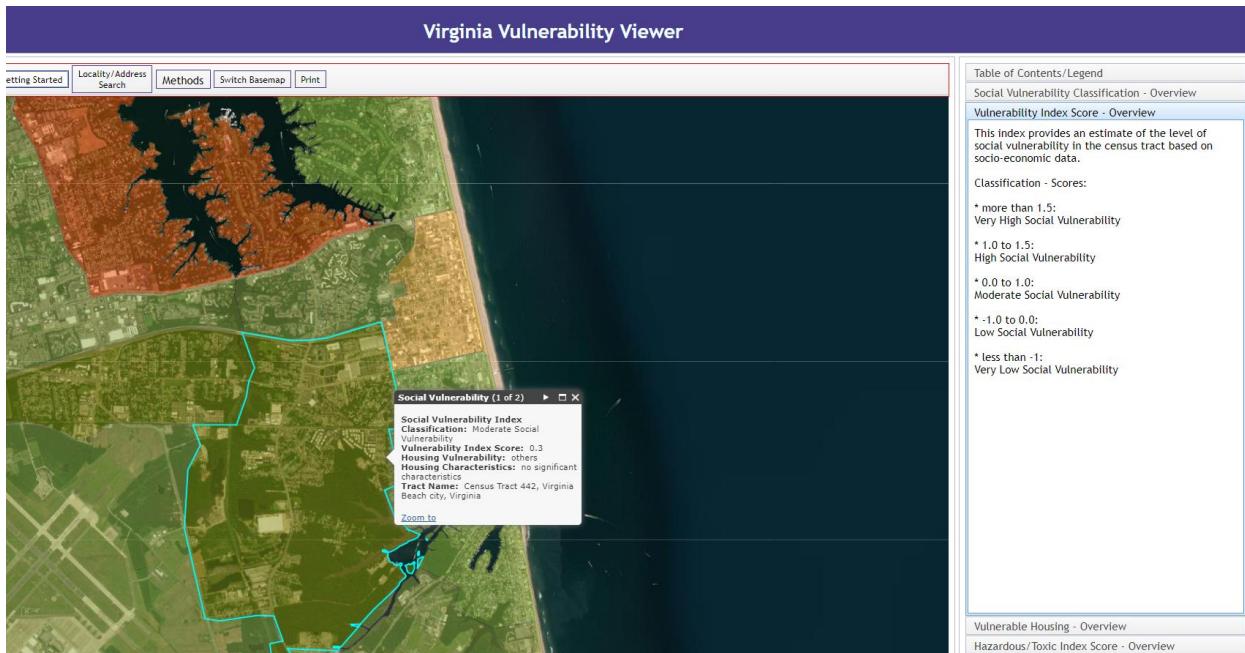


Figure 7: ADAPT Virginia Vulnerability Viewer for Seatack Neighborhood

### 3. Goals and Objectives

The following sections outline the goals and the objectives of the proposed project.

#### a. Goals

The selected project will provide additional capacity to the stormwater conveyance system along South Birdneck Road to mitigate existing flooding conditions in the Seatack neighborhood. The project includes installing approximately 800 linear feet (LF) of 36-inch storm drainage pipe along South Birdneck Road, between Jackson Street and Sea Street. These pipes would replace the existing 24-inch and 30-inch pipes that currently collect runoff along South Birdneck Road and from the Seatack neighborhood. Approximately 665 LF of 48-inch storm drainage pipe is proposed to replace the existing 36-inch pipe along Jackson Street.

The major benefits of the project include the mitigation of habitable structure flooding in the Seatack neighborhood and street flooding along South Birdneck Road, Sea Street, Hughes Avenue, and Butts Lane. South Birdneck Road is a high volume minor arterial that serves as a secondary evacuation route, and this project allows the road to be passable in the 100-year storm with 1.5 feet Sea

Level Rise (SLR). The project also addresses several flood reports that have been documented in the area and relieves flooding in an economically disadvantaged area.

The project is among the highest ranked projects within the City because it does not involve additional operation and maintenance (O&M) or land acquisition. The project's limit of disturbance is within the existing ROW and upsizing existing pipes does not require additional maintenance responsibilities that do not exist today.

## 4. Approach, Milestones, and Deliverables

The following approach, milestones, and deliverables lays out a plan of action.

This milestone schedule assumes an executed agreement date in March 2022. The expected progression of the project is shown in the milestone schedule, and notable deliverables for each milestone are listed below.

### b. Approach & Deliverables

#### *Activity 1 – Field Investigation*

The City will prepare and obtain required authorizations to conduct surveys. The City will then compile existing datasets and coordinate with identified subcontractors to survey baseline field conditions at the identified project site. This baseline field data will support the development of engineering design criteria. The data will also serve as an input for evaluating the most effective design of the project features to meet the project goals and objectives.

#### Deliverables:

- Field Survey Data Reports and Mapping Database;
- List of Project Area Property Owners and Tax Map Parcel Boundary Mapping

#### *Activity 2 – Final Design*

The project team will leverage the collected field data in conjunction with the existing hazard outputs from the Sea Level Wise study to develop technical design criteria for existing and future condition scenarios. Hydrologic and Hydraulic SWMM modeling will also be performed and developed for the Project Area to calibrate field-collected data including

tidal levels and flows. Stormwater drainage outfalls will be field evaluated and analyses performed to determine appropriate pipe sizes and replacement requirements.

Under this activity, the project team will develop engineering and design plans, including a construction schedule and staging plan for implementation. Preliminary cost estimates will be developed at the 60% design level and refined at the 90% design level. Technical specifications and bid quantities will be developed for construction procurements, including proposed materials and quantities.

Deliverables:

- Hydrologic and Hydraulic Analyses- SWMM Modeling
- 30%, 60%, 90% and PSE design plans
- Design renderings
- Final plans, specifications, and bid sheets
- Construction cost estimates
- Construction schedule estimate

*Activity 3 – Construction*

Contractor procurement activities will begin which include bid document development, coordination, requests for information and reporting. A construction work plan will be developed to include identification of project staging area, construction phasing sequence, and anticipated construction schedule. Construction Oversight is anticipated to occur during the Construction Phase of the project (including during bid & award).

Deliverables:

- Pre-construction survey
- Conduct weekly inspections to monitor construction progress
- Post-construction survey and as-built plans

**c. Milestone Schedule**

The milestone schedule assumes an executed agreement date in March 2022. The expected progression of the project is shown in the milestone schedule, and notable deliverables for each milestone are listed below:

*Year 1 (2022):*

- 1st Quarter

- Anticipate Grant Selection
- *2nd Quarter*
  - Project Kickoff and Notice to Proceed
  - Intra-Agency Coordination
- *3rd Quarter:*
  - Project Design Development
- *4th Quarter:*
  - Public Engagement Meeting
  - 30% Concept Design Submission

*Year 2 (2023)*

- *1st Quarter*
  - 60% Design Submission
- *2nd Quarter*
  - 90% Design PS&E

*Year 3 (2024)*

- *1st Quarter*
  - 100% Final PS&E
  - Submit Bid Documents
- *2nd Quarter*
  - Final Bid Coordination / Acceptance
  - Construction NTP, Oversight, Management, and Inspection Services
  - Project Closeout
  - Begin Warranty Period

*Table 1: Schedule Summary*

Activity	Schedule	Duration
Design	03/2022 – 06/2023	15 Months
Utility Relocation	03/2023-09/2023	6 Months
Total Construction	09/2023-12/2024	15 Months
Contingency	N/A	0 Months

## 5. Relationship to Other Projects

In addition, the City has several other planned and ongoing efforts that will work in

conjunction with this project to provide flood reduction in the drainage basin and surrounding areas as well as an upcoming Public Utilities waterline replacement project within the project area.

#### ***Stormwater Master Plan***

The City Council initiated an update of the City's Stormwater Master Plan in 2014. This effort is running on a partial parallel track and interchanging information with aspects of the SLR study. Existing and future nuisance flooding and decreasing system performance due to SLR will be addressed between the Stormwater Master Plan and the recommendations from the Sea Level Wise Adaptation Strategy plan (link provided in Table 2 below).

#### ***Ongoing Flood Control***

Indicators for SLR impacts within the City have included nuisance flooding and instances of repetitive losses to coastal flooding. The City has been progressive in addressing flooding issues and fully intends to follow this effort with the adoption of strategies that protect our vitality. In the last five years, the City has completed \$43.8 million in flood control projects, and over the next 10 years, the City expects to spend an additional \$135 million on currently identified flood control projects. We are firmly committed to implementation of strategies and in-the-ground solutions as it moves forward with these projects - providing measurable returns and case study examples of communities adapting to the changing hazard environment.

## **6. Maintenance Plan**

The City of Virginia Beach has a comprehensive maintenance plan in place to proactively preserve City owned assets. This includes measures to clean all 1,789 miles of City-maintained pipe at least once every five (5) years and perform CCTV of the system at least once every fifteen (15) years as required by the City's Municipal Separate Storm Sewer System (MS4) permit. It also includes a contract street sweeping program that aims to sweep all City-maintained streets, excluding the Oceanfront and Town Center areas, seven (7) times per year. The contract street sweeping is supplemented by in-house street sweeping crews that regularly sweep the Oceanfront and Town Center Areas.

In addition, reactive maintenance is completed as needed by in-house crews including cave-in repairs, minor pipe replacement, etc. Dedicated local funds are also available each year to utilize for contract reactive repairs as needed.

The pipe installed with this project will be added to the City's maintenance inventory and placed on the maintenance cycle as aforementioned.

## 7. Criteria

The City has demonstrated, through this application, that the grant criteria have been met. For more details and locations of criteria, please see Table 2 below. The completed scoring criteria are included in Appendix B of this application.

Table 2: Grant Criteria

Criteria	Satisfaction?
Is the applicant a local government (including counties, cities, towns, municipal corporations, authorities, districts, commissions, or political subdivisions created by the General Assembly or pursuant to the Constitution or laws of the Commonwealth, or any combination of these or a recognized state or federal Indian tribe?)	Yes.
Does the local government have an approved resilience plan meeting the criteria as established by this grant manual?	Yes. Approved on July 20, 2021.  The Virginia Beach Resilience Plan (Sea Level Wise) can be found on our <a href="#">website</a> .
Has it been attached or is a link provided?	Not Applicable.
For local governments that are not towns, cities, or counties, have letters of support been provided from affected local governments?	Not Applicable.
Has the applicant provided evidence of an ability to provide the required match funds?	Yes.  Please see Section D: <i>Budget Narrative Amount of Cash Funds Available</i> for more information.
Has the applicant demonstrated to the extent possible, the positive impacts of the project or study on the prevention of flooding?	Yes.  Please see Section B: <i>Scope of Work Narrative</i> for more details.

## D: Budget Narrative

The following budget narrative details the proposed project expenditures.

### 1. Estimated Total Project Cost

A detailed cost breakdown for the project area is provided in Table 3 below. This cost breakdown is based on the 15% design concept.

*Table 3: Cost Breakdown*

Element	Element Sub-Total
Design	\$ 440,000
Site Acquisition	\$ -
Private Utility Relocation	\$ 330,000
Construction Total includes Construction Management	\$ 2,200,000
Overall Project Contingency (20%)	\$ 530,000
<b>Estimated Total Cost</b>	<b>\$ 3,500,000</b>

### 2. Funds Requested from the Fund

The City is requesting a total of \$1,750,000 (50% of total project cost estimate) in funding over the proposed period of performance, with a cost-share/in-kind contribution by the City of \$1,750,000 (50% of total project cost estimate). The funding will support the implementation of the detailed work plan and scope outlined in this narrative.

### 3. Cash Funds Available

The City has \$1,750,000 of cash on hand, contained within the City budget. This amount of cash funds is sufficient, that when combined with the potential grant funding, the City will have all necessary funds available to complete the project.

### 4. Funding Authorization

Please refer to supporting documentation *Section E: Supporting Documentation Budget Funding Approval*, for the documentation authorizing the funding request.

## E: Supporting Documentation

1. Detailed Construction Estimate
2. Virginia Beach Resilience Plan DCR Approval
3. Budget Funding Approval
4. City of Virginia Beach Floodplain Administrator Support Letter
5. Copy of Floodplain Ordinance

## 1. Detailed Construction Estimate

---

**OPINION OF PROBABLE CONSTRUCTION COST (2020 DOLLARS)**  
**LINKHORN BAY DRAINAGE BASIN**  
**PROJECT: SEATACK NEIGHBORHOOD ALTERNATIVE 2**

	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL COST
<b>GENERAL</b>					<b>\$199,450</b>
	MOBILIZATION	1	LS	\$97,600	\$97,600
	FIELD OFFICE (TYPE III)	9	MO	\$1,000	\$9,000
	CONSTRUCTION SURVEYING	1	LS	\$20,000	\$20,000
	REMOVE EXISTING CONCRETE CURB AND GUTTER	720	LF	\$10	\$7,200
	REMOVE EXISTING CONCRETE SIDEWALK	500	SY	\$10	\$5,000
	REMOVE EXISTING PIPE	1,465	LF	\$10	\$14,650
	DEMO OF ASPHALT/CONCRETE PAVEMENT	400	SY	\$15	\$6,000
	CLEARING AND GRUBBING	1	AC	\$25,000	\$25,000
	TEST PITS	30	EA	\$500	\$15,000
<b>DRAINAGE</b>					<b>\$810,625</b>
	36" CONC. PIPE	800	LF	\$350	\$280,000
	48" CONC. PIPE	665	LF	\$425	\$282,625
	SELECT BORROW FOR TRENCH BACKFILL, CBR-15	2,500	CY	\$35	\$87,500
	MINOR STRUCTURE EXCAVATION	3,000	CY	\$25	\$75,000
	CVB STD MANHOLE	5	EA	\$7,500	\$37,500
	CVB STD CATCH BASIN	8	EA	\$6,000	\$48,000
<b>INCIDENTALS</b>					<b>\$302,425</b>
	FLEXIBLE PAVEMENT PLANING	1,960	SY	\$10	\$19,600
	2" ASPHALT CONC. SURFACE MIX (PATCH / OVERLAY)	220	TON	\$125	\$27,500
	6" ASPHALT CONC. BASE MIX (PATCH)	980	TON	\$100	\$98,000
	AGGREGATE BASE COURSE NO. 21A/B (PATCH)	980	TON	\$50	\$49,000
	2" ASPHALT CONC. SURFACE MIX (M/U PATH)	70	TON	\$125	\$8,750
	AGGREGATE BASE COURSE NO. 21A/B (M/U PATH)	190	TON	\$50	\$9,500
	CONCRETE ENTRANCE PAVEMENT 7"	225	SY	\$100	\$22,500
	TYPE B CLASS VI PVMT LINE MRKG 4"	600	LF	\$2	\$1,200
	TYPE B CLASS VI PVMT LINE MRKG 24"	50	LF	\$5	\$250
	PAVEMENT MESSAGE MARKINGS (DOUBLE ELONG. ARROW)	3	EA	\$250	\$750
	CURB RAMP CG-12 W/DETECTABLE WARNING SURFACE	15	SY	\$125	\$1,875
	TEXTURED THERMOPLASTIC CROSSWALKS	250	SY	\$100	\$25,000
	AGGREGATE BASE COURSE NO. 21A/B (CURB & GUTTER)	140	TON	\$50	\$7,000
	STD. CG-2 CURB	20	LF	\$25	\$500
	STD. CG-6 CURB AND GUTTER	1,000	LF	\$25	\$25,000
	HYDRAULIC CEMENT CONCRETE SIDEWALK 4"	120	SY	\$50	\$6,000
<b>MAINTENANCE OF TRAFFIC</b>					<b>\$111,900</b>
	TEMPORARY (CONSTRUCTION) SIGN	5,040	EACH/DAY	\$5	\$25,200
	ELECTRONIC ARROW BOARD	120	EACH/DAY	\$250	\$30,000
	FLAGGER SERVICE	2,016	HR	\$25	\$50,400
	GROUP 2 CHANNELIZING DEVICES	6,300	EACH/DAY	\$1.00	\$6,300
<b>EROSION AND SEDIMENT CONTROL</b>					<b>\$23,600</b>
	TEMPORARY SILT FENCE (TYPE A)	1,700	LF	\$10	\$17,000
	INLET PROTECTION, TYPE A	12	EA	\$300	\$3,600
	TEMPORARY SEED	100	LB	\$30	\$3,000
<b>CONSTRUCTION SUBTOTAL</b>					<b>\$1,500,000</b>
	CONSTRUCTION MANAGEMENT	10%	% OF CN SUBTOTAL	\$150,000	\$150,000
	INFLATION	5%	% OF CN SUBTOTAL	\$75,000	\$75,000
	CONTINGENCY	30%	% OF CN SUBTOTAL	\$22,500	\$22,500
<b>CONSTRUCTION TOTAL</b>					<b>\$ 2,197,500</b>
<b>DESIGN SERVICES</b>					<b>\$439,500</b>
	ENGINEERING DESIGN	20%	% OF CN SUBTOTAL	\$439,500	\$439,500
<b>PUA</b>					<b>\$329,625</b>
	UTILITY RELOCATION ALLOWANCE	15%	% OF CN SUBTOTAL	\$329,625	\$329,625
<b>OVERALL CONTINGENCY</b>					<b>\$527,400</b>
	CONTINGENCY	20%	% OF CN SUBTOTAL	\$527,400	\$527,400
<b>TOTAL PROJECT COST</b>					<b>\$3,494,025</b>

**Notes:**

This cost opinion is based solely on the conceptual design exhibit dated June 2020 and represents a Class 3 Estimate as defined by AACE International recommended practice No. 18R-97.

The Engineer has no control over the cost of labor, materials, or equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs, as provided here, are made on the basis of the Engineer's experience and qualifications and represent the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from opinions of probable cost prepared for the Owner.

## 2. Virginia Beach Resilience Plan DCR Approval

---

Matthew J. Strickler  
Secretary of Natural Resources

Clyde E. Cristman  
Director



Rochelle Altholz  
Deputy Director of  
Administration and Finance

Russell W. Baxter  
Deputy Director of  
Dam Safety & Floodplain  
Management and Soil & Water  
Conservation

Nathan Burrell  
Deputy Director of  
Government and Community Relations

Thomas L. Smith  
Deputy Director of  
Operations

**COMMONWEALTH of VIRGINIA**  
**DEPARTMENT OF CONSERVATION AND RECREATION**

July 20, 2021

Toni Utterback, P.E.  
Department of Public Works  
2875 Sabre Street, Suite 250  
Virginia Beach, VA 23452

RE: Virginia Beach Resilience Plan Second Submission - CFPF

Dear Ms. Utterback:

Thank you for the resubmission of the Sea Level Wise Adaptation Plan for City of Virginia Beach. After careful review and consideration, the Virginia Department of Conservation and Recreation has deemed the Plan complete and meets all the criteria outlined in the June 2021 Community Flood Preparedness Grant Manual. This approval will remain in effect for a period of three years, ending on July 31, 2024.

The following elements were evaluated as part of this review:

**1. Element 1: It is project-based with projects focused on flood control and resilience. DCR RESPONSE**

- a. Project-based: Four watersheds—each with a defined geographic area, analysis of community social and environmental characteristics, types of flooding, and a tailored flood resilience strategy with discrete projects identified.

**Projects focused on flood control and resilience include:**

Neighborhood	Flood Control Project
Elizabeth River	City-wide alignment, living shoreline, marsh restoration, land conservation
Lynnhaven	Chesapeake Bay alignment, Lesner Bridge Neighborhood alignment (East & West), beach & dune nourishment, ecological revetments, shellfish reef restoration, seagrass restoration
Oceanfront	Atlantic Oceanfront alignment, Rudee Heights alignment
Southern Rivers	West Neck Creek city-wide alignment, Muddy Creek Road city-wide alignment, Sandbridge city-wide alignment

\*additional projects listed within the Sea Level Wise Adaptation Strategy.

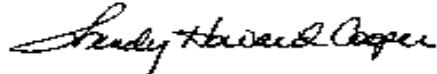
**2. Element 2: It incorporates nature-based infrastructure to the maximum extent possible. DCR RESPONSE**

600 East Main Street, 24<sup>th</sup> Floor | Richmond, Virginia 23219 | 804-786-6124

- a. Nature-based infrastructure: Flood mitigation projects throughout the city incorporate nature-based solutions and were identified for maximum use within specific watersheds.
- 3. Element 3: It includes considerations of all parts of a locality regardless of socioeconomic or race. DCR RESPONSE**
  - a. All parts of a locality: Locality divided into four watersheds, covering the entirety of the jurisdictional boundary.
  - b. Social vulnerability: Social implications of flood hazards and analysis of populations at-risk documented.
  - c. Demographic Analysis: Demographic and Population Vulnerability Analysis conducted by Dewberry and incorporated into the Plan.
- 4. Element 4: It includes coordination with other local and inter-jurisdictional projects, plans, and activities and has a clearly articulated timeline or phasing for plan implementation. DCR RESPONSE**
  - a. Coordination with other projects, plans, and activities: Contains the planning processes and frameworks which outline local and regional plans used by the City and address resilience; and how they have been integrated for flood adaptation planning.
  - b. Clearly articulated timeline or phasing for plan implementation: Program phases clearly articulated and described in detail—Impact assessment, Adaptation research, Strategy development, and Long-term implementation.
- 5. Element 5: Is based on the best available science, and incorporates climate change, sea level rise, storm surge (where appropriate), and current flood maps.**
  - a. Technically backed water-resources analysis, sea level rise projections, storm surge, and climate change incorporated into strategic approach.

VA DCR looks forward to working with you as you work to make Virginia Beach a more resilient community. If you have questions or need additional assistance, please contact us at [cfpf@dcr.virginia.gov](mailto:cfpf@dcr.virginia.gov). Again, thank you for your interest in the Community Flood Preparedness Fund.

Sincerely,



Wendy Howard Cooper, Director  
Dam Safety and Floodplain Management

cc: Darryl Glover, DCR

### **3. Budget Funding Approval**

---



# City of Virginia Beach

DEPARTMENT OF BUDGET AND MANAGEMENT SERVICES  
(757) 385-8234  
FAX (757) 385-1857

**VBgov.com**

MUNICIPAL CENTER  
BUILDING 1  
2401 COURTHOUSE DRIVE  
VIRGINIA BEACH, VA 23546-9012

November 5, 2021

Director Cristman,

As you know, the Virginia Beach Department of Public Works has applied for the Virginia Community Flood Preparedness Fund Grant from the Virginia Department of Conservation and Recreation. The Historic Seatack Neighborhood Stormwater Improvements project has a total cost of \$3,500,000 to help mitigate flooding in the City's Seatack neighborhood by creating additional capacity in the stormwater conveyance system along South Birdneck Road. This would include replacing existing 24-inch and 30-inch storm sewer pipes with 800 feet of 36-inch storm sewer pipe. Additionally, 665 feet of 36-inch storm sewer pipes would be replaced with 48-inch pipes. I am aware that this grant also requires a City match of 50%, or \$1,750,000. The Stormwater Enterprise Fund and adopted Capital Improvement Program CIP have adequate capacity to match this funding if awarded by your agency.

A handwritten signature in black ink, appearing to read "Kaitlyn E. James".

Kaitlyn James  
Budget and Management Services Administrator  
City of Virginia Beach

**4. City of Virginia Beach Floodplain Administrator  
Support Letter**

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# City of Virginia Beach

**VBgov.com**

DEPARTMENT OF PLANNING & COMMUNITY DEVELOPMENT  
PHONE (757) 385-4621  
FAX (757) 385-5667  
VA Relay Number TTY: 711

2875 SABRE STREET, SUITE 500  
VIRGINIA BEACH, VA 23452-7385

August 24, 2021

Wendy Howard Cooper  
Division of Dam Safety and Floodplain Management  
600 East Main Street, 24<sup>th</sup> Floor  
Richmond, Virginia 23219

**RE: Community Flood Preparedness Fund – Historic Seatack Neighborhood Stormwater Improvements**

Dear Ms. Cooper,

While the proposed project is not located in a Federal Emergency Management Agency (FEMA) mapped Special Flood Hazard Area (SFHA), the area encompassed by the project is considered to be an area subject to recurrent flooding. This particular area experiences routine stormwater flooding during the 25-year storm event due to undersized pipes, causing both the roadways and homes to flood. One of the roads impacted by flooding, South Birdneck Road, serves as a secondary evacuation route, however, it is not currently passable during a 100-year storm event. While there are no repetitive loss properties in the project neighborhood, there are two (2) repetitive loss properties located just outside the project neighborhood.

If I can provide any further information or assistance, please call me at 757-385-4621, or e-mail me at [wmcnamar@vbgov.com](mailto:wmcnamar@vbgov.com).

Sincerely,

*Whitney McNamara*

Whitney McNamara, CFM  
Floodplain Administrator and CRS Coordinator

## 5. Copy of Floodplain Ordinance

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ORD-3309

1           AN ORDINANCE TO ADOPT APPENDIX K,  
2           (FLOODPLAIN ORDINANCE) OF THE CITY  
3           CODE, PERTAINING TO FLOODPLAIN  
4           DISTRICTS, PERMITS, VARIANCE  
5           CONDITIONS AND ENFORCEMENT  
6

7           Section Added: Appendix K, Floodplain Ordinance  
8

9           BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF VIRGINIA  
10          BEACH, VIRGINIA:

11          That Appendix K, Floodplain Ordinance, of the Code of the City of Virginia  
12          Beach, Virginia, is hereby adopted to read as follows:

13          **ARTICLE I - GENERAL PROVISIONS**

14          **Sec. 1.1. Statutory authorization and purpose.**

15          A. This ordinance is adopted pursuant to the authority granted to localities by Va.  
16          Code § 10.1 – 600 et seq.

17          B. The City Council finds the purpose of these provisions is to prevent the loss of  
18          life and property, the creation of health and safety hazards, the disruption of commerce  
19          and governmental services, the extraordinary and unnecessary expenditure of public  
20          funds for flood protection and relief, and the impairment of the tax base by:

- 21          1. Regulating uses, activities, and development that, alone or in combination  
22          with other existing or future uses, activities, and development, will cause  
23          unacceptable increases in flood heights, velocities, and frequencies;
- 24          2. Restricting or prohibiting certain uses, activities, and development from  
25          locating within districts subject to flooding;
- 26          3. Requiring all uses, activities, and developments that do occur in flood-  
27          prone districts be protected or flood-proofed against flooding and flood  
28          damage;
- 29          4. Protecting individuals from buying land and structures that are unsuited for  
30          intended purposes because of flood hazards; and
- 31          5. Acknowledging that the tide data over the last 100 years shows that  
32          Virginia Beach is facing an increased danger of flooding caused by both  
33          sea level rise and subsidence.

46

47

48 **Sec. 1.2. Applicability.**

49

50 These provisions shall apply to all privately and publicly owned lands within the  
51 jurisdiction of the City of Virginia Beach and identified as areas of special flood hazard  
52 according to the Flood Insurance Rate Map (FIRM) that is provided to the City of  
53 Virginia Beach by the Federal Emergency Management Agency (FEMA) and dated May  
54 4, 2009 or identified as floodplains subject to special restrictions in Section 4.10 of this  
55 ordinance.

56

57 **Sec. 1.3. Definitions.**

58

59 *Base flood.* The flood having a one (1) percent chance of being equaled or  
60 exceeded in any given year; also referred to as the one hundred (100) year flood.

61

62 *Base flood elevation.* The FEMA designated one (1) percent annual chance  
63 water surface elevation. The water surface elevation of the base flood in relation to the  
64 datum specified on the City's FIRM.

65

66 *Basement.* Any area of the building having its floor sub-grade (below ground  
67 level) on all sides.

68

69 *Breakaway wall.* A wall that is not part of the structural support of the building  
70 and is intended, through its design and construction, to collapse under specific lateral  
71 loading forces without causing damage to the elevated portion of the building or the  
72 supporting foundation system.

73

74 *City Council.* The body designated to review appeals made by individuals with  
75 regard to decisions of the Floodplain Administrator in the interpretation of this  
76 ordinance.

77

78 *City Manager.* The City Manager of the City of Virginia Beach, or his designees.

79

80 *Development.* Any man-made change to improved or unimproved real estate,  
81 including, but not limited to, buildings or other structures, the placement of  
82 manufactured homes, streets, mining, dredging, filling, grading, paving, excavation or  
83 drilling operations, storage of equipment or materials, or the subdivision of land.

84

85 *Elevated building.* A non-basement building built to have the lowest floor elevated  
86 above the ground level by means of solid foundation perimeter walls, pilings, or columns  
87 (posts and piers).

88

89 *Encroachment.* The advance or infringement of uses, plant growth, fill,  
90 excavation, buildings, permanent structures, or development into a floodplain, which  
91 may impede or alter the flow capacity of a floodplain.

92

93        *Existing construction.* Structures for which the “start of construction” commenced  
94 before the effective date of the most recent FIRM (May 4, 2009) “Existing construction”  
95 may also be referred to as “existing structures.”

96

97        *Flood or flooding.*

- 98
- 99        1. A general or temporary condition of partial or complete inundation of  
100 normally dry land areas from:
- 101
- 102        a. The overflow of inland or tidal waters;
- 103
- 104        b. The unusual and rapid accumulation or runoff of surface waters  
105 from any source; or
- 106
- 107        c. Mudflows, which are proximately caused by flooding as defined in  
108 paragraph 1.b. of this definition and are akin to a river of liquid and  
109 flowing mud on the surfaces of normally dry land areas, as when  
110 earth is carried by a current of water and deposited along the path  
111 of the current.
- 112
- 113        2. The collapse or subsidence of land along the shore of a lake or other  
114 body of water as a result of erosion or undermining caused by waves or  
115 currents of water exceeding anticipated cyclical levels or suddenly  
116 caused by an unusually high water level in a natural body of water,  
117 accompanied by a severe storm, an unanticipated force of nature such  
118 as flash flood or an abnormal tidal surge, or by some similarly unusual  
119 and unforeseeable event that results in flooding as defined in paragraph  
120 1.a. of this definition.

121

122        *Flood Insurance Rate Map (FIRM).* An official map of the City, on which FEMA  
123 has delineated both the special flood hazard areas and the risk premium zones  
124 applicable to the community. A FIRM that has been made available digitally is called a  
125 Digital Flood Insurance Rate Map (DFIRM).

126

127        *Flood Insurance Study (FIS).* A report by FEMA that examines, evaluates, and  
128 determines flood hazards and, if appropriate, corresponding water surface elevations, or  
129 an examination, evaluation, and determination of mudflow and flood-related erosion  
130 hazards.

131

132        *Floodplain.* Any land area susceptible to being inundated by water from any  
133 source.

134

135        *Flood proofing.* Any combination of structural and non-structural additions,  
136 changes, or adjustments to structures which reduce or eliminate flood damage to real  
137 estate or improved real property, water and sanitary facilities, or structures and their  
138 contents.

139  
140       Floodway. The channel of a river or other watercourse and the adjacent land  
141 areas that shall be reserved to discharge the base flood without cumulatively increasing  
142 the water surface elevation more than one (1) foot. The “floodway” may also be referred  
143 to as the “regulatory floodway”.

144  
145       Freeboard. A factor of safety usually expressed in feet above the base flood  
146 elevation for purposes of floodplain management. “Freeboard” tends to compensate for  
147 the many unknown factors that could contribute to flood heights greater than the height  
148 calculated for a selected size flood and floodway conditions, such as wave action,  
149 bridge openings, and the hydrological effect of urbanization in the watershed. When a  
150 freeboard is included in the height of a structure, the flood insurance premiums may be  
151 less expensive.

152  
153       Highest adjacent grade. The highest natural elevation of the ground surface prior  
154 to construction next to the proposed walls of a structure.

155  
156       Historic structure. Any structure that is:

- 158     1. Listed individually in the National Register of Historic Places (a listing  
159 maintained by the Department of Interior) or preliminarily determined by  
160 the Secretary of the Interior as meeting the requirements for individual  
161 listing on the National Register;
- 163     2. Certified or preliminarily determined by the Secretary of the Interior as  
164 contributing to the historical significance of a registered historic district or  
165 a district preliminarily determined by the Secretary to qualify as a  
166 registered historic district;
- 168     3. Individually listed on a state inventory of historic places in states with  
169 historic preservation programs that have been approved by the  
170 Secretary of the Interior; or
- 172     4. Individually listed on a local inventory of historic places in communities  
173 with historic preservation programs that have been certified either:
  - 175       a. By an approved state program as determined by the Secretary of  
176 the Interior or
  - 178       b. Directly by the Secretary of the Interior in states without approved  
179 programs.

181       Hydrologic and Hydraulic Engineering Analysis. Analyses performed by a  
182 professional engineer licensed by the Commonwealth of Virginia, in accordance with  
183 standard engineering practices that are accepted by the Virginia Department of  
184 Conservation and Recreation and FEMA, used to determine the base flood, other

185 frequency floods, flood elevations, floodway information and boundaries, and flood  
186 profiles.

187  
188 Letters of Map Change (LOMC). A Letter of Map Change is an official FEMA  
189 determination, by letter, that amends or revises an effective FIRM or FIS. Letters of Map  
190 Change include:

- 191
- 192 1. Letter of Map Amendment (LOMA): An amendment based on technical  
193 data showing that a property was incorrectly included in a designated  
194 Special Flood Hazard Area (SFHA). A LOMA amends the current  
195 effective FIRM and establishes that a land as defined by metes and  
196 bounds or a structure is not located in a SFHA.
  - 197 2. Letter of Map Revision (LOMR): A revision based on technical data that  
198 may show changes to flood zones, flood elevations, floodplain and  
199 floodway delineations, and planimetric features. A Letter of Map  
200 Revision Based on Fill (LOMR-F) is a determination that a structure or  
201 parcel of land has been elevated by fill above the base flood elevation  
202 and is, therefore, no longer exposed to flooding associated with the base  
203 flood. In order to qualify for this determination, the fill must have been  
204 permitted and placed in accordance with the City's floodplain  
205 management ordinance.
  - 206 3. Conditional Letter of Map Revision (CLOMR): A formal review and  
207 comment as to whether a proposed flood protection project or other  
208 project complies with the minimum National Flood Insurance Program  
209 (NFIP) requirements for such projects with respect to delineation of  
210 SFHAs. A CLOMR does not revise the effective FIRM or FIS.

211  
212 Lowest floor. The lowest floor of the lowest enclosed area (including basement).  
213 An unfinished or flood-resistant enclosure, usable solely for parking of vehicles, building  
214 access, or storage in an area other than a basement area is not considered a building's  
215 lowest floor, provided that such enclosure is not built so as to render the structure in  
216 violation of the applicable non-elevation design requirements of Federal Code 44CFR  
217 §60.3.

218  
219 Manufactured home. A structure, transportable in one or more sections, that is  
220 built on a permanent chassis and is designed for use with or without a permanent  
221 foundation when connected to the required utilities. For floodplain management  
222 purposes the term "manufactured home" also includes park trailers, travel trailers, and  
223 other similar vehicles placed on a site for greater than one hundred eighty (180)  
224 consecutive days, but does not include a recreational vehicle.

225  
226  
227

228        *Manufactured home park or subdivision.* A parcel (or contiguous parcels) of land  
229 divided into two (2) or more manufactured home lots for rent or sale.

230

231        *Market value.* The value of a structure, established prior to the damage in  
232 question, as determined by property values used for tax assessment purposes  
233 (assessment) as adjusted by the Virginia Beach Real Estate Assessor (market factor) to  
234 reflect current market conditions, or as determined by an independent appraisal done by  
235 a professional appraiser.

236

237        *New construction.* For the purposes of determining insurance rates, structures for  
238 which the "start of construction" commenced on or after October 3, 1970 and includes  
239 any subsequent improvements to such structures. For floodplain management purposes,  
240 new construction means structures for which the start of construction commenced on or  
241 after the effective date of a floodplain management ordinance adopted by the City and  
242 includes any subsequent improvements to such structures.

243

244        *Post-FIRM structures.* A structure for which construction or substantial  
245 improvement occurred after October 3, 1970.

246

247        *Pre-FIRM structures.* A structure for which construction or substantial  
248 improvement occurred on or before October 3, 1970.

249

250        *Recreational vehicle.* A vehicle that is:

- 251
- 252        1. Built on a single chassis;
- 253
- 254        2. Four hundred (400) square feet or less when measured at the largest  
255 horizontal projection;
- 256
- 257        3. Designed to be self-propelled or permanently towable by a light duty  
258 truck; and
- 259
- 260        4. Designed primarily not for use as a permanent dwelling but as temporary  
261 living quarters for recreational camping, travel, or seasonal use.

262

263        *Regulatory flood protection elevation (design flood elevation).* The base flood  
264 elevation plus the freeboard required by this ordinance.

265

266        *Special flood hazard area (SFHA).* The land in the floodplain subject to a one (1)  
267 percent or greater chance of being flooded in any given year as set forth in this  
268 ordinance. These areas are designated as AE, AO, A, and VE on the FIRM.

270        *Start of construction.* For other than new construction and substantial  
271 improvement under the Coastal Barrier Resources Act (P.L. 97-348), means the date  
272 the building permit was issued, provided the actual start of construction, repair,  
273 reconstruction, rehabilitation, addition, placement, substantial improvement, or other  
274 improvement was within one hundred eighty (180) days of the permit date. The actual  
275 start means either the first placement of permanent construction of a structure on a site,  
276 such as the pouring of slab or footings, the installation of piles, the construction of  
277 columns, or any work beyond the stage of excavation, or the placement of a  
278 manufactured home on a foundation. Permanent construction does not include land  
279 preparation, such as clearing, grading, and filling; nor does it include the installation of  
280 streets and/or walkways; nor does it include excavation for a basement, footings, piers,  
281 or foundations or the erection of temporary forms; nor does it include the installation on  
282 the property of accessory buildings, such as garages or sheds not occupied as dwelling  
283 units or not part of the main structure. For a substantial improvement, the actual start of  
284 the construction means the first alteration of any wall, ceiling, floor, or other structural  
285 part of a building, whether or not that alteration affects the external dimensions of the  
286 building.

287  
288        *Structure.* For floodplain management purposes, a walled and roofed building,  
289 including a gas or liquid storage tank, that is principally above ground, as well as a  
290 manufactured home.

291  
292        *Substantial damage.* Damage of any origin sustained by a structure whereby the  
293 cost of restoring the structure to its before damaged condition would equal or exceed  
294 fifty (50) percent of the market value of the structure before the damage occurred.

295  
296        *Substantial improvement.* Any reconstruction, rehabilitation, addition, or other  
297 improvement of a structure, the cost of which equals or exceeds fifty (50) percent of the  
298 market value of the structure before the start of construction of the improvement. This  
299 term includes structures that have incurred substantial damage regardless of the actual  
300 repair work performed. The term does not, however, include either:

- 301  
302        1. Any project for improvement of a structure to correct existing violations  
303            of state or local health, sanitary, or safety code specifications that have  
304            been identified by the local code enforcement official and are the  
305            minimum necessary to assure safe living conditions; or  
306  
307        2. Any alteration of a historic structure provided that the alteration will not  
308            preclude the structure's continued designation as a historic structure.  
309  
310        3. Historic structures undergoing repair or rehabilitation that would  
311            constitute a substantial improvement as defined above, shall comply with

312           all ordinance requirements that do not preclude the structure's continued  
313           designation as a historic structure. Documentation that a specific  
314           ordinance requirement will cause removal of the structure from the  
315           National Register of Historic Places or the State Inventory of Historic  
316           places shall be obtained from the Secretary of the Interior or the State  
317           Historic Preservation Officer. Any exemption from ordinance  
318           requirements will be the minimum necessary to preserve the historic  
319           character and design of the structure.

320  
321           Violation. The failure of a structure or other development to be fully compliant  
322           with the provisions of the floodplain ordinance in effect at the time of construction or  
323           development. A structure or other development without the elevation certificate, other  
324           certifications, or other evidence of compliance required in this ordinance is presumed to  
325           be in violation until such time as that documentation is provided.

326  
327           Watercourse. Any natural or artificial lake, river, creek, stream, ditch, channel,  
328           waterway, gully, ravine, swale, or wash in which water flows, either continuously,  
329           periodically, or intermittently, and which has a definite channel, bed, or banks.

330  
331           **Sec. 1.4. Compliance and liability.**

332  
333           A. No land shall hereafter be developed and no structure shall be located,  
334           relocated, constructed, reconstructed, enlarged, or structurally altered except in full  
335           compliance with the terms and provisions of this ordinance and any other applicable  
336           ordinances and regulations that apply to uses within the City.

337  
338           B. The degree of flood protection sought by the provisions of this ordinance is  
339           considered reasonable for regulatory purposes and is based on acceptable engineering  
340           methods of study, but does not imply total flood protection. Larger floods may occur on  
341           rare occasions. Flood heights may be increased by man-made or natural causes, such  
342           as ice jams and bridge openings restricted by debris. This ordinance does not imply that  
343           districts outside the floodplain district or land uses permitted within such district will be  
344           free from flooding or flood damages.

345  
346           C. This ordinance shall not create liability on the part of the City of Virginia  
347           Beach or any officer or employee thereof for any flood damages that result from reliance  
348           on this ordinance or any administrative decision lawfully made thereunder.

349  
350           **Sec. 1.5. Records.**

351  
352           Records of actions associated with administering this ordinance shall be kept on  
353           file and maintained by the Floodplain Administrator.

356       **Sec. 1.6. Abrogation and greater restrictions.**  
357  
358       This ordinance supersedes any ordinance currently in effect in the floodplain.  
359       Any ordinance, however, shall remain in full force and effect to the extent that its  
360       provisions are more restrictive.

361  
362       **Sec. 1.7. Severability.**  
363  
364       If any section, subsection, paragraph, sentence, clause, or phrase of this  
365       ordinance be declared by the courts to be unconstitutional or invalid for any reason  
366       whatsoever, such decision shall not affect the validity of the ordinance as a whole other  
367       than the part so declared to be unconstitutional or invalid.

368  
369       **Sec. 1.8. Penalty for violations.**  
370  
371       Any person who fails to comply with any of the requirements or provisions of this  
372       ordinance or directions of the directors of planning or public works or any authorized  
373       employee of the City of Virginia Beach shall be guilty of the appropriate violation and  
374       subject to the penalties therefore. Any violation of the provision of this ordinance shall  
375       be punishable by a fine of not more than one hundred dollars (\$100.00). Each person  
376       shall be deemed guilty of a separate offense for each and every day or portion thereof  
377       during which any violation of any of the provisions of this ordinance is committed.

378  
379       The Virginia Uniform Statewide Building Code (VA USBC) addresses building  
380       code violations and the associated penalties in Section 104 and Section 115.

381  
382       In addition to the above penalties, all other actions are hereby reserved, including  
383       an action in equity for the proper enforcement of this ordinance. The imposition of a fine  
384       or penalty for any violation of, or noncompliance with, this ordinance shall not excuse  
385       the violation or noncompliance or permit it to continue, and all such persons shall be  
386       required to correct or remedy such violations within a reasonable time. Any structure  
387       constructed, reconstructed, enlarged, altered, or relocated in noncompliance with this  
388       ordinance may be declared by the City of Virginia Beach to be a public nuisance and  
389       abatable as such. Flood insurance may be withheld from structures constructed in  
390       violation of this ordinance.

391  
392       **ARTICLE II - ADMINISTRATION**  
393

394       **Sec. 2.1. Designation of the floodplain administrator.**  
395

396       The City Manager of the City of Virginia Beach is hereby appointed the  
397       Floodplain Administrator to administer and implement this ordinance. The Floodplain  
398       Administrator has delegated the duties and responsibilities set forth in this ordinance to  
399       the Departments of Public Works and Planning, as specified below.

400  
401       **Sec. 2.2. Duties and responsibilities of the Department of Public Works.**

402

403       The duties and responsibilities of the Department of Public Works shall include  
404       but are not limited to:

405

- 406       A. Interpreting floodplain boundaries and providing available base flood  
407       elevation and flood hazard information;
- 408       B. Verifying that applicants proposing an alteration of a watercourse have  
409       notified adjacent communities, the Department of Conservation and  
410       Recreation (Division of Dam Safety and Floodplain Management), and other  
411       appropriate agencies (Virginia Department of Environmental Quality (VADEQ),  
412       United States Army Corps of Engineers (USACE), etc.) and have submitted  
413       copies of such notifications to FEMA;
- 414
- 415       C. Advising applicants for new construction or substantial improvement of  
416       structures that are located within an area of the Coastal Barrier Resources  
417       System established by the Coastal Barrier Resources Act that Federal flood  
418       insurance is not available on such structures; areas subject to this limitation  
419       are shown on FIRMs as Coastal Barrier Resource System Areas or  
420       Otherwise Protected Areas;
- 421
- 422       D. Submitting to FEMA, or requiring applicants to submit to FEMA, data and  
423       information necessary to maintain FIRMs, including hydrologic and hydraulic  
424       engineering analyses prepared by or for the City, within six (6) months after  
425       such data and information becomes available if the analyses indicate  
426       changes in base flood elevations;
- 427
- 428       E. Maintaining and permanently keeping Flood Insurance Studies, FIRMs  
429       (including historic studies and maps and current effective studies and maps)  
430       and Letters of Map Change;
- 431
- 432       F. Notifying FEMA when the corporate boundaries of the City of Virginia Beach  
433       have been modified and:
  - 434           1. Providing a map that clearly delineates the new corporate boundaries or  
435           the new area for which the authority to regulate pursuant to this  
436           ordinance has either been assumed or relinquished through annexation;  
437           and
  - 438           2. If the FIRM for any annexed area includes SFHAs that have flood zones  
439           with regulatory requirements that are not set forth in this ordinance,  
440           prepare amendments to this ordinance to adopt the FIRM and  
441           appropriate requirements, and submit the amendments to the City  
442           Council for adoption; such adoption shall take place at the same time as  
443           or prior to the date of annexation and a copy of the amended ordinance  
444           shall be provided to the Department of Conservation and Recreation

- 448                         (Division of Dam Safety and Floodplain Management) and FEMA.  
449
- 450                         G. Upon the request of FEMA, completing and submitting a report concerning  
451                         participation in the NFIP, which may request information regarding the  
452                         number of buildings in the SFHA, the number of permits issued for  
453                         development in the SFHA, and the number of variances issued for  
454                         development in the SFHA.
- 455
- 456                         **Sec. 2.3. Duties and responsibilities of the Department of Planning.**
- 457
- 458                         The duties and responsibilities of the Department of Planning shall include but  
459                         are not limited to:
- 460
- 461                         A. Reviewing applications for permits to determine whether proposed activities  
462                         will be located in the SFHA;
- 463
- 464                         B. Reviewing applications to determine whether proposed activities will be  
465                         reasonably safe from flooding and requiring new construction and substantial  
466                         improvements to meet the requirements of this ordinance;
- 467
- 468                         C. Reviewing applications to determine whether all necessary permits have been  
469                         obtained from the Federal, State, or local agencies from which prior or  
470                         concurrent approval is required; in particular, permits from state agencies for  
471                         any construction, reconstruction, repair, or alteration of a dam, reservoir, or  
472                         waterway obstruction (including bridges, culverts, structures), any alteration of  
473                         a watercourse, or any change of the course, current, or cross section of a  
474                         stream or body of water, including any change to the SFHAs of free- flowing  
475                         non-tidal waters of the State;
- 476
- 477                         D. Approving applications and issuing permits to develop in flood hazard areas if  
478                         the provisions of this ordinance have been met, or disapproving applications if  
479                         the provisions of this ordinance have not been met;
- 480
- 481                         E. Granting administrative variances pursuant to Section 6.1 of this ordinance;
- 482
- 483                         F. Inspecting, or causing to be inspected, buildings, structures, and other  
484                         development for which permits have been issued to determine compliance  
485                         with this ordinance or to determine if non-compliance has occurred or  
486                         violations have been committed;
- 487
- 488                         G. Reviewing Elevation Certificates and requiring incomplete or deficient  
489                         certificates to be corrected;
- 490
- 491                         H. Maintaining and permanently keeping documentation supporting the issuance  
492                         and denial of permits, Elevation Certificates, documentation of the elevation  
493                         (in relation to the datum on the FIRM) to which structures have been flood

494 proofed, and other required design certifications, variances, and records of  
495 enforcement actions taken to correct violations of this ordinance;

496

497 I. Enforcing the provisions of this ordinance, investigating violations, issuing  
498 notices of violations or stop work orders, and requiring permit holders to take  
499 corrective action;

500

501 J. Advising the City Council regarding the intent of this ordinance and, for each  
502 application for a variance, preparing a staff report and recommendation; and

503

504 K. Administering the requirements related to proposed work on existing  
505 buildings:

506

507 1. Making determinations as to whether buildings and structures that are  
508 located in flood hazard areas and that are damaged by any cause have  
509 been substantially damaged; and

510

511 2. Making reasonable efforts to notify owners of substantially damaged  
512 structures of the need to obtain a permit to repair, rehabilitate, or  
513 reconstruct, and prohibit the non-compliant repair of substantially  
514 damaged buildings except for temporary emergency protective  
515 measures necessary to secure a property or stabilize a building or  
516 structure to prevent additional damage.

517

#### **Sec. 2.4. Shared duties and responsibilities.**

518

519 The duties and responsibilities shared by the Departments of Public Works and  
520 Planning shall include but are not limited to:

521

522 A. Undertaking, as determined appropriate by the Floodplain Administrator due  
523 to the circumstances, other actions that may include but are not limited to:  
524 issuing press releases, public service announcements, and other public  
525 information materials related to permit requests and repair of damaged  
526 structures; coordinating with other Federal, State, and local agencies to assist  
527 with substantial damage determinations; providing owners of damaged  
528 structures information related to the proper repair of damaged structures in  
529 SFHAs; and assisting property owners with documentation necessary to file  
530 claims for Increased Cost of Compliance coverage under National Flood  
531 Insurance Program (NFIP) flood insurance policies; and

532

533 B. It is the duty of the City Floodplain Administrator to take into account flood,  
534 mudslide, and flood-related erosion hazards, to the extent that they are  
535 known, in all official actions relating to land management and use throughout  
536 the entire jurisdictional area of the city, whether or not those hazards have  
537 been specifically delineated geographically (e.g., via mapping or surveying).

538

539

540      **Sec. 2.5. Use and Interpretation of FIRMs.**

541

542      The Floodplain Administrator shall make interpretations, where needed, as to the  
543      exact location of SFHAs, floodplain boundaries, and floodway boundaries. The following  
544      shall apply to the use and interpretation of FIRMs and data:

545

546      A. Where field surveyed topography indicates that adjacent ground elevations:

547

- 548      1. Are below the base flood elevation, even in areas not delineated as a  
549      SFHA on a FIRM, the area shall be considered a SFHA and subject to  
550      the requirements of this ordinance;
- 551      2. Are above the base flood elevation, the area shall be regulated as a  
552      SFHA unless the applicant obtains a Letter of Map Change that removes  
553      the area from the SFHA.

555

556      B. In FEMA-identified SFHAs where base flood elevation and floodway data  
557      have not been identified and in areas where FEMA has not identified SFHAs,  
558      any other flood hazard data available from a Federal, State, local or other  
559      source shall be reviewed and reasonably used.

560

561      C. Base flood elevations and designated floodway boundaries on FIRMs and in  
562      Flood Insurance Studies (FISs) shall take precedence over base flood  
563      elevations and floodway boundaries by any other sources if such sources  
564      show reduced floodway widths or lower base flood elevations.

565

566      D. Other sources of data shall be reasonably used if such sources show  
567      increased base flood elevations or larger floodway areas than are shown on  
568      FIRMs and in FISs.

569

570      E. If a Preliminary FIRM and/or a Preliminary FIS has been provided by FEMA:

571

572      1. Upon the issuance of a Letter of Final Determination by FEMA, the  
573      preliminary flood hazard data shall be used and shall replace the flood  
574      hazard data previously provided from FEMA for the purposes of  
575      administering this ordinance.

576

577      2. Prior to the issuance of a Letter of Final Determination by FEMA, the use  
578      of preliminary flood hazard data shall be deemed the best available data  
579      pursuant to Section 4.6 and used where no base flood elevations or  
580      floodway areas are provided on the effective FIRM.

581

582      3. Prior to issuance of a Letter of Final Determination by FEMA, the use of  
583      preliminary flood hazard data is permitted where the preliminary base  
584      flood elevations or floodway areas exceed the base flood elevations or  
585      designated floodway widths in existing flood hazard data provided by

586                   FEMA. Such preliminary data may be subject to change or appeal to  
587                   FEMA.

588  
589 **Sec. 2.6. Jurisdictional boundary changes.**

590  
591                   A. The City floodplain ordinance in effect on the date of annexation shall remain  
592                   in effect and shall be enforced by the municipality for all annexed areas. The City shall  
593                   pass a resolution acknowledging and accepting responsibility for enforcing floodplain  
594                   ordinance standards prior to annexation of any area containing identified flood hazards.  
595                   If the FIRM for any annexed area includes SFHAs that have flood zones with regulatory  
596                   requirements that are not set forth in this ordinance, the City shall prepare amendments  
597                   to this ordinance to adopt the FIRM and appropriate requirements, and submit the  
598                   amendments to the City Council for adoption; such adoption shall take place at the  
599                   same time as or prior to the date of annexation and a copy of the amended ordinance  
600                   shall be provided to the Department of Conservation and Recreation (Division of Dam  
601                   Safety and Floodplain Management) and FEMA.

602  
603                   B. In accordance with the Code of Federal Regulations, Title 44 Subpart (B)  
604                   Section 59.22 (a) (9) (v), all NFIP participating communities shall notify FEMA and,  
605                   optionally, the Department of Conservation and Recreation in writing whenever the  
606                   boundaries of the community have been modified by annexation or the community has  
607                   otherwise assumed or no longer has authority to adopt and enforce floodplain  
608                   management regulations for a particular area.

609  
610                   C. So that all FIRMs accurately represent the community's boundaries, a copy of  
611                   a map of the community suitable for reproduction, clearly delineating the new corporate  
612                   limits or new area for which the community has assumed or relinquished floodplain  
613                   management regulatory authority shall be included with the notification.

614  
615 **Sec. 2.7. District boundary changes.**

616  
617                   The delineation of any of the Floodplain Districts may be revised by the City of  
618                   Virginia Beach where natural or man-made changes have occurred or where more  
619                   detailed studies have been conducted or undertaken by the USACE or other qualified  
620                   agencies, or an individual documents the need for such change. However, prior to any  
621                   such change, approval shall be obtained from FEMA.

622  
623 **Sec. 2.8. Interpretation of district boundaries.**

624  
625                   Initial interpretations of the boundaries of the Floodplain Districts shall be made  
626                   by the Floodplain Administrator. Should a dispute arise concerning the boundaries of  
627                   any of the Districts, the City Council shall make the necessary determination. The  
628                   person questioning or contesting the location of the District boundary shall be given a  
629                   reasonable opportunity to present his case to the City Council and to submit his own  
630                   technical evidence if he so desires.

632     **Sec. 2.9. Submitting technical data.**

633

634       A community's base flood elevations may increase or decrease resulting from  
635 physical changes affecting flooding conditions. As soon as practicable, but not later than  
636 six (6) months after the date such information becomes available, a community shall  
637 notify FEMA of the changes by submitting technical or scientific data. Such a  
638 submission is necessary so that upon confirmation of those physical changes affecting  
639 flooding conditions, risk premium rates and floodplain management requirements will be  
640 based upon current data.

641

642     **Sec. 2.10. Letters of map revision.**

643

644       When development in the floodplain causes a change in the base flood elevation,  
645 the applicant, including state agencies, shall notify FEMA by applying for a Conditional  
646 Letter of Map Revision or a Letter of Map Revision.

647

648     **Sec. 2.11. Appeals to decisions made by the Floodplain Administrator.**

649

650       It is further provided that any decision of the Floodplain Administrator or his  
651 designee may be modified, reversed, or affirmed by the City Council upon appeal by  
652 any aggrieved party to such decision, if such appeal is filed with the Floodplain  
653 Administrator within thirty (30) days of such decision.

654

655     **ARTICLE III - ESTABLISHMENT OF FLOODPLAIN DISTRICTS**

656

657     **Sec. 3.1. Description of Floodplain Districts.**

658

659       **A. Special Flood Hazard Areas (SFHA)**

660

661       The SFHAs shall include land in the floodplain subject to a one (1) percent or  
662 greater chance of being flooded in any given year. The basis for the delineation of these  
663 districts shall be the FIS and the FIRM for the City of Virginia Beach prepared by FEMA,  
664 Federal Insurance Administration, dated May 4, 2009, and any subsequent revisions or  
665 amendments thereto.

666

667       The boundaries of the SFHAs are established as shown on the FIRM, which is  
668 declared to be a part of this ordinance and shall be kept on file at the City of Virginia  
669 Beach Department of Public Works, and include the following districts:

- 670
- 671       1. The **Floodway District** is in an **AE Zone** and is delineated, for the  
672 purposes of this ordinance, using the criterion that certain areas within  
673 the floodplain must be capable of carrying the waters of the one (1)  
674 percent annual chance flood without increasing the water surface  
675 elevation of that flood more than one (1) foot at any point. The areas  
676 included in this District are specifically defined in Table 7 of the above-  
677 referenced FIS and shown on the accompanying FIRM.

- 678
- 679     2. The AE Zones on the FIRM accompanying the FIS shall be those areas  
680       for which one (1) percent annual chance flood elevations have been  
681       provided and the floodway has **not** been delineated.
- 682
- 683     3. The A Zone on the FIRM accompanying the FIS shall be those areas for  
684       which no detailed flood profiles or elevations are provided, but the one  
685       (1) percent annual chance floodplain boundary has been approximated.
- 686
- 687     4. The AO Zone on the FIRM accompanying the FIS shall be those areas  
688       of shallow flooding identified as AO on the FIRM.
- 689
- 690     5. Reserved.
- 691
- 692     6. The VE or V Zones on FIRMs accompanying the FIS shall be those  
693       areas that are known as Coastal High Hazard areas, extending from  
694       offshore to the inland limit of a primary frontal dune along an open coast  
695       and any other area subject to high velocity wave action from storm or  
696       seismic sources.
- 697

698     B. Floodplain subject to special restrictions.

699

700       The City of Virginia Beach may identify and regulate local flood hazard or  
701       ponding areas that are not delineated on the FIRM. These areas are identified in  
702       Section 4.10 and may be delineated on a map using best available topographic data  
703       and locally derived information such as flood of record, historic high water marks, or  
704       approximate study methodologies.

705     

## ARTICLE IV – FLOODPLAIN DISTRICT PROVISIONS

706     

### Sec. 4.1. Permit and application requirements.

707       A. Permit Requirement

712       All uses, activities, and development occurring within any floodplain district,  
713       including placement of manufactured homes and structures, shall be undertaken only  
714       upon the issuance of the appropriate permit. Such development shall be undertaken  
715       only in strict compliance with the provisions of this Ordinance and with all other  
716       applicable codes and ordinances, as amended, such as the VA USBC and the City of  
717       Virginia Beach development ordinances. Prior to the issuance of any such permit, the  
718       Building Official shall require all applications to include compliance with all applicable  
719       state and federal laws and shall review all sites to assure they are reasonably safe from  
720       flooding. Under no circumstances shall any use, activity, or development adversely  
721       affect the capacity of the channels or floodways of any watercourse, drainage ditch, or  
722       any other drainage facility or system.

723

724           B. Site Plans and Permit Applications

725  
726       All applications for development within any floodplain district and all building  
727       permits issued within the floodplain shall incorporate the following information:

- 728           1. The elevation of the base flood at the site;  
729  
730           2. The elevation of the lowest floor (including basement) or, in V zones, the  
731       lowest horizontal structural member;  
732  
733           3. For structures to be flood-proofed (non-residential only), the elevation to  
734       which the structure will be flood-proofed; and  
735  
736           4. Topographic information showing existing and proposed ground  
737       elevations.

739           **Sec. 4.2. General Standards.**

740           A. The following provisions shall apply to all permits issued in all floodplain  
741       districts:

- 742           1. New construction and substantial improvements of all structures shall be  
743       located, elevated, and constructed according to the VA USBC and  
744       anchored to prevent flotation, collapse, or lateral movement of the  
745       structure.
- 746           2. Manufactured homes shall be anchored to prevent flotation, collapse, or  
747       lateral movement. Methods of anchoring may include, but are not limited  
748       to, use of over-the-top or frame ties to ground anchors. This standard  
749       shall be in addition to and consistent with applicable state anchoring  
750       requirements for resisting wind forces.
- 751           3. New construction and substantial improvements shall be constructed  
752       with materials and utility equipment resistant to flood damage.
- 753           4. New construction or substantial improvements shall be constructed by  
754       methods and practices that minimize flood damage.
- 755           5. Electrical, heating, ventilation, plumbing, air conditioning equipment, and  
756       other service facilities, including duct work, shall be designed and/or  
757       located so as to prevent water from entering or accumulating within the  
758       components during conditions of flooding.
- 759           6. New and replacement water supply systems shall be designed to  
760       minimize or eliminate infiltration of flood waters into the system.

770       7. New and replacement sanitary sewage systems shall be designed to  
771       minimize or eliminate infiltration of flood waters into the systems and  
772       discharges from the systems into flood waters.

773       7. On-site waste disposal systems shall be located and constructed to  
774       avoid impairment to them or contamination from them during flooding.

775       7. No use shall be permitted if such use will increase the amounts of  
776       potentially damaging materials, including those likely to be injurious to  
777       health, that might be transported in floods.

778       B. In all SFHAs, the following additional provisions shall apply:

779       1. Prior to any proposed alteration or relocation of any channels or of any  
780       watercourse or stream, within the City a permit shall be obtained from  
781       the USACE, VADEQ, the Virginia Marine Resources Commission, and  
782       the Wetlands Board through the joint permit application process.  
783       Furthermore, notification of the proposal shall be given by the applicant  
784       to all affected adjacent jurisdictions, the Department of Conservation and  
785       Recreation (Division of Dam Safety and Floodplain Management), other  
786       required agencies, and FEMA.

787       2. The flood carrying capacity within an altered or relocated portion of any  
788       watercourse shall be maintained.

789       3. Sand dunes, barrier beaches, and other natural protective barriers shall  
790       remain intact to provide protection against wind, waves, and erosion  
791       drainage. Any person who desires to use or alter any coastal primary  
792       sand dune, other than for the purpose of conducting the activities  
793       specified in section 1602 of the Zoning Ordinance of the City of Virginia  
794       Beach, shall first obtain a permit from the USACE, VADEQ, the Virginia  
795       Marine Resources Commission, and the Wetlands Board through the  
796       joint permit application process.

800       **Sec. 4.3. Elevation and construction requirements.**

801       In all SFHAs where base flood elevations have been provided in the FIS or  
802       generated by a licensed professional in accordance with Section 4.6 of this ordinance,  
803       the following provisions shall apply:

804       A. Residential Construction Requirements

805       New construction or substantial improvement of any residential structure or  
806       manufactured home in Zones AE and A with detailed base flood elevations shall have  
807       the lowest floor, including basement, elevated to a minimum of two (2) feet above the  
808       base flood level.

817      B. Non-Residential Construction Requirements

818  
819      New construction or substantial improvement of any commercial, industrial, or  
820      non-residential building or manufactured home shall have the lowest floor, including  
821      basement, elevated a minimum of two (2) feet above the base flood level. Buildings  
822      located in AE zones may be flood-proofed in lieu of being elevated provided that all  
823      areas of the building components below the elevation corresponding to the base flood  
824      elevation plus a minimum of two (2) feet freeboard are water tight with walls  
825      substantially impermeable to the passage of water, and use structural components  
826      having the capability of resisting hydrostatic and hydrodynamic loads and the effect of  
827      buoyancy. A professional engineer or architect licensed by the Commonwealth of  
828      Virginia shall certify that the standards of this subsection are satisfied. Such certification,  
829      including the specific elevation (in relation to NAVD88) to which such structures are  
830      flood proofed, shall be maintained by the Building Official.

831  
832      C. Space Below the Lowest Floor Requirements

833  
834      In zones A, AE, and AO, fully enclosed areas of new construction or substantially  
835      improved existing structures that are below the regulatory flood protection elevation  
836      shall:

- 837  
838      1. Not be designed or used for human habitation, but shall only be used for  
839      parking of vehicles, building access, or limited storage of maintenance  
840      equipment used in connection with the premises. Access to the enclosed  
841      area shall be the minimum necessary to allow for parking of vehicles  
842      (garage door), limited storage of maintenance equipment (standard  
843      exterior door), or entry to the living area (stairway or elevator).
- 844  
845      2. Be constructed entirely of flood resistant materials below the regulatory  
846      flood protection elevation.
- 847  
848      3. Include measures to automatically equalize hydrostatic flood forces on  
849      walls by allowing for the entry and exit of floodwaters. To meet this  
850      requirement, the openings shall either be certified by a professional  
851      engineer or architect licensed by the Commonwealth of Virginia or meet  
852      or exceed the following minimum design criteria:
- 853  
854      a. Provide a minimum of two (2) openings on different sides of each  
855      enclosed area subject to flooding.
- 856  
857      b. The total net area of all openings shall be at least one (1) square inch  
858      for each square foot of enclosed area subject to flooding.
- 859  
860      c. If a building has more than one (1) enclosed area, each area shall  
861      have openings to allow floodwaters to automatically enter and exit.

- 863           d. The bottom of all required openings shall be no higher than one (1)  
864           foot above the adjacent grade.
- 865
- 866           e. Openings may be equipped with screens, louvers, or other opening  
867           coverings or devices, provided they permit the automatic flow of  
868           floodwaters in both directions.
- 869
- 870           f. Foundation enclosures made of flexible skirting are not considered  
871           enclosures for regulatory purposes and, therefore, do not require  
872           openings. Masonry or wood underpinning, regardless of structural  
873           status, is considered an enclosure and requires openings as outlined  
874           above.
- 875

876           D. Manufactured Homes and Recreational Vehicle Requirements

877

- 878           1. All manufactured homes placed, or substantially improved, on individual  
879           lots or parcels must meet all the requirements for new construction,  
880           including the elevation and anchoring requirements in Article 4, section  
881           4.2, and section 4.3 of this ordinance.
- 882
- 883           2. All recreational vehicles placed on sites shall either:
- 884
- 885           a. Be on the site for fewer than one hundred eighty (180) consecutive  
886           days; or
- 887
- 888           b. Be fully licensed and ready for highway use (a recreational vehicle is  
889           ready for highway use if it is on its wheels or jacking system, is  
890           attached to the site only by quick disconnect type utilities and security  
891           devices and has no permanently attached additions); or
- 892
- 893           c. Meet all the requirements for manufactured homes in Article 4 section  
894           4.3(D)(1).

895

896           **Sec. 4.4. Floodway requirements.**

897

898           The following provisions shall apply within the Floodway District of an AE zone:

899

900           A. Within any floodway area, no encroachments, including fill, new construction,  
901           substantial improvements, or other development shall be permitted unless it has been  
902           demonstrated through hydrologic and hydraulic analysis performed in accordance with  
903           standard engineering practice that the proposed encroachment will not affect normal  
904           flood flow, result in any increase in flood levels within the community, increase erosion  
905           within or adjoining to the floodway, cause the diversion of floodwaters during the  
906           occurrence of the base flood discharge, increase peak flows or velocities in a manner  
907           likely to lead to added property damage or hazards to life, or increase the amounts of  
908           damaging materials that might be transported in floods. Hydrologic and hydraulic  
909           analyses shall be undertaken only by professional engineers or others of demonstrated

910 qualifications, who shall certify that the technical methods used correctly reflect  
911 currently-accepted technical concepts. Studies, analyses, computations, etc., shall be  
912 submitted in sufficient detail to allow a thorough review by the Floodplain Administrator.  
913

914 Encroachments, including fill, new construction, substantial improvements, and other  
915 development within the floodway that would result in any increase in flood levels within  
916 the community during the occurrence of the base flood discharge is specifically  
917 prohibited. No variance shall be granted for any development, use, or activity that would  
918 cause any increase in the water surface elevation of the base flood.  
919

920 If the above provisions are satisfied, all new construction and substantial improvements  
921 shall comply with all applicable provisions of Article 4.  
922

923       B. The placement of new or replacement manufactured homes (mobile homes)  
924 is prohibited.  
925

926       C. The following uses and structures may be permitted in the floodway district,  
927 subject to the requirements of Articles III, IV, V, and VI of this ordinance:  
928

- 929       1. Public and private outdoor recreational facilities;  
930       2. Agricultural uses, including farming, grazing, and the raising of poultry or  
931 livestock; provided, that poultry or livestock shall not be housed within  
932 five hundred (500) feet of any residential, apartment, or hotel district;  
933       3. Open uses, such as public and private roadways, off street parking, or  
934 loading and unloading areas related to uses in adjoining districts;  
935       4. Commercial mining, soil removal, and sand pits subject to regulations  
936 applicable to extractive industries as set forth in the conditional use  
937 provisions of the Zoning Ordinance of the City of Virginia Beach;  
938       5. Public improvements, such as dams, levees and channel improvements,  
939 and utilities installations and substations, including temporary storage of  
940 materials, except flammable, toxic or noxious materials, and temporary  
941 location of maintenance installations; and  
942       6. Uses and structures customarily accessory and clearly incidental and  
943 subordinate to uses listed above, including in connection with  
944 agricultural uses; roadside stands for the sale of agricultural products  
945 produced on the premises; provided that:  
946           a. Only one (1) such stand shall be permitted per lot;  
947           b. No such stand shall exceed five hundred (500) square feet in floor  
948 area; and

949                   c. No such stand on the street frontage shall be erected within twenty  
950                   (20) feet of the property line.

951                   **Sec. 4.5. AE Zone requirements.**

952  
953                   The following provisions shall apply within all AE zones:

955                   A. Until a regulatory floodway is designated, no new construction, substantial  
956                   improvements or other development (including fill) shall be permitted within the areas of  
957                   special flood hazard, designated as Zone AE on the FIRM, unless it is demonstrated  
958                   that the cumulative effect of the proposed development, when combined with all other  
959                   existing and anticipated development, will not increase the water surface elevation of  
960                   the base flood more than one (1) foot at any point within the City.

961  
962                   B. Notwithstanding the criteria set forth in Section 4.10, development  
963                   activities in Zones AE on the City of Virginia Beach FIRM that increase the water  
964                   surface elevation of the base flood by more than one (1) foot may be allowed, provided  
965                   that the applicant first applies, with the City of Virginia Beach's endorsement, for a  
966                   Conditional Letter of Map Revision, and receives the approval of FEMA.

967  
968                   **Sec. 4.6. A Zone requirements.**

969  
970                   The following provisions shall apply within an A zone:

971  
972                   A. For these areas, the Floodplain Administrator shall obtain, review, and  
973                   reasonably utilize any base flood elevations and floodway information from  
974                   federal, state, and other acceptable sources, when available. Where the  
975                   specific one (1) percent annual chance flood elevation cannot be determined  
976                   for this area using other sources of data, such as the USACE Floodplain  
977                   Information Reports, the U.S. Geological Survey Floodprone Quadrangles,  
978                   etc., then the applicant for the proposed use, development, and/or activity  
979                   shall determine this base flood elevation. For development proposed in the A  
980                   Zone the applicant shall use technical methods that correctly reflect currently  
981                   accepted non-detailed technical concepts, such as flood hazard analyses,  
982                   point on boundary, known high water marks from past floods, or detailed  
983                   methodologies including hydrologic and hydraulic analyses. Studies, analyses,  
984                   computations, etc., shall be submitted in sufficient detail to allow a thorough  
985                   review by the Floodplain Administrator.

986  
987                   B. The Floodplain Administrator reserves the right to require a hydrologic and  
988                   hydraulic analysis for any development and to determine the base flood  
989                   elevation. When such base flood elevation data is utilized, the lowest floor  
990                   shall be elevated to minimum of two (2) feet above the base flood level.  
991                   During the permitting process, the Floodplain Administrator shall obtain:

992  
993                   1. The elevation of the lowest floor (including the basement) of all new and  
994                   substantially improved structures; and

995  
996       2. If the structure has been flood-proofed in accordance with the  
997       requirements of this ordinance, the elevation (in relation to NAVD88) to  
998       which the structure has been flood-proofed.

999  
1000      C. When the data is not available from any source, the lowest floor of the  
1001       structure shall be elevated to not less than two (2) feet above the highest  
1002       adjacent grade.

1003  
1004      **Sec. 4.7. AO Zone requirements.**

1005  
1006      The following provisions shall apply within an AO zone:

1007  
1008      A. All new construction and substantial improvements of residential structures  
1009       shall have the lowest floor, including basement, elevated above the highest  
1010       adjacent grade an amount not less than the depth number specified in feet on  
1011       the FIRM. If no flood depth number is specified, the lowest floor, including  
1012       basement, shall be elevated no less than two (2) feet above the highest  
1013       adjacent grade.

1014  
1015      B. All new construction and substantial improvements of non-residential  
1016       structures shall:

1017  
1018       1. Have the lowest floor, including basement, elevated above the highest  
1019       adjacent grade an amount not less than the depth number specified in  
1020       feet on the FIRM. If no flood depth number is specified, the lowest floor,  
1021       including basement, shall be elevated at least two (2) feet above the  
1022       highest adjacent grade; or

1023  
1024       2. Together with attendant utility and sanitary facilities be completely flood-  
1025       proofed to the specified flood level so that any space below that level is  
1026       watertight with walls substantially impermeable to the passage of water  
1027       and with structural components having the capability of resisting  
1028       hydrostatic and hydrodynamic loads and effects of buoyancy.

1029  
1030      C. Adequate drainage paths around structures on slopes shall be provided to  
1031       guide floodwaters around and away from proposed structures.

1032  
1033      **Sec. 4.8. Reserved.**

1034  
1035      **Sec. 4.9. V and VE Zone requirements.**

1036  
1037      The following provisions shall apply within V and VE Zones:

1038  
1039      A. All new construction and substantial improvements in Zones V and VE shall  
1040       be elevated on pilings or columns so that:

- 1041  
1042     1. The bottom of the lowest horizontal structural member of the lowest floor  
1043       (excluding the pilings or columns) is elevated to a minimum of two (2)  
1044       feet above the base flood level; and
- 1045  
1046     2. The pile or column foundation and structure attached thereto is anchored  
1047       to resist flotation, collapse, and lateral movement due to the effects of  
1048       wind and water loads acting simultaneously on all building components.  
1049       Wind and water loading values shall each have a one (1) percent chance  
1050       of being equaled or exceeded in any given year.
- 1051  
1052     B. A professional engineer or architect licensed by the Commonwealth of  
1053       Virginia shall develop or review the structural design, specifications, and  
1054       plans for the construction and shall certify that the design and methods of  
1055       construction to be used are in accordance with accepted standards of  
1056       practice for meeting the provisions of Article IV, Section 4.6 A.
- 1057  
1058     C. The Floodplain Administrator shall obtain the elevation (in relation to  
1059       NAVD88) of the bottom of the lowest horizontal structural member of the  
1060       lowest floor (excluding pilings and columns) of all new and substantially  
1061       improved structures in Zones V and VE. The Floodplain Administrator shall  
1062       maintain a record of all such information.
- 1063  
1064     D. All new construction shall be located landward of the reach of mean high tide.
- 1065  
1066     E. All new construction and substantial improvements shall have the space  
1067       below the lowest floor either free of obstruction or constructed with non-  
1068       supporting breakaway walls, open wood-lattice work, or insect screening  
1069       intended to collapse under wind and water loads without causing collapse,  
1070       displacement, or other structural damage to the elevated portion of the  
1071       building or supporting foundation system. For the purpose of this section, a  
1072       breakaway wall shall have a design safe loading resistance of not less than  
1073       ten (10) and no more than twenty (20) pounds per square foot. Use of  
1074       breakaway walls that exceed a design safe loading resistance of twenty (20)  
1075       pounds per square foot may be permitted only if a professional engineer or  
1076       architect licensed by the Commonwealth of Virginia certifies that the designs  
1077       proposed meet the following conditions:
- 1078  
1079       1. Breakaway wall collapse shall result from water load less than that which  
1080       would occur during the base flood; and
- 1081  
1082       2. The elevated portion of the building and supporting foundation system  
1083       shall not be subject to collapse, displacement, or other structural  
1084       damage due to the effects of wind and water loads acting simultaneously  
1085       on all building components (structural and nonstructural). Maximum wind  
1086       and water loading values to be used in this determination shall each

1087           have a one (1) percent chance of being equaled or exceeded in any  
1088           given year.

- 1089
- 1090       F. The enclosed space below the lowest floor shall be used solely for parking of  
1091           vehicles, building access, or storage. Such space shall not be partitioned into  
1092           multiple rooms, temperature-controlled, or used for human habitation.
- 1093
- 1094       G. The use of fill for structural support of buildings is prohibited. When non-  
1095           structural fill is proposed in a coastal high hazard area, appropriate  
1096           engineering analyses shall be conducted to evaluate the impacts of the fill  
1097           prior to issuance of a development permit.
- 1098
- 1099       H. Existing nonconforming uses and structures located below the level of the  
1100           base flood elevation, as shown in the FIS and accompanying FIRMs, shall not  
1101           be expanded.
- 1102
- 1103       I. The man-made alteration of sand dunes, which would increase potential flood  
1104           damage, is prohibited.

1105

**Sec. 4.10. Floodplain subject to special restrictions.**

1106

1107       A. All FIRM delineated SFHAs located in the following areas shall be identified  
1108           as a floodplain subject to special restrictions:

- 1109
- 1110
- 1111       1. North Landing River and its tributaries south of Lynnhaven Parkway;
- 1112
- 1113       2. West Neck Creek and its tributaries south of Shipps Corner Road,  
1114           London Bridge Road, and the portion of Dam Neck Road east of its  
1115           intersection with London Bridge Road; and
- 1116
- 1117       3. Bays, creeks, lakes, guts, coves, wetlands, marshes and swamps and  
1118           their tributaries comprising the Back Bay watershed south of South  
1119           Birdneck Road and east of Princess Anne Road and General Booth  
1120           Boulevard.

1121

1122       B. The following provisions shall apply within the floodplain subject to special  
1123           restrictions:

- 1124
- 1125       1. Notwithstanding any provision of this ordinance to the contrary, no filling  
1126           shall be permitted, including filling with material excavated from the  
1127           same floodplain except for
- 1128
- 1129       a. The purpose of public roadway or other similar public works  
1130           construction;

- 1132                   b. The maintenance, alteration, or relocation of bona fide agricultural  
1133                   ditches, swales, or agricultural pathways or those ditches required  
1134                   for proper lot drainage;
- 1135
- 1136                   c. For shoreline stabilization or maintenance projects, such as riprap  
1137                   revetment, bulkheads, or other treatment used to stabilize and  
1138                   protect the banks of waterways, the City Manager or his designee  
1139                   may approve the placement of fill provided the following criteria are  
1140                   met:
- 1141
- 1142                   i. A joint permit application is submitted;
- 1143
- 1144                   ii. The alignment of the stabilization structure is along the  
1145                   escarpment or in line with adjacent stabilization structures; and
- 1146
- 1147                   iii. Fill must be the minimum necessary to support the stabilization  
1148                   project.
- 1149
- 1150                   2. The City Manager, or his designee, may approve the placement of fill  
1151                   provided that the following criteria are met:
- 1152
- 1153                   a. Proposed fill within the floodplain:
- 1154
- 1155                   i. Shall be mitigated to result in no decrease in flood storage  
1156                   volume on the site;
- 1157
- 1158                   ii. Shall be mitigated entirely on the same site that will incur the fill;
- 1159
- 1160                   iii. Shall be contiguous to the existing floodplain that is being filled;  
1161                   and
- 1162
- 1163                   iv. Shall be limited to the smallest amount of area and volume  
1164                   possible to correct irregularities within the boundary of the  
1165                   project.
- 1166
- 1167                   b. The combined areas of fill and mitigation shall not exceed five (5)  
1168                   percent of the total area within the floodplain located on the site that  
1169                   will incur the fill.
- 1170
- 1171                   3. Residential dwelling structures shall not be located within the floodplains  
1172                   subject to special restrictions on lots created after October 23, 2001.  
1173                   Residential dwelling structures located in local flood hazard areas as of  
1174                   October 23, 2001 may be expanded with attached additions to a total  
1175                   footprint of less than one thousand (1,000) square feet; such additions  
1176                   shall also comply with the requirements set forth in Article V of this  
1177                   ordinance.

- 1178  
1179     4. On lots where single family dwellings are permitted by right and which  
1180       were recorded on or before October 23, 2001 and meet the  
1181       requirements of section 402(b) of the City Zoning Ordinance, the  
1182       minimum fill necessary shall be permitted only for the following:
- 1183  
1184       a. A driveway or other on-site parking area;  
1185  
1186       b. To ensure the proper functioning of a septic system;  
1187  
1188       c. To ensure proper lot drainage given the existing and proposed  
1189       development in the immediate area; and  
1190  
1191       d. To meet the VA USBC requirements for slab or crawl foundations.

1192  
**Sec. 4.11. Subdivision proposal requirements.**

- 1193  
1194       A. All subdivision proposals shall be consistent with the need to minimize flood  
1195       damage.
- 1196  
1197       B. All subdivision proposals shall have public utilities and facilities such as sewer,  
1198       gas, electrical, and water systems located and constructed to minimize flood damage.
- 1199  
1200       C. All subdivision proposals shall have adequate drainage provided to reduce  
1201       exposure to flood hazards.
- 1202  
1203       D. Base flood elevation data shall be obtained from the most recent FIRM (May  
1204       4, 2009) or developed using detailed methodologies, including hydraulic and hydrologic  
1205       analysis, comparable to those contained in a FIS for all final plats and other  
1206       development proposals (including manufactured home parks and neighborhoods).

1207  
**ARTICLE V – EXISTING STRUCTURES IN FLOODPLAIN AREAS**

1208  
**Sec. 5.1. Existing structures.**

1209  
1210       A structure or use of a structure or premises that lawfully existed prior to the  
1211       adoption of this ordinance, but which is not in conformity with this ordinance, may be  
1212       continued subject to the following conditions:

- 1213  
1214       A. Any existing structures in the Floodway Area shall not be expanded or  
1215       enlarged unless it has been demonstrated through hydrologic and hydraulic  
1216       analyses performed in accordance with standard engineering practices that  
1217       the proposed expansion or enlargement would not result in any increase in  
1218       the base flood elevation.
- 1219  
1220       B. Any modification, alteration, repair, reconstruction, or improvement of any

1224 kind to a structure and/or use located in any floodplain areas to an extent or  
1225 amount of less than fifty (50) percent of its market value shall conform to the  
1226 VA USBC.

- 1227
- 1228 C. Any modification, alteration, repair, reconstruction, or improvement of any  
1229 kind to a structure and/or use, in a floodplain area to an extent or amount of  
1230 fifty (50) percent or more of its market value shall be undertaken only in full  
1231 compliance with this ordinance and shall require the entire structure to  
1232 conform to the VA USBC.

1233

## **ARTICLE VI - VARIANCES AND APPEALS**

1234

### **Sec. 6.1. Administrative variances.**

1235

1236 The Floodplain Administrator shall approve or deny an application requesting an  
1237 administrative variance after receipt of a complete application. Administrative variances  
1238 may only be granted for the following uses, development, or redevelopment:

- 1239
- 1240 A. A residential attached garage or detached garages constructed at the  
1241 elevation corresponding to the base flood elevation may be flood proofed  
1242 according to the requirements outlined in Section 4.3 B of this ordinance in  
1243 lieu of the elevation requirements.
- 1244
- 1245 B. As defined in Section 4.10 Floodplains subject to special restrictions.
- 1246
- 1247 C. Any structure or use sustaining damage not caused by flood to an extent or  
1248 amount of fifty (50) percent or more of its market value to allow the structure  
1249 to be rebuilt to the freeboard height in effect at the start of construction for the  
1250 original structure. If the structure is a Pre-FIRM structure, full compliance with  
1251 the current VAUSBC freeboard above the base flood elevation is required.  
1252 Structures that are utilizing an approved land management plan for their on-  
1253 site waste disposal may be allowed to continue the use of the land  
1254 management plan as long as it is approved by the City and the Health  
1255 Department, even for damage or destruction resulting from flood.

1256

### **Sec. 6.2. City Council variances.**

- 1257
- 1258 A. Notwithstanding any other provision of this ordinance, the City Council shall  
1259 have the authority to grant such variances from the terms of this ordinance as  
1260 will not be contrary to the public interest in cases in which the strict  
1261 application of the provisions of this ordinance would effectively prohibit or  
1262 unreasonably restrict the use of the subject property. No variance shall be  
1263 granted for any proposed use, development, or activity within any Floodway  
1264 District that will cause any increase of the base flood elevation.

1269       B. In acting upon applications for variances, the City Council shall satisfy all  
1270       relevant factors and procedures specified in other sections of this ordinance and shall  
1271       consider the following additional factors:

- 1272       1. The danger to life and property due to increased flood heights or  
1273       velocities caused by encroachments.
- 1274       2. The danger that materials may be swept on to other lands or transported  
1275       in floods posing the risk of injury to others.
- 1276       3. The proposed water supply and sanitation systems and the ability of  
1277       these systems to prevent disease, contamination, and unsanitary  
1278       conditions.
- 1279       4. The susceptibility of the proposed facility and its contents to flood  
1280       damage and the effect of such damage on the individual owners.
- 1281       5. The importance of the services provided by the proposed facility to the  
1282       community.
- 1283       6. The requirements of the facility for a waterfront location.
- 1284       7. The availability of alternative locations not subject to flooding for the  
1285       proposed use.
- 1286       8. The compatibility of the proposed use with existing development and  
1287       development anticipated in the foreseeable future.
- 1288       9. The relationship of the proposed use to the comprehensive plan and  
1289       floodplain management program for the area.
- 1290       10. The safety of access by ordinary and emergency vehicles to the property  
1291       in time of flood.
- 1292       11. The expected heights, velocity, duration, rate of rise, and sediment  
1293       transport of the flood waters expected at the site.
- 1294       12. The historic nature of a structure. Variances for repair or rehabilitation of  
1295       historic structures may be granted upon a determination that the  
1296       proposed repair or rehabilitation will not preclude the structure's  
1297       continued designation as a historic structure and the variance is the  
1298       minimum necessary to preserve the historic character and design of the  
1299       structure.
- 1300       13. Such other factors that are relevant to the purposes of this ordinance.

1315     **Sec. 6.3. Application process.**

1316

1317     A. Applications for variances from the requirements of this ordinance shall be  
1318        made to the City Council and filed with the director of planning. The fee for  
1319        such applications shall be six hundred fifty dollars (\$650.00). Except in cases  
1320        in which such fee is waived, the director shall not accept any application not  
1321        accompanied by payment of the required fee. The procedure for the  
1322        advertising, hearing and determination of applications for floodplain variances  
1323        shall be in accordance with the requirements pertaining to applications for  
1324        subdivision variances, as set forth in Section 9.4 of the Subdivision  
1325        Ordinance. In cases in which a variance application is filed by reason of a  
1326        natural disaster that is the subject of a federal declaration of emergency,  
1327        application and associated advertising fees shall be waived and such  
1328        application shall be given expedited processing to the maximum practical  
1329        extent.

1330

1331     B. All applications shall be accompanied by the following:

- 1332
- 1333        1. A separate map, on a 1" = 100' or greater scale, identifying all proposed  
1334        land disturbance, including fill and mitigation areas, and the limits of the  
1335        existing and proposed SFHAs, tidal and non-tidal wetlands, Southern  
1336        Watershed Management Area Buffer, and CBPA Resource Protection  
1337        Area Buffer; and
- 1338
- 1339        2. A preliminary floodplain study addressing the physical and  
1340        environmental characteristics of the floodplain located on adjoining  
1341        properties and in the general area. Such study shall be sufficient to show  
1342        that the variance, if granted, will meet the standards defined in Section  
1343        6.3 and in addition thereto, shall:
- 1344
- 1345            a. Contain supporting data and calculations as appropriate, given the  
1346            preliminary nature of the floodplain study;
- 1347
- 1348            b. Comply with all applicable Public Works Specifications and  
1349            Standards; and
- 1350
- 1351            c. Be certified by a professional engineer, architect, surveyor,  
1352            landscape architect or practitioner of a related field having a valid  
1353            license issued by the Commonwealth of Virginia or who is exempt  
1354            from licensure pursuant to applicable provisions of the Virginia  
1355            Code.

1356

1357     **Sec. 6.4. Requirements.**

1358

1359     No variance shall be granted unless the following requirements are met:

1360

- 1361       A. Such variance will not create or result in:
- 1362           1. Unacceptable or prohibited increases in flood heights;
- 1363           2. Additional threats to public safety;
- 1364           3. Extraordinary public expense;
- 1365           4. Nuisances; or
- 1366           5. Fraud or victimization of the public.
- 1367       B. The granting of such variance will not be detrimental to other property in the vicinity.
- 1368       C. The circumstances giving rise to the variance application are not of a general or recurring nature.
- 1369       D. Such circumstances arise from the physical character of the property or from the use or development of adjacent property and not from the personal situation of the applicant.
- 1370       E. The granting of such variance will not be in conflict with any city ordinance or regulation.
- 1371       F. Variances shall be the minimum necessary to provide relief.
- 1372       G. All variances shall meet all of the requirements for the Chesapeake Bay Preservation Area Ordinance (Appendix F) and the Southern Watersheds Management Ordinance (Appendix G), unless a variance therefrom is granted.

1373       **Sec. 6.5. Notification.**

1374       The Floodplain Administrator shall notify the applicant for a variance in writing  
1375       that the issuance of a variance to construct a structure below the base flood elevation a)  
1376       increases the risks to life and property and b) will result in increased premium rates for  
1377       flood insurance.

1378       **Sec. 6.6. Records.**

1379       A record of all variance actions, including justifications for the granting of  
1380       variances and notifications issued pursuant to this section shall be maintained by the  
1381       Floodplain Administrator. Any variances that are issued shall be noted in the annual or  
1382       biennial report submitted to FEMA.

1383       **Sec. 6.7. Appeals to variance decisions.**

1407  
1408       Appeals of decisions by the City Council under this ordinance shall be subject to  
1409       review by the Circuit Court of the City of Virginia Beach, if filed within thirty (30) days  
1410       from the date of City Council action.

1411  
Adopted by the Council of the City of Virginia Beach, Virginia, on the 26<sup>th</sup> day of November, 2013.