



City of Petersburg

Office of the City Manager
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Petersburg, Virginia 23803

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November 5, 2021

Ms. Wendy Howard-Cooper
Director of Dam Safety and Floodplain Management
Virginia Department of Conservation and Recreation
600 East Main Street, 24th Floor
Richmond, VA 23219

RE: Authorization of City of Petersburg CFPF Studies Application

Dear Ms. Howard-Cooper and Members of the CFPF Review Team:

In addition to the City's application for Capacity Building and Planning, we have also assembled the attached Studies grant application to request Community Flood Preparedness Fund assistance to complete a Comprehensive Citywide Drainage Study and updates to the City's existing Floodplain Ordinance.

With recent flooding issues well documented in the media, and collaboration with DCR to identify funding sources and work toward solutions, the City is making great strides toward our goal of equitable floodplain management. The combination of recent, highly publicized, issues coupled with the funding opportunities available through the CFPF, and new City Management presents the perfect storm, if you will, for opportunity to address the City's long history of problematic and recurrent flooding, as well as, to plan for future flood mitigation efforts.

As the City is a documented low-income geographic area, with designated Qualified Opportunity Zones, and a high social vulnerability index score, the City respectfully requests full funding of this project and for a waiver of match funds. Please accept this letter as my authorization of the request for CFPF assistance to enable the City to make significant progress toward planning for Resilience and equitable management of our floodplains.

Sincerely,

A handwritten signature in black ink, appearing to read "Stuart Turille, Jr.", written in a cursive style.

Stuart Turille, Jr.
City Manager

Appendix A: Application Form for Grant Requests for All Categories

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

Name of Local Government:

City of Petersburg, VA

Category of Grant Being Applied for (check one):

Capacity Building/Planning

Project

Study

NFIP/DCR Community Identification Number (CID) 510112

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

Name of Authorized Official: Stuart Turille, Jr.

Signature of Authorized Official: 

Mailing Address (1): 135 N Union Street

Mailing Address (2): _____

City: Petersburg State: Virginia Zip: 23803

Telephone Number: (804) 733-2300 Cell Phone Number: ()

Email Address: sturille@petersburg-va.org

Contact Person (If different from authorized official): Darryl Walker

Mailing Address (1): 1340 E. Washington Street

Mailing Address (2): _____

City: Petersburg State: VA Zip: 23803

Telephone Number: (804) 733-2357 Cell Phone Number: () _____

Email Address: dwalker@petersburg-va.org

Is the proposal in this application intended to benefit a low-income geographic area as defined in the Part 1 Definitions? Yes X 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): City-wide

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

F 510112

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): X, A, AE

Flood Insurance Rate Map Number(s) (If Applicable): 510112-0002D, 0006D, 0007D, 0026D, 0004D, 0008D, 0009D, 0028D, 0029D, 0020D, 0036D

Total Cost of Project: \$2,238,542

Total Amount Requested \$2,238,542

Appendix C: Scoring Criteria for Studies

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

Applicant Name:	City of Petersburg	
Eligibility Information		
Criterion	Description	Check One
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)?		
Yes	Eligible for consideration	X
No	Not eligible for consideration	
2. Does the local government have an approved resilience plan and has provided a copy or link to the plan with this application?		
Yes	Eligible for consideration under all categories	
No	Eligible for consideration for studies, capacity building, and planning only	X
3. If the applicant is <u>not a town, city, or county</u>, are letters of support from all affected local governments included in this application?		
Yes	Eligible for consideration	N/A
No	Not eligible for consideration	
4. Has this or any portion of this project been included in any application or program previously funded by the Department?		
Yes	Not eligible for consideration	
No	Eligible for consideration	X
5. Has the applicant provided evidence of an ability to provide the required matching funds?		
Yes	Eligible for consideration	
No	Not eligible for consideration	
N/A	Match not required	X

Studies Eligible for Consideration		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Applicant Name:	City of Petersburg		
Scoring Information			
Criterion	Point Value	Points Awarded	
6. Eligible Studies (Select all that apply)			
Revising 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.	30	30	
Creating tools or applications to identify, aggregate, or display information on flood risk or creating a crowd-sourced mapping platform that gathers data points about real-time flooding. This could include a locally or regionally based web-based mapping product that allows local residents to better understand their flood risk.	15		
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).	35		
Studies and Data Collection of Statewide and Regional Significance. Funding of studies of statewide and regional significance and proposals will be considered for the following types of studies:			
<input checked="" type="checkbox"/> Updating precipitation data and IDF information (rain intensity, duration, frequency estimates) including such data at a sub-state or regional scale on a periodic basis.	45	45	
<input type="checkbox"/> Regional relative sea level rise projections for use in determining future impacts.	45		
<input type="checkbox"/> Vulnerability analysis either statewide or regionally to state transportation, water supply, water treatment, impounding structures, or other significant and vital infrastructure from flooding.	45		
<input type="checkbox"/> Flash flood studies and modeling in riverine regions of the state.	45		
<input type="checkbox"/> Statewide or regional stream gauge monitoring to include expansion of existing gauge networks.	45		

<input type="checkbox"/> New or updated delineations of areas of recurrent flooding, stormwater flooding, and storm surge vulnerability in coastal areas that include projections for future conditions based on sea level rise, more intense rainfall events, or other relevant flood risk factors.	45	
<input checked="" type="checkbox"/> Regional flood studies in riverine communities that may include watershed-scale evaluation, updated estimates of rainfall intensity, or other information.	50	50
<input type="checkbox"/> Regional hydrologic and hydraulic studies of floodplains.	45	
<input checked="" type="checkbox"/> Studies of potential land use strategies that could be implemented by a local government to reduce or mitigate damage from coastal or riverine flooding.	40	40
<input type="checkbox"/> Other proposals that will significantly improve protection from flooding on a statewide or regional basis	35	
7. Is the study area socially vulnerable? (Based on ADAPT VA's Social Vulnerability Index Score.)		
Very High Social Vulnerability (More than 1.5)	15	15
High Social Vulnerability (1.0 to 1.5)	12	
Moderate Social Vulnerability (0.0 to 1.0)	8	
Low Social Vulnerability (-1.0 to 0.0)	0	
Very Low Social Vulnerability (Less than -1.0)	0	
8. Is the proposed study part of an effort to join or remedy the community's probation or suspension from the NFIP?		
Yes	10	
No	0	0
9. Is the proposed study in a low-income geographic area as defined in this manual?		
Yes	10	10
No	0	
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?		
Yes	5	
No	0	0
Total Points		190

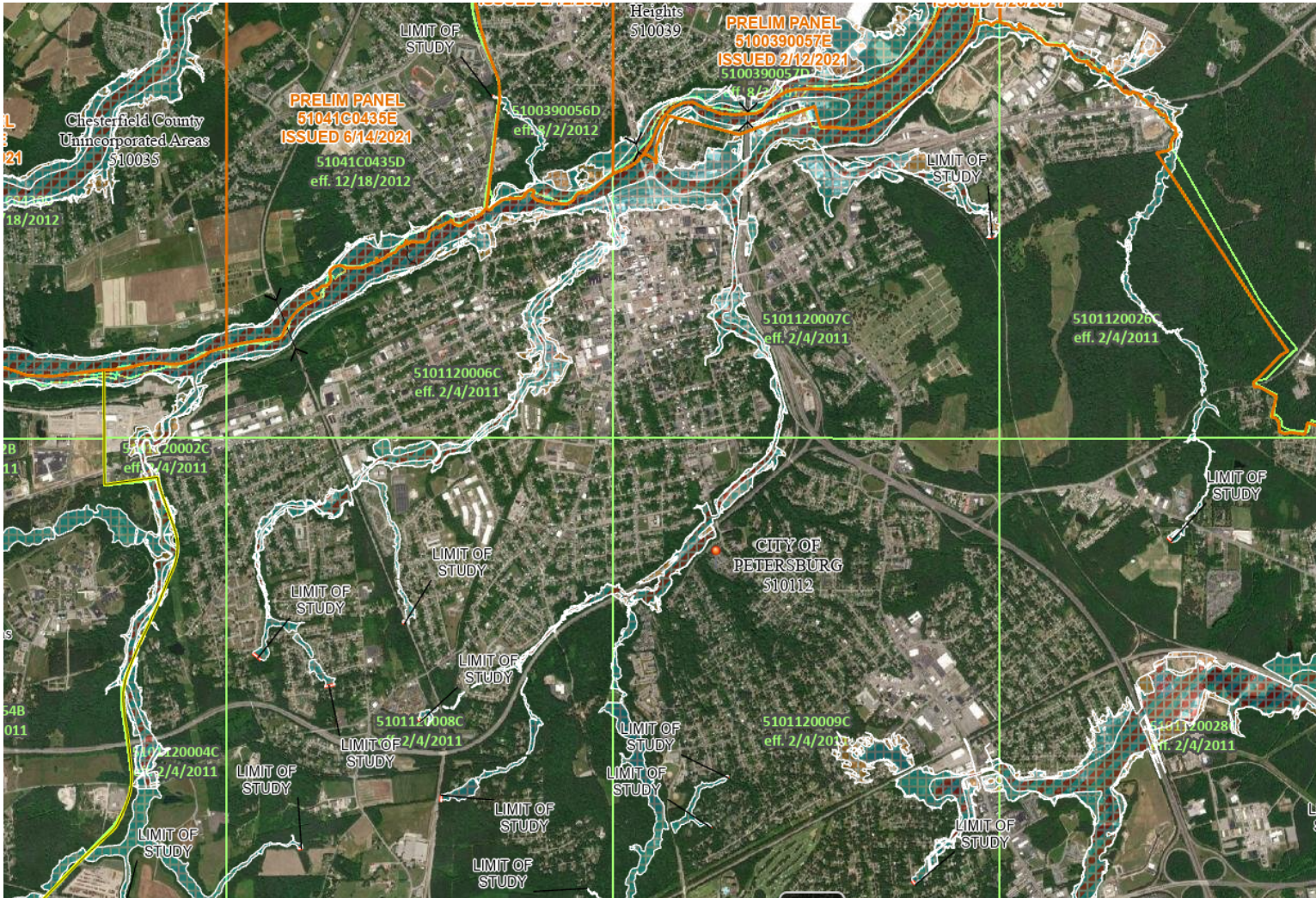
Appendix D: Checklist All Categories

Virginia Department of Conservation and Recreation

Community Flood Preparedness Fund Grant Program

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 <input type="checkbox"/> N/A
FIRMette of the project area(s) (Projects/Studies)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Historic flood damage data and/or images (Projects/Studies)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
A link to or a copy of the current floodplain ordinance	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
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 <input checked="" type="checkbox"/> N/A
A link to or a copy of the current hazard mitigation plan	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
A link to or a copy of the current comprehensive plan	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Social vulnerability index score(s) for the project area from ADAPT VA's Virginia Vulnerability Viewer	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
If applicant is not a town, city, or county, letters of support from affected communities	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Completed Scoring Criteria Sheet in Appendix B, C, or D	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
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 <input type="checkbox"/> N/A
Signed pledge agreement from each contributing organization	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

COMMUNITY FLOOD PREPAREDNESS FUND STUDIES GRANT APPLICATION



CITY OF PETERSBURG, VA

COMMUNITY ID #510112

SUBMITTED NOVEMBER 5, 2021



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Appendices

- A. Detailed Map of the Project Area (Qualified Opportunity Zone Map)
- B. Request for Proposal No. 1381 Citywide Comprehensive Drainage Study
- C. City’s current timeline for revisions to FEMA/NFIP FIRMs and Task Order Proposal for Professional Services to Update the City’s Floodplain Ordinance
- D. FIRMette of the Project Area (Since the project area for the proposed Studies is the entire City, the preliminary Flood Insurance Rate Maps are provided)
- E. Historic Flood Damage Data and/or Images (Recent new segment excerpts)
- F. Social Vulnerability Index Score (map attached)
- G. Breakdown of Potential Costs Associated with the City’s RFP for Comprehensive Citywide Drainage Study

CFPF Grant Application: Studies

1.0. Scope of Work Narrative

The purpose of this application is to request funds to implement flood prevention and protection projects and studies in areas that are subject to recurrent flooding as confirmed by a local certified floodplain manager. The City is requesting funding from the Community Flood Preparedness Fund to initiate the studies described herein, concurrently with the Capacity Building and Planning application, also submitted this cycle. While the Capacity Building and Planning application details the City's intents to hire a Floodplain Administrator/CFM and develop both a Resilience Plan and a Community Outreach Plan, all work funded by this application and subsequent projects will be to mitigate future flood damage and to assist the City which is subject to recurrent or repetitive flooding due to inadequate and antiquated storm sewer systems. The City is a low-income geographic area, as defined in the CFPF Grant Manual, as an area where the median household income (\$38,679) is significantly less than 80% of the local median household income (\$74,222 in VA), according to the US Census Data in 2019¹. Further, several areas in the City are designated as Qualified Opportunity Zones, as presented in the attached map (**Appendix A**). Priority, once the City's floodplain program is better established, will be on community-scale hazard mitigation and nature-based solutions focused in the Opportunity Zones and areas of social vulnerability, when feasible.

The following are the objectives of the scope of work for this project, as outlined in the CFPF Grant Manual for Studies:

1. *The specific type of study proposed including whether the study is new or updates a prior study.*
The City is proposing a new City-wide Comprehensive Drainage Study and to update the existing Floodplain Management Ordinance, as described below and in the Appendices.
2. *The relationship of the study to the local government's needs for flood prevention and protection, equity, community improvement, identification of nature-based solutions or other priorities contained in this manual.*

The City has been exploring means to fund a City-wide Comprehensive Drainage Study for many years; however, the task is considerable. This project will enable the City to inventory the antiquated storm sewer system, model the existing conditions of both the closed and open storm sewer systems and surface waters to better identify the source of problem areas observed on the ground, and identify nature-based solutions and other priority projects to alleviate burdensome, repetitive flooding problems throughout the City. The outcome of the Drainage Study will be projects that can be implemented to provide flood prevention and protection, as well as equitable community improvement. Additionally, the City is undergoing updates to the Flood Insurance Rate Maps and will need to update the Floodplain Ordinance. The City plans to use this opportunity to develop a Stakeholder Advisory Committee and explore policies to strengthen the ordinance making progress toward reaching the City's long-term goal of equitable floodplain management.

¹ <https://www.census.gov/quickfacts/fact/table/petersburgcityvirginia,VA,US/PST045219>

3. *The qualifications of the individuals or organizations charged with conducting the study or the elements of any request for proposal that define those qualifications.*

The City has received input from a current on-call consultant regarding anticipated budget and used that information to develop a Request for Proposals (RFP) currently out for bid and due November 19, 2021. The exact budget will be negotiated per Virginia Procurement law once the successful candidate has been selected.

4. *The expected use of the study results in the context of the local resilience plan or, in the case of regional plans, how the study improves any regional approach.*

The outcomes of both the City-wide Comprehensive Drainage Study and the updated Floodplain Ordinance will be directly relevant and incorporated into the Resilience Plan. Since the City is planning to develop a Resilience Plan concurrent with development of the Drainage Study, the two projects will track closely and be inter-related. It is anticipated that most of the projects developed and prioritized during the Drainage Study will be incorporated into the Resilience Plan directly.

5. *If applicable, how the study may improve Virginia's flood protection and prevention abilities in a statewide context.*

From a statewide context, the studies funded by this project will be directly applicable statewide from a transferability context. Further, the City of Petersburg is located along the Appomattox River and two major interstates intersect within the City limits (I-95 and I-85). Situated on the fall line between the Piedmont and Tidewater Regions, one of the most transferable results might be the evaluation of rainfall data and hydrographs, a specific component of the City-wide Comprehensive Drainage Study.

1.1. Citywide Comprehensive Drainage Study

The City has developed a Request for Proposals (RFP) to establish a contract through competitive negotiation with qualified offerors to furnish a Citywide Comprehensive Drainage Study (**Appendix B**). The City of Petersburg, like many localities, often experiences chronic flooding in many areas during typical runoff-producing rain events, even with a pro-active effort by City work crews to maintain stormwater conveyance systems prior to those rain events. A Citywide Water Quality Master Plan was developed in 2014 and one Neighborhood Drainage Study was completed in 2019, both with grant funding assistance (Exhibits A and B, can be provided upon reference). However, because of climate change's prevailing impacts on an outdated and under-sized stormwater conveyance system, Petersburg needs a Citywide comprehensive approach to analyzing the stormwater conveyance systems and drainage/flooding issues to implement more permanent solutions that will resolve these issues within the environmental guidelines of all local/state/federal requirements.

This task is relevant to the following CFPF Study priorities, as listed in the Grant Manual:

- Hydraulic or hydrologic studies of a floodplain with historic and predicted floods, the assessment of flood risk, and the development of strategies to prevent or mitigate damage from coastal or riverine flooding.
- Regional flood studies in riverine communities that may include watershed-scale evaluation, updated estimates of rainfall intensity, or other information.
- Regional hydrologic and hydraulic studies of floodplains.
- Studies of potential land use strategies that could be implemented by a local government to reduce or mitigate damage from coastal or riverine flooding.
- Other proposals that will significantly improve protection from flooding on a statewide or regional basis.

1.2. Floodplain Ordinance Updates

FEMA is proposing updates to the Flood Insurance Rate Map (FIRM) for the City of Petersburg, VA. The updated maps were produced in coordination with local, state and FEMA officials. Significant community review of the maps has already taken place, but before the maps become final, community partners can identify any corrections or questions about the information provided and submit appeals or comments. The City is currently in the 90-day appeal period, where residents, business owners and other community partners are encouraged to review the updated maps to learn about local flood risks and potential future flood insurance requirements. The current target effective date for the new flood maps is Spring 2023.

The City will use CFPF funding to update the existing floodplain ordinance to reflect the map changes. Further, the City will use this opportunity to revise the floodplain ordinance to maintain compliance with the NFIP and to potentially incorporate higher standards that may reduce the risk of flood damage. This process will include the creation of an Advisory Committee to inform the process and weigh such issues as political and public acceptance, equity to property owners, consistency with the Comprehensive Plan, and consideration of participation in FEMA's Community Rating System (CRS) program. The project will also include establishing processes for implementing the ordinance, including but not limited to, permitting, record retention, violations, and variance procedures.

The City will utilize a Consultant to facilitate updates to the existing Floodplain Ordinance. Ideally, this would occur after the City has filled the Floodplain Administrator role and prior to the effective date of the new flood maps. More detail on the proposed task order is provided in **Appendix C**, along with the City's current timeline for revisions to FEMA/NFIP FIRMs.

1.3 Supporting Documentation

- Detailed Map of the Project Area (Qualified Opportunity Zone Map, **Appendix A**)
- FIRMette of the Project Area (Since the project area for the proposed Studies is the entire City, the preliminary Flood Insurance Rate Maps are provided in **Appendix D**)
- Historic Flood Damage Data and/or Images (recent news segments, **Appendix E**)
- Current floodplain Ordinance:
https://library.municode.com/va/petersburg/codes/code_of_ordinances?nodeId=PTIICO_CH58FL
- Current Hazard Mitigation Plan: https://www.craterpdc.org/environment/hazard_plan_2017.htm
- Current Comprehensive Plan: <http://www.petersburgva.gov/378/Comprehensive-Plan>
- Social Vulnerability Index Score (Refer to map in **Appendix F**): The average social vulnerability index score is 1.9 across all census tracts in the City of Petersburg, which range from moderate to very high, as presented in the following table:

Table 1. Social Vulnerability Index Score by Census Tract.

Census Tract	Index Classification	Index Score
8101	Very High	3.0
8103	Very High	1.8
8104	Very High	2.4
8105	Very High	2.1
8106	Very High	3.3
8107	Very High	3.2
8109	High	1.5
8110	Moderate	0.5
8111	Moderate	0.9
8112	Moderate	0.8
8113	High	1.4
Average		1.9

2.0. Budget Narrative

The following is the budget narrative requested per the Grant Manual:

- Estimated total project cost: \$2,239,542
 - Comprehensive City-wide Drainage Plan: \$2,210,000, please refer to **Appendix G** for a breakdown of potential costs provided by current on-call consultant
 - Floodplain Ordinance Update: \$29,542, please refer to **Appendix C** for scope of services provided by Consultant.
- Amount of funds requested from the Fund: \$2,239,542
 All funds will be direct consultant costs per the RFP and the Professional Services task order presented by Timmons Group. Per the grant manual, page 24, as Petersburg is a local government designated as a low-income geographic area, 100 percent of the estimated total project costs are included.
- Amount of cash funds available: The City respectfully requests full funding of this project and for a waiver of match funds, per the letter signed by the City Manager.
- Please refer to the cover letter for the City’s authorization to request for funding.