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November 28, 2022

Virginia Department of Conservation and Recreation
Attention: Virginia Community Flood Preparedness Fund
Division of Dam Safety and Floodplain Management
600 East Main Street, 24th Floor
Richmond, Virginia 23219

Dear Mr. Matthew Wells,

Enclosed in this packet is one application for flood protection and prevention projects that involve implementation of nature-based shoreline solutions on a public property.

This application is in the design stage. Design projects are requesting funds for professional designs and development of Joint Permit Applications which are needed before the property owner can move to construction of a nature-based flood protection solution.

Below is short summary of proposed projects in Gloucester County:

- A. Captain Sinclair's Recreation Area - Comprehensive Flood Mitigation for Improved Public Safety, Flood Management and Related Co-Benefits**
(CID): 510071 Total Cost (from individual project application): \$180,993
This proposal focuses on wholeness of flood management for a compound of publicly owned land (9430 Whittaker Drive) and buildings located within feet of the Severn River in Gloucester, Virginia. This proximity places low lying publicly owned, multipurpose buildings, parking, wells, septic and the public unpaved dirt roads owned by Gloucester County at significant flood (tidal and stormwater) risk. The public dirt road (~6,000 ft) is a statutory dedication meaning the road is not under VDOT ownership and Gloucester has no legal responsibility over the road except by statutory deed ownership. The public dirt road is orphaned and suffers from flooding of multiple types. Multiple applications for FEMA funding under the Flood Mitigation Assistance (FMA) and Pre-Disaster Mitigation (PDM) programs have been submitted to date to mitigate flooding impacts on the public buildings at the property, but the public buildings do not score with enough need and the applications have proven unsuccessful. The public waterfront site remains at flood risk with no option for flood mitigation until recent action by the State Water Control Board authorizing flood management inside the Bay Act RPA area by using nature-based mitigation designs. This project will utilize and incorporate sustainable

planning, design, environmental management, and engineering practices that weave natural features together and allow for floodwater inundation and stormwater flow to reduce the exposure to public facilities while promoting adaptation and resilience.

The total project costs for Gloucester County Round 3 application on public property is **\$180,993** and MPPDC staff are requesting **\$144,795** from DCR to support this work.

We consider helping both public and private entities manage flooding a critical and essential function of government.

The application has been modified to include additional information as requested by DCR staff for the Supplemental Round 3 of funding. The primary modifications include addressing adverse impacts to adjacent properties, review of the project by a Certified Floodplain Manager, and additional information for how the project will be maintained over the lifespan of the project, and additional language emphasizing the flood protection benefits of the project.

Thank you for considering the enclosed proposed projects. If you have any questions about the enclosed, please contact me by email at llawrence@mppdc.com or by phone at 804-758-2311.

Sincerely,



Lewis Lawrence
Executive Director

**Virginia Department of Conservation and Recreation Virginia
Community Flood Preparedness Fund
Flood Prevention and Protection Project**

**Captain Sinclair's Recreation Area - Comprehensive Flood Mitigation
for Improved Public Safety, Flood Management and Related Co-
Benefits**

- 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 Conserve Virginia 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.

Location of Project (Include Maps): Gloucester County

NFIP Community Identification Number (CID#) (See appendix F): 510071

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):** AE Zone

Flood Insurance Rate Map Number(s) (If Applicable): 51073C0213E

Total Cost of Project: \$180,993

Total Amount Requested: \$144,795

INTRODUCTION –

This proposal focuses on wholeness of flood management for a compound of publicly owned land (9430 Whittaker Drive) and buildings located within feet of the Severn River in Gloucester, Virginia. This proximity places low lying publicly owned, multipurpose buildings, parking, wells, septic and the public unpaved dirt roads owned by Gloucester County at significant flood (tidal and stormwater) risk. The public dirt road (~6,000 ft) is a statutory dedication meaning the road is not under VDOT ownership and Gloucester has no legal responsibility over the road except by statutory deed ownership. The public dirt road is orphaned and suffers from flooding of multiple types. Multiple applications for FEMA funding under the Flood Mitigation Assistance (FMA) and Pre-Disaster Mitigation (PDM) programs have been submitted to date to mitigate flooding impacts on the public buildings at the property, but the public buildings do not score with enough need and the applications have proven unsuccessful. The public waterfront site remains at flood risk with no option for flood mitigation until recent action by the State Water Control Board authorizing flood management inside the Bay Act RPA area by using nature-based mitigation designs. This project will utilize and incorporate sustainable planning, design, environmental management, and engineering practices that weave natural features together and allow for floodwater inundation and stormwater flow to reduce the exposure to public facilities while promoting adaptation and resilience.

FEMA, the Virginia General Assembly, DCR’s Floodplain Management Program, and the Middle Peninsula Planning District Commission (MPPDC) all recognize that natural hazards pose a serious risk to all levels of government including states, localities, tribes and territories and the citizens which reside and work there. These hazards include flooding, drought, hurricanes, landslides, wildfires and more. Because of climate change, many natural hazards are expected to become more frequent and more severe. Reducing the impacts these hazards have on lives, properties and the economy is a top priority for the Middle Peninsula PDC and the Middle Peninsula Fight the Flood (FTF) program (www.FightTheFloodVA.com).

Specifically, this project proposes to:

- Facilitate public access to this point of interest with road drainage improvements using stormwater management techniques such as crown and gravel for a 6,000 feet segment of public dirt road which has no flood management. The primary purpose of a road drainage system is to remove storm and flood water from the road and its surroundings. The road drainage system consists of two parts: dewatering and drainage. “Dewatering” means the removal of rainwater from the surface of the road. “Drainage” on the other hand covers all the different infrastructural elements to keep the road structure dry.
- Design and build ~1,200 curve linear feet of nature-based flood berms around the Resource Protection Area as a landscape flood modification to mitigate sunny day flooding.

This project will be a partnership between the Middle Peninsula Public Access Authority, MPPDC and Gloucester County (see Community Support Letter, **Attachment 1**).

- A link or copy to the approved MPPDC resilience plan: https://fightthefloodva.com/wp-content/uploads/2021/08/Approved-8_19_DCR-packet_letterandplan.pdf
- Middle Peninsula All Hazards Mitigation Plan (2016): https://www.mppdc.com/articles/reports/AHMP_2016_FEM_A_Approved_RED.pdf
- Gloucester County Comprehensive Plan: <https://www.gloucesterva.info/DocumentCenter/View/5777/2016-Gloucester-County-Comprehensive-Plan>

This project is consistent with multiple objectives and strategies outlined within the Regional All-Hazards Mitigation Plan. Relevant strategies include the following:

- Objective 1.1: Provide protection for future development to the greatest extent possible.
 - Strategy 1.1.1: Reduce or eliminate flood damage to residential/business structures that are highly vulnerable for continual flood damage.
 - Strategy 1.1.3: Protect public buildings and public infrastructure from flood waters resulting from 100-year flood storm events.
 - Strategy 1.3.1: Mitigation projects that will result in protection of public or private property from natural hazards.

PROJECT LOCATION INFORMATION –

Project implementation would take place along the Severn River in an area of Gloucester County, Virginia known as Naxera (**Figures 1 and 2**).

FIGURE 1: COUNTY MAP OF PROJECT LOCATION.

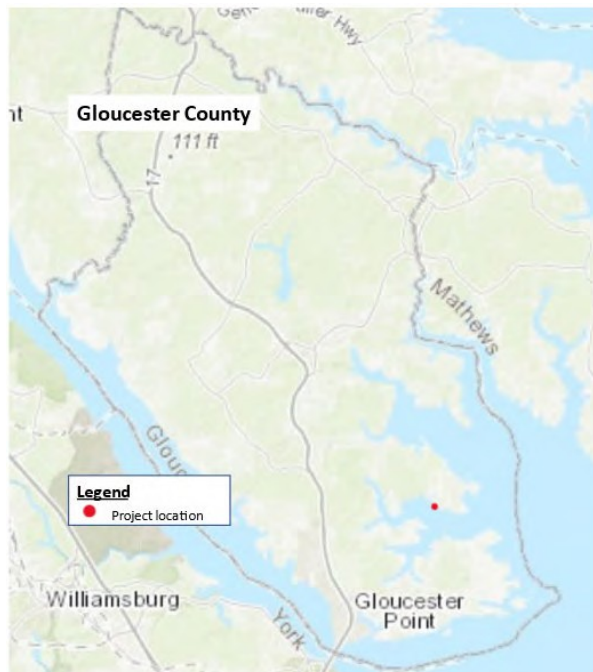
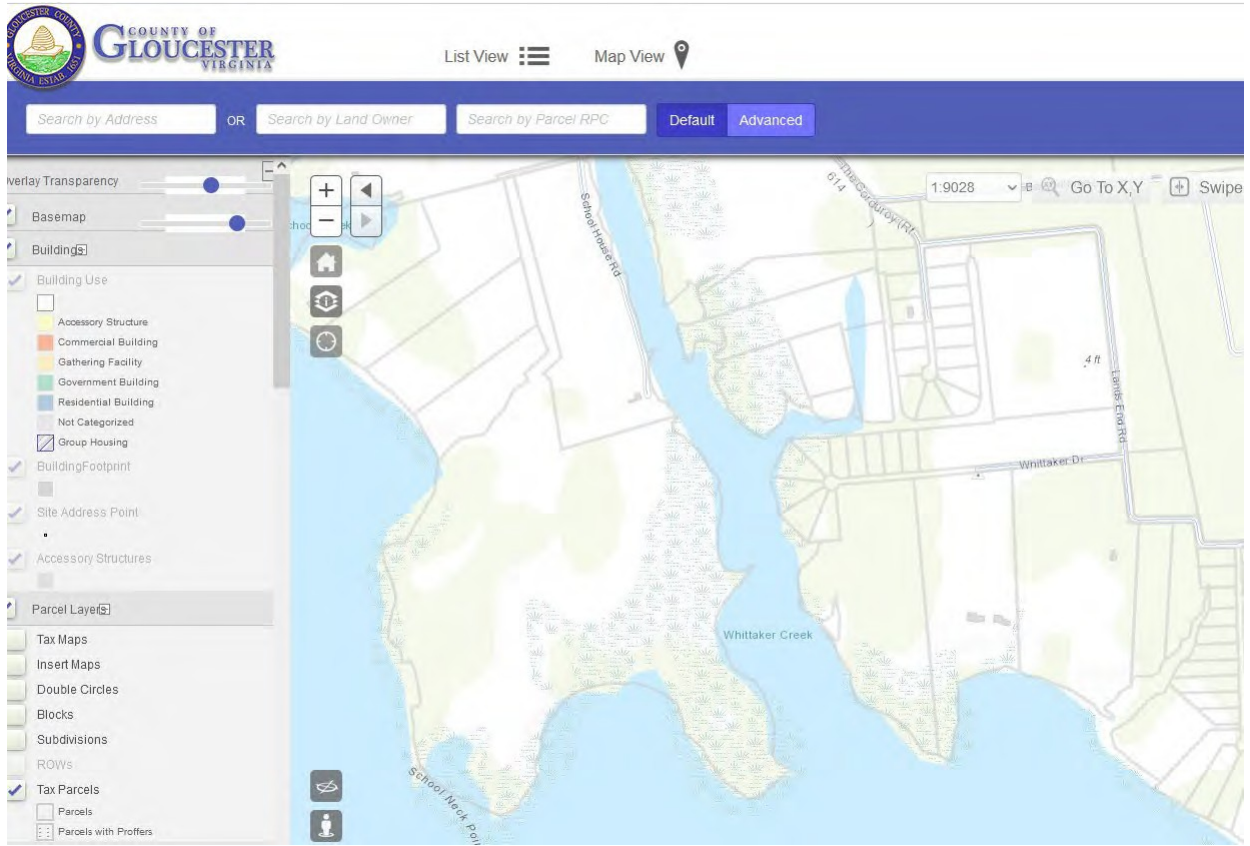
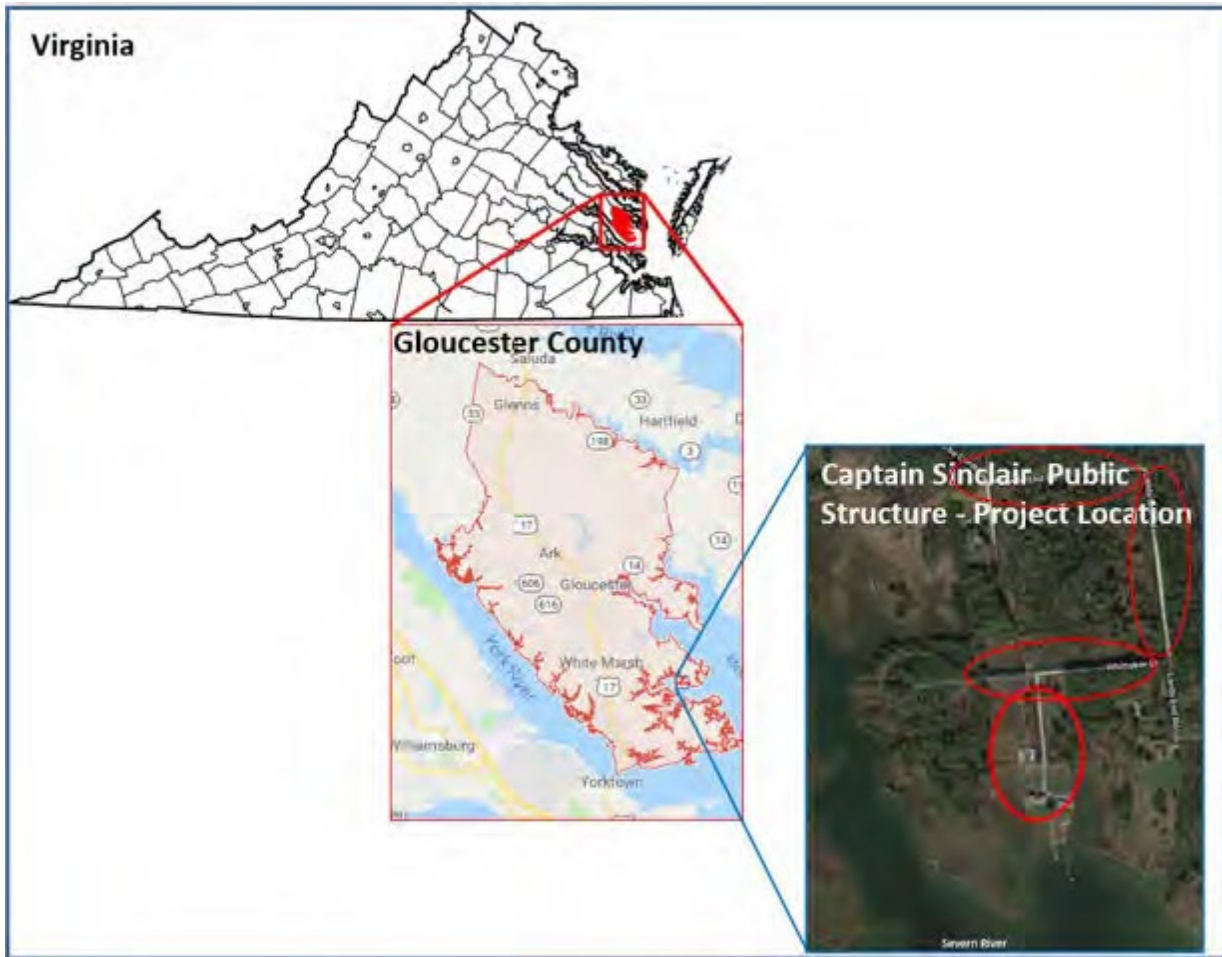


FIGURE 2: PARCEL MAP OF PROJECT LOCATION.





Gloucester County is located at the southern tip of Virginia’s Middle Peninsula and is an agriculture, forestry and water-based economy. The county is comprised of 218 square miles of land 296 miles of shorelines. Based on 2020 Census Data, Gloucester County’s population totals 38,711, making it the largest of six Middle Peninsula localities. According to DCR guidelines, a portion of the county is considered a low-income geographic area. In **Figure 3**, the green areas depict qualified low-income “community” areas meeting the 80% Household limits

FIGURE 3: MAP OF MIDDLE PENINSULAS LOW INCOME GEOGRAPHIC AREAS QUALIFYING UNDER DCR GUIDELINES.

Each county had its ‘Eligible Household income’ calculated by multiplying the County’s median Household income by .8. This resulted in the following numbers:

	Essex	Middlesex	Mathews	King William	King & Queen	Gloucester
Median household income (in 2019 dollars), 2015-2019	\$51,954	\$57,438	\$64,237	\$66,987	\$63,982	\$70,537
Eligible Household income	\$41,563	\$45,950	\$51,389	\$53,590	\$51,186	\$56,430

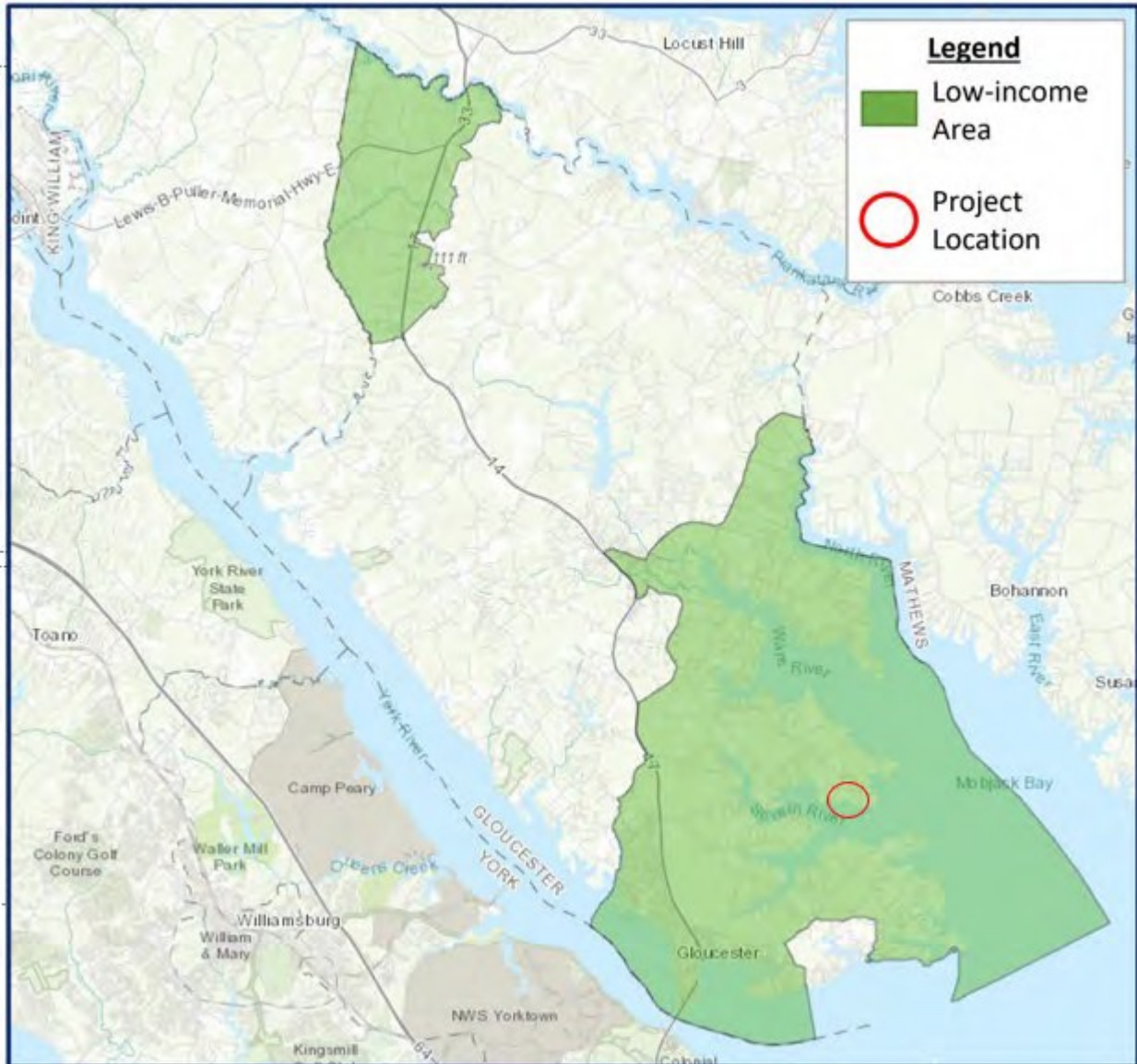
Note: Per 7/15/2021 DCR Webinar, comparing state Household income to locality is permissible to determine if the entire locality is LMI.

The following is an overview of the Regional Eligibility map. Green areas are qualified low-income “community” areas meeting the 80% Household limits based on US census household income data or are qualified Opportunity Zones.



Please see **Figure 4** for a detailed map of the project location and the green low-income area overlay; this figure demonstrates that the project location is within the low-income area.

FIGURE 4: MAP OF THE PROJECT LOCATION WITHIN THE GREEN LOW-INCOME AREA.



According to [ADAPTV](#)'s Social Vulnerability Index Score, this project location has a low social vulnerability score (**Figure 5**)

FIGURE 5: VIRGINIA'S SOCIAL VULNERABILITY INDEX SCORE MAP FOR THE PROJECT LOCATION.

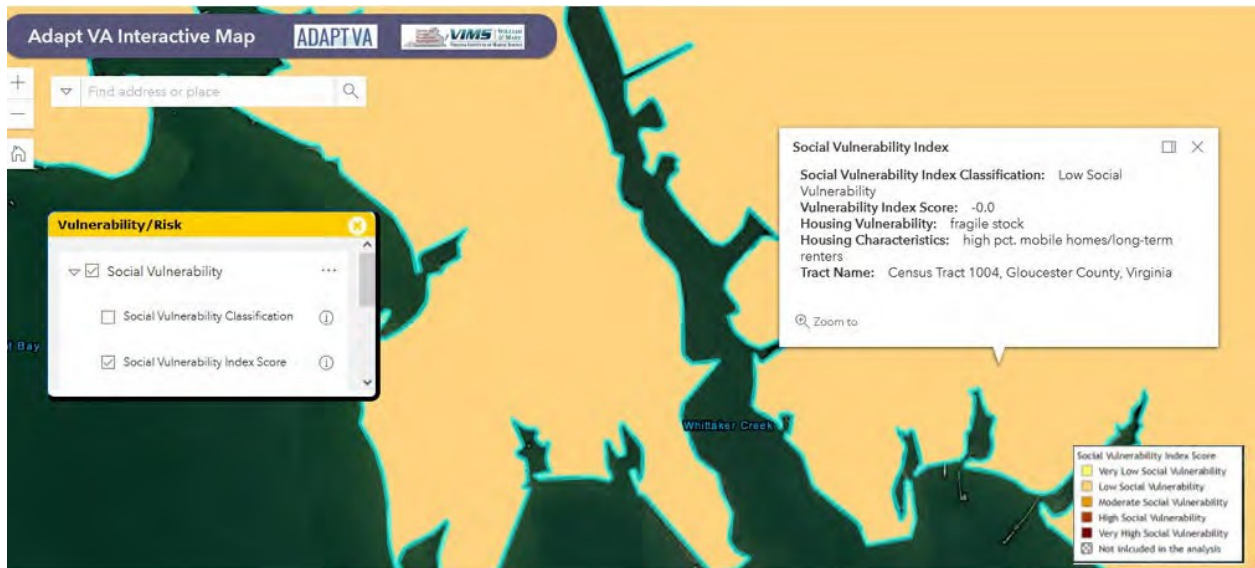
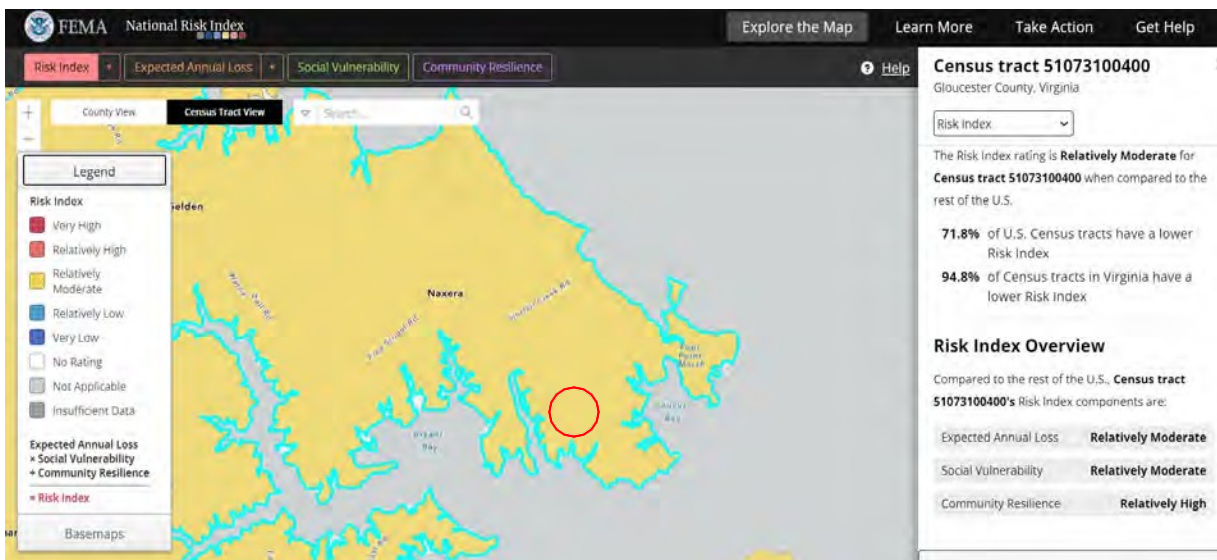


FIGURE 5: FEMA NATIONAL RISK INDEX OF CENSUS TRACT WHERE THE PROJECT IS LOCATED.



FEMA designates the site as a relatively moderate risk

Specifically, the project is located at 9430 Whittaker Drive Gloucester, VA 23061 (37.325513, -76.427268) – a site located within the AE FEMA Flood Zone (Figure 6). Please see Attachment 2 for the FIRMettes (last mapped 11/19/2014).

FIGURE 6: MAP OF FEMA FLOOD ZONES.



Due to the project site's proximity to the water and relatively low elevation (**Figure 7**), the site has an extensive history of experiencing flooding events that have resulted in significant impacts to infrastructure and the environment. For example, the project location has long been, and continues to be, impacted by tropical, sub-tropical, and Nor'easter events. **Attachment 3** lists 87 storm events dating to 1851 in the project location. According to NOAA's Coastal Flood Mapper, this project location is at the highest risk of coastal flooding (**Figure 8**). Collectively, these reoccurring and storm-related events have contributed to shoreline loss at site. **Figure 9** depicts the shoreline in 1937 and the 2017, based on historical shoreline data from the Virginia Institute of Marine Science Shoreline Studies Program; illustrated are an approximate loss of 90,000 square feet of shoreline at the site location over an eighty-year period.

FIGURE 7: SITE TOPOGRAPHY (VCU CURA, 2015)

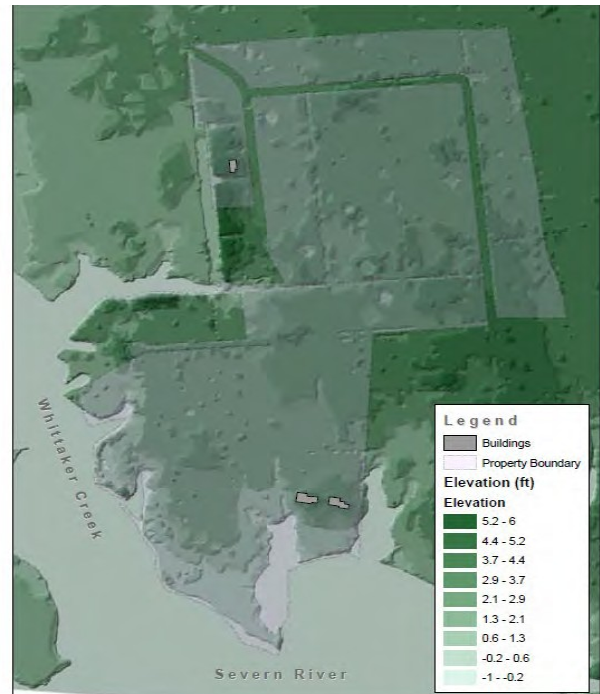
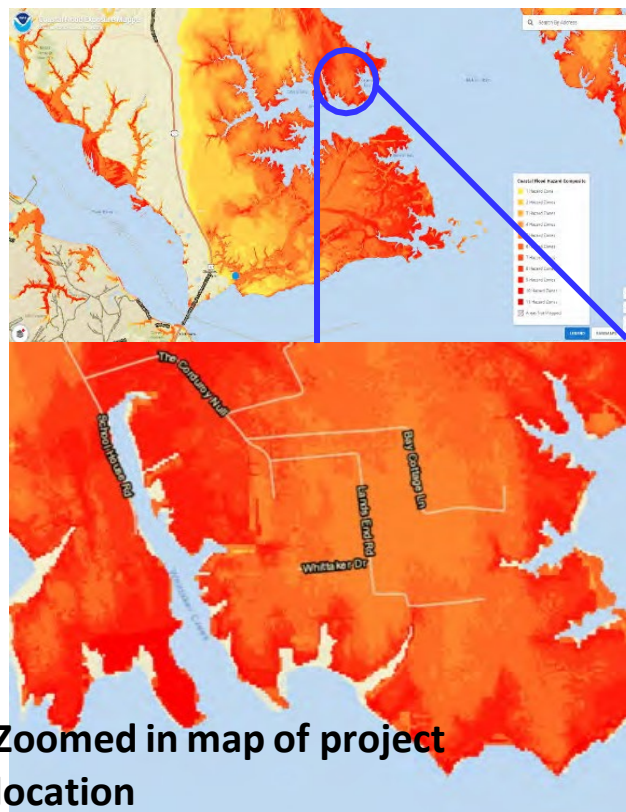


FIGURE 8. MAP OF PROJECT LOCATION AND RISK OF COASTAL FLOODING (NOAA, 2021).



Zoomed in map of project location

FIGURE 9: PROJECT LOCATION AND MAP OF ASSOCIATED SHORELINE CHANGE BETWEEN 1937 AND 2017.



For more information about this project area please see:

- **The Middle Peninsula All Hazards Mitigation Plan** - identifying all hazards that impact the region
 - https://www.mppdc.com/articles/reports/AHMP_2016_FEMA_Approved_RED.pdf
- **Gloucester County Building and Engineering Department**
 - NFIP administrators
 - Link to current floodplain ordinance:
http://gloucestercounty-va.elaws.us/code/coor_ch8.5

BACKGROUND -

The Middle Peninsula Planning District Commission (MPPDC) is a political subdivision of the Commonwealth of Virginia formed under VA Code §15.2-4203 to provide solutions to problems of greater than local significance and cost-savings through economies of scale. The MPPDC serves nine localities of the Middle Peninsula including Essex, Gloucester, King & Queen, King William, Mathews, and Middlesex counties, as well as the Towns of Tappahannock, West Point, and Urbanna.

MPPDC is staffed using multiple methods including co-operative procurement, hourly, and burdened FTE staff. MPPDC staff consists of an Executive Director, Deputy Director, Chief Financial Officer, Senior Project Planner, and clerical support staff; a Director of Planning, General Planner, Certified Flood Plain Manager, Transportation Planner, and Emergency Planner are co-operative procured; Housing, Community Development Planner and Public Relations staff are hourly.

The planning district staffing team assist localities with long-term and/or regional planning efforts. The MPPDC Executive Director, Deputy Director, and Chief Financial Officer have decades of experience in managing and administering project grants at multiple scales - from grants in excess of \$1,000,000 to small grants. MPPDC is an entrepreneurial-based government agency with an annual operating budget ranging from \$750,000 to more than \$1,000,000. Annually, the MPPDC manages 25-30 concurrent federal and state grants utilizing industry standard Grants Management Software and other software (e.g. GIS, Microsoft Office) as required and/or necessitated by different grants. The MPPDC operates service centers in the topical areas of: coastal zone management, emergency planning, housing, transportation planning and transportation demand management, economic development, social assistance, small business development, general planning and technical assistance, as well as other areas determined by the Commission. MPPDC has more than 25 years of experience managing multiple revolving loan programs. In the 25 years that the Executive Director has been employed by the Commission, no audit findings have occurred.

Facilitating the transition and enhancement of private lands in the interest of public access, is accomplished in the Middle Peninsula through the **Middle Peninsula Chesapeake Bay Public Access Authority (MPCBPAA)**. Created in 2002 by the Virginia General Assembly as another political subdivision of the Commonwealth, MPCBPAA works to increase public water access to the waterways of the Middle Peninsula through access protection and creation in its nine member jurisdictions: the counties of Essex, Gloucester, King and Queen, King William, Mathews, and Middlesex, and the towns of Tappahannock, Urbanna, and West Point. The MPCBPAA's roles are to:

- identify land to be secured as a public access site;
- research the ownership of those lands;
- determine appropriate uses, develop mechanisms for transferring title to the MPPAA;
- develop acquisition and site management plans for public usage;
- determine which holdings should be sold; and

- perform other duties to fulfill their mission.

Presently, MPCBPAA's public facing operations are manifested through the [Virginia's Coastal Wilds](#) website.

The project site is the **Captain Sinclair's Recreational Area**, with approximately one mile of waterfront on the Severn River in Gloucester County, Virginia, was a gift to MPCBPAA in 2013 from a private landowner. The property, consisting of approximately 100 acres donated for public use, included a large main house (more than 7,000 sq. ft.), a pool house, a smaller ranch house (2,000 sq. ft.), numerous outbuildings (including a two-bay garage with workshop, an open-bay barn for horses or farm vehicles, and an enclosed barn), a dock, and more than one mile of waterfront; it is located adjacent to Land's End, the historic home of Revolutionary War hero Captain John Sinclair. A figure of importance to Gloucester County, Captain Sinclair rose to fame for being charged to carry dispatches to de Barras, the commander of the French fleet stationed in Newport, Rhode Island. This mission allowed the rendezvous of the colonial and allied navies near Yorktown which resulted in the defeat of Lord Cornwallis.

Following a request and subsequent use of the property by the Gloucester Rowing Association in the Spring of 2013, the need to improve boat launch access at the site became apparent; access at the time was inconvenient and unsafe, as well as potentially damaging to the coastal landscape and marsh. **The MPCBPAA thus partnered with the Middle Peninsula Planning District Commission (MPPDC) to develop an overall use plan for the property compatible with the existing natural coastal landscape.**

Despite the improvements, safe and well drained public access road to this site and its amenities remains a priority issue.

FIGURE 10: PHOTOS OF PUBLIC ACCESS ROAD LEADING TO CAPTAIN SINCLAIR'S.



The public unpaved gravel road owned by Gloucester County ranges from two to four feet above sea level and is the only land-based access route to the site. Its low elevation makes the road susceptible to stormwater flooding and coastal flooding from high tides as well as category one and higher storm surges; flooding here makes the Sinclair site inaccessible and unsafe for unsuspecting visitors. During the rainy season, as illustrated in the photos, precipitation makes the road virtually impassable due to poor design and lack of a road crown. US Postal Mail is suspended for weeks or months at a time.

In December 2008, VDOT assessed a road-raising project in Gloucester County to mitigate flooding. A half mile segment of the road was to be raised ten inches; the cost of this project would have been \$320,000 for materials and labor alone, a figure nearly 20% of Gloucester’s road budget. While dimensions and location would be different for this project the cost would be a significant portion of the VDOT secondary Gloucester road budget if VDOT could work on the Captain Sinclair’s road, which they cannot by law; therefore the “orphaned” status of this road has remained. **Figure 10** illustrates present road conditions.

Access x Flooding

Without the flood protection measures proposed, the land, habitat and public infrastructure will be compromised, resulting in degradation of the environment and loss of public assets. Flooding propensity remains the biggest weakness of the Sinclair site – characterized as such in the CURA study. The area around the Sinclair site is prone to frequent flooding and lies within the floodplain of the Severn River. Any category of storm surge will hit the Sinclair site, flooding the property and soil and washing out the road, precluding any access. In their 2014 community outreach meetings, the CURA team discovered that while Gloucester County residents value the natural beauty, solitude, and waterfront access of the Captain Sinclair site, they recognize that the site faces the challenge of limited accessibility due to flooding.

Moreover, rising sea levels will have a negative impact on the property, inching the water closer to the public assets including houses, barns, roads, parking, wells, septic systems etc., increasing the likelihood of significant flooding. With ~1,200 linear feet of the Resource Protection Area running curve linear around the public assets, sunny day flooding further lessens the public’s ability to use the facility. A design to manage sunny day flooding using a small ~6-12-inch-high nature-based flood berm is proposed (concept **Fig 10A**).

FIGURE 10-A: CONCEPT BERM



Given that this area contains tidal and non-tidal wetlands, it is anticipated that the public facility will require coordinating with the Army Corps of Engineers, possibly under Public Law (PL 84-99).

PL 84-99 TECHNICAL ASSISTANCE

This authority is initiated during a flood event and rivers are either forecast, at, or above flood stage. Emergency Operations technical assistance consists of providing review and recommendations in support of State and Local efforts, and helping determine feasible solutions to uncommon situations.

- Guidance on flood fight techniques and emergency construction methods from experienced personnel
- Provide experienced personnel to inspect existing flood protection projects to identify problem areas and recommend corrective measures
- Provide hydraulic or hydrologic analysis, geotechnical evaluations, and stream data, maps, and historic flood or storm information

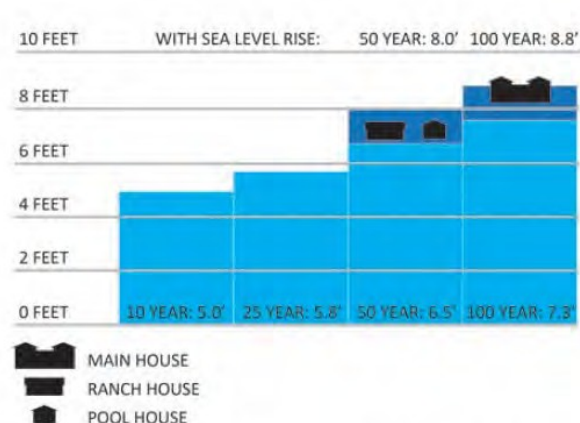
USACE is authorized to provide more in-depth technical assistance to communities threatened with imminent flooding potential under the Advance Measures program. Unlike Emergency Operations technical assistance, Advance Measures technical assistance must be requested in writing by the State Emergency Management Agency or Tribal Official, and requires HQUSACE approval.

- Evaluate flood threat to area
- Supplement data collection efforts
- Inspect existing Flood Control Works and identify problems
- Provide engineering technical services
- Provide information for local contingency/flood fight plans

There are two public residential structures on the site, but these are not identified as severe repetitive loss or repetitive loss structures as the last owner self-insured. However, both structures were flooded during Hurricane Isabel in 2003 and this was a heavily weighted consideration of the owner when the site was donated for public use. Presently, flood insurance premiums are becoming cost prohibitive.

Figure 11 illustrates flood levels combined with sea-level rise and their effects on inhabitable structures on site. Notably, floods in 50 years pose an issue to the two structures on site; key construction techniques will need to be employed to retrofit each structure in order to mitigate the effects of exceptional floods and sea level rise 50 years and out.

FIGURE 11: SEA LEVEL AND FLOOD ELEVATION (VCU CURA, 2015).



NEED FOR ASSISTANCE -

The need for assistance is two-fold. **First, Gloucester County is near the Chesapeake Bay and numerous tidal rivers that contribute to the area’s high risk to coastal flooding, sea-level rise, and storm surge.** Based on tidal gauge data from the Virginia Institute of Marine Science (VIMS), relative sea-level rise rates ranging from 0.11-0.23 in./yr. (2.9-5.8 mm/yr.; period: 1976-2007; 10 stations) within the Chesapeake Bay region, which are the highest rates reported along the U.S. Atlantic coast (Boon et. al., 2010). In addition to sea-level rise, Gloucester County has a history of being impacted by hurricanes and tropical storms. As storms pass over or near the coast, the atmospheric pressure drops, causing a large volume of sea water to build up, eventually being pushed ashore by the storm’s winds as storm surge. Strong East and Northeast winds in Gloucester County can push water from the Chesapeake Bay into the mouth of the York and Rappahannock rivers, as well as Mobjack Bay, flooding much of the county’s low-lying areas (MPPDC, 2005). When a storm makes landfall at high tide, the storm surge and the added water from the tidal fluctuation combine to create a “storm tide”. In Gloucester County, tidal waters fluctuate twice daily from 1.2 feet above mean sea level to 1.2 feet below (FEMA 1987, 6). If a severe hurricane were to make landfall during high tide, an additional 1.2 feet of water would be added to the highest storm surge possible, potentially creating a storm tide of 16.2 feet (Rygel, 2005).

Nor’easters, like hurricanes and tropical storms, can dump heavy amounts of rain and produce hurricane-force winds that push large amounts of seawater inland. According to a recent study conducted by the Center for Coastal Resources Management, a one-and-a-half-foot rise in sea level coupled with a three-foot storm surge - similar to what would be experienced in a strong tropical storm - would lead to 13% of Gloucester County’s land mass being flooded – including 118 miles of roads. Notably, only 3% of this projected flood area is currently developed.

A strong indicator that Gloucester County is experiencing the impact of coastal hazards (i.e., flooding, hurricanes, sea-level rise, and storm surge) is the number of repetitive loss and severe repetitive loss claims submitted by residents and businesses to FEMA. As of 2015, Gloucester

County had 147 repetitive loss properties with claims topping \$3.3 Million and 13 severe repetitive loss properties with claims totaling nearly \$1.9 Million. The county has implemented several preventative measures, property protection policies, public information activities, and emergency service measures to decrease impacts on its communities. This project will therefore build on local efforts moving toward a more resilient community.

Second, this project location is primed for co-benefits derived from flood mitigation efforts.

While the proposed application of gravel will facilitate the flow of stormwater toward lateral ditches, providing increased public access to the infrastructure at this point of interest, secure public access and the sustainability of site infrastructure has implications that will reverberate throughout the community and a flood berm will help to protect public assets. Strategic protection of the infrastructure and landscape at this point of interest will, for example, facilitate multiple, simultaneous activities that will contribute to economic growth in the area while fostering innovation.

Innovative Research

As it stands, Sinclair's promises to be a central hub for fostering, implementing and evaluating innovative ideas providing solutions to the coastal zone's most pressing challenges. Complementing this vision is the recent Virginia Sea Grant GO Virginia Water Management economy program grant, established to cultivate resilient economies by fostering innovative and marketable solutions through small business grants targeting topics like septic systems, stormwater flooding, and beneficial use of dredge material. Research desired at the national level (and therefore, likely to receive funding) would make this facility revenue-generating. Notably, demonstration of innovative coastal practices on site would continue with the implementation of the proposed berm associated with this project, an application designed to mitigate infrastructure flooding. These research efforts will occur on the Captain Sinclair's site, furthering the need to protect the public assets.

GO VIRGINIA APPROVES \$2.9 MILLION COLLABORATIVE COASTAL RESILIENCE AND ADAPTATION ECONOMY INITIATIVE

A \$2.9 million grant was recently awarded to the Coastal Resilience and Adaptation Economy initiative that will foster innovation and growth in Virginia's water economy. The project will launch a resilience entrepreneurship competition and establish a business-focused network to engage businesses and facilitate resilient practices.

The project is a collaboration between [Virginia Sea Grant](#), the nonprofit [RISE](#), the [Middle Peninsula Chesapeake Bay Public Access Authority](#), and [Old Dominion University](#).

<https://vaseagrant.org/go-virginia-adaptation-economy/>

Next Generation Coastal Housing- Capital Sinclair's

With development centers to the south extending into Gloucester County, the county's population has been increasing more rapidly in recent years, and with it, a rising demand for housing. Proximity to recreational areas increases this demand; as an asset of the Sinclair's property is public waterfront access, it has the potential to increase the value of nearby

residences. Ultimately, this may increase county tax revenue in a county where real estate taxes and personal property taxes are by far the two largest sources of revenue in the general fund.

Moreover, to address next generation resiliency and support beneficial uses receiving flood protection, rental housing would be leveraged as a market-based strategy primed to address the increasing threat of rising waters. Specifically, VA Housing has provided the MPPDC a \$1 million grant for resilient public housing design and construction to be located at Captain Sinclairs site that will be used to develop affordable workforce housing units. The idea here being that watermen can live and work on mixed use property, closest to the natural resources to which they have historical ties – and now affordable access. Likewise, the site staff who work to maintain and sustain this public infrastructure, and who are perhaps engaged in low- wage seasonal work through planned oyster gardening or a native plant nursery, can live on waterfront property at a reasonable rate, enjoying in their down time the proximity to the coastal resources they work to protect and share. This housing may also serve to provide what could be in effect, low income AirBnB opportunities creating accessible recreation and tourism opportunities for the geography’s target audience. Such an effort would leverage the Sinclair site and its amenities, returning every possible dollar to communities with the understanding that the operation would be mobile as needed – physically and figuratively; an application designed to provide a market-based solution based on a 2050 design horizon.

Business Development

The potential of increased tourism drawn to the recreational site is significant. Visitors seeking a variety of outdoor activities could be drawn to activities available at Captain Sinclair’s, supporting the local economy with outside revenue in their pursuits. Close proximity to recreational opportunities has increasingly become a factor in where businesses decide to locate. The provision of a public access site with enhanced amenities thus has the potential to drive continued economic growth through business development in the area. Moreover, VIMS’ faculty endeavors offer the potential for research and development on site leading to new start-up businesses within the county. Notably, the Gloucester County Economic Development Authority is identifying Virginia Institute of Marine Science (VIMS)-related businesses as a strategy to actively expand existing businesses and recruit new ones to the county.

Community Scale Benefits

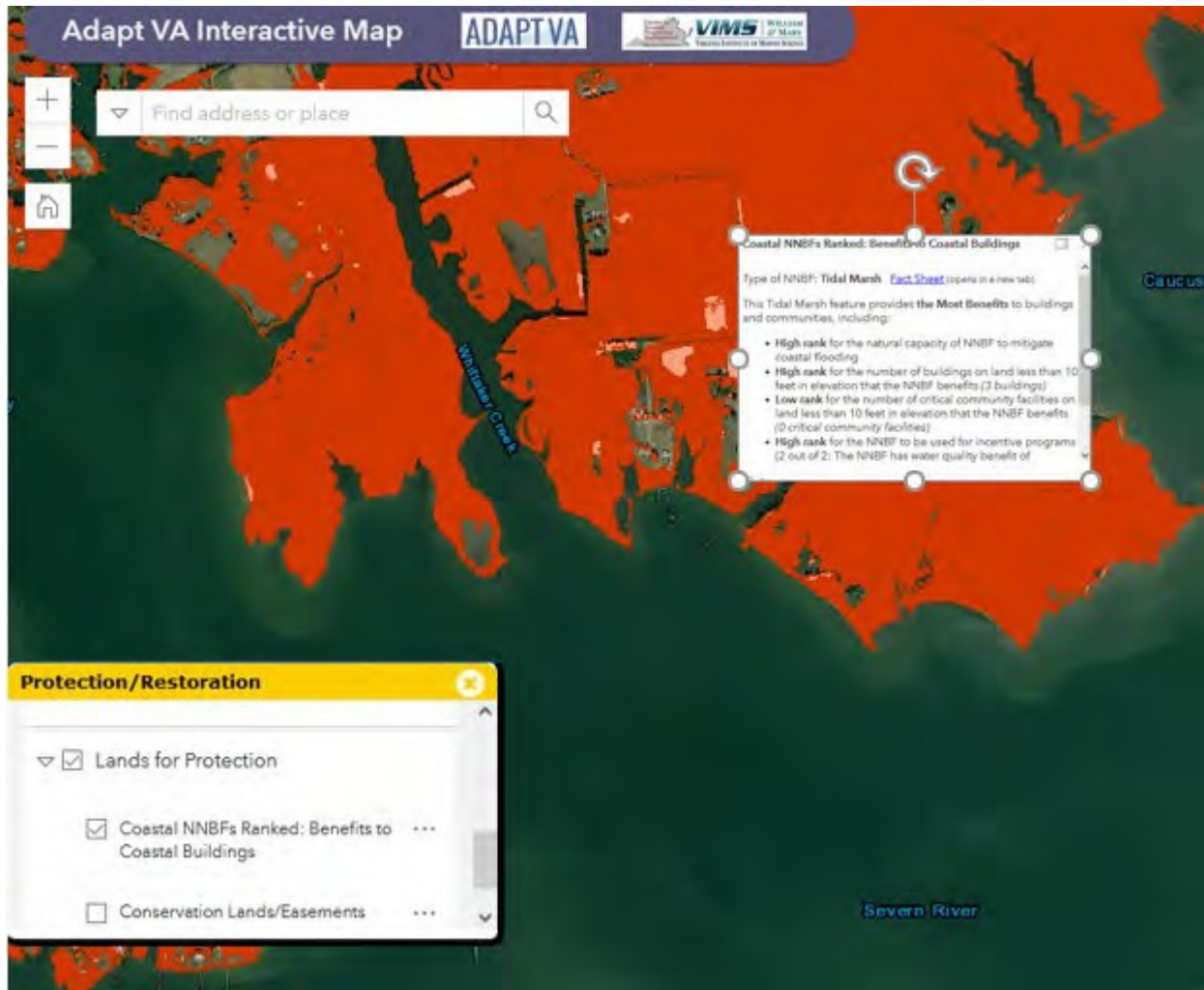
Due to the multitude of public investment for flood research and innovation, we believe this site meets the test of “Priority shall be given to projects that implement community-scale hazard mitigation activities that use nature-based solutions to reduce flood risk.” The Captain Sinclair’s site serves as one of the Commonwealth’s best chances to innovate flood projects in “live time” so that all of coastal Virginia can benefit.

MPPDC believes that proposing nature-based flood mitigation projects at the parcel scale and where possible, partnering with neighbors can accomplish more in terms of linear shoreline protected than urban areas which have smaller sized parcels.

Benefit of Natural Based solutions

Adapt VA contains a data layer illustrating areas of less than ten feet in elevation that show locations in the Middle Peninsula offering benefits of NNBF to coastal buildings, habitat, and community protection (see **Figure 12**). The project site offers multiple community protection benefits which include combinations of mitigating coastal flooding, protecting buildings/community facilities and CRS credit.

FIGURE 12: NATURAL AND NATURE-BASED FEATURES AT THE PROJECT SITE.



ALTERNATIVES –

Alternatives are not applicable according to the grant manual guidelines.

GOALS AND OBJECTIVES –

This proposal in effect, will develop a comprehensive strategy to mitigate multiple flooding inputs while providing co-benefits that foster resilience at the Captain Sinclair’s Recreational Area.

There are two main components of this proposal:

- Facilitated public access to this point of interest through road flooding improvements.
- Design and construction of a nature-based flood mitigation berm of approximate ~1,200 curve linear feet around the Resource Protection Area to limit sunny day flooding

The goals and objectives of this project are as follows:

Goal 1: Improve public access to local coastal waterways.

- Objective A: Increase public access to the Severn River with improved road conditions and mitigation of recurrent and repetitive flooding using NNBF on site.
- Objective B: Enhance quality of life for local residents and visitors alike through recreation, education and cultural opportunities at the point of interest.
- Objective C: Leverage improved public access and coastal resiliency for economic growth within Gloucester County.

Goal 2: Improve coastal resiliency within the community and the Commonwealth.

- Objective A: Mitigate recurrent and repetitive flooding alongside storm surge and sea level rise using natural and nature-based solutions that benefit people and the economy as well as the environment.

Goal 3: Transferability to other communities.

- Objective A: Model natural and nature-based solutions for coastal sites exploring development potential.
- Objective B: Foster innovative research and solutions-oriented studies on site focused on coastal adaptation and mitigation for external transfer.
- Objective C: Improve the implementation of Fight the Flood as a model program to be replicated in other communities within the region and/or Commonwealth.

The MPPDC anticipates that these comprehensive enhancements on site will:

1. **Foster economic growth in the area over the useful life of site infrastructure and most likely, beyond. at the project location.** Enabling public access to this county asset while ensuring its sustainability will protect and enhance the area's recreational economies and has the potential to positively impact related commercial endeavors.
2. **Prevent loss of property without cementing an alternative.** Mitigating flood risk at the project site as outlined will help prevent loss of property and property value, while capitalizing on the useful life of the site as much as possible.

The proposed project was confirmed for the MPPDC by Matthew C. Burnette PG, PH, CFM or Holly White AICP, CFM.

3. **Provide ecosystem services to the community toward increased quality of life.** Increased

public access to recreational, educational and cultural opportunities leverage the provisioning and cultural services associated with the site’s natural resources, services that provide benefits to safety, health and well-being for all visitors.

APPROACH, MILESTONES, AND DELIVERABLES –

Each aspect of this multi-pronged plan will include nature-based mitigation designs where possible, and will utilize and integrate sustainable planning, design, environmental management and engineering practices that capitalize on natural features while allowing for floodwater inundation and reducing the exposure to public facilities, promoting adaptation and resilience in the process. Ultimately, the site will provide the public with access to a natural space designed to let flood water pass over, under and through the public facility. All construction on site will follow required permitting process that address best practices for construction in vulnerable coastal locations.

Facilitation of public access to this point of interest through road improvements. Beginning at the end of VDOT maintained road, a 4” base of gravel (**Figure 13**) would be added to the existing publicly owned dirt road with a crown to better direct the rain flood water off the road. Ideally, (per 2015 CURA report), the road should be elevated to the 8.8’ above sea level standard adopted by this plan to account for both flooding and sea level rise.

FIGURE 13: CALCULATION FOR MATERIAL ESTIMATE FOR GRAVEL ROAD

Gravel Driveway Calculator – Estimate Material for a Gravel Driveway

Find the amount of gravel needed for a driveway by entering the dimensions of the driveway below. Add the price per cubic yard to estimate the cost of the stone.

Width: 20 ft

Length: 6000 ft

Depth: 4 in

Optionally enter the price per cubic yard

Price: \$

CALCULATE

Crushed Stone Material Estimate:

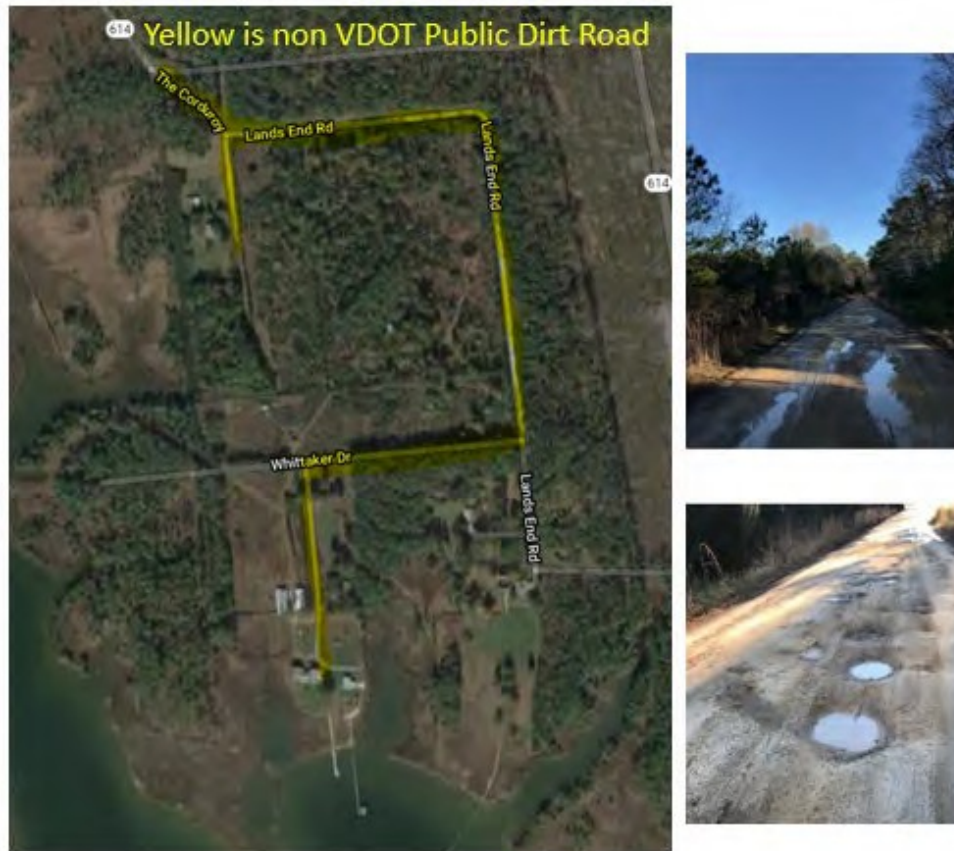
1,481.5 cubic yards

2,000.0 tons*

Recognizing that the road should be elevated as high as practical for the improvements programmed for the site, and that significant active development of the site warrants an elevated access road be constructed as close as feasible to 8.8’ (the national flood protection

standard), alternative engineering designs should be prepared comparing cost and future flood risk and presented for public discussion. The MPCBPAA recognized the cost of flood mitigation and is comfortable with a 4-inch base (**Figure 14**).

FIGURE 14: GRAVEL ROAD LOCATION AND PHOTOS



Design plan and construction of a berm around the Resource Protection Area.

Approximately 1,200 curve linear feet of nature-based flood berms are to be designed and built around the Resource Protection Area as a landscape flood modification to combat current sunny day flooding and future sea level rise. If possible, innovative and resilient designs will be encouraged, and connections related to VA Sea Grant Go VA projects and materials (e.g., dredge spoils) could be used to facilitate and complement the project. Berm construction would be authorized under the newly enacted regulations promulgated by the State Water Control Board. It is estimated that 200 cubic yards of supplemental sediments will be needed (**Figure 15**).

FIGURE 15: BERM LOCATION AND MATERIAL ESTIMATE CALCULATION



Concerning Adverse Impacts

Additionally, the applicant and the property owner recognize the importance to do no harm to land owned by the Commonwealth nor the adjacent property owners as result of the construction elements of this project. The design for the proposed project will be developed and constructed under the auspices of experienced contractors who understand that adverse impacts must be avoided and considered in the design and implementation of the project. The proposed project will work with the permitting agency, designers, and contractors to ensure that the project is built to and functions at the level of the design specifications to ensure that no adverse impacts will occur.

Enabling legislation

- Codes relevant to the Middle Peninsula Chesapeake Bay Public Access Authority can be found in Title 15.2 Chapter 66
- This project will follow the designs outlined and approved in the Joint Permit Application and or local CBPA regulations.

Deliverables and timeline

The below table outlines the four components of the project and what will be installed at the project location,

Action Item	M1	M2	M3	M4	M5	M6
Phase 1 – Environmental Scan						
Hold administrative project kick off meeting	X					
Conduct environmental scan of property location in need of a flood resiliency design solution	X					
Select contractor to provide potential nature-based design solutions	X					
Coordinate with property owner and contractor on project expectations	X	X	X	X	X	
Apply for any necessary permits- advance forward any construction aspects when ready	X	X	X	X	X	X
Phase 2 – Solution Design						
Discuss nature-based design solutions with contractor and property owner		X	X			
Select which nature-based solution is most appropriate		X	X			
Have contractor develop selected nature-based design solution			X	X		
Phase 3 – Strategic Implementation						
Share nature-based design solution with property owner					X	
Discuss strategies in moving forward with implementing the nature-based design solution.					X	X
Provide a digital close out report and copy of the completed nature-based design solution along with the completed Certificate of Approval Floodplain Management form to the funding agency						X
Hold administrative project close out meeting						X

For the holistic schedule of projects to be completed, the anticipated timeline could span three years. The timeline range is due to the potential delays in the construction industry and/or delays caused by COVID, including supply shortages. Having a three-year timeline will ensure that 1) adequate exploration of the site is informing the design of quality, innovative and resilient solutions to mitigate flooding; 2) that the most effective iteration is selected for subsequent implementation; and 3) that the contractor selected to construct the project is the best fit for the job.

RELATIONSHIP TO OTHER PROJECTS –

For more than 40 years, the Middle Peninsula Planning District Commission (MPPDC) and its participating localities have worked diligently on topics associated with the land water interface, including coastal use conflicts and policies, sea level rise, stormwater flooding, roadside ditch flooding, erosion, living shorelines, coastal storm hazards (e.g. hurricanes, tropical storms), riverine and coastal flooding, and coastal resiliency.

The proposed project is a priority project generated from the Middle Peninsula Regional Flood Resilience Plan, which was approved by DCR in August of 2021. This Flood Resiliency Plan serves as the MPPDC’s guiding document for its flood resiliency programs and is comprised of two primary MPPDC-approved policy documents. These documents frame the foundation and implementation of the Middle Peninsula flood protection approach and are indirectly and directly supported by specific regional planning documents each approved by federal, regional, and/or local partners as required by statute.

Other plans and resources integral to the implementation of the Flood Resiliency Plan include:

Long Term Planning

- Middle Peninsula All Hazard Mitigation Plan - FEMA and Middle Peninsula locality, approved 2016 (MPPDC Website)
 - This overarching project provides updates every five years on the hazards within the region; it identifies the top hazards within the region and provides a HAZUS assessment that analyzes flooding (riverine and coastal), sea-level rise and hurricane storm surge impacts in the region. Additionally, this plan lists strategies and objectives that guide member localities to mitigate for these strategies.
- Middle Peninsula Comprehensive Economic Development Strategy – MPPDC, approved March 2021
- Middle Peninsula VDOT Rural Long Range Transportation Plan – MPPDC, approved ~annually

Short Term Implementation

- Middle Peninsula Planning District Commission Fight the Flood Program Design - MPPDC Commission, approved June 2020; Chairman approved update 8/6/21
- Middle Peninsula Planning District Commission Living Shoreline Resiliency Incentive Funding Program - Virginia Revolving Loan Fund Program Design and Guidelines, approved 2015

The MPPDC has a history of continuous work on flooding and coastal resiliency topics; **Attachment 6** described relevant projects. These projects have built upon each other to establish within the MPPDC a solid foundation of regional expertise in flooding and coastal resiliency. Now, given this history of accumulated information and knowledge, the MPPDC can move beyond research and studies to begin implementing projects on the ground. One such effort, launched in 2020 following the Commission’s authorization, was developed in response

to emerging flood challenges. This effort, the **Middle Peninsula Fight the Flood (FTF) Program**, leverages state and federal funding to deliver flood mitigation solutions directly to constituents, for both the built and natural environments with an emphasis on nature-based flood mitigation solutions. The Middle Peninsula **FTF** program helps property owners gain access to programs and services to better manage challenges posed by flood water. MPPDC staff have partnered with private property owners registered for the FTF program to assist them in finding funding for their shoreline.

Finally, the Flood Resiliency Plan and associated programs strive to carry out the guiding principles and goals set forth in the Virginia Coastal Resilience Master Planning Framework established in 2020. The proposed activities are proposed in accordance with the guiding principles and with the intent that their outcomes will help the Commonwealth meet the goals set forth in the planning framework.

MAINTENANCE PLAN –

Maintenance requirements are not anticipated for the types of flood mitigation solutions proposed, however, it is important to ensure that the public investment of DCR CFPF funding be protected should the project not withstand future conditions. As such, MPPDC staff will work with legal counsel to develop an agreement to be signed by each party which outlines the terms necessary to ensure the public investment is maintained over the duration of the project.

CRITERIA –

*Describe how the project meets each of the applicable scoring criteria contained in **Appendix B** and provide the required documentation where necessary. Documentation can be incorporated into the Scope of Work Narrative or included as attachments to the application. **Appendix B** must be completed and submitted with the application.*

For local governments that are not towns, cities, or counties, the documentation provided for the criteria below should be based on the local government or local governments in which the project is located and/or directly impacts.

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 or a recognized state or federal Indian tribe?**
 - YES.
2. **Does the local government have an approved resilience plan meeting the criteria as established by this grant manual? Has it been attached or a link provided?**
 - YES.
 - Link: https://fightthefloodva.com/wp-content/uploads/2021/08/Approved-8_19_DCR-packet_letterandplan.pdf
3. **For local governments that are not towns, cities, or counties, have letters of support been provided from affected local governments?**

- YES. Please see **Attachment 1**
- 4. **Has the applicant provided evidence of an ability to provide the required match funds?**
 - YES. Please see the match commitment letter in **Attachment 8**
- 5. **Has the applicant demonstrated to the extent possible, the positive impacts of the project or study on prevention of flooding?**
 - YES.

BUDGET NARRATIVE –

Below is the estimated budget for the proposed flood prevention and construction projects resulting in nature-based solutions supporting quality of life and safety in a low-income geographic area. MPPDC staff request 80% funding from DCR and will provide 20% match. Please see match commitment letters from the property owners in **Attachment 8**.

Estimated total project cost: \$180,993

Amount of funds requested from the Fund (80% project total): \$144,795

Amount of match funds available (20% project total): \$36,198

Captain Sinclairs							
Budget Narrative (Category D)						Budget (Cat. D)	
						Applicant 1	
Personnel Salaries/Wages	DCR %	Match %	Annual Salary	DCR	Owner	Total	
<i>Staff</i>	22.25%	5.57%	\$70,000	\$13,882	\$3,470	\$17,352	
Personnel	<i>Levie's Cheat Sheet</i>		DCR	Owner	\$13,882	\$3,470	\$17,352
		Total	80%	20%			
Fringe, 26.21% salaries;		\$146,000	116,800.00	29,200.00	\$3,638	\$909	\$4,547
	15%	21,900.00	17,520.00	4,380.00			
Total Personnel		167,900.00	134,320.00	33,580.00	\$17,520	\$4,379	\$21,899
Direct Cost: SubAward/SubContract Agreements				80%	20%		
<i>Gravel for stormwater management - 2,000 tons #57 stone for 6,000 ft public road 4 inch deep (14 tons per truck, 142 trucks delivered)</i>		\$79,000		\$63,200	\$15,800	\$79,000	
<i>Flood Berm 200 cubic yds of soil. 13 loads at 15 cy per load at \$225 per load</i>		\$3,000		\$2,400	\$600	\$3,000	
<i>Undercount or settling for gravel or soil</i>		\$5,000		\$4,000	\$1,000	\$5,000	
<i>Labor for berm install</i>		\$30,000		\$24,000	\$6,000	\$30,000	
<i>Grass seed for berm</i>		\$1,000		\$800	\$200	\$1,000	
<i>Procurement and legal</i>		\$3,000		\$2,400	\$600	\$3,000	
<i>Berm Design and Engineering and permits</i>		\$25,000		\$20,000	\$5,000	\$25,000	
<i>Project financial services (50000/50500/55900/56100)</i>		\$7,999		\$6,399	\$1,600	\$7,999	
<i>Facility services (52100/52200/52400/54200/54500)</i>		\$2,280		\$1,824	\$456	\$2,280	
<i>Communication services (52250/52255/55150/57100/57300)</i>		\$718		\$575	\$144	\$718	
<i>Data services (53100/53101/53200/57900)</i>		\$216		\$173	\$43	\$216	
<i>Material services (53400/53500/57200/57500)</i>		\$848		\$678	\$170	\$848	
<i>Consulting services (55100/56300/56400/56700)</i>		\$1,032		\$826	\$206	\$1,032	
						\$159,094	
SUBTOTAL: Direct Costs				\$144,795	\$36,198	\$180,993	
Total				\$144,795	\$36,198	\$180,993	
Other Match:							
<i>Source of Match</i>				\$0	\$0	\$0	
GRAND TOTAL				\$144,795	\$36,198	\$180,993	

MPPDC staff will manage and administer this project. Thus, personnel time is needed to ensure that project deliverables are completed within the project timeline. Along with personnel expenses, MPPDC fringe is needed. This includes health insurance, retirement, group life insurance, workman’s comp, and unemployment insurance. MPPDC fringe rate for FY22 is 26.58% and comprised of: Health Insurance – 49.33%, Retirement – 18.35%, Workers Comp – 27.42%, Social Security – 4.46%, Life Insurance – 0.40%, Unemployment – 0.04%. Direct charges are costs associated with overall projects costs consistent with general accounting principles. This project involves many different funding partners contributing cash to many different flooding and related resiliency aspects. Match will be provided from a single or multiple combination of participating partners including MPPDC loan funds, Gloucester County cash, Public Access Authority cash, Virginia Housing cash, and other cash sources

Finally, please see the authorization to request for funding in **Attachment 9**.

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:	Middle Peninsula Planning District Commission	
Eligibility Information		
Criterion	Description	Check One
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	
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	X
No	Eligible for consideration for studies, capacity building, and planning only	
If the applicant is not a town, city, or county , are letters of support from all affected local governments included in this application?		
Yes	Eligible for consideration	X
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	X
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:	Middle Peninsula Planning District Commission		
Scoring Information			
Criterion	Point Value	Points Awarded	
6. Eligible Projects (Select all that apply)			
Projects may have components of both 1.a. and 1.b. below; however, only one category may be chosen. The category chosen must be the primary project in the application.			
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	45	

1.b. any other nature-based approach	40	40
All hybrid approaches whose end result is a nature-based solution	35	
All other projects	25	
7. Is the project area socially vulnerable? (Based on ADAPT VA's Social Vulnerability Index Score.)		
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	
Low Social Vulnerability (-1.0 to 0.0)	0	0
Very Low Social Vulnerability (Less than -1.0)	0	
8. Is the proposed project 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 project 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	5
No	0	
11. Does this project provide "community scale" benefits?		
Yes	20	20
No	0	
Total Points		120

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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input 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 type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

Attachment 1: Community Support Letter



**Gloucester County
Administrator's Office**

Telephone 804-693-4042

6489 Main Street, Gloucester, Virginia 23061

Fax 804-693-6004

July 16, 2021

Lewis L Lawrence, Executive Director
Middle Peninsula Planning District Commission
P.O. Box 286
Saluda, VA 23149

RE: Support Letter for Applications Submitted by the MPPDC to Virginia Community Flood Preparedness Fund

Dear Lewie,

Gloucester County supports all eligible applications requesting funding under the Virginia Department of Conservation and Recreation (DCR) Flood Preparedness Fund. Proposals submitted by the MPPDC on behalf of our constituents are a necessary governmental function and consistent with regional and local resilience planning efforts. We further support project proposals that demonstrate a primary purpose of prevention or protection to reduce coastal, riverine, or inland flooding. The MPPDC Fight the Flood Program serves as the region's flood resiliency coordination program. The MPPDC Living Shoreline Program Design and the MPPDC Fight the Flood Program Design provide the operational and administrative oversight for resiliency planning, coordination and implementation for our constituents suffering from flooding challenges. These programs, especially the MPPDC Fight the Flood program, recognize the need to better secure the tax base of coastal localities and the inherent risk to the delivery of essential governmental services, including public safety, posed by coastal storms and recurrent flooding of all types. They also recognize the relationship between at-risk waterfront real estate values and funding of essential governmental services.

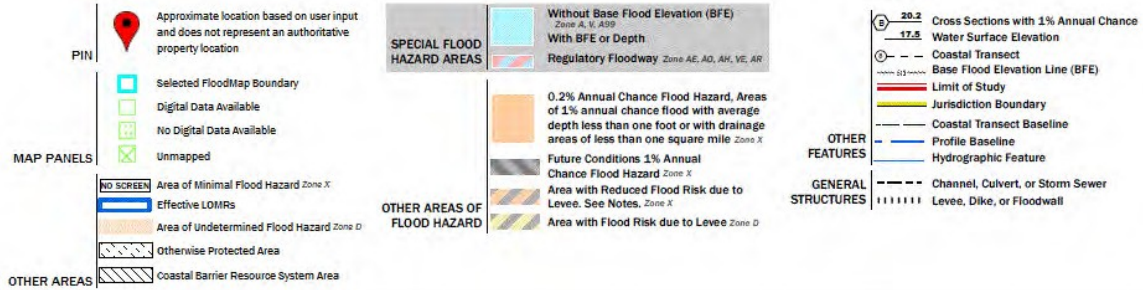
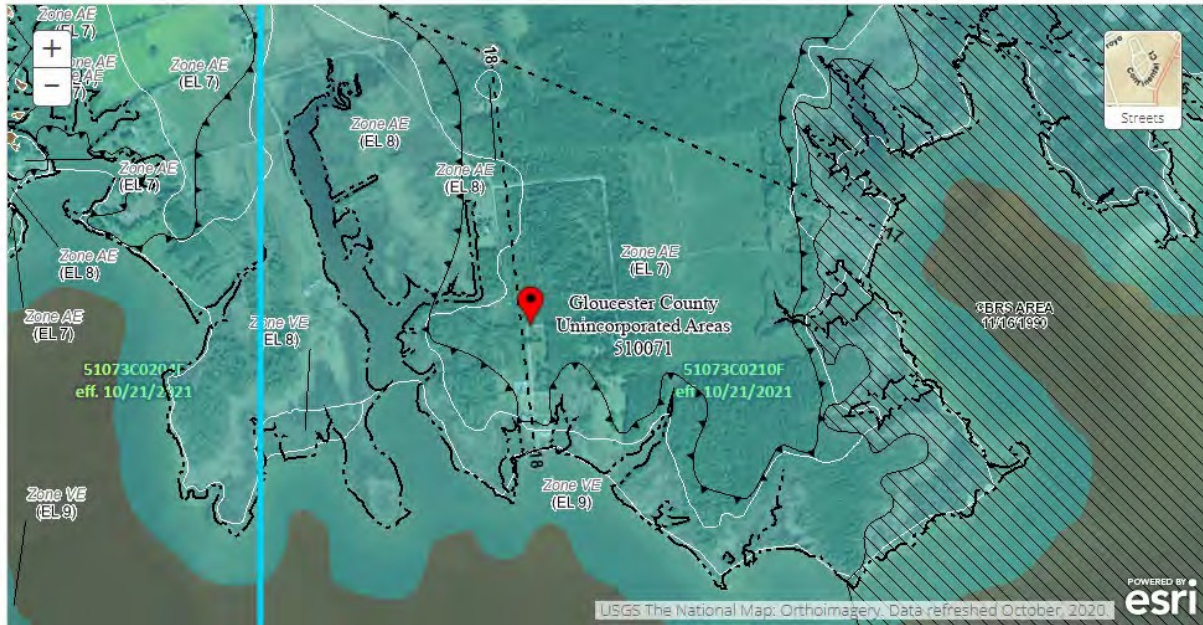
The Fight the Flood program and the Living Shoreline program exist to help flood-prone property owners access programs and services to better manage challenges posed by flood water and direct constituents to appropriate mitigation solutions, such as nature-based solutions. When grants and loans are available, we fully support the MPPDC providing such to qualified constituents based on the terms and conditions associated with flood risk necessary to support the public purposes for which the funds, such as the Virginia Community Flood Preparedness Funds, have been allocated.

Should you have any questions concerning our support for the work of the MPPDC, I can be reached at 804-693-4042.

Sincerely,

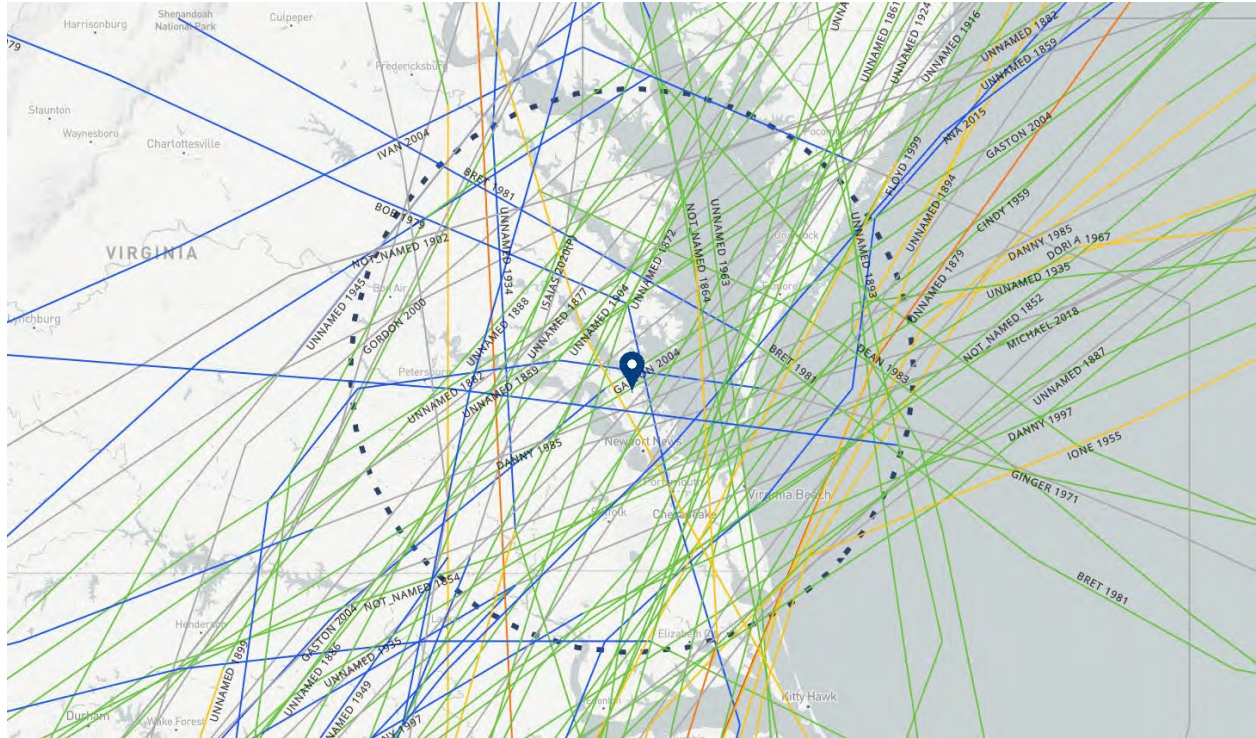
Carol E. Steele
Acting County Administrator

Attachment 2: Project Location FIRMette



Attachment 3: List of historic hurricanes impacting the project area 1851 to present per NOAA.

Hurricane List



Search Filter Criteria

Location: 37.257538, -76.480435

Categories queried: H5, H4, H3, H2, H1, TS,

TD, ET Months: ALL

Years: ALL

El Niño-Southern Oscillation (ENSO): ALL Minimum Pressure (mb) below: 1150 Include Unknown

Pressure Rating: TRUE Buffer Distance: 60

Buffer Unit: Nautical Miles

STORM NAME	DATE RANGE	MAX WIND SPEED	MIN PRESSURE	MAX CATEGORY
ISAIAS 2020(P)	Jul 23, 2020 to Aug 05, 2020	75	987	H1
NESTOR 2019	Oct 17, 2019 to Oct 21, 2019	50	996	TS
MICHAEL 2018	Oct 06, 2018 to Oct 15, 2018	140	919	H5

STORM NAME	DATE RANGE	MAX WIND SPEED	MIN PRESSURE	MAX CATEGORY
ANA 2015	May 06, 2015 to May 12, 2015	50	998	TS
ANDREA 2013	Jun 05, 2013 to Jun 08, 2013	55	992	TS
IRENE 2011	Aug 21, 2011 to Aug 30, 2011	105	942	H3
HANNA 2008	Aug 28, 2008 to Sep 08, 2008	75	977	H1
ERNESTO 2006	Aug 24, 2006 to Sep 04, 2006	65	985	H1
JEANNE 2004	Sep 13, 2004 to Sep 29, 2004	105	950	H3
IVAN 2004	Sep 02, 2004 to Sep 24, 2004	145	910	H5
GASTON 2004	Aug 27, 2004 to Sep 03, 2004	65	985	H1
CHARLEY 2004	Aug 09, 2004 to Aug 15, 2004	130	941	H4
ALLISON 2001	Jun 05, 2001 to Jun 19, 2001	50	1000	TS
HELENE 2000	Sep 15, 2000 to Sep 25, 2000	60	986	TS
GORDON 2000	Sep 14, 2000 to Sep 21, 2000	70	981	H1
FLOYD 1999	Sep 07, 1999 to Sep 19, 1999	135	921	H4
DANNY 1997	Jul 16, 1997 to Jul 27, 1997	70	984	H1
BERTHA 1996	Jul 05, 1996 to Jul 17, 1996	100	960	H3
DANIELLE 1992	Sep 22, 1992 to Sep 26, 1992	55	1001	TS
CHARLEY 1986	Aug 13, 1986 to Aug 30, 1986	70	980	H1
DANNY 1985	Aug 12, 1985 to Aug 20, 1985	80	987	H1

STORM NAME	DATE RANGE	MAX WIND SPEED	MIN PRESSURE	MAX CATEGORY
DEAN 1983	Sep 26, 1983 to Sep 30, 1983	55	999	TS
BRET 1981	Jun 29, 1981 to Jul 01, 1981	60	996	TS
BOB 1979	Jul 09, 1979 to Jul 16, 1979	65	986	H1
GINGER 1971	Sep 06, 1971 to Oct 05, 1971	95	959	H2
DORIA 1971	Aug 20, 1971 to Aug 29, 1971	55	989	TS
ALMA 1970	May 17, 1970 to May 27, 1970	70	993	H1
CAMILLE 1969	Aug 14, 1969 to Aug 22, 1969	150	900	H5
DORIA 1967	Sep 08, 1967 to Sep 21, 1967	75	973	H1
CLEO 1964	Aug 20, 1964 to Sep 11, 1964	130	938	H4
UNNAMED 1963	Jun 01, 1963 to Jun 04, 1963	50	1000	TS
UNNAMED 1961	Sep 12, 1961 to Sep 15, 1961	55	995	TS
BRENDA 1960	Jul 27, 1960 to Aug 07, 1960	60	976	TS
CINDY 1959	Jul 04, 1959 to Jul 12, 1959	65	995	H1
UNNAMED 1956	Oct 14, 1956 to Oct 19, 1956	55	996	TS
IONE 1955	Sep 10, 1955 to Sep 27, 1955	120	938	H4
CONNIE 1955	Aug 03, 1955 to Aug 15, 1955	120	944	H4
BARBARA 1953	Aug 11, 1953 to Aug 16, 1953	80	973	H1
UNNAMED 1949	Sep 11, 1949 to Sep 14, 1949	45	-1	TS

STORM NAME	DATE RANGE	MAX WIND SPEED	MIN PRESSURE	MAX CATEGORY
UNNAMED 1945	Sep 12, 1945 to Sep 20, 1945	115	949	H4
UNNAMED 1944	Oct 12, 1944 to Oct 24, 1944	125	937	H4
UNNAMED 1944	Jul 30, 1944 to Aug 04, 1944	70	985	H1
UNNAMED 1943	Sep 28, 1943 to Oct 02, 1943	55	997	TS
UNNAMED 1935	Aug 29, 1935 to Sep 10, 1935	160	892	H5
UNNAMED 1934	Sep 01, 1934 to Sep 04, 1934	45	-1	TS
UNNAMED 1933	Aug 13, 1933 to Aug 28, 1933	120	948	H4
UNNAMED 1929	Sep 19, 1929 to Oct 05, 1929	135	924	H4
UNNAMED 1928	Sep 06, 1928 to Sep 21, 1928	140	929	H5
UNNAMED 1928	Aug 03, 1928 to Aug 13, 1928	90	971	H2
UNNAMED 1924	Sep 27, 1924 to Oct 01, 1924	55	999	TS
UNNAMED 1916	Sep 04, 1916 to Sep 07, 1916	45	-1	TS
UNNAMED 1916	May 13, 1916 to May 18, 1916	40	990	TS
UNNAMED 1907	Jun 24, 1907 to Jun 30, 1907	55	-1	TS
UNNAMED 1904	Sep 08, 1904 to Sep 15, 1904	70	-1	H1
NOT_NAMED 1902	Oct 03, 1902 to Oct 13, 1902	90	970	H2
UNNAMED 1902	Oct 03, 1902 to Oct 13, 1902	90	970	H2
UNNAMED 1902	Jun 12, 1902 to Jun 17, 1902	50	-1	TS

STORM NAME	DATE RANGE	MAX WIND SPEED	MIN PRESSURE	MAX CATEGORY
	1902			
UNNAMED 1899	Oct 26, 1899 to Nov 04, 1899	95	-1	H2
UNNAMED 1894	Oct 01, 1894 to Oct 12, 1894	105	-1	H3
UNNAMED 1893	Oct 20, 1893 to Oct 23, 1893	50	-1	TS
UNNAMED 1893	Jun 12, 1893 to Jun 20, 1893	65	-1	H1
UNNAMED 1889	Sep 12, 1889 to Sep 26, 1889	95	-1	H2
UNNAMED 1888	Sep 06, 1888 to Sep 13, 1888	50	999	TS
UNNAMED 1887	Oct 09, 1887 to Oct 22, 1887	75	-1	H1
UNNAMED 1886	Jun 27, 1886 to Jul 02, 1886	85	-1	H2
UNNAMED 1886	Jun 17, 1886 to Jun 24, 1886	85	-1	H2
UNNAMED 1882	Sep 21, 1882 to Sep 24, 1882	50	1005	TS
UNNAMED 1882	Sep 02, 1882 to Sep 13, 1882	110	949	H3
UNNAMED 1881	Sep 07, 1881 to Sep 11, 1881	90	975	H2
UNNAMED 1879	Aug 13, 1879 to Aug 20, 1879	100	971	H3
UNNAMED 1878	Oct 18, 1878 to Oct 25, 1878	90	963	H2
UNNAMED 1877	Sep 21, 1877 to Oct 05, 1877	100	-1	H3
UNNAMED 1876	Sep 12, 1876 to Sep 19, 1876	100	980	H3
UNNAMED 1874	Sep 25, 1874 to Oct 01, 1874	80	980	H1

STORM NAME	DATE RANGE	MAX WIND SPEED	MIN PRESSURE	MAX CATEGORY
UNNAMED 1872	Oct 22, 1872 to Oct 28, 1872	70	-1	H1
NOT_NAMED 1867	Aug 10, 1867 to Aug 18, 1867	45	-1	TS
NOT_NAMED 1864	Jul 23, 1864 to Jul 26, 1864	35	-1	TS
UNNAMED 1863	Sep 16, 1863 to Sep 19, 1863	60	-1	TS
NOT_NAMED 1861	Oct 31, 1861 to Nov 03, 1861	60	992	TS
UNNAMED 1861	Sep 27, 1861 to Sep 28, 1861	70	-1	H1
UNNAMED 1859	Sep 15, 1859 to Sep 18, 1859	70	-1	H1
NOT_NAMED 1858	Aug 11, 1858 to Aug 20, 1858	45	994	TS
UNNAMED 1856	Aug 19, 1856 to Aug 21, 1856	50	-1	TS
NOT_NAMED 1854	Sep 10, 1854 to Sep 14, 1854	65	-1	H1
UNNAMED 1854	Sep 07, 1854 to Sep 12, 1854	110	938	H3
NOT_NAMED 1852	Aug 28, 1852 to Aug 31, 1852	50	-1	TS
UNNAMED 1851	Aug 16, 1851 to Aug 27, 1851	100	-1	H3

Attachment 4: Photos of the Captain Sinclair property.

<https://www.flickr.com/photos/viriniaseagrant/albums/72157718932368651/page2> - VA Sea Grant





Attachment 5: Sinclair JPA, Design, and Permit Package

To be developed as part of the project.

Attachment 6: Flood Prevention Project and its Relevance to Other Projects

MPPDC staff have worked throughout the years to understand the policy, research and impacts of flooding (ie. stormwater, coastal, riverine, sea level rise) and coastal resiliency to the region. Below is a list of projects that have built upon each other over the year that have contributed to our understanding.

Climate Change & Sea Level Rise (2009 to 2012)

The MPPDC was funded for a 3 Phase project through the Virginia Coastal Zone Management Program to assess the impacts of climate and sea level rise throughout the region. With over 1,000 miles of linear shoreline, the Middle Peninsula has a substantial amount of coast under direct threat of accelerated climate change and more specifically sea-level. In Phase 1, MPPDC staff assessed the potential anthropogenic and ecological impacts of climate change. Phase 2 focused on the facilitating presentations and develop educational materials about sea level rise and climate change for the public and local elected officials. Finally Phase 3 focused on developing adaptation public policies in response to the assessments.

Phase 1: Middle Peninsula Climate Change Adaptation: Facilitation of Presentations and Discussions of Climate Change Issues with Local Elected Officials and the General Public

Phase 2: Climate Change III: Initiating Adaptation Public Policy Development

Phase 3: Phase 3 Climate Change: Initiating Adaptation Public Policy Development

Emergency Management - Hazard Mitigation Planning (2009 to Present): Since 2009, the Middle Peninsula Planning District Commission has assisted regional localities in meeting the federal mandate to have an adopted local hazard plan. *The Regional All Hazards Mitigation Plan addresses the natural hazards prone to the region, including hurricanes, winter storms, tornadoes, coastal flooding, coastal/shoreline erosion, sea level rise, winter storms, wildfire, riverine flooding, wind, dam failures, drought, lightning, and earthquakes. This plan also consists of a Hazus assessment of hurricane wind, sea level rise (i.e., Mean High Higher Water and the NOAA 2060 intermediate-high scenario), and flooding (coastal and riverine flooding) that estimates losses from each hazard.* The Middle Peninsula All-Hazard Mitigation Plan Update 2021 is currently being updated. The 2021 All Hazards Mitigation Plan builds off and updates previous mitigation plans.

Land and Water Quality Protection (2014): In light of changing Federal and State regulations associated with Bay clean up-nutrient loading, nutrient goals, clean water, OSDS management, storm water management, TMDLs, etc., staff from the Middle Peninsula Planning District Commission (MPPDC) will develop a rural pilot project which aims to identify pressing coastal issue(s) of local concern related to Bay clean up and new federal and state legislation which ultimately will necessitate local action and local policy development. Staff has identified many cumulative and secondary impacts that have not been researched or discussed within a local public policy venue. Year 1-3 will include the identification of key concerns related to coastal land use management/water quality and Onsite Sewage Disposal System (OSDS) and

community system deployment. Staff will focus on solution based approaches, such as the establishment of a regional sanitary sewer district to manage the temporal deployment of nutrient replacement technology for installed OSDS systems, assessment of land use classifications and taxation implications associated with new state regulations which make all coastal lands developable regardless of environmental conditions; use of aquaculture and other innovative approaches such as nutrient loading offset strategies and economic development drivers.

Department of Conservation and Recreation Stormwater Management (2014): The Virginia General Assembly created a statewide, comprehensive stormwater management program related to construction and post-construction activities (HB1065 - Stormwater Integration). The Virginia Department of Conservation and Recreation requires stormwater management for projects with land disturbances of one acre or more. This new state mandate requires all Virginia communities to adopt and implement stormwater management programs by July 1, 2014, in conjunction with existing erosion and sediment control programs. Additionally, the communities within the MPPDC are required to address stormwater quality as stipulated by the Chesapeake Bay TMDL Phase II Watershed Implementation Plan and the Virginia Stormwater Regulations. The MPPDC Stormwater Program helped localities develop tools specific to the region necessary to respond to the state mandate requirement for the development of successful stormwater programs.

Stormwater Management-Phase II (2014): MPPDC staff and Draper Aden Associates worked with localities (i.e. Middlesex, King William, and Mathews Counties and the Town of West Point) interested in participating in a Regional Stormwater Management Program. While each locality sought different services from the regional program, this project coordinated efforts, developed regional policies and procedures, and the proper tools to implement a regional VSMP.

Mathews County Rural Ditch Enhancement Study (2015): In contract with Draper Aden Associates, a comprehensive engineering study was developed to provide recommendations and conceptual opinions of probable costs to improve the conveyance of stormwater and water quality through the ditches in Mathews County.

Drainage and Roadside Ditching Authority (2015): This report explored the enabling mechanism in which a Regional Drainage and Roadside Ditching Authority could be developed. An Authority would be responsible for prioritizing ditch improvement needs, partnering with Virginia Department of Transportation (VDOT) to leverage available funding, and ultimately working toward improving the functionality of the region's stormwater conveyance system.

Living Shoreline Incentive Program (2016 to present): In 2011 Virginia legislation was passed designating living shorelines as the preferred alternative for stabilizing Virginia tidal floodplain shorelines. The Virginia Marine Resources Commission, in cooperation with the Virginia Department of Conservation and Recreation and with technical assistance from the Virginia Institute of Marine Science (VIMS), established and implemented a general permit regulation that

authorizes and encourages the use of living shorelines however, no financial incentives were put in place to encourage consumers to choose living shorelines over traditional hardening projects in the Commonwealth. To fill this, need the MPPDC developed the MPPDC Living Shoreline Incentives Program to offer loans and/or grants to private property owners interested in installing living shorelines to stabilize their shoreline.

Currently, loans are available to assist homeowners to install living shorelines on suitable properties. Loans up to \$10,000 can be financed for up to 5 years (60 months). Loans over \$10,000 can be financed for up to 10 years (120 months). Interest is at the published Wall Street Journal Prime rate on the date of loan closing - currently at 5.25% (11/29/18). Minimum loan amount is \$1,000. Maximum determined by income and ability to repay the loan. Finally, there are currently no grants available in this program. Since 2016 under the MPPDC Living Shoreline Revolving Loan program, 8 living shorelines have been financed and built to date encumbering ~\$500,000 in VRA loan funding and ~\$400,000 in NFWF grant funding. Living Shoreline construction cost to date range per job \$14,000- \$180,000. MPPDC oversees all aspects (planning, financing, construction, and loan servicing) of these projects from cradle to grave.

Mathews County Ditch Project - VCPC White Papers (2017): This report investigated the challenges presented by the current issues surrounding the drainage ditch network of Mathews County. The study summarized research conducted in the field; examined the law and problems surrounding the drainage ditches; and proposed some next steps and possible solutions.

Mathews County Ditch Mapping and Database Final Report (2017): This project investigated roadside ditch issues in Mathews County through mapping and research of property deeds to document ownership of ditches and outfalls. This aided in understanding the needed maintenance of failing ditches and the design of a framework for a database to house information on failing ditches to assist in the prioritization of maintenance needs.

Virginia Stormwater Nuisance Law Guidance (2018): This report was developed by the Virginia Coastal Policy Center to understand the ability of a downstream recipient of stormwater flooding to bring a claim under Virginia law against an upstream party, particularly a nuisance claim. The report summarizes how Virginia courts determine stormwater flooding liability between two private parties.

Oyster Bag Sill Construction and Monitoring at Two Sites in Chesapeake Bay (2018): VIMS Shoreline Studies Program worked with the PAA to (1) install oyster bag sills as shore protection at two PAA sites with the goal of determining effective construction techniques and placement guidelines for Chesapeake Bay shorelines and (2) assess the effectiveness for shore protection with oyster bags on private property through time.

Fight the Flood Program (2020): The Fight the Flood was launched in 2020 to connect property owners to contractors who can help them protect their property from rising flood waters. FTF also offers a variety of financial tools to fund these projects including but limited to the Septic

Repair revolving loan program, Living Shoreline incentives revolving loan fund program, and plant insurance for living shorelines.

Attachment 8: Match Commitment Letters



MIDDLE PENINSULA CHESAPEAKE BAY PUBLIC ACCESS AUTHORITY

10/29/21

To: DCR Flood Fund Program Staff

From: Middle Peninsula Chesapeake Bay Public Access Authority

A handwritten signature in black ink, appearing to be 'L. Smith', written over a horizontal line.

Reff: Match Funds

The Middle Peninsula Chesapeake Bay Public Access Authority owns a 125+ acre waterfront complex offering the public recreational access opportunities. The site is subject to recurrent flooding from both storms and rain. The public dirt road serving the facility is owned by Gloucester County as a statutory dedicated road, a complex legal issue originating from the late 1960's. This is the only public access road to the facility.

The facility also has a current multimillion dollar resiliency design build grant from Go Virginia to Virginia Sea Grant/VIMS as well as a one million resiliency housing grant concurrently underway at the facility. Both grants are impacted by the site flooding conditions.

The Authority and its resiliency partners working on resiliency solutions at Captain Sinclairs are committed to providing the match to improve Captain Sinclairs to better manage flooding at the site and for the Commonwealth to benefit and learn from

Gloucester County \$5,000 cash committed.

From: Cronin, Patricia <pcronin@gloucesterva.info>
Sent: Monday, October 25, 2021 10:19 AM
To: Heather Modispaw <Hmodispaw@mppdc.com>; Lewis Lawrence <llawrence@mppdc.com>
Cc: Steele, Carol <csteele@gloucesterva.info>
Subject: FW: Road Improvement Money

Good morning,

I wanted to touch base on getting this \$5,000 payment processed. After discussions with our finance department, we found it was not necessary to have the Board approve an appropriation for the change in funding, we just need to have a request to submit with the payment.


Heather, if you can generate a letter requesting the funds for the PAA for road improvement, that will give me the basis to process. We do not have the PAA set up as a vendor in our system for me to issue the payment directly. If that is the preferred method, I will need a W9 to set up a vendor account. Alternatively, we can issue the check to the MPPDC as we do for the annual payments. I'm not sure if that is more work on your side for processing the payment to the PAA.

Thanks and sorry for the delay,

Trish

Trish Cronin, CMC
Deputy Clerk
County Administrator's Office
County of Gloucester
6489 Main Street
Gloucester, VA 23061
804-693-4042 phone
804-693-6004 fax


Attachment 9: Authorization to request for funding



MIDDLE PENINSULA
PLANNING DISTRICT COMMISSION

8/30/21

To: DCR Staff

From: Lewie Lawrence, MPPDC Executive Director 

Reff: Authorization to request for funding:

Matching funds for all construction and design projects provided under Round 2 of the Virginia Community Flood Preparedness Fund are provided by the property owner for which the project is proposed. The match commitment letter acknowledges that the owner of the project (land owner) understands that a match commitment is required and will be provided should the project be funded.

The required elements are found within the submitted application proposal packet. A notation of where each required item is noted in "parentheses"

- The name, address, and telephone number of the contributor (application packet and match commitment letter).
- The name of the applicant organization (application cover sheet)
- The title of the project for which the cash contribution is made (application cover sheet)
- The source of funding for the cash contribution (match commitment letter).
- The dollar amount of the cash contribution (application budget)
- A statement that the contributor will pay the cash contribution during the agreement period (match commitment letter).

Salish Professional Center • 125 Bowden Street • PO Box 236 • Stuart, Virginia 22149
(Phone) 804-328-2311 • (Fax) 804-759-4497 • (Email) p.d.info@mppdc.com
<http://www.mppdc.com>

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