

# CAPTAIN SINCLAIR'S RECREATION AREA PLAN

MAY 4<sup>TH</sup>, 2015



  
**Sea Grant**



**CURA@VCU**

Center for Urban and Regional Analysis  
L. Douglas Wilder School of Government and Public Affairs



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## **Acknowledgments**

This plan would not be possible without the guidance, recommendations and support from the Middle Peninsula Planning District Commission, The Middle Peninsula Public Access Authority Board, Gloucester County, and the citizens of Gloucester.

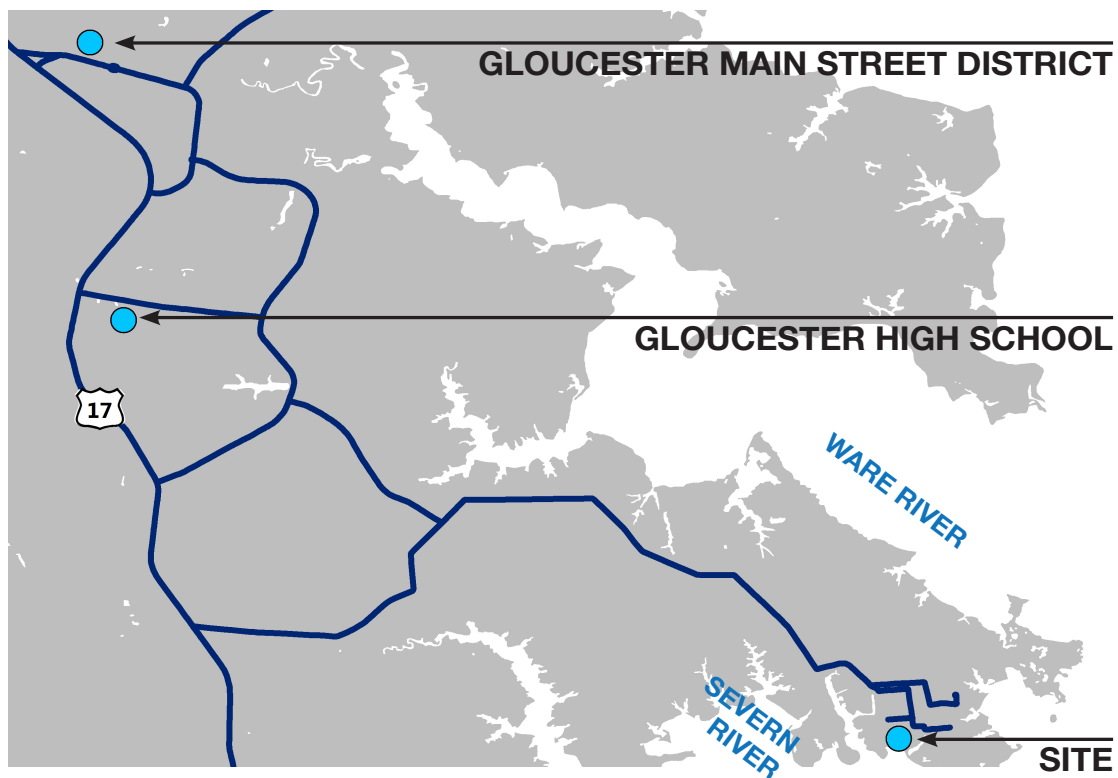
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# EXECUTIVE SUMMARY

The Captain Sinclair's Recreation Area Plan is comprised of environmental, land use, and economic research strengthened by an overarching public participation process. The results found in detail within this document showed an overlap of public desire for recreation amenities and the possibilities for the site. This summary will include the highlights.

The site is located in southern Gloucester County on the Severn River, adjacent to Land's End, the historic home of Revolutionary War hero Captain John Sinclair. Map one shows the location of the site in relation to the Main Street District and the Gloucester High School. The site is a collection of



MAP 1: SITE LOCATION

Built off of public input, the plan follows six goals, three “wills” and three “shoulds.” The site will enhance community quality of life, will be environmentally sensitive and sensible, and will be economically viable. The site should feature an attractive design, should generate revenue, and should be easily implementable. The following proposed schemes were created under these six goals.

The plan features two schemes: passive and active., and will be explained after each map.



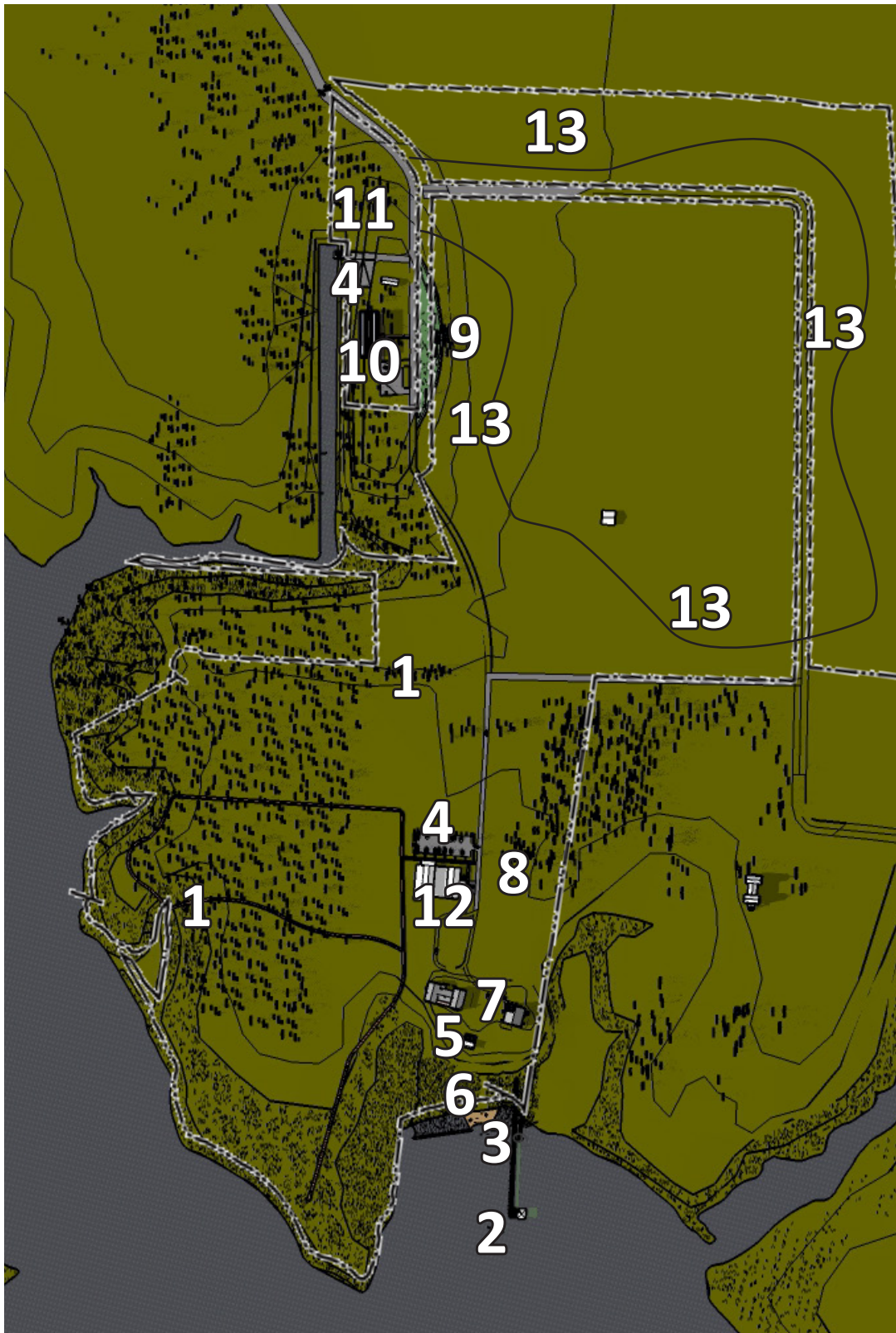
## PASSIVE SCHEME

1. Boardwalk, Trails, and Observation Platforms
2. Oyster Gardening
3. Canoe and Kayak Launch
4. Parking
5. Outdoor Theatre
6. Beach
7. Coastal Maritime Center
8. Pool House
9. Native Nursery
10. Rental House
11. Boat Ramp
12. Rowing Team Center
13. Horse Trails

The passive scheme is comprised of low-impact, low maintenance uses. This plan does feature some revenue generating uses, with the highest generator being the vacation rental house, but is mostly non-generating. The vision of the complete passive scheme is a quiet, secluded, recreational destination. The elements of the passive scheme are:

- Trail System: series of ground and elevated (boardwalk) trails connecting points of interest on site. The system includes horse trails, interpretive nature signage, and observation decks
- Canoe and Kayak Launch: a floating dock onto the Severn River allowing quick and easy access for kayaks and canoes
- Rowing Team Center: a home for the Gloucester High School Rowing Team's equipment
- Statue Garden: Statues from the top of the main house removed and arranged as a point of interest along the trail system
- Native Nursery: plant nursery selling native species to local projects
- Parking: Four lots total, two in the passive scheme- one large one near the Rowing Team Center and one by the boat ramp
- Beach and Living Shoreline: a fully funded project to mitigate the effects of erosion and add the benefit of a beach
- Rental House: a vacation, nightly rental house will be the main source of income production and occupy the brick ranch house on site
- Coastal Maritime Center: environmental educational center focused on K-12 and community education
- Oyster Gardening: Sponsored by the Tidewater Oyster Gardeners Association (TOGA), an educational program demonstrating the lifecycle of oysters will occupy the pier and the Coastal Maritime Center
- Outdoor Theater: A multi-use space built behind the main house will be available for public and private uses
- Boat Ramp: An existing ramp that drops into a canal leading to Whitaker Creek will be repaired for community use
- Horse Trails: A trail loop in the northeast corner of the property connecting to the main trail system.





## ACTIVE SCHEME

1. Boardwalk, Trails, and Observation Platforms
2. Oyster Gardening
3. Canoe and Kayak Launch
4. Parking
5. Outdoor Theatre
6. Beach
7. Event Center / Bait and Tackle Shop
8. Canoe and Kayak Retail
9. Native Nursery
10. Marine Research Center
11. Boat Ramp
12. Rowing Team Center
13. Horse Trails



The active scheme features more specialized uses, as opposed to solely typical park amenities. At full build-out, the active scheme will be a research and educational focal point in Gloucester County, providing universities and schools a unique, immersive experience. The active scheme calls for a stronger event center, providing more lodging and venue options. The active scheme also features two employment opportunities through the operation of a bait and tackle shop and a canoe and kayak launch. The active scheme will include most passive scheme uses but add the following:

- Canoe and Kayak Rental: A counter will offer hourly rentals of canoes and kayaks with a rack located beside the canoe and kayak launch
- Event Center: The main house and pool house will be renovated to accommodate a higher capacity of lodging for events such as weddings, reunions, and vacations
- Bait and Tackle Shop: A small bait and tackle shop will occupy the garage of the main house and provide fishing supplies on a seasonal basis
- Marine Research Center: A science facility will occupy the footprint of the ranch house and provide research opportunities to an institution seeking to expand its academic footprint into wetland research

The most expensive project will be raising the road above tidal elevations. This project could potentially cost over \$300,000 and is eligible for standard VDOT secondary road funds (pending entry into the Six-Year Improvement Program) and the VDOT revenue sharing fund. Other grants that will significantly reduce the costs to complete either scheme can be found within, as well as a strategy of non-profit creation to capture private donations. An overview of costs can be found in the table on the following page.

Base Elements				
Objective	Timeframe	Implementing Agency	Cost	Potential Funding Sources
Lands End Road improvements	> 1 year	VDOT	\$320,000+	VDOT Recreational Access Program
Main Parking lot (180' x 60' @ 3' deep)	> 1 year	Private Contractor	\$47,000-57,000	
Pier replacement @155'x8'	1-2 years	Private Contractor	\$18,600-43,400	
Trails, Boardwalk, and Observation Decks	1-2 years	Private Contractor	\$63,360-316,800	DCR Recreational Trails Program
Main House and Pool House rennovation	1-2 years	Private Contractor	TBD	
Rental House rennovation	1-2 years	Private Contractor	TBD	
Outdoor Theatre	2-5 years	Private Contractor	\$11,250-26,250	Volunteer
Eco Garden	2-5 years	MPPAA	TBD	
Beach	1-2 years	VASG	Funded	
Boat Ramp	1-2 years	MPPAA	TBD	MPPAA
Boat Ramp Parking Lot	1-2 years	Private Contractor	\$24,100-28,300	
Active Additives				
Objective	Timeframe	Implementing Agency	Cost	Potential Funding Sources
Canoes, kayaks, and storage rack	2-5 years	MPPAA	TBD	Donations
Event Center Upgrades	2-5 years	Private Contractor	TBD	
Ranch House Demolition	2-5 years	Private Contractor	TBD	
Marine Research Center	5-10 years	VIMS	TBD	VASG
Marine Research Center Parking Lot (100' x 60' @ 3' deep)	5-10 years	Private Contractor	\$30,000-34,000	VASG
Bait and Tackle Shop	5-10 years	MPPAA	TBD	

# INTRODUCTION

## THE CLIENT AND PROJECT

Funding for this project is provided by Virginia Sea Grant (Sea Grant), headquartered at the Virginia Institute of Marine Science (VIMS) at the College of William and Mary. VIMS is a research organization dedicated to the conservation and public use of marine areas. Fostering a long-term partnership with the regional planning body, the Middle Peninsula Planning District Commission (MPPDC), Sea Grant identifies potential coastal community development projects in the region and funds eligible projects.

The Middle Peninsula Chesapeake Bay Public Access Authority, often shortened to the Middle Peninsula Public Access Authority (MPPAA) works to increase public water access 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 MPPAA was created in 2002 by the Virginia General Assembly as a regional authority for the protection and creation of public water access after an influx of new residents challenged traditional and culturally accepted water usages. The MPPAA'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
- perform other duties to fulfill their mission.



FIGURE 1: THE MPCBPAA AND VIRGINIA SEA GRANT LOGOS

In April, 2013, the MPPAA was gifted a 97 acre waterfront property on the Severn River. Usage of the property in its initial conditions came with a series of challenges outweighed by a litany of potential public uses. The site was identified by the MPPDC and Sea Grant as a property which could advance the interests of both organizations, as well as benefit the local community and the region as a whole. This realization resulted in a partnership between the MPPDC, the MPPAA, and Sea Grant.

Virginia Sea Grant allocated \$40,000 for a research and planning process, calling on Virginia universities to submit proposals and bids. The Master of Urban and Regional Planning (MURP) program through the Center for Urban and Regional Analysis (CURA) in the L. Douglas Wilder School of Government and Public Affairs at Virginia Commonwealth University (VCU) won the project and received the grant. Preliminary work conducted by



FIGURE 2: AERIAL IMAGERY OF THE SOUTHERN PORTION OF THE SITE COURTESY BING MAPS

MURP began working in the summer of 2014. In the fall semester, two design classes, a land use class, and a community participation class worked to complete much of the research phase of the project. The topics the courses covered allowed a wide variety of information to be collected. The following semester, three graduate student planners hired from those classes completed the plan with faculty and client guidance.

### THE SITE

The 96.81 acre property features approximately one mile of waterfront on the Severn River. Most of the property is a pristine coastal ecosystem, featuring a mix of hardwood and pine forest, tidal wetlands, and non-tidal wetlands. The property is subdivided into 21 parcels owned by the MPPAA and 11 not owned by the MPPAA (figure 3). The site features a shallow man-made canal on its western side.

There are three dwellings on the site: the waterfront main house (over 7,000 sq ft), an adjacent pool house, and, situated on the

canal, a ranch house (2000 sq ft). The main house is of a contemporary early 1970s design with deteriorating concrete greco-roman additives, including 12 life-size statues on the roof. Outbuildings associated with the main house include a two-bay garage with workshop, an open-bay barn for horses or farm vehicles, and an enclosed barn housing the Gloucester Crew Team. The property includes a 400 foot wood dock in poor condition, to rebuilt in the spring of 2015.

In the 1960s the property was subdivided and platted as "Lands End." The name comes from the adjacent property, containing a historic home named Lands End. The original Lands End was the home of Revolutionary War-era Captain John Sinclair, a figure of importance to Gloucester County. The site, not wanting to detract from the Lands End brand, has taken the name of Captain Sinclair, who was no doubt familiar with and possibly owned the site.

### PLAN PURPOSE

The mission of the MPPAA to provide public water access in conjunction with Virginia





FIGURE 3: SUBDIVISION OF SITE

Sea Grant's conservation-oriented goals means the uses of this site will have minimal impact on the environment while bringing maximum benefit to the public. The site will provide public health benefits through increased recreation opportunities. Certain site uses are planned to generate revenue, providing positive economic impacts on the county.

The Middle Peninsula region (the counties of Essex, Gloucester, King and Queen, King William, Mathews, and Middlesex and the towns of Tappahannock, Urbanna, and West Point) has a unique set of economic challenges. Seventy-one percent of employed Middle Peninsula residents commute to other regions for work. The remaining 29% receive the lowest hourly, weekly, and annual wages in the Commonwealth.<sup>1</sup> The region has several isolated distressed communities, leading to higher than average Supplemental Nutrition Assistance Program (SNAP) participation.<sup>2</sup> Four of the six Middle Peninsula counties have poverty rates in the 10%-15% range, with several approaching 15%.

Gloucester County is rich in natural beauty. Featuring all possible micro-environments in the tidewater region, Gloucester County has the potential to and must capitalize on this beauty. It is essential for Gloucester and the Middle Peninsula Region to combine economic and community development to promote job creation and stimulate inflow into local businesses and amenities.

1 Virginia Employment Commission, 2010 and the Virginia Work Force Connection-Labor Market Statistics, October, 2012.

2 Weldon Cooper, 2010: <http://www.coopercenter.org/demographics/interactive-map/citycounty/3472>.

## GOALS

The following six goals will direct every action introduced and recommended by the plan. The goals are grounded in the Gloucester Community's values and desires for the site and seek to form a vision of the future of this site compatible with those values.

### ENHANCING

All plans for the site must enhance community quality of life. Site uses will add to the recreational opportunities available to the community; promoting leisure and increasing public health. The sharing of spaces for leisure and recreation is a pillar of American life, strengthening community bonds and fostering community ownership of these shared spaces.

### ENVIRONMENTAL

All plans for the site must be environmentally sensitive and sensible. New construction will have minimal impact on the site and its surroundings. The natural beauty of the Gloucester County waterfront provides an invaluable quality that is to be protected and preserved for the enjoyment of all.

### VIABLE

All plans for the site must be economically viable. Site uses will not be a financial burden on the citizens of Gloucester County. The public will not pay for uses that cannot be adequately funded.

### ATTRACTIVE

Elements of the site should be aesthetically pleasing. Design of these elements will be sympathetic to the natural beauty of the site. This includes views from within the site as well as from the Severn River. Architectural elements will draw from local architecture and at the same time be unique to the site.

### PRODUCING

Through creative planning, the site can become a profitable addition to the economy of Gloucester County.

### IMPLEMENTABLE

Implementation of all site uses should be neither too difficult nor too expensive to carry out.



## **PLAN OVERVIEW**

The plan is divided into the following sections:

### **METHODOLOGY**

The processes used to collect data and inform recommendations

### **EXISTING CONDITIONS**

Demographics of Gloucester County, and physical conditions of the site

### **CITIZEN VIEWS**

An overview of the processes used to gain community input and the results of those processes

### **ECONOMIC DEVELOPMENT**

An overview of expected economic outcomes

### **ECONOMIC ANALYSIS**

Research on the economic impacts of specific site uses

### **THE PLAN**

Recommendations for the site

### **IMPLEMENTATION**

An action plan for moving forward

# METHODOLOGY

## PHASE I

Phase I of the project began after VCU won the bid for work from Virginia Sea Grant. In this phase major stakeholders were identified and contacted, preliminary research of the site and Gloucester County was conducted, and a public meeting was held on site for initial public input.

## PHASE II

Phase II was completed by four classes modified to fit the project. The classes were Principles of Urban Design, Land Use Planning, Community Participation and Negotiation, and Digital Graphic Design and Desktop Publishing.

Digital Graphic Design and Desktop Publishing created a 3D model of the existing site using the program Sketchup. Public Participation and Negotiation, through public meetings and surveys, assessed the concerns and desires of the community. This, combined with research on possible land uses completed by the Land Use Planning course informed the Principles of Urban Design course as they modified the site model to show potential future uses. These uses were then displayed at a public meeting hosted by the Public Participation and Negotiation course to receive further community input. Based on public input and site possibilities, community values were converted into a set of six goals, found in the Introduction. These goals guided all recommendations for the site.

## PHASE III

Phase III was completed a student-faculty. Three students were hired out of the four courses participating in Phase II. The students were first tasked with researching questions that arose from Phase II, but were not answered at that time. This research further solidified some potential uses and required others to be modified to fit the site. The team then researched in economic terms, finding possible costs and profits associated with each, as well as the demand required for successful implementation. The team then compiled and condensed Phase II research and analysis. The final major writing process was to draft the official plan for the site. This draft was displayed at a public meeting in Gloucester County. PAA board members were interviewed and Gloucester High School students were surveyed after reviewing the recommendations. Feedback from the client, stakeholders, and the community was noted and the plan was modified into its final version.

# EXISTING CONDITIONS

## DEMOGRAPHICS

### POPULATION

Though much of Gloucester County is rural, it is becoming more suburban. The county has seen steady population growth over the past 20 years. From 1990 to 2000 the county experienced a 15% increase in population from 30,131 people in 1990 to 34,780 people in 2000. Gloucester has a current population of 36,858. This is about a 6% increase from the 2000 population of 34,780. This population growth has caused an increase in the number of households and families. In 1990 there were 10,966 households and 8,505 families. In 2010 there were 14,293 households and 10,449 families. This increase in population and housing is a significant and fast increase when considering development and growth patterns in this predominantly natural and rural area.

### RACE AND ETHNICITY

Race distribution is depicted in figure 1. Gloucester County is predominantly white with small growing populations of Hispanic and Asian people. The county is currently 87.2% White, 8.7% Black and 2.5% Hispanic. All other races are less than one percent of the total. From 1990 to 2010 the white population has increased by 21.6%. The black population has decreased by 4.7%. The Hispanic population in Gloucester County has increased from being only 0.3% of the population to being 2.5% of the total population.

### SEX AND AGE

The population of Gloucester County is distributed evenly between the sexes for the most part with a slight skew to female, as seen in figure 2. The base of the pyramid, the ages of 0 to 19 is large, indicating a natural population increase. This is counterbalanced by an outflow of population aged 20 to 44. The largest population group is 45 to 49 with a steady decline at higher age levels. This population pyramid indicates Gloucester County's inability to hold on to young workers

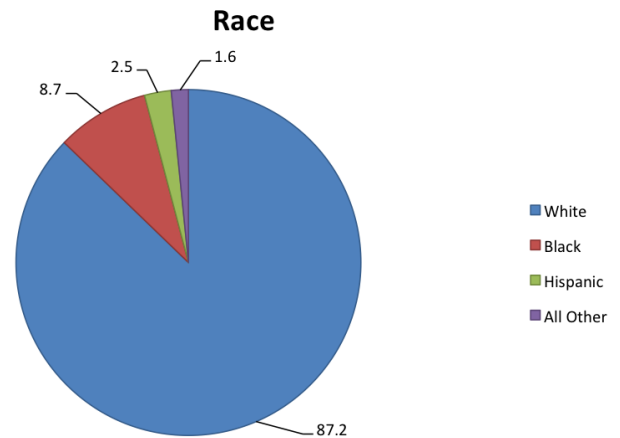


FIGURE 1: RACE IN GLOUCESTER COUNTY

### Gloucester County Population by Age

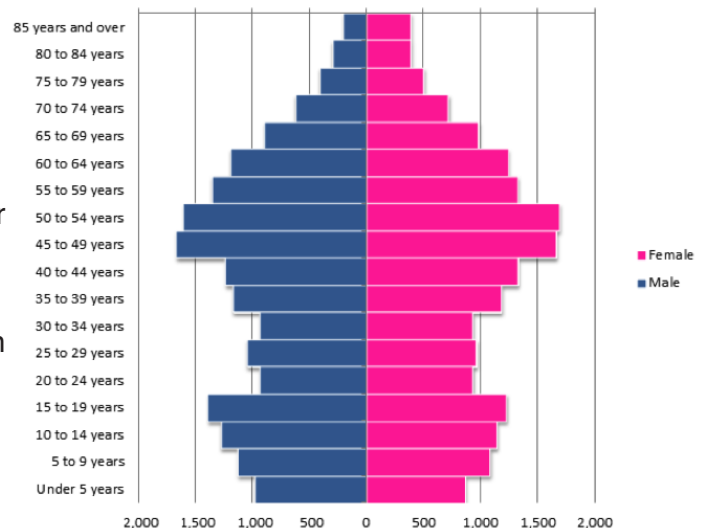


FIGURE 2: SEX AND AGE IN GLOUCESTER COUNTY

and young families, most likely due to the lack of employment opportunities and the commuting lifestyle required to reside in this county.

## HEALTH & FITNESS

Adult obesity has risen in Gloucester County from 26% in 2008 to 31% in 2010, while the

state average in Virginia has increased from 27% to 28% over this same time period. The percentage of adults aged 20 and above reporting no leisure-time physical activity increased from 22% in 2008 to 25% in 2010 for Gloucester. Decreased physical activity has been linked to several disease conditions such as type-2 diabetes, cancer, stroke, hypertension, cardiovascular disease, and premature mortality, independent of obesity.

### EMPLOYMENT

Gloucester county has a large proportion of employment in basic service industries with typically low paying jobs without benefits. The county also lacks a marketable specialization. The four highest concentrations of employment are in government, healthcare, retail trade, and accommodation and food services sectors, which as a whole provide over 70% of all jobs in the county (more than 9,000).

Wages paid by employers in the county are about two-thirds of the average wages paid statewide while median household income and per capita income are only slightly less than the Virginia average. A majority of the workforce living in Gloucester commutes to work, primarily to the Hampton Roads region, where wages are higher.

### SITE HISTORY

Land's End was originally owned by Revolutionary War Captain John Sinclair. Sinclair was born March 14th 1755 in Smithfield, Isle of Wight County, Virginia. 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. After the war he purchased property in the area now known as Land's End.

### ENVIRONMENTAL CONDITIONS

The site is outlined figure 3. The property features a canal, one to the northwest, as indicated in figure 4. The site has a low elevation, sitting between zero to six feet above sea level, and is generally flat with an upward slope to the east. The house sits on the highest part of the property and is still prone to flooding. Elevation data can be seen



FIGURE 3: THE SITE WITH WHITE BOUNDARY LINE



FIGURE 4: CANAL INDICATED IN BLUE

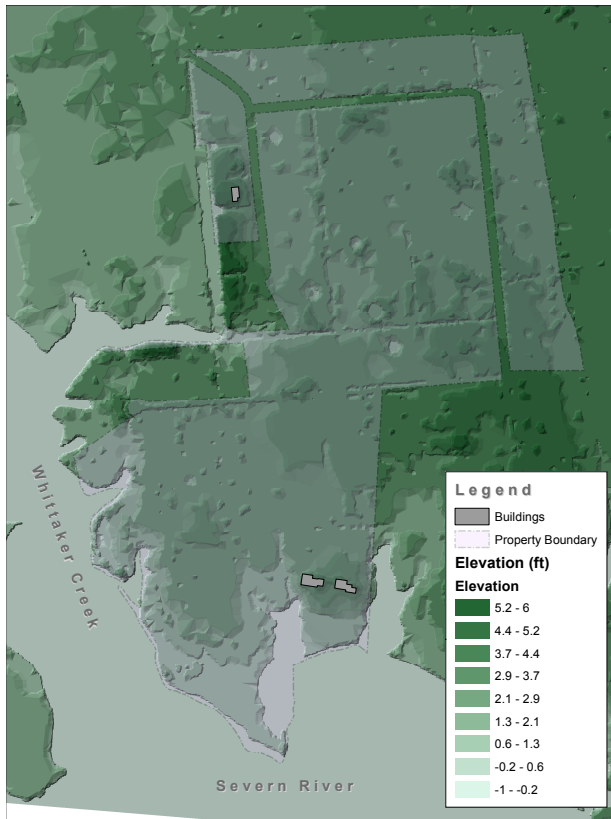
in the topography map figure 5.

Buildings on the site include the 8416 square foot main house, a pool house, a large shed currently used by the Gloucester High School rowing team as a workout space, and a garage used to store the team's boats. There are six public hunting blinds located on the site. The total appraised value of the land and buildings is \$1,149,900.00. The main house can be seen in figure 6.

### ACCESS

A gravel road ranging from two to four feet





**FIGURE 5: TOPOGRAPHY OF THE SITE**



**FIGURE 6: THE MAIN HOUSE**

above sea level is the only access route to the site by land. The site is accessible via the Severn River and Whittaker Creek. The low elevation makes the road susceptible to flooding from high tides as well as category one and higher storm surges. For water access, the site has one public boat launch in poor condition, a large wood pier in poor condition (See figure 7), and a Candock floating dock used by the rowing team.

### SOILS

The soil types are loamy and sandy, being excellent for plants and vegetation, as well as being able to easily drain water. Sandy loam is good for construction, providing a firm base



**FIGURE 7: WOODEN PIER**

that will not shift under pressure, but which also allows easy percolation of water.

### RIVER DEPTH

The pier at the site drops into five-foot-deep water, followed by a steep drop into a 21 foot trench in the middle of the Severn River.

### FLOODING

Should the river get rough or a storm move in, the site may flood. Any category of storm surge will hit the site, flooding the property and soil and washing out the road. Rising sea levels will have a negative impact on the property, pushing the water closer to the house and increasing the likelihood of significant flooding. The area around the site is also prone to frequent flooding, and lies within the floodplain of the Severn River.

The local wetlands help to mitigate some of that water damage, and a beach buffer program will add roughly 50 feet of sand, vegetation, and rocks to the current site shoreline, providing a buffer from flooding and storm surge. A hurricane of any strength would flood this site and knock out access. Propensity for flooding remains the biggest weakness of the site.

Flood frequency, seen in figure 8. shows how often a certain elevation of flooding occurs.<sup>1</sup> The chart describes that within a certain time period, a certain level of flood will occur statistically. Within a 10 year period a flood leveling out at five feet can be expected, within 25 years a flood of 5.8 feet can be expected,

<sup>1</sup> Coastal Floodplain Management for Gloucester County, Virginia, Gloucester County, July 2014.

Frequency (Years)	Elevation (Feet)
10	5.0
25	5.8
50	6.5
100	7.3

FIGURE 8: FLOOD FREQUENCY

and so on. This plan will consider the 50 year, six-and-a-half foot flood elevation and compare the elevation numbers to the finished floor elevations of the main house (8.73 feet), the pool house (7.08 feet), and the ranch house (6.95 feet). Each of these main floors are outside of the 50 year flood estimate with current sea levels.

Taking into account predicted sea level rise, in 50 years, a single flood could reach 8.0 feet. While this is above the base elevation of both the ranch house and pool house, the main house is still out of harm's way. The 100 year flood event, together with the anticipated sea level rise over the next 50 years amounts to a flood level of 8.8 feet. Figure 9 illustrates the flood levels combined with sea level rise and their effects on inhabitable structures on site. At this level, much of the main house remains unharmed. Though floods of this caliber could begin to pose an issue to the other two houses, key construction techniques will be employed to retrofit each structure in order to mitigate the effects of exceptional floods and sea level rise.

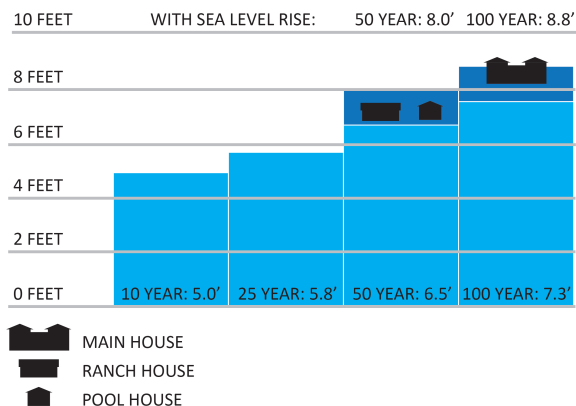


FIGURE 9: SEA LEVEL AND FLOOD ELEVATION



FIGURE 10: SOIL EROSION NEAR ROAD

### CIRCULATION SYSTEM

A few dirt trails wind through the forested portion of the site and into the surrounding marshland. These trails could be enhanced to support heavier traffic and cycling. Road access to the southern portion of the site requires visitors to drive around the perimeter of the property, causing unnecessary traffic on a road shared with a private residence (Land's End).

### INFRASTRUCTURE

The site has no sewer or water main hookups and instead relies on a septic system and wells. The buildings have electricity. Sewer and water mains are unlikely to come to the site considering its isolated nature. Parking is limited to a maximum of five vehicles.

### ROAD ISSUES

The entry road is affected by not only storm events, but tidal cycles and winds from the south. 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, but the cost of this project would have been \$320,000 for just materials and labor. This figure was nearly 20% of Gloucester Area's road budget. While dimensions would be different for a road-raising project on the Sinclair site, the cost would be a significant portion of the Gloucester road budget and therefore would require serious cost-benefit analysis. The improved road should be elevated to the 100 year flood with sea level rise estimate (to an elevation of 8.8' above sea level).

### RECREATION & CONSERVATION

The Virginia Department of Conservation



Locality	Dollars
Essex County	21.11
Gloucester County	23.77
King and Queen County	0.00
King William County	25.17
Mathews County	8.57
Middlesex County	8.78
Town of West Point	4.99
Statewide	62.81

**FIGURE 11: RECREATION SPENDING DOLLARS**

and Recreation (DCR) conducted surveys in 2011 in preparation for its 2013 Virginia Outdoors Plan. Four priority considerations that emerged out of the results of the surveys for the region include opportunities for outdoor recreation, economics, health and wellness and land conservation. Citizens attending public meetings expressed a need for local and regional projects to address health and wellness. The region's relatively high levels of inactivity may be influenced by the low availability of recreation as reported by the public.

The public voiced a general support for water access and water trails. DCR states that many public access sites could be retrofitted for non-motorized canoe and kayak recreation, and that interest is growing in paddle boarding and kite boarding. Some citizens expressed an interest in promoting public access to appropriate lands with conservation easements, especially lands with regionally significant views of the water. The counties that spend the most in this region parks and recreation are King William County, Essex County, and Gloucester County. Residents in King William County spend on average \$25.17 per capita on parks and recreation, residents in Gloucester \$23.77 per capita and residents in Essex spend \$21.11 per capita, as seen in the chart below. As evident from the Virginia Outdoors Survey, walking is the most popular outdoor activity, with 80% of households claiming to walk for pleasure. The Severn River has been recognized as a potential Virginia scenic river and should be evaluated to determine suitability for the designation of

such.

## **TOURISM**

According to the Virginia Tourism Corporation domestic travel to this region generated more than \$7 million in 2011, with much of that success attributed to historic sites, natural areas and parks visitation and tourism. The Gloucester County Economic Development Authority is identifying VIMS-related businesses as a strategy to actively recruit new and expand existing businesses. The faculty at VIMS offers the potential for research and development leading to new start-up businesses in the county.

The main retail center in the county is located at Gloucester Village in Gloucester Courthouse. The retail center serves the residents of rural Gloucester and to a lesser extent adjacent counties. A market analysis conducted for the Gloucester Courthouse Village Plan revealed the greatest percentage of visits to the shops are from Dutton in Gloucester with 37.7 visits per 1000 people, Mathews with the 2nd greatest, North in Mathews County the 3rd highest, Gloucester itself the 4th highest and Foster in Gloucester County the 5th highest.

## **DESIGN AND AESTHETICS**

With much of Gloucester County and the rest of the Middle Peninsula being predominantly rural in character, and having strong colonial influences, many historic colonial style buildings remain in the region. The architecture of the region is vernacular as opposed to high style, with vernacular being more of a solution rather than a creative design process.

A more contemporary style can be found in marine research buildings. A prime example can be seen on the Virginia Institute of Marine Science main campus less than 15 miles to the southwest. As one of the premier marine research institutions nationally, it serves as a regional employment center for the scientific profession in Gloucester County and the region.

Captain Sinclair's Recreation Area features a house and structures built by the previous landowner. The buildings were designed in a style not typical of or suitable to the area. The main house was designed to resemble a

Roman villa complete with a garden of statues in the front yard. As a private property, the aesthetic is free to be influenced by a host of external sources, however, now that the property is open to public access, an aesthetic that embraces the natural environment, emphasizes the views of the water and grounds, and is compatible with the local architectural style would be more appropriate.

The site offers a view of the Severn River which runs adjacent to the property. Current placement of the house serves as the ideal location to provide optimal views of the water and of the grounds of the site, including the coastal wetlands, the evergreen forests, and the local wildlife. Other notable locations with sought after views include the shoreline, the edge of the tree line, the current site of the rental house, and at the end of the pier.



**FIGURE 12: GLOUCESTER VERNACULAR ARCHITECTURE,  
4204 LANDS END RD**

# COMMUNITY VIEWS

## INTRODUCTION

The fall 2014 Public Participation and Negotiation course completed the community engagement portion of the plan. This was accomplished through three public meetings, as well as surveys, and interviews.

## PUBLIC MEETINGS

For each public meeting, the student team, under the leadership of a student facilitator ensured the meeting covered certain goals and objectives, stayed within the time constraints, and addressed questions, concerns, and comments in a sensitive and respectful way. The facilitator used prompts of underlying values that informed the design process. Public meetings took place in October, November, and December at the Captain Sinclair site, Gloucester County Library, and Botetourt Elementary School respectively. Because of the remoteness of the site and the tidal schedule, it was not possible to hold meetings at the site later in the fall.



FIGURE 1: FIRST PUBLIC MEETING

## MEDIA

News articles from Virginia Sea Grant and social media were used to ensure communication between meetings as a

means to keep public interest in the project, gather more interest, and receive more input throughout the process.

## SURVEYS AND INTERVIEWS

Surveys were made for online and in person distribution to reach community members who may not have been able to make the public meetings. The responses were summarized and used in public meetings to inform the direction of the project.

Individual interviews were conducted with interested stakeholders and government workers who could assist the team with technical, historical, and community knowledge of the site.

## RESULTS

The information collected during these initial community outreach efforts indicates residents of Gloucester County value the natural beauty, solitude, and waterfront access of the Captain Sinclair site. Despite these significant assets, the site faces the challenge of limited accessibility and is subject to environmental limitations such as flooding and a vulnerable ecosystem.

The central goal of the community outreach process was to engage county residents with significant interest in future uses of the site. Such outreach attempts serve a role of lending transparency and accountability to the planning process through actively engaging key stakeholders and considering their opinions. Additionally, engaging individuals with significant local knowledge will inform plan recommendations.

The majority of public meeting attendees during the final outreach process were either neighbors of the site or members of an organization, such as the Tidewater Oyster Gardeners' Association, that would benefit from specific uses of the area. This focused

turnout was most likely due to the isolated location of the site itself.

### **PRESENTATION OF FINAL PLAN**

A final public meeting was held in early April at Gloucester County Library. The meeting had low citizen turnout, but featured representatives of TOGA, the MPPDC, and Gloucester County. The proposed uses for the site were presented and then discussed in depth. The attendees provided valuable feedback, resulting in the modification of many proposed uses.

The new, modified uses were then distributed in the form of a pdf to the PAA board and to students at Gloucester County High School. Their comments were considered and final modifications were made to bring the plan to its final form.



**FIGURE 2: VISIONING ACTIVITY FROM THE THIRD MEETING**



# ECONOMIC DEVELOPMENT

## LOCAL BUSINESSES & EMPLOYMENT

The concepts proposed for the recreation area are capable of generating revenue and employment on-site and in the immediate area. For the site to generate revenue, it must be managed and maintained by several qualified individuals. The recreation area could be profitable and provide employment to residents. The employment created will be more than low-skill low wage jobs, as the natural amenities of the site will be harnessed for research, education, and innovation. Environmental education and research are excellent opportunities on the site, and to satisfy the skills needed for each, expert individuals will be needed.

Indirectly, the site overhaul could spur local economic growth by drawing customers to nearby businesses.

Close proximity to recreational opportunities has increasingly become a factor in businesses deciding where to locate. At present, the highest concentration of existing businesses is in Gloucester Courthouse. It serves as the primary retail center for the local area, with customers mainly from Gloucester and Mathews Counties. The array of amenities proposed for the site could attract groups from all over Eastern Virginia, and as a result, may introduce new customers to retail areas like Gloucester Courthouse, in turn supporting local businesses.

## PROPERTY VALUES

With development centers to the south extending into Gloucester County, the population has been increasing more rapidly in recent years with rising demand for housing. Demand for housing near recreational areas has also increased and Sinclair's desirable asset of public waterfront access will most likely increase the value of near by residences. With Captain Sinclair's desirable asset of

public waterfront access, residences nearest to the site will most likely increase in value. Recreation opportunities often increase the value of commercial property as well, particularly in more concentrated commercial areas. It is uncertain how far the property value increases will extend, but nonetheless, the county's tax revenue will increase.

In Gloucester County, real estate taxes and personal property taxes are by far the two largest sources of revenue in the general fund. Property taxes as a whole make up 63% of local revenue as of the 2015 – 2016 proposed budget. Recreational improvements in the county likely have a more significant effect on revenue than in most other localities. Property value increases near the site will best demonstrate the increases in revenue to the county's annual budget.

As people are also attracted to recreation and open space, many may decide to reside nearby, to take advantage of the available amenities, and consequently, increase property-related revenue further. Revenue generated to the county from property taxes could circle back into the site improvements or into other projects the county feels are important.

## TOURISM

Recreation centered on nature is, on its own, a tourist attraction. The proposed uses for the site can partner with tourism as an industry for generating revenue. Out-of-town visitors would be more inclined to take advantage of a larger spectrum of amenities and customer-based activities. The dominant theme of the tourism on-site would be environmental or ecotourism.

Natural heritage resources encompass 254 occurrences of rare species and significant natural communities. Seventy-six are different rare species and significant community

types, 26 globally rare natural heritage elements, three species listed as federally endangered or threatened, and nine species listed as state endangered

Opportunities are plentiful for the recreation area to connect with events and festivities, or even athletic events around the county. Visitors seeking a variety of outdoor activities could be drawn to events in the area in addition to the activities available at Captain Sinclair's. These visitors would support the local economy and the recreation area. The site, with a proposed event center and outdoor theatre, could serve host to expanded event and festival opportunities in Gloucester County that would attract outside revenue to the local economy. Increased tourism would benefit the industry and establishments offering accommodations.



# ECONOMIC ANALYSIS

## INTRODUCTION

Demand, costs, and potential profits were researched for the potential uses. This required comparisons of similar uses within Gloucester, the Middle Peninsula, and beyond. While demand proved difficult to assess for certain uses, general demand was determined based on the Department of Conservation and Recreation's 2013 Outdoors Plan as well as community input received through the public outreach process. Presented here is the summary of the research by use. The full findings can be found in Appendix A.

## TRAILS & BOARDWALK

While trails do not generate revenue, they do not have operating costs once installed. To avoid damage from strong waves because the site is prone to storm surge, the trails should not run parallel to the shore. This in combination with flood resistant materials will help preserve the trail system in extreme weather.

Estimated costs for the boardwalk (required on marshy lands) averages around \$100 per square foot. With around two miles of boardwalk, this would cost around \$132,000. For the rest of the trail system, simple dirt paths could be completed with on-site equipment. Dirt trail maintenance is minimal.

## ECO GARDEN AND NATIVE NURSERY

Research on the eco garden began with finding costs of creating new wetland areas. Since then, the use has evolved, based on feedback, into a native nursery. The native nursery comes at a low cost due to its products being sourced and nurtured on site. Those plants, once mature, are sold at a cost for local landscape projects.

## CANOE AND KAYAK LAUNCH AND RENTAL FACILITY

A canoe and kayak launch requires no operating cost. Success of the launch is depends on the safety and ease of the launch

itself. This requires a firm surface and sufficient space for the boat and additional equipment. This may be a revenue generating opportunity with a charge of \$2-4 (typical across Virginia) but the charge may restrict usage.

Adding a rental facility makes better use of the launch as far as generating revenue. A canoe and kayak rental facility would provide low wage, seasonal jobs and collect hourly rental fees from renters. Competitive prices are \$4 an hour for residents and \$6 an hour for nonresidents, usually for a 2 hour period of time, but with additional fees of \$1 for every extra 15 minutes. Daily rental of canoe and kayaks are sometimes available and would cost \$20 for residents and \$30 for nonresidents.

Hours of operation are usually from 8 am to 5 pm for waterfront parks as well as boat rental facilities. The cost to pay a worker would be around \$100 a day based on the hourly wage and hours of operation. For the rental option, a small store would be necessary to complete transactions and store the canoes and kayaks. The store would not need to be any larger than around 400 square feet, mostly for storage space to keep 25 canoes and kayaks each, year-round. Daily operation costs could reach \$200, requiring 2-3 kayaks rented per hour. This operation could be contracted to an interested outfitter in Gloucester County.

## MARINE RESEARCH CENTER

Using similar VIMS research centers in the region as models, a facility on the site would require at least 10,000 square feet, a road connection, a large parking lot, and a dormitory. Operation costs were calculated based on VIMS 2013 annual report. If VIMS were to operate the 10,000 square foot facility, the annual operation cost would be around \$109,000. If VIMS was to operate the facility, it is likely they could cover the operation costs through their own revenue generation.

The facility would focus on education, conservation, and research. Research desired at the national level (and therefore, likely to receive funding) would make this facility revenue-generating. The following bulleted list shows nationally desired research:

- Application of molecular biological tools to address vital questions in ecological, biogeochemical and evolutionary processes
- Research initiatives in understanding impacts of sea-level rise and long-term climate change
- Expansion of the ability to process large complex data sets and fisheries models through growth of bioinformatics
- Advances in modeling and simulation through HPC
- Exploitation of ocean observing systems in wide array of marine and environmental sub-fields
- Development and application of new tools in environmental toxicology and human health

Having an additional, smaller facility means it would break even more quickly from start-up. Using a similar-sized facility as a model shows that the time period to pay-off start-up costs is about five years.

#### BED AND BREAKFAST AND RENTAL HOUSE

A bed and breakfast was considered as a use for the main house. However, economic research proved this would be a difficult undertaking for the county. A bed and breakfast requires a dedicate operator working well over full-time and building relationships with customers. This type of business does not fit well with public sector endeavors. The

bed and breakfast would also be in direct competition with a well-established bed and breakfast on the way to the site, Warner Hall. It was determined that a better option would be to have a vacation rental house.

The vacation rental will occupy the small brick ranch house and charge competitive rates: \$175-\$400 a night for other Gloucester riverfront property. Rental homes do have a high operational cost, however, ranging from 60-75% of gross revenue.

#### WEDDING VENUE

Use as a wedding venue was also considered for the main house. Just as with the bed and breakfast, being a dedicated wedding venue was found to be in direct competition with Warner Hall. This led to research of the venue as a less regulated one, offering a simple multi-use event space. This would capture a market of do-it-yourself weddings that prefer more control over their wedding, in contrast with Warner Hall, which offers luxurious pre-planned packages.

Venue rental costs can be adjusted on a seasonal basis, and to match demand.

# THE PLAN

## INTRODUCTION

Presented in this plan are two schemes of development: Passive and Active.

The passive scheme is comprised of low-impact, low-maintenance uses. This plan does feature some revenue generating uses, with the highest generator being the vacation rental house, but is mostly non-generating. The vision of the complete passive scheme is a quiet, secluded, recreational destination. The passive scheme offers facilities for kayaks and canoes, motorized boats, mountain bikes, horses, and walkers. The site will be available for events, such as weddings, family reunions, anniversaries, and festivals. There will be community spaces for education of both adults and students. The site will continue to be home to the Gloucester High School Rowing Team.

The active scheme features more specialized uses, as opposed to solely typical park amenities. At full build-out, the active scheme will be a research and educational focal point in Gloucester County, providing universities and schools a unique, immersive experience. The active scheme calls for a stronger event center, providing more lodging and venue options. The active scheme also features two employment opportunities through the operation of a bait and tackle shop and a canoe and kayak launch. The active scheme will include all passive-scheme uses except for the vacation rental house, which will be replaced with the Marine Science Center.

The rationale for determining these uses is further explained in the following sections within the context of the six goals.

## ENHANCING

Plans for the site, both active and passive, are for public use. They will add to local leisure as recreational and educational opportunities available in the county while also bringing previously unavailable opportunities.

For leisure, the planned uses are intended for enhancement of an individual's free time. These activities can be divided into recreation, education, and culture. Recreational activities include the trail system, the boat ramp, the kayak launch, and the beach. These recreational opportunities allow local residents to incorporate physical activities into their leisure time. Having these amenities in place makes for healthier lives. Educational activities are programmatic ones offered by the nature center, the event center and the marine science center. These activities seek to educate participants on topics relevant to the local environment and include oyster gardening, lectures, and other community events using the available spaces. Cultural elements may encompass recreational and educational uses and any which bring the community together. Time spent together enjoying the same activity is a foundation of a community's culture.

## ENVIRONMENTAL

As a low-lying coastal environment, the site is extremely sensitive, but boasts a range of natural amenities to be preserved and enhanced. All construction on site will follow strict building code that addresses best practices for construction in vulnerable coastal locations. According to the elevation at base of all structures and infrastructure, foundations are raised at levels determined to be safe from most potential flood damage. Existing structures are retrofitted to withstand wind and water damage, with electrical systems and other exposed risks placed out of harms way. Materials utilized in construction of new buildings as well as for renovations are also able to hold up against threats from natural weather phenomena. New and existing inhabitable buildings will be planned in accordance with flood elevations and sea level rise, calling for flood proofing up to 8.8' above sea level.

Recreation activities added to the site cater to the many resources the local environment has to offer. Oyster gardening, for instance, builds off of the estuarine ecosystem and is able to offer value to local organisms. The grant-funded living shoreline is engineered specifically to be able to improve the condition of the coastline and model a healthy shoreline that could play host to local flora and fauna. Trails and boardwalks, again being engineered and constructed to resist weather damage, allow opportunity to enjoy the environment and the many species that inhabit the local area. Further opportunity to observe and enjoy the forests, grasslands, wetlands and waterways lies in being able to access the water itself. The much improved boat ramp allows for a variety of boats to access the canal that leads to Whitaker Creek and eventually the Severn River and the bay. Additional access to the water can be achieved with canoe, kayak or other non-motorized watercraft via the boat launch directly into the Severn River.

The proposed eco-garden will provide studying and educational opportunities of coastal ecosystems. The gardens could serve as a test subject for the existing natural conditions and even supplement a Marine Research facility to make new biological discoveries and better understand the complex local environment.

### **VIABLE**

The team has researched and reviewed the economic impact of each use. All passive uses will require funding to implement, but they will operate at low costs. Apart from the rental house and the nature center, employees are not required for operation. The rental house and nature center will require employees for cleaning and set up, which will be covered by revenue generated from the rental property.

The active uses require more operational funding and counterbalance that by generating revenue. With the main house becoming an event center and some of its rooms and the pool house becoming lodging spaces, employees will be needed to clean and prepare these rooms for guests. A bait and tackle shop requires staffing as well. A marine research facility would have a large operating budget, but if it is part of VIMS, over 97% of that budget is covered through public revenue generation. Initial start up costs may take

up to five years to see returns, which make this option slightly more of an economic risk. Similar-sized VIMS facilities exist on the Middle Peninsula.

### **ATTRACTIVE**

In accordance with the regional architectural style and also the necessity to abide by the rules of the coastal environment, the designs incorporated into the various elements of the proposed plan are much more suitable than in the site's prior state.

Unsuitable design features are removed from existing buildings and open spaces, replace by more aesthetically pleasing elements based on Gloucester and Eastern Shore vernacular. Decisions on where to place and position plan elements was influenced by the preserved natural aesthetic. All elements offer, as bonus to its enjoyment, views of decidedly key natural landmarks and points of beauty.

Renovations and new construction embody to some degree the local culture of the Middle Peninsula Region and the Virginia Institute of Marine Science just to the south. With a new pallet of colors, spectrum of materials, and engineered design enhancements, the site is set to symbolize the rich local history and vibrant coastal habitats.

### **PRODUCING**

Revenue generation will be complicated but possible on the Sinclair site. In the passive scheme, most uses are free to the public. Revenue generators will be the rental house and the nature center. The rental house will have rates competitive to the local market, being about \$200 - \$400 a night as of 2015. While rental homes come with high operating costs, these will be covered with some additional profit. The nature center will provide programmatic opportunities for community members to pay for a class. This will likely cover the cost of the instructor and materials needed, with some additional profit gained to support future educational opportunities.

In the active scheme, the event center and bait and tackle shop will serve as primary revenue producers. The event center will charge for rentals as well as lodging and provide different opportunities year round, such as wedding packages, retreats, and family reunions. The



bait and tackle shop will operate as a typical business, making a profit and funding its own growth.

## IMPLEMENTABLE

The implementation phase of this plan takes the proposed uses and brings them to fruition. The implementation of any of these uses is not to be too difficult or beyond the means of the implementing body. Part of ensuring this goal is to select a suitable organization or organizations to carry out the plan into the construction phase. Another factor is to only select projects that are sensible in respect to time and labor.

Table 1 offers categories of uses and their impacts of implementation in cost (economic impact), profits (revenue generation), public use (community impact), and duration (time table).

Water-Based Sporting Activities			
Economic Impact	Revenue Generation	Community Impact	Time Table
Low to Moderate	Moderate	High	Short-term

Passive Recreation			
Economic Impact	Revenue Generation	Community Impact	Time Table
Low	Low	Moderate	Mid-term

Aquaculture			
Economic Impact	Revenue Generation	Community Impact	Time Table
High	Moderate to High	Low to Moderate	Short to Mid-term

Event and Education Center			
Economic Impact	Revenue Generation	Community Impact	Time Table
Moderate	High	Moderate	Short-term

Lodging			
Economic Impact	Revenue Generation	Community Impact	Time Table
Low to Moderate	Moderate	Low	Short to Mid-term

Marine Research			
Economic Impact	Revenue Generation	Community Impact	Time Table
High	High	Moderate	Long-term

Eco Tourism			
Economic Impact	Revenue Generation	Community Impact	Time Table
Low to Moderate	Moderate	Low to Moderate	Mid-term

**TABLE 1: GENERATION AND IMPACT**

## ENABLING LEGISLATION

Certain aspects of the Code of Virginia enabling legislation should be identified here to form a legal basis for the plan. Codes relevant to the Middle Peninsula Chesapeake Bay Public Access Authority can be found in Title 15.2 Chapter 66.

### §15.2-6606

Powers of the PAA are established, allowing them to set fees, rates, and charges, to accept financial assistance, employ individuals, and establish personnel rules:

- 8. Determine fees, rates, and charges for the use of its facilities;
- 9. Apply for and accept gifts, or grants of money or gifts, grants or loans of other property or other financial assistance from the United States of America and agencies and instrumentalities thereof, the Commonwealth of Virginia, or any other person or entity, for or in aid of the construction, acquisition, ownership, operation, maintenance or repair of the public access sites or for the payment of principal of any indebtedness of the Authority, interest thereon or other cost incident thereto, and to this end the Authority shall have the power to render such services, comply with such conditions and execute such agreements, and legal instruments, as may be necessary, convenient or desirable or imposed as a condition to such financial aid;
- 10. Appoint, employ or engage such officers, employees, architects, engineers, attorneys, accountants, financial advisors, investment bankers, and other advisors, consultants, and agents as may be necessary or appropriate, and to fix their duties and compensation;
- 12. Establish personnel rules;

### §15.2-6617

Tax-exempt status of the PAA is established:

- The exercise of the powers granted by this act shall in all respects be presumed to be for the benefit of the inhabitants of

the Commonwealth, for the increase of their commerce, and for the promotion of their health, safety, welfare, convenience and prosperity, and as the operation and maintenance of any project that the Authority is authorized to undertake will constitute the performance of an essential governmental function, the Authority shall not be required to pay any taxes or assessments upon any facilities acquired and constructed by it under the provisions of this act and the bonds issued under the provisions of this act, their transfer and the income therefrom including any profit made on the sale thereof, shall at all times be free and exempt from taxation by the Commonwealth and by any political subdivision thereof. Persons, firms, partnerships, associations, corporations, and organizations leasing property of the Authority or doing business on property of the Authority shall be subject to and liable for payment of all applicable taxes of the political subdivision in which such leased property lies or in which business is conducted including, but not limited to, any leasehold tax on real property and taxes on hotel and motel rooms, taxes on the sale of tobacco products, taxes on the sale of meals and beverages, privilege taxes and local general retail sales and use taxes, taxes to be paid on licenses in respect to any business, profession, vocation or calling, and taxes upon consumers of gas, electricity, telephone, and other public utility services.

### §15.2-6617

The allowance of fees, rentals, and charges are established, allowing the PAA to earn revenue in order to be self-sufficient:

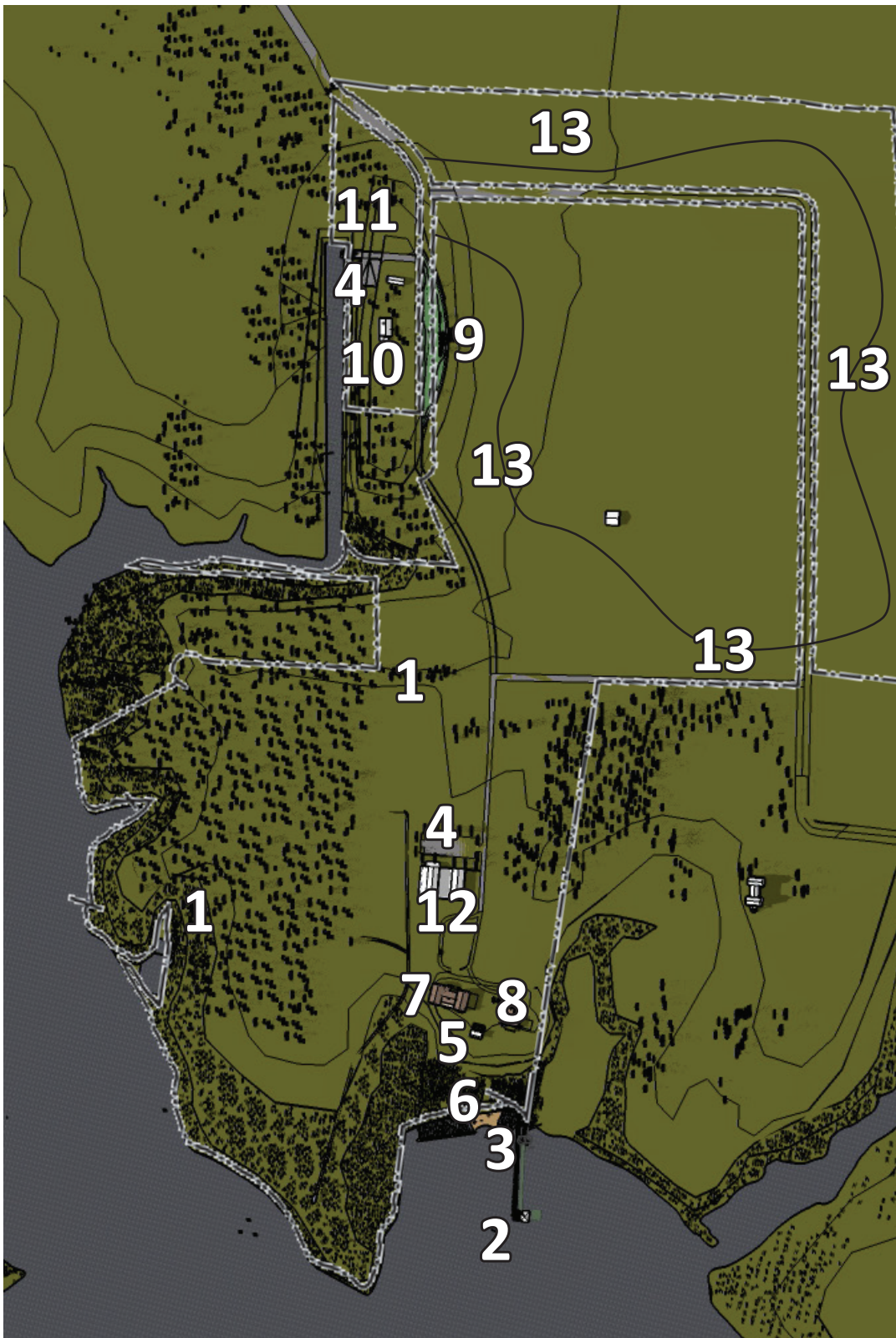
- The Authority is hereby authorized to and shall fix, revise, charge, and collect fees, rents, and other charges for the use and services of any facilities or access site. Such fees, rents, and other charges shall be so fixed and adjusted as to provide a fund sufficient with other revenues to pay the cost of maintaining, repairing, and operating the facilities and the principal and any interest on its bonds as the same shall become due

and payable, including reserves therefor. Such fees, rents, and charges shall not be subject to supervision or regulation by any commission, board, bureau, or agency of the Commonwealth or any participating political subdivision. The fees, rents, and other charges received by the Authority, except such part thereof as may be necessary to pay the cost of maintenance, repair, and operation and to provide such reserves therefor as may be provided for in any resolution authorizing the issuance of such bonds or in any trust indenture or agreement securing the same, shall to the extent necessary be set aside at such regular intervals as may be provided in any such resolution or trust indenture or agreement in a sinking fund or sinking funds pledged to, and charged with, the payment and the interest on such bonds as the same shall become due, and the redemption price or the purchase price of such bonds

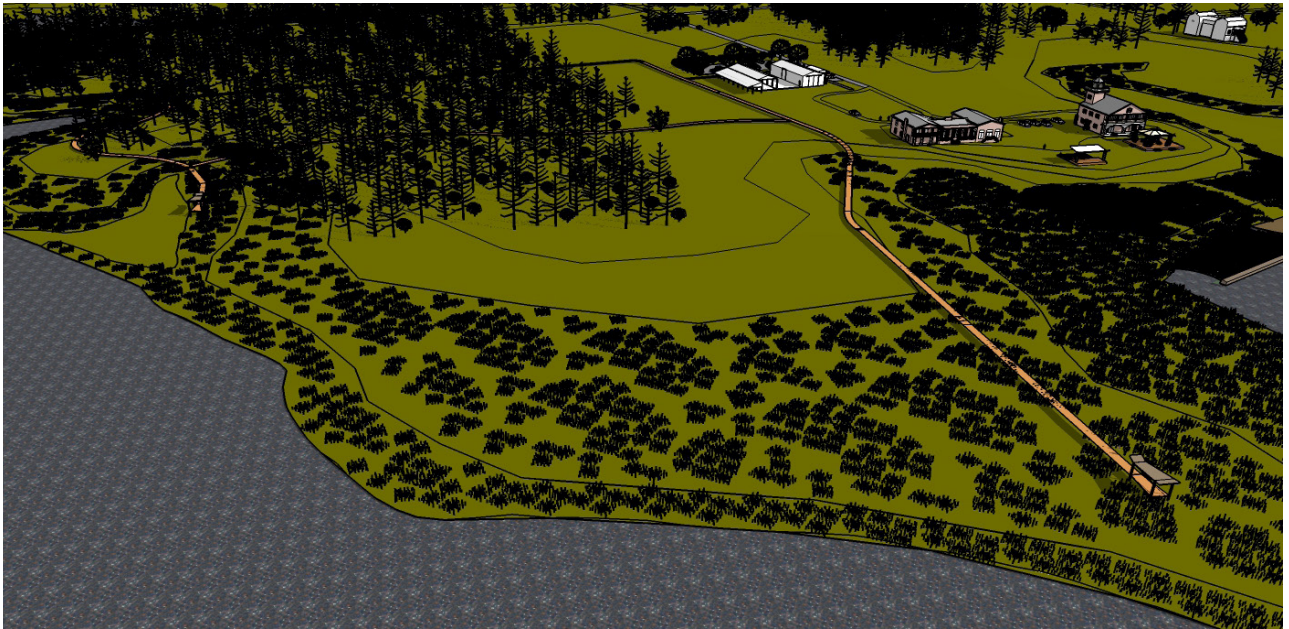
retired by call or purchase as therein provided. Such pledge shall be valid and binding from the time when the pledge is made. So long as any of its bonds are outstanding, the fees, rents, and charges so pledged and thereafter received by the Authority shall immediately be subject to the lien of such pledge without any physical delivery thereof or further act, and the lien of any such pledge shall be valid and binding as against all parties having claims of any kind in tort, contract, or otherwise against the Authority irrespective of whether such parties have notice thereof. Neither the resolution nor any trust indenture by which a pledge is created need be filed or recorded except in the records of the Authority. The use and disposition of moneys to the credit of any such sinking fund shall be subject to the provisions of the resolution authorizing the issuance of such bonds or of such trust indenture or agreement.

## PASSIVE SCHEME

1. Boardwalk, Trails, and Observation Platforms
2. Oyster Gardening
3. Canoe and Kayak Launch
4. Parking
5. Outdoor Theatre
6. Beach
7. Coastal Maritime Center
8. Pool House
9. Native Nursery
10. Rental House
11. Boat Ramp
12. Rowing Team Center
13. Horse Trails







**SOUTHERN PORTION OF THE TRAIL SYSTEM SHOWING BOARDWALKS AND OBSERVATION DECKS**

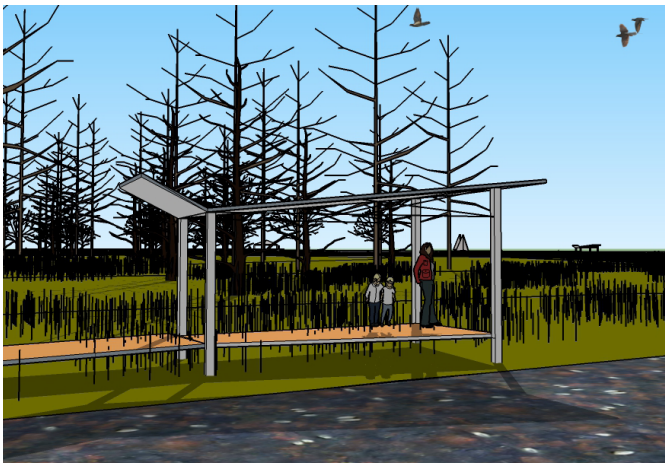
### **TRAIL SYSTEM**

Traversing drylands, marshlands, and forest, a trail system will allow visitors to circulate through the site. These trails will be a combination of dirt paths and elevated wooden boardwalks. The trail system will be accessible to mountain bikes. Visitors will be able to make a loop on the trail as well as walk to two observation decks. The observation decks look across wetlands to the Severn River.

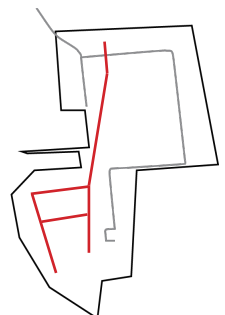
Along the trails will be educational signage, describing the wetlands, forests, plant species, and common wildlife in the immediate area. The trails will be an ideal bird-watching route in the county.

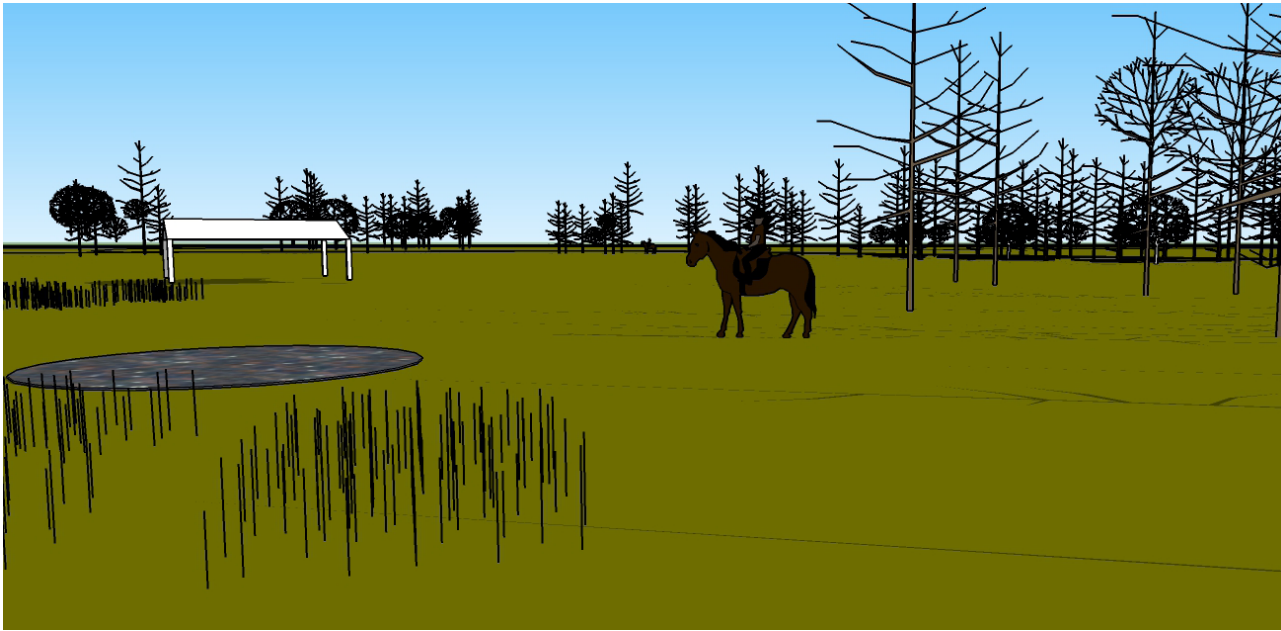
### **STATUE GARDEN**

While the statues placed on the top of the building do not fit the architectural aesthetic being created through this planning process, they will not be eliminated from site. The statues should be removed and placed near the main house and connected to the trail system to serve as a statue garden. The statue garden will provide a point of interest for trail users.



**OBSERVATION DECK**



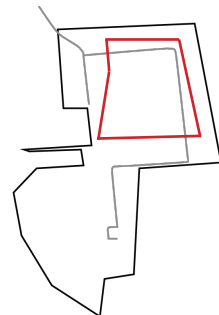


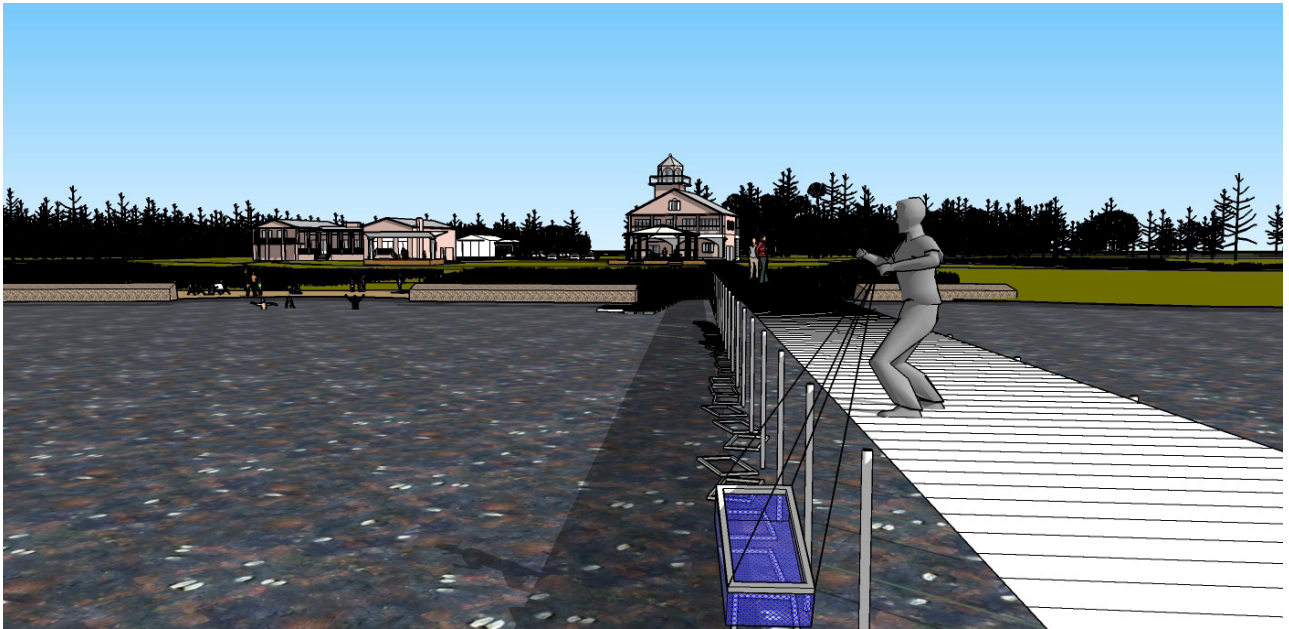
HORSEBACK RIDING ON THE SITE

### HORSE TRAILS

The trail system will feature a separate horse trail on the northern portion of the property, allowing horse owners to ride on a dedicated network. This trail system will route horse travel to the various horse wells dug by the previous owner. This will provide a passive, yet interesting trip for horse and rider.

Horse trailers can be parked in the boat ramp parking lot. Once unloaded, the signage will direct the rider to the trails, located just across the road.





OYSTER CAGES BEING LIFTED ONTO THE PIER

### **AQUACULTURE: OYSTER GARDENING AND HATCHERY**

Oyster gardening will be a structural and programmatic addition to the site. The gardens will provide an educational experience and foster growth of new oysters.

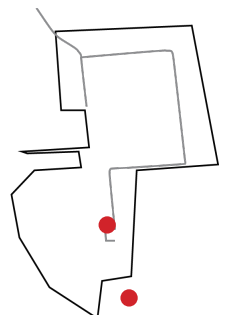
Oyster gardening is the more passive variant of oyster farming, with the latter being performed on a larger scale and with more permanent infrastructure. Oyster gardening involves the construction of cages filled with spat- young oysters. These floats are submerged and monitored until the oysters reach maturity.

The Tidewater Oyster Gardeners Association (TOGA) has expressed interest in using the site as a cage-making site and the pier as a base for submerging the floats. Through TOGA's expertise, the community will have the opportunity to be guided through the oyster gardening process.

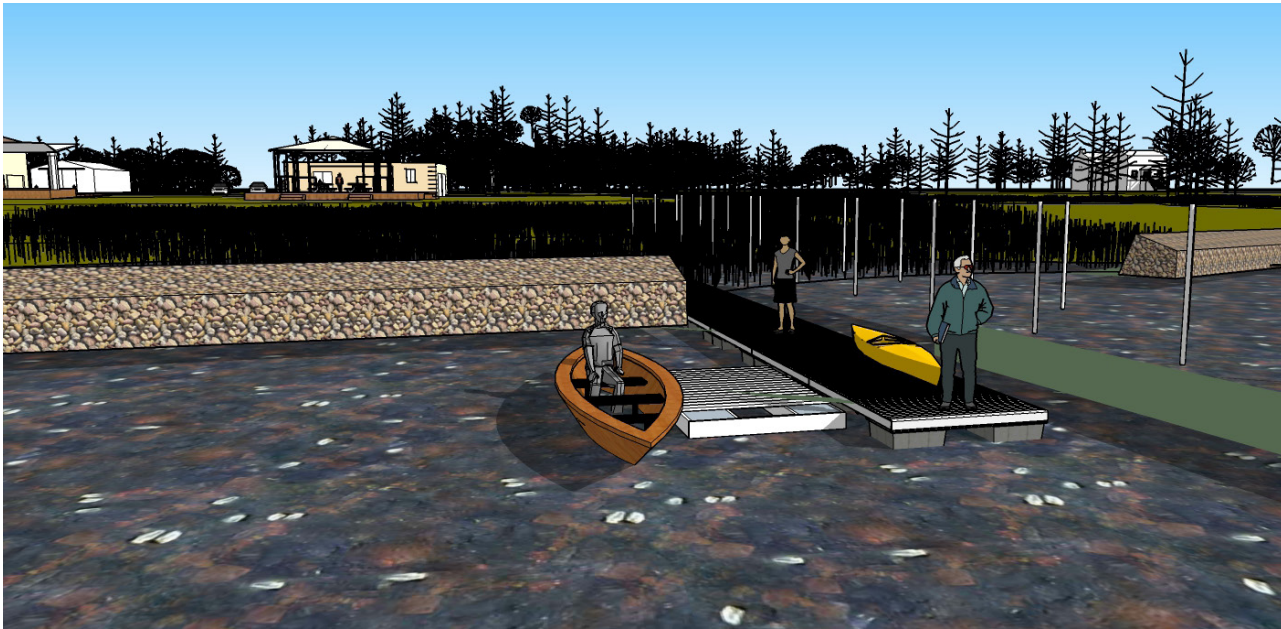
Having this program will provide community, educational, and environmental benefits. For the community, it will serve as a source of interaction and passive entertainment as members of the community complete the gardening process together. It will be educational in nature, giving community members a new skill and a new knowledge of the life cycle of oysters and their impact on the Chesapeake Bay. The program will provide environmental benefit by increasing the oyster stock, and mitigating damage caused by over-harvesting.

If the program is a success, spaces on the pier can be licensed out to individuals who wish to grow their own oysters outside of TOGA's purview.

Co-located in the Rowing Team Center, a hatchery operation could be contracted to a local operation, providing a space for the growing and commercial sale of shellfish on the site.







SMALL WATERCRAFT ENTERING THE SEVERN RIVER

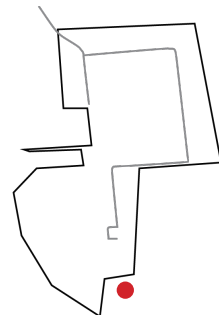
### CANOE AND KAYAK LAUNCH

The existing Candock floating dock system will allow both the Gloucester High School Crew Team and visitors with canoes and kayaks to launch into the Severn River.

The current wooden pier and its replacement are too high off the water to allow for drops. The Candock system floats directly on the water, allowing for quick and easy placement.



THE CANDOCK'S CURRENT PLACEMENT AT THE SITE







MAIN PARKING LOT BY THE ROWING TEAM SHEDS

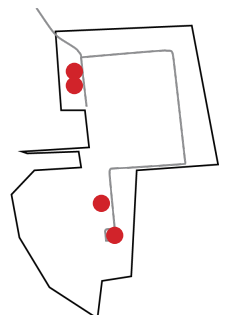
## PARKING

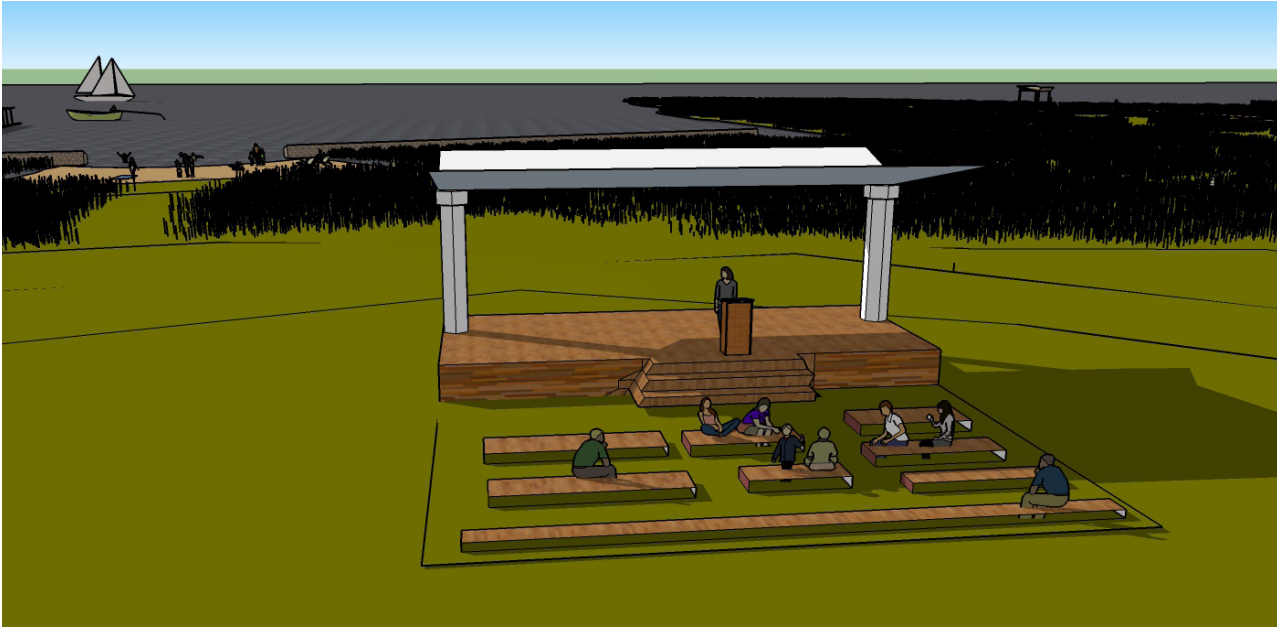
Four parking lots are proposed for the site. In the passive scheme, a large parking lot beside the barns with the dimensions of 160' x 80' will accommodate visitors for most uses. The active scheme calls for two additional lots near the Marine Research Center. The lot for the center measures 100' x 60'. The final lot for the boat ramp is about 66' x 80'. A final, small parking lot will be placed in front of the house. As an alternative spot, lot placement in front of the garage east of the Rowing Team Center could be considered due to its stable soils.

Because the site is often inundated with water and features a high water table, the parking lots require a three foot deep pit to be filled with crushed rock to allow water to permeate.



GRAVEL PARKING LOT CONSTRUCTION (COURTESY MAR-  
IETTA COLLEGE)





OUTDOOR THEATRE WITH SEVERN RIVER VIEWS

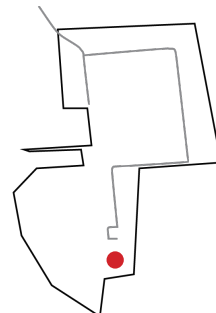
## OUTDOOR THEATRE

An outdoor theatre will be constructed in front of the main house. The architecture will capitalize on the view of the Severn River behind it, and be built of handsome, extreme-weather resistant materials.

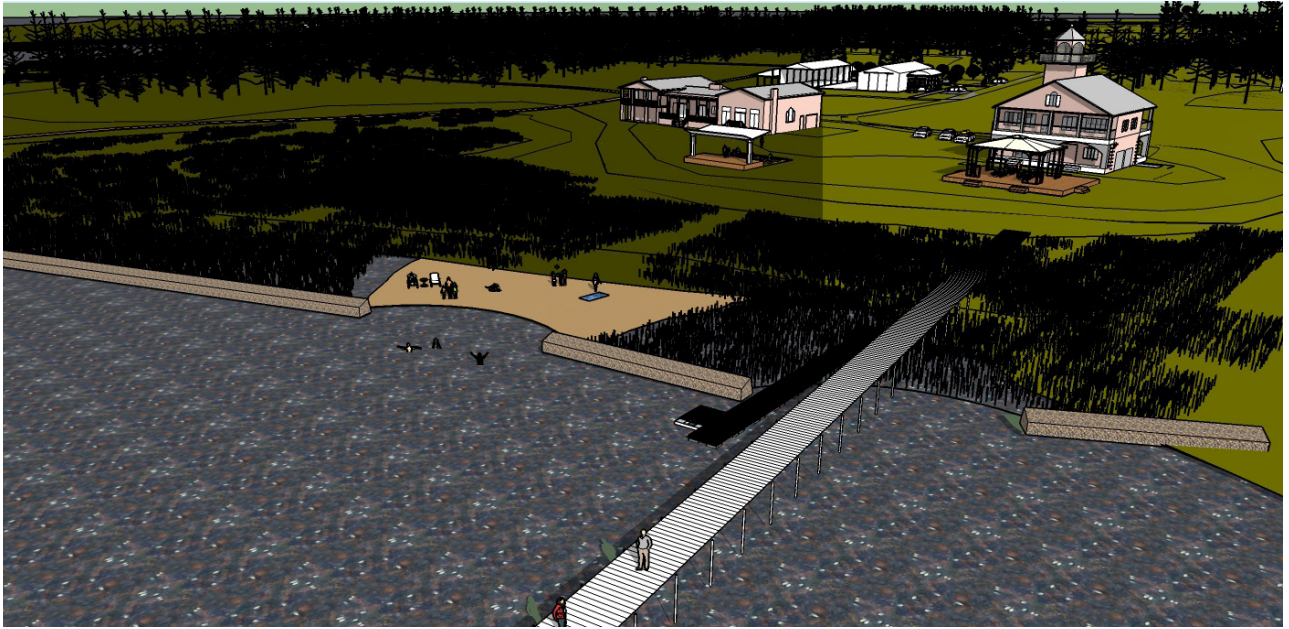
The theatre, built as a covered stage, will provide a venue for a wide variety of events and programs. These range from weddings, to concerts, to festivals.



OUTDOOR STAGE IN BECKET, MA (COURTESY ALLEGRONE CONSTRUCTION)







BEACH AND LIVING SHORELINE SYSTEM

### BEACH AND LIVING SHORELINE

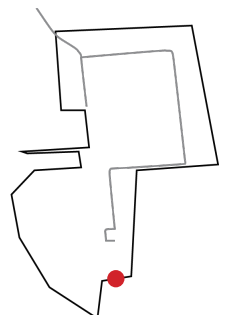
A small beach along the coast will be added to provide recreational opportunities lacking in Gloucester County. This beach is part of a fully funded Living Shoreline project. The Living Shoreline is designed to mitigate coastal erosion and will include breakwaters to slow or prevent strong waves hitting the shore.

The beach provides swimming and sunning opportunities currently only available at Gloucester Point in the southern part of the county. The beach is self-preserving and self-reinforcing due to the breakwaters placed further out in the river. The sand will provide a new habitat for land and aquatic life previously unavailable.

The beach will be placed to the west of the pier. The beach will be connected to the overall trail system and likely serve as a major draw to the recreation site in warm weather.



MAGOTHY BEACH LIVING SHORELINE, PASADENA, MD  
(COURTESY OF SEVERN RIVER ASSOCIATION)





MAIN HOUSE AND POOL HOUSE SERVING AS COASTAL MARITIME CENTER

### COASTAL MARITIME CENTER

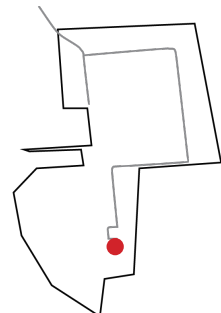
Occupying the first floor of the main house will be a coastal maritime center, which will provide educational opportunities to the local community. The center will offer a variety of programs throughout the year, relevant to both the site environment and the season.

The center will be home to the programmatic side of the proposed oyster garden where participants will learn about oysters and oyster gardening, as well as how to build their floats.

The pool house will be an auxiliary building to the maritime center and used as needed. The pool will be covered by a wooden deck and made into a picnic pavillion.



PICNIC PAVILLION OVER POOL





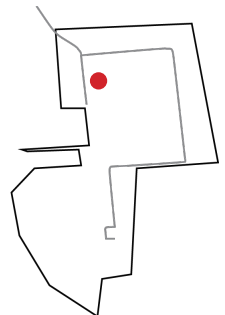


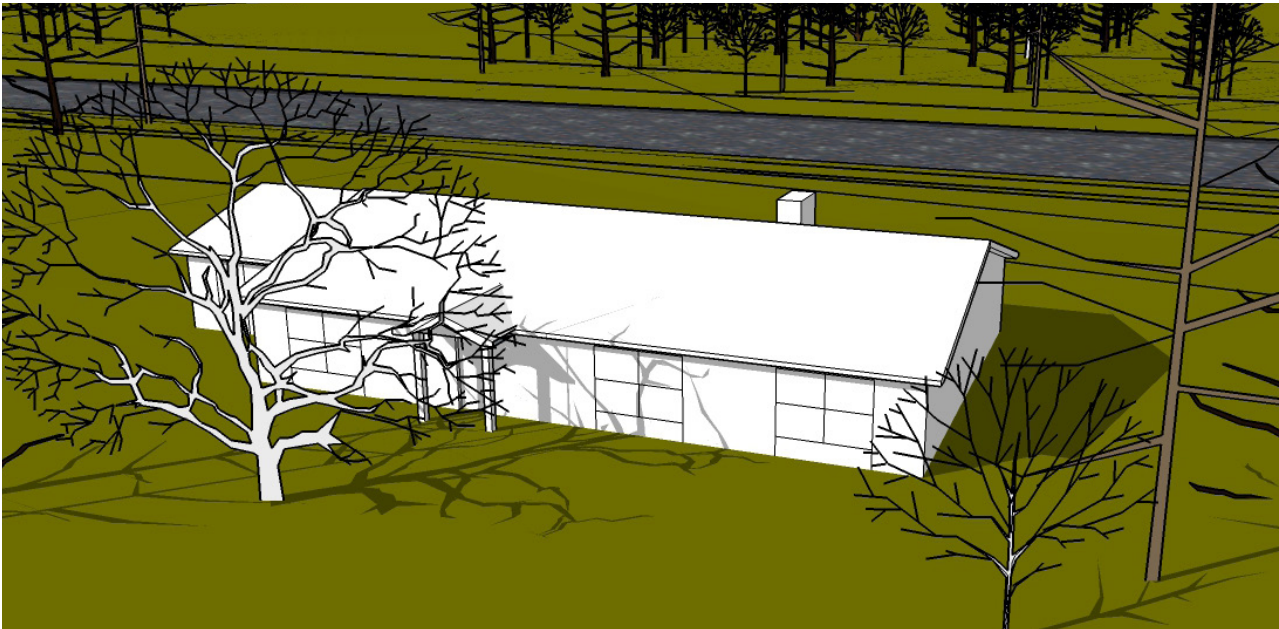
NATIVE NURSERY CONNECTED TO TRAIL SYSTEM

### NATIVE NURSERY

A native nursery will be placed near the vacation rental house (passive) or the marine science center (active). The native nursery will be a garden of locally-sourced, native plants grown for sale to local landscaping projects. The purpose of the native nursery is to counteract exotic species (i.e. non-native plants) present on the site and to provide rarer species of plants to landscape projects.

The plants will be sourced from the site while exotic plants are removed simultaneously. Under guidance of a plant life expert, community members will collect plants from other areas on the site and place them in the native nursery. Community investment will strengthen the desire to maintain the nursery in its infancy. This is essential as without proper care, nursery efforts will fail.





VACATION RENTAL HOUSE, CURRENTLY BRICK RANCH WITH YEAR LEASE

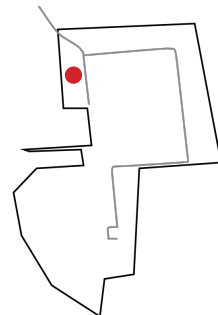
### LODGING OPTIONS

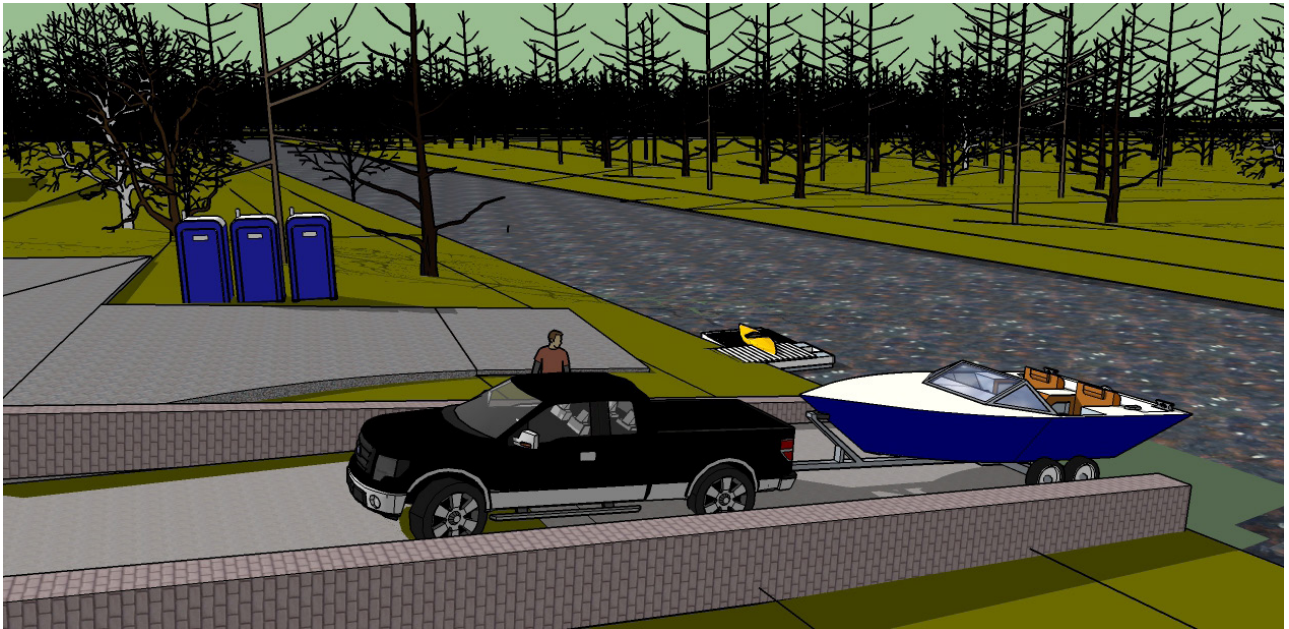
Lodging opportunities in the passive scheme focus on the main house, the pool house and the small ranch house on the site.

With a nature education center occupying most of the main house, some rooms will be left open for use as lodging. These can be used in conjunction with programs available at the nature center. This will require adaptive reuse of the current building with possible re-arranging of the floor plan for the best possible interactions between dwelling space and learning space. The pool house can serve as lodging for educational uses and will require a significant redesign to act as a dwelling.

The ranch house, because of its separation from most of the recreational uses of the site, provides a different opportunity from the main house and pool house. Enjoying its proximity to water and its scenic advantages, it can be used as a vacation rental property period. The house may also serve as an eco-themed destination, tapping into a currently non-existent market in the county. The eco-rental would capitalize on the various environments across the site.

All forms of lodging require cleaning and maintenance prior to and after visits. They also require furniture, linens, and appliances to sustain long-term stays.



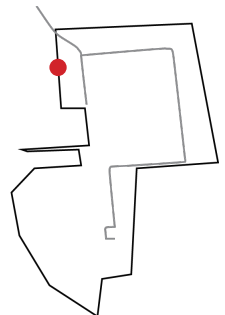


BOAT BEING PLACED IN THE CANAL

### BOAT RAMP

The boat ramp into the western canal requires structural improvements for increased usage. Once the improvements are made, the ramp will allow easy access into the Severn River via Whittaker Creek.

The boat ramp needs an adjacent parking lot large enough to accommodate trucks and trailers. Spots in this parking lot may be sold daily in a permitting process, ensuring permit holders have parking places.





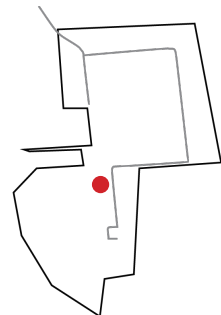


ONE OF THE SHEDS USED BY THE ROWING TEAM

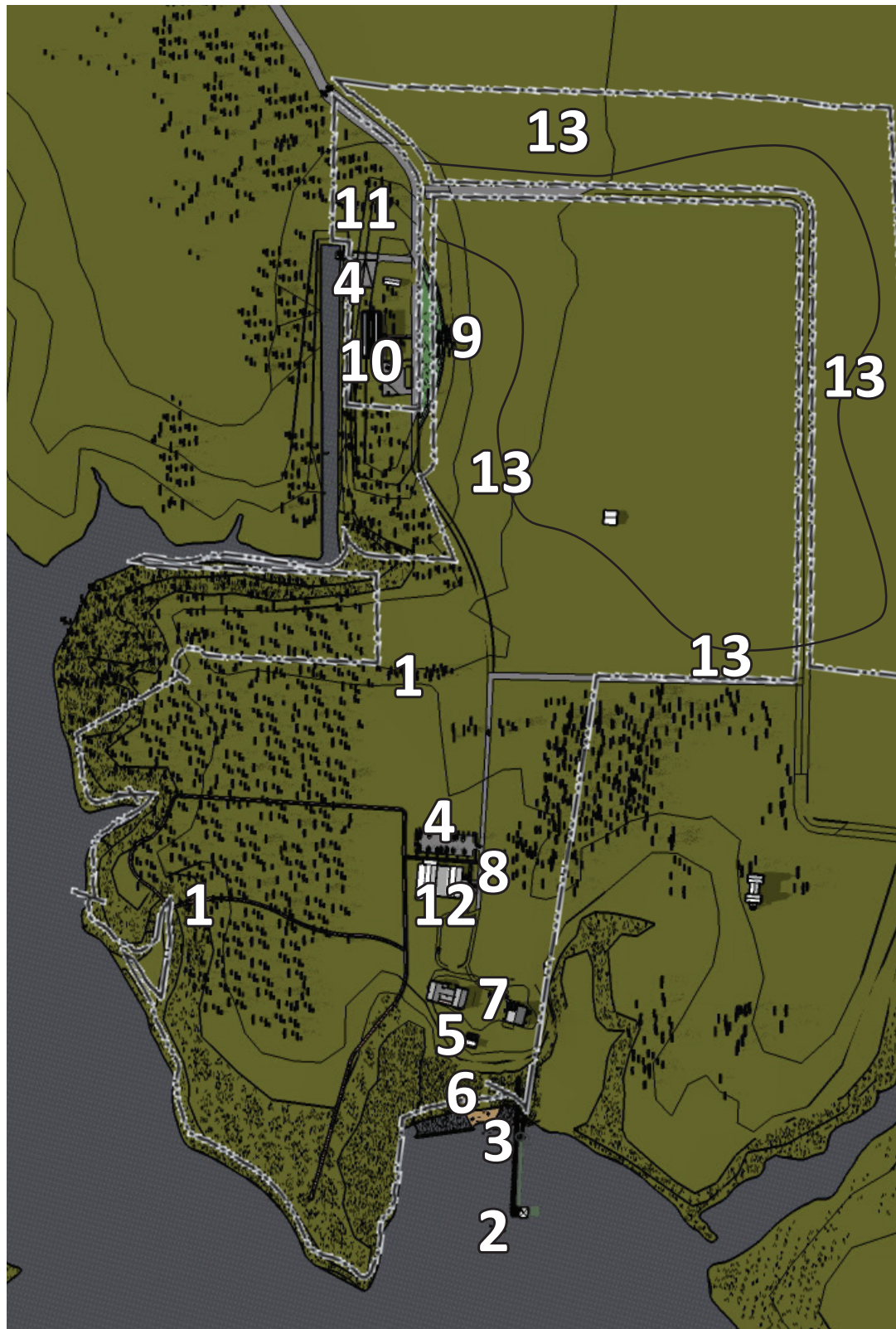
### ROWING TEAM CENTER

When the PAA acquired the site, the Gloucester High School rowing team was offered a home for their sculls, exercise equipment, and floating dock at no cost. Because many graduates from the rowing team win athletic scholarships, hosting the team on site should be a priority.

Their current placement, occupying two sheds near the main house, should be left unchanged. The other proposed uses will not impede the rowing team's operations on site.

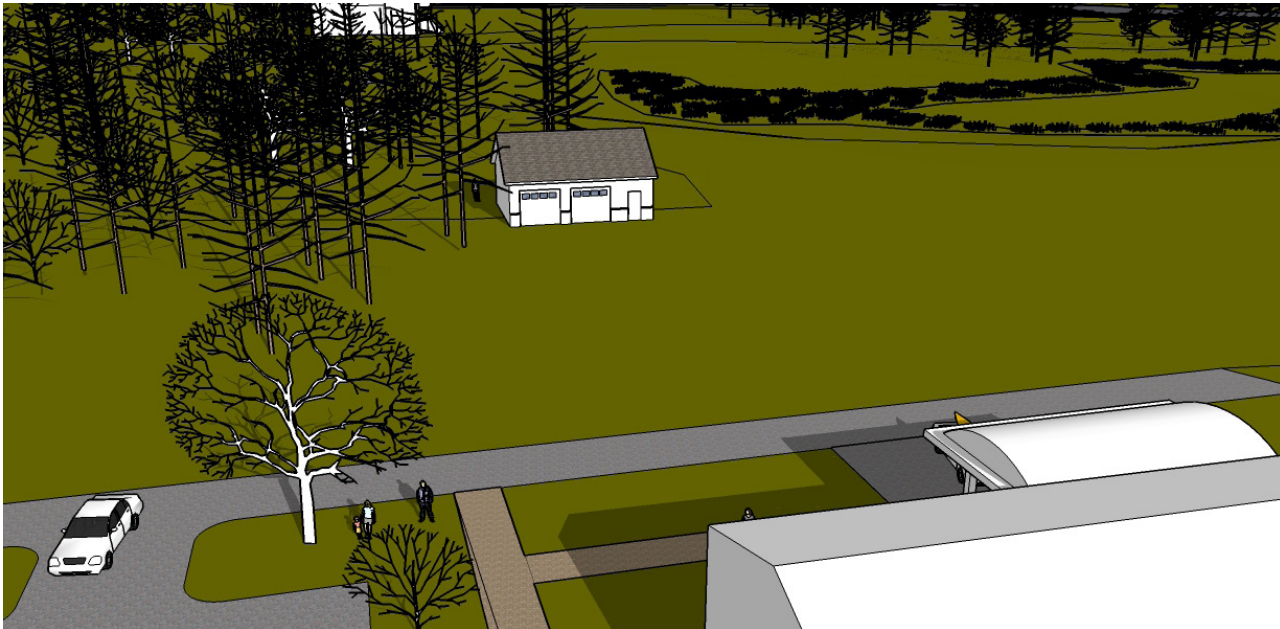






## ACTIVE SCHEME

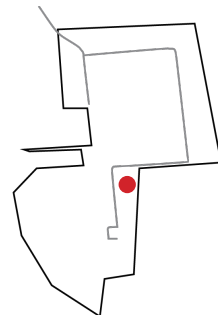
1. Boardwalk, Trails, and Observation Platforms
2. Oyster Gardening
3. Canoe and Kayak Launch
4. Parking
5. Outdoor Theatre
6. Beach
7. Event Center / Bait and Tackle Shop
8. Canoe and Kayak Rental
9. Native Nursery
10. Marine Research Center
11. Boat Ramp
12. Rowing Team Center
13. Horse Trails



CANOE AND KAYAK RENTAL GARAGE

### CANOE AND KAYAK RENTAL

Occupying the garage east of the Rowing Team Center will be a seasonal rental counter for hourly canoe and kayak rentals. Visitors will place a deposit on the canoe or kayak at the rental counter and then select their watercraft from a stand located by the canoe and kayak launch. This will provide a low-wage seasonal job and generate revenue for the site.





MAIN HOUSE AND POOL HOUSE AS THE EVENT CENTER

### EVENT CENTER

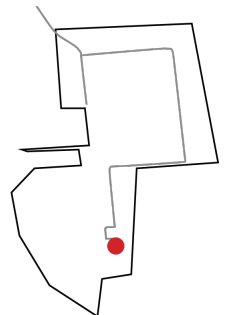
Occupying the main house and the pool house will be an event center. The center will provide event space and lodging for a variety of uses.

The center can be used as a wedding venue, for community events, or a near endless list of other possibilities. The flexible nature of this area is anchored in the natural beauty that surrounds it. Lodging will be available in parts of the main house as well as in the pool house.

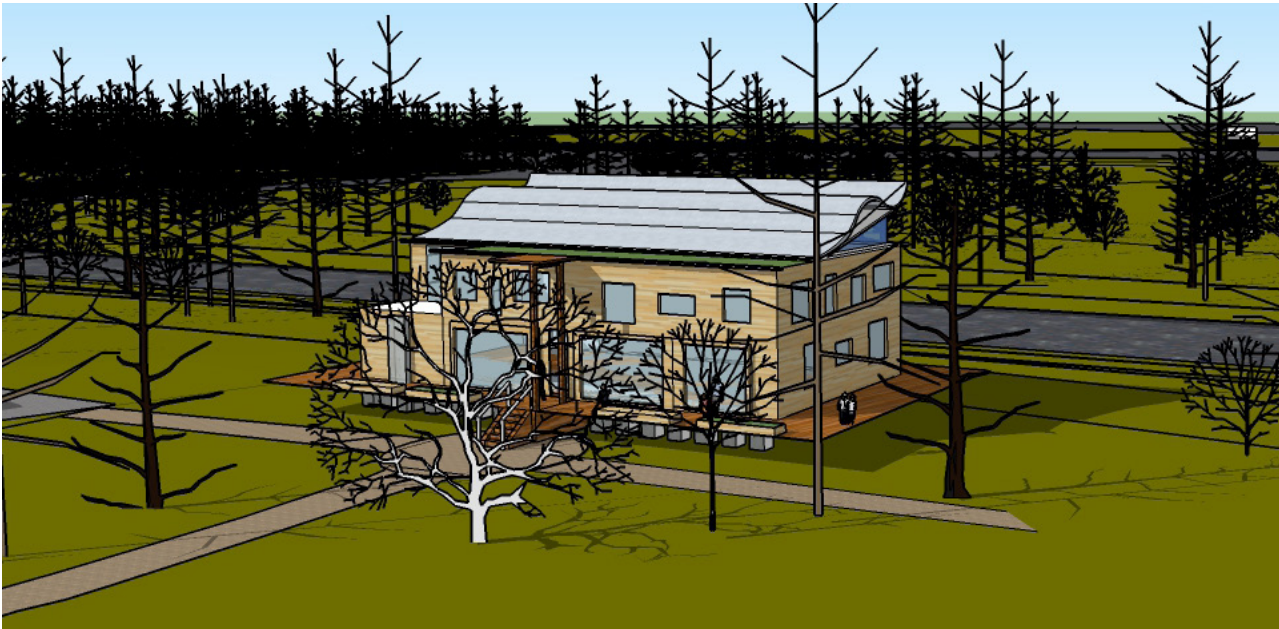
The architecture of both houses will be modified. The statues will be removed from the top of the main house and a second story will be added to the pool house. Both houses will be tailored to match each other.

### BAIT AND TACKLE SHOP

In the garage of the main house will be a bait and tackle shop, enhancing fishing experiences on the site. The shop will be staffed as is necessary and operate only in busier seasons. The shop will be self-sustaining economically.







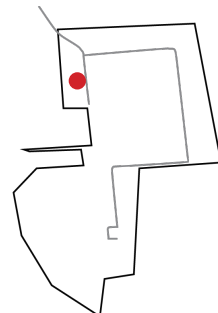
MAIN HOUSE AND POOL HOUSE AS THE EVENT CENTER

### MARINE RESEARCH CENTER

The marine research center will replace the rental home from the passive scheme. The center will provide new research opportunities to the area and its occupying institutions.

The Center should partner with a major Virginia university, whether it be VIMS or not. Opening the center up to other universities gives these institutions the opportunity to expand their research footprint in Virginia. Additionally, the center should partner with local schools and have a focus on experiential learning.

The facility will provide dormitory lodging if possible, or rely on the event center's lodging. The research center will be built where the ranch house currently stands. It will have unique but unobtrusive architecture.





# IMPLEMENTATION

## PRIORITY INFRASTRUCTURE

### IMPROVEMENTS

The following improvements are ordered by necessity, meaning parking is the most essential improvement, followed by pier replacement, then road grading, and then final parking lots.

The first major infrastructural improvement required is parking. Currently, a loop road in front of the main house can accommodate about five cars at anytime with no risk of sinking. Otherwise, the only areas that can take the load of an automobile are the roads themselves, which are not wide enough to feature side parking. The two essential lots are the one by the main house, and the one by the boat ramp.

The second infrastructural improvement needed is a replacement for the dilapidated wooden pier. The pier is likely unsafe for frequent foot travel and will need to be replaced entirely. A replacement pier has been funded and construction has begun as of April, 2015.

The third infrastructural improvement needed is a high-cost road raising project for the entry road. Currently, a portion of The Corduroy Road is prone to tidal flooding. This leaves the site inaccessible at times, inconveniencing the unknowing-visitor. A similar project in Gloucester had an estimated cost of over \$300,000 to complete. This road is state maintained therefore is eligible for standard Virginia Department of Transportation road funding. The site can operate with the road in its current condition, but with limited uses. A temporary solution to this problem would be an alert system located further inland, telling visitors whether the road is safe to cross or not. 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.

The final infrastructural necessity is the active scheme parking. These are needed to account for the increased volume of vehicles coming to the site. It includes a large parking lot by the Rowing Team Center (with an alternate location by the Canoe and Kayak Rental) and the other by the Marine Research Center.

### PREREQUISITS AND ORDER OF IMPLEMENTATION

If none of the above infrastructural improvements are completed, the following uses are still viable:

- Trails and Boardwalk System
- Canoe and Kayak Launch
- Native Nursery

If a parking lot is added at the boat ramp and near the rowing team sheds, the following uses noted above become viable:

- Beach
- Coastal Maritime Center
- Rental house
- Outdoor Theatre
- Boat ramp

If the pier is replaced, the following use also becomes viable:

- Oyster Gardening

If the road is elevated, the following uses also become viable:

- Event Center
- Bait and Tackle Shop

If the final two parking lots, one by the rowing team sheds and one by the marine research center, are added, the following uses also become viable:

- Marine Research Center
- Canoe and Kayak Rental Center

Beyond the sequence above, another possible difficulty will be the wetlands on site. Because the Army Corps of Engineers have only performed reconnaissance on the southern portion of the site, additional inspection of the upper portions of the site will have to be conducted to move forward on most projects. Current building footprints are to be preserved, as demolishing that footprint would result in a loss of buildable area.

#### SEPTIC SYSTEM

Alternative septic systems can provide adequate treatment where public sewers are not available, and where siting a conventional sewage system would not be desirable due to inadequacy of available soils or other reasons. Generally, the alternatives will be more expensive than conventional septic systems, but are mandatory under all circumstances for properties with a high water table. The successful operation of alternative systems normally requires that the systems be checked and serviced on a regular basis, and many ensure proper maintenance by contracting with a qualified firm whose personnel are trained to work with the systems.

An alternative septic unit can be used to reduce the size of the leach field by treating the effluent first. Rather than just a settlement tank and pumping station, a Fast system includes a media filter on which microorganisms that digest the waste live. Systems can be tweaked to provide different types of treatment, whether it's removal of nitrogen or removal of phosphates. In the Fast system, solids are

trapped in a concrete settlement tank, while effluent flows to a second compartment with media suspended in it. While ATU systems don't always eliminate the leach field, they can reduce its size, and can be made even more efficient with the use of plastic chambers instead of stone. These Infiltrator chambers protect the biomat, while putting the effluent in immediate contact with the soil.

#### COSTS

Table 1 shows the costs associated with proposed projects. Many projects' costs vary greatly and cannot be accurately calculated for this project. The most expensive (but necessary for full build-out) project is the road improvement. This elevates The Corduroy Rd above tidal elevations, allowing more consistent access to the site. The trails project will be the second most expensive, followed by parking lot projects. While these costs are no small matter, grants and other methods to alleviate this burden on county residents.

#### FUNDING

##### VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION

**Virginia Recreational Trails Program:** The Recreational Trails Program administered by the Virginia DCR allocates funds toward motorized recreational trail uses, non-motorized recreational trail uses, and innovative or compatible multi-use trails. Trails on the site have been proposed to be multi-use via trail corridor sharing and a network of connecting differing trail use types with each other. Trail uses include horseback riding, biking, and walking or jogging, as well as trails for non-motorized watercraft such as canoes and kayaks.

The Public Access Authority would serve as the primary organization to apply for funding from the Recreational Trails Program of up to 80 percent of the total project cost. In compliance with financing requirements under

Base Elements				
Objective	Timeframe	Implementing Agency	Cost	Potential Funding Sources
Lands End Road improvements	> 1 year	VDOT	\$320,000+	VDOT Recreational Access Program
Main Parking lot (180' x 60' @ 3' deep)	> 1 year	Private Contractor	\$47,000-57,000	
Pier replacement @155'x8'	1-2 years	Private Contractor	\$18,600-43,400	
Trails, Boardwalk, and Observation Decks	1-2 years	Private Contractor	\$63,360-316,800	DCR Recreational Trails Program
Main House and Pool House rennovation	1-2 years	Private Contractor	TBD	
Rental House rennovation	1-2 years	Private Contractor	TBD	
Outdoor Theatre	2-5 years	Private Contractor	\$11,250-26,250	Volunteer
Eco Garden	2-5 years	MPPAA	TBD	
Beach	1-2 years	VASG	Funded	
Boat Ramp	1-2 years	MPPAA	TBD	MPPAA
Boat Ramp Parking Lot	1-2 years	Private Contractor	\$24,100-28,300	
Active Additives				
Objective	Timeframe	Implementing Agency	Cost	Potential Funding Sources
Canoes, kayaks, and storage rack	2-5 years	MPPAA	TBD	Donations
Event Center Upgrades	2-5 years	Private Contractor	TBD	
Ranch House Demolition	2-5 years	Private Contractor	TBD	
Marine Research Center	5-10 years	VIMS	TBD	VASG
Marine Research Center Parking Lot (100' x 60' @ 3' deep)	5-10 years	Private Contractor	\$30,000-34,000	VASG
Bait and Tackle Shop	5-10 years	MPPAA	TBD	

TABLE 1: COSTS

the program, 20 percent of the total cost of the proposed trails will be from in-kind donations and other philanthropic sources, in addition to local government budget allocation.

#### Virginia Land Conservation Foundation:

The foundation uses funds to establish permanent conservation easements and to purchase lands for conservation purposes. The previous owner has donated the 100 acres of the site, so land purchase is not needed except for those out-parcels that may inhibit potential other property over the long term. Several parcels exist near the canal and Whittaker Creek that serve as a barrier to a portion of the site from having easy water access, while no neighbors to these parcels are present. Funds administered by this state program may supplement the existing 100 acres with increased water access and natural amenities.

The sole benefit of potential funds received through this program would be in the conservation of underused sections of the property that either are costly to maintain or prepare for recreational use or that serve as

a vital ecosystems for indigenous plants and wildlife. A conservation easement placed on the Northeastern, Eastern, or other forested areas of the property would ensure these locations do not become developed and preserve the desirable naturalistic character of these areas.

**Chesapeake Restoration Fund:** This program run by the Department of Conservation and Recreation is funded solely through the sale of Chesapeake Bay Virginia license plates. Purchasers of the license become a “Friend of the Chesapeake Bay” for contributing to the health of the bay. DCR encourages state residents to purchase the license plate by promoting it as a way to keep the bay clean through proceeds from the plates, which will result in more business, tourism, seafood, and jobs. Actual projects funded by the revenue generated from sales include wetland restoration, planted buffers around waterways, the promotion of marine life restoration, reductions in pollution, and educational programs focused on the bay.

#### DEPARTMENT OF ENVIRONMENTAL QUALITY

##### **Virginia Coastal Zone Management**

**Program:** Virginia DEQ receives roughly \$3 million a year in federal funds, notably from NOAA. Each year DEQ submits a grant application to NOAA outlining projects across Virginia that will be funded from the program. Multiple entities within the program address varying types of projects. Acquisition and construction projects consists of the acquisition of easements on coastal land, low-cost construction projects such as public access improvements, and habitat restoration projects. Coastal zone enhancement projects fall into nine different categories: wetlands, coastal hazards, public access, marine debris, cumulative and secondary impacts, special area management plans, ocean resources, energy and government facility siting, and aquaculture.

#### VIRGINIA DEPARTMENT OF TRANSPORTATION

**Six-Year Improvement Program:** To receive VDOT secondary road funding, the road elevation project should be placed in the Six-Year Improvement Program (SYIP) as soon as possible. Only projects in the SYIP are selected for this form of funding.

**Revenue Sharing Program:** This program is a 50/50 state/local match program administered by VDOT. The benefit of this program is it can be used for projects not in the SYIP in case the road elevating project is not accepted.

**Recreational Access Program:** The program, operated under the Local Assistance Division of VDOT, provides proper access to publicly owned recreational or historic areas through the engineering and construction of road improvements adequate enough to serve traffic generated by the site. A requirement of the fund is that the site be already in operation or be developed and operational by the time road improvements are completed.

With the Public Access Authority managing the site, they may receive up to \$250,000 in funds dedicated to the raising of Lands End Road, the only access point to the site. The road shall be raised to a level deemed safe for regular access to the site within normal tidal cycles and non-threatening weather conditions. Improvements to the road necessary to meet this benchmark will likely exceed the

fund ceiling issued by the program and so additional funding sources may include other related grants, in-kind donations and other philanthropic sources, fundraising, and local infrastructure budgets.

#### NATIONAL FISH AND WILDLIFE FOUNDATION

**Chesapeake Bay Stewardship Fund:** Other opportunities exist to apply for funding from the National Fish and Wildlife Foundation to protect and restore the quality of Whittaker Creek, the Severn River, and ultimately the Chesapeake Bay. Some improvements on site could be dedicated to practices supportive of nature and provide nutrients to the environment. The native nursery, proposed as an area for growing indigenous plant species and reproducing local ecosystems and wetland environments, could be funded by various innovation-focused environmental grants and specifically the Chesapeake Bay Stewardship Fund. The fund has a preference for low-cost high-impact solutions to environmental stewardship. Indigenous plant species and minor site alterations to promote wetland creation would require minimal funding compared with major construction, and if research were to be partnered with the nursery, innovations in habitat restoration could be achieved.

#### MARINE RESOURCES COMMISSION (MRC)

**Saltwater Recreational License Fund:** Under Virginia law, all commercial fisheries and harvesters operating in the Chesapeake Bay and its tidal, saltwater tributaries must obtain a saltwater recreational fishing license. The saltwater recreational license was designed to raise revenues to conserve and enhance fish species caught by recreational fisherman. Funds collected from the license are deposited in the Virginia Saltwater Recreational Fishing Development Fund. With the conservation and enhancement of fish species being the focus of the fund. Eligible projects include those that improve recreational fishing opportunities, obtain data and conduct research for fisheries management, and/or create and restore habitat for species important to recreational fisherman.

#### DEPARTMENT OF GAME AND INLAND FISHERIES

##### **Public Boating Access Facilities Grant:**

The Department of Game and Inland Fisheries offers grants to Virginia localities to assist them in providing public opportunities for boating



access facilities in need of more sites. The grant program provides up to 75% funding of the total project cost to construct or renovate boating access facilities for trailer or non-trailer hand-launch boats. Boating activities that benefit from the access facilities can be registered or non-registered types, i.e. canoe and kayaks.

#### FRIENDS OF CAPTAIN SINCLAIR'S RECREATION AREA

During the implementation phase, a Friends of Captain Sinclair's Recreation Area should be formed. This will be initially comprised of invested individuals who wish to see the site's success. The Friends of Captain Sinclair's will actively seek monetary donations, both large and small scale, in-kind donations, sponsors, and volunteers. This will be accomplished by spreading awareness of the benefits of the site to the public as well as the associated costs and requirements to complete the project. The Friends of Captain Sinclair's will be instrumental in the implementation phase and complete the footwork of the PAA. Once the project is funded, the Friends of Captain Sinclair's will continue to find ways to support the area's operations through further donations, events, and other programs.