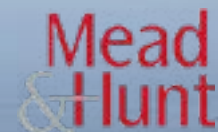


POPES CREEK WATERFRONT PARK MASTER PLAN

ADVENTURE • CELEBRATION • RECREATION

DRAFT • MAY 2023



ACKNOWLEDGMENTS

The contributions of many were integral to the creation of this Master Plan. We would like to thank all Charles County residents who attended meetings or provided comment and feedback during the project duration.

We would like to directly acknowledge the Board of Charles County Commissioners.

In addition we thank:

- Charles County staff
- Parks Planning Task Force members

Prepared by:



Prepared for:



Charles County
Department of Recreation,
Parks & Tourism (DRPT)



Figure 0.01: Perspective rendering of Gilligan's Beach looking toward the treehouse.

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Figure 1.01: Existing site photo - upper parcel looking north toward Popes Creek.

EXECUTIVE SUMMARY

Popes Creek Waterfront Park is envisioned as an aquatic recreation hub and living learning center for nature-based play and exploration, showcasing habitat biodiversity at Popes Creek in southern Charles County. The park will also educate visitors about ecosystem function, conservation, and climate resiliency. This unique setting with access to the Potomac River will draw visitors from across the county. The park features set the stage for celebration and gathering for everyday and special events.

Gilligan's Beach at the waterfront is the true heart of Popes Creek Waterfront Park and is the center of aquatic recreation on site. The design for the waterfront includes a public beach area with capacity for 300 people, a gathering plaza, living shoreline and habitat restoration adjacent to Popes Creek with accessible water access, a reconstructed pier with boat slips and a fishing pier. Gilligan's Beach is anchored by the treehouse, providing four levels of amenities, a performance stage, decks that take advantage of water views, and access to the canopy walk connecting visitors to the upper site. Whether a guest visits to enjoy the Potomac River or to explore Popes Creek and the surrounding marsh, Gilligan's Beach is their base camp.

Popes Meadows, the upper site, is a node of active recreation and outdoor learning. A central event lawn is the main orienting feature, large enough for regional festivals and space for a stage. The park elements, arrayed around the event lawn, will be destinations for Charles County residents and visitors providing exciting recreational opportunities while simultaneously engaging and educating. The large nature-themed playground is an impactful way to meld these themes together into one feature element. Walkways weave in and around this playground, connecting the play area to the event lawn and observation tower. Nearby, a nature center serves as a classroom and meeting place to explore the nature trail circuit leading to the wilderness classroom and canopy walk.

The eastern portion of Popes Meadows promotes passive, free-form exploration and camping. Guests who visit the site for immersion in a wilderness setting can stay at one of two campground groups, where they have access to bathrooms, a fire pit and a gathering area. A network of nature trails including boardwalks over the lower wetlands connect the campgrounds to features throughout the park. The solar meadow is intended to generate on-site renewable energy for campground and park amenities via a solar array under-planted with meadow to provide pollinator habitat and water quality benefits. For those seeking more adventure, a canopy ropes course gives visitors an opportunity to challenge themselves while still connecting with the natural environment.

Flexibility for a range of features and programming can be adjusted to respond to visitation, funding, and staffing. Programming can be integrated at a range of levels from individual and small group or self-guided exploration to programming that supports regular guided tours or classes, and special events such as concerts or festivals.



Figure 1.02: Popes Creek Waterfront Park Master Plan.

KEY ELEMENTS

- | | |
|---|--------------------------------|
| 1 BOARDWALK CONNECTION TO BIKE TRAIL | 14 ROPES COURSE |
| 2 SWITCHBACK TRAIL | 15 MAINTENANCE BUILDING |
| 3 WILDERNESS CLASSROOM | 16 GILLIGAN'S PIER |
| 4 NATURE CENTER, OUTDOOR CLASSROOM, AND BATHROOMS WITH OUTDOOR ACCESS | 17 TREEHOUSE AND CANOPY WALK |
| 5 DESTINATION PLAYGROUND WITH OBSERVATION TOWER | 18 PADDLE-IN CAMPING PLATFORMS |
| 6 STAGE | |
| 7 PARKING | |
| 8 WETLAND FISHING OR CRABBING PIER | |
| 9 PICNIC PAVILION | |
| 10 OVERFLOW PARKING | |
| 11 SOLAR MEADOW | |
| 12 VEHICLE AND ON-FOOT CAMPSITES | |
| 13 BATHROOMS AND FIRE PIT | |

VISION

The master plan for Popes Creek Waterfront Park envisions a local and regional destination that encourages residents and visitors to immerse themselves in nature by exploring tidal and forest ecosystems through aquatic and nature-based recreation and programming.

DESIGN THEMES

The public engagement process led to the development of several themes, goals and the vision statement which drove the design of the park.

The first theme, Aquatic Recreation, reflects the potential of the site to serve as a hub for outdoor aquatic-based activities. Popes Creek's provides access to the Potomac River and surrounding marsh. The proximity to publicly accessible waterfront primes this site to become a regional destination for boating, kayaking, fishing, and swimming.

The second theme, Tidal Ecosystems and Education, recognizes the importance of environmental education and the site's capacity to teach about local ecosystems, wildlife, and sustainable practices both on land and in the water.

More than just an educational opportunity, the pathways and programming of Pope's Creek Waterfront Park invite visitors to have an Adventure in Nature, helping to create new experiences and avenues for outdoor exploration.

The final theme, Celebration Park, addresses the need for event space for festivals, and large scale gatherings in this part of Charles County.

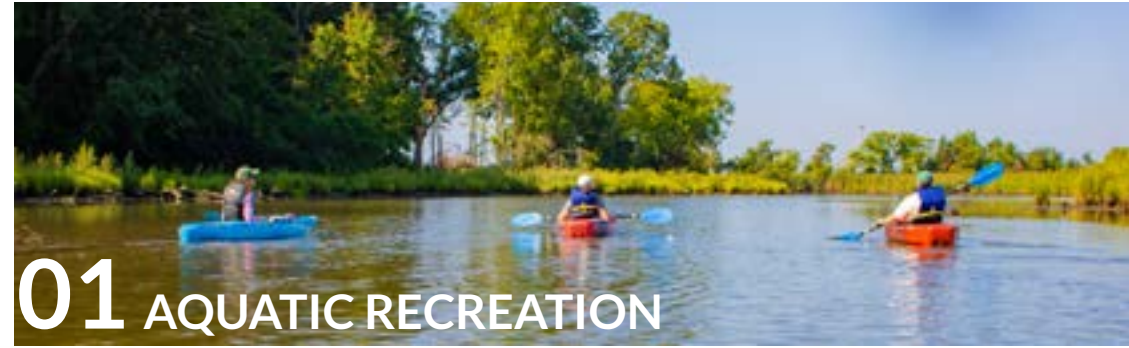


Figure 1.03: Popes Creek kayakers. Credit: Joe Ignatius



Figure 1.04: Shelby Farms Park. Credit: City Parks Alliance

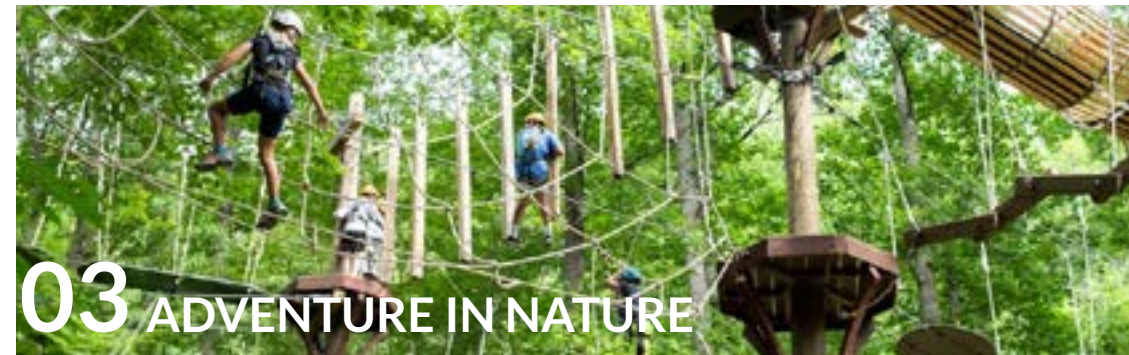


Figure 1.05: Nantahala Outdoor Center. Credit: High Adventure for Scouts



Figure 1.06: Muskoka Music Festival. Credit: Music on the Barge

01 AQUATIC RECREATION

02 TIDAL ECOSYSTEMS & EDUCATION

03 ADVENTURE IN NATURE

04 CELEBRATION PARK



Figure 1.07: Perspective Rendering - Nature Center & Observation Tower

GUIDING PRINCIPLES

1. Maximize the waterfront for aquatic recreation, activities and views.
2. Consider park features as a living classroom for ecosystem education and nature immersion.
3. Plan for programs and events that define this park as a destination and promote tourism.
4. Connect to, rather than duplicate, surrounding attractions.
5. Preserve and enhance natural ecosystems; plan for resiliency and a park that can adapt to potential impacts caused by a changing climate.



Figure 2.01: Existing site photo - Popes Creek looking southwest toward the Potomac River.

SITE CONTEXT

Popes Creek Waterfront Park is located at the confluence of Popes Creek and the Potomac River. A parcel of significant size, 179.18 acres, the park includes a beautiful and dynamic tidal marsh associated with the creek, forested ravines and slopes and former farm fields, now managed by Charles County as meadows. There is a significant elevation change from the river to the upper portion of the site, 120 feet, making connecting the two elevations challenging.

There is a remnant beach at the lower level and several vacant buildings, formerly Gilligan's Pier, an outdoor bar and performance space, purchased by Charles County in 2022 using State of Maryland Program Open Space funds. Combined with land previously purchased in 2014, the site is poised to offer permanent public water recreation access and expand conservation of environmentally significant land.

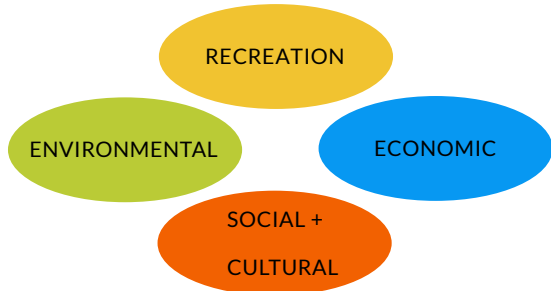


Figure 2.02: Categories of influence.

The team's understanding of the project site was informed by a systems approach which examined how Popes Creek Waterfront Park fits into recreational, economic, environmental, social, and cultural networks of Charles County. On-site assessment of Popes Creek Waterfront Park's physical condition, ecosystem health and resources, viewsheds and existing infrastructure was conducted through GIS analysis and research of the site's cultural and historic context. This assessment informed a deep understanding of the site, its influences and its impact.



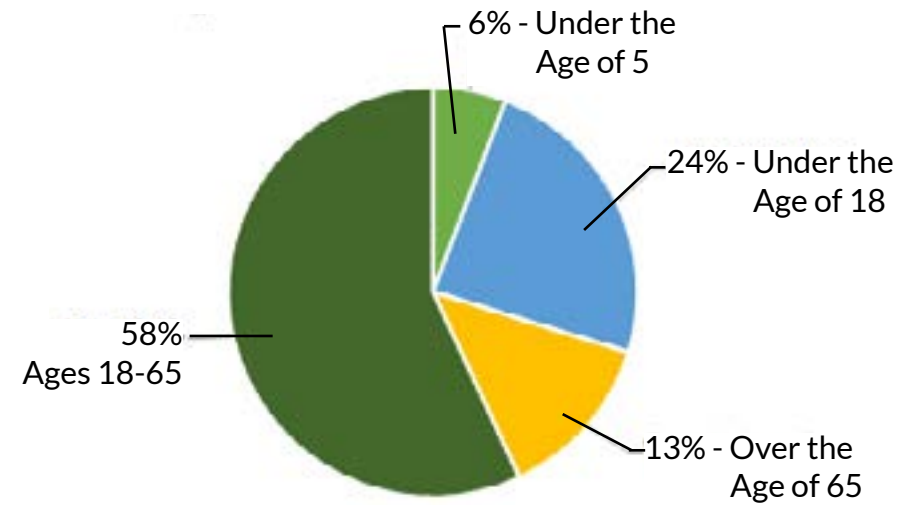
Figure 2.03: Site boundary.



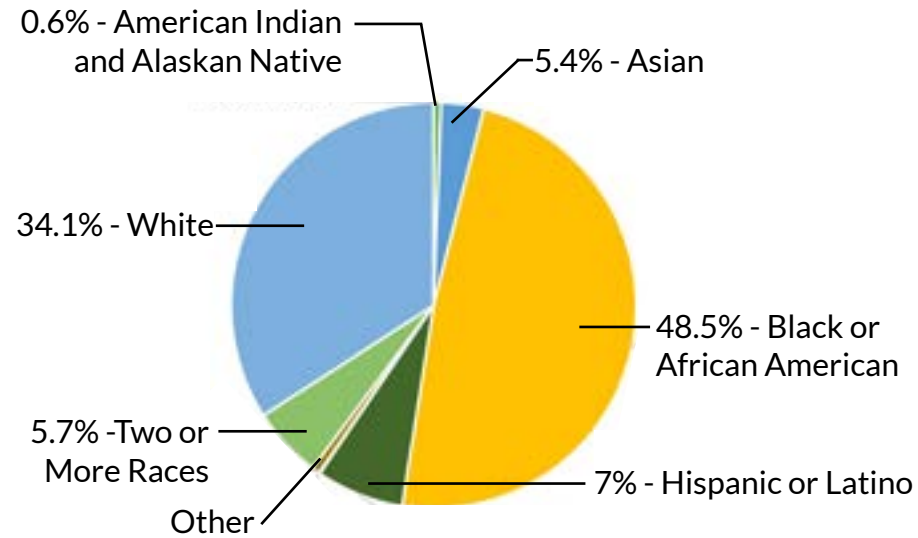
Figure 2.04: Watershed Map.

DEMOGRAPHICS

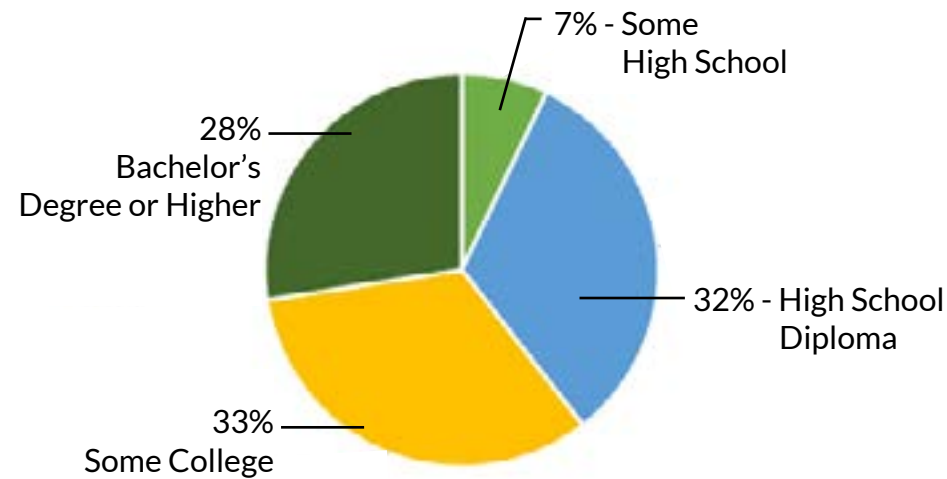
Percentages are based on 2020 census for Charles County, Maryland.



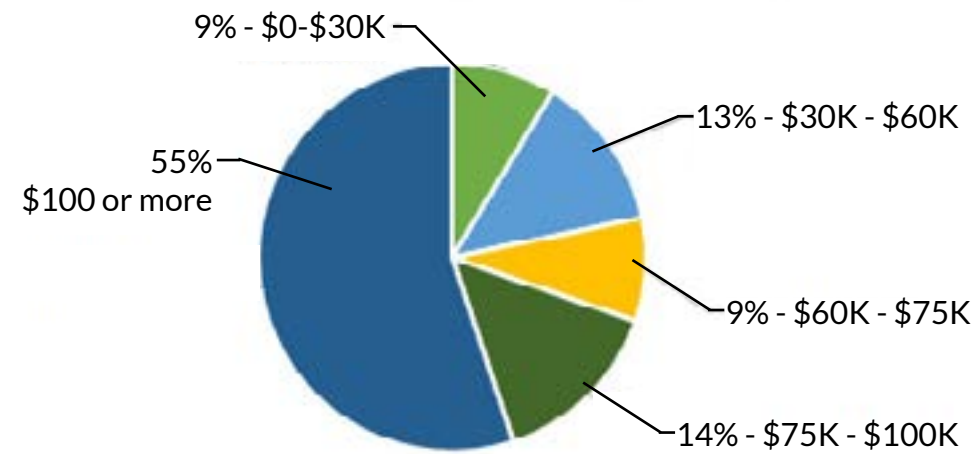
AGE



ETHNICITY



EDUCATION



INCOME

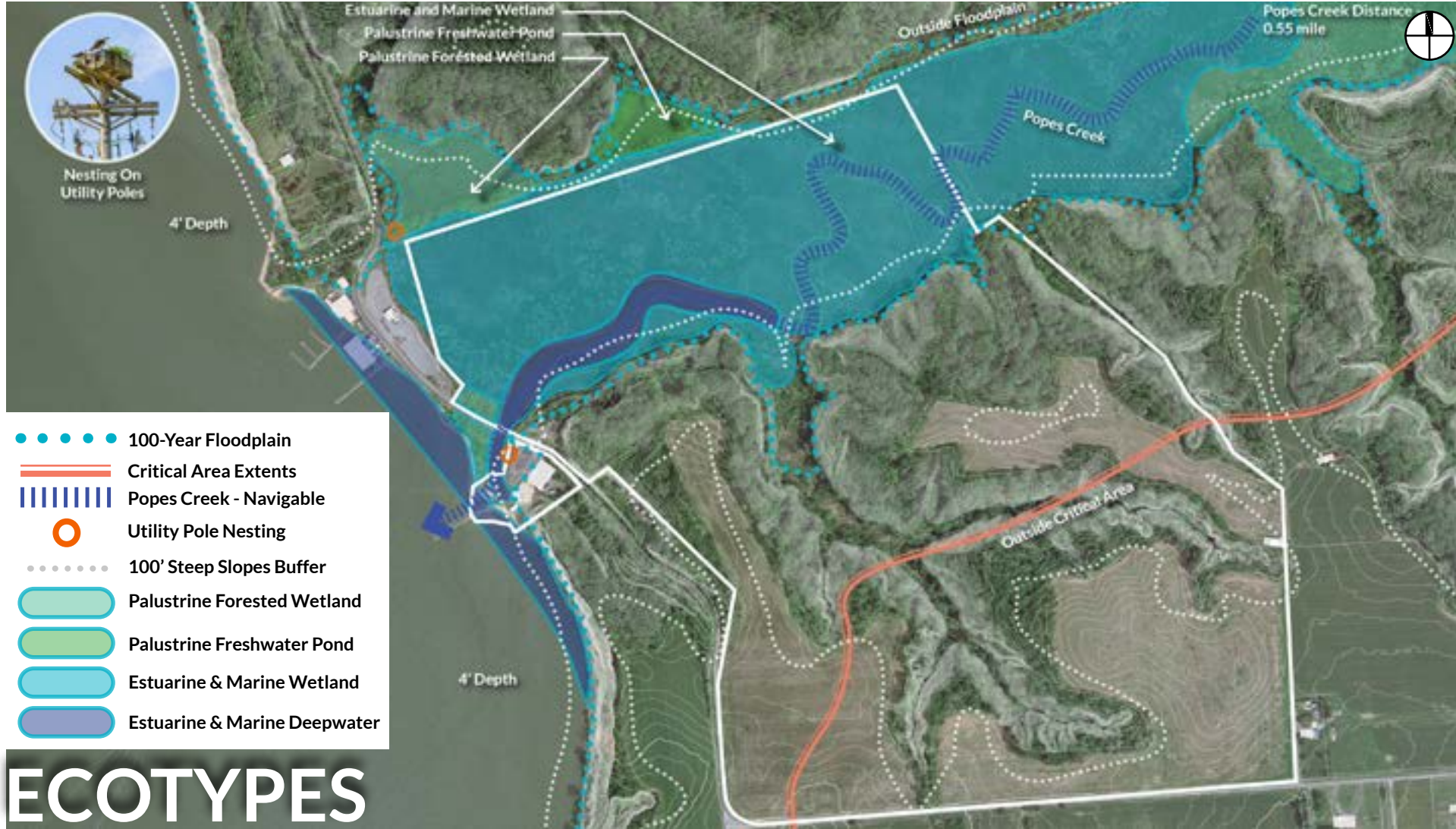


Figure 2.05: Site analysis and opportunities mapping.

Popes Creek Waterfront Park is divided into two focus areas defined by natural topography. Focus Area 1, Gilligan's Beach, is a 2.5-acre plot of land directly adjacent to the Potomac River and intersected by Popes Creek Road. This is the former site of the Gilligan's Pier restaurant and includes the former structures and parking lot, as well as a beach area and natural shoreline where Popes Creek meets the Potomac River. The majority of Focus Area 1 is located within the 100-year floodplain.

An abandoned pier extends into the Potomac River which will require reconstruction for future use. The site's proximity to the future Popes Creek Rail Trail, boating access from the Potomac, and Focus Area 2 establishes Gilligan's Beach as a primary hub for the park. The accessible beach creates a much-desired opportunity for the community to connect with the waterfront. Focus Area 2, Popes Meadows, is substantially larger, incorporating 45-acres. This flatter, upland area was previously used for

agriculture. The team began the design process with the assumption that all existing forest on the site will be retained as it is located primarily on slopes and in ravines. There is a significant amount of available space to accommodate desired programming. However, with an elevation difference of 120-feet, connecting Gilligan's Beach and Popes Meadows and establishing access for visitors to flow between the two is the most crucial design challenge for this park's functionality.



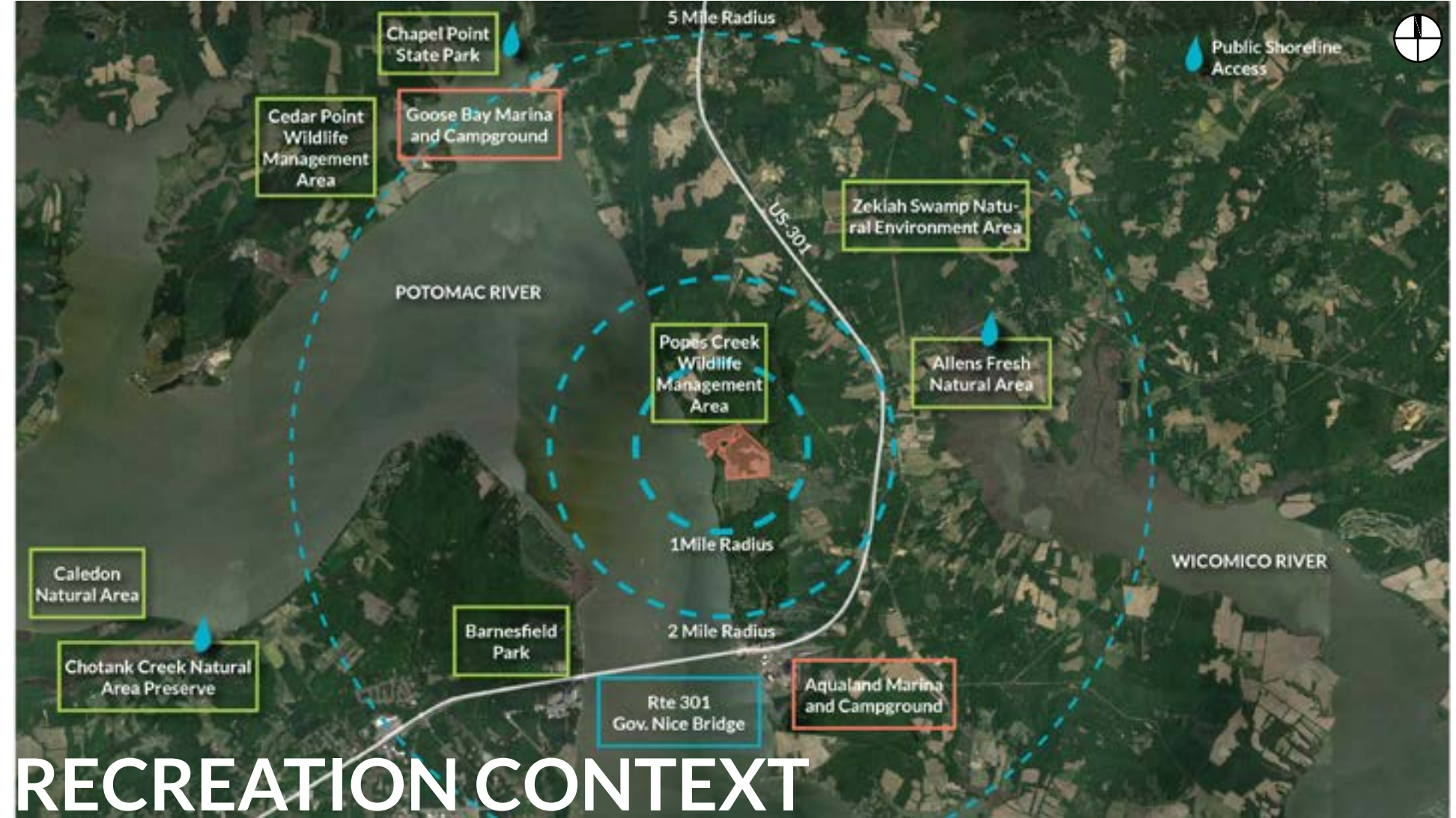
ECOTYPES

Figure 2.06: Existing land cover and ecotype mapping.

Popes Creek Waterfront Park is a unique ecological system that encompasses a variety of ecotypes, including a staggering diversity of wetlands, forests, and upland meadows, all of which are priorities for preservation and enhancement. The majority

of the site is designated as Critical Area – Limited Development Area. It is also designated a Natural Heritage Area, and the shoreline is identified as a buffer and wetland opportunity area by the State of Maryland. Each of these designations

entail additional protections and development restrictions. Wetlands are defined as areas that are periodically or permanently inundated with water. They serve as important habitats for a diverse range of flora and fauna, including waterfowl, amphibians,



RECREATION CONTEXT

Figure 2.07: Context within the existing network of parks and designated natural areas.

and insects. The ecotypes diagram shows the distribution of estuarine and palustrine wetlands on site. An estuarine wetland is a brackish habitat where freshwater and saltwater meet. A palustrine wetland is a vegetated non-riverine system where

the wetland meets ponds and forest. This wetland type is typically found at Popes Creek around the edges of the marsh. The wetlands of Popes Creek Waterfront Park provide valuable ecosystem services such as water filtration and flood control,

while also providing opportunities for recreation, education and nature immersion. The forested areas of the park consist of a mix of typical Southern Maryland deciduous and evergreen trees. As the site has been historically

used for agricultural purposes, the forest remains undisturbed on areas of steep slopes and now defines the boundaries of open flat land. These meadow uplands provide important habitats for grassland birds, such as meadowlarks and sparrows, as well as pollinators like butterflies and bees. Meadows should also be retained and managed through prescribed burns and/or mowing to maintain the open, grassy habitat that is essential for these species.

Located at the confluence of Popes Creek and the Potomac, the Popes Creek Waterfront Park serves as an ecotone that provides habitat for a dense variety of wildlife including endangered species and migratory birds, some of which are protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. Preserving and enhancing habitat supports the guiding principles for this project. Therefore, scheduling development and construction activities for avoidance and minimization of impacts to these species is recommended throughout implementation and installation of new park features, but especially when species are most likely to be breeding or if nests have been identified in the area.

The most visible of these significant species is the Osprey (*Pandion haliaetus*), also called the Fish Hawk. The Osprey is highly specialized, with a diet consisting almost exclusively of live fish for which they compete with Bald Eagles. Ospreys build their nests atop dead trees, channel markers, and telephone poles, and are at risk of having their nesting sites disturbed by human development.

Designated Osprey nests have been built at the Gilligan's Pier site and are preserved in the park master plan. Osprey have been observed returning to these nests each year.

Plant life of the Mid-Atlantic Coastal Plain thrives in the varied wetlands around Popes Creek. Factors such as fluctuation of water levels, soil type, acidity, and salinity all affect the distribution and presence of wetland species. Popes Creek is home to a diverse population of plants, all of which provide different habitat and food sources for a related chain of insects, fish, and birds.

The forested areas of the wetland park are large enough to support a variety of the region's common Forest Interior Dwelling Species (FIDS), species that require approximately 50-acres minimum of protected forest habitat with a minimum depth of 300 feet to survive. FIDS cannot thrive on the edges of human development. At least 25 Maryland birds species are FIDS that require the shelter of contiguous forest blocks to nest and disrupt predators.

FISH SPECIES

- Bluegills
- Catfish
- Striped bass
- Largemouth bass
- Smallmouth bass

SENSITIVE SPECIES

- Finfish - adult habitat
- White Perch - juvenile habitat
- Potomac historic oyster bottom

ENDANGERED SPECIES

- Northern Long-eared bat
- Monarch butterfly

MIGRATORY BIRDS

- Bald eagle
- Blue-winged Warbler
- Canada Warbler
- Chimney Swift
- Kentucky Warbler
- Osprey
- Prairie Warbler
- Prothonotary Warbler
- Red-headed Woodpecker
- Rusty Blackbird
- Wood thrush

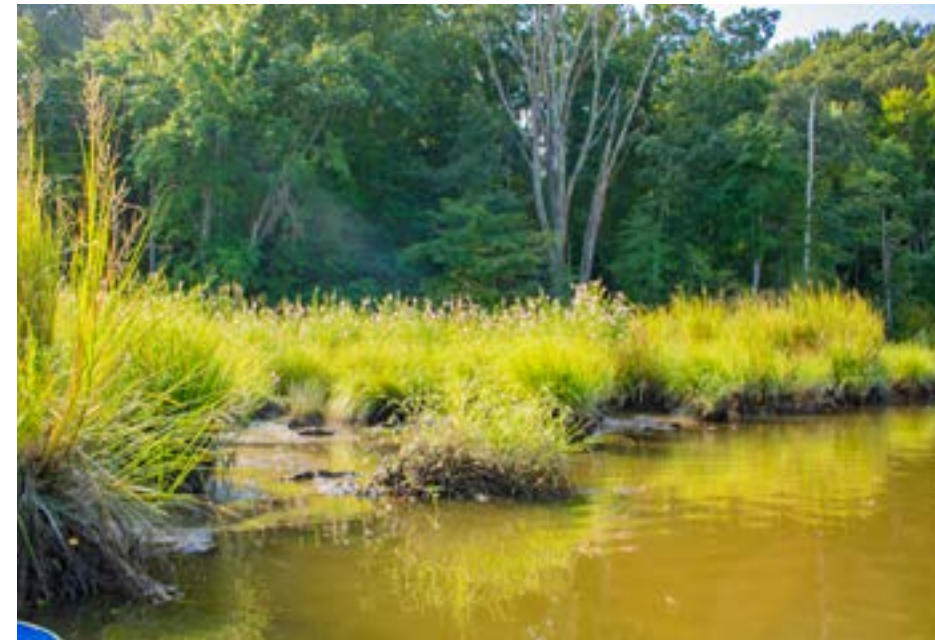


Figure 2.08: Existing photos - Popes Creek marsh and upland meadows. Credit: Joe Ignatius

HISTORIC & CULTURAL CONTEXT

Popes Creek has been an important cultural landmark for centuries. Relics and prehistoric ceramic artifacts have been found in the surrounding area that indicate human habitation by native peoples. A range of prehistoric ceramics have been named after Popes Creek and dates to between 500 BC and 300 AD. The distribution of these ceramics extends far beyond this site but their name derives from the original discovery of a shell midden close to the current location of Popes Creek Waterfront Park.

More recently, the Popes Creek area has played a significant part in the development of Charles County. It hosted the area's first railroad depot and the first bridge across the Potomac, now known as the Nice - Middleton Memorial Bridge, located immediately south of the project site.

It was also the site of the first electric cooperative that provided power to the county, and even the location of John Wilkes Booth's escape route to Virginia.

Today, the Popes Creek area of Charles County remains largely agricultural and sparsely populated. Increasing tourism is one of the goals of the park master plan, and illuminating the rich history of the site for residents and visitors can help meet that goal.



Figure 2.09: Existing Barn, Focus Area 2. Credit: Joe Ignatius

Among the most significant historical and cultural features:

Popes Creek Branch of the Pennsylvania Railroad played a unique role in the transportation and economic history of southern Maryland. The former railroad alignment is being converted into a rail trail which will connect to Popes Creek Waterfront Park.

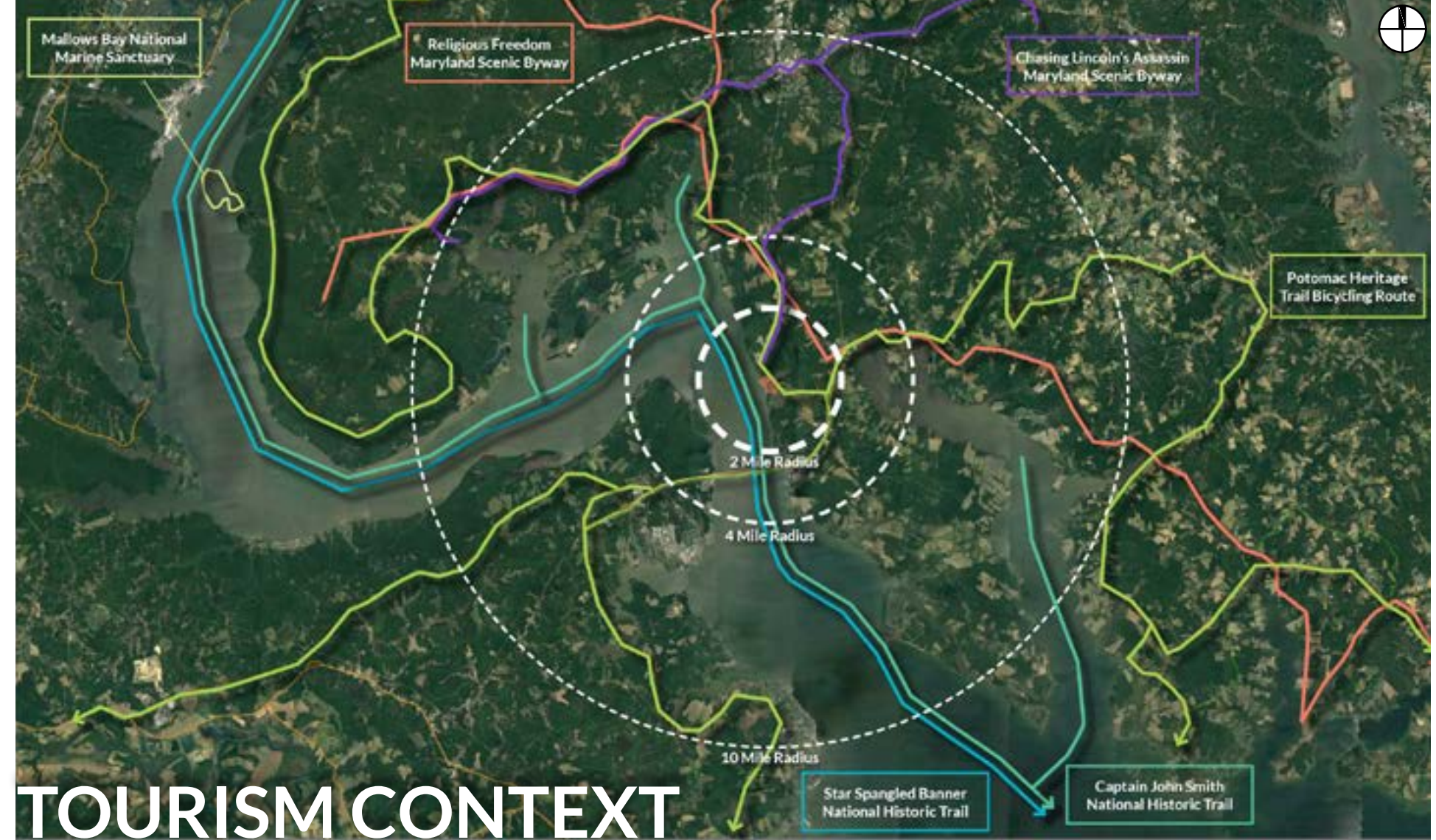
The Popes Creek Power Plant, also known as the Southern Maryland Tri-County Co-op Power Plant, was erected in 1938 and was the first electrical generating plant to serve the Southern Maryland region. This structure is located near the future Popes Creek Rail Trail trail-head and could be renovated to serve the trail or the park.



Figure 2.10: Historic Popes Creek Power Plant. Credit: Joe Ignatius

12395 Popes Creek Road is an example of the Colonial Revival style houses that were constructed in Charles County at the beginning of the 20th century.

Ravens Crest is located on a bluff above the Potomac River. Constructed ca. 1864, the home is one of a group of recorded buildings thought to best represent the regionally typical farmhouses of the early- and mid-twentieth century. This is located across Popes Creek Road from the park.



TOURISM CONTEXT

Figure 2.11: Context within existing historic byways, land and water trails.

The project site is in close proximity to a variety of historic and scenic byways, water trails, and bicycling routes. Increasing tourism is one of the goals of the park master plan. Pope's Creek Waterfront Park will be the only public beach in Charles County and the restored pier will provide access for boaters

wanting to attend festivities at the park. The park also will attract visitors from Virginia and people using hiker/biker trails and scenic byways. In 2023, Charles County is anticipated to break ground on an extension of the Pope's Creek Rail Trail which will run from US 301 to the retired power plant. The

park sits along the Religious Freedom Scenic Byway and the Star Spangled Banner Historic Trail. With no lodging in the area, the proposed campgrounds will provide a "stay and play" opportunity.



Figure 3.01: Existing site photo - former Gilligan's Pier restaurant structures and remnant beach area.

03 MASTER PLAN PROCESS & PUBLIC ENGAGEMENT

INCLUSIVE PROCESS

The master plan for Popes Creek Waterfront Park was developed through an inclusive planning process that ran concurrent with plans for Waldorf Sports Park and La Plata Farm Park. The master planning and public engagement activities spanned one year beginning in July of 2022.

Popes Creek Waterfront Park was identified as a potential new park site by the Land Preservation, Parks and Recreation Plan (LPPRP), a guidance document for county-wide planning for land conservation and outdoor recreation opportunities, recently updated in June 2022. The LPPRP is a county-wide park plan which examined the geographical distribution of park and recreation facilities throughout Charles County and made recommendations for future park planning. Beginning with the LPPRP and continuing with this park master planning process, the Charles County Department of Recreation Parks and Tourism (DRPT) is working to ensure the Charles County park system includes a diverse array of amenities and programs that, in service to a broad spectrum of users, reflect the County's identity and values.



Figure 3.02 - Iterative Design Process.

Charles County developed the following vision statement to describe the county-wide park system. This is a grounding rod and the starting point for the master planning process for Popes Creek Waterfront Park.

**LAND PRESERVATION PARK AND RECREATION PLAN
VISION STATEMENT**

CHARLES COUNTY IS A PLACE WHERE ALL PEOPLE THRIVE, AND BUSINESSES GROW AND PROSPER; WHERE THE PRESERVATION OF OUR HERITAGE AND ENVIRONMENT IS PARAMOUNT; WHERE GOVERNMENT SERVICES TO ITS CITIZENS ARE PROVIDED AT THE HIGHEST LEVEL OF EXCELLENCE; AND WHERE THE QUALITY OF LIFE IS THE BEST IN THE NATION.



Figure 3.03: Task Force Meeting 1, September 2022. Credit: Joe Ignatius

Including three parks in this planning process allowed the County, stakeholders and design team to look comprehensively at existing county recreational amenities, identify gaps and community desires for new amenities and create plans for each park that ensured that Charles County's park system meets the needs of its citizens and attracts tourists to the County.

The public engagement plan for the park master planning process centered on convening a volunteer

park planning Task Force group, dedicated to continued participation for the one-year project duration. DRPT issued a county-wide request for interest to its residents and received over one hundred responses from residents eager to participate. The Task Force included thirty-five residents representing a diversity of backgrounds, expertise, and perspectives. A series of three meetings were facilitated with the Task Force. The meetings were interactive and required members



Figure 3.04: Task Force Meeting 2, November 2022. Credit: Joe Ignatius



Figure 3.05: Public Open House, February 2023. Credit: Joe Ignatius

to engage with each other and the design team for timely input and critiques of the ideas and concept plans presented.

Stakeholder engagement was critical to the development of an inclusive master plan, and multiple levels of stakeholders lent essential feedback through each step of the master plan process. Ideas and concepts for Popes Creek Waterfront Park were developed iteratively and refined with feedback from all stakeholders through

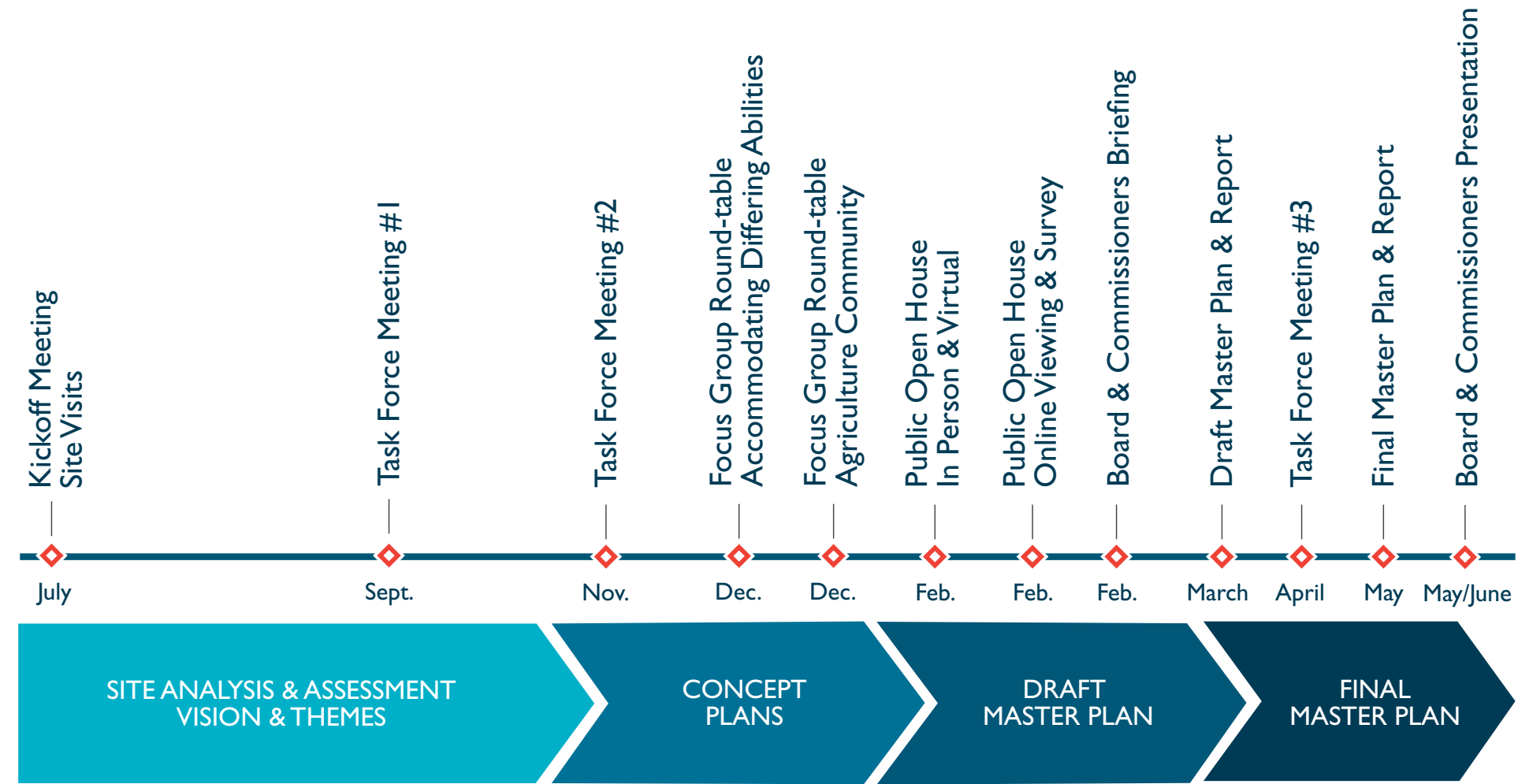


Figure 3.06: Public meeting schedule.



Figure 3.07 - Task Force Meeting 2, November 2022.

public open house workshops, focused round-table discussions, Task Force meetings, and regularly scheduled progress meetings with DRPT staff. The design team and County's community outreach coordinator worked closely to ensure that public engagement included a broad base of constituents, that information was easily accessible and that all age groups had opportunities to participate. DRPT's intent for the master planning process was to involve residents of Charles County in each

step of the process and to provide opportunities to engage the greatest number of residents. A strategy to combine public engagement for all three park sites was developed to integrate public interest and input. By focusing on all three parks concurrently, the teams and County were better able to understand overall needs and interests for residents living throughout Charles County, without overextending residents' time and attention spread across three separate public engagement efforts.



Figure 3.08 - Kickoff Meeting with DRPT, July 2022.



Figure 3.09 - Task Force Meeting 1, September 2022.



Figure 3.10 - Public Open House, February 2023.

MASTER PLANNING PROCESS

- Develop a Vision and Design Themes
- Conduct Inventory & Site Assessment
- Establish Guiding Principles
- Implement Design Development

Feedback Loop 1

- » Design Ideas/Concept Plans
- » Task Force, Stakeholder & Public Input Meetings

Feedback Loop 2

- » Concept Plan Refinement
- » Task Force, Stakeholder & Public Input Meetings

Feedback Loop 3

- » Draft Master Plan
- » Task Force, Stakeholder & Public Input Meetings

- Final Master Plan & Report

TASK FORCE MEETING #1 RECREATION & PROGRAMMING IDEAS

- Getting to know each other, expertise, and perspectives represented.
- Introduction to project sites and understanding of existing conditions and opportunities.
- Developing a list of recreation and programming ideas.

Questions asked:

- What are your favorite recreation activities?
- What events would you attend?
- Which design themes resonate with you?

The first meeting with the Task Force was intended to connect the Task Force and establish them as a guiding body. The discussion identified a vision and design themes for Popes Creek Waterfront Park.

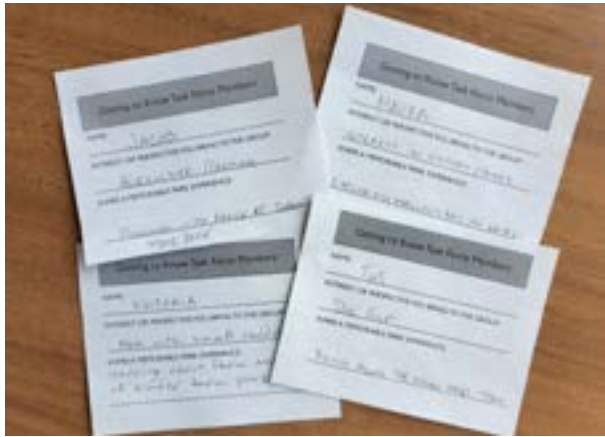


Figure 3.11 - Image of Introduce Your Neighbor activity cards.

TASK FORCE MEETING #2 CONCEPT PLAN ALTERNATIVES

- Finding commonalities for activity preferences.
- Identifying precedents for activities.
- Evaluation of concept plan options.

Considerations for evaluating concept plans:

- Arrival experience
- Special events
- Recreation activities
- Does the park have features that appeal to families, individuals, and groups?
- Are there missing features that would improve your experience?



Figure 3.12 - Image of Plan A Day At The Park activity cards.

The second task force meeting recapped the feedback received in the first meeting and presented two initial concept designs for Popes Creek Waterfront Park.

A set of guiding principles were established for park design, serving as a check points which were revisited at each step in the design process to make sure that the design aligned with these principles. The two concepts were developed for the lower parcel, Gilligan’s Beach area. Only one concept was developed for the upper parcel, Popes Meadows.

Common Threads

- The waterfront is the gem of the park.
- Primary focus: active, water-based recreation
- Secondary focus: nature-based play and recreation
- Signage and art to celebrate and educate tidal ecosystems and species.

This meeting defined recreation and programing priorities for selecting a preferred concept plan.

Gilligan’s Lookout was the concept plan option that most closely embodied the preferences of Task Force members. This plan was revised and refined to incorporate stakeholder preferences and recommendations, progressing to a draft master plan.

**TASK FORCE MEETING #3
DRAFT MASTER PLAN & PHASING PREFERENCES**

Throughout the public engagement process, cost, maintenance, and operations have been concerns that residents have voiced repeatedly. At the third Task Force meeting, members engaged in an activity



Figure 3.13 - Image of Phasing and Funding Priorities activity.

working in groups, to make decisions for funding allocation.

- Given a budget - determine allocation of funding across the three parks for phase one construction.
- For each park - decide the phasing of construction for park features; cost assumptions for park features were provided.

This activity put the decision making into the hands of the Task Force members to better understand priorities for phasing of features in each of the parks as well as priorities among the three individual parks. This information will be instructive to DRPT

in the next steps for implementation of these parks.

**ALL AGES & ABILITIES
ROUND-TABLE DISCUSSION**

During conversations at Task Force meetings a few topics surfaced as important underlying frameworks that warranted further exploration. A round-table discussion was held convening voices from the community with known expertise on the focus topics. These conversations were intended as a listening session to expand the design team’s understanding of the challenges, needs, and opportunities for a more inclusive and welcoming park system..

Organized by the county’s Public Outreach Coordinator and Recreation Therapeutic Coordinator, caregivers, residents, and therapeutic specialists offered feedback on the challenges and needs of people with disabilities. Suggestions included considerations for the physical, social and sensory needs of park visitors, accommodating access to all park features rather than separate areas for visitors with different needs, providing options to appeal to a range of interests and abilities. Through these discussions and additional research, a set of design best practices was developed for accommodating all ages and abilities in park design. Best practices are outlined in Appendix 1. The meeting minutes are included in Appendix 2.

PUBLIC OPEN HOUSE

After receiving feedback from the Task Force and focus groups, ideas from both concept plans were synthesized into one draft master plan which was presented at two open house meetings. Any interested member of the public was invited to attend in person or virtually. Preference polling and opportunities for public comment were provided in three different venues for a one-month duration.

Public input for recreation and programming preferences are aggregated in the following preference charts.

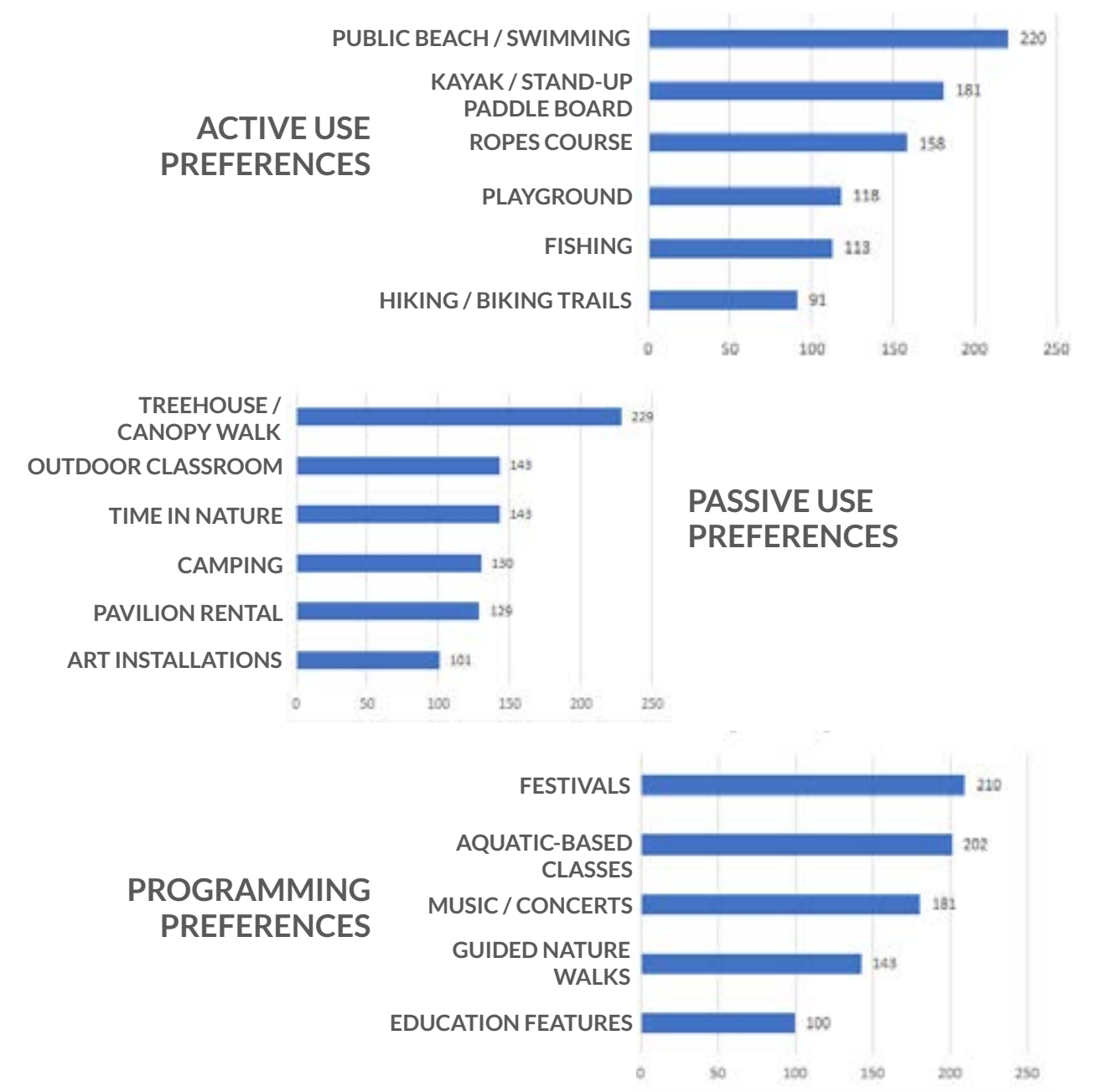


Figure 3.14 - Public input for recreation and programming preferences are aggregated in the following preference charts.



Figure 3.15 Tel Aviv Central Promenade. Credit: Aviad Bar Ness

What makes a great park? This question was integral to envisioning Popes Creek Waterfront Park as a destination for visitors from within and beyond Charles County. The design team and stakeholders considered the recreational, environmental, economic and socio-cultural factors that make a park worth visiting over and over again.

Great parks are safe and accessible for all users. Do people know about the park, amenities and activities? Are park activities free or affordable? Do park users feel welcome? Consider the physical and financial resources needed for people to access the park and lower barriers for entry wherever possible. **Great parks create positive, engaging, and memorable experiences.** Program opportunities for



Figure 3.16 Providence Pedestrian Bridge
Credit: Steve Kroosma



Figure 3.17 Kunshan Forest Park
Credit: World Landscape Architect

new experiences and opportunities to learn. Ensure that the park provides novel amenities that cannot be found elsewhere locally. Reinforce a sense of social connection. **Great parks are flexible and adaptable.** Design park spaces to be multi-functional. Accommodate a rotation of programming and events. Design with environmental resilience in mind.



Figure 3.18 Schuster Jungle Playground. Credit: Mrs Lardeedah

Great parks offer activities for all age groups. Provide space for activities that promote well-being and health. Prioritize intergenerational and family-oriented play. Not every member of a family will want to participate in the same way. Make sure there's something of interest for everyone. **Great parks are relevant to the communities they serve.** Does the park design and programming reflect

the cultural interests of community members? Community input, feedback and critique is essential throughout the planning process to ensure that the park is responsive to visitors' needs and desires. **Great parks are maintainable and cared for.** Establish a maintenance program for each park which outlines staffing requirements for programming, operations, park maintenance and

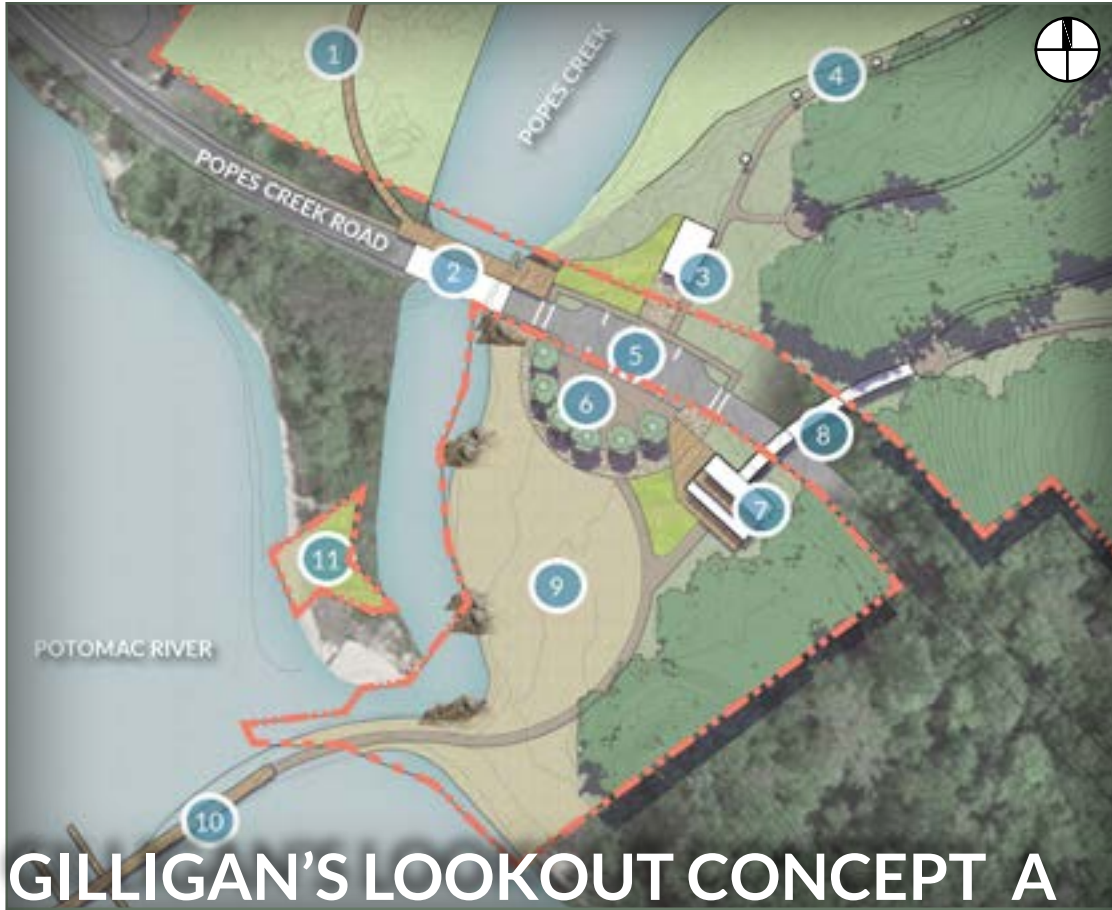


Figure 3.19 Sustainability Tree house
Credit: Joe Fletcher



Figure 3.20 Bass River Park
Credit: Stoss

safety. Staff up prior to parks opening or seasonal shifts. Prioritize materials and facilities which can be maintained long term. **Great parks cannot be designed without the input from those who will use them.** Popes Creek Waterfront Park had a robust public engagement process which guided the park design.



GILLIGAN'S LOOKOUT CONCEPT A

KEY ELEMENTS

- 1 BOARDWALK CONNECTION TO BIKE TRAIL
- 2 RAISED BRIDGE WITH KAYAK LAUNCH DECK
- 3 SCREENED PAVILION
- 4 WETLAND OBSERVATION BLINDS
- 5 ADA AND SERVICE PARKING AND DROP-OFF
- 6 PLAZA WITH SEATING
- 7 DECK AND TREE HOUSE
- 8 CANOPY WALK
- 9 MAXIMIZED BEACH
- 10 PIER RECONSTRUCTION
- 11 SHORELINE HABITAT RESTORATION

CONCEPT MASTER PLAN OPTIONS

The design team prepared two concept plan options to explore site layout ideas for further discussion with DRPT and the Task Force members. The concept plan options integrated recreation features, programming opportunities, and ideas discussed as priorities during the initial work sessions with stakeholders. Concepts were critiqued and advanced to one master plan.

Concept Option A, Gilligan's Lookout, integrates a treehouse as a central feature and creative solution to connect the upper and lower parcels of the site. The treehouse will serve as a destination on its own, incorporating four levels of programmed amenities, deck overlooks with amazing views to the Potomac and an elevator to ensure universal access to all floors. The fourth level connects to an accessible canopy walk; an elevated walkway stretching over Popes Creek Road to a connecting platform in the forest. Visitors will experience the forest canopy

from a new vantage point on the canopy walk and can use it to travel from the primary parking areas, located at the upper parcel, down to the beach at the lower parcel. The treehouse may include exhibit space, restrooms, kayak rental and a stage for concerts and performances. Condensing these features into one structure maximizes available space for beach and public open space as well as providing a kayak launch and renovated boat pier. Limited parking and drop-off space is proposed along Popes Creek Road. To the north of the road,



SHORELINE CELEBRATION CONCEPT B

KEY ELEMENTS

- 1 BOARDWALK CONNECTION TO BIKE TRAIL
- 2 WIDENED BRIDGE WITH PEDESTRIAN TRAIL
- 3 VISITOR'S CENTER WITH DECK AND KAYAK LAUNCH
- 4 ADA AND SERVICE PARKING AND DROP-OFF
- 5 STAGE AND SHADE SAIL
- 6 AMPHITHEATER SEATING
- 7 LIVING SHORELINE WITH RAMP OR STAIR TO WATER
- 8 POPES CREEK ALIGNMENT SHIFTED TO MAXIMIZE USABLE SPACE
- 9 TRAIL CONNECTION TO CLIFF SIDE
- 10 PIER RECONSTRUCTION

a screened-in picnic pavilion and observation blinds give visitors an opportunity to experience the marsh and connect to trails which traverse the slopes to the upper level.

Concept Option B, Shoreline Celebration, focuses on flexibility and outdoor gathering, maximizing beach space. The central feature of the site is a stage with amphitheater seating and a shade sail for comfort during the height of summer or rain. The stage is large enough to host festivals or celebrations by the Potomac but also flexible enough to function as a gathering space or seating for beach goers when

no events are scheduled. Shoreline Celebration looks closely at the shoreline where Popes Creek meets the Potomac, providing universal access to the water regardless of visitor mobility in a way that also incorporates habitat restoration. By creating pockets of living shoreline mixed with access to the water, guests are given the opportunity to interact with the water and with local ecology, improving the important connection between water and shore and making the shoreline more resilient to climate change. Connectivity to the larger site is an important part of Concept B's design as well. A

boardwalk system will allow visitors to link to the proposed bike trail to the north, and a switchback nature trail will take visitors to the upper parcel and the rest of the park beyond. There is no universal access between the levels in this option. Across Popes Creek Road to the north, a visitor's center is proposed extending out over the marsh with a large overlook deck and kayak launch. The visitors center will serve as base camp – a meeting place for visitors, comfort station and educational resource.

KEY ELEMENTS

- | | |
|---|----------------------------------|
| 1 BOARDWALK CONNECTION TO BIKE TRAIL | 12 VEHICLE AND ON-FOOT CAMPSITES |
| 2 SWITCHBACK TRAIL | 13 BATHROOMS AND FIRE PIT |
| 3 WILDERNESS CLASSROOM | 14 ROPES COURSE |
| 4 NATURE CENTER, OUTDOOR CLASSROOM, AND BATHROOMS WITH OUTDOOR ACCESS | 15 MAINTENANCE BUILDING |
| 5 DESTINATION PLAYGROUND WITH OBSERVATION TOWER | 16 GILLIGAN'S PIER |
| 6 STAGE | 17 TREEHOUSE AND CANOPY WALK |
| 7 PARKING | 18 PADDLE-IN CAMPING PLATFORMS |
| 8 WETLAND FISHING OR CRABBING PIER | |
| 9 PICNIC PAVILION | |
| 10 OVERFLOW PARKING | |
| 11 SOLAR MEADOW | |

04 MASTER PLAN & RECOMMENDATIONS



MASTER PLAN

Figure 4.01: Plan rendering of Popes Creek Waterfront Park master plan.



GILLIGAN'S BEACH

Figure 4.02: Gilligan's Beach perspective rendering.

Gilligan's Beach at the waterfront is the true heart of Popes Creek Waterfront Park and is the center of aquatic recreation on site. The design for the waterfront includes a public beach area with capacity for 300 people, a gathering plaza, living shoreline and habitat restoration adjacent to Popes Creek with accessible water access, and a reconstructed pier with boat slips and a fishing pier. Gilligan's Beach is anchored by the

treehouse, providing four levels of amenities, a concert stage, decks that take advantage of water views, and access to the canopy walk connecting visitors to the upper site. Whether a guest visits to enjoy the Potomac or to explore Popes Creek and the surrounding marsh, Gilligan's Beach is their base camp. The master plan maximizes beach area for visitors, a destination which was universally desired by



Figure 4.03: Viewpoint Key Map



Figure 4.04: Gilligan's Beach master plan.

stakeholders. It will be a popular destination for visitors looking to relax, swim, and soak up the sun. Park visitors can enjoy a variety of activities at the beach, including swimming, fishing, kayaking, and picnicking. The existing pier on the Potomac will be reconstructed, with one spoke devoted to fishing and related amenities such as fishing line recycling and cleaning station.

Across Popes Creek Road, a reconfigured parking lot is proposed to provide easy access to the waterfront for visitors with mobility issues and for boat drop off. As space is limited, the majority of visitors will park at the upper level and travel across the canopy walk to reach the waterfront. The plan includes a boardwalk network that connects across the marsh to the future Popes Creek Rail

KEY ELEMENTS

- | | | | |
|---|---|---|-------------------------------|
| 1 | BOARDWALK CONNECTION TO BIKE TRAIL | 9 | MAXIMIZED BEACH |
| 2 | RAISED BRIDGE WITH INTERPRETIVE OVERLOOK DECK | 10 | PIER RECONSTRUCTION |
| 3 | REALIGNED PARKING | 11 | SHORELINE HABITAT RESTORATION |
| 4 | TRAIL HEAD AND WETLAND OBSERVATION | 12 | ACCESSIBLE WATER ACCESS |
| 5 | FLOATING KAYAK LAUNCH | 13 | FISHING PIER |
| 6 | PLAZA WITH SEATING | 14 | NATURAL BEACH KAYAK ACCESS |
| 7 | DECK AND TREEHOUSE | <ul style="list-style-type: none"> - Kayak Rental, Outdoor Shower, and Stage - Grab and Go Food Counter and Bathrooms - Exhibits - Overlook and Connection to Canopy Walk - Elevator | |
| 8 | CANOPY WALK | | |

Trail. This boardwalk will have multiple platforms overlooking the wetlands, interpretive elements that showcase birds and plant species native to the area, as well as a floating kayak launch for launching into Popes Creek to the north of the bridge. The treehouse is an innovative solution for spanning the grade change between the upper and lower parcels. Visitors who park at the upper parcel will



Treehouse - Four Levels

- Floor 4 – Overlook Deck, Gathering and Exhibit Space, and Connection to Canopy Walk
- Floor 3 – Interpretive Exhibit Space/Function Rental Space
- Floor 2 – Overlook Deck, Concessions, and Restrooms/Changing Rooms
- Floor 1 – Kayak Rental and Event Stage

TREE HOUSE & CANOPY WALK



Figure 4.06: Treehouse and canopy walk section.

travel across a canopy walk to reach the Treehouse and will take an elevator down to the waterfront below, allowing any guest regardless of ability access to the entire park and recreation features. The elevated canopy walk will be an exhilarating experience that allows visitors to explore the treetops of the forest from a unique vantage point. Constructed from sturdy metal platforms, the

10-foot-wide canopy walk takes visitors high above the forest floor, offering views of the surrounding landscape. At approximately 200-feet in total length, the canopy walk will be elevated over Popes Creek Road and will continue along a trail network that connects to a wilderness classroom at the upper parcel and continues along a nature circuit terminating at a new nature center. The nature

circuit is a prime opportunity for environmentally focused art and guided nature walks. A 5-mile network of trails in and around the forest, including boardwalks over the wetlands, link the park destinations. The trails at Popes Creek Waterfront Park will facilitate different levels of exploration and physical challenge, allowing visitors to explore the park at their comfort level. Outside



CIRCULATION

Figure 4.07: Pedestrian and vehicular circulation diagram.

of the boardwalk system, the majority of park trails will be natural surface wilderness trails however, concrete walks at the public beach, Treehouse and around the event lawn connect parking to key recreation elements. Parking is distributed across the park to reduce the need for one large lot while still providing access to the various park features. On the north

side of Popes Creek Road, 24 spaces, including ADA spaces, are provided as direct parking for the waterfront. Temporary drop-off spaces are located near the floating kayak launch and walkways to the waterfront. This can serve for food truck parking as well. The majority of parking is located at the upper parcel, 435 spaces are dispersed around the park

for easy access to park features. For special events, an additional 258 overflow spaces are available for a total of 717 spaces park wide.



RECREATION FEATURES

Figure 4.08: Destination nature playground, observation tower, and nature center perspective rendering.



Figure 4.09: Viewpoint Key Map.

Destination Nature Playground

The playground at Popes Creek Waterfront Park is designed to inspire children’s imaginations and foster a love for nature. Intended to blend seamlessly with the natural environment, the playground will use natural materials and features like rocks and logs, and will include play equipment designed to mimic natural features, such as rope bridges and log scrambles. Play features for both the 2-5 and 5-12 age ranges will be

broken up by planting areas and sensory gardens with plants having a variety of colors, textures, and smells. By encouraging children to explore and interact with the natural world, the play area will promote physical activity, creativity, and socialization. An observation tower is located near the play area to allow children and families a view out over the Potomac and to encourage visitors to look beyond the boundaries of their play space to the natural world beyond. The observation



Figure 4.10: Destination nature playground, observation tower, and nature center plan..

tower expands birdwatching opportunities in this birthing hot-spot.

Event Lawn and Stage

This versatile outdoor space is designed to host a variety of large events, performances, and gatherings of up to 2,500 people. The event lawn serves as a spacious and open area that can accommodate

large groups of people, while the 60’ x 40’ event stage provides a focal point for live music, theater, group exercise or other activities. This beautiful and welcoming setting for visitors can be easily accessed from parking. When events are not scheduled, the lawn can serve as areas for picnicking, kite flying, yoga and fitness classes, or impromptu field sports such as soccer, frisbee or lacrosse.

KEY ELEMENTS

- 1 NATURE PLAY THEMED DESTINATION PLAYGROUND
- 2 PLANTING AREAS
- 3 WATCHTOWER
- 4 NATURE CENTER WITH OUTDOOR CLASSROOM
- 5 BATHROOM ACCESSIBLE FROM EXTERIOR
- 6 TRAIL CONNECTION
- 7 PAVER PLAZA
- 8 PARKING
- 9 EVENT STAGE



Figure 4.11: Key Map.

Reconstructed Pier

The existing pier that has fallen into disrepair will be reconstructed in the same location and footprint. Three fingers of the pier will be devoted to boat slips to provide space for visitors from the Potomac River to dock. With the reconstruction, 10 boat slips will be preserved while the fourth finger of the pier will be converted to a fishing pier.

5 MILES TRAILS & BOARDWALKS

Boardwalk, Overlook, and Kayak Launch

The master plan's wetland boardwalk system will allow visitors to experience and appreciate the natural beauty and ecological diversity of wetland environments. The boardwalk system provides an exciting, safe and accessible pathway for visitors to explore the wetlands and observe the plants and wildlife that call it home, as well as connecting pedestrians and bikers to the future Popes Creek Rail Trail to the north of the site. The interpretive overlook offers an extensive view of the marsh and provides information about the ecology and history of the area. The floating kayak launch allows visitors to explore the wetlands by kayak, providing a unique and immersive experience of the natural environment that will stay resilient and functional regardless of sea level rise. Together, these features offer a variety of ways to engage with and appreciate the beauty and ecological importance of wetland habitats.

Paddle-In Camping Platforms

Visitors seeking a one-of-a-kind experience can rent a paddle-in camp platform and stay the night

completely disconnected from the modern world. Accessible by kayak from Popes Creek, these platforms allow for tents to be pitched above the waterline. Camping in the wetland gives interested visitors' total wilderness exposure and the best chance to view wildlife that might not be out during daytime hours. Popes Creek Waterfront Park will become a new destination in Charles County's water trail network for overnight kayak excursions. Two 22' x 26' elevated platforms, each accommodating 2-3 tents and a picnic table. Platforms will be connected by boardwalk to a natural kayak launch to Popes Creek.

Living Shoreline

A living shoreline is a management technique that uses natural materials and native vegetation to stabilize and protect the shoreline from erosion and storm damage. Unlike traditional shoreline stabilization methods that rely on concrete, rock or steel, living shorelines use natural materials such as sand, shells and logs along with native plants to create a natural buffer zone between the water and land. These plants, such as marsh grasses, help to absorb wave energy, reduce erosion, and provide critical habitat for a variety of marine species. In addition to providing resiliency, living shorelines also offer a range of ecological and aesthetic benefits, including improved water quality, increased biodiversity, and a beautiful and natural waterfront for park visitors

700 FEET LIVING SHORELINE RESTORATION

to enjoy. The master plan recommends a living shoreline restoration along the Popes Creek waters edge. Along the length of the living shoreline, areas have been identified for visitors to access the water. Access is provided by an accessible walkway and by a natural kayak launch, both located between Popes Creek Road and the reconstructed pier. Otherwise, access should be limited and the living shoreline maintained as a vegetative buffer.

Wildlife Observation Blinds

Along the shoreline of Popes Creek, north of Popes Creek Road, two observation blinds are proposed for wildlife viewing. The observation blinds are positioned along the trail network and will give visitors a protected view looking north across Popes Creek and its marshes.

Crabbing and Fishing Pier

A second fishing pier is proposed north of Popes Creek Road and the wildlife observation blinds. This pier provides fishing access to Popes Creek, minimizing potential impacts from at grade shore access and providing an alternative fishing location if the public beach is in heavy use or during special events. Providing adequate separation and proximity of conflicting uses was a repeated concern from the public. This pier provides a more isolated option for fishing and crabbing.

Nature Center and Outdoor Classrooms

A nature center is proposed as a hub for environmental education and programming within the park. Located next to the destination playground, it will serve families and visitors who come to the park for day trips. Envisioned as a location for exhibits and as a home base for programming such as plant and bird walks, hikes and even guided kayak trips, the nature center will provide visitors with a greater appreciation of the unique and varied ecosystems of Popes Creek. The nature center could also host school field trips, summer camp, or camping programs as a revenue generator. The nature center building will provide restrooms for the recreation features located at the upper parcel; restroom access should be from the outside to ensure availability even when the nature center is not open.

Campgrounds

To serve the County's goal to attract tourists to Popes Creek Park, campgrounds will provide opportunities for visitors to extend their stay at the park and to fully immerse themselves in all Popes Creek has to offer. Designed as a primitive campground, vehicular camping spaces offer a convenient option for visitors to pull in cars while the walk-in camping spaces are accessed from a short walk along a nature trail. The campground's bathhouses provide essential amenities, such as showers, toilets, dish-washing sinks and trash disposal to ensure the comfort of

campers during their stay. The fire pit gathering area serves as a communal space where campers can come together to share stories, cook food and enjoy the beautiful natural surroundings. Parking is provided at each campground. The campgrounds are not intended for RV camping or vehicles with generators or utility hook-ups to minimize noise pollution for campers and park users.

20 ACRES MEADOW INSTALLATION

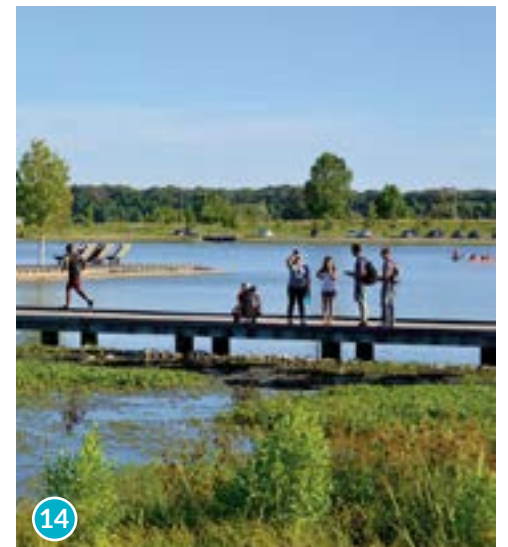
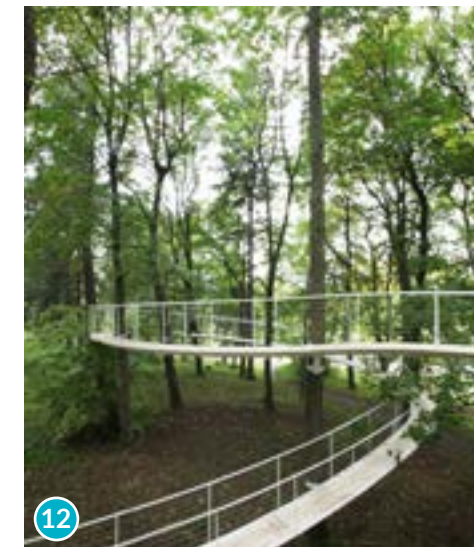
Solar Meadow

Meeting the goal of a net zero park will require an energy source to power buildings and functions. A pollinator meadow and solar array is located towards the eastern edge of the park. The low-growing pollinator meadow is intended to provide habitat and food for bees, butterflies, and birds. The solar array will be located over this meadow, providing multiple benefits. This landscape is an important tool in supporting biodiversity and promoting healthy ecosystems.

Ropes Course

A ropes course is an activity that is built into the forest with minimal impact to trees and incorporates traversing obstacles of varying difficulty. Participants wear harnesses and are attached to safety lines throughout the activity. This recreation feature would require staff for management and operations.

15 ACRES REFORESTATION



MASTER PLAN PRECEDENTS:

1. Kayak launch from shore. Image: Long Dock Park. Credit: Robert Rodriguez, Jr.
2. Waterfront Promenade. Image: Shelby Farms Park. Credit: The Architectural Record.
3. Primitive camping. Image: Campsite. Credit: Georgia State Parks & Historic Sites.

4. Nature Center/Tree House. Image: DuPont Environmental Center. Credit: Robert Creamer
5. Concert Space. Image: Writers Theatre. Credit: Writers Theatre.
6. Boat House Pavilion. Image: Hudson River Education Center. Credit: James Ewing

7. Boardwalk. Image: Bass River Park. Credit: Stoss.

8. Public Beach. Image: Hood River Waterfront Park. Credit: Tyson Gillard.
9. Bird Watching/Nesting Platforms. Image: La Sauge nature reserve. Credit: Estavayer-Le-Lac Payerne et Region.

10. Zipline/Ropes Course. Image: Nantahala Outdoor Center. Credit: High Adventure for Scouts
11. Solar Meadow. Image: Westmill Solar Park. Credit: Ben Cavanna

12. Elevated Forest Walk. Image: Tallin Forest Path. Credit: Transsolar & Tetsuo Kondo Architects.
13. Fishing Pier. Image: Rockefeller Wildlife Refuge. Credit: Trey Iles.
14. Living Shoreline. Image: Shelby Farms Park. Credit: City Parks Alliance

RECREATION & PARK FEATURES

A combination of active and passive recreation features are proposed for Popes Creek Waterfront Park. These features are shown on the master plan, however, the implementation of these features can occur at various levels of service or range of operations. Furthermore, the implementation of the level of service will be dependent on available funding needed to operate at that level of service. As funding becomes available and visitor use increases, advancement to a higher level of service becomes a viable option for enhancements such as the addition of shade structures, buildings, or programming. However, intermediate or progressive approaches for some recreation features will need to be integrated as part of the initial installation.

The following chart describes potential options for a range of service levels for each recreation feature.

Park Features	Level of Service		
	Basic	Intermediate	Intensive
Water Sports - Kayak, SUP	Accessible ramp/kayak launch	Kayak rentals	Kayak classes/guided tours
Hiking Trails	Connected trail network, self-guided hikes	Educational signage, seating, waystations, nature viewing areas	Guided nature walks
Public Beach	Public access beach area, restrooms	Rentals - chairs, umbrella, beach toys, vending, concessions	Programmed events - concerts, polar plunge, lifeguard-on-duty
Parking	Drop off and parking at Gilligan's Beach, parking at upper site	Canopy walk to treehouse and Gilligan's Beach	Shuttle service from upper parcel to Gilligan's Beach
Ropes Course	Ropes Course operated by outside vendor	Ropes course operated by Charles County for reservations or rentals	Ropes course operated by Charles County open to visitors on regular set schedule
Food and Drink	Vending machines offered at the Treehouse	Treehouse cafe or staffed food vendor offering prepared or cold food and drinks	Treehouse cafe or staffed food vendor with integrated kitchen offering hot food made to order
Nature Center and Interpretation	Static exhibits and interpretive signage	Interactive exhibits with seasonal highlights	Guided tours or programmed classes
Campgrounds	Self serve campground rental with basic amenities	Large campgrounds with individual fire pits or grills, tables, and gravel pads	Large campground spaces with power or water connections
Sustainability	Passive solar generation partially powering site amenities	All site amenities solar powered, compost toilets	Self-reporting trash receptacles, on site composting, energy efficient buildings

Figure 4.12 Level of service chart; outlines three levels of service for each recreation feature.

PROGRAMMING & EVENTS



Figure 4.12 Event overlay exhibit.

The park is envisioned to be utilized for a wide variety of seasonal or annual public events including festivals, smaller educational classes and guided nature walks - becoming a true regional destination in Charles County and Southern Maryland. Concerts or music festivals could be held using either stage as a focal feature. The event lawn

can accommodate a number of larger group tents and smaller tents for vendor stalls. Parking could be reserved for food trucks to provide food and beverages to guests. The possibilities of options are endless and can be implemented as resources and staffing allow.

Integrating revenue generating events is an important consideration to help fund maintenance and operations costs. Private rentals might include picnic pavilions, campsites, meeting rooms in the treehouse, and/or group access to the ropes course.



CONSIDERATIONS

Figure 4.14 Providence River Pedestrian Bridge. Credit: Dezeen

Charles County's vision for Popes Creek Waterfront Park serves as a flagship example of the County's approach to protecting and restoring the natural environment. The report "Accounting for Ecosystem Services in Charles County, Maryland" outlines four categories of benefits of the natural environment: provisioning services, regulating services, supporting services, and cultural services. This park has the capacity to function as a living demonstration of all four categories, while actively connecting visitors to further environmental education. The park can showcase specific climate adaptability strategies incorporated into the park's

amenities and programmed events.

CLIMATE ADAPTABILITY

Sea level rise is the gradual increase in the average level of the world's oceans over time due to rising global temperatures. As sea levels rise, there can be significant and far-reaching impacts to coastal communities and ecosystems, including flooding of low-lying areas, increased coastal erosion, and loss of habitat for marine species. It can also exacerbate the impacts of storms and high tides, leading to more frequent and severe flooding events. The rate of sea level rise has been accelerating in recent

decades, and it is expected to continue to rise for the foreseeable future. At Popes Creek, the predicted sea level will impact all of the land at the lower parcel. The master plan acknowledges this reality and integrates resiliency into the proposed plan features.

The design of the Gilligan's Pier site requires re-grading to ensure new infrastructure is above the level of regular flooding events. The proposed site is re-graded in a tiered approach to maintain functionality as water levels gradually increase over time. Any proposed structure should be built expecting a 2-5 foot increase in water level over



Figure 4.15 Sea level rise vulnerability map.

existing conditions.

The Popes Creek Road bridge that currently spans Popes Creek is particularly susceptible to impact from storm events, tidal surges and sea level rise. In anticipation of changing water levels, it is recommended that the bridge be reconstructed and its profile elevated. Engineering analysis will be needed to determine the optimal increase in height; a range of 3-feet to 6-feet is anticipated. This will have an added benefit in increased clearance for kayakers to travel underneath the bridge between Popes Creek and the Potomac at both high and low tides. **Planting salt tolerant species** is a mitigation strategy

used to address the loss of marsh ecosystems due to sea level rise and other factors. As sea levels rise, saltwater intrusion into freshwater marshes can cause stress or death to native plant species. Planting salt tolerant species that can survive in saline environments can help stabilize the marsh and maintain important ecological functions, such as carbon sequestration, nutrient cycling, and habitat provision. This approach can also provide a natural buffer against erosion and sea level rise, helping to protect coastal communities.

Carbon sequestration is the process of capturing and storing carbon dioxide from the atmosphere,

lowering its contribution to warming the globe. Reforestation, which involves planting trees in areas where forests have been removed, is a natural method of carbon sequestration. Trees absorb carbon dioxide through photosynthesis and store it in their biomass and in the soil. Reforestation can also help to restore degraded ecosystems and improve biodiversity.

Living shorelines and offshore sills are two types of nature-based coastal protection measures that can help mitigate the impacts of sea level rise, storm surges, and erosion. Living shorelines involve the use of native vegetation to stabilize the shoreline and



Figure 4.16 Bow River Living Shoreline Calgary
Credit: CMLC



Figure 4.17 Maryland Eastern Shore Living Shoreline
Credit: Pew Charitable Trust



Figure 4.18 Offshore Rock Sill, Virginia
Credit: Steve Simon, National Park Service



Figure 4.19 Oyster Shell Sill, North Carolina
Credit: Lindsay Addison, Audobon

absorb wave energy. They can also provide habitat for fish and other marine species and improve water quality. Offshore sills, on the other hand, are submerged structures made of rock or concrete that

are placed offshore to reduce wave energy before it reaches the shore. They can be used in combination with living shorelines to provide additional protection. Both living shorelines and offshore sills

offer a more environmentally friendly alternative to traditional coastal protection measures, such as seawalls and revetments, which can be costly and have negative impacts on coastal ecosystems.

MODEL OF SUSTAINABILITY

Popes Creek Waterfront Park aims to be a net-zero park, generating all the electricity it uses and minimizing water use and waste. With enough space to incorporate power generation and minimal power demands, a net zero park is achievable. As the historic site of the first electrical power plant to serve Southern Maryland, Popes Creek is the perfect location to model sustainable energy practices.

A solar array is proposed to generate electricity for park facilities and amenities such as buildings, lighting and charging stations. Solar lighting and solar trash receptacles can also be used throughout the park to reduce energy consumption and signal waste management staff when maintenance is necessary. New buildings such as the nature center, camp bathhouses and the treehouse should be designed to maximize efficiency and reduce demand, focusing on passive features and use of natural daylight where possible.

Additionally, fishing line recycling and kayak cleaning stations can be placed near bodies of water to prevent waste and promote responsible fishing practices. Dog bag stations can be placed throughout the park to prevent dog waste from littering the park. Finally, dark sky compliant lighting should be used to minimize light pollution, and lighting should be kept to a minimum, preserving the natural beauty of the

park at night and preventing disruption to wildlife. Planning for this high level of sustainability at the master plan phase will set the standard for future parks within the County.

INCORPORATING TECHNOLOGY

Incorporating technology into a natural area may seem counterintuitive. However, doing so can enhance the visitor experience, and make the park more efficient to manage. One way to do this is by creating a smartphone app that provides visitors with real-time information about the park, including maps, activities, and events. Additionally, self-administered rentals such as bikes, kayaks, or other equipment can be made available through the app, reducing the need for staff to manage rentals on-site. Technology can affect data collection and environmental metrics as well. Water quality monitoring stations can be installed throughout the park, with data accessible to visitors through an app and weather stations provide up-to-date information on weather conditions, helping visitors plan their activities accordingly. These technologies can provide a seamless and enjoyable experience for visitors while also optimizing park management.

SIGNAGE & ART

Park wayfinding is an opportunity to incorporate focal elements that help to tell the story of Popes Creek Waterfront Park and contribute to a sense of county placemaking and cultural pride.

Signage can play a key role in this process. Signage should be easily read, written in multiple languages,

available in braille, and use symbols for the color blind, to equitably ensure that Universal Design principles are met. Signage also plays a key role in environmental education and creating opportunities for learning. Interpretive signage can be provided at key moments around the park that explain park systems, sustainable practices and highlights key wildlife found in the park.

Creating signage that is interactive can help to encourage visitors to stop and read. This might suggest activities for groups or children or incorporate links to outside sources of information using QR codes. Activities can be as simple as asking visitors to look for a specific plant or bird, or they can include more complex elements like dials and lifting doors to find hidden information.

Wayfinding and signage does not have to be limited to environmental interpretation. A story trail is a series of signs each with a portion of a story or poem that is read as a visitor progresses down a trail. Encouraging children to seek the next sign adds an element of exploration and excitement to their visit while building literacy.

Art and sculpture have the power to transform public spaces, adding a new dimension to the built environment and enhancing the experience of those who use them. When strategically placed and thoughtfully designed, public art can play a significant role in placemaking and wayfinding in public parks. Art can create a visual focus or landmark to indicate arrival or help visitors navigate through an unfamiliar environment.

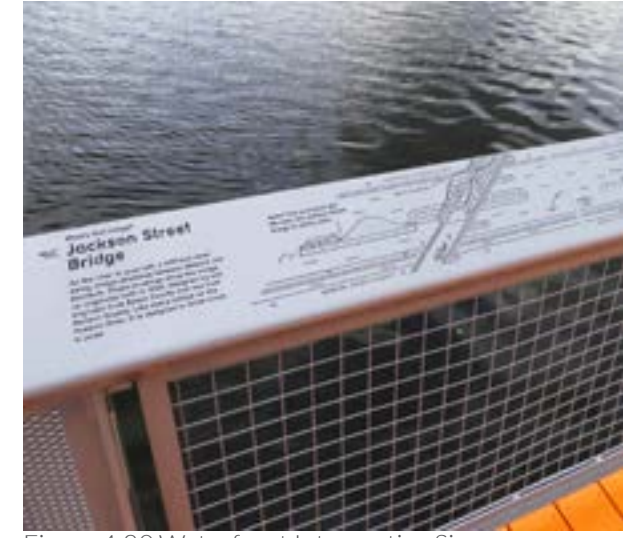


Figure 4.20 Waterfront Interpretive Signage.
Credit: MTWTF



Figure 4.21 Kayak Rental Kiosk
Credit: Kayakomat



05 IMPLEMENTATION & PHASING

Figure 5.01: Construction administration plant installation. Credit: Floura Teeter Landscape Architects.

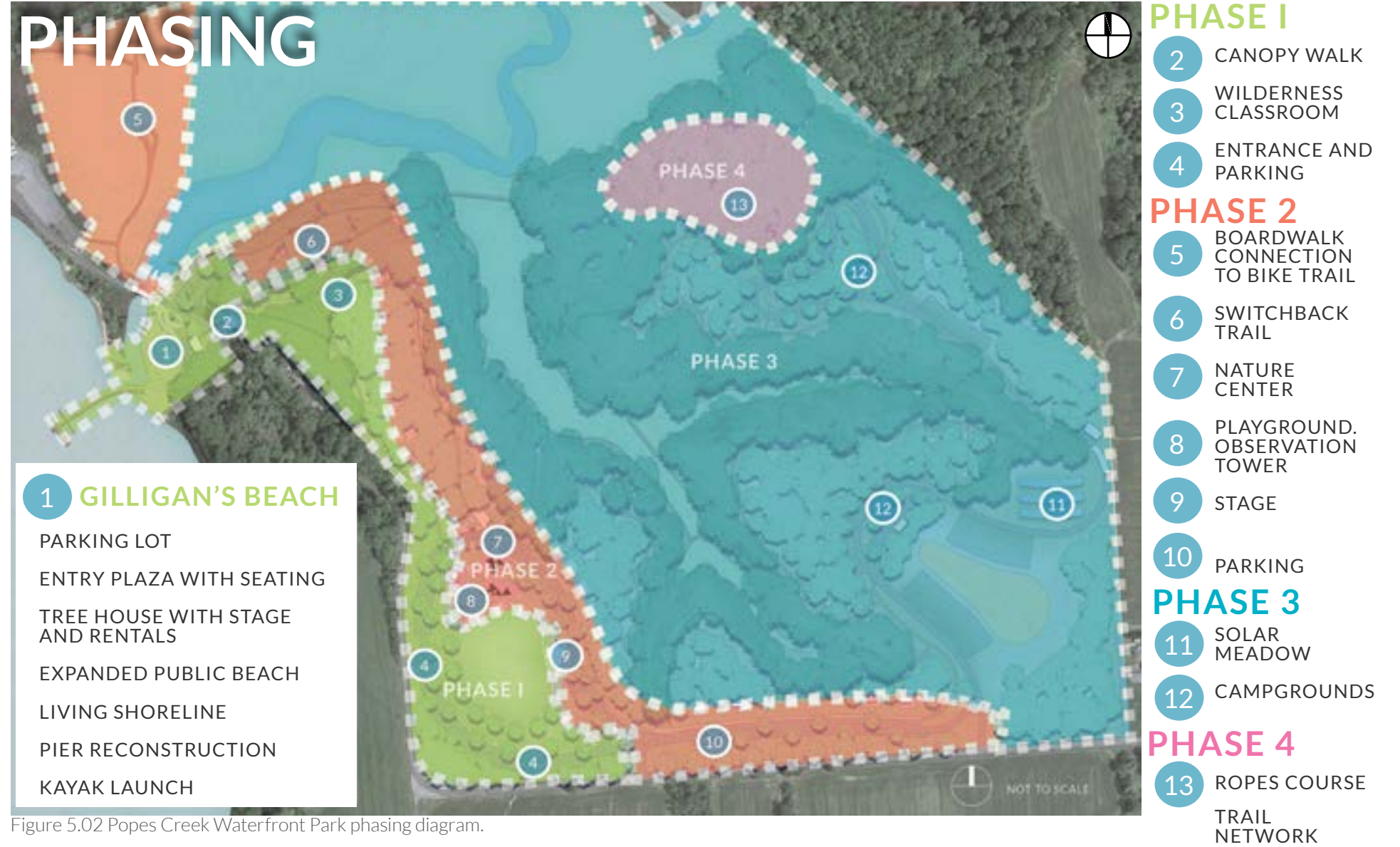


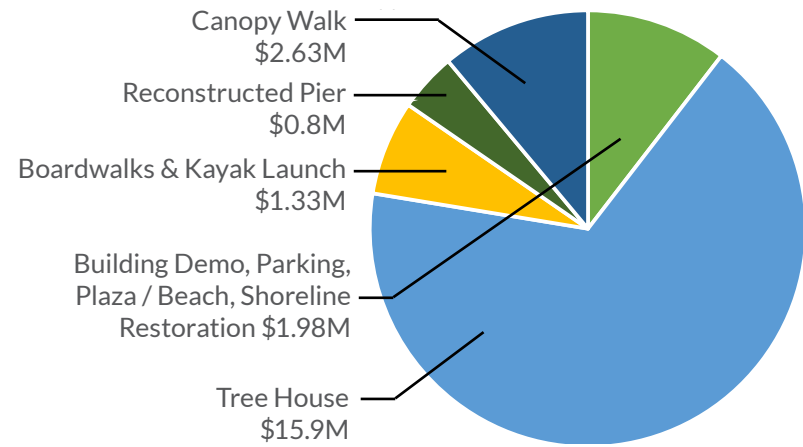
Figure 5.02 Popes Creek Waterfront Park phasing diagram.

This master plan for Popes Creek Waterfront Park puts forth an ambitious and achievable vision for a first of its kind destination on the shores of the Potomac River. Popes Creek Waterfront Park will be a generational investment that delivers a unique aquatic recreation hub and living learning center for nature-based play and exploration, as well as

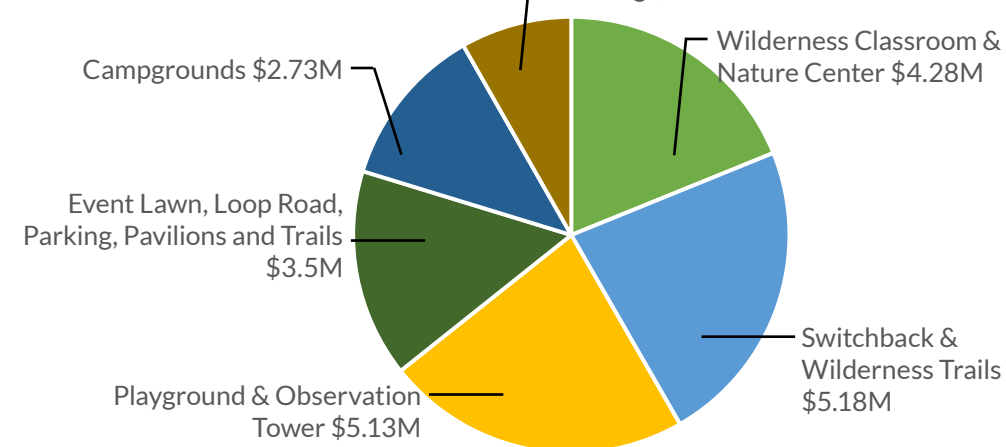
educating visitors about ecosystem function and climate resiliency. Master plans are intended to set out a vision. The details of each park area and element are then further developed through a collaborative process with the community while taking into consideration environmental and engineering requirements

governed by many agencies that will be partners in developing the park. Work will have to proceed in logical phases or packages of improvements based on available funding and how various elements of the master plan coincide.

WATERFRONT - GILLIGAN'S BEACH (LOWER SITE)



POPES MEADOW (UPPER SITE)



ASSUMPTIONS

The estimate of probable costs is based on the following assumptions:

1. Infrastructure Items - MDOT SHA unit prices from Q4 2022.
2. Uniform escalation of 3.5% compounded annually.
3. 60% design contingency due to lack of design development.
4. 17% architectural/engineering and permitting/compliance fees.
5. 10% construction management and administration.
6. Cost range used as follows:
Low = 80% of cost estimate
High = 110% of cost estimate
7. Solar Farm, Ropes Course, and Campground - costs may be borne privately by outside vendor.

PROJECT COSTS & FUNDING

Partnership is critical to achieving the vision of Popes Creek Waterfront Park. Charles County government will provide the leadership and some of the funding that sustains plan implementation over time; however, funding from state and federal agencies, philanthropies and other friends of Popes Creek Waterfront Park are critical to building the park to the fullness of the vision. Ongoing operating funds are typically paid by county government, but to achieve a high level of programming there will have to be supporting non-profit partners to conduct some activities and private vendors to provide some concessions for food and beverage, canoe and kayak rental, and other purposes.

The full cost of the Popes Creek Waterfront Park is difficult to estimate based only on a visionary master plan. In addition to the hard costs of construction, there are engineering costs, environmental compliance and mitigation activities, and construction management costs to consider; contingency for unknown design requirements and inflation also factor into the cost of projects. Together, non-construction and contingency costs make up more than half of each estimate presented in this document. The more elements that have "shovel ready" design plans, the lower the ultimate project costs will be as the County can take advantage of unanticipated funding and grant opportunities that favor projects ready to be built.

WATERFRONT - GILLIGAN'S BEACH (LOWER SITE)

The logical first phase of Popes Creek Waterfront Park is to demolish the existing Gilligan's Restaurant structure, build a parking lot on the east side of Popes Creek Road, and create the entrance plaza, beach and living shoreline along the Potomac River and Popes Creek, respectively.

Because parking will be limited at the waterfront area, constructing the treehouse and canopy walk and connecting them to a parking lot at the upper park area is the critical next step. The treehouse is also critical to the full visitor experience as it will hold the stage for concerts and activities, allow for kayak and canoe rental and storage, and provide other programming that makes celebration possible at the waterfront park.

A reconstructed boat dock and fishing pier along the Potomac River and the kayak/canoe launch near the parking lot can be added at any time. Creating the wetland observation areas, paddle-in campsites, and boardwalk that connects to the future Popes Creek Rail Trail are projects that can proceed at any time subject to available funding.

DESIGN & PERMITTING DURATION:
15 - 18 months

CONSTRUCTION DURATION:
9 - 12 months

DESIGN & CONSTRUCTION TOTAL COST:
\$18.1 - \$27.1 million

MAJOR CONSIDERATIONS:

- Create an interim condition for shade and events after Gilligan's is demolished but before the treehouse and canopy walk are constructed.
- Environmental permits for work in wetlands and waters of the United States can be very time consuming.
- Treehouse will require an elevator and mechanical room to meet ADA requirements.
- "Future-proofing" the park from sea level rise and ensuring that future bridge reconstruction is accommodated without affecting the park.

POTENTIAL NON-LOCAL FUNDING SOURCES:

- MDOT Transportation Alternatives, Scenic Byways, and Recreational Trails Program.
- US DOT PROTECT (resiliency) grant program.
- FEMA Building Resilient Infrastructure and Communities Grant Program.
- National Fish and Wildlife Foundation, EPA and US Fish and Wildlife Service programs for Chesapeake Bay watershed improvements.
- Maryland DNR Waterway Improvement Fund for public boating facilities.

POPES MEADOW (UPPER SITE)

The upper area of Popes Creek Waterfront Park has more flexibility in phasing and programming over time than the waterfront area. The infrastructure cost of roads, parking, and utilities can be phased appropriate to which park elements are constructed and when.

The parking area built for the access to the treehouse and canopy walk is the foundation for other elements of the upper park such as the nature center and outdoor classroom, playground, plaza and observation tower, and stage on the west side of the upper area. On the east side, infrastructure can be built as funding becomes available or public-private partnerships are formed for the solar meadow, campsites, and ropes course. Switchback trails along the upper area to Popes Creek and across the marshes can be built at anytime in conjunction with the eastern elements of the upper area.

DESIGN, PERMITTING & CONSTRUCTION

DURATION: Flexible over multiple sub-phases

DESIGN & CONSTRUCTION TOTAL COST:

\$19.6 - \$29.4 million (over multiple sub-phases)

MAJOR CONSIDERATIONS:

- Maintaining forest and habitat while creating publicly accessible park features.
- Topographical and environmental challenges for accessing Pope's Creek other than via the canopy walk and treehouse.
- Creating a micro-grid to power all activities at Popes Creek using the solar meadow.

POTENTIAL NON-LOCAL FUNDING SOURCES:

- Solar meadow, campsites, and ropes course could be built and operated through a public private partnership.
- US Department of Agriculture Forest Service and US Department of Interior National Park Service 21st Century Community Learning Centers greening and STEM grant programs.
- National Park Service US Land and Water Conservation Fund grant programs

DESIGN FRAMEWORKS

The design of this master plan was developed with consideration of the concepts presented in the SITES and WEDG guidelines. Both programs suggest a comprehensive and systems approach to design that integrates sustainability and resilience. We recommend these guidelines continue to be a reference for advancing the design and engineering for the features of the master plan.

- Sustainable Sites (SITES)
www.sustainablesites.org
- Waterfront Edge Design Guidelines (WEDG)
www.wedg.waterfrontalliance.org