Two Rivers Environmental Park

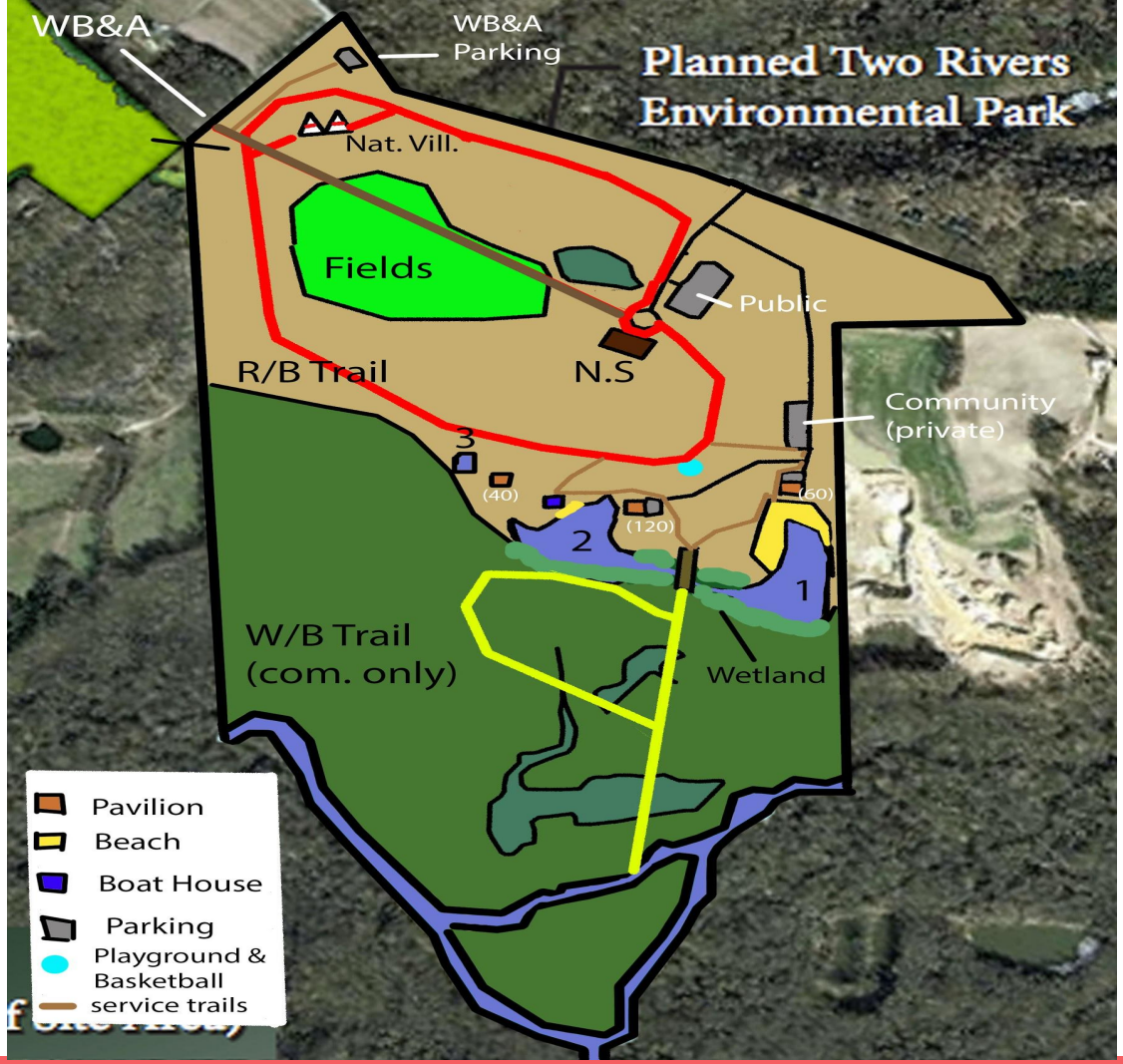
Mission

To create a community focused environmental park that provides people with active and passive recreational activities that promote active lifestyle, and increase physical and mental health, as well as educational opportunities that inform and educate people about environment sustainability and Maryland's rich history, creating a fun atmosphere to interact and catch up with friends at the same time.

Concept

- Minimum Viable Product
  - What is the minimum investment that still provides a use to the consumer.
- Why build the Park?
  - Differentiation
  - Adds value for future family home
  - Volunteer opportunities
- Why put emphasis on public amenities?
  - Reduce burden on the H.O.A
  - Help publicize the Two Rivers Community while retaining privacy

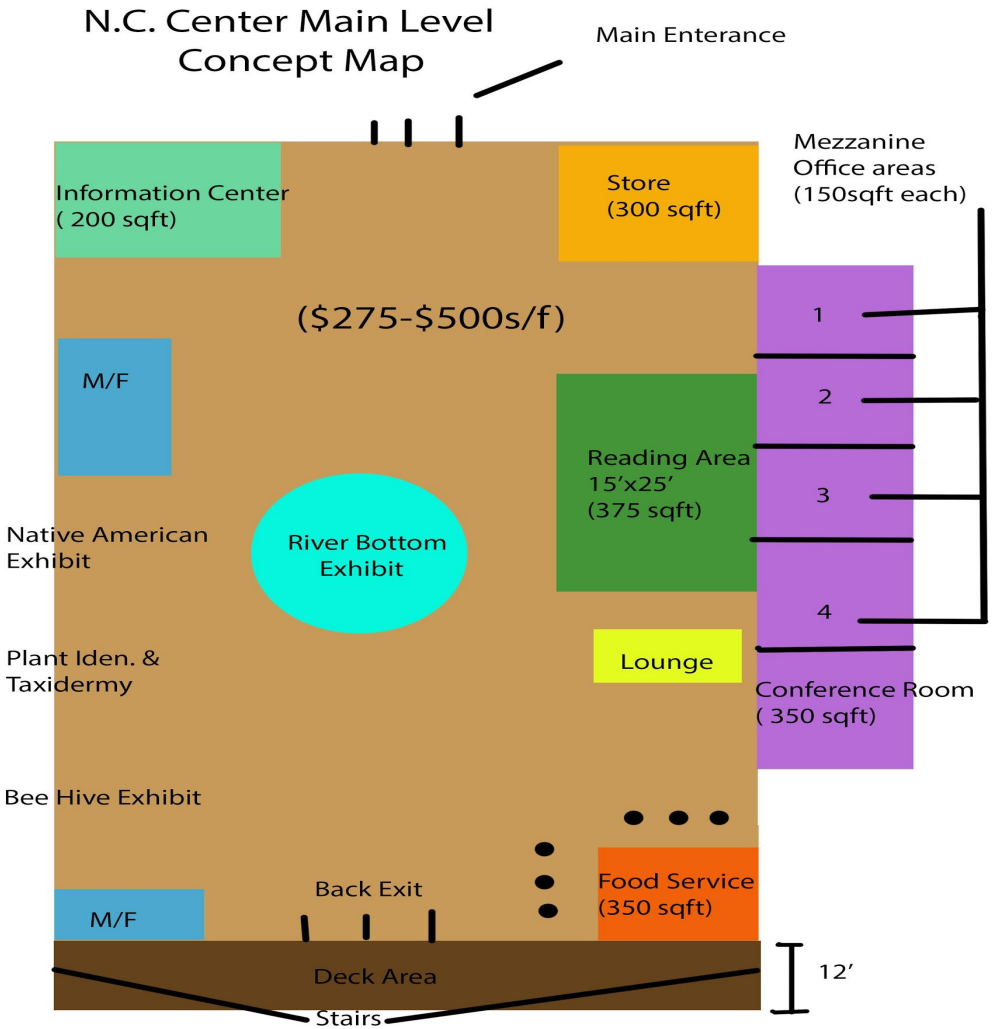
Site Map


WB&A
WB&A Parking
Planned Two Rivers Environmental Park
Nat. Vill.
Fields
Public
R/B Trail
N.S
Community (private)
3
(40)
(120)
(60)
2
1
W/B Trail (com. only)
Wetland
Pavilion
Beach
Boat House
Parking
Playground & Basketball
service trails

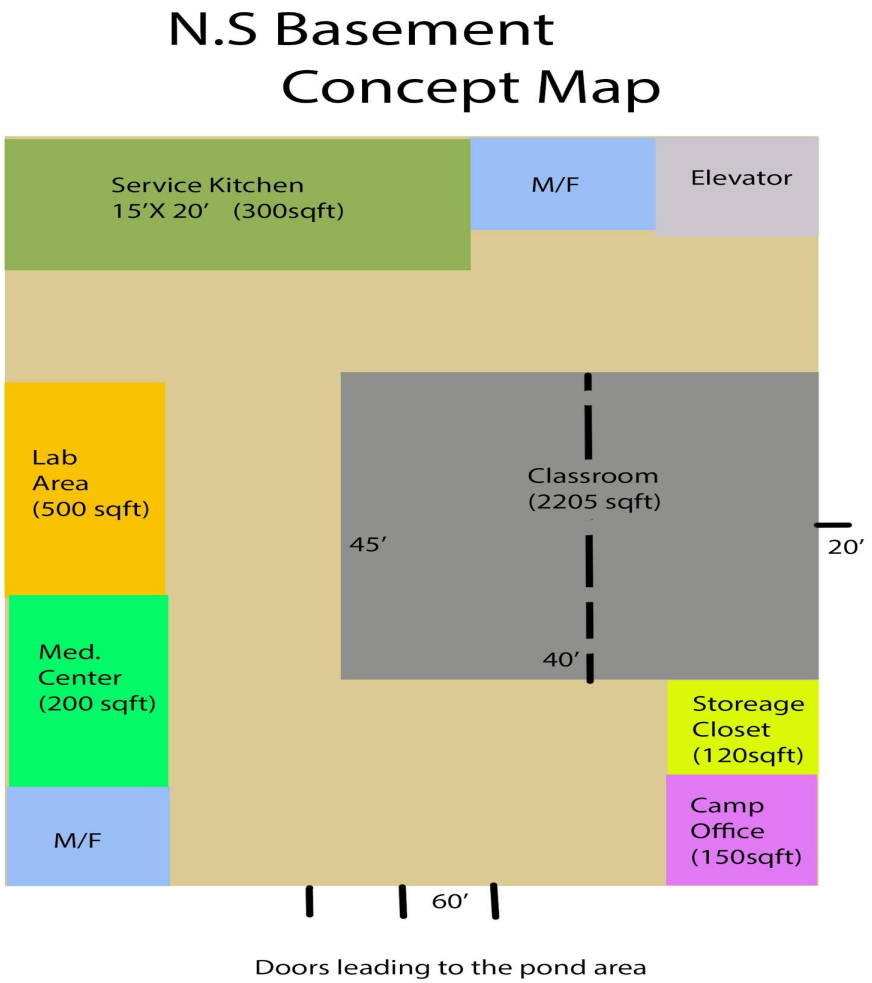
Nature Center

- Main entry point for the park for all visitors
- Main feature of the park where the community gathers
- Provides access to passive and active recreational activities
- Houses administrative offices of park staff

Nature Center First Floor



Nature Center Basement



Nature Center

Nature Center Programs/Events

- Community Events- gather Two Rivers members for events
- Summer Camps-exceptional camp for children to develop and enhance their knowledge about natural habitats, different camps around the park
- School Field Trips- based on the teacher's curriculum
- School Programs- based on different themes that the park offers

Nature Center Budget

- Total 7200 sq.ft
- Construction cost: $275 - $500 /sq.ft
- Total cost: $1,980,000-$3,600,000

Fields --Description

- Location:
  - Right above the nature center
  - On the right side of the public entrance road
- Features:
  - The whole area is roughly 7 acres
  - Surrounded by a round public trial
  - Be assigned to 3 grass fields by small paths
  - Several benches on the paths and trails
- Target demographic:
  - The community
  - The general public

Why Fields??

- High Flexibility
  - A variety of entertainment services
  - Accessible to various demographics
  - Highly interaction with other features in the park
- High benefit to community
  - Public health
  - Economically
- Adhere to the mission

Fields -- Flexibility

- A variety of entertainment services
  - Personal activities: non-profitable
    - Active activities:
      - Sports: soccer, football, lacrosse, frisbee
    - Passive activities:
      - Picnic
      - Reading books
  - Group activities: non-profitable/ profitable
    - Concerts
    - Camps
    - Field trips
    - Sports
    - Rent out

Fields -- Flexibility Cont'd

- Accessibility to various demographics
  - Kids & young people
    - Sports, frolic on the grass
  - Elder people
    - Walking, relaxing, reading, doing Supreme Ultimate
  - Couples
    - Dating, lying down
  - The whole family, or a group of friends/coworkers
    - Picnic, chat over a cup of tea, watching movies

Fields--Flexibility Cont'd

- Highly interaction with other features in the park
  - Nature center
  - Trails
  - Pavilions
  - Playgrounds

Fields--Community Benefit

- Economically beneficial
  - Lowest total cost for construction and maintenance
  - High revenue:
    - Rent: rent out for group activities
    - Tickets: for holding group activities
- Beneficial to public health
  - Get closer to the nature to increase mental health
  - Get closer to people and friends to increase mental health
  - Various activities to increase physical health

Fields--Budget

- 7 acres=300,000 sq.ft
- One field: 57,600 sq.ft
  - Natural with 4-6 inch Sand Cap - $2.60 - $3.85 per sq. ft.
  - Cost for one football field (57,600 sq. ft.) - $149,760 - $221,760
  - Cost for maintenance $0.20
  - Maintenance cost is $11,520
- The other two fields: 242,400 sq. ft.
  - Natural Turfgrass with Native Soils - $1.25 - $2.50 per sq. ft.
  - Cost for (242,400 sq. ft.) - $303,000 - $606,000
  - Cost for maintenance $0.11 per sq. ft.
  - Maintenance cost is $26,664
- Total construction cost: **$454,760 - $827,760**
- Total annual maintenance cost: **$38,184**

Fields--Mission

- Highly adhere to Mission
  - Increasing mental and physical health
  - Promoting active lifestyle
  - Informing people about the sustainability
  - Giving opportunities to interact and catch up with friends

Fields--Attractive Nuisance

- Noise
- Quarrel and fight
- Reservation conflicts

Beach- Mission

The beach area relates to the mission because it provides both passive and active recreation opportunities. It will be a unique and beautiful feature that will bring the community closer to nature.

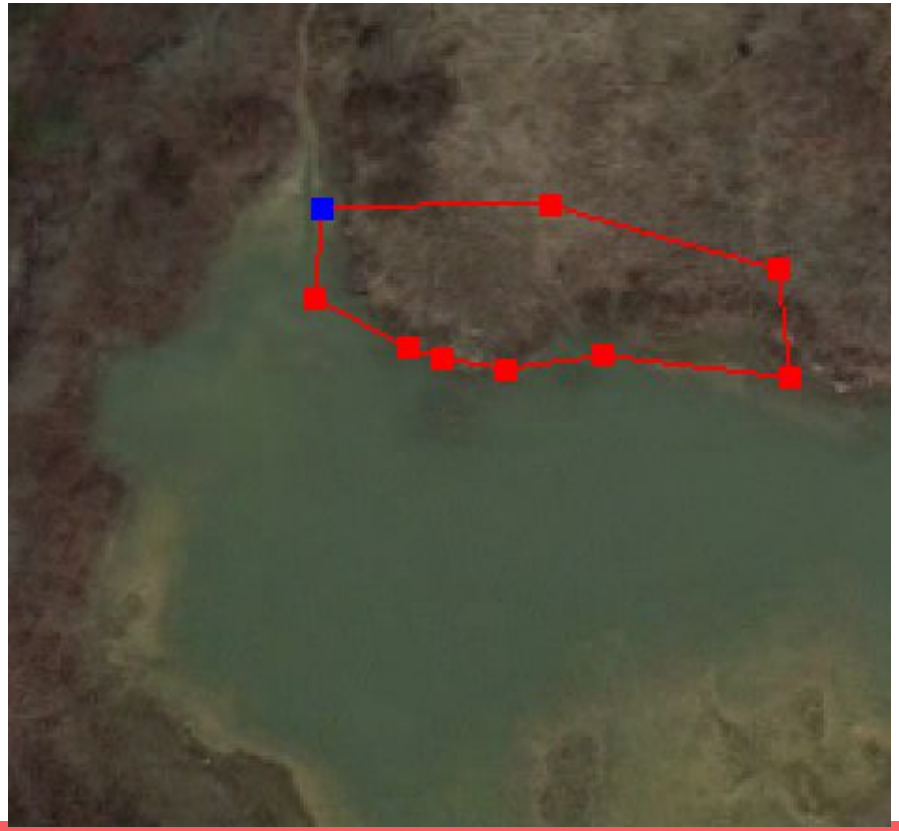
Beach-Description

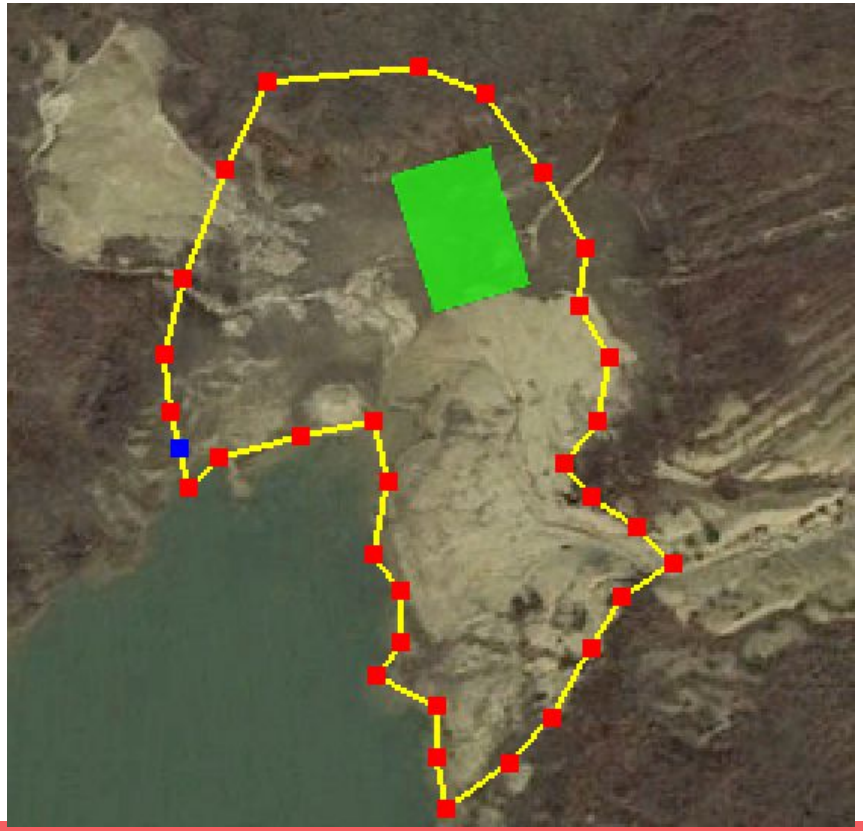
- Location: (totally two beaches)
  - The bigger one is on the right side of the lower bigger pond.
  - The smaller one is on the right side of the upper pond.
- Area: (expanded)
  - 0.2 acre by pond 2
  - 0.5 area by pond 1
- Features:
  - Community meetings, volleyballs and picnic, etc..
  - For canoes
  - A volleyball court.
- Target Demographic
  - Young families and 55+
  - Camp Kids

Two ponds

- One of the most important natural feature in the park
  - Pond 1= 1.8 Acres
  - Pond 2= 1.5 Acres
- Boat House for canoe storage
  - Self serve structure that holds canoes on racks
- Camp kids
- It requires a wetland
- Activities
  - Fishing
  - canoeing

Beach Construction





Beach- budget

- Beach grading:
  - $0.47/sf -$2.28/sf
  - 0.7 acre (=30500 sf)
  - The cost is **$68,625 (max)**
- Sand & Gravel
  - 3,600 sf per volleyball court
  - 5,200 cf of sand and 2,600 cf of gravel per volleyball court
  - Equivalent to 8.4 volleyball court.
  - sand : 5,200 cf* 8.4= 43,680 cf =1,618 cy=107 truck load
  - Gravel: 2,600 cf* 8.4= 21,840 cf=777.8 cy= 51 truck load
  - Sand: ($410/truck load) *(107 truck load)=**$43870**
  - Gravel:(51 truck load)*(17.9 tons/ truck load) *($10.10 per ton of gravel)=**$ 9220.29**

A	Cash available now	$
1	beach grading	$68,825.00
2	sand	$43,870.00
3	gravel	$9,220.29
Total	One-time Construction Cost	$121,915.29
4	Annual Maintenance Fee	$3,120.00

Wetlands

- The wetland banking is a reclamation demonstration located in the connection between ponds 1&2 as well as the side closest to the forest of the ponds.
  - Brings nature closer to park user
  - Development is partly contingent on profitability
- Construction would need follow the W.I.P protocols
- Total Area: 1 acre
- Installation Costs: $4661
- Long term Costs: (50 year lifespan)
  - Mowing buffer: $3.06 weekly
  - Control structure gate replacement: $15/ 8 years
  - Control structure and Wier plate replacement: $935/10 years

Pavilions - Description

- Three pavilions with capacity of 40, 60 and 120 people
- Seating area, picnic facilities
- Recreational activities
- Events or parties
- Target demographic
  - Private residence
  - General public
- Community benefit
  - Social relationships
  - Commercial benefit
- Possible to add solar electric and hot water demonstration
- Feedback clue


40
Boat
House
120
B&P
60
Google

Pavilions - Features

- 40 people pavilion - Public
  - 6 (6') picnic tables
  - Charcoal grill (15" x 9")
  - Electrical outlets
- 120 people pavilion - Public
  - 15 (8') picnic tables
  - 4 charcoal grills (15" x 9")
  - Electrical outlets
  - Water fountain
  - Nature camp
- 60 people pavilion - Private
  - 8 (8') picnic tables
  - 2 charcoal grills (15" x 9")
  - Electrical outlets
  - Water fountain

Pavilions - Budget

- 40 people pavilion
  - Size: 600 sq ft
  - Cost per sq ft: $45.34
  - Cost to construct: $27,200
  - Annual maintenance costs: $2,700
- 60 people pavilion
  - Size: 1,000 sq ft
  - Cost per sq ft: $45.51
  - Cost to construct: $45,500
  - Annual maintenance costs: $4,800
- 120 people pavilion
  - Size: 2,500 sq ft
  - Cost per sq ft: $32.86
  - Cost to construct: $82,100
  - Annual maintenance costs: $7,700

Total construction cost: $154,800
Total annual maintenance cost: $15,200

Playground/Basketball Court - Budget

- Playground
  - Size: 5,800 sq ft
  - Cost per sq ft: $45.63
  - Cost to construct: $264,000
  - Annual maintenance costs: $13,300

- Basketball Court
  - Size: 7,000 sq ft
  - Cost per sq ft: $4.59
  - Cost to construct: $32,000
  - Annual maintenance costs: $2,700

Trails

- Public Running and Biking Trail - (Red)
  - This would be a 1.2 mile 10’ wide asphalt trail that circles around the northern part of the property that will open year round.
  - This trail will feature a number of educational sites, like the Native American Village, that park goers can explore the to learn more about the park and Maryland’s history.
  - Lifespan: 10 years
  - Total Project Cost: $164,211.60
    - 6-10 educational installations spread along the trail
      - Cost dependent on type of installation
    - Labor Hours: range from 0.2-9.3 hours per mile

Trails Cont'd

- WB&A Trail Extension - (Brown)
  - This would extend the WB&A trail directly to the nature center.
  - The trail extension would match the existing trails specifications.
    - 10' wide asphalt trail
    - Length of Extension: 0.37 miles
  - Total Cost: $50, 631.91
    - Labour Hours: 0.2-9.3 hours per mile
- WB&A Parking Lot just of Meyers Road
  - Cost of 20 person parking lot (Asphalt): $60,000
  - Annual Operations/Maintenance Costs: $6000

Trails Cont'd

- Community Woodland Boardwalk Trail -(Yellow)
  - This trail is an exclusive feature of the nature park that only members of the community can access.
  - It is a 1.3 mile boardwalk and woodchip trail that through the wooded area of the property that gives residents access to amazing trout fishing along the Patuxent River.
  - Costs:
    - 5' Woodchip Trail Cost (Per Mile): $23,687.50
      - Lifespan 1-3 years
    - Wetland boardwalk (Per mile) $5750+$50 Square foot
      - Life span: 7-15 years
    - Bridge: $5750+ $100sqft.
      - Lifespan: 7-15 years (If materials are similar to boardwalk)

Native American Village

- This park feature would be located in the front of the property as the main educational installation along the running and hiking trail.
- It would consist of the following:
  - 3-5 structures that highlight the most important structures of an Algonquin village.
  - An edible foragers garden
  - Signs with information/descriptions of the village
- There is funding available to implement a feature like this!

Overhead

- Nature Center Manager
  - We need 1 full time manager to oversee the nature center and its programs. This individual will have the following responsibilities
    - Scheduling events
    - Hiring experts for educational installations
    - Meeting with camp contractors
    - Managing N.C. facility and its personnel
    - Coordinate with Operations Manager
  - Cost: $55,900 (average salary)
- Experts for educational installations
  - Hired in different intervals to update the park's educational materials.
    - Cost depends on size and quantity of installations.
    - Animal Husbandry (If there are any)

Overhead

- Information Desk assistants
  - We need 1 FTE (full year) & 1 full time seasonal (40 hours weekly)
    - Costs:
      - Full year: $22,880-$29,120
      - Seasonal: $11,440-$14,560
- Nature Camp
  - Lease the exclusive rights to use the park (excluding the beach and beach pavilion during peak hours) to a nature Camp.
    - Send out a request for proposal to gauge and monitor industry response

Overhead

- Financial Manager
  - This is a part time position that manages the financial to handle the “bookkeeping” and payroll for park personnel.
    - Costs:
      - $30-$40p/h
      - Assumed 15-25 hours weekly
- Operations and Maintenance Personnel
  - We estimate that we will need 4 FTE to maintain and repair the park facilities
    - Operations Manager: Will lead the other three members and will coordinate efforts with N.C. Manager.
      - Cost: $35000
    - Operations personnel Cost: $91,800

Overhead

- Service Trails- (5’ wide woodchip)
  - Length: 0.82 miles
  - Cost: $19, 423.75
  - Maintenance: Site dependent
- Food Concessions
  - Four employees available to manage this area. Two full-time employees and Two seasonal employees
  - Seasonal employees paid minimum wage ($8.75 current in MD) and work part time
  - Full-Time employees paid around
    - $10.00 /hr
- Assume 19.8% of Total Costs for Insurance, Bonuses, etc...

Overhead

- Website w/ online payment: $10,000-$15000
- Public Parking Lot (50 car)
  - Construction: $150,000
  - Annual maintenance: $15,000
- Community Parking (30 car)
  - Construction: $90,000
  - Annual maintenance: $9,000
- Roads- (2 lane asphalt)
  - length : 0.6 miles
  - Cost: $256, 518.40
  - Maintenance costs: $5100 annually