



**BACON RIDGE NATURAL AREA:
FORNEY EXPANSION**

FINAL MASTER PLAN REPORT

**1218 FORNEY ROAD
CROWNSVILLE, MD 21032**

COUNTY PROJECT # P452550

JUNE 2022



A Report Prepared for:



Anne Arundel County

Department of Recreation and Parks

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1 BACKGROUND AND OBJECTIVES

1.1 PREFACE

The Century team commends Anne Arundel County for the forethought in addressing the future improvement opportunities of the recent Forney property acquisition. The development of the property will provide educational opportunities, Ranger accommodation, development opportunities for Anne Arundel County Recreation and Parks, safe parking, and access to the existing Bacon Ridge Natural Area.

1.2 PROPERTY BACKGROUND

Bacon Ridge Natural Area is a 1,124-acre permanently protected park located in the South River Greenway in Anne Arundel County, Maryland. The park is located in Crownsville and is at the headwater of the South River. A portion of the park is protected by a conservation easement coheld by scenic rivers and the Maryland Environmental Trust. The park consists generally of passive recreation activities such as hiking, nature study and trails. The county recently acquired an additional +/- 150 acres adjacent to the park, formerly the Forney property.

The Forney property has long been used for agricultural purposes, and its zoning designation reflects that use. It is located in the Rural Agricultural zone and is bordered on all sides except across Severn Chapel Road by properties of the same zone. Across Severn Chapel Road, the Forney property is bordered by the Residential Low Density zone. Much of the property is open with some wooded areas, with multiple wetlands and small streams within those wooded areas.

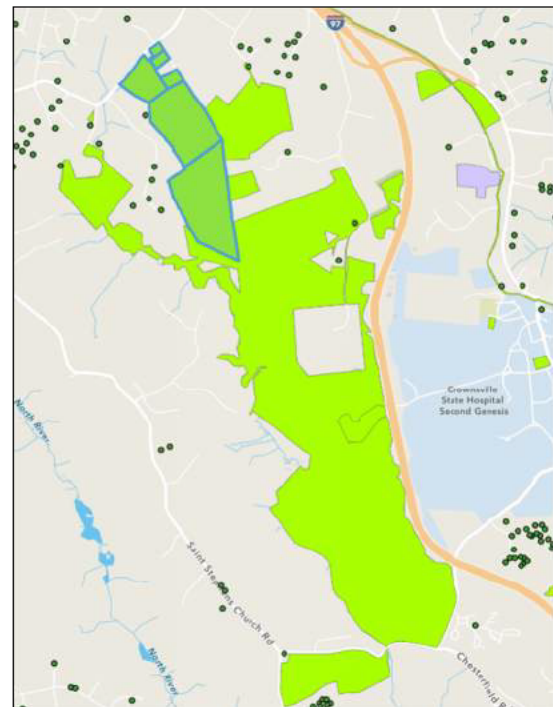


Figure 1: Regional map highlighting the Forney property (darker green with blue outline) and the larger Bacon Ridge Natural Area (light green).

In November of 2019, the Forney property was transferred to Anne Arundel County. The acquisition of the Forney property, located on the north side of Bacon Ridge, allows for multiple park enhancements. Potential enhancements include trail head access, additional parking, equestrian parking, educational historical opportunities, park ranger quarters, etc. The ability to expand/develop the Forney property will allow vehicular access from Severn Chapel Road.

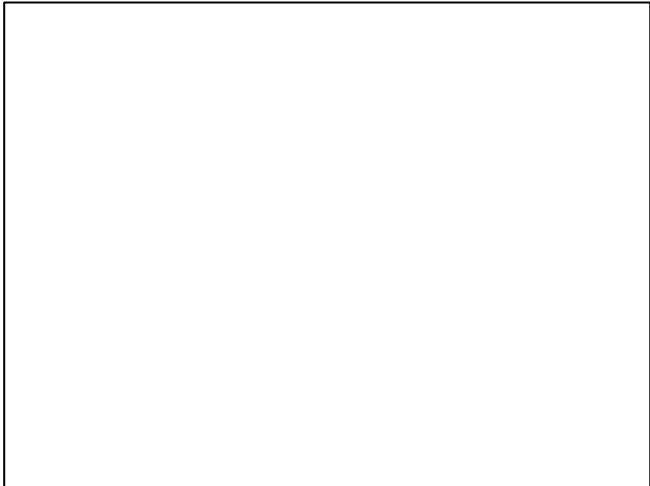
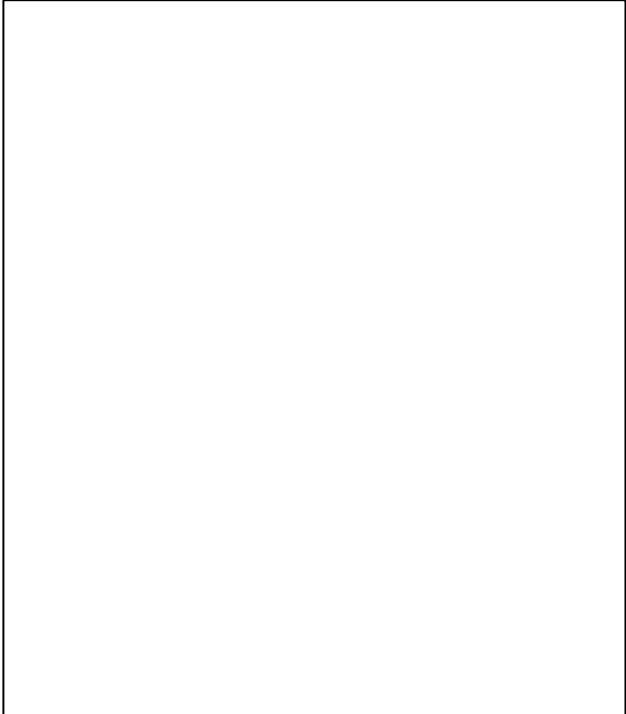
The Forney acquisition consists of multiple properties owned by the Forney Family. The parcels are located southwest of the intersection of Severn Chapel Road and Forney Road. The properties are zoned

RA – Rural Agriculture. The parcels include Tax Map 37, Grid 11, Parcel 86, consisting of +/- 52.9 acres and includes Lots 1, 1A, 2, 2A, and 2B (See SDAT tax information). The property includes deeds and Plat 0226/0035 (MSA S1235-7588).

Improvements to the property include buildings on Lots 2A and 2B, and the two tobacco barns on Lot 2. The houses on lot 2A and 2B will remain, and the lot 2B building will be used as a Park Ranger office/quarters. The house on Lot 2 is to be razed. The two remaining tobacco barns are to remain for future park use.

[REDACTED]

[REDACTED] The Forney Farm includes 150 acres and a mid-19th century house, two mid-19th to mid-20th century tobacco barns, and two other outbuildings. The farm was owned by the Forney family since 1887.



1.3 OBJECTIVES

The objectives of this Master Plan for the Forney Expansion of Bacon Ridge Natural Area are as follows:

1. Identify:
 - Archeological and Historical Site Features
 - Soil Conditions
 - Forest Conservation Opportunities
 - Topography
 - Environmental Concerns

2. Engage:
 - Neighboring Community
 - Hikers
 - Equestrians
 - Mountain Bike Riders
 - Bird Watchers
 - Other Public Users



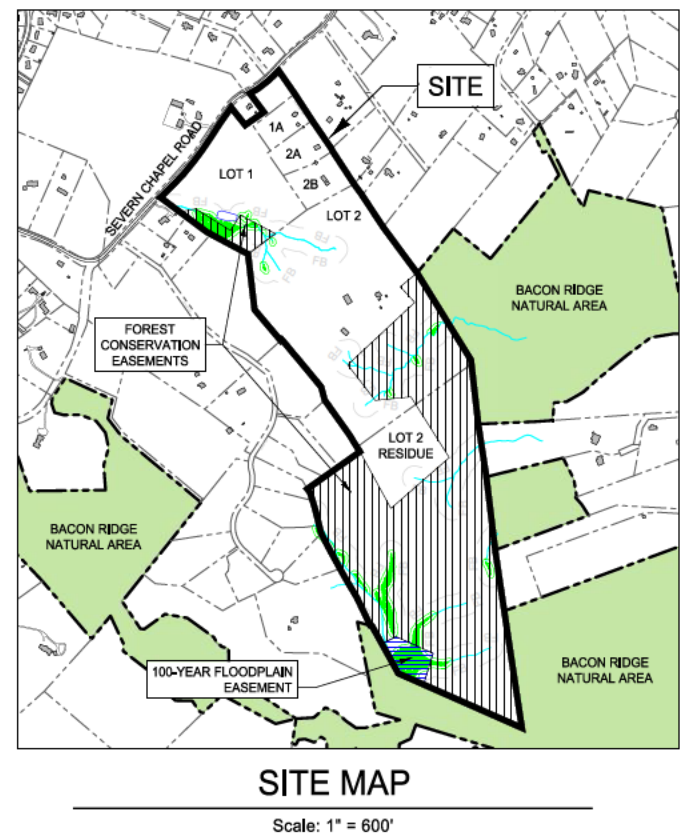
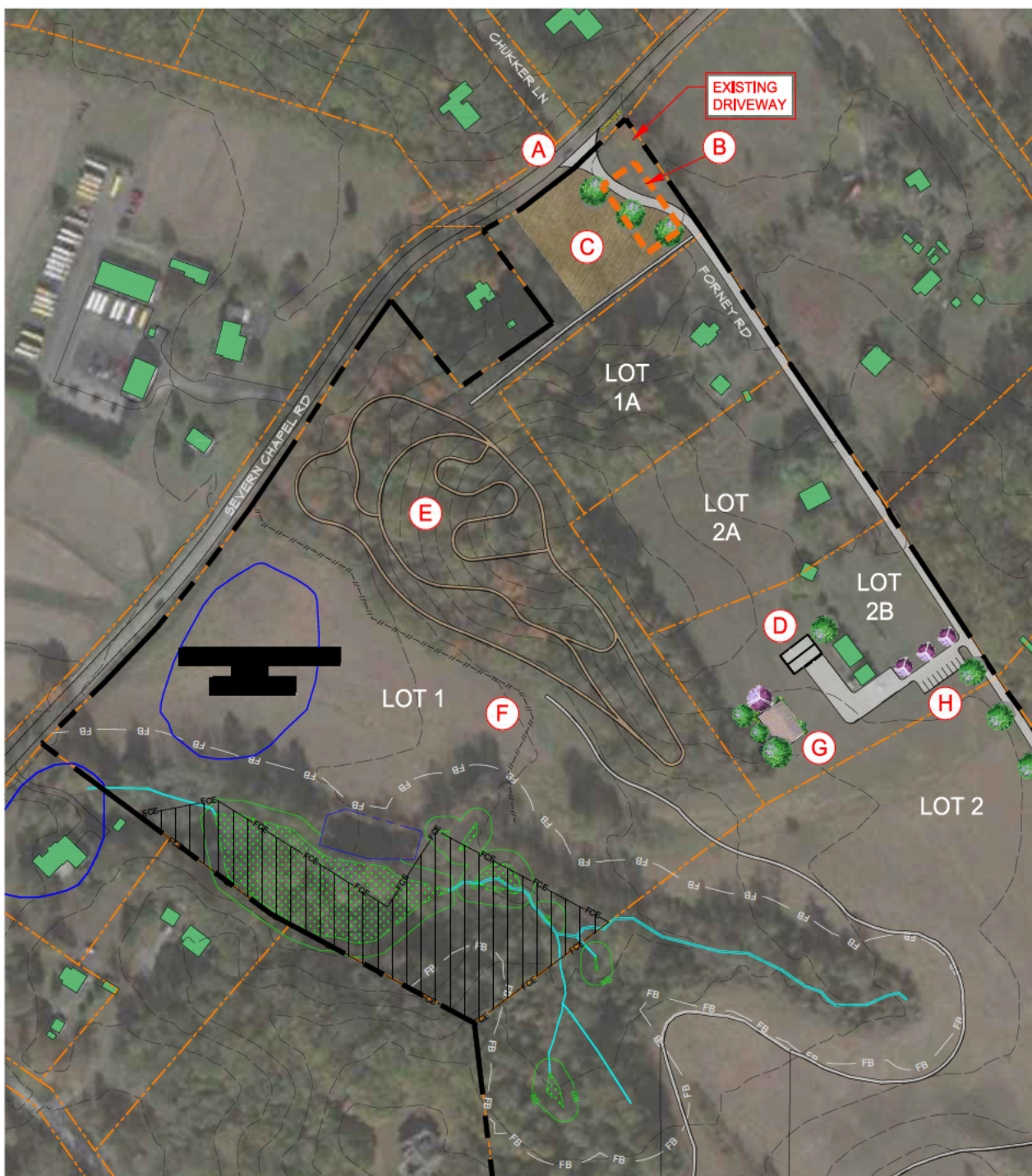
Figure 4: One of the tobacco barns located on the Forney Farm. The second barn can be seen in the background to the right.

Figure 5: The interior of one of the tobacco barns.



2 MASTER PLAN

The following page is an 11" x 17" copy of the Final Master Plan graphic for the Forney Expansion of Bacon Ridge Natural Area. It shows existing site conditions including aerial imagery, property lines, easements, buffers, archeological sites, existing buildings and roads, and existing site features such as topography, streams, and wetlands. The Final Master Plan also shows proposed park elements in relation to the existing conditions. Proposed park elements are briefly described on the Final Master Plan, and detailed descriptions of each proposed element are listed in this report under Section 4.2.



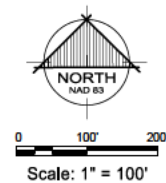
PARK PROGRAM ELEMENTS

- (A)** Entrance Improvements
(Signage, Road Realignment, Bollards)
- (B)** Short-term Temporary Parking
(~9,800 sf)
- (C)** Overflow Parking
(Maintained Grass Field)
- (D)** Pole Barn/Deer Storage Room
(2-Bay Garage)
- (E)** Mountain Bike Skills Park Area
(~230,000 sf / 5.28 acres)
- (F)** Split-Rail Wooden Fence
(Protects Archeological Site 18AN527)
- (G)** Pavilion
(Training & Education)
- (H)** Driveway Improvements
(10 additional parking spaces)
- (I)** Primary Parking
(50-100 parking spaces)
- (J)** School Bus & Horse Trailer Parking
(15-18 spaces, additional ADA parking)
- (K)** Barn #1
(Education, Garden, Animal Pen)
- (L)** Natural Surface Trails
(connect program elements)
- (M)** Barn #2
(use to be determined)
- (N)** Gun Range
(~150 x 50 yds.)
- (O)** Existing Trailhead
(connection to existing trail network)

MAP LEGEND

- Existing Topography
- Existing Tract Lines
- Bacon Ridge Park Property Line
- Existing Building
- Existing Stream
- Existing Wetland
- Wetland Buffer
- Forest Buffer
- Forest Conservation Easement Area

FINAL MASTER PLAN FORNEY EXPANSION



Anne Arundel County, Maryland
Department of Recreation and Parks
Bacon Ridge Natural Area



T:\2021\B\Facilities\18112024\Bacon Ridge\Bacon Ridge Exhibit_100 Scale_Master Plan.dwg, Jun 04, 2025, 11:45am, vascara

3 PROCESS

The scope of work that contributed to this Final Master Plan began with gathering information on the project site, including field visits and input from project stakeholders. While physiographic and archeological data provide knowledge of the opportunities and limitations of the site, public input provides insight into the desired uses of the site and thus informs a meaningful design.

3.1 PRELIMINARY STAKEHOLDER MEETINGS

The consultant team conducted a field visit on February 9, 2021, accompanied by Park Rangers and four Anne Arundel County representatives. The project scope was discussed, as well as existing site conditions and desired park improvements.

Century Engineering prepared a base plan using a combination of GIS topography, deeds, record plats and aerial information for use at the initial onsite kick-off meeting. The county summarized the project limits, scope, and base requirements.

The county historian summarized the historical components of the site including the two tobacco barns, historic easements and potential site components including the 1940 house (to be razed).

The Park Rangers summarized their goals and attended a site walk with the team.

Over the next month, Century's team of planners created the conceptual layout of the desired improvements, met with the county, and prepared the initial Master Plan for review.

The following summary of the Forney Property Master Plan outlines the site, program and recommendations of the County and Century team. The Master Plan is designed to guide the development of the workshop.



Figure 6: Project personnel inside one of the tobacco barns during the February 9 field visit.

4 RECOMMENDATIONS

4.1 ASSESSMENT OF THE PROPERTY

Property Information

- | | |
|--------------------|--|
| a. Address: | 1218 Forney Road |
| b. Deed Reference | 33968/00100 |
| c. Owner | Anne Arundel County 2660 Riva Road Annapolis, MD 21401 |
| d. Tax Map | 0037 |
| e. Grid | 0011 |
| f. Parcel | 0086 |
| g. Neighborhood | 2030001.02 |
| h. Plat Reference | 0226/0035 |
| i. Subdivision | 1998-120 |
| j. Existing Zoning | RA |
| k. Site Area | 83.44 ac. |
| l. Lot Area | 83.44 ac. |
| 1. Lot 1 | 21.5 ac. |
| 2. Lot 2 | 52.95 ac. |
| 3. Lot 1a | 2.53 ac. |
| 4. Lot 2a | 2.89 ac. |
| 5. Lot 2b | 3.57 ac. |



Figure 7: A salamander photographed during an on-site wetland investigation performed by Century personnel.

Environmental

- a. Soils – The site consists of the following soil classifications:
1. Adelphia-Holmdel complex (0% - 2% slopes), prime farmland
 2. Adelphia-Holmdel complex (2% - 5% slopes), prime farmland
 3. Annapolis fine sandy loam (2% - 5% slopes), prime farmland
 4. Annapolis fine sandy loam (5% - 10% slopes), farmland of statewide importance
 5. Annapolis fine sandy loam (15% - 25% slopes), not prime farmland
 6. Annapolis fine sandy loam (25% - 40% slopes), not prime farmland
 7. Collington-Wist complex (2% - 5% slopes), prime farmland
 8. Collington-Wist complex (5% - 10% slopes), farmland of statewide importance
 9. Collington and Annapolis Soils (10% - 15% slopes), not prime farmland
 10. Widewater and Issue Soils (0% - 2% slopes), not prime farmland
- b. Wetlands / Streams

At the headwater of the South River, the site consists of various streams, buffers, 100-year floodplains, and wetlands. For the Master Plan, county records and GIS data were used to create the base plan and buffers. Upon permitting stage, a final stream and wetland determination will

be required. Once approved, a stream buffer will be established. The Master Plan utilizes a 100' stream buffer for planning purposes.

c. Forest Buffer

As part of Plat 0226/0035, a Forest Conservation property and a residue Forest Conservation property have been recorded. The easements establish 80.23 acres of Forest Conservation Easement that is perpetual to the land. Rights and disturbances within the easement are summarized in the Anne Arundel County regulations.

d. 100-Year Floodplain

A 2.02-acre 100-year floodplain has been recorded on the southeast portion of the residue parcel. The perpetual easement is not within the developable area.

e. Septic Fields / Wells

Currently, there are existing residences on Lot 1A, Lot 2A, Lot 2B, and Lot 2. The house on Lot 2 has been razed. There are currently six recorded septic fields on site, per Plat 0226/0035. They are located on Lots 1, 1A, 2A, 2B, and two on Lot 2. Lot 2 has the ability to be subdivided. Also enclosed in this report is an exhibit from Anne Arundel County Online GIS showing four septic systems on site.

f. Utilities

There appears to be no public utilities on site. Private utility poles provide power and electricity to Lots 1A, 1B, 2B, and Lot 2.

4.2 IMPLEMENTATION STRATEGY

The Master Plan components consist of the following:

A. Entrance Improvements

The site is currently accessed via an existing +/- 14 ft wide macadam drive lane (Forney Drive) located between two existing trees along Seven Chapel Road. Sight lines and sight visibility are limited by the slope and existing vegetation. The plan proposes to relocate the entrance to provide sight lines and more importantly, align Forney Drive with Chukker Lane across the street. This will allow for a safer entrance, better park identification, and potential signage.

B. Temporary Parking

A project of this size is destined for phasing. On the plan, temporary parking areas are proposed. These temporary lots can be built with stone. The design intent is to place these areas within future paving areas to potentially alleviate costs.

C. Overflow Parking

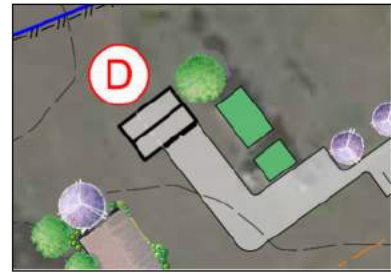
As Forney property connects to the north edge of the +/- 1,124-acre Bacon Ridge Natural Area, access to walking and hiking trails could result in heavy traffic on certain days of the year. The



ability to designate areas for overflow parking illustrates the County’s foresight. The overflow parking could be used for weekends or special events.

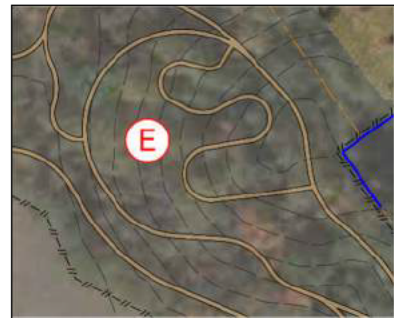
D. Pole Barn

A request for a 2-bay pole barn to provide the Ranger storage area will be a safe way to maintain equipment. The pole barn is to be located behind the existing house on Lot 2B. The architecture for the pole barn is undecided, however, building will be designed to meet with the existing setting on materials.



E. Mountain Bike Skills Park

As a desired use by county residents, the plan has designated an area for a mountain bike skills park. The skills park is located within existing trees south of lot 1A and 2A. The park is being designed in collaboration with a local off-road enthusiast company. Volunteers will lay out the course and minimize tree disturbance. The course will not adversely affect any archeological sites.



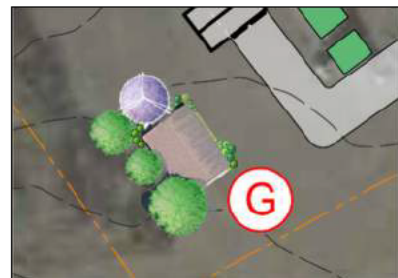
F. Split Rail Fence

The existing park is generally a passive park with vast areas to explore. However, by adding additional parking and conducting ranger training close to the archeological sites, a split rail fence has been proposed to serve as a visual barrier to keep park users from entering the archeological area of the park.



G. Pavilion

The Park Rangers will be able to live and work on site, utilizing the existing house on lot 2B. A need for additional training area was identified, and a proposed pavilion will be located close to other Ranger buildings.



H. Driveway Improvements

The existing driveway serving the Ranger residence on lot 2B currently has an existing macadam drive lane. With the increased park size, it is crucial to add parking spaces for Park Rangers. The area shown on the Master Plan is semi-level and should require minimal grading to add 10 spaces. At the permitting stage, a non-structural stormwater device will require county review and approval.



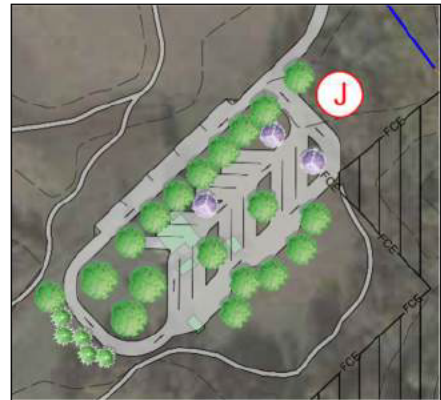
I. Primary Parking

Through multiple discussions, the location and quality of parking was discussed. Topography, neighboring viewsheds, access location, and more were studied. The plan proposes +/- 80 parking spaces to serve as the main parking area for North Bacon Ridge Natural Area. The parking lot will have shade trees and parking bay islands for stormwater management. The parking will be screened, as it is necessary, but certainly not a desired viewshed for the existing tranquil setting. Landscape screening is proposed to soften the view.



J. School Bus and Horse Trailer Parking

The history of the site, the magnitude of the park, and the beauty of the setting provide the county with an ideal outdoor classroom opportunity. The Master Plan accounts for a parking lot that can accommodate school buses and horse trailers. The proposed parking is located over the existing house that was razed on Lot 2. The site was semi-impervious when counting the structure, out buildings and driveway/parking. It is level and in an open area. It will provide three distinct functions: One, school bus parking for students visiting the barns/park; Two, accessible parking for patrons visiting the future barn setting; and Three, horse trailer parking for the equestrian park users. A separate equestrian trail to the Bacon Ridge trail head is proposed. Adequate turning radii have been applied to the layout and screening is proposed.



K. Barn #1

The tobacco barn is centrally located on the Forney property and is the focal point of the park. Its complex rafters and construction craftsmanship is exemplary. For this study, the refurbishment of the barn is not included. The setting of the barn is to be maintained. A vision of an educational function has been discussed for possible future improvements. Potentially, animal pens, gardening plots, or historic tobacco farming tools could be introduced.



L. Natural Surface Trails

As with many passive parks, the trail locations can be suggested. The design allows for natural pathways to be developed between park amenities and features.



M. Barn #2

Barn #2 has the same tobacco structure layout as Barn #1. Again, architectural and structural improvements are not included within this phase. The same exterior improvements for Barn #1 apply.



N. Gun Range

The plan proposes a 150 ft wide by 50 yard gun range for ranger training and certification. The location of the range was selected based on existing topography, distance to neighboring houses, sun direction, adjacent trails, vegetation, noise, and access. The range was designed based on information obtained from the Range Design and Construction Guidelines. The gun range will take advantage of the existing gentle slope for the shooting viewshed. An earthen mound is proposed on the sides and rear of the range. The range will have two parallel directions of fire. A +/- 20' berm has been proposed. Safety signage, range bases, and targets are part of the final design.



4.3 NEXT STEPS

The collaboration with Anne Arundel County has resulted in a comprehensive Master Plan that lays the foundation for development of the Forney Property to provide County residents, park users, Park Rangers, and user groups a multitude of assets.

The development of the proposed parking lot and entrance improvements can be phased. The entrance drive to the Lot 2B house (Park Ranger Station) driveway can be built as part of Phase 1 with a temporary lot on Lot 1. Overflow parking can be placed on the vacant lot. The remaining parking and drive lane can be built in the future.

The barns require architectural/historical detailing (not part of this scope). The barns, however, can be a focal point for the park. Under Phase 1, the barns and their surrounding settings can be retained intact. In the future, the barns can be refurbished and used as educational components, and potentially animal pens can be added.

The Ranger site improvements can be phased as required by the County. The pavilion, storage building, and gun range can all be implemented as the need arises. Each component can stand on its own in relation to grading, earthwork, and utilities.

Non-structural, non-impervious surface trails can be laid out, and/or the daily users can create their own designated trailways.

Note that impervious surface improvements will require County review and approval by Planning, Zoning, Sediment Control, Stormwater Management, Landscape, Forest Conservation, and State NOI/NDPES permits.

The Forney Property Master Plan was designed to meet the goal of retaining the rural setting of a farm, while adding essential park components to the property. Although the vast property has potential for additional active recreation, the county has desired to respect and retain the existing charm of the Forney property.



5 COST ESTIMATION

BACON RIDGE NATURAL AREA PRELIMINARY COST ESTIMATE

Anne Arundel County
Department of Recreation & Parks
CEI #181120.09

| <u>CODE</u> | <u>CATEGORY</u> | <u>QUANTITY</u> | <u>UNIT COST</u> | <u>COST</u> |
|-------------|----------------------------|-----------------|------------------|-------------|
| 01.0 | Site Demolition | | | |
| 01.1 | Demo Existing Structure | 2,000 s.f. | \$2 | \$4,000 |
| 01.2 | Demo Existing Driveway | 4,000 s.f. | \$2 | \$8,000 |
| 01.3 | Remove Existing Trees | 1,000 s.f. | \$20 | \$20,000 |
| 02.0 | Earthwork | | | |
| 02.1 | Gravel Entrance | 1 ea. | \$2,000 | \$2,000 |
| 02.2 | Silt Fence | 2,500 l.f. | \$15 | \$5,000 |
| 02.3 | Tree Protection Fence | 3,000 | \$3 | \$9,000 |
| 02.4 | Inlet Protection | 2 | \$500 | \$1,000 |
| 02.5 | Topsoil, Strip & Stockpile | 6,500 s.f. | \$15 | \$97,500 |
| 02.6 | Cut | 2,000 c.y. | \$18 | \$36,000 |
| 02.7 | Fill | 2,000 c.y. | \$18 | \$36,000 |
| 02.8 | Proof Roll | 15,500 s.y. | \$2 | \$31,000 |
| 03.0 | Site Improvements | | | |
| 03.1 | Concrete Sidewalk | 3,500 s.f. | \$10 | \$35,000 |
| 03.2 | Asphalt Paving | 10,000 s.y. | \$40 | \$40,000 |
| 03.3 | Striping | 1 ea. | \$2,000 | \$2,000 |
| 03.4 | Wheel Stops | 40 | \$160 | \$6,400 |
| 03.5 | Signage | 5 | \$3,000 | \$15,000 |
| 03.6 | Split Rail Fence | 600 l.f. | \$10 | \$6,000 |
| 03.7 | Trails | 20,000 l.f. | \$10 | \$200,000 |
| 03.8 | Landscaping | 1 | \$50,000 | \$50,000 |
| 04.0 | Site Furnishing | | | |
| 04.1 | Benches | 10 | \$800 | \$8,000 |
| 04.2 | Bike Rack | 4 | \$1,000 | \$4,000 |
| 04.3 | Trash/Recycling | 4 | \$500 | \$2,000 |
| 04.4 | Bollards | 50 | \$150 | \$7,500 |
| 05.0 | Buildings | | | |
| 05.1 | Pole Barn | 1 | \$35,000 | \$35,000 |
| 05.2 | Training Pavilion | 1 | \$30,000 | \$30,000 |
| 05.3 | Gun Range | 1 | \$50,000 | \$50,000 |

| <u>CODE</u> | <u>CATEGORY</u> | <u>QUANTITY</u> | <u>UNIT COST</u> | <u>COST</u> |
|-------------|-------------------------------|-----------------|------------------|----------------------------|
| 06.0 | Utilities | | | |
| 06.1 | 6" Water | 200 l.f. | \$100 | \$20,000 |
| 06.2 | Fire Hydrant | 3 | \$5,000 | \$15,000 |
| 06.3 | 6" Sewer | 200 l.f. | \$100 | \$20,000 |
| 06.4 | 15" RCCP | 200 l.f. | \$115 | \$23,000 |
| 06.5 | 24" RCCP | 100 l.f. | \$100 | \$10,000 |
| 06.6 | 36" RCCP | 50 l.f. | \$150 | \$7,500 |
| 06.7 | Lights | 1 | \$50,000 | \$50,000 |
| 07.0 | Stormwater Management | | | |
| 07.1 | Microbioretention Facility | 10 | \$60,000 | \$600,000 |
| 08.0 | Approximate Total Cost | | | <u>\$1,485,900</u> |
| 09.0 | Miscellaneous | | | |
| 09.1 | GC Mark Up | 5% | \$1,485,900 | \$74,295 |
| 09.2 | Bonds/Insurance | 2% | \$1,485,900 | \$29,718 |
| 09.3 | Phasing Premium | 2% | \$1,485,900 | \$29,718 |
| 09.4 | Design Contingency | 15% | \$1,485,900 | \$222,885 |
| 09.5 | Escalation | 5% | \$1,485,900 | \$74,295 |
| 10.0 | Grand Total | | | <u>\$1,916,811*</u> |

*Note, cost estimate is preliminary and subject to contractor pricing and construction start date.