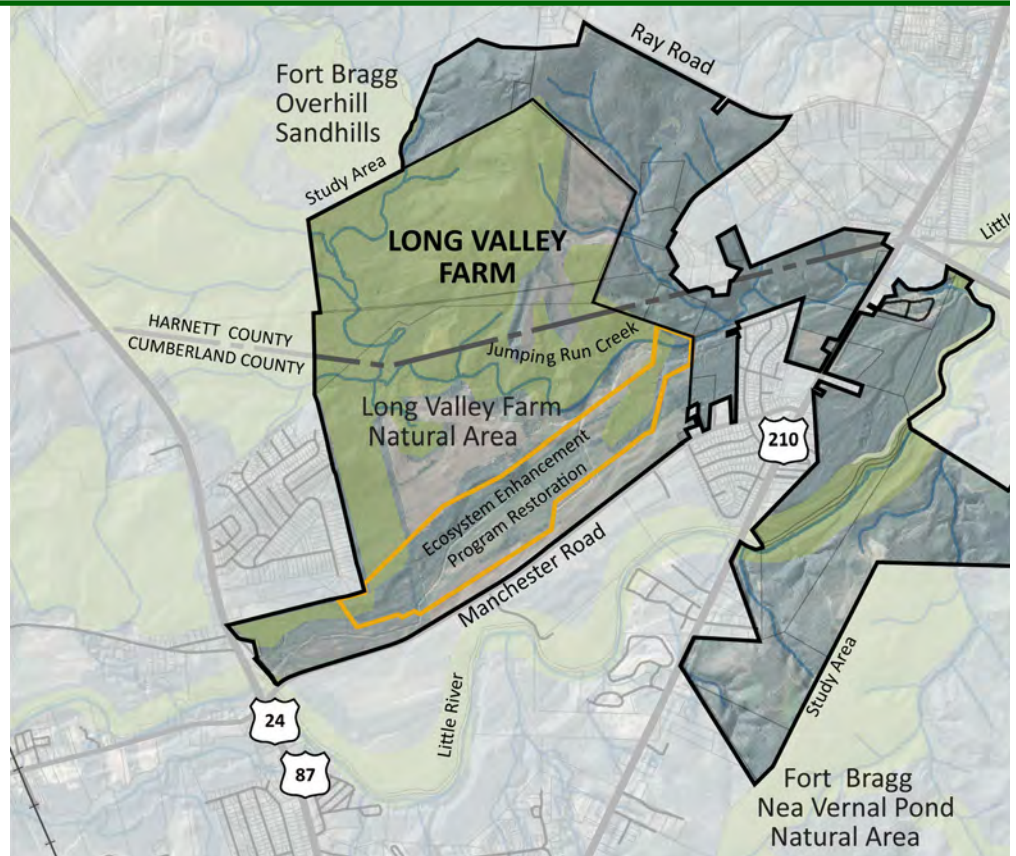
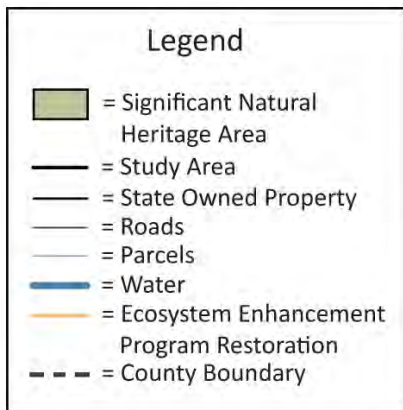


Figure 4.10 Landcover Map



The North Carolina Ecosystem Enhancement Program (EEP) restoration project will restore a Coastal Plain Small Stream Swamp system at Long Valley Farm, which will rejuvenate native flora and fauna.

The Sandhills Section also contains high quality natural communities including Xeric Sandhill Scrub, Pine/Scrub Oak Sandhill, Dry Oak-Hickory Forest, Mesic/Wet Pine Flatwoods, Streamhead Pocosin, Cypress-Gum Swamp Sandhills Seep and Coastal Plain Small Stream Swamp (blackwater subtype) and Coastal Plain Semi-Permanent Impoundment. The park contains 15 special status species including Red-cockaded Woodpecker, Sandhills pyxie-moss, Canby's bulrush, bog oatgrass, and eastern fox squirrel. Common birds of this property include Brown-headed Nuthatch, Summer Tanager, Pine Warbler, Carolina Wren, Eastern Towhee, Mourning Dove, and Bachman's Sparrow. Other animals of interest include pine barrens treefrog, dwarf waterdog, sawcheek darter, yucca giant-skipper, confused cloudywing, elfin skimmer, southeastern spinyleg, southern flying squirrel, eastern red bat, northern scarlet snake, and eastern cottonmouth. See Figure 4.12 for Carvers Creek State Park study area special status plant and animal species.

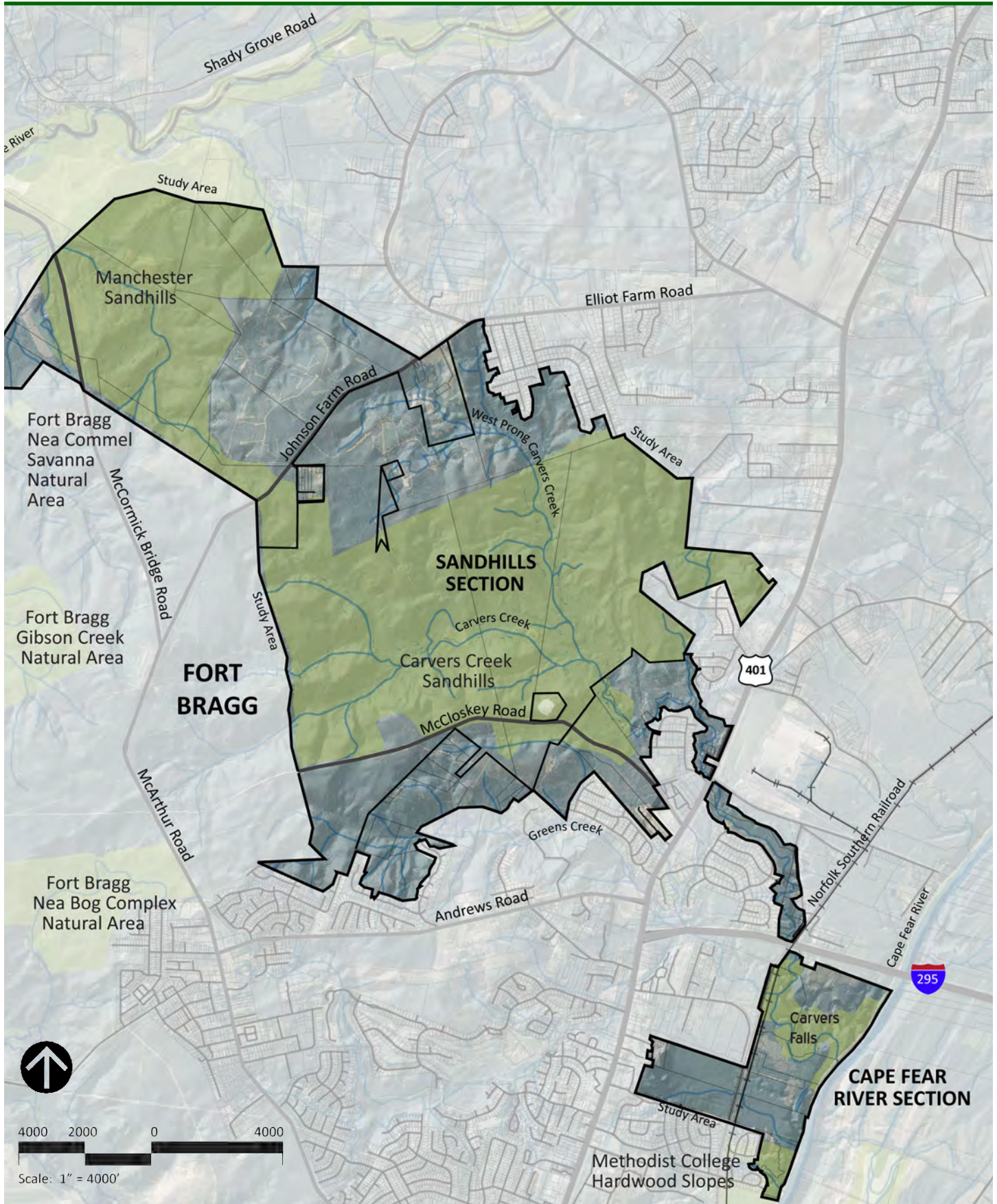


Figure 4.11 Significant Natural Heritage Areas Map

SPECIAL STATUS PLANT SPECIES			
Bog Oatgrass	<i>Danthonia epilis</i>	SR-T	FSC
Bog Spicebush	<i>Lindera subcoriacea</i>	T	FSC
Canby's Bullrush	<i>Schoenoplectus etuberculatus</i>	SR-P	-
Cuthbert's Turtlehead	<i>Chelone cuthbertii</i>	SR-L	FSC
Lady Lupine	<i>Lupinus villosus</i>	SR-P	-
Sandhills Pyxie-moss	<i>Pyxidantha brevifolia</i>	E	FSC
Sarvis Holly	<i>Ilex amelanchier</i>	SR-P	-
SPECIAL STATUS ANIMAL SPECIES			
Bachman's Sparrow	<i>Aimophila aestivalis</i>	SC	FSC
Eastern Fox Squirrel	<i>Sciurus niger</i>	SR-G	-
Edward's Hairstreak	<i>Satyrium edwardsii</i>	SR	-
Frosted Elfin	<i>Callophrys irus</i>	SR	-
Hessel's Hairstreak	<i>Callophrys hesseli</i>	SR	-
Pine Barrens Treefrog	<i>Hyla andersonii</i>	SR	-
Red-cockaded Woodpecker	<i>Picoides borealis</i>	E	E
Reversed Roadside-skipper	<i>Amblyscirtes reversa</i>	SR	-
HIGH QUALITY NATURAL COMMUNITIES		<p>Notes:</p> <p>State Status: E - Endangered; T - Threatened; SC - Special Concern; SR - Significantly Rare</p> <p>SR Designations: G - Game Animal; L - Limited (endemic or nearly so); P - Peripherally; T - Throughout its range</p> <p>Federal Status: E - Endangered; FSC - Federal Species of Concern</p>	
Coastal Plain Semi-permanent Impoundment			
Coastal Plain Small Stream Swamp (Blackwater Subtype)			
Cypress-Gum Swamp (Blackwater Subtype)			
Dry Oak-Hickory Forest			
Mesic Pine Flatwoods (Coastal Plain Subtype)			
Mesic Pine Flatwoods (Coastal Plain Variant)			
Pine/Scrub Oak Sandhill			
Sandhill Seep			
Streamhead Pocosin			
Xeric Sandhill Scrub (Sand Barren Variant)			

Figure 4.12 Carvers Creek State Park Plant and Animal Species

Significant Natural Heritage Areas

Several Significant Natural Heritage Areas containing ecologically significant natural communities or rare species are documented in the region. The six Significant Natural Heritage Areas identified in the study area are: Long Valley Farm, Carvers Falls, Methodist College Hardwood Slopes, Manchester Sandhills, Carvers Creek Sandhills, and the Fort Bragg Overhills Sandhills. See Figure 4.11 for Significant Natural Heritage Areas.

Longleaf Pine Ecosystem

Only 3 percent of the historic longleaf pine wiregrass ecosystem remains today within the United States. Fort Bragg and surrounding areas contain over 160,000 acres of the longleaf pine ecosystem.

The longleaf pine wiregrass ecosystem is dependent on natural disturbance in order to maintain its biodiversity and habitat health. Fire is the primary disturbance agent. Part of the management plan to maintain the health of this

ecosystem is to incorporate controlled burning. This burning allows for the thinning of the understory to accommodate the regeneration of the longleaf pine and other plants in this community. This prescribed burning mimics the natural disturbance process.

Non-native and invasive species also pose a risk to the health of the longleaf pine ecosystem, and invasive species control programs will be implemented in the park to address these issues. The spread of non-native and invasive plants, both naturally and by humans, can cause a loss of biodiversity, soil erosion, and sensitive species habitat loss, resulting in degradation of the entire ecosystem.

5 SITE ANALYSIS

Development Opportunities and Constraints

The North Carolina State Parks System exists for the enjoyment, education, health and inspiration of all North Carolina citizens and visitors. The mission of the state parks system is “to conserve and protect representative examples of the natural beauty, ecological features and recreational resources of statewide significance; to provide outdoor recreational opportunities in a safe and healthy environment; and to provide environmental education opportunities that promote stewardship of the state’s natural heritage.”

Carvers Creek was selected as a state park site for many reasons, including multiple opportunities for education, natural resource protection and recreation. The conservation value of the park is highly significant. Sensitive environmental resources may be seen as opportunities for environmental education and park development, as well as protection and conservation. One of the primary purposes of the master plan process is to determine which areas are most suitable for site development, and which areas must be avoided and protected.

Previous chapters have covered site context and history, regional context and planning issues, existing facilities and infrastructure, and natural resources. Many parameters have been mapped as Geographic Information System (GIS) layers which provide valuable data to be used to prepare the site analysis. This research and mapping, along with field visits, have been compiled into a listing of opportunities and constraints which will be used to guide the programming and master planning for Carvers Creek State Park.

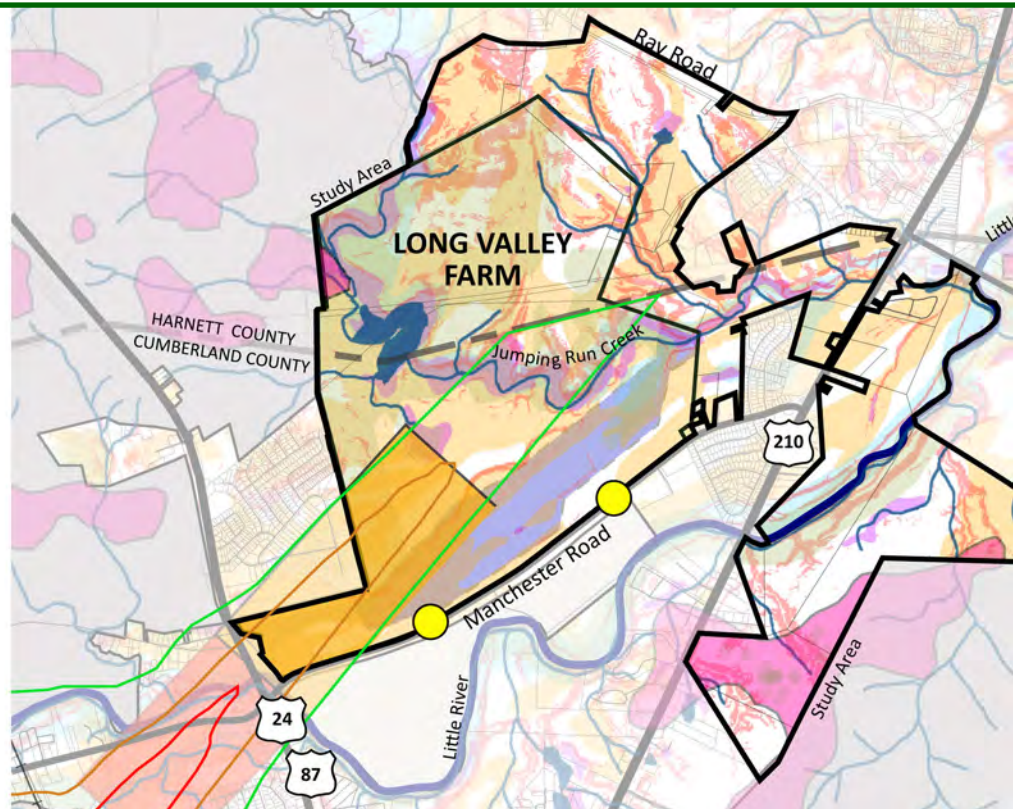
The Sandhills region attracts many visitors due to the proximity to the city of Fayetteville, Fort Bragg and Pope Air Force Base. Located in the central portion of the state, with easy access from I-295, and just 8.5 miles from I-95, the park may grow to have a very high visitation rate. As the expansion of Fort Bragg and the population grows in this area, development demands create competition for land that may be desirable for acquisition by state parks. Figure 5.1 shows the study area and includes parcels, roads, existing hydrology, Significant Natural Heritage Areas, hydric soils, steep slopes, and access points.

In the roughly six miles between Long Valley Farm and the Sandhills Section, there are several large parcels of land in private ownership. The N.C. Division of Parks and Recreation looks forward to working with willing landowners in order to establish a corridor linking the parks through easements or property acquisition as it becomes available. The lack of continuity of the park properties will be confusing for visitors and problematic for operations and maintenance staff. Numerous individual properties require buffers around each property boundary that will diminish the amount of land that is suitable for development within the individual parcels. Individual parcels also increase management issues for operations and management staff due to distance, multiple access points and the extensive number of adjacent neighbors.

Although it would be ideal for the land acquisition to continue southeast from the Sandhills Section to the Cape Fear River Section, major roads, a rail line, and other development has fragmented the available land so fewer larger



Ferns in the Sandhills Section



parcels are available for purchase. Land acquisition in this area would not be deemed to be quite as important as the connection needed between Long Valley Farm and Sandhills due to fragmentation from development. The availability of large parcels, the Significant Natural Heritage Areas, and Red-cockaded Woodpecker colonies between the two properties make the area between Long Valley Farm and the Sandhills Section the highest priority for acquisition. Other conservation partners are working in the southeast portion of the study area on the Cape Fear Greenway. It is possible that important properties in this area will be protected and preserved by others so that easements or acquisitions along the stream corridors in this area could potentially provide connectivity to the Cape Fear River.

As Carvers Creek is a new park in the state park system, there are no existing park activities or functions existing within the study area with the exception of Mendoza Park, owned by the Town of Spring Lake. This facility is adjacent to Long Valley Farm on the southwestern property line. It is an athletically-oriented park with ball fields, playgrounds, and several picnic shelters.

Most of the study area is either forested or farmed. More development is found at the far western edge at Spring Lake, along N.C. 210, and at the southeastern portion along U.S. 401 and I-295 where the land is already subdivided and developed. Long Valley Farm has been recently mowed and farmed, and it has numerous buildings associated with previous uses. It also has active longleaf pine restoration areas. Several acres of the property are part of a stream restoration project by the North Carolina Ecosystem Enhancement Program. Hardwood species are found along drainage ways in the millpond and the blackwater streams. Areas that were previously cleared

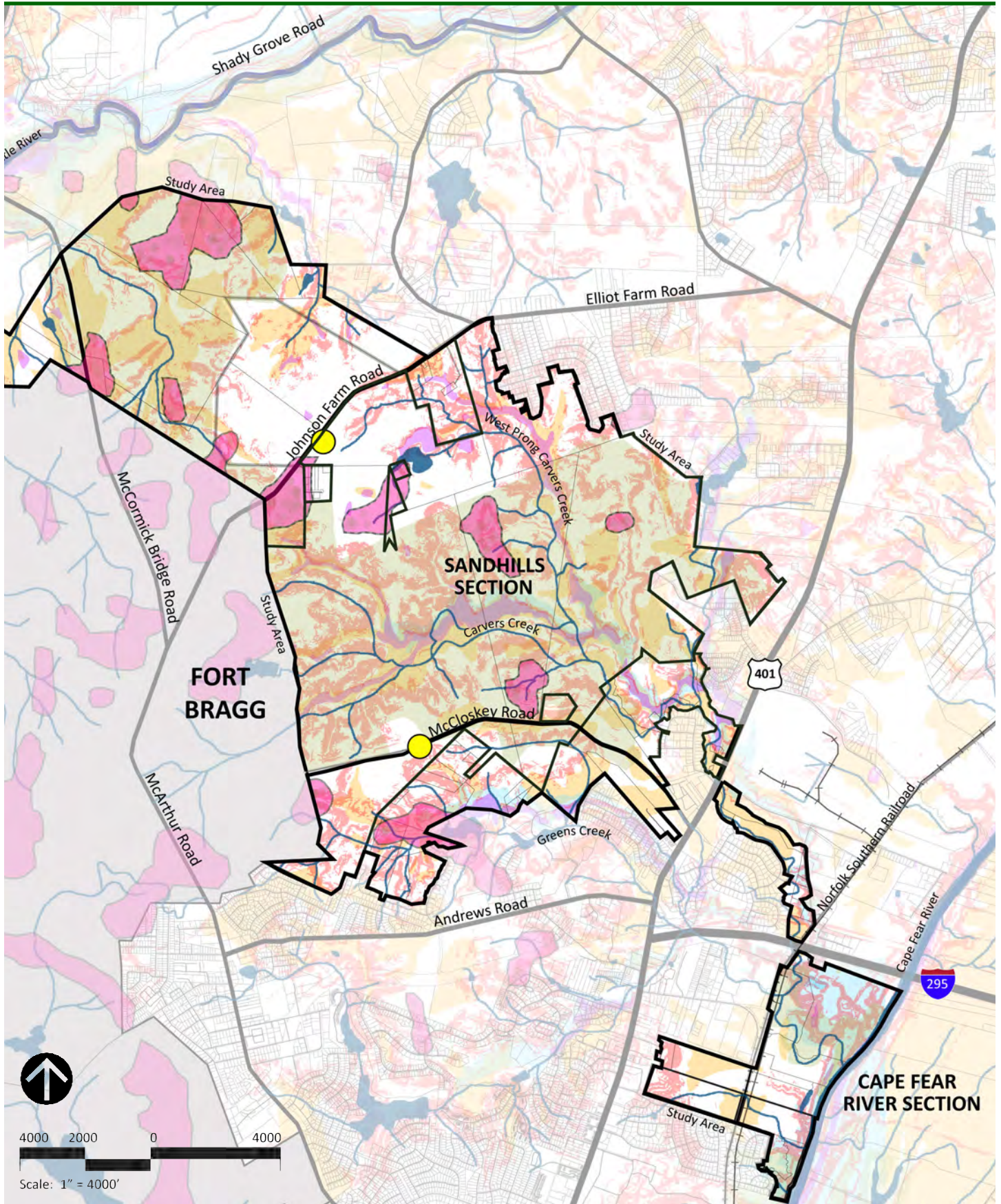


Figure 5.1 Overlay Analysis Map



Cattle at Long Valley Farm



Pasture planted with longleaf pines



Longleaf pines at Long Valley Farm

for farming at Long Valley Farm have been reforested with longleaf pine, but they might provide possible areas for future development that will not require additional clearing of mature trees. The Sandhills Section is mostly wooded with larger areas of mature longleaf pine. Due to the maturity of the trees in this area and the presence of rare species, it is not recommended that large areas be cleared at the Sandhills Section for park development.

Long Valley Farm, Sandhills Section and the Cape Fear River Section have limited opportunities for vehicular access. At Long Valley Farm, the North Carolina Ecosystem Enhancement Program's stream restoration work has left three easements available into the park property. From Manchester Road, there are two 60-foot wide vehicular access easements into the park property, with one 30-foot easement owned by Progress Energy that may be available for pedestrian access only. No other park frontage along any major roads exists to provide another location for a vehicular park access.

Vehicular access is available at the Sandhills Section from either Johnson Farm Road to the north and McCloskey Road to the south. Park frontages do not exist along any other major roads to provide a vehicular park access. The NCDOT would like to abandon the right of way on McCloskey Road, which would provide more usable land for park development and prevent the property from being bisected by the road.

Vehicular access is available at the Cape Fear River Section from Carvers Falls Road. Access road will cross a Norfolk Southern Railroad line prior to entering the property.

Several streets dead-end into the various park properties, which may provide desirable pedestrian access points for neighborhood access. Too many pedestrian access points may become a management problem and dead end streets may become parking areas for park visitors that are disruptive to the adjacent neighbors.

The largest adjacent neighbor is Fort Bragg/Pope Air Force Base. Active training exercises include tanks and artillery practice on the adjacent property, so it is a concern that park visitors are kept safe and the military base be kept secure. Another concern is the proximity of Pope Air Force runway to Long Valley Farm. Figure 5.1 shows military airport operations impacting the Long Valley Farm property with approach zones and noise contours of 65 to 79 Ldn.; 80 Ldn is the noise level of a gas lawn mower at a distance of 100 feet. On average, 11 flights take off and land per hour, and at peak times, it can be as high as 13 per hour. Being in the direct flight pattern of the runway creates an interesting opportunity to view low flying military aircraft, but it can also be dangerous location in the event of a mishap. Noise also disturbs the expected peacefulness of the property.

While the ecological diversity and beauty of the study area offers significant opportunities for park development, it also mandates protection and preservation of sensitive resources. The Long Valley Farm property offers significant historical and cultural resources in addition to environmental assets. The largest environmental constraints for development in the study area will be areas of sensitive habitat, hydrology and soils.

Ecologically sensitive areas create the largest constraint to park development in the study area. Several special status species are found on the properties that require habitat protection. Thirteen rare plant and animal species as well as one endangered species exist within the Carvers Creek study area. The one federally endangered species is the Sandhills Pyxie-moss, and the one state endangered species is the Red-cockaded Woodpecker. A large portion of the study area is located within several Significant Natural Heritage Areas. The natural diversity of plants and animals in these areas are so rare or significant that they merit special consideration when land-use decisions are made. The gum cypress pond, seeps, pocosins, swamps, wetlands, and blackwater streams are major environmental factors in the study area which take up vast amounts of acreage at Long Valley Farm, Sandhills Section, and the Cape Fear River Section.



Swamp at Sandhills Section

Soils will be another ecological constraint to development, as hydric soils associated with wetlands are prominent along the extensive stream systems in the study area. Hydric soils include Deloss loam, Johnston loam and Roanoke and Wahee loams. Other sandy soils, such as Gilead and Blaney loamy sand soils, will create problems for development due to the potential for erosion. Although the study area is generally not steeply sloped except along steam banks and at the Cape Fear River, the sandy soils in this region are considered severely limiting for development when steeper slopes are encountered.



Existing trail at Sandhills Section

Because of the historical significance of Long Valley Farm and its National Register of Historic Places status, it is recommended that the original Farm Seat complex, the main Agricultural Complex and its viewshed be preserved for public enjoyment. Individual buildings within these areas have been evaluated for historical significance and possible adaptive reuse in the master plan development.

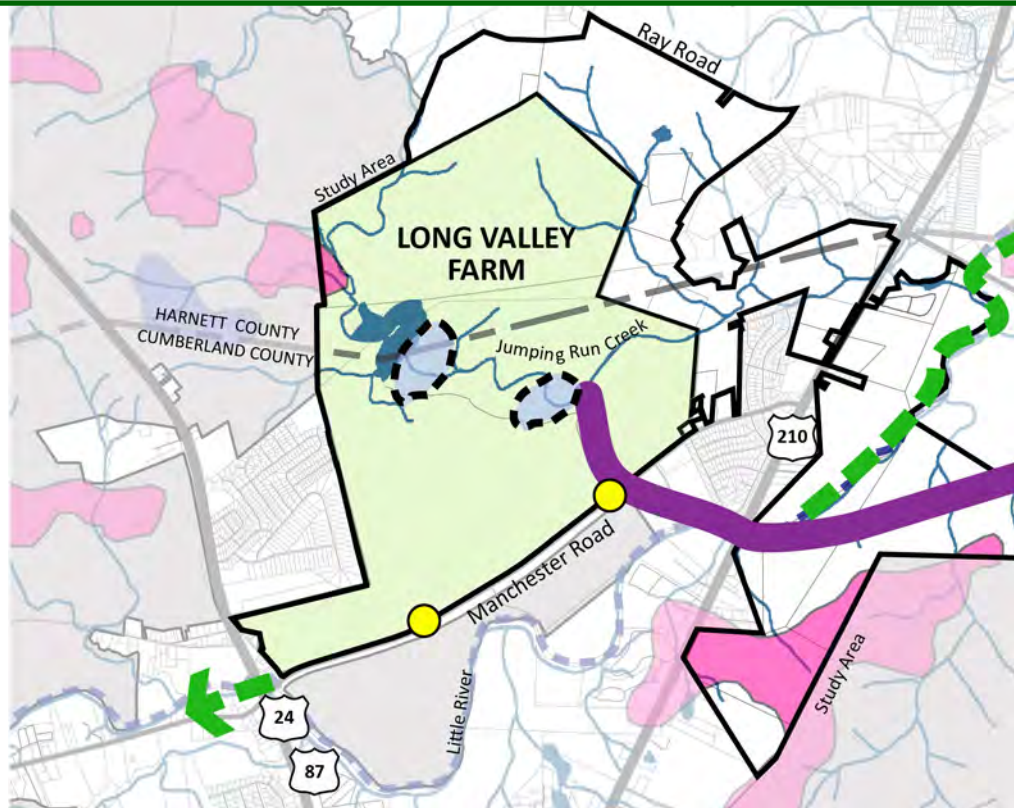
Extensive interpretative and educational opportunities exist for the public at Long Valley Farm, such as discussions on gentleman farming and agricultural estates, the history of timber and naval stores, agricultural history, land and agricultural sustainability, and ecological and fire restoration.

Scenic beauty is a more subjective topic, but it is clear that the study area offers opportunities for expansive views that merit consideration for preservation where possible. Significant views within Long Valley Farm include areas of historic and agricultural significance as well as high quality natural areas. It is recommended that these views be preserved as part of the ecological, historic and cultural heritage of the property. The Sandhills Section is limited in significant vistas since it is densely wooded, but there are several areas that offer stunning views of high quality natural areas. The Cape Fear River Section offers scenic views of the Cape Fear River as well as Carvers Falls. The topography of the this section makes this a very unique and special place.



Wet area at Sandhills Section

Integrating prescribed fire management into future park development will be important. Close coordination with N.C. Division of Parks and Recreation will be necessary to ensure that park facilities are sited appropriately for proper management of the longleaf pine ecosystem. Opportunities for interpretation of fire management will offer another level of education for park visitors.



When all limiting factors are overlaid as shown in Figure 5.2, the resulting map shows pockets of land that could be considered for large areas of extensive new development. Although it is of utmost importance that highly sensitive land be purchased for preservation, it is also desirable for some state park land to be acquired that is not of highly significant historic and ecological value for the construction of park facilities.

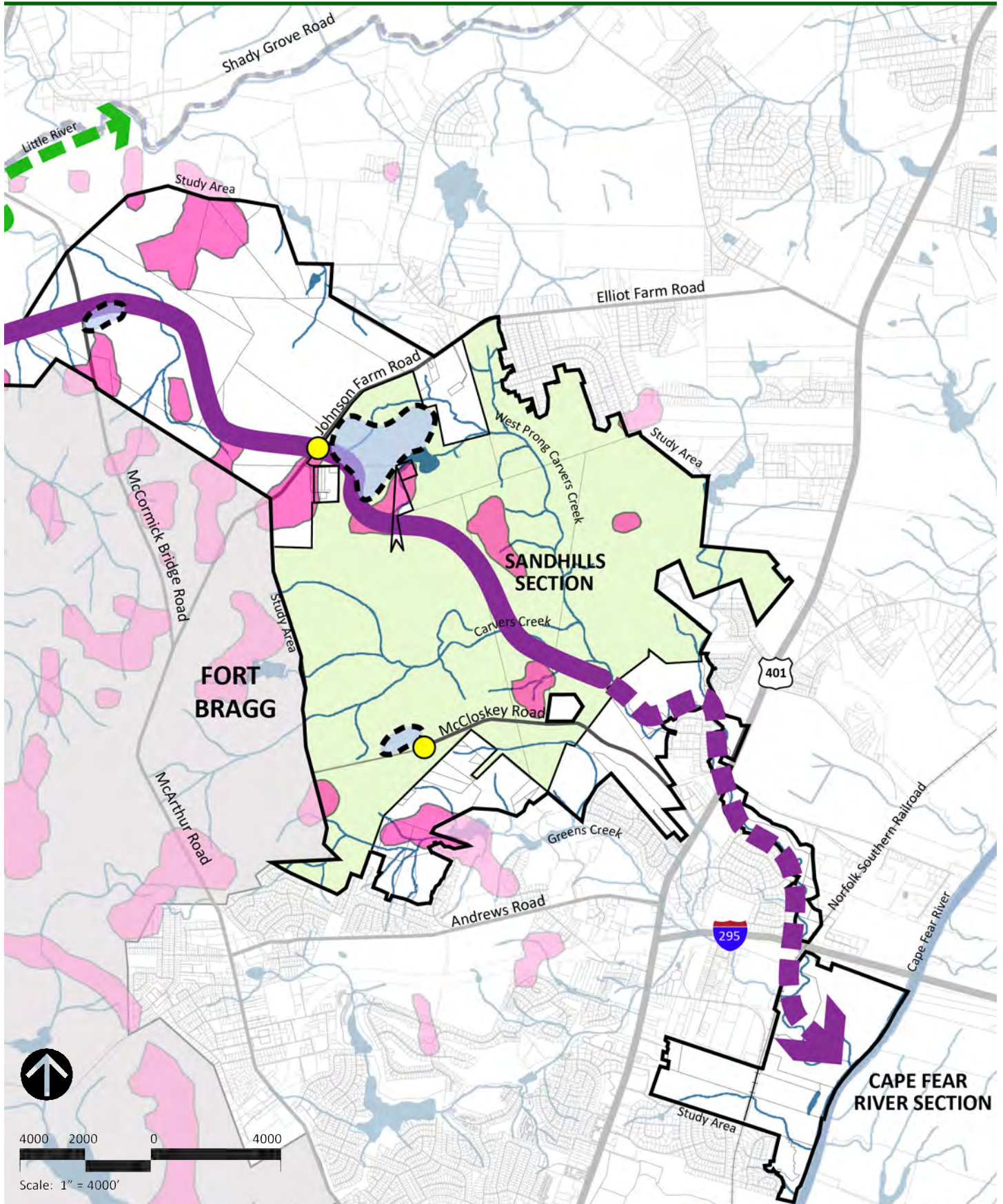


Figure 5.2 Developable Areas Map

6 PARK PURPOSE

Vision

Carvers Creek State Park is the first state park in the Sandhills region of North Carolina, and is a highly valued resource that is being protected for its ecological, cultural and historic significance. Education and interpretation of these resources will encourage the value of stewardship, land conservation, and exploration in those who visit. The park also provides a regional destination for nature-based, passive recreation, which is much needed in this part of North Carolina. The following goals and objectives for the long term success of Carvers Creek State Park are outlined below:

Goals and Objectives

Protect natural resources

- With this ecologically diverse ecosystem, significant natural resources are still being discovered and a long-term plan is needed. Continue to map habitats and species as they are located
- Pursue the creation of a long-term fire management plan and restoration plan
- Prevent erosion, secure and protect special places, and create an interim plan

Provide nature-based recreation

- Survey results confirm that additional trails are needed in the area
- Serve many types of park users – those from Fort Bragg, daily users, seniors, travellers, equestrians and school children all have different needs
- Attract visitors from a wide regional area

Sustainability

- Sustainable design/green design with reference to the Leadership in Energy and Environmental Design (LEED®) and Sustainable Sites Initiative design criteria will be pursued

Protect cultural/historic resources

- Nationally significant historic buildings and views should be protected
- Tell the story of how Long Valley Farm came to be - from Ardnave to the Rockefellers, to the creation of a state park
- Create an interpretive plan and program for visitors
- Prepare an interim plan that maintains buildings until funding is available for renovation

Investigate Partnerships

- Pursuing partnerships with national, state and local stakeholders will be important. An partial list of potential partners is listed below:
 - Fort Bragg/Pope Air Force Base
 - North Carolina Division of Water Quality
 - North Carolina Department of Cultural Resources



Fire management and restoration of longleaf pine



Silo at Long Valley Farm



Ferns and pines in the Sandhills Section

North Carolina State Historic Preservation Office
North Carolina Department of Agriculture
North Carolina Ecosystem Enhancement Program (EEP)
Historic American Landscapes Survey (HALS)
Historic American Buildings Survey (HABS)
Harnett County North Carolina Cooperative Extension Agency
Cumberland County North Carolina Cooperative Extension Agency
Harnett County Historic Society
Cumberland County Historic Society

Enhance revenue opportunities

- Encourage opportunities for revenue, such as classes, rentals, reunions, weddings, community garden plots, and artists-in residence, where local artists can rent structures to use as studios.
- Many people will come to visit historic resources; the gift shop could sell books, art, handmade crafts, and other items that relate to the history of Long Valley Farm.
- Books and photographs relating to the Sandhills could also be offered.

Acquire land to provide a contiguous park property

- Allow for a pedestrian connector trail to span the length of the study area
- A contiguous park property will offer additional recreation opportunities and a larger area for natural resource protection

7 PARK MASTER PLAN PROGRAM

Introduction

The previous chapters have outlined the existing conditions of the natural and man-made environment, the recreational needs of the region, as well as the opportunities and constraints for Carvers Creek State Park. Developing a park program is the next step in creating guidelines for future development. The park program is a “toolbox” that is used when deciding the appropriate location for built park elements, such as the Visitor Center, historic properties, roads, trails, campgrounds, and picnic areas. It is important to note that the program for the park must serve the entire community – plants, animals and people. A balance must be found between the protection of natural resources and opportunities offered for recreation. Some ecologically sensitive areas of the park will be preserved for conservation management with limited public access, while previously developed areas are well suited for uses such as parking lots, roads, and campgrounds.

The three core elements of Carvers Creek State Park are natural resource protection, cultural and historic resource protection, and nature-based recreation. The park elements listed below address these in more detail.

Park Buildings

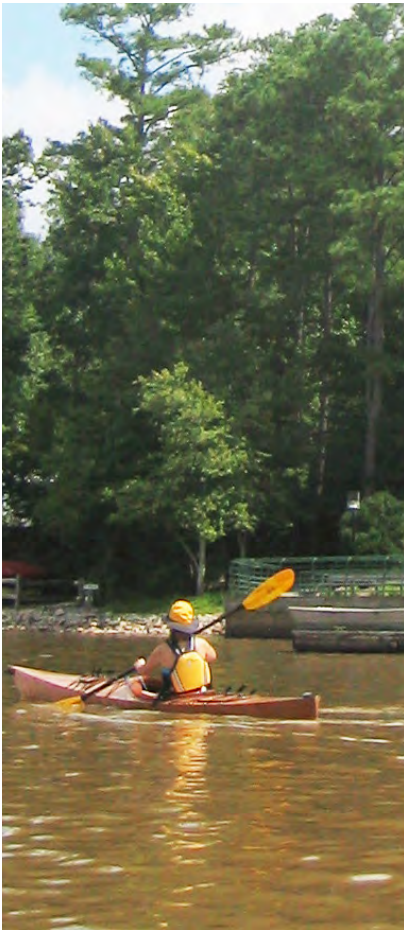
Historically Significant Areas at Long Valley Farm

Several important historic buildings exist within the state park and are integral in maintaining the “sense of place” of Long Valley Farm. Many buildings are listed on the National Register of Historic Places, and the entire farm is listed as well. These buildings serve the purpose of telling the story of the farm, the people who lived and worked there, including Robert Wall Christian, his role in scientific agriculture, and the Rockefeller family. Due to their cultural significance, the buildings should be preserved and utilized for cultural and historic educational interpretation, storage, picnic shelters, and artists-in-residence. School groups will enjoy learning about the history of the region. Any new construction in relation to these historic properties should be inspired by the vernacular architecture and craftsmanship. New buildings should blend in seamlessly with the historic structures, reflecting the details and mimicking the integrity of the surrounding buildings.

Visitor Center

The Visitor Center will be the starting point for educational and environmental programs that will focus on the entire state park. The building will be sited to reduce clearing and grading, as well as to provide natural daylighting, ventilation, and views. The building will feature environmentally sensitive or “green” architecture that will reinforce the environmental education programs at the park. Achieving Leadership in Energy & Environmental Design (LEED) certification is a goal of the North Carolina Division of Parks and Recreation.

The architecture of the building should be inspired by existing and typical Cumberland County farm buildings. Indoor spaces may include an exhibit hall, park offices, classrooms, educational exhibit areas, conference room, gift shop, concession, reception area, storage, and public restrooms. Proxim-



Canoe and kayak boat rentals



Typical park maintenance facility

ity to parking, activities and connections to trails and sidewalks is essential. There will be a drop off area for visitors. Outdoor pedestrian areas associated with the building include plazas and outdoor classrooms. Secure bicycle parking shall be provided near the building. Parking for vans and several buses will be needed. A variety of parking lot sizes can be used – smaller lots will have less impact on the sensitive site. Shade will also be provided.

Community Building

The opportunity for a community building in addition to the Visitor Center is a real possibility with the number of existing buildings found on the park properties. A community building would include community meeting space, rental space, and restrooms. The building would be a good place for travelling exhibits and events such as wildlife photography, guest speakers and acoustic music.

Visitor Contact Stations

Visitor Contact Stations will be located where staff is needed to greet park visitors when a Visitor Center is not appropriate. Visitor Contact Stations include space for offices and restrooms for park staff. Parking will be located here for two to five vehicles.

Ranger Residences

Ranger residences for park staff will be needed in the park, especially in locations where overnight camping will be provided. Ranger residences include all the conveniences of a typical family home, with bedrooms, kitchen and living areas, and restrooms. For privacy reasons, these homes should be located off a main park road, but not so far away that it is difficult for park staff to monitor park activities.

Boat Rental Facility

The preferred location of a boat rental facility is near a day-use area. The close proximity to the boat house will allow supervision by park staff. The facility will have as small of a footprint as possible. It is not anticipated that it will be used for long-term boat storage, as other buildings that exist on site might be used for that purpose. The materials used for the construction of the boat rental could even be reclaimed from buildings found on site that are not determined as repairable. Electricity and room for park staff to operate the rental operation is necessary. Only non-motorized boats will be allowed in the lake, such as kayaks and canoes. No vehicular access will be provided for visitors to launch their own boats; however, park users could launch canoes or kayaks from the shore if they carry their craft from their vehicle.

Park Maintenance Facility

Due to the large size of the existing park properties and the lack of connectivity, more than one maintenance facility will be needed for park operations. Opportunities to reuse existing buildings on site should be explored where possible. Maintenance facilities will be screened from public view and blend

with their surroundings as much as possible. Interior spaces include staff offices, a workshop, supply storage, shower, private restroom and break room. A maintenance yard is required for large equipment, deliveries, and storage of equipment and supplies. Parking will be provided for several park vehicles needed by the park staff.

Park Access and Roads

Where feasible, park access locations will be located at existing driveways in order to reduce clearing, grading and impacting environmentally sensitive areas. Internal park roads will be aligned with existing roads whenever possible. New roads will be designed with gentle curves to prevent excessive speed or the need for traffic calming measures. Roads will follow a pleasant progression through the park, with glimpses and views of the park facilities and natural features. The park layout must be easy to understand for first time visitors. The park design will not create crossing hazards for bicycles, equestrians, or pedestrians.

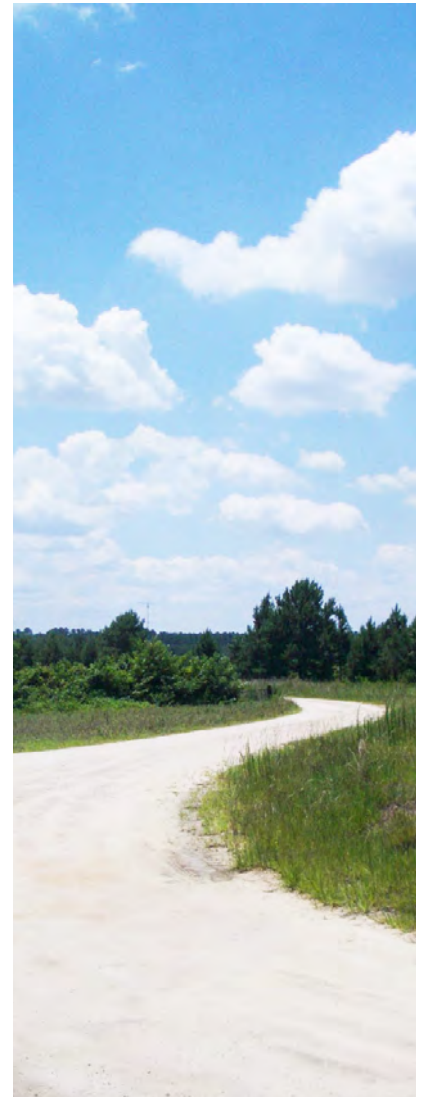
Parking

Parking will accommodate the necessary number of cars and buses in a variety of lots in close proximity to activity areas. Overflow parking in grass areas will be available for use during special events. Parking may be provided along roadways or in a series of smaller lots to prevent large expanses of asphalt. Parking lots will also need to accommodate the radius required for busses. Gravel parking is a cost-effective option, and can be planned for areas used less frequently. Parking lots will be sited sensitively in order to reduce potential environmental impacts caused by excessive clearing and grading. Parking lots will also be designed to promote shaded parking, and provide accessible spaces as required by code. The design of the parking lot will utilize effective stormwater management techniques such as rain gardens. Parking for equestrians will require longer parking stalls that can accommodate horse trailers.

Trailheads and Trails

The most important goals when approaching the design of trails are safety, accessibility, connectivity, adaptability, sustainability, and innovation. Where feasible, trails and sidewalks should be designed so they can be enjoyed by people of all ages and mobility levels using universal design methods. The maximum levels of connectivity to state, regional, and local trail systems will be offered where available.

The trail system should be flexible enough that users can experience the trail in many ways. For example, some users might not be able to walk the length of the trail, but smaller loops can be provided that begin and end at convenient access points. A loop reduces the need for backtracking and seeing the same scenery twice, and actually reduces wear and tear on the trail because people walk or bike around a loop once and not back and forth on a linear trail. Specific and easy to spot entry and exit points help users orient themselves in the trail system and are easier for staff to maintain.



Long Valley Farm roads



Shaded parking lot

The trail design should have a minimal impact on the environment and should avoid sensitive areas. Trail materials should be easy to install and maintain, easy to obtain locally, and appropriate to use in different environmental conditions. The innovative use of sustainable paving materials and the integration of stormwater and drainage elements reduce the development impact of the trail and also provide opportunities for educational interpretation. Attention to providing an enjoyable and aesthetically pleasing experience is also important. A meandering trail draws users through the park, offering periodic views of different park features.

Trail Guidelines and Accessibility

There are several authorities who have guidelines that relate to trail design and construction. The American Association of State Highway and Transportation Officials (AASHTO) sets standards and guidelines used in highway design and construction, as well as air, rail, water, public and pedestrian transportation. AASHTO has produced publications, such as the Guide for the Development of Bicycle Facilities and the Guide for the Planning, Design, and Operation of Pedestrian Facilities, which contains guidelines for bike transportation facilities and shared-use paths, sidewalks and street crossings, and pedestrian trails. The Manual of Uniform Traffic Control Devices (MUTCD) is a document which specifies the design standards of traffic signs, road surface markings, and traffic signals which is issued by the Federal Highway Administration (FHWA) of the United States Department of Transportation (USDOT). State and local agencies utilize the MUTCD to ensure shapes, colors, and fonts of all traffic control devices meet national standards.

To ensure access to trails for all people, including those with disabilities, Americans with Disabilities Association Accessibility Guidelines (ADAAG) exist to ensure safe travel and access for those with mobility impairments. The U.S. Forest Service has also developed accessibility guidelines which maximizes accessibility while protecting natural resources.

Planting

Planting design is a very important aspect that can greatly enhance the overall park experience. Plants can be used to screen unsightly views, buffer adjacent uses and environmentally sensitive areas, frame beautiful views, control sound, wind and erosion, attract wildlife and provide habitat, add seasonal color and texture, add visual interest, serve as wayfinding devices, and create “nodes” along trails that create natural gathering spaces or resting areas.

As much as possible, plant selection should utilize a mix of canopy, understory, shrubs, and grasses that are suitable for the location. Plants which are toxic for either people or animals should be avoided. A good resource for toxic plants for horses is the Ten Most Poisonous Plants for Horses (EQUUS June 2004). Native plants are recommended, and invasive species should always be avoided. In order to minimize maintenance, plants should be chosen that are adaptable to the local climate and soils to minimize pruning and the use of synthetic fertilizers and inorganic pest control. The design should also include drought tolerant plants in order to eliminate the need for irrigation.

Planting zones can be established that celebrate and highlight local native plant communities. These areas are great places for educational interpretation. Where plant communities already exist, additional planting should work within those types of communities and non-native or invasive species should be removed if possible.

Site Amenities

Site amenities will be the state park standard amenities, and placed appropriately at key rest areas and viewpoints. Site amenities should be vandal resistant and be easily accessible for all potential park users.

Benches, trash/recycling, dog waste stations, drinking fountains, bike racks, gates, and bollards should be placed appropriately where needed. Amenities should be chosen that are durable and practical, and represent a classic and timeless style so they can be used for an extended period of time. Benches should be placed in a variety of areas including sun, shade and under shelters. Bike racks should be located in visible areas at key destination points. "Farm" fencing could be considered to enhance the sense of place.

Site lighting should be installed at a pedestrian scale and with safety in mind. Low voltage or solar powered lighting should be utilized when possible.

Signs and other wayfinding devices should function as a system and be designed for the first time user. All signage should be accessible to all park users, whether viewable, audible, or tactile. The signage should be designed with recognizable graphics and colors, with the information presented consistently and with a hierarchy. Signs should also take advantage of unique landmarks that make the park easier to navigate. Typical park signs should include directional signs, regulatory signs, stop signs, and crossing signs. All park signage will use the uniform state wide font. Several other signage types include:

- Rules and regulation signs including hours of operation, permitted uses, prohibited uses, wildlife protection policies, no trespassing, private property, pet policies, and no littering.
- Recreational signs such as distance markers and safety/informational signs.
- Multi-use trails should have signage directing trail usage such as bicycle speed, sight distances, horse startling, overtaking rules, and trail etiquette.
- ADA requires that signs need to be provided at trailheads and on newly constructed trails.

Interpretive signs can also serve to make the overall park experience more enjoyable. These types of signs contribute to and enhance the sense of place, and provide valuable site history and cultural context in an environmental and sustainable way. Interpretive signage can be provided through signs, art, paving, site amenities, Global Positioning Systems (GPS), downloadable podcasts and other technology.



Informational kiosk designed to mimic rural architecture



Interpretive sign panel at Fort Macon State Park

Fishing Piers & Platforms

In order to prevent bank erosion, fishing will be accommodated on piers and platforms. These structures should be located in places that are already known as good fishing opportunities. A fixed pier system is preferred and a recycled/composite wood lumber is the preferred surface. At least one fishing area must be close to accessible parking and accessible routes to allow those with mobility impairments equal use. Care must be taken to site these elements sensitively within the park to reduce the impact on the natural environment.

Day-Use Areas

Day-Use Areas include shelters, picnic areas, restrooms, and are often the location of trail heads. Grills, tables, water, and a septic system will be provided. The picnic shelters can be utilized as amphitheaters or outdoor classrooms as well. School groups can use these areas during organized visits. An open play area sited near the day-use facility will allow visitors the opportunity for picnicking, flying kites, or playing catch or frisbee.

Camping

Camping facilities will include tent and trailer, equestrian, and primitive camping. Tent and trailer camping will be configured in gated loops, with each loop accommodating at least 30 campsites. Campsites will be sited in order to provide the maximum amount of privacy while offering scenic views when possible. Equestrian camping will be configured in a single gated loop and will accommodate 15 campsites. Minimizing grading and preserving vegetation will also need to be evaluated when actual campsites are being planned. Electrical and water hookups at the campsites will be needed for some campers. Shower houses, sewage dumping stations, and waste/recycling areas will need to be placed for easy access while also considering noise and odor concerns. The location of septic fields will also need to be considered. Primitive camping will be located in secluded parts of the park with composting or pump and haul toilets. Group camping will include a small parking lot, restroom, and an open area for camping.

Utilities

Water, electrical, and phone utilities exist currently in the park where residential homes and other buildings are located. All new utilities will be located underground. Septic fields will need to be located in appropriate areas for park facilities. Utility corridors will be coordinated with trails when possible to reduce the amount of clearing needed.

Storm Drainage

Storm drainage will include the design of permanent Best Management Practices (BMPs). Examples of BMPs include rain gardens, bioretention ponds, permeable pavement, and infiltration swales. Highlighting environmentally responsible stormwater management could be an educational opportunity for visitors to the park.



Park rules sign



Boardwalk and overlook

Ecologically Sensitive Areas

The ecologically sensitive areas in Carvers Creek State Park should be preserved and protected. Public access will be limited in these areas in order to protect important plant and animal species. Buffers will be provided around trees that are known Red-cockaded Woodpecker nesting cavities. In addition, other important plant and animal species have been documented with field work and Geographic Information Systems (GIS) as a tool for park planning in order to determine the best locations for conservation. Where possible, contiguous parcels of land should be sought to reduce fragmentation of the natural habitat. Trails and boardwalks may be carefully planned and built in these areas for environmental interpretation.



*Shelter at trailhead,
William B. Umstead State Park*

8 PARK MASTER PLAN CONCEPTS

Public Process

The Public Input Meeting was held on the evening of August 30, 2010 at Pine Forest High School in Fayetteville, N.C. The main goal of the Public Input Meeting process was to introduce the State Park project to the community. The public input process provides valuable insight into the citizens wants and desires for the proposed park, and also pinpoints the facilities and activities they would enjoy. Over 40 citizens attended the presentation and the viewing of Park Master Plan Concepts on display. Attendees were invited to write their comments on the concept maps and fill out surveys which were handed out during the meeting. An online survey was launched the next day and was open until September 27, 2010. A total of 415 people responded to the paper and online survey. The presentation was available digitally on the N.C. Division of Parks and Recreation website for review and a link on the site directed visitors to the survey. A project e-mail address was established to gain further input, and several emails were received. News articles and blogs also covered the project. See Appendix D for public input information.

The most important points from the public input survey are as follows:

1. In terms of preferred activities, the public has a strong preference for visiting overlooks on the Cape Fear River, visiting historic buildings, hiking on trails, accessing multi-use trails, and viewing wildlife.
2. The facilities that the public would utilize the most include multi-use trails, the Visitor Center, boardwalks, and historic buildings.
3. Natural and scenic beauty ranked as the most important item that made for an enjoyable visit. Also important was the ability to take self-guided tours, a variety of recreational amenities offered, and opportunities to learn about history.
4. Some respondents had fond memories of relatives working on Long Valley Farm or visiting there as a child.

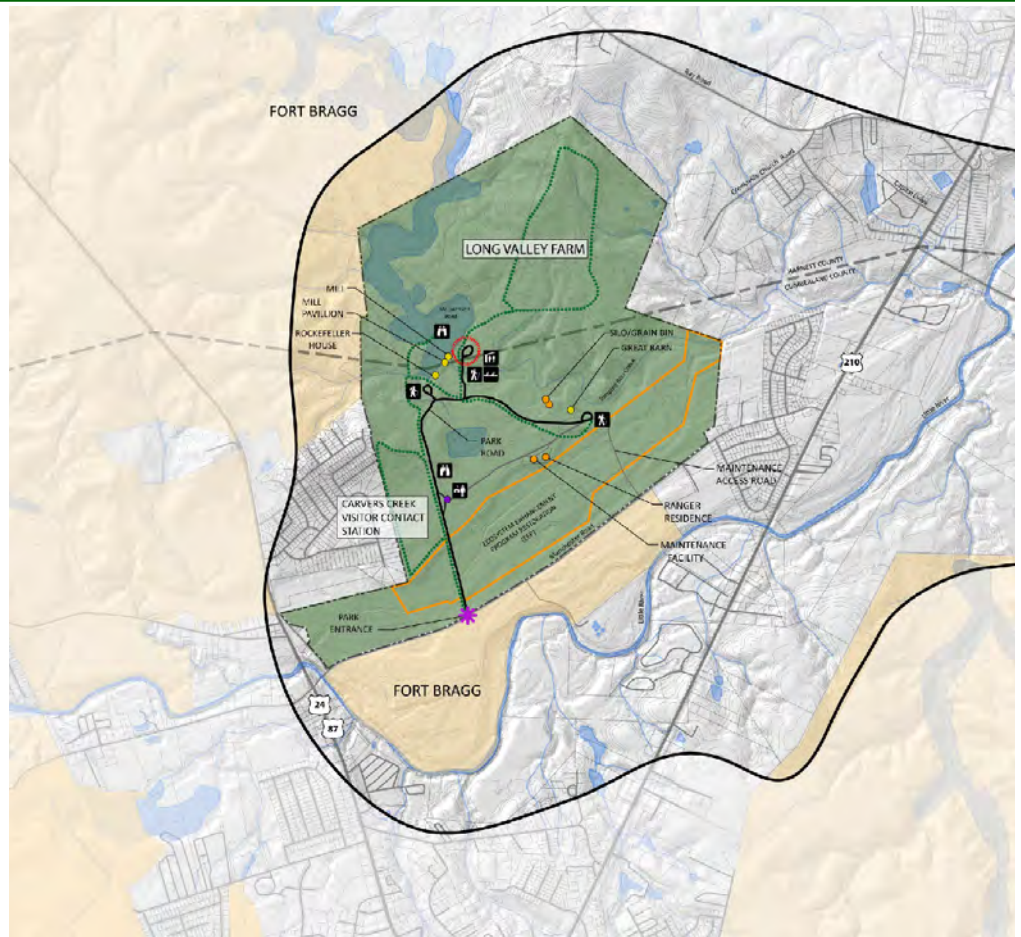
Park Master Plan Concepts

Three Master Plan concepts were presented to the public during the public input meeting. The three concepts all included plans for natural resource protection, cultural and historic preservation and interpretation, and nature-based recreation opportunities.

The main park development issues that factor heavily in the three concepts are the level of land acquisition, the amount of development, and the level of historic preservation. The level of land acquisition is important because it will dictate the level of connectivity throughout the park. A low level of land acquisition will be cost efficient, but it also means less preservation of natural and historic resources and a lower level of recreational opportunities and connectivity.



Public Meeting at Pine Forest High School



The three concepts ranged from the least to most intensive park development:

Concept One: Low Intensity Development

Concept Two: Medium Intensity Development

Concept Three: High Intensity Development

Concept One

Concept One, shown in Figure 8.1, has the lowest intensity of development of the three concepts. It features two separate properties with no additional land acquisition to provide connectivity between them. Concept One has the least amount of land acquisition and is the most cost efficient concept. It also has the lowest intensity of recreational facilities and a limited amount of historic preservation. This concept focuses on retaining four historic buildings and structures at Long Valley Farm, and provides opportunities for hiking, walking on interpretive trails, bringing your own canoe or kayak, viewing historic buildings from the exterior, and picnicking. The Sandhills Section provides opportunities for hiking, walking on interpretive trails, fishing, primitive camping, utilizing the Visitor Center, and picnicking.

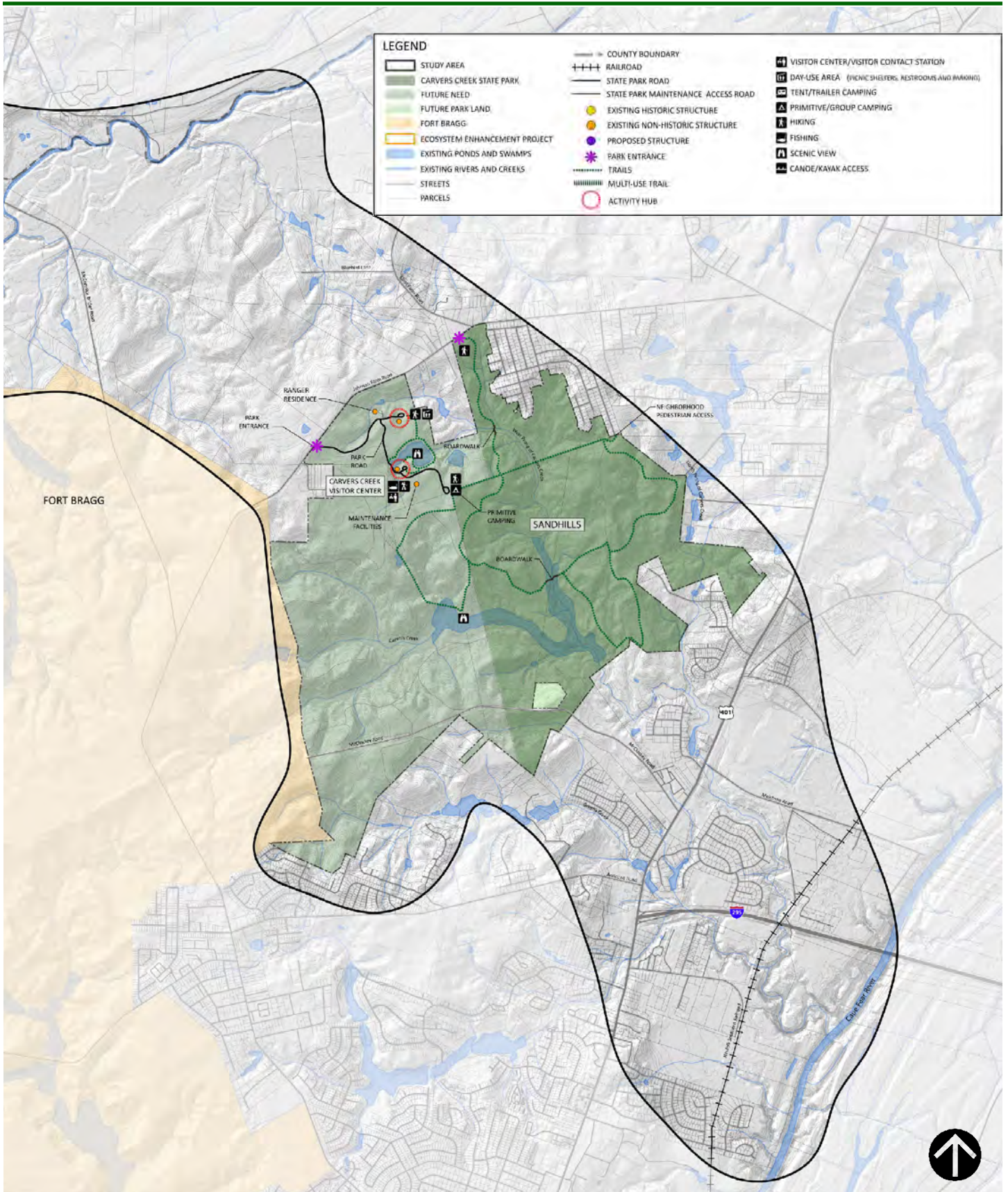
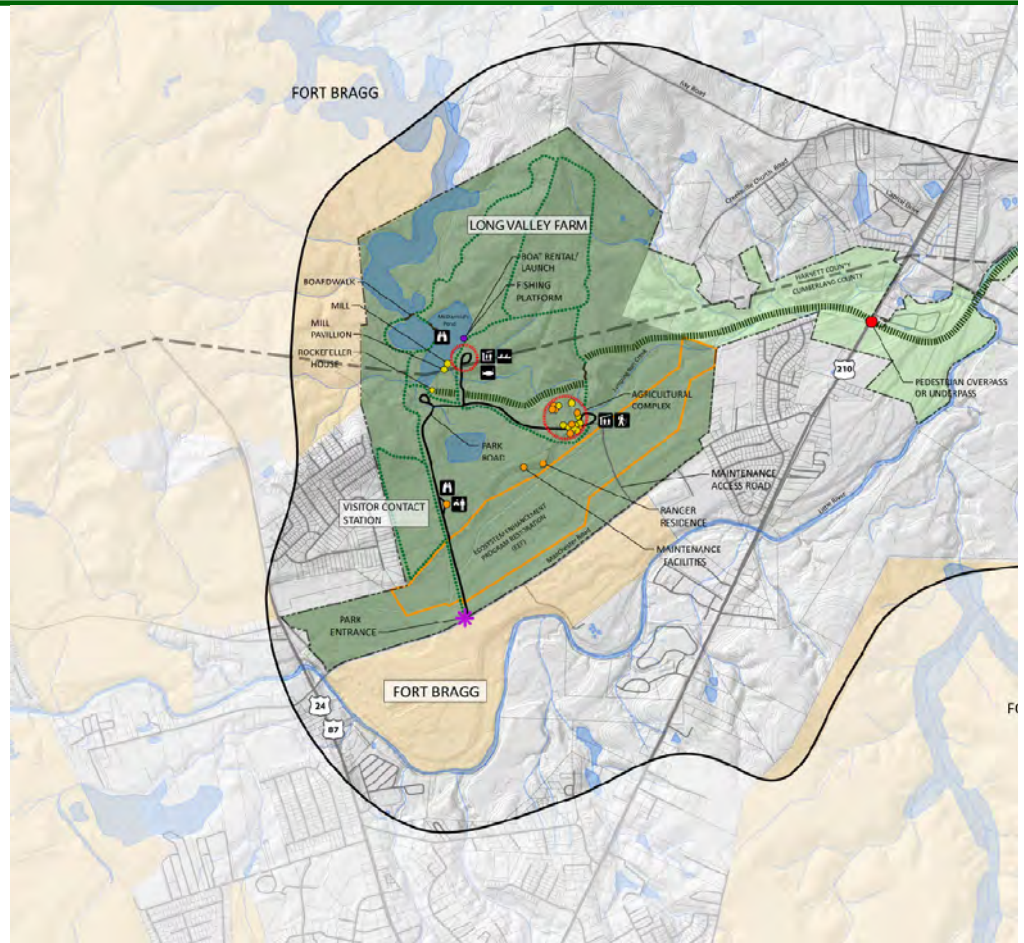


Figure 8.1 Concept One - Not to Scale



Concept Two

Concept Two, shown in Figure 8.2, offers a medium intensity of development. It features an increased amount of land acquisition as well as an increased level of development and associated cost. This concept acquires a narrow corridor of land to link Long Valley Farm to the Cape Fear River. More historic preservation is provided at Long Valley Farm, and a multi-use trail ties the State Park properties together which allows an increased level of recreational connectivity. This concept focuses on retaining seventeen historic buildings and structures at Long Valley Farm, and provides opportunities for utilizing the multi-use trail, hiking, walking on interpretive trails, walking on a boardwalk through the Cypress-gum swamp, launching your own canoe or kayak, fishing, group camping, viewing historic buildings from the exterior, going on a guided tour of the Rockefeller House, and picnicking. The Sandhills Section provides opportunities for utilizing the multi-use trail, hiking, walking on interpretive trails, fishing, primitive camping, tent/trailer camping, utilizing the Visitor Center, and picnicking. The multi-use trail extends to the Cape Fear River where park users will have opportunities for hiking, viewing the waterfalls and river, picnicking, and accessing the future Cape Fear River Greenway.

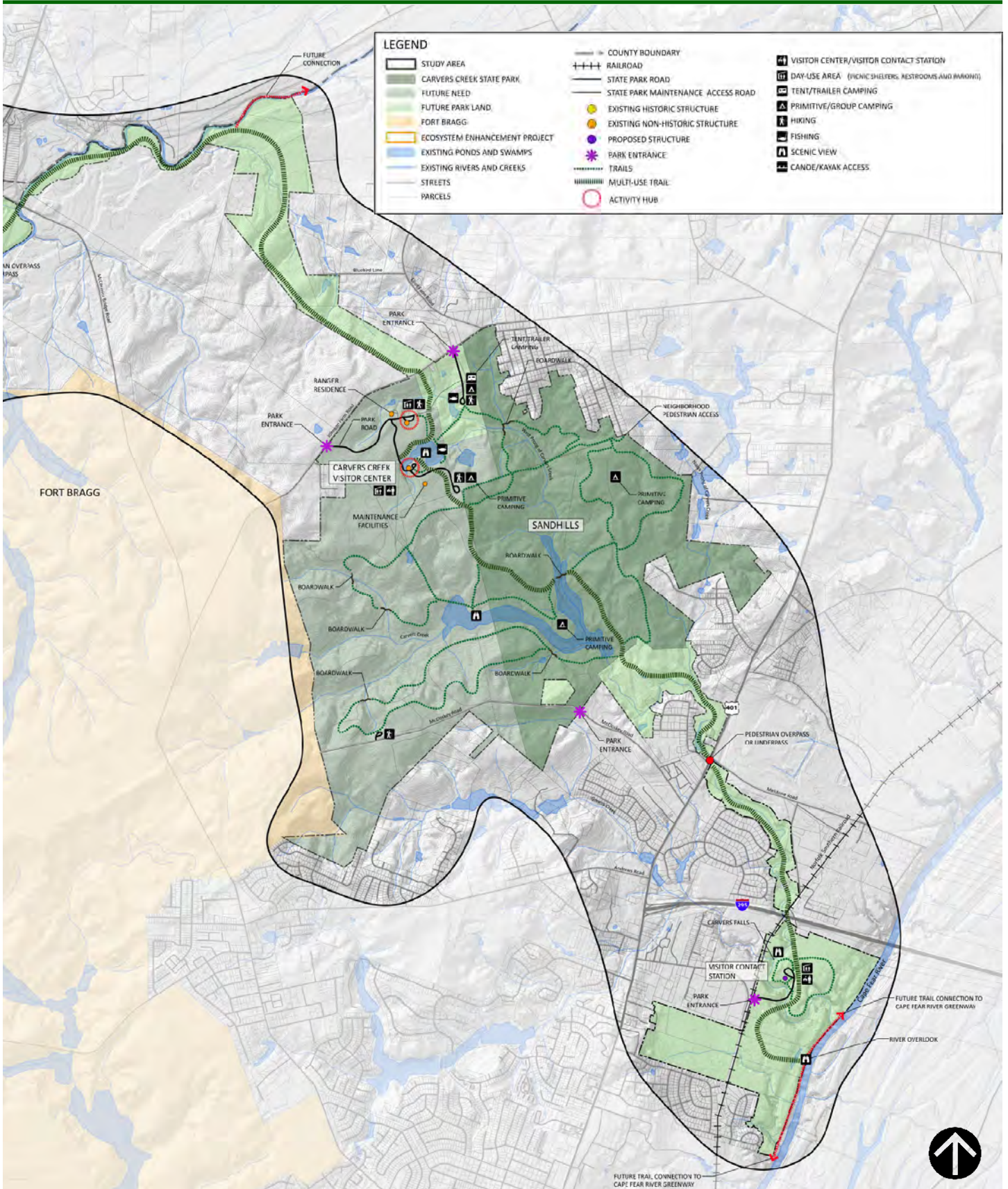
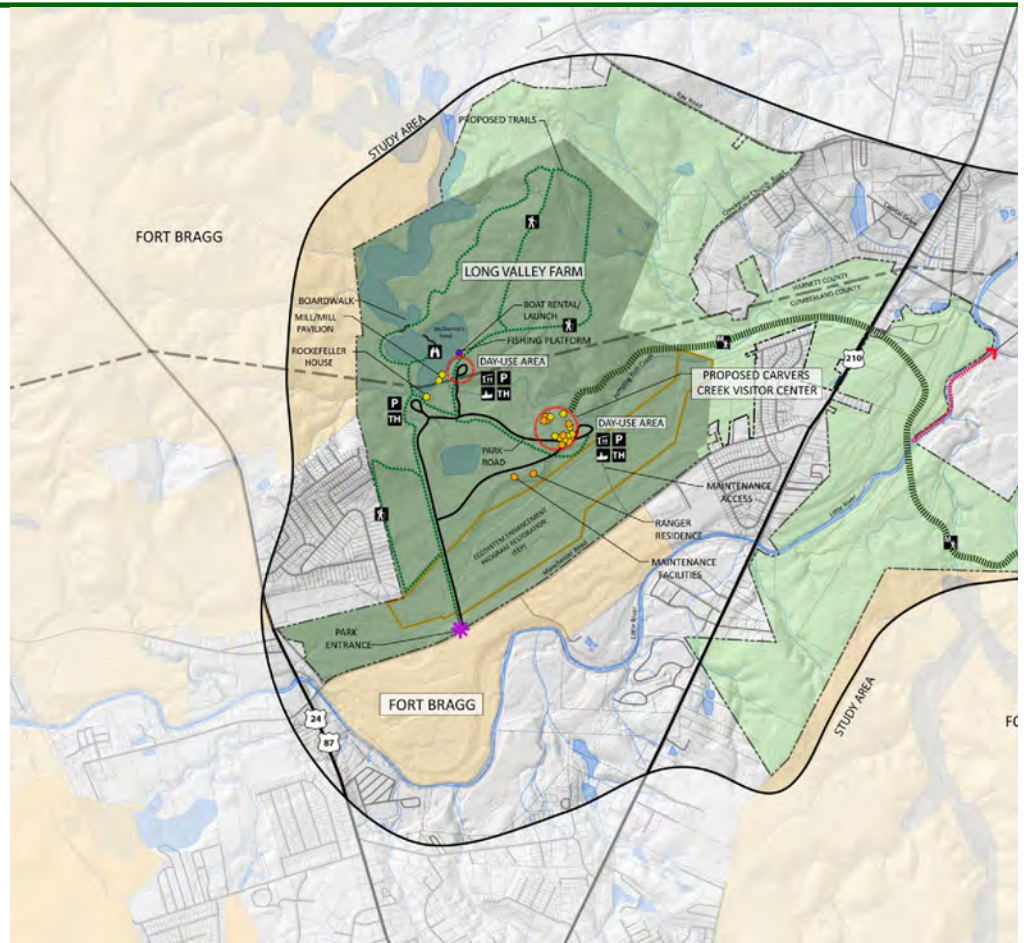


Figure 8.2 Concept Two - Not to Scale



Concept Three

Concept Three, shown in Figure 8.3, has the highest intensity of development of the three concepts. It also features the highest amount of land acquisition, level of development and the highest associated cost. In Concept Three, significant land would be acquired, with a multi-use trail linking the state park properties together. This concept offers the highest level of historic preservation at Long Valley Farm, the highest level of recreational facilities, and also a high level of ecological and habitat preservation. This concept focuses on retaining 21 historic buildings and structures at Long Valley Farm, and provides opportunities for utilizing the multi-use trail, visiting historic buildings, viewing historic exhibits and artifacts, attending farm/heritage days, viewing a restored historic grist mill in operation, and viewing live demonstrations, such as farming, basket weaving and blacksmithing. This concept also provides opportunities for renting the Rockefeller House or Mill Pavilion, hiking, walking on interpretive trails, walking on a boardwalk through the Cypress-gum swamp, launching your own canoe or kayak, renting a canoe or kayak, group camping, fishing, and picnicking. The Sandhills Section provides opportunities for utilizing the multi-use trail, hiking, walking on interpretive trails, fishing, primitive camping, tent/trailer camping, utilizing the Visitor Center, and picnicking. The multi-use trail extends to the Cape Fear River where park users will have opportunities for hiking, viewing the waterfalls and river, group camping, picnicking, and accessing the future Cape Fear River Greenway.

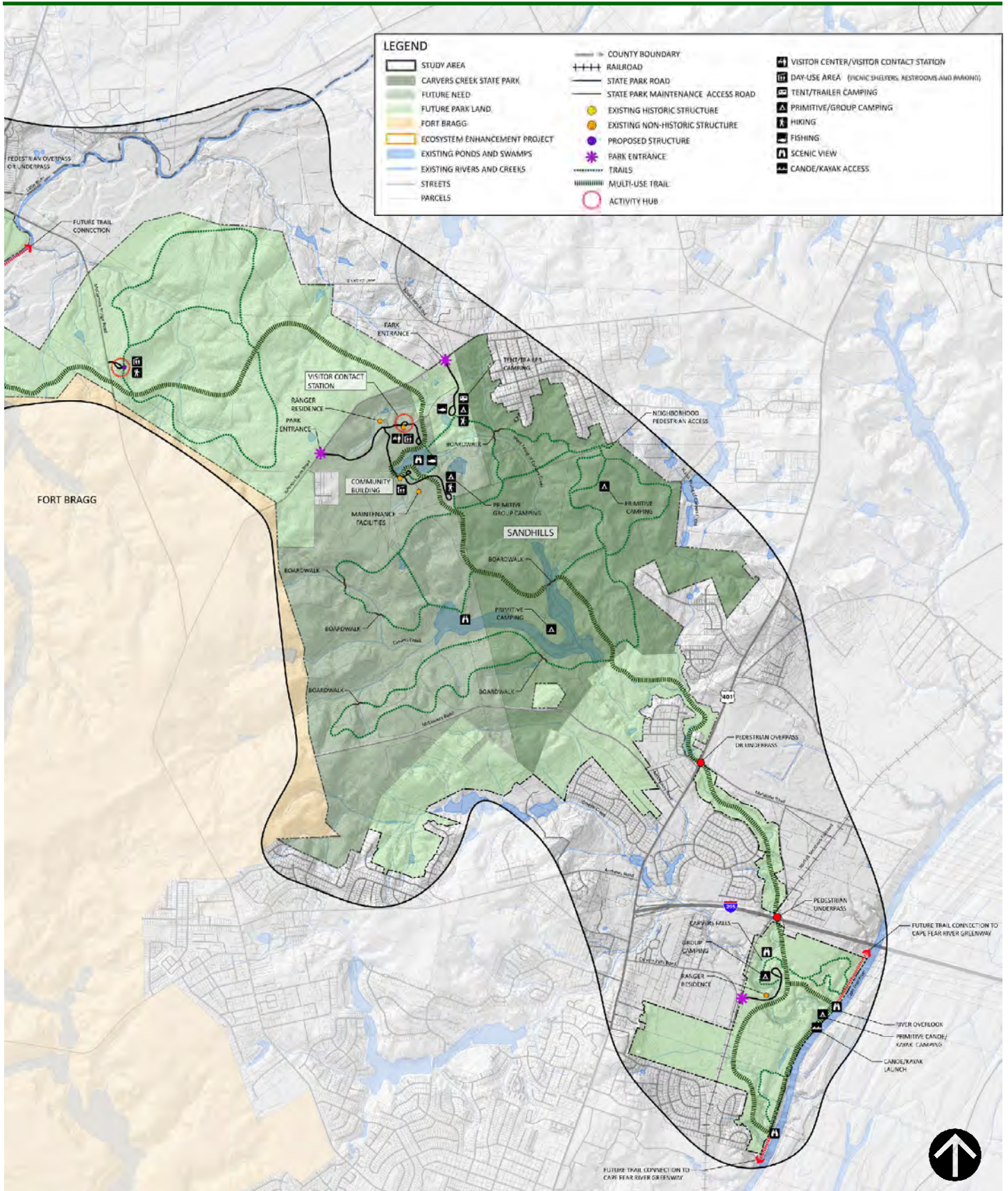
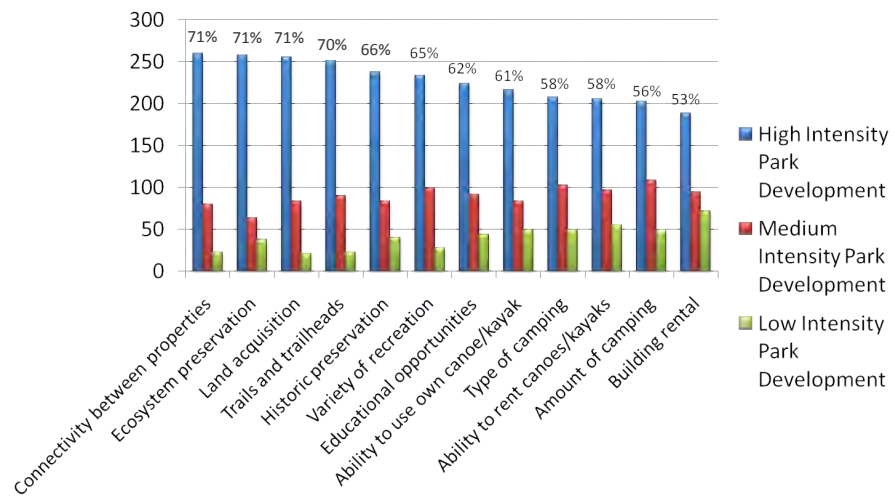


Figure 8.3 Concept Three - Not to Scale

Summary of Public Responses to the Three Master Plan Concepts

The public preferred a combination of Concepts Two and Three. Of those who preferred Concept Two, most appreciated the amount and the type of camping provided. They also liked the variety of recreational activities, the access to buildings for rentals, and the amount of educational opportunities. Concept Three was the most popular with the public, with over half the respondents preferring the concept. Most preferred this concept because of the amount of habitat preserved, the amount of trail connectivity and land acquisition provided, the amount of hiking and trailheads, and the number of historic structures preserved. The chart below illustrates the preferences of the respondents. The percentages illustrate the number of respondents interested in high intensity park development.

Number of Respondents



The input received from the public was evaluated and tabulated in order to formulate an idea of what facilities and activities would be most popular at the park, and what level of development intensity was desired by the public. With this input, along with direction from the N.C. Division of Parks and Recreation, a proposed Park Master Plan was prepared and is explored in more detail as outlined in later chapters. See Appendix D for full Public Input Results.

9 PARK MASTER PLAN

Introduction

The Carvers Creek State Park Master Plan is a culmination of the existing conditions analysis, field work, public input, identification of park program and goals, and collaboration with N.C. Division of Parks and Recreation staff. The Carvers Creek State Park study area consists of 8,500 acres, bounded to the north, south and west by Fort Bragg and residential areas and to the east by the Cape Fear River. Long Valley Farm, the Sandhills Section, and the Cape Fear River Section form the three anchors of the park, where most of the park facilities will be developed. A trail network will create a high level of connectivity throughout the park, linking the park facilities from the west to the Cape Fear River in the southeast. The following chapter includes recommendations for the Park Master Plan, including land acquisition, natural resource protection, trail network, park themes and interpretive opportunities, park facilities, and recreational activities. The proposed Draft Park Master Plan is shown in Figure 9.1.

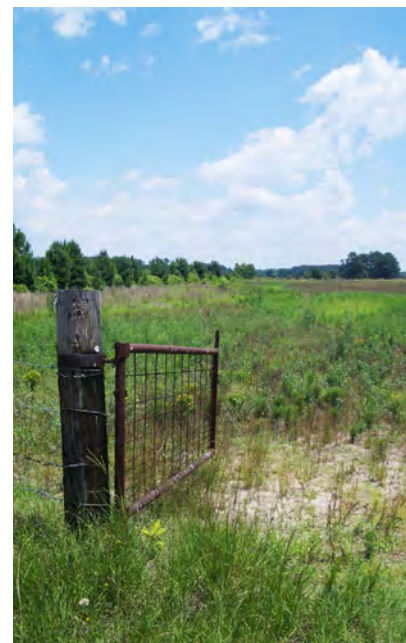
Land Acquisition

In order to achieve the highest level of connectivity between the park properties already owned by the state of North Carolina, further acquisition of land is expected to take place within the next 25 years. Additional land will ensure the maximum protection of plant and animal species. Since the state has purchased portions of the park property in 2006 and 2010, future acquisition has been explored to create a larger park property. Priorities for land acquisitions include areas such as large undeveloped parcels, areas of significant hydrology or geology, Red-cockaded Woodpecker habitat, examples of biological communities and natural resource areas, land within North Carolina Significant Natural Heritage Areas, and land suitable for facility development.

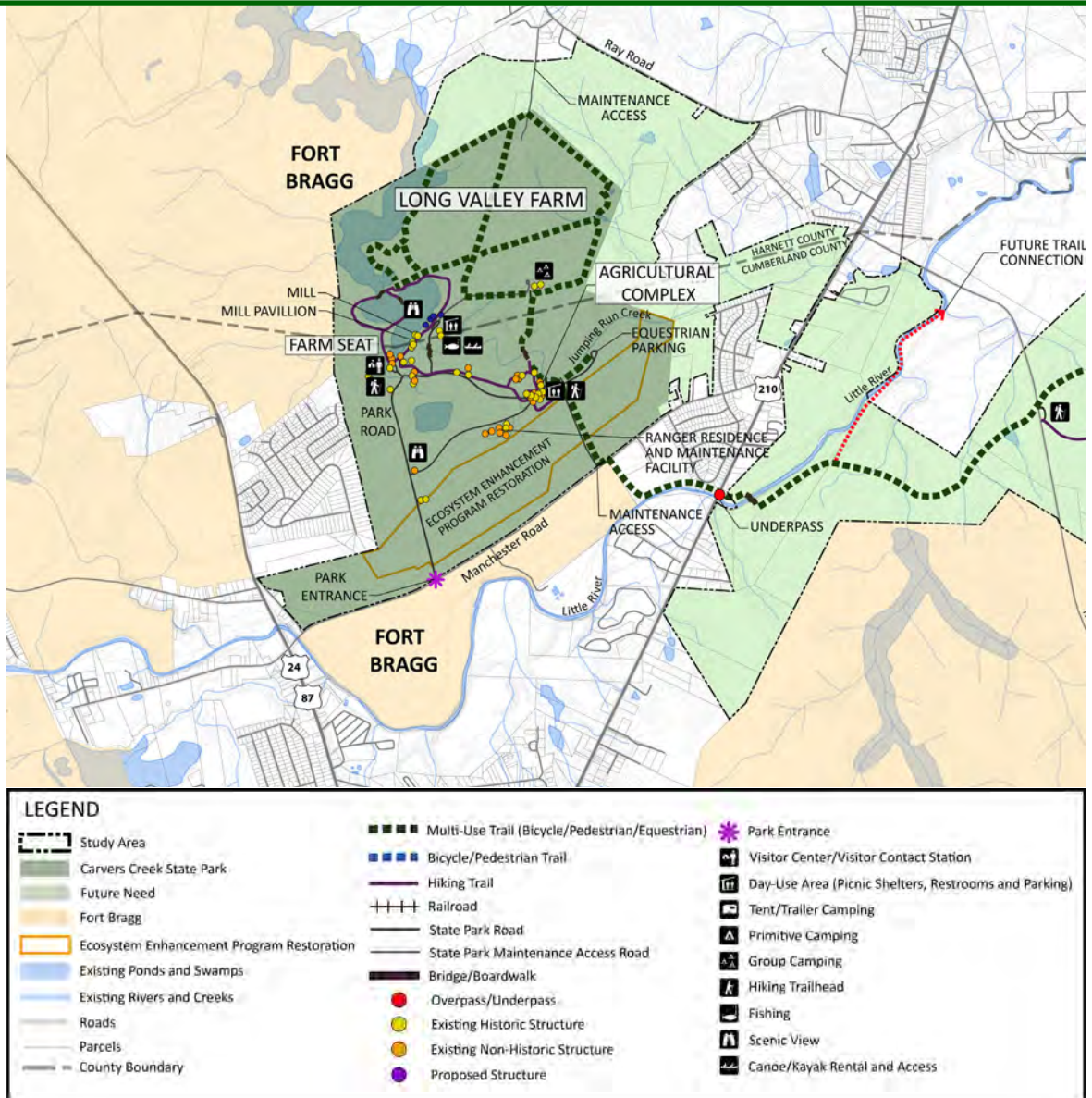
Carvers Creek State Park will continue to grow in the next 25 years in order to support the mission of the N.C. Division of Parks and Recreation. These goals include conservation management, education, stewardship, and recreation.

Overall Plan

The Master Plan for Carvers Creek State Park shown in Figure 9.1 includes three main areas of development for park visitors; Long Valley Farm, the Sandhills Section, and the Cape Fear River Section. The park will be linked with a multi-use trail that connects the major facilities such as the Farm Seat and Agricultural Complex at Long Valley Farm and the Visitor Center at Sandhills. A bicycle/pedestrian trail will extend from Sandhills to the overlooks on the Cape Fear River. Approximately 22 miles of multi-use trails, four miles of bicycle and pedestrian trails, and eight miles of single-use trails are proposed throughout this park system. Trails are shown in approximate locations and the actual alignment of the trails will be determined during later phases of design. Trails will be carefully designed and maintained. Equestrians and bicyclists will not be allowed to ride off the trail.



Farm fields at Long Valley Farm under longleaf pine restoration



Other facilities will include fishing piers, a boat rental, camping areas, day-use areas, and historic buildings. Recreational opportunities include hiking, bicycling, horseback riding, picnicking, fishing, boating, camping, wildlife observation, visiting historic buildings, and experiencing life on an early 20th century scientific farm.

Long Valley Farm

The Long Valley Farm property will be used mainly for educational and historic interpretation of the agricultural and cultural significance of the site. Two main nodes of activity include the Farm Seat and the Agricultural Complex. The historic structures date from different time periods within the history of the farm, ranging from 1850 when the Mill Pavilion was constructed, the mid 1910s when Robert Wall Christian operated his scientific farm, to the late

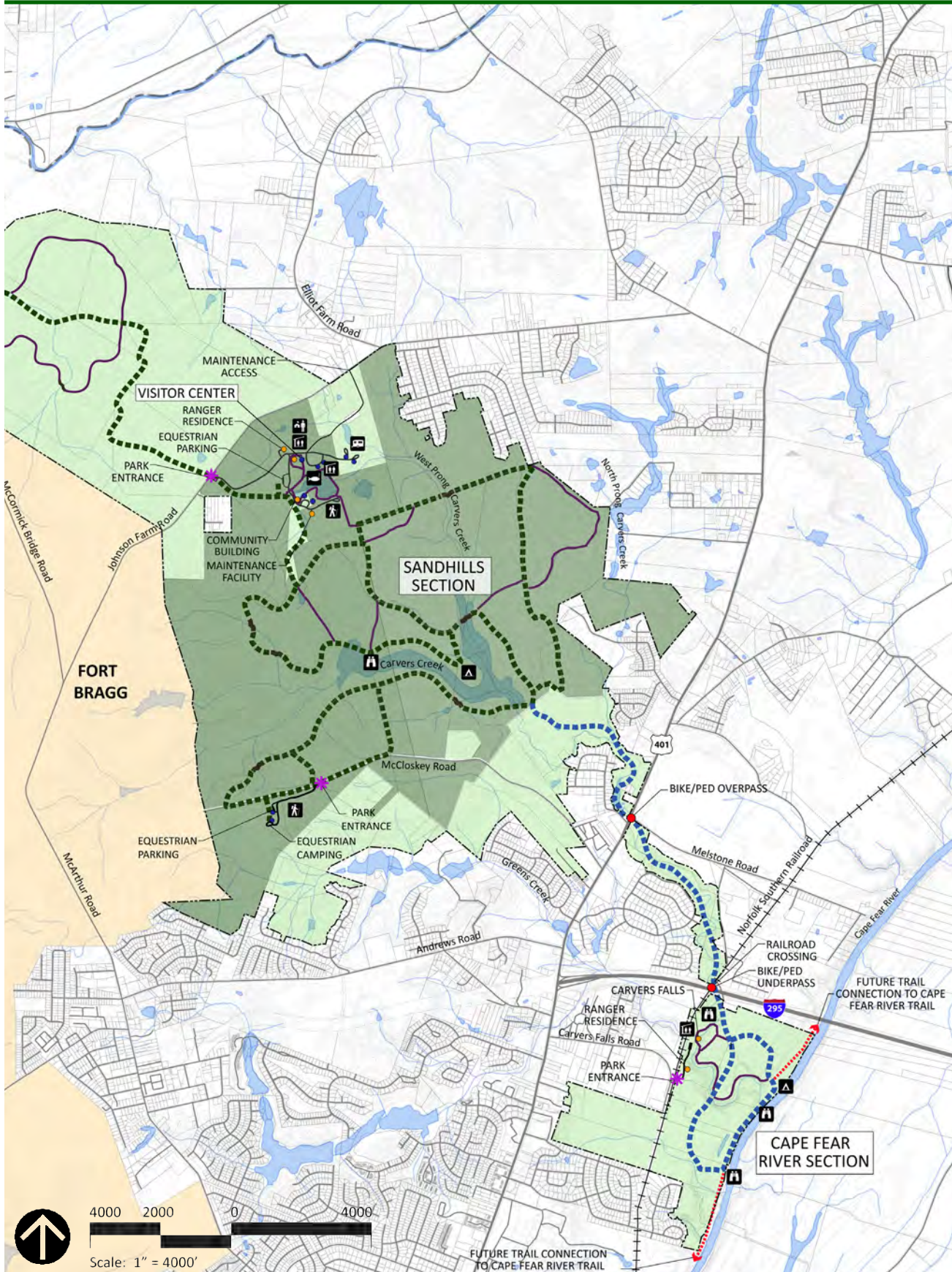


Figure 9.1 - Master Plan

1930s when James Stillman Rockefeller purchased the property for his winter residence. The internal circulation of roads and trails will link these facilities with the recreational activities that will share the space. Recreational activities include boating, fishing, bicycling, equestrian trails, hiking, picnicking, and group camping. Also important is the rich ecological diversity of this area, including the cypress-gum pond, swamps, creeks, and stands of longleaf pine undergoing restoration and fire management. See Figure 9.2 for the overall plan for Long Valley Farm, and Appendix B for an assessment of structures at Long Valley Farm.



Park entrance road at Long Valley Farm

The park entrance is located off of Manchester Road and is aligned with the existing farm road. The park visitor will see glimpses of the original farm and silo in the distance as they approach the Farm Seat. According to the previous farm manager, this was one of James Stillman Rockefeller's favorite places on the farm. Farm fences, hedgerows, and warm season grasses will be maintained to stay as accurate as possible to the farm's nationally significant history. The layout of the farm roads around the fields date to Robert Wall Christian's ownership of Long Valley Farm, and will be maintained as much as possible to keep the integrity of the farm intact. A gated maintenance road will be located south of the Agricultural Complex that leads to the Ranger's Residence, maintenance complex, and a maintenance-only access road.

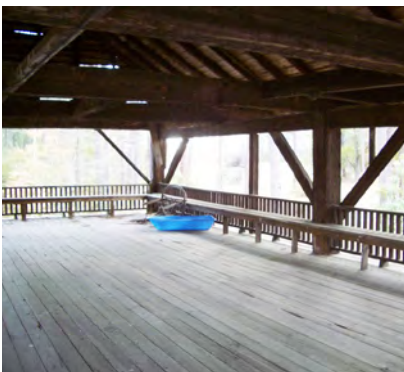
Farm Seat at Long Valley Farm



Farm Seat, Rockefeller House

At the terminus of the entry drive, visitors will turn left to begin the approach to the Farm Seat. A 40-space parking lot and drop off area, a trailhead, and restrooms will be located at the Farm Seat to remain as unobtrusive as possible as well as minimize construction and clearing of the existing vegetation. From here, visitors can visit the Farm Seat and embark on a tour of the millpond, boardwalks and trails north of the parking area, or continue along a trail at the southern edge of the millpond to the Mill Pavilion and Pump House and the Mill House and gates.

Just east of the Farm Seat, a road will extend north, crossing Jumping Run Creek and connecting to a day-use area adjacent to the millpond. An 80-space parking lot will be located in an existing open field east of the millpond. See Figure 9.3. This day-use area includes a boat rental and launch, an accessible fishing pier, a restroom, a grass play area, two shelters, and a small open play area.



Mill Pavilion



Open Meadow at Long Valley Farm

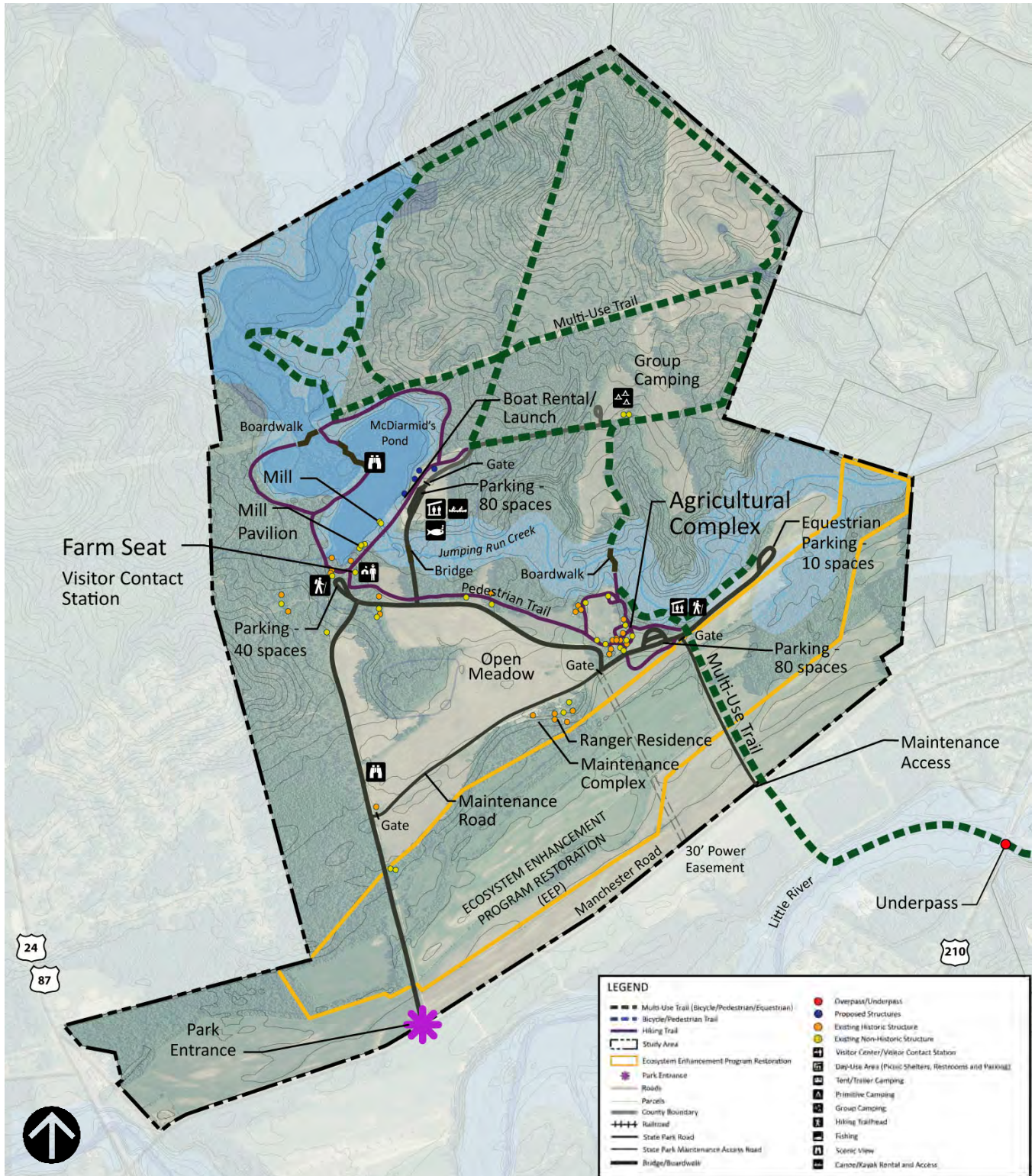


Figure 9.2 - Overall Plan - Long Valley Farm - Not to Scale



Figure 9.3 - Long Valley Farm Seat Plan - Not to Scale

Permanent camping facilities at Long Valley Farm will include group camping located in the northern pasture, past the day-use area at the millpond, as seen in Figure 9.4. A gated natural surface road will extend from the parking at the millpond for access, and terminate with a small parking area for 45 vehicles. The north pasture tobacco barns could serve as the location for restroom and shower facilities. From this location, a trail will take park visitors north to longleaf pine restoration areas.

The historic buildings at the Farm Seat include the Farm Seat or “Rockefeller House,” the Spring House, a Granary, the Mill Pavilion and Pump House, and the Mill House and gates. A complete list of structures and buildings at Long Valley Farm to remain can be found in Appendix B. A brief synopsis of the structures and their expected interpretive function is listed below:

- Farm Seat – This will be the site of a Visitor Contact Station, and the Rockefeller House will be restored to include office space, storage, a working kitchen, rental/meeting space, as well as restrooms on the main level. The existing floor plan of the house should be maintained as much as possible to keep the integrity of the building intact. The two largest spaces on the main floor, the former dining room and living room of the house, will serve as meeting/rental spaces. The courtyard between the two wings can serve as an outdoor space for parties or gatherings. The kitchen area will be restored as well. Exhibits and artifacts about Robert Wall Christian, James Stillman Rockefeller, Overhills, World War Two connections to the property, and Fort Bragg will be on display in the halls and in the two rental/meeting spaces. An office space and public restrooms will also be located on the main floor. Park staff will be able to see approaching visitors through windows in the office. The second story can be utilized for storage and additional office space. Visitors can relax on the shady front porch overlooking the millpond or under the shade of the historic oaks and magnolias surrounding the house.
- Spring House – The Spring House will be preserved for its scenic quality and visitors will also learn about ways food was stored prior to electricity.
- Mill Pavilion, Dam Gates and Pump House – These structures are the oldest structures on the farm, although they were modified by the Rockefellers after they purchased the property. The Mill Pavilion would be restored to be used for rentals, as a stage, as an outdoor classroom, and for scenic interpretation. The Pump House would be used for storage. Large groups of people can be accommodated in the Mill Pavilion, and it will be a popular rental spot for those who appreciate the views across the millpond and the sounds of rushing water. This is an ideal location for special events such as weddings, folk music festivals, and reunions. The McDiarmid family history and the history of Ardnave Plantation will be interpreted at this structure.
- Mill House and gates – The Mill House and gates will receive a historical quality renovation, but will not be restored to a functioning level. School groups and other visitors will enjoy learning about mill technology and seeing examples of milled products. Interpretive displays about the importance of a mill in rural society will be located inside the building.



Mill House and Gates



Interior of Mill House



Agricultural Complex



Great Barn and meadow



Pack House



Garden



Figure 9.4 - Long Valley Farm - Group Camping - Not to Scale

- Worker’s House #1 – This building will house exhibits and displays about daily life of the community of workers on the farm. Exhibits will be viewable from the exterior through windows and doorways only.
- Worker’s House #4 – This building will serve as either a ranger residence or an artist-in-residence.

Interpretive trails at the Farm Seat should be fully ADA accessible with areas for resting and include a combination of signs, displays, and actual objects that can be touched and explored. Boardwalks and overlooks will be located to take advantage of the incredibly scenic and ecologically significant cypress pond. The trails will focus on historical as well as ecological topics, such as mill technologies, reuse of building materials, sustainability in early farm operations, the longleaf pine ecosystem, woodland edge and meadow wildlife habitat, Ardnave Plantation, historic vegetation, the importance of naval stores, and the history of recreation at Long Valley Farm.

Agricultural Complex at Long Valley Farm

At the terminus of the main park entrance drive, the visitor will turn right to continue to the Agricultural Complex, a collection of structures that highlight the rich agricultural history of the property. Views of the silo, farm buildings and farm fences across warm season grasses will visually lead the visitor to the parking area located near the Great Barn. From this point, the visitor will approach the farm and encounter an informational kiosk displaying maps of the Agricultural Complex as well as interpretive information. Interpretive trails circle the Agricultural Complex and connect to the rest of the park trail system. There will be a 80-space parking lot that will also allow for a bus drop-off.



Figure 9.5 - Long Valley Farm - Agricultural Complex - Not to Scale

Overflow parking will be accommodated in a turf area to the south of the park road for special events. A ten-space equestrian parking lot and restroom for equestrian users is located past the Agricultural Complex, and the trailhead for the main multi-use trail that connects the entire park is sited here.

The Agricultural Complex (see Figure 9.5) is comprised of 14 historic and non-historic farm buildings, interpretive trails, a restroom, meadows, and a garden. The entire Agricultural Complex will be used to tell the story of Long Valley Farm, and how it evolved from Ardnave Plantation into the gentleman’s farming enterprise as it exists today. Visitors will learn about daily life on a farm, the people who lived and worked here, and about farming practices then and now. Figure 9.6 shows equestrian parking near the Agricultural Complex. A complete list of structures and buildings at Long Valley Farm to remain can be found in Appendix B. A brief synopsis of the structures within the complex and their expected interpretive function is listed below:

- The Great Barn – The Great Barn is the focal point of the Agricultural Complex and is the first building that visitors will experience when arriving to this area by

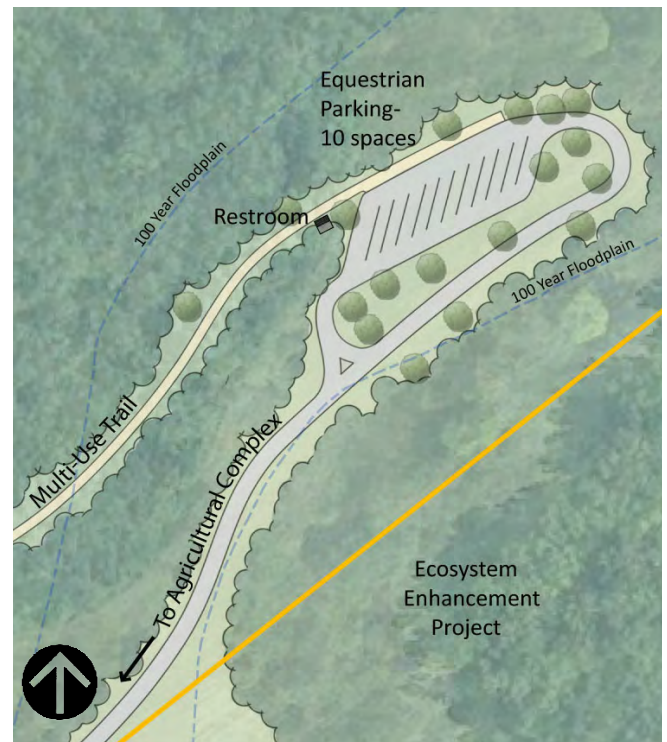


Figure 9.6 - Agricultural Complex Equestrian Parking - Not to Scale



Silo and Silo Shed



Pitcher plants at Sandhills Section

car or bus. The open air barn will accommodate large groups of school children and other visitors who will learn from educational exhibits and panels inside. Exhibits include vintage farm implements which will be placed in the rafters and along the walls, and display panels about farm animals and crops.

- Forge and Commissary – During special events, school groups and other visitors can view blacksmithing demonstrations at the Forge. The Commissary will be restored and stocked with supplies that would have been common when the farm was in operation. Visitors will learn about farm family relationships and community. External viewing only.
- Silo, Silo Shed, and Grain Bin – These iconic structures of the farm provide a strong scenic value to the farm. The Silo Shed will become a shelter for educational groups and an outdoor classroom while they learn about silage and grain. Stories from the local community could be remembered here and displayed on panels. Internal and External viewing.
- Hay Barn and Equipment Barn – An indoor primitive classroom area will be located in the Equipment Barn. Both buildings offer a scenic and pastoral quality where they are sited in the open meadow, and can be used for storage for large events. Internal and External viewing.
- Granary and Pack House – The Granary will have internal exhibits and displays about grain storage. The Pack House will have internal exhibits about tobacco storage. Both interpretive displays will be seen through the doorway and windows only. The shed roofs on both buildings will serve as small shade shelters for individual picnic sites or benches.
- Tractor Shed and Fertilizer House – The Tractor Shed will house antique farm equipment, vehicles, and other machinery for interpretation. During special events, the farm equipment, vehicles, and machinery can be brought into the adjacent field for interactive learning sessions. The Fertilizer House will offer scenic value along the entry road as an important member of the collection of farm buildings. External viewing only.
- Feeder Shed and Equipment Shed – The Feeder Shed has a 50 to 150-person capacity, which works well for school groups or reunions. Learning stations can be set up in the shelters that school groups use for organized activities. The Equipment Shed will be renovated to become a restroom.
- Garden – A small garden tended by volunteers will allow children to see, smell, touch and taste actual farm products that were once cultivated here. Another opportunity would be to rent some garden plots out to local citizens. Exhibits about scientific farming will explore Robert Wall Christian’s influence on the farm.
- Meadow – The open meadow in the center of the Agricultural Complex includes some areas that are mown regularly and some areas that are mown once or twice a year to maintain the scenic quality of the farm. The meadow will be a wonderful place for open play, family picnics, and large group activities.

The State Historic Preservation Office has identified the following structures as having contributing historic resources to Long Valley Farm: Farm Seat Garage, Garage/Shop, Water Tower Pump House, Overseer’s House, Worker’s House #2, Worker’s House #2 Garage, and Main Path Tobacco Barn #2. These resources will be considered for retention and restoration on a case-by-case basis as the park is developed.

Interpretive trails at the Farm Seat should be fully ADA accessible using universal design concepts with areas for resting and include a combination of waysides, signs, displays, and actual objects that can be touched and explored. Interpretive trails will include information about historic structures, meadow insects, woodland edge habitat, the North Carolina Ecosystem Enhancement Program project and stream restoration, sustainable farming practices, scientific agriculture as well as many other topics. A spur trail into the NCEEP restoration area will offer several interpretive opportunities to the public.



Figure 9.7 - McCormick Bridge Road Trailhead

McCormick Bridge Road Trailhead

A trailhead off of McCormick Bridge Road will be the location of parking for 30 vehicles and eight equestrian trailer parking spaces, as shown in Figure 9.7. The trailhead would serve the multi-use trail that is the mid-point between Long Valley Farm and the Sandhills Section. The development of this area is land dependent.

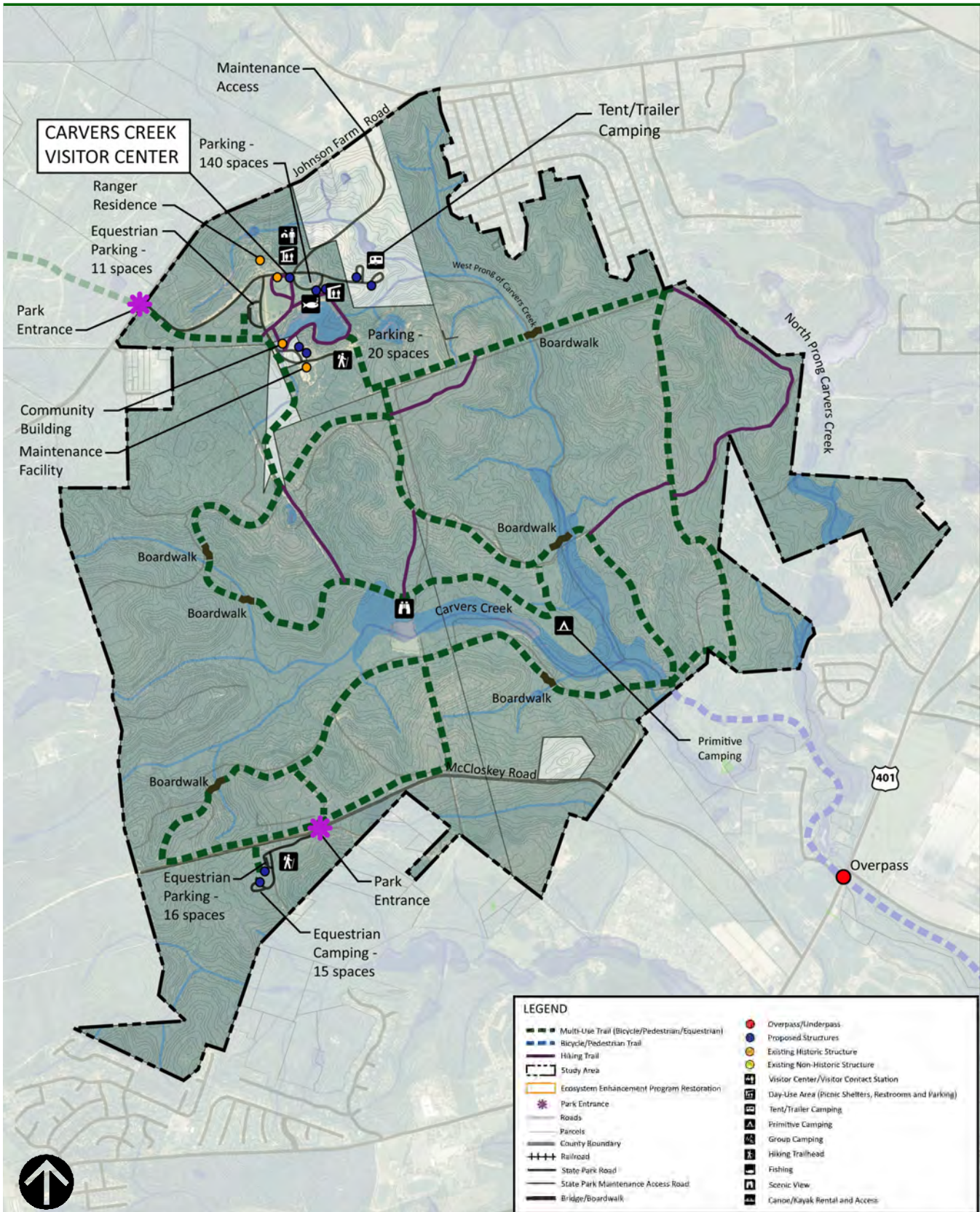


Figure 9.8 - Overall Plan of the Sandhills Section - Not to Scale

Sandhills Section

The Sandhills Section is centrally located within Carvers Creek State Park and is the location of the Visitor Center and an existing house that will become the Community Building. The park entrance is on Johnson Farm Road, and the internal circulation of roads and trails will link new park facilities and recreational activities. A secondary park entrance is located off of McCloskey Road to the south, where a second equestrian parking lot is located with a long term plan to include equestrian camping facilities. The main entrance utilizes the existing driveway corridor to reduce the need for clearing and grading. The road winds through existing trees and as the park visitor rounds a curve, the existing large rustic barn and the new Visitor Center comes into view across an open meadow. This main drive continues to the Visitor Center, the accessible fishing pier at the pond edge, shelters and restroom, and the camping areas. Another park road turns south before the meadow to the equestrian trailer parking lot, the Community Building, the trailhead parking lot, and primitive camping access points.

Recreational activities, such as primitive and tent/trailer camping, fishing, equestrian and pedestrian trail access, picnicking, hiking, and open play, are included at the Sandhills Section. Interpretation of the Sandhills ecosystem will be the key focus of the site. See Figure 9.8 for the overall plan for the Sandhills Section.

Carvers Creek State Park Visitor Center

The architecture of the new Visitor Center will be inspired by existing and typical Cumberland County farm buildings. The building will be designed using green building strategies with Leadership in Energy and Environmental Design (LEED®) certification as a goal. Green building techniques, such as daylighting, ventilation, solar power, and stormwater reuse, will offer additional interpretive opportunities for visitors. The Visitor Center can be a teaching facility for citizens in the community about ways to implement environmentally friendly features in their homes and neighborhoods. Exterior spaces around the building will allow for staging of school groups and outdoor classrooms. Interior spaces will include exhibit spaces, auditorium, concession, gift shop, small meeting room and classroom, restrooms, reception area and offices, as well as storage and mechanical areas. A drop off and 70 parking spaces are located adjacent to the Visitor Center. Overflow parking and parking for the accessible fishing pier, restroom, and two shelters totals another 70 spaces. Figures 9.9 and 9.10 show the Visitor Center and camping facilities at Sandhills.

Community Building and Other Facilities

Because the park will include both the Visitor Center and the Community Building, the building footprint of the Visitor Center can be smaller. Some functions that ordinarily would be located in the Visitor Center, such as large meeting spaces and storage, will be located at the Community Building instead. The following is a list of the existing buildings and structures that will remain at the park:

- Community Building - The existing house will be renovated to become



Existing maintenance buildings at the Sandhills Section



Existing large rustic barn



Longleaf pine ecosystem restoration areas



Figure 9.9 - Visitor Center and Community Building - Not to Scale

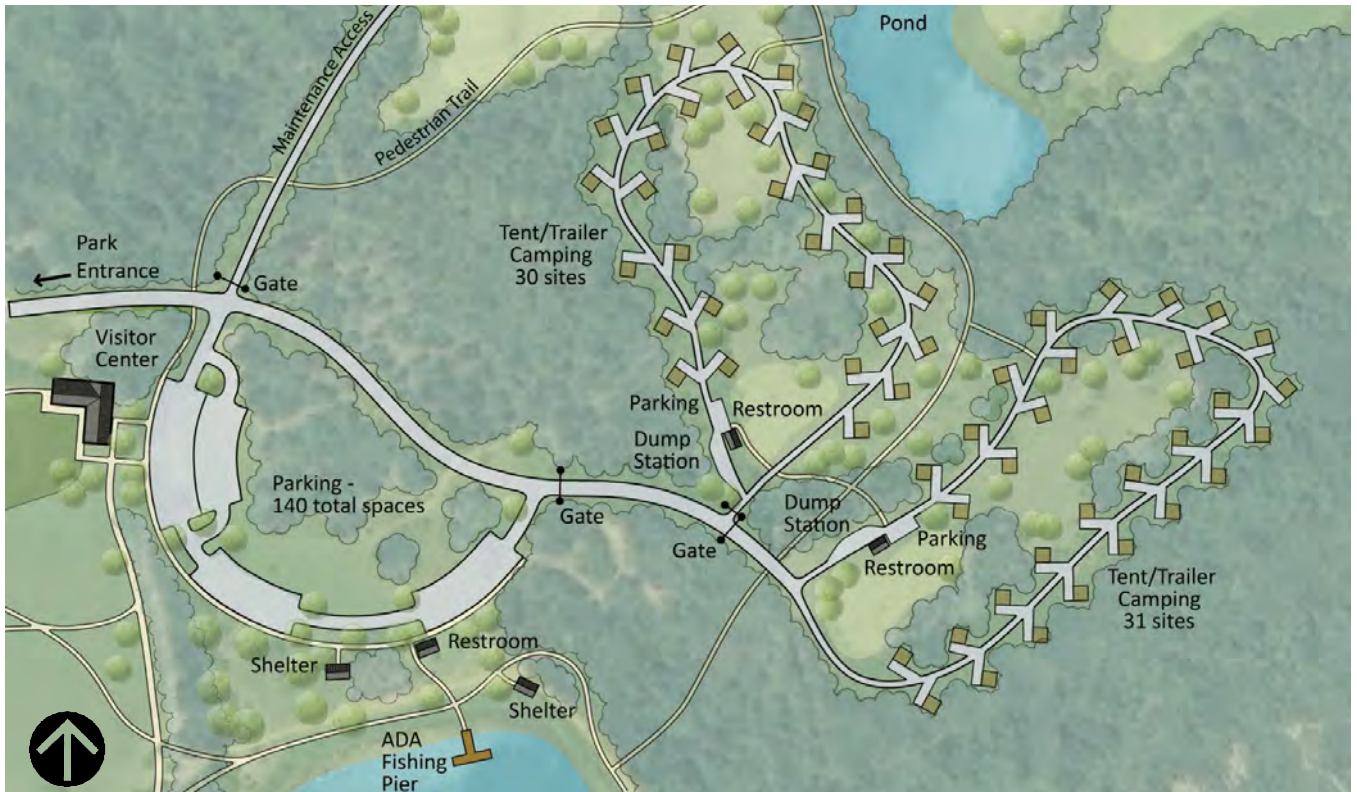


Figure 9.10 - Camping Areas - Not to Scale

a community building that will include meeting space, exhibit space, storage, and restrooms. Parking can accommodate 58 spaces. Scenic views across the pond will make this a popular rental space as well. Murals and artwork representing the Sandhills can be shown inside. The public could enjoy traveling exhibits and events such as wildlife photography, and acoustic music and guest speakers. An interpretive boardwalk, the pond shelter, and two picnic shelters will surround the Community Building.

- Maintenance Facility - The existing maintenance buildings will remain to form the basis for a large maintenance facility for Carvers Creek State Park. Additional fencing and screening will be needed to keep the area secure and obscured from view.
- Barn - The existing barn will be restored to serve as a rental space for large family gatherings, community classes, nature and art exhibits, school groups, and storage. The Barn and the Visitor Center will relate to one another architecturally and the open space between the two structures will be used by school groups and other visitors.

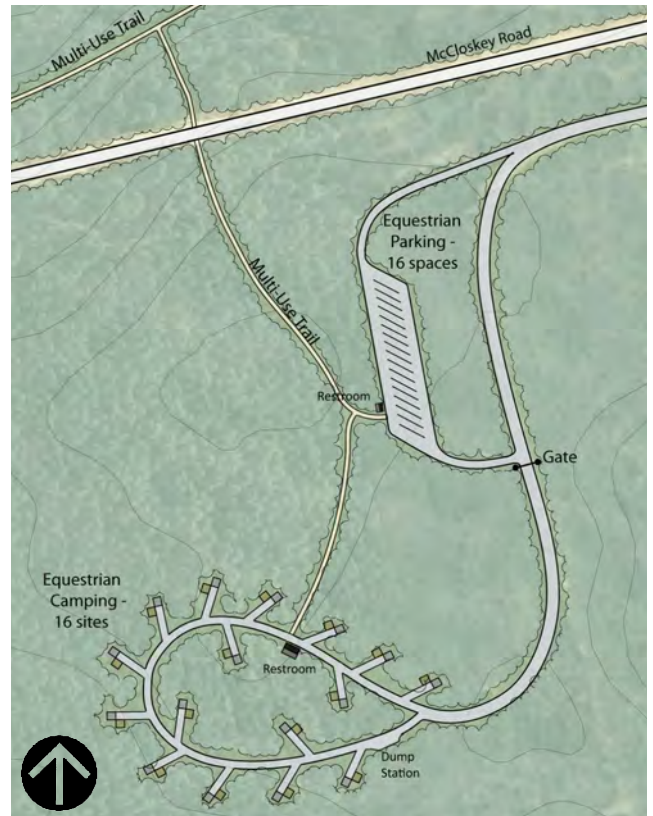


Figure 9.11 - Equestrian Camping - Not to Scale

Camping facilities at Sandhills include tent and trailer camping and primitive camping. Two loops of tent and trailer camping offer 61 campsites, complete with two restrooms, two pump stations, and parking areas. Campsites will be sited to take advantage of scenic views of existing vegetation, the small pond, and meadows. See Figure 9.10. Primitive camping facilities are located in a more secluded area, in a peninsula of land surrounded by Carvers Creek.

- Interpretive trails at the Sandhills Section should be accessible and have areas for resting. Boardwalks and overlooks take advantage of the lake and creek ecosystem. The ecological focus of the Sandhills will be expressed by the interpretive displays and exhibits. The longleaf pine ecosystem, fire ecology, forest restoration and management, plantation pine restoration, land stewardship, and water quality studies are all appropriate interpretive opportunities for the Sandhills Section.
- Equestrian parking and equestrian camping facilities are planned off of McCloskey Road. The facility will include 16 campsites, a restroom, dump station, and parking area. See figure 9.11.

Cape Fear River Section

The Cape Fear River Section is located at the eastern edge of the park, adjacent to the Cape Fear River. The park entrance is located on Carvers Falls Road and the internal road circulation follows existing roads. A ranger resi-

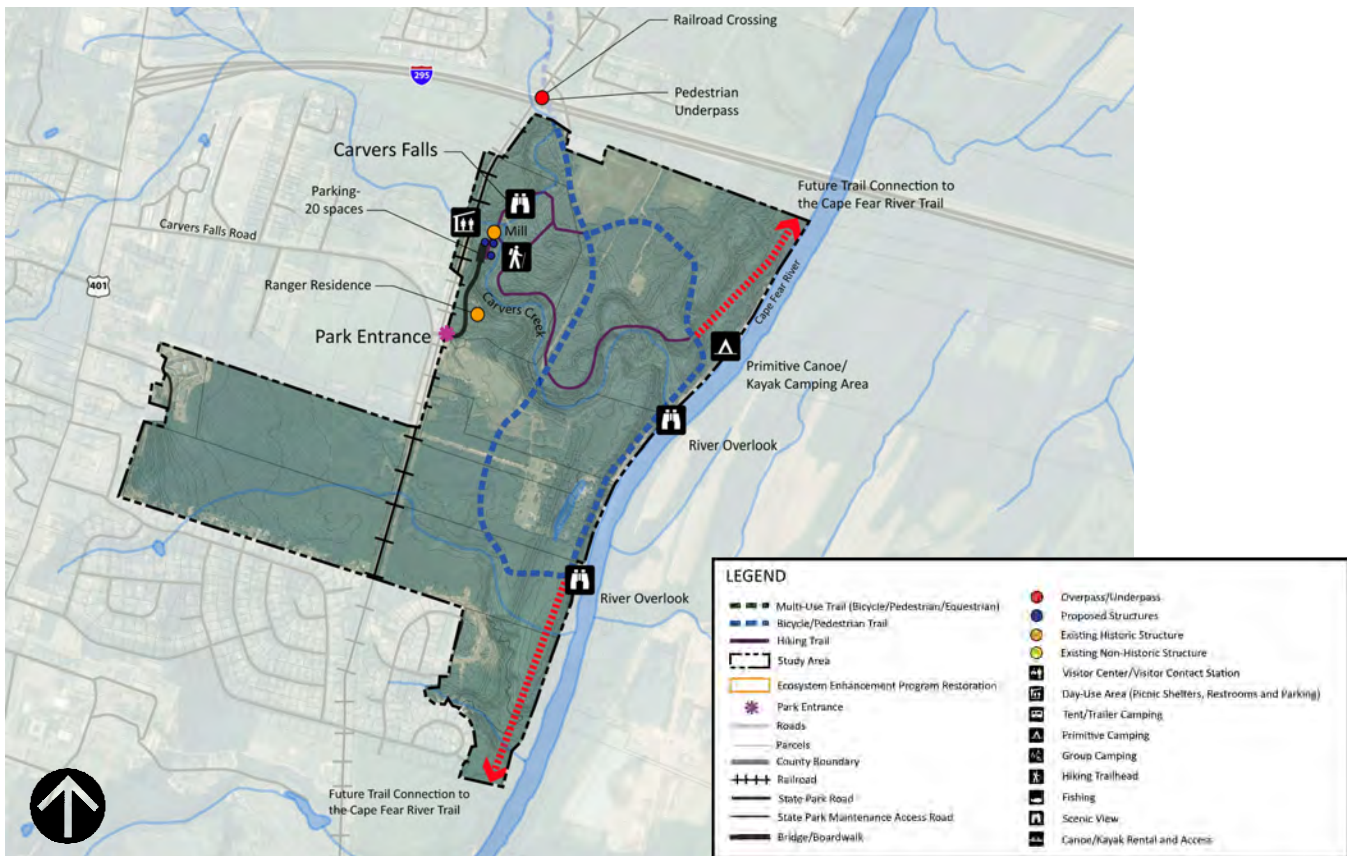


Figure 9.12 - Overall Plan of the Cape Fear River Section - Not to Scale

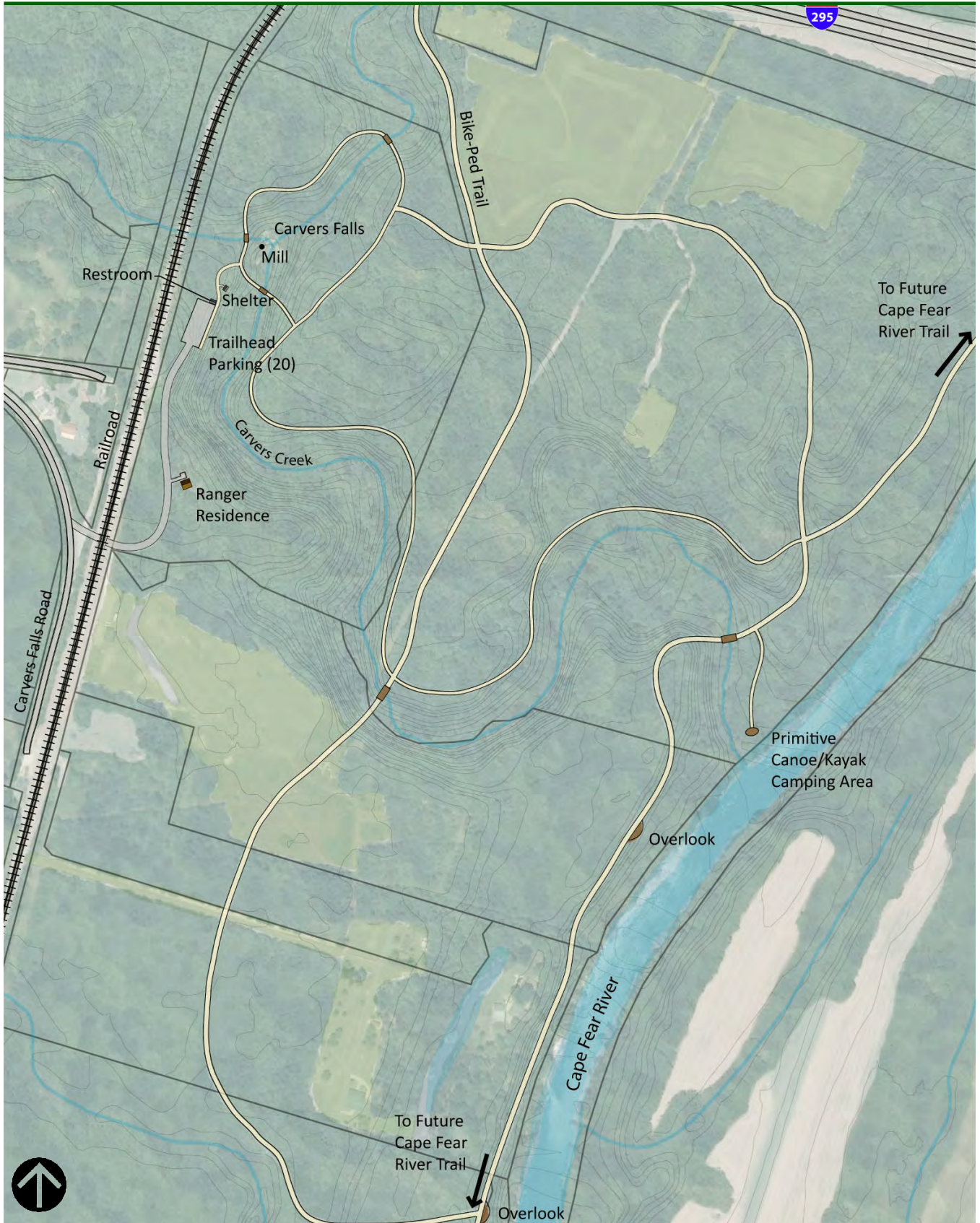
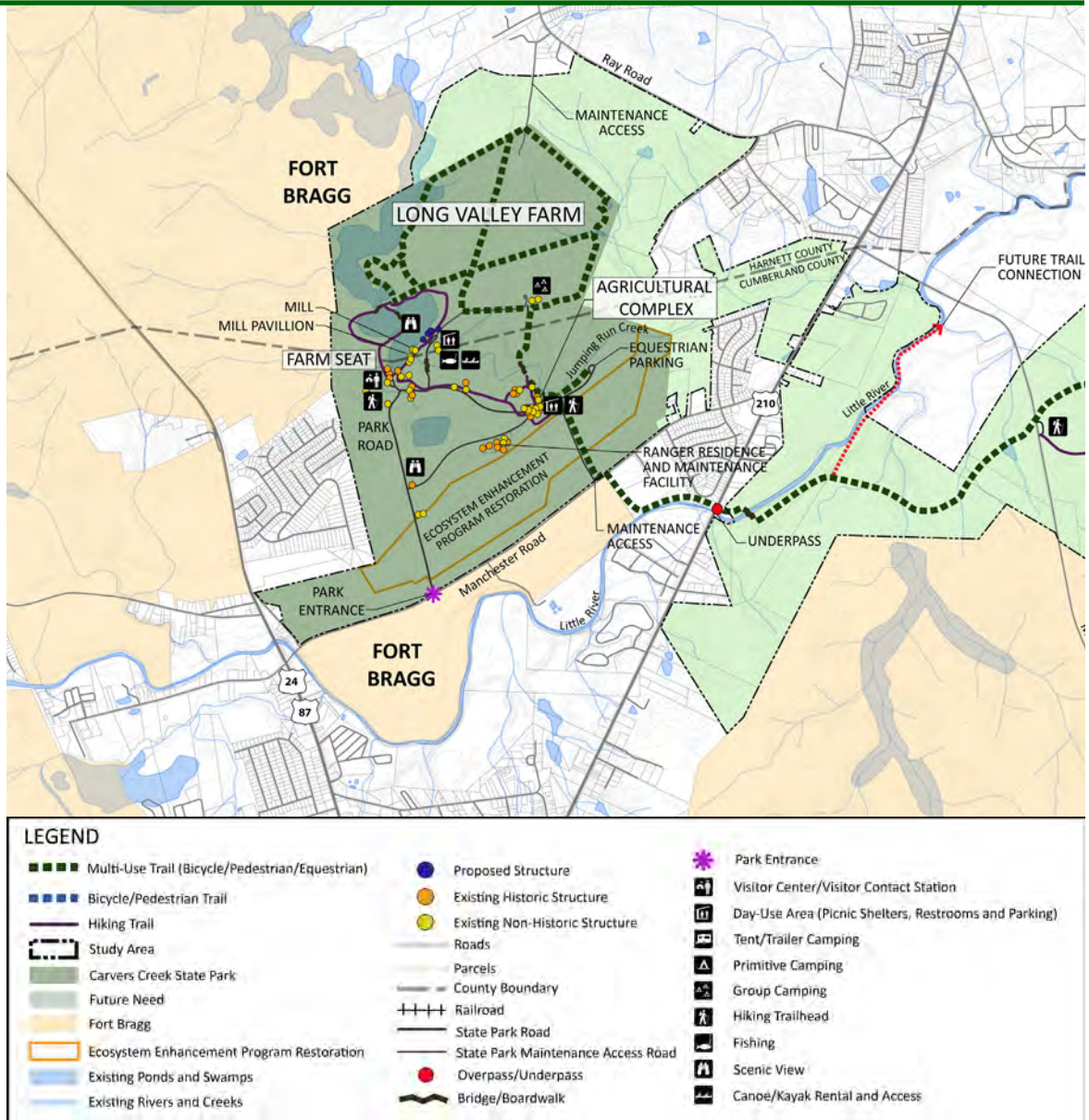


Figure 9.13 - Cape Fear River Section Plan - Not to Scale



dence will be located in one of the existing houses on the property. The park entrance drive will extend past the ranger residence to a day-use parking area for 20 vehicles. The day-use area includes a restroom, picnic shelter, and trailhead. Carvers Falls and the Cape Fear River will be accessible by trails. The main trail will extend through the site and end in a long loop at the Cape Fear River. Two river overlooks will be located along the river, as well as a primitive canoe/kayak camping area. See Figure 9.12 for the overall plan for the Cape Fear River Section.

Activities that will be offered at the Cape Fear River Section include enjoying scenic views of Carvers Falls and the Cape Fear River, fishing, bicycling, canoe/kayak access and camping, hiking, open play, interpretive trails, and picnicking. Figure 9.13 shows the plan in more detail.

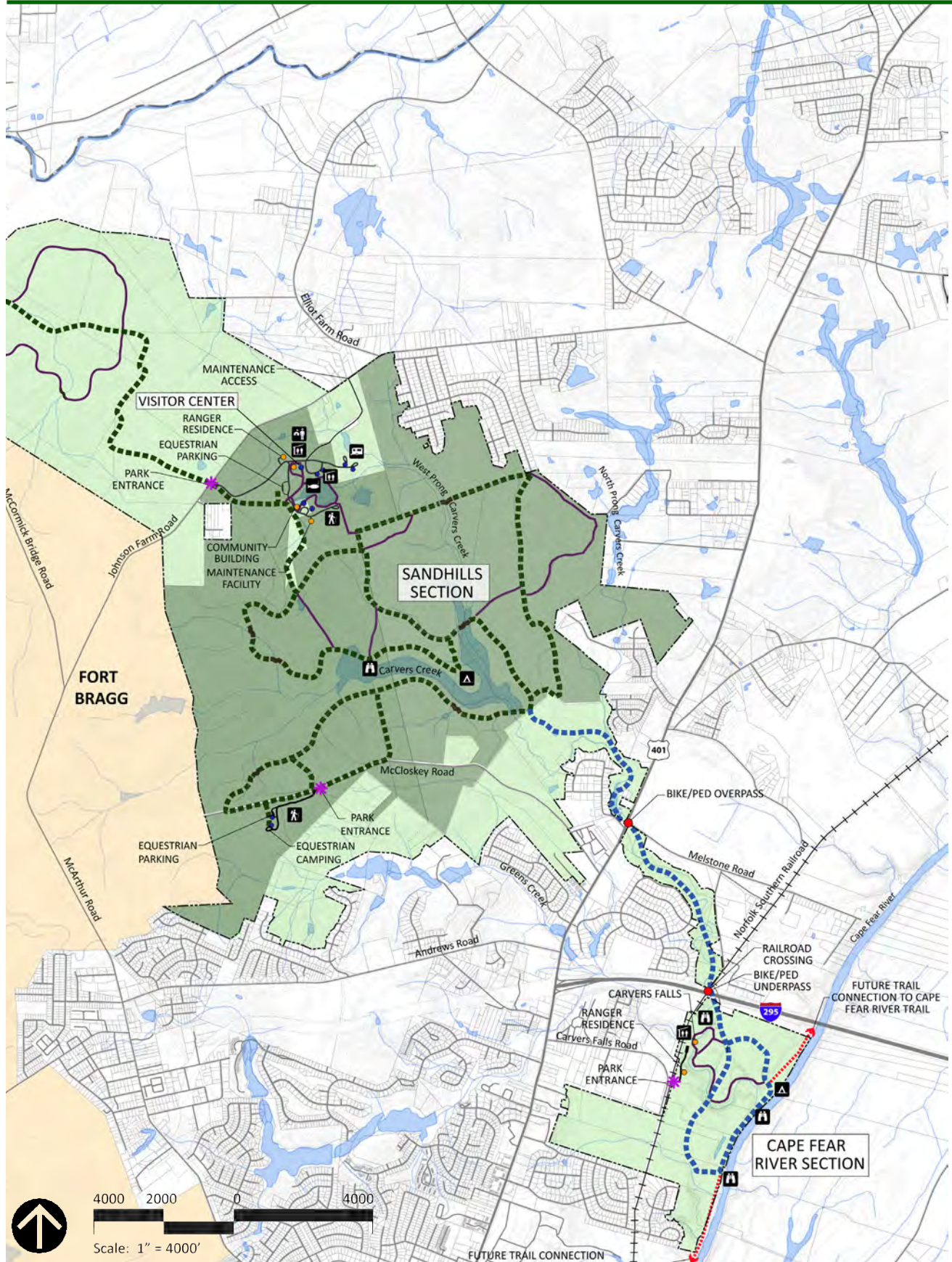


Figure 9.14 - Trail Network Map



Existing hiking trails at the Sandhills Section



Location of pedestrian underpass at NC 210

Trail Network

Natural resource protection, sustainability, accessibility, and connectivity are the primary goals of trail development within the park. Because the park is located in a rapidly developing area, connectivity to other parks and trail systems on a state, regional and local level is crucial for the success of this state park. In this master plan, a conceptual network of trails with different levels of intensity is shown. Maps and text represent an approximation of trail layout and design. On-site field verification and sustainable planning practices will be used to determine actual trail system design and construction.

A multi-use trail for equestrians, bicyclists, and pedestrians spans the length of the park. A portion of this trail from the Sandhills Section southeastern boundary to the Cape Fear River is not acceptable for equestrian use. With two on-grade road crossings on busy roads, such as US 401 and the Norfolk Southern Railroad, the consultant and the N.C. Division of Parks and Recreation staff determined that equestrian road crossings were not appropriate. Nonetheless, this main trail will connect the major facilities in the park for bicyclists and pedestrians from Long Valley Farm to the Cape Fear River.

Other trails will include pedestrian and bicycle trails, interpretive trails, and natural surface trails in less developed areas. Whenever possible, existing trails, farm roads, and fire maintenance access roads will be used for trail alignments in order to reduce the need for clearing. The trail network will include trails that are accessible for visitors that have mobility and other impairments to allow for use by a broad range of park visitors. Trail signs and interpretive waysides along trails will be placed in areas with educational information about the natural environment as well as historical interpretation. In highly sensitive areas, such as wetlands and stream corridors, boardwalks and overlooks will be built to allow park users another way to experience the site.

With a network of a variety of trails, users will be able to design their park experience to utilize trails that suit their level of accessibility, agility, and time availability. See Figure 9.14 for the trail network planned for Carvers Creek State Park.

Summary of Trail Network

- Approximately 22 miles of multi-use trails (equestrian/bicycle/pedestrian)
- Approximately four miles of bicycle/pedestrian trails
- Approximately eight miles of hiking trails
- Pedestrian underpass at NC 210 and I-295
- Road crossing at McCormick Bridge Road and Johnson Farm Road
- Pedestrian overpass at US 401

Trail Types

Multi-use Trail

Multi-use trails will be developed in corridors that are capable of supporting a broader range of users and will be designed to accommodate pedestrians, cyclists, and equestrians. On-site field verification will provide information to determine width, surface and proper sight lines to ensure user safety and reduce conflict.

Bicycle/Pedestrian Trail

This type of trail will be developed in corridors that are capable of supporting bicycle and pedestrian uses. On-site field verification will provide information to determine width, surface and proper sight lines to ensure user safety and reduce conflict between types of users.

Utilities

The water supply for Long Valley Farm will be provided by a six-inch water extension off an existing 24-inch line owned by Harnett County. The six-inch water line would provide a loop for fire suppression and potable water through the farm area and reconnect on the east side of the millpond to an existing line running to Fort Bragg.

The sanitary sewer for this portion of the park will be provided by septic systems which will need to be approved by Cumberland County. If construction of the water line extension were delayed, then the existing five wells on the site could be used as a water supply.

The water supply for the Sandhills Section will require an extension of the existing Harnett County water line for approximately one mile to the park entrance drive. An additional 1.5 miles of water line would be required through the park for fire suppression and potable water use. No sewer is available at this time, so and septic systems would be utilized.

Power will be supplied by Progress Energy, utilizing the lines that are already serving the existing buildings within the park.

Summary of Development Costs

Long Valley Farm

• Day-Use Development – Phase I	\$1,103,000
• Day-Use Development – Phase II	\$2,488,000
• Farm Seat Renovation	\$2,358,505
• Group Camp	\$473,250
• Agricultural Complex Renovation	\$1,284,000
• Multiuse Trailhead and Trail Improvements	\$640,000
• Maintenance Area Improvements	\$85,400
Total for Long Valley Farm	\$8,432,155

Sandhills Section

• Multiuse Trailhead and Trail Improvements	\$1,190,000
• Equestrian Campground	\$1,340,500
• McCormick Trailhead – land dependent	\$183,750
• Visitor Center and initial site development	\$6,083,000
• Maintenance Area Improvements	\$1,161,500
• Community Building and Day-Use – land dependent	\$1,087,500
• Tent and Trailer Campground – Loop 1 – land dependent	\$1,857,500
• Tent and Trailer Campground – Loop 2 – land dependent	\$1,461,500
• Ranger Residence	\$240,000
Total for Sandhills Section	\$14,605,250

Carvers Falls Section

• Cape Fear River Section Trail Connection – land dependent	\$2,135,000
• Cape Fear River Section Development – land dependent	\$2,698,000
Total for Cape Fear River Section	\$4,833,000

Total for entire park development: \$27,870,405