Chapter 5: Analysis and Alternatives

The purpose of this chapter is to provide a listing of the principle issues identified during the master planning process. Each item is explained and the alternatives and considerations are listed along with the preferred alternative.

Resource Designations

The master planning process addresses two potential designations, as established in state law, for Caumsett State Historic Park Preserve: Park Preserve/Park Preservation Areas designation and Natural Heritage Areas designations A third designation, the Bird Conservation Area (BCA) program, is not discussed in this section because a BCA was recently designated within the park and does not warrant revision.

Park Preserve/Preservation Areas

Article 20 of the Parks, Recreation and Historic Preservation Law outlines the process for designation of entire parks or portions of parks as part of a statewide Park Preserve system. Portions of parks may be designated as Park Preserve areas (PPAs).

Background for Analysis:
The Park Preserve law provides for designation of park land containing wildlife, flora, scenic, historical and archeological sites that are unique and rare in New York State. Designating the Park as a preserve would provide legal protection to all of the park's resources—natural, historic and archeological. A park-wide designation would also come with restricting the creation of developed areas. A developed area is considered any portion of the park that is paved or has another hard surface, or an area that contributes to the built environment of the park, or an area that is landscaped and not managed for habitat protection. This designation would also preclude moderate and high recreational use from occurring at the park. Existing compatible recreational uses can continue.
As stated in Chapter 3, there are vast natural resources in the park with 1,550 acres of contiguous acreage of forests and woodlands and approximately 105 acres of New York State designated wetlands. Caumsett is home to the largest remaining tracts of Coastal-Oak Hickory forest and Oak-Tulip tree forest left on Long Island. In addition, the low salt marsh, the shoreline along the Long Island Sound, and extensive open fields provide habitats for rare plants and animals, including rare and threatened species that are unique on the north shore of Long Island. The park is also listed on the National Register of Historic Places and contains unique historic and archeological resources.

Alternatively, the designation of a Park Preservation Area would provide legal protection for the area of the park with the highest ecological value. Future restrictions would apply only to the selected area.

Alternatives	Considerations
Alternative 1 Status Quo (No Park Preserve or Park Preservation Area)	• Does not recognize the significant natural features within the park. • Sensitive areas could continue to be susceptible to more intensive use/development pressure.
Alternative 2 Designate the entire park as a Park Preserve	• May limit certain activities (moderate and high intensity) within the park.

Alternatives	Considerations
	• Passive and low intensity recreational activities will be supported. • Would protect the park as a whole to ensure the land would be safeguarded against incompatible uses in the future. • Recognizes the importance of the site as a whole, instead of as individual areas that are not connected, and facilitates a comprehensive management approach.
Alternative 3 Designate a Park Preservation Area in selected locations within the Park. • Using the area just north of the polo stables as the southern border (extending the width of the park), extending north to encompass this entire section of the park.	• Designated areas would protect the most significant resources. • Passive and low intensity recreational activities will be supported. • Impacts to resources by more intensive recreational uses will be minimized. • Would leave areas with more intensive uses (equestrian center) out of the PPA, thus, ensuring that the PPA includes only the most notable natural resources of the park.

Preferred Alternative: Alternative 2

Natural Heritage Areas (NHA)

The goal of the NHA Program is to provide state land managers with a tool to recognize and assist in the protection of rare animals, rare plants, and significant natural communities on state-owned land. The New York Natural Heritage Areas Program (NHA) was established in 2002 in amendments to the Environmental Conservation Law (§11-0539.7). The NHA designation does not preclude existing or future land use proposals nor should the designation prohibit park development or operational needs. In order to be eligible for NHA designation an area must meet any one of the following criteria.

- provides habitat for "endangered species" or "threatened species" of animals or plants;
- provides habitat for rare species as defined by the Natural Heritage Program (NHP); or
- contains "significant ecological communities" where such term means all rare ecological communities that are rare in the state as well as outstanding examples of more common communities.

Unlike the Park Preserve Law (which provides some reference to recreational uses), there is no definitive statement in the NHA law on allowed uses or recreation. There is an implicit responsibility for the administering agency to assure that existing uses will not be detrimental to the viability of the identified rare, threatened or endangered species or significant natural communities. No provision in the NHA legislation is made to prohibit or hinder future recreational uses. The type and extent of any recreation/ development proposal would be evaluated in the context of the scientific criteria (that led to designation) and site characteristics and management recommendations.

Background for Analysis:
As noted earlier, the park contains ecological communities of considerable acreage that have been identified as significant by the NY Natural Heritage Program. The coastal oak-hickory forest is considered rare statewide and exhibits good to excellent structure and is moderately diverse for its type. The oak-tulip tree forest is considered rare in New York State and this occurrence within Caumsett is of high quality. The low salt marsh community, which is significant because it is rare statewide, is mostly found and is well established along the southern shores of Long Island and in protected bay areas along the north shore. The maritime beach community is considered significant because it extends uninterrupted for approximately 5,800 meters and is important nesting ground for birds such as the piping plover, least tern, common tern and roseate tern. In all, these unique significant communities total nearly 1,000 acres, and are worthy of recognition.

Alternatives	Considerations
Alternative 1 Status Quo (No Natural Heritage Area designation)	• Does not recognize the significant ecological communities of the park. • A greater awareness of the significance of the resources will not be created. • Significant natural communities and habitat for rare, threatened and endangered species will still be recognized and managed, but they would not be designated as a NHA.
Alternative 2 Designate a Natural Heritage Area • Using the area just north of the polo stables as the southern border (extending the width of the park), extending north to encompass this entire section of the park.	• Designated areas would provide recognition to the most significant ecological communities and rare species in the park. • Designate areas that meet the criteria of the law. • Would create a greater awareness of the significance of the resources. • The boundary would not necessarily coincide with other designations.

Preferred Alternative: Alternative 2

Natural Resource Management

It is imperative that the master plan outline strategies and provide direction for the management and protection of the park's natural resources. In doing so, the master plan will help carry out the natural resource goals outlined in Chapter 4.

Effective management strategies derive from a thorough understanding of the significance of each of the resources and elements of that resource. Compiling adequate research and background information and documentation is a critical first step toward defining significance and determining the appropriate management measures that are needed to preserve and protect these resources. The Natural Heritage report is a key step to gathering the types of information for planning and research necessary to preserving Caumsett. Additional data is also being gathered through the eelgrass restoration project and continued monitoring of plovers and terns provides excellent populations and productivity data. Additional information is needed in areas such as invasive species mapping and other wildlife data. Such information and additional research can guide decisions and will help OPRHP evaluate outcomes of management actions. This helps determine if goals are met and can provide a basis for adaptive management if our strategies are not producing desired results. It also allows for learning and can take into account new information. Other critical management strategies include developing and implementing a program for maintenance of natural resources, such as keeping out invasive species once control projects have taken place.

Wildlife and Nuisance Animal Management

Approximately 84% of the 330,000 acre State Park System is considered natural habitat. As a general rule State Parks follows a "passive management" approach, allowing natural processes to maintain wildlife populations. However, there are times when a more active management approach will become necessary in an effort to reach ecological balance.

It has been recognized that deer over-browsing is impacting the natural resources of the park. Deer impacts are mainly the result of preferential browsing of individual plants. Over time, preferred plant species may be eliminated or greatly reduced in abundance and non-preferred species become increasingly dominant. These changes in species abundance and composition can have serious effects at the ecosystem level. When deer suppress the regeneration of over-story tree species, those species will not be represented in the next iteration of the forest, thus changing the forest type. In addition, the loss of a tree species from a forest community greatly affects other organisms that depend on that species. Through the loss of species, deer can also impact forest ecosystems through the alteration of forest structure, including a rise in the number of and abundance of invasive species (Chapin 2008).

OPRHP, through an integrated approach actively manages wildlife on lands and waters under its jurisdiction to: protect the health and safety of park staff and patrons, protect species at risk, protect and enhance biodiversity, and prevent damage to park buildings or infrastructure. Habitat management in the support of wildlife populations and biodiversity is based on goals that lead to the appropriate functioning of local ecosystems. Wildlife management generally begins at the facility level with an evaluation of the need for a management activity by the facility manager and staff, with input and documentation and evaluation of impacts as needed by the Environmental Management Bureau (EMB). Wildlife management activities are conducted in consultation with the Regional Office, the EMB, and the DEC. Nuisance animals such as feral populations of domestic animals are handled in a similar manner.

Deer management is a statewide issue and OPRHP will continue to participate in strategy development and implementation with the understanding that such actions must be done in accordance with the agency's recreation and resource protection mission.

Invasive Species Management

Background for Analysis:
Invasive species are defined as species (e.g. plants or animals) non-native to the ecosystem under consideration that cause or are likely to cause economic or environmental harm or harm to human health.

Invasive species can develop extremely large populations, usually due to a lack of competition or predation, thereby causing adverse effects such as a loss of wildlife habitat and impacts to landscapes and ecosystems. A number of invasive plant species exist in the park. No invasive animal species are known at this time. All of the invasive plant species represent a threat to the native plants and animals of the park. A botanical inventory by Greller *et al.* (2005) found that about a third of the flora of Caumsett is comprised of species not native to North America. Although a small percentage of non-native plants are invasive, some non-native plants will take decades before establishing invasive populations. The control of invasive species is a key element of the agency's priority initiative of natural resources stewardship. In establishing priorities for invasive species control, OPRHP considers the degree of threat to biodiversity, including ecological communities and rare and other native species, as well as operational and health concerns.

Many native plants have historical and cultural significance, and maintaining communities of native species is thus an important aspect of preserving our heritage. For restoration and landscaping, native plants often have better survivorship and vigor because they are well adapted to the native habitat and local climate. Selection of plant species or communities of species should be site specific, taking into consideration the natural, ecological, historic, archeological, and aesthetic elements in the immediate areas as well as the management goals of the park or site.

An invasive species control program has been established in OPRHP with the overall goal to preserve biodiversity and reduce the threat of invasive species to parkland resources. OPRHP's statewide strategy for management of invasive species works in concert with multi-agency state and regional partnership efforts. An invasive species management plan for Minnewaska State Park Preserve serves as a model for other such plans on state park lands. The Minnewaska plan contains information and tools needed to develop these plans for other parks and historic sites, and presents ways that facilities and managers can address invasive species while restoring native species.

Alternatives		Considerations
Alternative 1	Status Quo	• Natural habitats and park operations will continue to be impacted by invasive species. • No plan to prevent introduction of other invasive species, including animals that may impact resources

Alternatives	Considerations
Alternative 2 Work to eradicate and prevent all invasive species (flora and fauna) All known occurrences of invasive species in the park would be identified and control work would be initiated to remove them from the park.	• Removal of these species, followed by native restoration of the area, would result in improved habitat values and functions. • For some invasive species found in the park, there are currently no known successful eradication techniques • Continued surveys and maintenance would be required to keep invasive species from re-invading the park.
Alternative 3 Work to eradicate and prevent all invasive species from sensitive habitats In lieu of total control of all invasive species throughout the park, this alternative would focus control efforts on areas where invasive species could have a serious negative effect on a sensitive habitat. This would include the Fresh Pond, low salt marsh and terrestrial forests communities. In terms of control efforts, these two areas represent relatively small, manageable areas where invasive species presence poses a serious threat to the quality of a rare species or significant habitat.	• Removal of these species, followed by native restoration of the area, would result in improved habitat values and functions in sensitive habitats. • Considerable resources would be saved when compared to managing invasive species across the entire park. • Focusing efforts at these locations would help to ensure that these habitats remain and/or improve their current condition if invasive species are currently present. • Continued successful management of some invasive species requires outreach and coordination with landowners beyond the park's boundaries.

Alternatives	Considerations
Alternative 4 Eradicate and prevent new or recent infestations by developing an Early Detection/Rapid Response (ED/RR) plan and using Best Management Practices (BMPs) to prevent accidental introduction through construction, operations and other activities. Continue precautions regarding invasive forest pests through tree survey and monitoring. Most of the "historic" invasions are either beyond the agency's ability to control or their effects have already been realized by the ecosystem. New invasions, however, have the potential to spread well beyond their current state in the park and lead to unknown levels of impacts. Under this alternative, parks staff would work to eradicate current, known recent invasions and to preclude the establishment of new invasive species. OPRHP will follow guidance established in a template for State Parks invasive species management plans for establishing priorities and planning control projects.	• Removal of these species, followed by native restoration of the area, would result in improved habitat values and functions. • Invasions of the park's environs by recent or yet undetermined invasive species would be controlled, reducing the impacts from invasive species or in some cases removing the species before they have a chance to have a measureable impact on the environment. • When invasive species are not yet present, prevention of new infestations is the most effective means of controlling invasives. This is carried out through BMPs or procedures set in place to minimize spread of invasive species, such as proper material disposal and equipment cleaning methods. Managing invasive species at the early stages of introduction tends to be more successful and less demanding than managing well-established populations of invasive species. • Controlling invasive species, even in the initial stages of exposure, can sometimes be difficult and demanding of resources. • Those species determined to be in the initial stages of invasion would have to be eradicated. Then, effort would be required to educate park staff and regularly survey the park for invasive species. • Once a new invasive species occurrence is discovered, parks resources would be utilized to eliminate the threat. • Additional resources are available for assistance, particularly for species new to the state or region, through state invasive species program funding, ISC member agencies and LIISMA.

Preferred Alternative: Combination of Alternatives 2, 3 and 4

Low Salt Marsh Management Strategy

Background for Analysis:
As noted in earlier sections of this chapter and plan, the low salt marsh is a unique and significant ecological area of the park. The marsh is located in the northwest corner of the park and comprises 89 acres of the park. During the summer, the adjacent Sand Hole is a popular destination for boats to moor and people to come ashore. People are also seen using personal watercraft in the marsh during high tide which is a concern for the health of the salt marsh. At this time, there is little environmental interpretation signage at this location. In addition, areas of the marsh have become infested with common reed, which is an invasive species.

Alternatives	Considerations
Alternative 1 Status Quo	• The salt marsh would be left as is.
Alternative 2 Develop a dedicated walkway that would extend from the trail into the salt marsh to better control access from the park to the salt marsh	• Would require coordination from state and federal agencies for permits. • Would help protect the marsh by providing a dedicated walkway into the marsh and keep patrons from wading too far into the marsh and damaging vegetation and/or introducing invasive species.
Alternative 3 Remove and control invasive species using Best Management Practices (BMPs) and restore native plants	• Removal of *Phragmites australis*, Common Reed, and other invasive species would foster native vegetation and provide better nesting habitat.
Alternative 4 Develop signage for the salt marsh	• Would help inform the public about the function and importance of the salt marsh. • Would improve and forward environmental interpretation goals outlined in the plan. • Would highlight the ecological sensitivity of the salt marsh.
Alternative 5 Acquire adjacent land to further protect the marsh	• Would require a commitment of funding to acquire the land. • Would further protect the low salt marsh and control access to the area.

Preferred Alternative: Combination of Alternatives 2, 3 and 4

Maritime Beach Management Strategy

Background for Analysis:
The beachfront at Caumsett has been identified as one of the best examples of a maritime beach in the state. In addition, the beach is home to federally endangered and threatened species of colonial nesting birds. While the habitat is considered of good quality, there are threats from humans and nuisance wildlife that could potentially jeopardize the habitat. With rising sea level and other natural changes occurring along the shoreline, the area is in a constant state of flux.

Alternatives	Considerations
Alternative 1 Status Quo	• Leave the shoreline as is. • Would continue with the fencing for piping plovers and other threatened bird species.
Alternative 2 Engage in natural shoreline and dune restoration best management practices	• Allow for erosion and other natural changes to the shoreline and dunes that occur as a result of tides and storms. • Avoid bulkheading, rip-rap or other forms of shore hardening.
Alternative 3 Educate and inform the public about the shoreline	• Continue to install fencing to keep people away from sensitive areas. • Develop signage to help interpret the significance of the area, especially near the Sand Hole and to also remind people that dogs are not allowed in the park.
Alternative 4 Monitor the area for raccoons and foxes as they are all threats to shoreline birds	• Would need to humanely trap and relocate these animals. • Could potentially partner with Volunteers for Wildlife or similar organizations to assist with this effort.

Preferred Alternative: Combination of Alternatives 2 and 3

Fresh Pond Management Strategy

Background for Analysis:
Fresh Pond is one of the major water features of the park and adds environmental and scenic value to the park. The pond has been described as a natural pond, but it was historically deepened and widened to support trout species (Greller *et al.* 2005). On the north the pond is bordered by a narrow strip of dune and beach and at one time the pond may have been connected to the Long Island Sound. Rare plant species can be found near the pond and, in recent years, there has been a noted increase in the presence of Common Reed (*Phragmites australis*) at the pond. Eutrophication has also been identified as an issue for Fresh Pond.

Alternatives	Considerations
Alternative 1 Status Quo	• Leave the pond as is.

Alternatives	Considerations
Alternative 2 Mitigate invasive species to encourage the growth of native plant and animal species and institute regular water quality monitoring measures	• Invasive species are a threat to biodiversity. • Remove invasive species from the pond and monitor the site for future growth. • Allow native species to propagate. • If necessary, plant native species. • Water quality monitoring would provide important data that will help better manage the pond.
Alternative 3 Reroute trails away from pond's edge and construct an observation deck	• Would keep park patrons away from sensitive areas and reduce addition of contaminants and nutrients to the pond. • Would provide more controlled access to the pond. • Proposed observation deck will be designed so as not to impede the view of the Sound from the Main House. • Would require updating existing trail maps. • Would require signage to reroute park patrons.
Alternative 4 Add signage or fencing to keep people away from sensitive areas	• Would protect the environmentally sensitive areas of the pond. • Would alert people to the sensitivity of the area.
Alternative 5 Allow fishing at Fresh Pond	• Could potentially degrade the ecological value of the pond. • Would attract more people to the pond's edge, a sensitive habitat.

Preferred Alternative: Combination of Alternatives 2 and 3

Endangered Species Management Strategy

Background for Analysis:
The park supports a large population of piping plovers which are federally and state-listed as an endangered species. In addition, there are also large least tern and common tern populations at the park. The piping plover breeds on sandy beaches where patches of grass are present. Unfortunately, nearly everywhere in New York the piping plover shares its habitat with humans, whose activities are often in conflict with the survival of the plover and their chicks.

Alternatives	Considerations
Alternative 1 Status Quo: Continue to protect shorebird habitat	• The park has actively managed the plover and tern nesting areas in accordance with the federal and state guidelines for these species. • Park and regional staff identify nesting sites

Alternatives	Considerations
	and fence off areas to protect the nests during the breeding season. • Continue to exclude vehicles and dogs on the beach.
Alternative 2 Develop signage for Sand Hole to inform boaters of the ecological sensitivity of the area.	• Would help inform park patrons about the area when park staff is not present. • May assist in deterring people from coming ashore at this location.
Alternative 3 Monitor and control predator species in this area	• Could partner with Volunteers for Wildlife to help in the control of the raccoon, fox and feral cat population. • Install predator exclosures around plover and tern nests to provide additional protection from predators.

Preferred Alternative: Combination of Alternatives 1, 2 and 3

Successional Old Field Management

Background for Analysis:
There are areas of the park that contain successional old fields and which are currently managed in accordance to the Bird Conservation Area (BCA) management guidelines. These fields provide important habitat for birds and other wildlife.

Alternatives	Considerations
Alternative 1 Status Quo	• Continue to manage 90% of the fields at the park for birds and wildlife habitat, as well as historic significance. • Restrict mowing activities to dates outside of peak nesting periods for birds that depend on this habitat (preferably after August 15, or if spring mowing is necessary, prior to May 1). • Mow fields frequently enough to prevent establishment of woody vegetation (shrubs and tree saplings); at least every other year.
Alternative 2 Allow some fields to revert back to forests	• Would detract from the grassland habitat of the park. • May improve habitat for other wildlife. • Some fields in the park are mowed for their value as an historic landscape and allowing them to revert to forest could detract from the historic significance of the park.

Alternatives	Considerations
Alternative 3 Develop Successional Old Field Management Plan	• Would provide improved management guidelines specific to the fields at the park. • May improve the habitat for birds and other wildlife. • A plan could be developed with the assistance of the Caumsett Foundation and other organizations such as the Long Island Botanical Society.

Preferred Alternative: Alternatives 1 and 3

Cultural Resource Management

It is imperative that the master plan outline strategies and provides direction for the management and protection of the historic and cultural resources of the park. In doing so, the master plan will help carry out the historic and cultural resource goals outlined in Chapter 4.

Effective management derives from a thorough understanding of the significance of each of the components that contributes to the historic resource. Compiling adequate research and documentation is a critical first step toward defining significance and determining the appropriate measures that are needed to preserve and protect these resources. The kinds of planning and research documents that are necessary to preserving Caumsett include a Cultural Landscape Report (CLR) and Historic Structure Reports (HSR) for at least the principle buildings. Other critical management strategies include developing and implementing a cyclical maintenance program for both historic structures and historic landscapes/gardens.

The management zone planning summary (Appendix G) provides a basis for making decisions about the use or treatment of historic buildings and landscapes prior to completing a CLR. The park is divided into 11 zones, each representing a distinct part of the former Field estate.

Cultural Landscape Report

Background for Analysis:
According to the National Park Service (NPS) Preservation Brief #36, a Cultural Landscape Report (CLR) is, "…the primary report that documents the history, significance and treatment of a cultural landscape. A CLR evaluates the history and integrity of the landscape including any changes to its geographical context, features, materials, and use. CLRs are often prepared when a change (e.g. a new visitor center or parking area to a landscape) is proposed. In such instances, a CLR can be a useful tool to protect the landscape's character-defining features from undue wear, alteration or loss. A CLR can provide managers, curators and others with information needed to make management decisions." A CLR has not been completed for Caumsett.

Alternatives	Considerations
Alternative 1 Status Quo	• Design and siting of proposed changes to the park (e.g. a new visitor center and parking areas) would be lacking basic information regarding the original construction and design.
Alternative 2 Develop a Cultural Landscape Report	• Would inform future decisions with respect to siting and design. • All of the proposed recommendations in this chapter would benefit from a CLR.

Preferred Alternative: Alternative 2

Historic Structure Reports

Background for Analysis:
A Historic Structure Report (HSR) provides detailed information about a building's design, construction and use. This information is essential to evaluating its historic character, significance and integrity, and in making educated decisions about its treatment. HSRs are broadly acknowledged as critical tools in preservation planning. HSRs are especially important for buildings that are undergoing a change in use or occupancy, where the report can serve as a basis for identifying alternative to achieving compliance with building codes and the ADA.

None of the historic buildings within the park has a HSR. In the absence of such a document, decisions concerning the repair or replacement of deteriorated elements may be based on inadequate or faulty information.

Alternatives	Considerations
Alternative 1 Status Quo	• No building in the park has a HSR.
Alternative 2 Develop Historic Structures Reports	• Would inform future decisions with respect to rehabilitation and/or reuse.

Preferred Alternative: Alternative 2

Archeological Resource Survey

Background for Analysis:
There is a long history of occupation and use of the lands encompassing the park dating back to pre-historic periods. Evidence of occupation during later historic periods, including the Lloyd family and British encampments, have been documented, though many of the structures built for the Field estate have been demolished.

An archeological resource survey (Phase 1A) provides critical information regarding the type and location of known or suspected archeological sites and features. The information obtained from such a survey is important for guiding other development and protecting important archeological resources. A comprehensive survey of the park has not been conducted, putting these resources at risk of damage or destruction from a broad range of activities.

Alternatives	Considerations
Alternative 1 Status Quo	• The archeological data documented for the park has been done on a site by site basis. • There is no comprehensive survey of the park, thus requiring individual surveys for any ground-disturbing activities.
Alternative 2 Conduct a archeological survey report—Phase 1A	• Would inform future decisions with respect to development and protection of archeological resources.

Preferred Alternative: Alternative 2

Vacant/Underutilized and Deteriorated Structures

There are several historic buildings within the park that are either vacant or underutilized. Vacant structures are more prone to deterioration and vandalism, and they generally do not receive routine maintenance or inspections (which can catch minor problems before they escalate). Appendix D details all of the buildings within the park with an extensive history of each building. Appendix G provides a listing of all of the buildings and notes their condition, historic and current uses, and the appropriate potential future use.

Main House

Background for Analysis:
The main house served as the primary residence of the Field family when they were in residence. It was designed by John Russell Pope and constructed from 1923-25. The house is a 2-story Georgian Revival style building containing over 75 rooms. Two wings were removed and several interior spaces remodeled during the 1950s, under the direction of Ruth Pruyn Field.

Adjoining the main house are two broad terraces and ornamental gardens. The gardens and terraces are important features of the estate's historic designed landscape.

Queens College operated an environmental studies program out of the building for many years until their agreement expired in 1998. Since then, the building has been used only intermittently for special programs and meetings. It is largely unoccupied and unused for most of the year.

The main house is considered to be the most important structure associated with the Field estate and retains most of its historic architectural features. However, the existing mechanical, electrical and plumbing systems are antiquated and the building has not been adapted for handicap accessibility.

Alternatives	Considerations
Alternative 1 Status Quo	• The Main House is used minimally during the warmer months of the year. • Few park resources are allocated to take care of the building.
Alternative 2 Develop a guided and self-guided tour of the building to interpret the history of the Field Estate and Educational Programming	• Would help interpret a major historic resource in the park. • Could also include environmental education. • May require alterations to comply with building code.
Alternative 3 Seek proposals from potential licensees to occupy and use the house in a manner that is consistent with its historic use while preserving its historic architectural character. Ensure some public access component as part of any adaptive use proposal.	• May constitute a change in occupancy/use and may require alterations to comply with building code. • The setting is unique, scenic and in a desirable location on Long Island. • Must be economically viable for OPRHP. • Would provide non-state resources to support operation and maintenance of an important building and provide at least

Alternatives	Considerations
	some public access to principle interior spaces for interpretation and use.
Alternative 4 Demolish the Main House	• The park would lose a major contributing structure that is part of the National Register of Historic Places. • Demolition of the house would constitute an "adverse impact" under NYS historic preservation law and may jeopardize the property's eligibility for listing in the National Register of Historic Places.
Alternative 5 Use Main House for public programming and exhibit space	• Would be a viable use for the house during the warmer weather. • May require alterations to comply with building code.

Preferred Alternative: Alternatives 2, 3 and 5

Winter Cottage

Background for Analysis:
The Winter Cottage was designed and built as an integral part of the initial estate development. It is a modest 2-story Colonial Revival style building containing about 14 rooms. As with the main house, the Winter Cottage includes outdoor terraces and formal gardens. The building and landscape are essentially intact retaining most of its original features and materials (including mechanical, electrical and plumbing systems).

Nassau County BOCES utilized the Winter Cottage for overnight lodging as part of their residential environmental education program until about 2003. The building is currently used only minimally for storage and as a meeting space for park staff and the Caumsett Foundation.

Alternatives	Considerations
Alternative 1 Status Quo	• Would continue to be operated for storage and meeting space. • Does not provide much in the way of public access.
Alternative 2 Seek proposals from potential licensees to occupy and use the house in a manner that is consistent with its historic use while preserving its historic architectural character. Ensure some public access component as part of any adaptive use proposal.	• Is relatively close to the entrance and main parking area. • May constitute a change in occupancy that may require alterations to comply with building code. • Would provide non-state resources to support operation and maintenance of an important building and provide at least some public access to principle interior spaces for interpretation and use.

Alternatives	Considerations
Alternative 3 Use main floor as public programming and exhibit space	• Would be a minimal investment to develop the space. • May attract visitors to the park. • Would be a viable use without impairing the historic integrity of the structure.

Preferred Alternative: Alternatives 1, 2 and 3

Polo Stables

Background for Analysis:
The polo stable and lower stable are original structures from the Field estate that are associated with the equestrian operation at the park. The polo stable, designed by John Russell Pope, is a large 2-story building in a Beaux Arts/Baroque revival style. The building was set in a large open field along the estate's main entrance drive with an enclosed courtyard at the main entrance. The interior and exterior of the polo stable is substantially intact and unaltered from its historic appearance.

Both the polo stable and lower stable (along with two modern buildings) are leased to a concessionaire who operates a horse boarding and riding business. The buildings are mostly used as they were during the Field era of the estate, albeit more intensively. The lower stable remains largely unaltered within a separate field southeast of the main equestrian operation. The electrical system within the polo stable is antiquated.

Two modern butler-style barn buildings, one housing an indoor riding ring and the other providing additional stalls for boarding horses, were built within the large open field north of the polo stable. These modern buildings are wholly out of character with the rest of the estate's architectural design and are visually intrusive.

The equestrian operation has a significant impact on park operations. Approximately 84 horses are boarded at the stables; many other people trailer their horse into the park to use the equestrian center. According to 2008 attendance data, approximately 48,000 trips were made to the park exclusively to use the equestrian facilities. The concessionaire has expressed interest in expanding the operation by constructing a second indoor riding rink and building additional stalls to accommodate more boarders. Parking in and around the stables is haphazard, has damaged some of the historic plant materials and may be contributing to ponding and poor surface drainage.

Alternatives	Considerations
Alternative 1 Status Quo	• Infrastructure upgrades will continue to be an issue. • Would not bring additional horses to the park. • Ponding and poor drainage would continue to be a problem.
Alternative 2 Upgrade electrical and mechanical systems at the Polo Stables and surrounding buildings as necessary	• Would improve the operations and viability of the structures. • Would improve safety—improve lighting.

Alternatives	Considerations
Alternative 3 Expand equestrian operations.	• Any expansion (buildings or riding fields) would impact undeveloped areas of the park. • Would require further assessment to determine the horse capacity for the licensed area and park. • Would bring additional horses and cars to the park. • Would require further assessment to determine how this expansion would impact the park at large.
Alternative 4 Renovate or demolish non-historic structures. All renovations and designs will be architecturally and aesthetically compatible with the park.	• These buildings are not original to the estate. • These buildings are visually intrusive. • Would allow for the construction of more aesthetically and compatible buildings. • The size of any new building (or buildings) would be limited in order to preserve the historic character and appearance of the polo stable and environs • No more than 84 horses would be boarded. • Any development would not exceed the existing footprint of the existing structures.
Alternative 5 Improve parking area for the equestrian center using pervious surfaces.	• Current parking situation is haphazard. • May improve the aesthetics of the parking area. • Accessible parking would be provided.

Preferred Alternative: Combination of Alternatives 2, 4 and 5

Greenhouses

Background for Analysis:
The greenhouse complex consists of a range of seven stock glass houses manufactured by the Lord and Burnham Company for the Field estate. The greenhouse complex was built in 1926-27 adjacent to the estate's walled garden and provided fresh fruit, vegetables and cut flowers for the estate.

The brick head house is severely deteriorated; however, the concrete, metal and wood framework of the glass houses is largely intact. The structure is adjacent to the walled garden, which has been rehabilitated and used for special events and passive recreation.

Alternatives	Considerations
Alternative 1 Status Quo	• The greenhouses will continue to deteriorate and become structurally unsafe without intervention.

Alternatives	Considerations
	• The greenhouses are not open to the public and are not actively maintained, but are adjacent to a primary public space -- the rehabbed walled garden.
Alternative 2 Restore greenhouses and use for community supported agriculture	• Could be used in conjunction with the walled garden for self-guided tours. • Could be used by the community as a space to grow crops. • Would clean-up, make safe and improve the condition of the greenhouses, but a high cost would be associated with doing so.
Alternative 3 Stabilize and adapt the greenhouses for a new use (passive recreation and/or interpretation)	• Would interpret the greenhouses and allow park patrons to experience this area of the park. • Would clean up, make safe and improve overall the condition of the greenhouse, but will not restore the structures. • Could be used for an outdoor exhibit space.

Preferred Alternative: Alternative 3

Summer Cottage

Background for Analysis:
The Summer Cottage is a significant, contributing structure to the National Register listing. Its historic structures and landscape are essentially intact and associated with the property's period of significance. The Summer Cottage and nearby Girls cottage were used as guest housing during the Field era of the park. Today, the Summer Cottage is part of the licensed area for Nassau County BOCES. It is primarily used as offices and for environmental education. The Girls Cottage is a residence associated with Nassau BOCES.

Alternatives	Considerations
Alternative 1 Status Quo	• The buildings are used in conjunction with the environmental education programming provided by Nassau BOCES. • Nassau BOCES has been a long-time partner and licensee in the park.
Alternative 2 Utilize the building as office space or environmental programming	• Environmental programming would require additional staff or volunteer time. • Could provide office space for the Caumsett Foundation. • Could house a temporary exhibit. • May require interior alterations to comply with building code.
Alternative 3 Find a use for the building that is	• May constitute a change in occupancy that

Alternatives	Considerations
compatible with the historic character of the park, as defined by the Management Zones table in the appendices of this document. Develop a historic structure report.	may require alterations to comply with building code.

Preferred Alternative: Alternative 1

Power and Pump House

Background for Analysis:
The power and pump house was built for Marshall Field to provide electrical power and distribute water throughout the estate. The building contains most of the original equipment and reflects the latest in technological advancements for the time as well as the estate's ability to be autonomous and self-sufficient. The power and pump house is currently used for storage; the original pumps and generators are no longer used.

Alternatives	Considerations
Alternative 1 Status Quo	• The building is not open to the public.
Alternative 2 Utilize the Power House for historic interpretation	• Would interpret a unique aspect of the Field era of the estate. • Would improve historic interpretation at the park. • May require interior and exterior restoration.

Preferred Alternative: Alternative 2

Henry Lloyd House and Weir Barn

The Henry Lloyd House and Weir Barn are part of the licensed area for the Lloyd Harbor Historic Society. These structures are primarily used for historic interpretation and education that is conducted by the Lloyd Harbor Historic Society. The Henry Lloyd House and Weir Barn were evaluated during the planning process but were not considered for any proposed changes in use. The original gates of the park (1711 Gates) are in need of repairs.

Engineer's Cottage

The Engineer's Cottage is located at the main entrance to the park and serves as housing for OPRHP employees. The cottage was evaluated during the planning process but was not considered for any proposed changes in use.

Stable Cottage

The Stable Cottage is used for the Park Manager's residence. This building was evaluated during the planning process but was not considered for any proposed change in use.

Dinham Cottage

The Dinham Cottage is used as a residence for park staff. This building was evaluated during the planning process but was not considered for any proposed change in use.

Master's Garage

The Master's Garage is used for intern housing on the second floor and public restrooms and a small assembly space on the first floor. This building was evaluated during the planning process but was not considered for any proposed change in use. Interior renovations may be required on the second floor of the building.

Park Access and Vehicular Circulation

Entrance and Exit to the Park

Background for Analysis:
Park patrons enter the park on Lloyd Harbor Road through what was, historically, the service entrance during the time the Field family owned the property. Today, this is the main entrance for the park and many park patrons utilize this as an exit. There is a second exit (historically, the main entrance during the Field era) near the Henry Lloyd house on Lloyd Harbor Road that is utilized by the equestrian center, Nassau BOCES, park staff, and the Lloyd Harbor Historical Society.

The second exit of the park, near the Henry Lloyd house, is fairly well used given the high volume of traffic in the park associated with the equestrian center. This traffic is posing a problem to the programs run by the Lloyd Harbor Historical Society. The society often hosts groups of school children and feel the traffic volume is a safety issue with groups of children trying to cross the park road.

The road at the current main entrance is somewhat narrow, especially for two-way traffic. This causes many people to drive off of the road and onto the stone culverts and grass, degrading the roadside.

Alternatives	Considerations
Alternative 1 Status Quo	• Traffic conflicts would continue. • No capital investment required.
Alternative 2 Widen the main entrance road to improve two-way traffic with a landscaped median separating traffic entering and exiting the park. Close the Henry Lloyd exit to equestrian and Nassau BOCES traffic	• Would improve safety for entering and exiting traffic. • Does not create an additional access point on Lloyd Harbor Road. • Would better accommodate vehicular and pedestrian traffic. • Would require the relocation of one side of the historic stone gate. • Would take the bulk of the traffic away from Henry Lloyd house. • Would reduce pedestrian/vehicular conflicts near the Henry Lloyd house and Weir Barn.
Alternative 3 Separate the entrance and exit lanes at the current main entrance by creating a new access point onto Lloyd Harbor Road that would split from the existing road north of the Engineer's Cottage and intersect with Lloyd Harbor Road west of the Engineer's Cottage. Close the Henry Lloyd House exit to equestrian and Nassau BOCES traffic	• Would add to the impervious surfaces of the park. • Would create a new access point on Lloyd Harbor Road, an already busy road. • Would put the residents at the Engineer's Cottage between two roads. • Would not require the relocation of one side of the historic stone gate. • Would take the bulk of the traffic away from the Henry Lloyd exit.

Alternatives	Considerations
	• Would reduce pedestrian/vehicular conflicts near the Henry Lloyd house and Weir Barn.
Alternative 4 Make the main entrance the sole entrance to the park with the exit at the Henry Lloyd house as the sole exit.	• Would create additional conflicts between people and cars on park roads. • Would increase the volume of traffic near the Henry Lloyd house. • Would create a larger problem for pedestrian safety at the Henry Lloyd house and Weir Barn.

Preferred Alternative: Alternative 2

Vehicular Access

Background for Analysis:
Designed as a self-sufficient family estate, Caumsett does not have many park roads or parking areas, and there is limited vehicular access within the park. This creates an issue for older park patrons, children and patrons with disabilities who might not be able to walk to the more scenic areas of the park near the Main House, Long Island Sound and shoreline. From the main parking lot near the Farm Group, it is approximately a 2 mile walk to the low salt marsh and a 1.5 mile walk to the Main House and Fresh Pond. In addition, improving the vehicular access within the park will be necessary for future uses, such as programming at the low salt marsh and exhibits at the Main House.

Alternatives	Considerations
Alternative 1 Status Quo	• The park will continue to serve a limited population. • Parties in need of vehicular assistance to see the park can only do so during the week when there are fewer patrons in the park. Weekends are too busy. • Would not require widening any roads.

Alternatives	Considerations
Alternative 2 Allow cars to drive to a limited number of additional areas of the park	• Would make the park more accessible to the general public. • Would require minor changes to the current system of roads and trails. • Some roads might require widening. • Would require additional parking areas. • Vehicular access would be designed and built incrementally based on documented historic use, current use and anticipated use patterns and will be done in the most environmentally friendly manner that is feasible. • Would provide a separation between vehicles and pedestrians and improve the overall user experience.
Alternative 3 Develop a trolley or shuttle from the main parking area to destination points within the park	• Would require purchasing one or several trolleys or shuttles. • Some roads might require widening. • Would require minor changes to the current system of roads and trails. • Would not require the development of additional parking areas. • Park visitors would be dependent on the trolley/shuttle.

Preferred Alternative: Alternative 2

Circulation

Background for Analysis:
Improving access to the park will require improved vehicular and pedestrian circulation within the park as well. For maintenance and operations purposes, park vehicles have permission to drive anywhere in the park. Those park visitors accessing the Lloyd Harbor Equestrian Center drive into the park and to the Polo Stables and licensed area to access the equestrian center. Nassau BOCES employees are permitted to drive to the Summer Cottage (where Nassau BOCES operates from), but the public is not allowed to drive to the Summer Cottage. Nassau BOCES also has permission to drive buses on certain park roads to assist in their environmental education programming.

Similarly, volunteers at the Lloyd Harbor Historical Society are allowed to drive to the Henry Lloyd house, but the public, generally, is not (with the exception of permitted special events). Anyone coming to the park to visit the Volunteers for Wildlife will park in the main parking lot. Anyone coming to the park to fish must acquire a permit to drive down Fisherman's Road and is allowed to park at the parking lot near the shoreline.

Improving circulation will also separate vehicular traffic from pedestrian and bicycle traffic to ensure a safe environment for pedestrians and cyclists.

Alternatives	Considerations
Alternative 1 Status Quo	• The existing conflict between pedestrians and cars would continue. • Parking for approximately 120 cars at the main parking lot and approximately 30 cars at the fisherman's lot would continue to be provided.
Alternative 2 Reroute traffic coming into the park west of the Farm Group to the existing gravel road north of the Farm Group. Equestrian center traffic would follow the existing road into the equestrian center. The remaining park traffic would veer right onto a proposed connector road that would lead to the Service Road near the entrance to the Winter Cottage. Pedestrians will be separated from vehicular traffic by new pedestrian pathways and would retain use of the Main Drive from the four corners to the Main House.	• Would separate pedestrian traffic from vehicular traffic. • Would require some additional paved areas for the development of the connecting road from the unpaved road north of the Farm Group into the existing road system. • Would make the road south of the Farm Group (adjacent to the walled garden) a pedestrian only thoroughfare. • Would be designed and built incrementally based on documented historic use, current use and anticipated use patterns and will be done in the most environmentally friendly manner that is feasible.
Alternative 3 At the intersection of the 4 corners, vehicular traffic would turn left and the Main Drive and Service Road (the loop) would become a one-way vehicular only thoroughfare. A separate pedestrian trail would be developed on the interior of the Main Loop so that experience would not be lost for the park visitor.	• Would alter the designed landscape experience for the pedestrian park patron. • The new trail may be constructed with pervious pavement if it feasible from a management perspective. • One-way traffic would not require the road to be widened.
Alternative 4 Utilize the historic Service Road as a two-way vehicular road. Pedestrians will be able to utilize the Main Drive (as they do now).. A new pedestrian pathway would be developed from the Main House south, adjacent to the Service Road so the loop experience would not be lost.	• The designed landscape would be a pedestrian only experience (as it is now). • The historic Service Road was not designed like the Main Road. • Would require the road to be widened. • Would add to the impervious surfaces in the park. • The new trail may be constructed with pervious pavement if it feasible from a management perspective. • Would require capital funding to widen the road and construct the pedestrian path. • Keeps vehicular traffic towards the edge of the park boundary, away from the interior of the park. • Would be designed and built incrementally based on documented historic use, current

Alternatives	Considerations
	use and anticipated use patterns and will be done in the most environmentally friendly manner that is feasible.

Preferred Alternative: Combination of Alternatives 2 and 4

Main Parking Lot

Background for Analysis:
The main parking lot is the only parking area at Caumsett for the general public to park. Other parking areas within the park exist for licensees and their patrons, or are available by permit only. The main parking lot can hold approximately 120 cars and has six accessible parking spots. On some weekends, the parking lot is overwhelmed and park staff must direct traffic and direct visitors to park their cars on the grassy areas around the Farm Group—a disorganized and time consuming task. In addition, cars parked on the grass, depending on the condition of the ground, impact the grass and sometimes cause additional work to reseed and restore the grassy areas. For example, in early spring of 2009 (not the height of the operating season) there were 2,500 patrons at the park on a Sunday and the main parking lot was full all day and overflow parking was required

Alternatives	Considerations
Alternative 1 Status Quo	• If left as is, the overflow parking issue would continue. • The overflow parking areas on the grass will continue to degrade. • Grassy areas require consistent maintenance and restoration. • Looks haphazard.
Alternative 2 Expand parking area by moving contact station west of where it currently is (adding an additional lane for incoming traffic) and widening road from park entrance up to a proposed parking lot located behind the Farm Group (where informal overflow parking currently is). Make existing parking area smaller and add landscape treatments to soften the look of the existing parking area and help mitigate stormwater runoff down the nearby slope.	• Would add to the impervious surfaces of the park. • Would widen the main entrance road through the parking area to allow for two-way traffic. • Would concentrate vehicles to one area for parking. • Would create a pedestrian gateway in the area where the existing roadway is. • Would increase the landscaped areas around the existing parking lot and in any new parking areas. • Existing lot would be used as overflow parking. • Expansion of the parking area would be designed and built incrementally based on documented historic use, current use and anticipated use patterns and will be done in the most environmentally friendly manner that is feasible.
Alternative 3 Move contact station (same as in Alternative 2) and create a roundabout to funnel traffic to new parking lots created off of traffic circle and west of the Farm Group. Make existing parking area smaller and add landscape treatments to soften the	• Would add to the impervious surfaces of the park. • Would be a one-way roundabout, so the roadway past the contact station wouldn't be as wide as the Main Entrance Road.

Alternatives	Considerations
look of the existing parking area and help mitigate stormwater runoff down the nearby slope.	• The roundabout could be visually intrusive. • The roundabout would allow for landscaping in the center of the circle. • Would spread the parking out over more area. • Existing parking lot would be used for overflow parking. • Expansion of the parking area would be designed and built incrementally based on documented historic use, current use and anticipated use patterns and will be done in the most environmentally friendly manner that is feasible.

Preferred Alternative: Alternative 2

Proposed New Parking Areas

Background for Analysis:
With the proposed increase in vehicular access at Caumsett there is a need to identify additional parking areas at destination points in the park.

Northeast Lot (former Indoor Tennis Court site): The proposed preferred circulation route in the park would route cars on the historic Service Road north towards the Main House. When the Fields lived at Caumsett they constructed an indoor tennis court for the family to use. The Indoor Tennis Court was torn down and is no longer there, but there is a sizable clearing where the building once stood and the site is surrounded by trees. The Indoor Tennis Court site is located just south of the Main House and Master's Garage, across the road from the Dinham Cottage.

Northwest Lot (off of Fisherman's Road): At this time, access to the northwest section of the park, its trails and the vast natural resources at this location is limited. Park patrons wishing to fish can obtain a permit and park at the Fisherman's Parking lot. From the main parking area, it is a two-mile walk to the Fisherman's Parking lot, low salt marsh and beach.

Weir Barn Lot: The Lloyd Harbor Historical Society is the licensee for the Henry Lloyd 1711 House and the Weir Barn. This organization hosts many activities and groups and interprets the colonial era history of the park. In addition, they are the only licensee within the park that does not have parking within their licensed area. Because of this, volunteers and members of the historical society are forced to park on the grass nearby the house and barn. When the LHHS is hosting larger events there is no parking area and when school groups come to visit the school buses are often parked on the grass.

Alternatives	Considerations
Alternative 1 Status Quo	• There is currently no parking infrastructure at these locations.

Alternatives	Considerations
	• No cost associated with developing or maintaining the site. • There is limited accessible parking in some areas of the park.
Alternative 2 Northeast Lot—This parking area would serve the Main House and would be located at the site of the former Indoor Tennis Court	• Would concentrate vehicles to one area for parking. • Would provide ample room for at least 50 cars. • Would provide a discreet parking area that is screened by existing trees. • Would preserve the foundation of the historic site. • Would provide parking close to, but not directly around, the Main House thus preserving the views of the Main House. • Would completely separate pedestrian and vehicular traffic. • A pedestrian trail linking the parking area and the Main House would need to be developed. • Would be designed and built based on documented historic use, current use and anticipated use patterns and will be done in the most environmentally friendly manner that is feasible.
Alternative 3 Northwest lot This proposed parking lot would accommodate 15-25 vehicles off of Fisherman's Road and would have a pervious surface.	• Would improve access to this section of the park, including trails. • Would use pervious paving so as not to add to the hard surfaces of the park. • Would be located in a discreet location so as not to obstruct the view of the field. • Would separate the permitted parking area (Fisherman's Lot) from the general parking lot. • Would be designed and built based on documented historic use, current use and anticipated use patterns and will be done in the most environmentally friendly manner that is feasible.
Alternative 4 Weir Barn Lot This proposed parking lot would accommodate 10-15 vehicles and would have a pervious surface.	• Would be a dedicated parking area for the LHHS. • Would use pervious paving so as not to add to the hard surfaces of the park. • Would improve the parking situation for events hosted by the LHHS. • LHHS will work with park staff to identify

Alternatives	Considerations
	parking solutions for very large events to ensure the grounds are not being damaged.

Preferred Alternative: Alternatives 2, 3 and 4

Plank Road

Background for Analysis:
Plank Road is located in the northwest section of the park and goes from the Fisherman's Parking lot out on to a sand spit into Cold Spring Harbor. Historically, Plank Road was used to drive Marshall Field to the boat dock. The term "plank road" likely pertains to a corduroy road -- a type that has been in use since colonial times. Currently, Plank Road is used as a trail.

Plank Road also separates the low salt marsh from the beachfront on the Long Island Sound. As noted earlier in this chapter, the shoreline is home to many nesting endangered and threatened species of birds. In an effort to protect the nesting area, park patrons are routed towards Plank Road. While this achieves the goal of protecting sensitive habitat, it puts park patrons using Plank Road, which is substantially decayed, at risk. What remains of Plank Road is original to the park from the Marshall Field era of the estate. Minor repairs have been made for safety reasons, but the road has severely degraded over the past 75 years.
Plank Road is located in a section of the park that is not easily accessible, but has much to offer with respect to environmental education and interpretation, bird watching and scenic vistas. Nassau BOCES brings school groups to this area of the park by bus and those wishing to fish can obtain a permit which also allows them to park at the Fisherman's parking lot. Currently, all other park patrons must hike or bike to this area. Horses are not allowed in this area given the high ecological value of the beach and salt marsh.

Alternatives	Considerations
Alternative 1 Status Quo	• Plank Road would continue to degrade. • Would continue to put important ecological/plant communities at risk due to uncontrolled foot traffic.
Alternative 2 Remove Plank Road	• Would take away a historic feature of the park. • Would render areas of the sand spit unreachable. • Would require environmental remediation and mitigation given the composition of the materials being removed and the ecological sensitivity of the area. • Patrons would continue to utilize the area to gain access to the resources there.
Alternative 3 Restore Sections of Plank Road and revert other areas to sand pathways	• Would keep the essence of Plank Road intact. • Would allow for improved environmental interpretation of the area.

Alternatives	Considerations
	• Would require environmental remediation and mitigation given the composition of the materials involved and the ecological sensitivity of the area.
Alternative 4 Continue research; analyze the situation and possible alternatives and the feasibility of those alternatives.	• Research/study would need to be conducted. • Would provide a better understanding of what would be involved to restore sections or remove what remains of the road. • Would provide a better understanding of the environmental implications of the project. • Plank Road will continue to degrade and be in need of repair.

Preferred Alternative: Combination of Alternatives 1 and 4

Visitor Services, Orientation and Amenities

Farm Group

Background for Analysis:
The Farm Group consists of interconnected and free-standing structures that supported the estate's farm operations including the dairy barns, hay barn, horse/machinery barn, sheds, and offices. The Farm Group is one of the first groups of buildings that a visitor sees upon entering the park and is highly significant from a historic preservation perspective. The historic structures and landscape are essentially intact and are associated with property's period of significance. The Farm Group is also an important example of the prominence and importance of agriculture to the estate's operations. Additionally, it reflects state of the art developments in design and Beaux Arts site planning from the early 1920's.

Today, the Farm Group is home to the park's maintenance facility, park offices and public restrooms, and also houses Volunteers for Wildlife. Currently, the manner in which these uses are laid out is not conducive to a quality park visitor experience. Volunteers for Wildlife is located at the southern end of the complex and is often confused for the park's visitor center. The park office is located at the north end of the complex, along with the bathrooms. The maintenance area is located in the sheds and garages between the south and north end of the complex. Even with all of those activities existing in one general area, there is still space within the Farm Group to accommodate additional uses.

The Farm Group is also located near the main parking lot for the park and many people park their car here and start to wander around the complex since it is the first thing they see upon exiting the car. While there is a kiosk with a park map close to the parking lot, many park patrons end up walking through maintenance areas and into buildings that are not open to the public. This conflict creates a constant operational issue for the park staff. In addition, the Farm Group has cobblestone pavers that are starting to buckle and are in need of repair.

Alternatives	Considerations
Alternative 1 Status Quo	• The location of uses within the Farm Group is inefficient. • Public restrooms and park office are located towards the back of the complex which causes park patrons to cut through the maintenance area, where they are not allowed, to access the restrooms. • Would require no alteration of historic buildings.
Alternative 2 Develop a visitor center in one or more of the vacant structures	• Would constitute a change in occupancy and may require alterations to comply with building code. • Would provide a starting point for park patrons to interpret the park. • Would provide exhibit space and programming to interpret the natural, historic, geological, and archeological resources of the park. • Is located in a desirable location with close proximity to the existing and proposed (enlarged) parking area. • Would provide a pedestrian only area outside of the visitor center and the walled garden. • Would help separate park patrons from the maintenance area. • Would be located near the maintenance area that could create a conflict between park uses and operations. • Cobblestone pavers would need to be reset to improve the pedestrian experience.
Alternative 3 Operate a section of the Farm Group as a dairy farm; sell milk and cheeses to local community	• Would require dairy cows and staff to take care of the animals. • May require alterations to the structures to comply with building codes. • Would require staff and/or resources to bottle milk and produce cheese. • May not be a compatible use given the current operation of the park.
Alternative 4 Interpret the history of the dairy operations from the Field era	• Areas of the Farm Group are intact. • Would highlight and interpret the Field era of the estate. • May require alterations to comply with building code.
Alternative 5 Relocate Park Office and	• Would locate the park office within close

Alternatives	Considerations
Volunteers for Wildlife (VFW)	proximity to the existing and proposed parking area and the proposed visitor center. • Would provide additional meeting space for park staff as well as more suitable office amenities (kitchen area, staff room, etc.) • Would help keep park patrons from wandering through the maintenance area. • Would require alterations to comply with building code.
Alternative 6 Relocate Maintenance Area	• A new location for the facility would need to be identified. • Existing infrastructure (gas pumps and storage tanks) would need to be remediated at the Farm Group. • Would separate maintenance activities from the rest of the park. • Would lessen the potential conflicts between park patrons and maintenance activities.

Preferred Alternative: Combination of Alternatives 2, 4 and 5

Environmental Education and Interpretive (EE&I) Programs

Background for Analysis
The park has a wealth of natural, historic, geologic, and archeological resources. While there are existing environmental education and interpretive programs at the park, comments received called for additional programs. The park has a unique past with a pre-historic, Native American, Colonial, and Gold Coast Estate history. All interpretation and education of these aspects of the park's history and natural resources should be improved.

Alternatives	Considerations
Alternative 1 Status Quo	• Continue environmental and historic programming at the park. • Continue to work with the Caumsett Foundation, Nassau County BOCES, Lloyd Harbor Historical Society, and Volunteers for Wildlife to supplement EE&I programming.
Alternative 2 Expand environmental education and interpretation opportunities at the park	• Interpretive panels could be located at key areas for interpretation such as Lloyd Point/salt marsh, the Fresh Pond, Main House, Henry Lloyd House, etc. • Kiosks could be developed to explain the

Alternatives	Considerations
	significance of the proposed Natural Heritage Area and Park Preserve (or Preservation Area). • Panels would support the interpretive exhibits in the nature center. • Brochures could be distributed at the Nature Center. • Could assist park patrons when navigating the park on their own (self-guided tours). • Would provide a new learning space for students and the general public. • Will help interpret the unique past of the park.

Preferred Alternative: Alternative 2

Comfort Stations

Background for Analysis:
There are currently two public restroom facilities ("comfort stations") available within the park. The first is located within the Farm Group near the park office. This location, generally, serves this section of the park. However, the actual location of the restroom at the north end of the Farm Group creates a conflict between park patrons trying to find the restroom and the maintenance area that is located between the parking lot and the restroom.

The second restroom is located at the Master's Garage towards the northeast corner of the park. The first floor of the Master's Garage was renovated in 2007. These bathrooms are in excellent condition.

Alternatives	Considerations
Alternative 1 Status Quo	• The western section of the park and Fisherman's parking lot would continue to be without comfort facilities.
Alternative 2 Move the location of the bathrooms in the Farm Group	• Would provide a more logical location for the bathrooms, close to (or a part of) the proposed visitor center and new park office. • Would reduce the potential conflicts between park patrons and the maintenance operations of the park.
Alternative 3 Develop a new, self-composting comfort station at the proposed northwest parking area	• Would provide an additional comfort station to an underserved area of the park. • Would be a self-composting toilet and, therefore, more environmentally friendly. • Would add to the developed area of the park by constructing a new building. • Would create a new area in need of maintenance.

Preferred Alternative: Combination of Alternatives 2 and 3

Signage

Background for Analysis:
There is a lack of signage interpreting the environmental and historic assets of the park in addition to limited directional and way-finding signage in the park and sub-par trail signage. Comments during the public information meeting also suggested improved signage aesthetics in the park.

Proposed trail changes, circulation patterns and proposed parking improvements may require improvements to the signs in the park. Signage that is appropriate with a cohesive aesthetic is important to a quality user experience.

Alternatives	Considerations
Alternative 1 Status Quo	• Current signage is sufficient, but lacking. • Some park patrons feel there is too much signage in the park already. • Trails are poorly marked.
Alternative 2 Make signage improvements to park roads—directional and way-finding	• Would create a cohesive look for the signage within the park. • Helps park patrons know where they are allowed and where they are not (e.g. licensed areas, maintenance areas).
Alternative 3 Develop additional interpretive signage for the natural and cultural resources of the park	• Would inform the park visitor of the significance of an area within the park even when park staff is not present. • Would help interpret all facets of the park's history and environmental uniqueness. • Would enhance visitor knowledge and appreciation of the environment within the park and Long Island. • Signage can be non-intrusive to the natural and culture feel of the park.
Alternative 4 Improve trail signage with signs at the head of each trail and blazes along the trail to inform the trail user	• Would be consistent with the OPRHP trail signage. • Would improve the trail experience for the park visitor. • Would help inform park users of what uses are allowed on the trails.

Preferred Alternative: Combination of Alternatives 2, 3 and 4

Trail System

Background for Analysis:
The current system of trails at Caumsett was primarily developed during the Field era of the estate. Since that time, many trails have remained and some have been added. A trail assessment was done during the preparation of this plan and which looked at all of the existing trails in the park. The quality, potential use and safety of trails were considered. The assessment concluded that there are wider trails in the park that are more suited for equestrian use and many trails that are narrow and better suited for hiking or biking, but there are also many trails that do not lead to sites of interest or that have little scenic value. In addition, there are many trails within the park that lead to adjacent properties.

Alternatives	Considerations
Alternative 1 Status Quo See Figure 13 for a map of the existing trail system.	• The trail system would exist as it is today. • The current trail system has no designated trails. • The current trail system has numerous

Alternatives	Considerations
	spider and social trails. • Many trails in the current system lead directly to adjacent properties.
Alternative 2 Designate and mark linear and loop trails for specific uses (hiking, biking and equestrian use) while still allowing hiking and biking on all park trails and allowing equestrian use on all trails within a designated area. See Figure 14 for the Hike/ Bike Trail Analysis map and Figure 15 for the Equestrian Trail Analysis map.	• Would improve the organization of the trail system and aid park visitors in finding their way • Would help mitigate conflicts between users on trails. • Could orient visitors to scenic, historic, and environmental assets. • Would help identify trail maintenance goals for different trails. • Would help identify the best trails for each use. • Would improve connectivity of the trails for each use. • Some trails might require additional maintenance depending on the use. • Undesignated trails will remain open for all uses.
Alternative 3 Close dangerous, eroded trails and spider trails	• Would help create a more cohesive and understandable trail system. • Close eroded trails to improve the safety of the trails for trail users. • Relocate trails that are in dangerous locations (near the bluffs) so safety is improved but the experience is retained.

Preferred Alternative: Combination of Alternatives 2 and 3

Recreational Use Management and Development

The purpose of this section of the plan is to assess the feasibility of potential recreational opportunities within the park. The following activities were either suggested during the public information meeting or developed internally by OPRHP.

Boathouse/Rowing Facility

Background for Analysis:
Comments received during the public information period requested that the development of a boathouse/rowing facility be considered during the planning process. A boathouse would, ideally, be located along the shoreline to allow for ease of access to the water. As stated in Chapter 3 of this plan, Caumsett is located within a Significant Coastal Fish and Wildlife Area as designated by the NYSDOS Coastal Program. In addition, the waterfront locations of the park are either areas of ecological significance or very narrow (especially the shoreline near Lloyd Harbor Road).

Alternatives	Considerations
Alternative 1 Status Quo	• There are no formal boathouses or rowing facilities within the park.
Alternative 2 Develop a Rowing Facility within the Park	• Would be difficult to site within the park given the ecological significance of the shoreline at the north end of the park and limited space at the south end of the park. • Would bring additional traffic to the park roads. • Rowing was not a historic use of the park. • Would require a feasibility study to vet the economic viability of the operation. • Could have negative environmental impacts to the waterfront. • Would have to provide some public access to the shoreline. • Because the park is within the coastal zone, the project must be consistent with the waterfront policies set forth in the Village of Lloyd Harbor's LWRP.

Preferred Alternative: Alternative 1
Given the historic and scenic character of the park in addition to the unique shoreline habitat, the development of a rowing facility would not be desirable at this location. The shoreline of the park is also home to rare plants that may be impacted by such a development.

Camping

Background for Analysis:
As stated throughout this plan, Caumsett was designed as an estate and the estate feeling is largely intact today. With the exception of primitive camping, most camping facilities require a significant amount of space and related infrastructure (e.g. potable water, comfort stations).

Alternatives	Considerations
Alternative 1 Status Quo	• Camping is not allowed in the park. • The park has set operating hours that is dependent on staff resources. • Camping is available at nearby State Parks.
Alternative 2 Allow limited Primitive Camping Primitive camping, also known as back country camping, is a rustic, self-dependent experience in which campers carry in and carry out their supplies and trash.	• No more than 5 sites could be established in the park. • Staff would need to be present 24/7. • There is no electricity, potable water or comfort stations required with fewer than 5 sites. • Would accommodate those interested in a rustic camping experience. • Would not serve those looking for a more formal campground. • Might be an issue for the park's neighbors (the entire park is surrounded by residential development). • Would require additional funding to maintain and staff the sites. • Would increase the potential for nighttime vandalism. • Would require additional coverage by State Park Police.
Alternative 3 Develop formal campsites with RV access	• Would be difficult to identify a site to accommodate this use. • Staff would need to be present 24/7. • Would add to the impervious surfaces of the park. • Would require additional Park Police coverage. • Does not fit with the historic character of the park. • May have an adverse impact on the natural resources of the park. • May be an issue with the park's neighbors (the entire park is surrounded by residential development).

Preferred Alternative: Alternative 1
Alternative 1 does not require any additional funding or staff resources. In addition, camping, either primitive or developed, is neither in keeping with the historic context of the park, nor a desired use with the high residential density of this area.

SCUBA Diving

Background for Analysis:
SCUBA diving is currently allowed at the Long Island Sound through a permit system. There was a strong contingency of support during the public information meeting and comment period for the expansion of the permitted SCUBA diving area. In spite of this vocal support, the Long Island Region has seen a decline in the issuance of SCUBA permits in recent years.

Alternatives	Considerations
Alternative 1 Status Quo	• SCUBA diving is allowed at the park near the Fisherman's parking lot. • Environmental impacts to this area are minimal.
Alternative 2 Expand SCUBA access	• The region has experienced a decline in SCUBA permits. • Areas east and west of the SCUBA area have been sites for an eelgrass restoration project. • There is no evidence of a strong demand or increase in demand for SCUBA diving.

Preferred Alternative: Alternative 1
Alternative 1 is the preferred alternative because it maintains the status quo. As noted above, there has been a decline in the issuance of SCUBA permits in the Long Island Region and as a result of this, expanding the SCUBA access at Caumsett is not recommended.

Biking

Background for Analysis:
Biking is an allowed activity within the park. Bikes are allowed on the paved roads and natural trails. There are some concerns about the conflict between bicyclists and pedestrians in the park with respect to the speed of bicyclists. In addition, there has been public support for the development of mountain biking trails/courses in the park.

Alternatives	Considerations
Alternative 1 Status Quo	• No additional trail construction is required.
Alternative 2 Develop designated mountain bike only trails/courses within the park	• Would be more intensive use at the park. • Staff resources would need to be allocated to the maintenance of the course(s). • Could create potential conflicts with other user groups. • Would require additional construction of trails • May have adverse environmental impacts (increased ground disturbance, facilitate the spread of invasive species).

Preferred Alternative: Alternative 1
The status quo is the preferred alternative because it allows for the inclusion of mountain biking as an activity but it does not support the development of specific trails and courses for mountain bikes. Improved trail signage will address proper trail etiquette with regard to speed on trails and user right of ways.

Car-top Watercraft

Background for Analysis:
As noted earlier in this plan, there are ample water resources at Caumsett; however, much of the shoreline within the park is located in environmentally sensitive areas. People who access the park for boating will drop their canoe or kayak off along the side of Lloyd Harbor Road, drive into the park and pay to park their car, then walk down the hill and leave from the shore of Lloyd Harbor in their kayak or canoe. At this time, kayaking and canoeing are not explicitly allowed, but these activities are not prohibited either. Many people also access the northern section of the park by boat, kayak or canoe.

Alternatives	Considerations
Alternative 1 Status Quo	• Some park patrons will continue to use the park for this activity. • It is not regulated by the park. • There are safety concerns with park patrons utilizing the park for this activity. • There is no designated access point to the water for this activity.
Alternative 2 Allow access for canoes, kayaks, non-motorized, non-inflatable, hand powered watercraft to launch from the park at the Long Island Sound through a permit system.	• Would provide regulated and controlled access to the water. • Would improve upon the status quo. • Might attract new patrons to the park. • Provides access to a unique area of Long Island. • Does not require extensive infrastructure.

Alternatives	Considerations
	• Some additional way-finding signage may be required to inform watercraft users. • Park patrons would be required to purchase a permit.
Alternative 3 Allow windsurfing and kite boarding at the Long Island Sound.	• Would be a more intensive use. • Could create potential conflicts with other user groups (SCUBA and fisherpersons). • May impact the endangered species nesting in this area.

Preferred Alternative: Alternative 2

General Operations and Maintenance

Equestrian Permit

Background for Analysis:
Equestrian activities are very popular at Caumsett. The equestrian center at the park houses approximately 84 horses and many park patrons bring their own horse to the park to either the equestrian center or to utilize the bridle paths in the park. All of the horses that are boarded at the equestrian center are required to have the proper proof of vaccinations. Horses brought to the park by park patrons, however, are not.

In an effort to ensure the safety of the animals living and entering the park, a permit system should be considered for Caumsett.

Alternatives	Considerations
Alternative 1 Status Quo	• The potential for infection continues to put horses at risk.
Alternative 2 Park patrons entering the park with their horse must first acquire a permit to show proof of vaccinations. Enforcement of all applicable Department of Agriculture & Markets Equine regulations.	• Would improve the safety of the overall health of the equine community. • Permit would be issued by the regional office. • Ensures a region-wide effort to improve health standards. • Region could decide to make the permit applicable to all State Parks in the region. • Two permits may be developed; a day-use (single-use) permit or an annual permit.

Preferred Alternative: Alternative 2

Special Events Guidelines

Background for Analysis:
Special events are occasionally held at the park. These events range from road races to fundraising events to interior design showcases. While these events highlight the natural and man-made beauty of Caumsett, they also exact a toll on the physical and natural resources, as well as Park management. In addition, larger events often impact the surrounding community with traffic delays, degradation of ambient air quality, increased noise levels, and potentially delayed responses to emergencies.

Alternatives	Considerations
Alternative 1 Status Quo	• There is no direction guiding the operations of special events held at the park.
Alternative 2 Develop Special Events guidelines for the park	• Would provide guidelines as to what events are appropriate. • Would provide guidelines in accordance

Alternatives	Considerations
	with the carrying capacity of the park. • Would help protect the natural and built resources of the park. • Would encourage special events to be evaluated based on its consistency with the mission of the park. • Would require special events be reasonably self-supporting with little dependence on regular park staff.

Preferred Alternative: Alternative 2

Debris Pile

Background for Analysis:
The park's debris pile is located off of Fisherman's Road and occupies approximately 5 acres. The debris pile primarily consists of tree branches and grass clippings and poses a management challenge because it is aesthetically unpleasing and is a breeding ground for invasive species. Volunteer efforts spearheaded by the Caumsett Foundation have worked to control and eradicate the invasive species from this area, but it is an on-going endeavor. With a proposed increase in activity in this area, the debris pile should be managed appropriately.

Alternatives		Considerations
Alternative 1	Status Quo	• Would continue to be visually intrusive. • Supports invasive species.
Alternative 2	Move the debris pile off-site	• Might assist in the propagation of invasive species to other locations. • Would require the identification of the appropriate park that would be able to accommodate additional debris.
Alternative 3	Screen and manage the debris pile	• Would require funding to purchase either fencing or taller trees to screen the debris pile. • May require spreading the debris over a larger area so the fence could effectively screen the pile. • Would not be a long term management solution.

Alternatives	Considerations
Alternative 4 Remove the debris pile and effectively manage future debris/organic matter	• May require an agreement with a nearby facility to borrow their chipper. • Would better manage the pile to keep the debris to a manageable size. • May help deter the spread of invasive species. • Would help in managing new organic matter that would be chipped and not added to the existing debris pile.

Preferred Alternative: Combination of Alternatives 3 and 4

Traffic

Background for Analysis:

Some areas of the park are frequently traveled by vehicles. Specifically, the exit and entrance to the park (near the main parking lot and the Henry Lloyd House), all traffic related to the equestrian center, vehicular traffic associated with Nassau BOCES, Volunteers for Wildlife, the Lloyd Harbor Historical Society, and park operations vehicles. There are currently issues with the volume and speed of vehicles in the park. In addition, there are conflicts between pedestrians and vehicles in certain areas of the park.

Alternatives	Considerations
Alternative 1 Status Quo	• Conflicts between vehicular traffic and pedestrians will continue to be a problem.
Alternative 2 Employ traffic calming measures and eliminate as many potential conflicts between cars and pedestrians as possible.	• Close exit at Henry Lloyd House. • Install speed bumps. • Improve signage to remind park patrons of the speed limit in the park.

Preferred Alternative: Alternative 2

Utilities

Background for Analysis:

The existing utilities at the park vary in age and condition. For example, while the electric service of the park has been updated, not all of the buildings have updated electrical systems. In addition, some utility infrastructure is visually intrusive.

Alternatives	Considerations
Alternative 1 Status Quo	• Older systems will remain in place. • Older systems will continue to labor under the increasing demand for electricity at the park. • Some buildings' electrical systems are not up to code. • Some sewage/septic infrastructure at the park is in need of upgrading.
Alternative 2 Upgrade utility service	• Will upgrade aging and deteriorated utility service as funding allows. • The Long Island Region will prioritize projects with respect to the greatest need. • Sustainable energy resources will be explored when feasible.

Preferred Alternative: Alternative 2

Master Plan Alternatives

Two master plan alternatives are considered here. The first is the Status Quo alternative. This alternative consists of current facilities, programs and practices. Under this alternative, the current resource protection, operation, capacity and facility practices will continue. There would be no improvement of new recreation resources to meet park patron needs. The natural resources identified in the park may be degraded without adequate planning and measures to assure their protection.

The second alternative combines the preferred alternatives from the Recreation Development/Management and Natural Resource Protection/Strategies sections. This alternative is the one that best meets the goals for the park. The following discussion shows the Status Quo alternative and the Preferred Master Plan alternative.

Status Quo

Caumsett State Historic Park Preserve has been listed on the National Register of Historic Places since the 1970s and the park serves the surrounding community with recreation and natural resources that contribute to the quality of life there.

The park, however, is in need of several upgrades to its buildings, grounds and infrastructure, and many of the natural resources enjoyed by the patrons need further protection in order to remain viable. The status quo will not meet these needs.

Considerations

- Several buildings need to be upgraded and others are awaiting needed repairs.
- Restrooms are needed in the western area of the park.
- Existing trails need planning and management.
- Maintenance facilities need upgrading and/or need to be relocated within the park.
- Invasive species need to be controlled and managed.
- Open fields need to be maintained.
- Forested areas need to be maintained.
- Underutilized buildings should to be renovated for specific uses.
- A new visitor center is needed.
- Park administrative offices need to be improved/moved/expanded.
- Electric and septic service needs to be modernized within certain areas of the park.
- The Low Salt Marsh needs to be protected.
- Sustainability issues need to be addressed.

OPRHP has specific goals and visions for state parks. These visions and goals are a driving force for planning at any of the many state facilities. In addition, as part of the drafting of this master plan several general and specific goals were set for the vision of this particular facility. The status quo of the park does not address many of the statewide OPRHP visions and goals, nor does it meet the specific goals for Caumsett State Historic Park Preserve.

Preferred Alternative

The preferred alternative is a master plan that conserves historic, natural and recreational resources and enhances appropriate recreational opportunities in the park. At the same time, the new plan responds to the needs of park patrons and staff, protection of natural resources and principles of sustainability.

This alternative includes many new strategies for protection of natural habitats within the park. New designations of Park Preserve and Natural Heritage Areas are made which will provide both recognition and additional protection of the park's important resources.

Each preferred element in the master plan was analyzed for its suitability in meeting the goals of the agency and of this park. They were also analyzed for effects to the existing resources and potential impacts. The following is a summary of the preferred alternatives. A full description of the Master Plan is given in Chapter 6.

Natural Resource Protection/Management

- Designate Park Preserve and Natural Heritage Areas as indicated
- Implement management strategies for the low salt marsh, fresh pond and maritime beach ecological communities
- Maintain all old fields through periodic mowing
- Initiate invasive species control and management programs as indicated
- Construct observational decks into the low salt marsh

Cultural Resource Protection/Management

- Develop Historic Structures Reports for most buildings in the park
- Develop a Cultural Landscape Report for the park
- Conduct an Archeological Resource Survey for the park (Phase 1A)
- Stabilize and rehabilitate the Greenhouses for passive recreation and interpretation
- Open Main House and Winter Cottage for interpretation and/or exhibit space
- Open Pump and Power House for interpretation

Recreation Resource Development/Management

- Improve trail system and designate trails
- Provide car-top boat access at Long Island Sound

Operations

- Improve park entrance and exit
- Improve main parking area
- Improve vehicular access to the park while maintaining a safe environment for pedestrians
- Improve directional and trail signage in the park
- Upgrade existing electric utility service to identified buildings
- Develop new parking areas near Main House, Weir Barn and off of Fisherman's Road

- Develop new comfort station with self-composting toilets off of Fisherman's Road
- Relocate park offices and public restrooms within the Farm Group
- Develop a visitor center in the Farm Group
- Improve Plank Road Trail
- Install recycling bins in the park and encourage active recycling efforts
- Develop equestrian permit
- Develop Special Events Guidelines