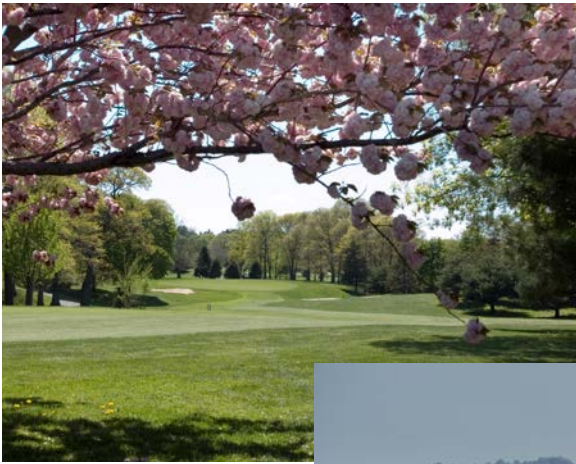


Appendix for the Final Master Plan/Environmental Impact Statement

Governor Alfred E. Smith/Sunken Meadow State Park *July 2015*



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Appendix A – Analysis and Alternatives

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Introduction

This appendix contains the results of discussions on recreation resource development, natural resource protection and operations proposed for the park. Each proposal is analyzed using the inventory information (Chapters 2 and 3), park goals, and other factors. The analysis results in considerations as to the appropriateness of each alternative for the park. Findings from this analysis are used in identifying preferred alternatives for each of the resource categories. The status quo, alternatives, considerations and preferred alternative for individual issues are described in tabular form.

A complete description of the park master plan that results from these preferred alternatives is found in Chapter 6 of this document.

Resource Analysis and Alternatives

Recreation Resource Development/Management

The recreation resource development alternatives primarily focus on the recreation use areas of the park. These areas, including trails and roads currently constitute approximately 35 percent of the park. This section of the chapter also includes a variety of recreation including such activities as fishing and wildlife observation. Each recreation and support element is discussed individually. There is a brief discussion of the existing condition and the alternatives considered. This is followed by a description of the preferred direction.

Several recreational activities were recommended through the public input process and considered outside the mission and vision of the park. Those recommendations are not included in the analysis and alternatives tables below. Examples of such recommendations include the following; construct a YMCA/activity center for games, classes and dancing, a zoo, a Ferris wheel, race track, arboretum, lazy river inner tube park, nude sun bathing area, meditation labyrinth, minor league sports complex and convention center.

Additional recreational analysis can be found in Appendix G -Recreation Facility Plan.

Swimming Beach

Background for Analysis: There is approximately $\frac{3}{4}$ of a mile of guarded swimming beach in the park, not all of which is open for swimming access throughout the season due to the reduced demand at certain times of the season and limited staffing resources.

The swimming beach will remain as is. Expansion of guarded swimming opportunities is not recommended. Operational constraints as well as resource protection do not warrant the expansion of the guarded swim beach.

Kite Flying Area

Background for Analysis: The designation of a kite flying area was suggested through the public input process. The park currently allows patrons to fly kites in Parking Field 2, on the shoreline outside of the swim beach and on open grass areas in the picnic area. These areas will remain available for kite flying.

Kayaking/Canoeing/Paddle boarding/Windsurfing

Background for Analysis: A kayak/canoe/paddle boarding launching area is located upstream from the outlet of Sunken Meadow Creek. Patrons must park in Parking Field 3 for access. When the field is closed, patrons must obtain a parking pass from the park office. The windsurfing access point is from the East Beach. Through the public input process, kayak and canoe rental was recommended.

Alternatives	Considerations
Alternative 1 - Status Quo	The unimproved location on Sunken Meadow Creek remains.
Alternative 2 – Improve, consolidate and designate water access area on Sunken Meadow Creek	Protects maritime grassland habitat. Enhances access conditions for park patrons. Improvements need to work with tidal conditions.
Alternative 3 – Provide kayak and canoe rental opportunities	Not currently provided at the park. Will generate revenue. Two kayak and canoe rental businesses exist adjacent to the park, which could be impacted by a competing business in the park. May overwhelm the limited space designated for access.

Preferred Alternative: 2

To improve water access for park patrons and protect the surrounding maritime grassland habitat, changes will be made to improve and consolidate the access points for kayak/canoe/paddle boards on Sunken Meadow Creek. Windsurfing access to the sound will remain unchanged.

Picnicking

Background for Analysis: The picnic areas in the park are overused much of the season. Heavy weekend demand for picnicking, particularly near the water, overwhelms the designated picnic areas of the park leading to picnicking in undesignated areas. Expansion of picnicking opportunities was suggested through the public input process.

Alternatives	Considerations
Alternative 1 - Status Quo	The current overcrowding conditions remain. Impacts to the park facilities remain high from over use. Picnicking in undesignated areas is leading to visitor impacts to the natural resources.

<p>Alternative 2 – Limit quantity of people in park/picnic area.</p>	<p>Expanded restroom facilities are needed.</p>
<p>Alternative 3 – Expand picnicking opportunities Redevelop Parking Field 2 and construct a comfort station to support the adjacent picnic area.</p>	<p>A carrying capacity for the park/picnic area would be determined. On peak days, patrons would be turned away upon reaching the carrying capacity.</p> <p>Reuses underutilized areas of the park. Areas would be designed to withstand use and appropriate amenities provided. Reuse of the parking area would restore “green space”. The area proposed for a picnic area is already disturbed and used for picnicking.</p>
<p>Alternative 4 - Rehabilitate the East Orchard Picnic Area restrooms and construct additional pavilions.</p>	<p>The restrooms seen significant use and have not been updated and are in need of improvements. Patrons dissatisfied with the current condition of the restroom. Group shelters are needed in the park.</p>



Preferred Alternative: 3 and 4.

The East Orchard bathrooms will be rehabilitated to improve patron satisfaction with the area. To address the need for additional picnicking, Parking Field 2 will be redeveloped to expand picnicking and recreational use and picnic pavilions will be constructed (see “Picnic Pavilions” below). See Appendix G – Recreation Facility Development Plan for more information.

Picnic Pavilions

Background for Analysis: A reservable picnic pavilion is provided adjacent to Parking Field 2. A picnic pavilion is also provided in the East Orchard Picnic Area; however, it does not adequately serve the needs of groups over 50 people and is not on the reservation system. This pavilion includes a former concession area which is no longer used. There is a desire by park patrons for open air picnic shelters in the park.

Alternatives	Considerations
Alternative 1 - Status Quo	<p>The West Pavilion is the only reservable pavilion.</p> <p>The demand remains for additional reservable shelters.</p> <p>The size of the pavilion does not accommodate the large groups attracted to the park.</p>
Alternative 2 – Provide additional pavilions sized to accommodate larger groups, located in the existing picnic area by Parking Field 4.	<p>Will serve a significant volume of park users.</p> <p>No available space in play field areas which are already heavily used.</p> <p>Would require removal of some trees.</p> <p>Picnic area has recreational activity areas nearby.</p>
Alternative 3 – Place the existing shelter in the East Orchard Picnic Area on the on the reservation system.	<p>Building is not used by patrons or concessionaire.</p> <p>Is located in the center of the picnic area.</p> <p>Usable group space is relatively small.</p> <p>Would serve smaller groups well.</p> <p>An area of the building is adaptable for food preparation.</p>

Preferred Alternative: 2 and 3

The existing pavilion will be placed on the reservation system. The enclosed room will be adapted for food preparation and warming. Additional pavilions will be constructed in the East/West Orchard Picnic Area for large group rental. See Appendix G -Recreation Facility Plan for more information.

Campground – Full Service

Background for Analysis: Camping demand in the region is relatively high due to the quantity of people and the limited space available. Public comments were submitted recommending the construction of a full service tent and recreational vehicle campground.

Alternatives	Considerations
Alternative 1 - Status Quo	<p>Infrastructure does not exist for a campground.</p> <p>Impacts to the park remain in their present state.</p> <p>Park remains a day use facility.</p>
Alternative 2 Construct a campground	<p>Construction of a campground impacts flora, fauna and existing uses of the park.</p> <p>Increased challenges to park operations to meet the increased demands of a campground.</p> <p>Revenue is generated for the park system.</p> <p>Increased maintenance and upkeep of facilities.</p> <p>Significant infrastructure needs.</p> <p>Requires 24 hr park presence and added security.</p>

Preferred Alternative: 1

A full service camping area will not be constructed in the park. The operational demands at this heavy use park are significant. The inclusion of camping would greatly increase these demands. Additionally, the construction of a campground could significantly impact park resources.

Scout Camping – Backpack

Background for Analysis: Primitive backpack camping was recommended at the public information meeting for scouts to use while backpacking from other area parks in connection with park service projects.

Alternatives	Considerations
Alternative 1 - Status Quo	<p>The park remains a day use facility.</p> <p>Camping is not allowed.</p>
Alternative 2 – Primitive group camping opportunities are provided by permit.	<p>Low development costs.</p> <p>Impacts park operations.</p> <p>Areas of the park may be suitable for this activity.</p> <p>Could be accommodated through the current park use permit process.</p> <p>Should be limited to small groups.</p> <p>DOH regulations for sanitary facilities and potable water apply for groups larger than 35 people or areas with more than 5 campsites.</p>

Preferred Alternative: 2

Primitive group camping opportunities will be provided to scouting groups wishing to use the park for park service projects. Scout groups wishing to use the park must contact the park manager and submit a park use permit. A suitable location for this activity should be designated.

SCUBA Diving

Background for Analysis: SCUBA diving is not currently allowed in the park. Through the public input process, it was suggested as a recreational activity to consider.

Alternatives	Considerations
Alternative 1 - Status Quo	SCUBA diving is not an activity allowed at the park. The region has experienced a decline in SCUBA permits.
Alternative 2 – Allow SCUBA diving in designated locations subject to a permit and sign-in procedures.	Environmental impacts are minimal. Underwater clean-up opportunities exist for Sunken Meadow Creek through local volunteers.

Preferred Alternative: 2

Areas of the park will be designated for SCUBA access providing additional opportunities for SCUBA diving and improving wildlife habitat in the creek.

Fishing

Background for Analysis: Fishing is allowed at designated locations throughout the park. Patrons fish from the banks of the Sunken Meadow Creek and along the shore of the sound. Public suggestions recommended the construction of a pier to provide a safe, erosion free location for patrons to fish from.

Alternatives	Considerations
Alternative 1 - Status Quo	Patrons continue to fish in locations they feel suitable within the designated areas. Erosion continues and impacts to vegetation remains.
Alternative 2 – Improve fishing access on Sunken Meadow Creek.	Improve and designate areas along Sunken Meadow Creek. Designated areas could also provide an ADA accessible fishing platform.
Alternative 3 – Improve fishing access on Long	A fishing pier on the groin could be constructed.

Island Sound.

Fishing is not allowed on the groin.

A fishing pier with appropriate design could provide an ADA accessible fishing location.

Preferred Alternative: 1 and 2

As a result of the impacts from Hurricane Sandy on Sunken Meadow Creek, fishing access points along the creek will be reevaluated.

Fauna and Flora Observation

Background for Analysis: Many people visit the park to view its flora and fauna. Designated areas in key locations are not provided.

Alternatives	Considerations
Alternative 1 - Status Quo	Patrons view flora and fauna in its current condition from trails and other developed areas.
Alternative 2 - Develop an education and interpretation program that discusses the flora and fauna. Construct a viewing platform on Sunken Meadow Creek. Provide educational panels at appropriate locations Improve natural habitats in park to encourage native flora and fauna	Improves the public’s access to the natural resources in a responsible manner that mitigates impacts to those resources. Raises the public’s awareness of the importance of the Long Island Sound and its associated habitats. Educates the public about the natural world.

Preferred Alternative: 2

Additional education and interpretation is needed in the park to assist patrons with flora and fauna identification and appreciation and will be provided at key locations in the park. The naturalization of Sunken Meadow Creek will improve opportunities to view native flora and fauna typically found in tidal marshlands.

Astronomy/Star Gazing

Background for Analysis: The park is currently used for astronomy and star gazing. Patrons must purchase a permit from the park office for this activity. Through the public information gathering process, it was suggested that the park provide additional facilities, including a pier with telescope mounts, electricity on the boardwalk and a winter warming hut for this activity.

Alternatives	Considerations
Alternative 1 - Status Quo	A permit will still be required for this activity. Astronomic observation will continue to use existing facilities.
Alternative 2 – Provide additional facilities in a designated area for astronomy and star gazing.	Requested by park patrons. Services are not currently provided. Improves amenities for star gazing.

Preferred Alternative: 1

The construction of additional astronomic observation facilities for a very limited quantity of users is not recommended due in part to the additional facilities needed. The use of existing facilities will remain.

Model Airplanes

Background for Analysis: Model airplanes are currently flown in Parking Field 2 by permit in the off season and at the adjacent Nissequogue River State Park. Requests were made to designate an area in the park as a year-round area for model airplane use.

Alternatives	Considerations
Alternative 1 - Status Quo	Parking Field 2 remains undeveloped. Off season model airplane flying restrictions remain.
Alternative 2 - Expand period of use	Parking Field 2 remains available for seasonal use expansion. May conflict with other park users. Provides entertainment and enjoyment for other park users.
Alternative 3 – Designate a specific area for year-round use of model planes.	Space requirements, vegetation and topography dictates appropriate flying field locations. Parking Field 2 continues to be the most suitable location. Activity may conflict with parking or day use needs during high use days at the park. Model airplane flying in the park is no longer a seasonal activity.
Alternative 4 – Direct users to Nissequogue River State Park when model airplane flying is	Uses an existing flying field. Nissequogue is adjacent to Sunken Meadow and

not permitted at Sunken Meadow.

can serve the demand for model plane usage.

Preferred Alternative: 1 and 4

The existing seasonal opportunities for model airplane flying will remain in the Parking Field 2 and continue to require a special activity permit. Patrons or groups wishing to fly model airplanes in the Park shall contact the park office. Any requests for additional use will be directed to Nissequogue River State Park model airplane flying field. Upon the reconstruction of Parking Field 2, model airplane usage of the area will be reevaluated.

Softball

Background for Analysis: The park has 2 two softball fields near Parking Field 1 which are used regularly by leagues, during group picnics and by other groups throughout the season. The park also has four patron maintained softball fields which include backstops and infield surfacing and are used sporadically. Public input suggested the construction of additional maintained softball fields.

Alternatives	Considerations
Alternative 1 - Status Quo	Current quantities and conditions remain.
Alternative 2 – Construct new softball fields that would be regularly maintained.	An additional field could be constructed in Parking Field 2 area. Reduces potential overflow parking on peak use days. Requires additional staff labor.
Alternative 3 - Improve the existing unmaintained softball fields	Would require formalizing the fields for softball use with the installation base lines and improved infield surfacing. Could be rented out to leagues on a regular basis. Potentially relocates league play and frees up the fields near the picnic areas for pavilion renters.

Preferred Alternative: 1

Operational demands at the park do not warrant the expansion of softball. Unmaintained/low maintenance fields and open areas will remain available for informal softball games and other activities. Upon redevelopment of the Parking Field 3 area, one unmaintained softball field may be removed. See Appendix G -Recreation Facility Plan for more information.

Soccer/Cricket

Background for Analysis: The park does not have a designated soccer or cricket field, however, there are many open grass areas commonly used for soccer, cricket and other activities.

Alternatives	Considerations
Alternative 1 - Status Quo	Soccer and cricket are played in an open space between Parking Field 1 and 3.
Alternative 2 – Provide designated soccer fields.	Public input suggested the construction of soccer fields in the park. Conflicts with other uses of the open fields. Demand for soccer facilities can be met by other nearby facilities (i.e. schools, town and county parks).

Preferred Alternative: 1

The creation of a designated soccer/cricket field will limit the flexibility needed at this park to provide various activities for a wide variety of user groups. Undesignated soccer/cricket opportunities will remain in their current locations.

Disc Golf

Background for Analysis: Disc golf is not currently provided in the park. Through the public information gathering process, it has been suggested a disc golf course be constructed in the park.

Alternatives	Considerations
Alternative 1 - Status Quo	A disc golf course is not provided in the park.
Alternative 2 – Construct a disc golf course	Few courses are provided on Long Island. There is demand for disc golf courses in this region. OPRHP does not have a disc golf course on Long Island. Expands maintenance needs in park. Appropriate space and location for a disc golf course exist within the park. OPRHP does have disc golf courses in other state parks.
Alternative 3 – Develop a partnership or concessionaire to construct and maintain a disc golf course in a designated location within the park.	Construction considerations are the same as alternative 2 except there would be no additional demands on park staff or resources regarding maintenance.

Should not interfere with other activities.

Preferred Alternative: 3

Disc golf will be allowed in the park if it is constructed and maintained by an outside organization and does not interfere with other activities in the park. Appropriate space and a location for this facility exist with in the park.

Golfing

Background for Analysis: The park has three nine-hole golf courses which are operated as one 18- and one 9-hole course. All courses are in need of improvements. The courses were designed and constructed as a mid-level, walking only courses but carts are now used in some areas without paved paths. Public suggestions recommend the construction of a paved golf course pathway and the construction of an additional 9-hole golf course.

Alternatives	Considerations
Alternative 1 - Status Quo	<p>The golf course remains in its current condition and size.</p> <p>Many changes to the course operation have taken place on an <i>ad hoc</i> basis.</p> <p>School golf groups require an 18-hole course.</p> <p>Golf course appearance issues concerning bunker maintenance and weeds on the course, as well as narrow fairways.</p> <p>Concerns have been expressed regarding the slow play of the 18-hole course causing overcrowding.</p>
Alternative 2 – Construct an additional 9-hole golf course	<p>Would involve significant tree and vegetation removal.</p> <p>Would require substantial infrastructure for irrigation.</p> <p>Would expand golfing opportunities in the park.</p> <p>May allow for faster play by alleviating over crowding issues.</p> <p>Was suggested through the public input process.</p> <p>Demand trends on Long Island do not support new courses.</p>
Alternative 3 – Rehabilitate the existing courses by installing an irrigation system, paving cart paths and service roads, upgrading the electrical	<p>Irrigation would improve the condition of the greens and fairways during the droughty months.</p> <p>Paved cart paths encourage carts to stay on the</p>

system, expanding the golf cart storage area, installing lightning in shelters, replacing bunkers, and planting trees suitable for a golf course.

path reducing rutting, soil compaction, puddle formation and expanding path width.

Golf cart storage reduces theft and loss of carts and also provides a centralized location for maintenance and repair of golf carts in addition to providing protection from adverse weather.

Expanded cart storage means a larger footprint of the building.

Lightning shelters improve the safety of golfers on course during unexpected storms

Tree placement should be considered during rehabilitation to decrease the drying time of the fairways and greens.

Alternative 4 – Explore alternatives that would significantly alter the function and operation of the existing golf courses, such as:

Develop three 9-hole courses from the existing courses.

Discontinue use of golf carts.

Develop a 12-hole golf course from the 18-hole course

Return to three 9-hole courses and discontinuing the use of golf carts returns the operation to the originally designed intent of the golf facilities.

Developing a 12-hole course may reduce time needed to play.

Alternative 5 - Develop a separate golf course entrance.

Improves access to the golf course for golfers during heavy day use traffic.

Reduces traffic in the park and eliminates patron traffic on the current roadway.

Allows the existing roadway to be used as a pedestrian corridor.

Constraints exist concerning use of adjacent roadways.

Eliminates land from the golf course.

Preferred Alternative: 3

Courses will continue to serve mid-level golfers. Improvements to the courses will raise course standards and improve the quality of play for patrons. A separate entrance roadway for the golf course will not be constructed. Naples Ave will continue to serve as the golf course entrance.

Driving Range

Background for Analysis: The park has a very scenic driving range facing the Sound which can accommodate up to 23 users and is 300 yards in length.

Alternatives	Considerations
Alternative 1 - Status Quo	No issues identified from the public.
Alternative 2 – Improve accessibility	Accessibility standards need to be addressed.

Preferred Alternative: 2

Staff will determine methods to make the driving range more accessible to patrons with limited abilities.

Mini Golf

Background for Analysis: Mini golf was discussed as a recreational activity patrons may be interested in at the park. Currently there are no mini golf facilities offered. Additionally, it was suggested through the public input process.

Alternatives	Considerations
Alternative 1 - Status Quo	A mini golf course is not present
Alternative 2 - Provide miniature golf facility	<p>Park survey results show it as an activity that patrons would use.</p> <p>Would provide another potentially popular recreational activity.</p> <p>Siting and cost issues</p> <p>Most popular in evening and park staffing would be an issue.</p> <p>Limited area available for additional recreation in park.</p>

Preferred Alternative: 1

Mini golf will not be constructed in the park. Consideration will be given to Alternative 2 if funding and staffing levels improve. The recommended location is northwest of the traffic circle.

Motor Boat Launch

Background for Analysis: The public input process identified the desire for the construction of a public motor boat launch into Long Island Sound from the park.

Alternatives	Considerations
Alternative 1 - Status Quo	<p>A motor boat launch does not exist in the park.</p> <p>Smithtown boat launch is adjacent to the park at the Nissequogue River outlet and provides launch opportunities for Smithtown residents.</p> <p>A motor boat launch is provided at the adjacent Nissequogue River State Park. The boat area at Nissequogue River SP is scheduled to be dredged to improve conditions there.</p>
<p>Alternative 2 – Construct a new motor boat launch on Long Island Sound.</p> <p>Designs could include an inland cove with canal access in the Parking Field 2 area.</p> <p>A 2-lane boat launch ramp with courtesy docks adjacent to Parking Field 2.</p>	<p>Parking Field 2 is currently used for boat trailer parking.</p> <p>Construction costs are expensive and would require permits.</p> <p>Smithtown boat launch provides an adequate launch site but is only available by permit for Smithtown residents.</p> <p>A motor boat launch is provided at the adjacent Nissequogue River SP.</p>

Preferred Alternative: 1

A motor boat launch will not be constructed in the park. The motor boat launch at Nissequogue River State Park is scheduled for improvements and provides public motor boat access to the sound.

Spray Park

Background for Analysis: Through the public information gathering process, it has been suggested a spray park be constructed. A spray park is not currently provided at Sunken Meadow State Park.

Alternatives	Considerations
Alternative 1 - Status Quo	<p>Public support for spray park.</p> <p>A spray park is not currently provided.</p> <p>There is a swimming beach that provides opportunity for shallow water activities</p>

Alternative 2 – Provide spray park in proximity to picnic areas	<p>Spray parks are popular and there is a clear demand for this type of facility</p> <p>Would provide a water feature alternative to the beach</p> <p>May reduce pedestrian safety issues that occur on park roadways by keeping some picnic area patrons in the picnic area.</p> <p>Capital investment and regular maintenance costs are high.</p> <p>Requires filtration and circulation systems.</p> <p>Requires coordination of design with the NYS Department of Health (DOH).</p>
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Preferred Alternative: 2

A spray park will be constructed in the West Orchard Picnic Area. Although the costs associated with this type of facility are high, a spray park for children is a welcome activity in the park and there is high demand for this activity. Planning and design of the facility will be coordinated with NYS DOH. See Appendix G -Recreation Facility Plan for more information.

Tennis Courts

Background for Analysis: Tennis courts are not available in the park. The public input process identified a desire to add them to the park.

Alternatives	Considerations
Alternative 1 - Status Quo	The demand for tennis is met by local providers.
Alternative 2 – Provide tennis courts in park	<p>Several local opportunities are provided.</p> <p>The relative index of need table in Chapter 2 does identify a greater than average need for tennis.</p> <p>The park has limited resources to addresses the construction and maintenance issues of tennis courts.</p>

Preferred Alternative: 1

Town and County parks, public schools and the private sector will continue to serve the local demand for tennis. Tennis courts will not be constructed in the park. If demand increases, an area for a court could be designated within an overflow parking which would be available for use when not used for parking. See Appendix G -Recreation Facility Plan for more information.

Trails and Pedestrian Access

Pedestrian Connectivity

Background for Analysis: Public suggestions recommend the construction of, or improvements to, pedestrian corridors to areas surrounding the park. Additionally, several sidewalks in the park have not seen improvements in recent years. An assessment of conditions is needed and a plan developed to rehabilitate or improve sidewalks in the park and determine suitable connections to adjacent parks.

Alternatives	Considerations
Alternative 1 - Status Quo	Improvements are not made.
Alternative 2 – Improve connections to Nissequogue River State Park Improve the Long Island Greenbelt Trail for hikers. Develop a sustainable multiple-use natural surface trail	Provides an opportunity for multiple uses
Alternative 3 – Improve connection to Route 25A Widen and repave the existing connection. Construct a multi-use trail to Field 5. Construct an additional pedestrian bridge east of the vehicular access bridge.	Would increase pedestrian safety. Would provide an alternative method to accessing the park from Route 25 A. Encouraging non-motorized access to parks is healthier for park patrons and the environment.
Alternative 4 – Improve connection to Callahan’s Park.	Would provide a forested pathway for biking, walking and running. Will require the removal of vegetation. Would improve safety along Naples Ave. to the golf course. Could be combined with interpretive opportunities.
Alternative 5 - Construct a pedestrian connection to Kings Park	Town of Smithtown and Suffolk County are planning on improving pedestrian connections to Kings Park.
Alternative 6 – Develop a pedestrian access improvement plan.	Improves connectivity throughout the park and surrounding area.
Alternative 7 – Reestablish a pedestrian connection at the former dike location	Hurricane Sandy eliminated an important pedestrian connection.

Preferred Alternative: 2, 3, 4, 6 and 7.

Each of these alternatives provides needed direction on pedestrian access and improvements. Connections to the surrounding communities are improved and the usage of non-motorized transportation to the park is encouraged. OPRHP will coordinate with local trail groups such as the Long Island Greenbelt Trail Conference (LIGTC) and the Concerned Long Island Mountain Bicyclists (CLIMB) to assist with the planning and development of these connections. See Figure 16 – Pedestrian Connections Map. See Appendix G -Recreation Facility Plan for more information.

Hiking and Mountain Biking

Background for Analysis: Many undesignated multi-use trails run throughout the park. The Long Island Greenbelt Trail is a designated hiking only trail which terminates in the park. The existing trail system has many intersections, minimal signage and blazing and is confusing for patrons unfamiliar with the system. Requests were made to provide additional hiking and mountain biking opportunities and provide maintenance on the existing trails.

Alternatives	Considerations
Alternative 1 - Status Quo	<p>The park trails remain undesignated and used for multiple types of activities.</p> <p>The Greenbelt Trail remains a hiking only trail.</p> <p>User based and natural erosion continues.</p> <p>Mountain biking is allowed on all trails with the exception of the Long Island Greenbelt trail.</p> <p>Trail uses remain undesignated and in their current condition.</p>
Alternative 2 – Expand designated multi-use trail system to include areas currently experiencing illegal uses.	<p>Establishes a pattern of regular use that would discourage illegal uses.</p> <p>Supported by the Town of Smithtown planning efforts.</p> <p>Opportunities exist to work with local trail groups to improve the trail system.</p>
Alternative 3 - Improve existing trail system by: rehabilitating or relocating straight down-hill trails; improving signage at trail heads and trail intersections; and performing regular maintenance.	<p>Many areas can be rehabilitated with little maintenance.</p> <p>Rehabilitation or relocation of trails that travel straight down hills will reduce erosion and improve trail conditions.</p> <p>The trail system has a significant quantity of intersections causing patrons to become lost.</p> <p>Signage is needed on trails.</p>

Preferred Alternative: 2 and 3

OPRHP will develop a formal partnership with local mountain biking and hiking groups to improve and create a more sustainable trail system. A well thought out layout for multiple uses will be developed which takes advantage of the existing, sustainable trails, relocates unsustainable sections of trails and revegetates all relocated trails per OPRHP Guidelines for Closing Trails Trail signage. Trail maps and signage will be improved to aid trail users and reduce confusion on the trail system per the OPRHP Trail Signage Guidelines. For more information on OPRHP trail guidelines visit <http://nysparks.com/recreation/trails/technical-assistance.aspx> .

Cross-Country Running Course

Background for Analysis: The cross country running course uses a series of existing trails to form a course for large events for middle, high school and collegiate running event. This course consists of soil, stone and asphalt millings surfaces and is maintained by park staff during the cross country running season. In some areas, such as Snake Hill and Cardiac Hill, erosion occurs requiring maintenance. Public comments for surfacing improvements include; do not pave, add wood chips and provide maintenance year round.

Alternatives	Considerations
Alternative 1 - Status Quo	<p>The course is maintained during the cross country running season.</p> <p>The course remains in its current location.</p> <p>The existing surfacing material remains.</p> <p>Users indicate course in better condition than when maintained with wood chips.</p>
Alternative 2 - Improve surfacing by conducting regular maintenance and use asphalt millings to stabilize erosion prone areas.	<p>Asphalt milling as a cross country trail surface has proven to be a very successful.</p> <p>Will require increased maintenance and inspection of trail conditions.</p>
Alternative 3 – Wood chips are placed on course	<p>Recommended as part of the public input process</p> <p>Test sections were tried years ago and did not prove to be a suitable surface.</p> <p>Chips washed away during heavy rains.</p>
Alternative 4– Coordinate with course user groups to recruit volunteers to conduct course maintenance.	<p>Erosion areas require repeated maintenance.</p> <p>Agreements with user groups can provide an alternative work force for maintenance purposes.</p> <p>Minimal staff available for course improvements.</p> <p>Volunteers would require supervision by park staff.</p> <p>Construct rolling grade dips to minimize water</p>

	based erosion.
Alternative 5 – Revise trail layout to mitigate current erosion issues.	<p>Would reduce the slope of areas with erosion problems.</p> <p>Would eliminate significant challenges associated with the course.</p>

Preferred Alternative: 2 and 4

Park staff will continue to conduct inspections and improve the surfacing on the existing course layout. Standard trail maintenance techniques, such as the construction of rolling grade dips and the addition of asphalt millings will be used. The cross-country course users would be an invaluable asset as a volunteer work force to maintain the trails. Agreements with user organizations for trail maintenance should be explored. Cross-country course users wishing to assist with maintenance projects should contact the Park Manager for more information.

Trails – Daybreak Area

Background for Analysis: A series of user created trails connects the driving range and golf course with Callahan’s Beach Park. These unimproved and unmaintained trails are constructed within the former Daybreak Estate remains and provide several scenic vistas of the Sound.

Alternatives	Considerations
Alternative 1 - Status Quo	<p>Undesignated scenic vista points remain adjacent to the bluff edge.</p> <p>Undesignated access to Callahan’s Beach Park remains.</p>
<p>Alternative 2 – Improve trail system by:</p> <p>bringing the informal trails up to park trail standards,</p> <p>performing regular assessments and maintenance on the trails,</p> <p>improving interpretation of trailside and area resources, and</p> <p>designating appropriate uses of the trails</p>	<p>Cultural, natural and scenic resources exist in the area.</p> <p>The area is heavily used by patrons.</p> <p>Undesignated trail access to Callahan’s Beach Park exists.</p> <p>Circulation pattern of trails needs improvement.</p>

Preferred Alternative: 2

Coordinate with local trail groups to provide an improved trail system in this area which includes an improved, formalized pedestrian connection to the Callahan’s Beach Park, scenic vistas and interpretation of key cultural and natural features in the area. All trails shall meet OPRHP trail standards.

Equestrian Access

Equestrian use at the park is limited to the Bridle Path (see Recreational Use Map). Parking for the Bridle Path is designated in Parking Field 5. A request was made to expand equestrian opportunities at the park to include an equestrian facility consisting of dirt show rings, parking and access to the trail in the western portion of the park. Because equestrian usage at the park is minimal and topography and wetlands limit sizable new development, expansion of this activity is not recommended. Equestrian use will remain on the Bridle Path. Bridal Path signage will be improved.

Dog Walking

Background for Analysis: Dog walking is currently allowed on leash and on designated trails in the park. Several trails are steep, eroding and are difficult for some patrons to walk their dogs on and poison ivy can be found at points along the way. Several options to improve, expand or limit dog walking opportunities were recommended by patrons for consideration. Other requests received recommended the current policy on dog access remain in place.

Alternatives	Considerations
Alternative 1 - Status Quo	<p>Dog walking area is not clearly identified in the park.</p> <p>Dog walking is permitted on designated trails.</p> <p>Dogs must be on leash.</p>
<p>Alternative 2 – Consider expanding dog walking opportunities that may include:</p> <p>developing a designated off-leash area,</p> <p>expanding the on-leash area,</p> <p>designating hours for expanded on-leash area in the off season,</p> <p>expanding access points to the designated on-leash area, and</p> <p>designating an area of the beach for dog access.</p>	<p>The park currently provides designated trails for walking dogs.</p> <p>OPRHP rules and regulations state that dogs must be on a leash while in the park.</p> <p>Additional regular maintenance is required by park staff for an off leash area.</p> <p>Expands opportunities for dog owners.</p> <p>Dog waste will be found in any expanded areas.</p> <p>Increased potential for impacts to other patrons.</p>
Alternative 3 – Provide additional signage on the existing dog walking trails.	<p>Signage identifying the designated dog walking area is needed to let patrons know of the appropriate location.</p>

Preferred Alternative: 1 and 3

On leash dog walking opportunities will remain in their present location. Trail signage will be installed at access points identifying the trail conditions at each location. Access to the dog walking area from Kohr Road allows patrons use of open trails with a slight grade. Access from the Smithtown boat launch area provides a more rugged experience for patrons and their dogs.

Snowshoeing and Skiing

Background for Analysis: Patrons use the park for snowshoeing and cross-country skiing as weather permits. These activities are allowed throughout the park with the exception of the golf course. Trails and the shoreline are typically the locations patrons use for these activities.

Alternatives	Considerations
Alternative 1 - Status Quo	Does not increase operational demands on staff or require additional expenses. Trails are available for these activities when conditions allow.
Alternative 2 – Designate areas for snowshoeing and skiing.	Suggested as part of the public input process. Could separate trails for snowshoers and skiers to reduce conflicts and improve trail conditions. Designated trails could be groomed for skiing. Cross-country skiers do not generally like to use snowshoe trails. Grooming equipment is expensive.

Preferred Alternative: 1

The limited season and conditions on Long Island does not warrant the expansion of this activity or the designation of areas. Trail signage and map improvements will help guide patrons to appropriate locations for their abilities.

Trail Signage

Background for Analysis: Trail signage in the park is minimal. Trails are very infrequently blazed. Patrons unfamiliar with the trail system have difficulty finding their way due to regular intersections and insufficient signage. The public input showed that patrons are interested in improvements to the trail signage.

Alternatives	Considerations
Alternative 1 - Status Quo	Patrons continue to lose their way on trails. Emergency operations on trails are hampered.
Alternative 2 – Improve Signage throughout the trails system by: blazing trails, marking trail intersections and providing way finding signs in appropriate locations, and improving trail signage and information at	Improve signage as trail improvements take place. Will reduce the frequency of patrons getting lost on trails. Will aid in emergency response operations. Should be developed in conjunction with trail

trailheads and access points.

maps.

Preferred Alternative: 2

Trail signage will be improved to assist park patrons and emergency personnel. OPRHP will coordinate with trail groups to develop an improved trail system and sign plan. OPRHP will develop a trail map which will correspond to trail signage, trail names, designated trailheads and key trail features to improve the clarity of the trail system in accordance with OPRHP trail and trail signage guidelines. <http://nysparks.com/recreation/trails/technical-assistance.aspx>

Long Island Greenbelt Trail

Background for Analysis: The Long Island Greenbelt Trail is a hiking only trail which terminates in the park. It has significant use and is in need of repair to fix erosional issues. Sections of eroded trail that have been previously rerouted are still in use and need to be revegetated and closed per OPRHP Trail Closure Guidelines. At points, the trail is not clearly identified and is in need of additional blazing to assist patrons wishing to follow this trail through the park.

Alternatives	Considerations
Alternative 1 - Status Quo	Erosion continues on current and previous trail layouts. Patrons have difficulty finding the exact pathway through the park.
Alternative 2 – Improve trail by: applying appropriate treatments to erosion prone areas according to OPRHP trail guidelines, signing and blazing the trail access points and trail route, improve coordination of maintenance activities with trail partners (LIGTC).	Coordinate with the LIGTC to close and revegetate past trail routes and eroding sections along trail. Improved signage and blazing will guide patrons. LIGTC can provide volunteers to assist with maintenance activities.

Preferred Alternative: 2

OPRHP will coordinate with LIGTC to provide additional maintenance to this trail. Old trail corridors will be closed and revegetated per OPRHP Trail Closure Guidelines - <http://nysparks.com/recreation/trails/technical-assistance.aspx> .

Trailheads

Background for Analysis: Patrons wishing to use the trail system must park in the nearest parking field to the trail they wish to access. Formal designation and signage is not provided to guide patrons to appropriate trailhead locations. Patrons unfamiliar with the park find it difficult to access trails and additional trailhead signage has been recommended through the public input process.

Alternatives	Considerations
Alternative 1 - Status Quo	Trailhead designation does not exist.
Alternative 2 Identify trailheads	Patrons use Parking Field 3, 4, and 5 to access trails. Signage is needed to promote these areas as formal trailheads Improvements to the parking lots in not needed.

Preferred Alternative: 2

Parking Fields 3, 4 and 5 will be designated as trailheads. Park road signage will be developed to include these areas as designated trail access points. Each trailhead will provide a map of the trail system as well as state permitted uses. All paved primary and secondary trails will be mile marked.

Natural Resource Protection Strategies/Management

Natural resource protection and management strategies are currently in place throughout the park to protect the ecological communities and enhance biodiversity. Adaptive management strategies are needed to provide guidance and direction for the management of forest health, significant natural communities, water resources, grassland habitat, fish and wildlife and invasive species (e.g., Phragmites). Management strategies must also consider potential future impacts to the park, including different user groups, changing environmental conditions and the possible introduction of other invasive species like the emerald ash borer and Asian long-horned beetle.

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 resources. The Natural Heritage report (Evans 2002) is a key step to gathering the types of information for planning and research necessary to preserving the park. Additional data is also being gathered through water sampling and continued monitoring of the plover and tern populations and productivity. 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.

Programs

The Governor Alfred E. Smith/Sunken Meadow State Park planning process addresses two laws that allow state agencies to designate lands under their jurisdiction as Natural Heritage Areas (NHA), and Bird Conservation Areas (BCA). A third law, the Park Preserve Law, allows the Commissioner of OPRHP to designate park land as part of a Park Preserve System. This law applies to only lands under the jurisdiction of OPRHP. Designations of park land into the Park Preserve System are being considered within the master plan process.

Bird Conservation Area (BCA)

The Bird Conservation Area (BCA) program aims to integrate bird conservation into agency planning, management and research projects, within the context of the agency mission to provide recreational and interpretive opportunities and to be responsible stewards of our resources. BCAs are described under Article 11, Title 20 of the Environmental Conservation Law (ECL). Establishment of a BCA does not affect existing recreational activities. A BCA also does not preclude existing or future land use proposals, nor should the designation prohibit park development or operational needs. In addition to recognizing the importance of bird conservation within the planning process, a BCA can create heightened public awareness of the site’s important bird community, highlight the significance of birds to visitors, facilitate partnerships for bird conservation, result in better opportunities to view birds, provide guidance for management to preserve and enhance bird habitat, and gain technical assistance and resources for bird-related education, management, data collection and research. The park and other areas are already recognized by Audubon New York, the state program of the National Audubon Society, as an Important Bird Area (IBA). The golf course is recognized as an Audubon Cooperative Sanctuary by Audubon International (which is not affiliated with the National Audubon Society). Assistance for bird survey work, construction of kiosks and other educational materials may be available through partners such as the Audubon in the Parks program.

Background for Analysis:

There is currently no BCA within Sunken Meadow State Park. In order to qualify as a BCA, a site must meet at least one of the nine criteria outlined in the ECL. Following staff evaluation of the bird community and habitat, it was determined that the park meets at least four BCA criteria as shown below.

Pelagic Seabird Site – The park regularly supports at least one hundred birds of open water such as terns and gannets.

Migratory Bird Concentration Site – The park is a flight corridor rest stopover site for an exceptional number/diversity of migratory songbirds during spring and fall migration. Approximately 200 migratory species occur in the park, about 75 of which are breeders 40 species of which are songbirds. Songbirds are primarily in forested areas but occur throughout the park.

Diverse Species Concentration Site – The park supports a distinctive group of indigenous bird species that is the consequence of local habitats that are resultant of unique vegetational and microclimatological circumstances. A diversity of habitats in the park, including marsh, field, coastal water, beach, and woods support a distinctive variety of birds, with 54 known breeders in the park. Each habitat has unique vegetation and together support a wide variety of bird species.

Species at Risk Site – The park supports a significant population of a species that is listed either federally or by New York State (NYS) as endangered, threatened or of special concern, or that is verified as rare or declining in NYS. The park has 3 State endangered (one of which, piping plover, is federally threatened), 5 threatened, 8 special concern, and 13 rare or declining bird species.

Additional evaluation may indicate that other BCA criteria are also met at the park, such as waterfowl and shorebird concentration sites.

Alternatives

Considerations

Alternative 1 Status Quo – No BCA

Although the park is within an Audubon IBA, there will be no state recognition of the park and

Alternatives	Considerations
designation	its importance to bird populations.
<p>Alternative 2 Designate much of the park as BCA, encompassing undeveloped areas, portions of low development, and open areas conducive to birds such as in the golf course.</p>	<p>This would provide statewide recognition of the park’s importance to birds in much of the park. Recognizes heavy recreational use and certain operational aspects of the park may not contribute to a BCA.</p> <p>Birds and bird conservation would be considered for new proposals in the BCA not covered under this master plan, along with other potential environmental effects normally addressed under SEQR.</p>
<p>Alternative 3 Designate entire park as BCA</p>	<p>Birds are found throughout the park, including developed areas.</p> <p>There are areas of existing development and use as well as areas for new development under the Master Plan that may not meet BCA criteria.</p> <p>This would provide statewide recognition of the importance of the park as a whole to bird populations.</p> <p>Site-specific recommendations for the different areas of the park would be developed as part of the BCA-required Management Guidance Summary.</p> <p>Birds and bird conservation would be considered for new proposals in the BCA not covered under this master plan, along with other potential environmental effects normally addressed under SEQR.</p>

Preferred Alternative: 2

This alternative provides the opportunity for recognition of the park as providing important habitats for a variety of bird populations and responds to changes that may occur through natural processes. This alternative recognizes that some areas of the park that are utilized or planned for intensive patron recreation and park operations may provide some bird habitat but may not be ideal or meet BCA criteria. Most of the golf course area would be included, reflecting its Audubon Cooperative Sanctuary certification. Other recreational facilities such as the golf course are also utilized heavily yet provide habitat and resources for many bird species; therefore, these areas would also be included as part of the BCA. The Management Guidance Summary (Appendix P) addresses the dual nature of these areas as primarily recreation but also offering bird habitat.

Water Management and Protection

Shoreline Erosion

Background for Analysis: The park has three miles of shoreline. Three fourths of a mile is maintained as swim beach. In the 1940’s, a jetty was constructed to the west of the swim beach to reduce the impacts of the Sounds water currents. The adjacent Nissequogue River was dredged five years ago. Sand dredged from the river was placed along the Sunken Meadow shoreline to improve beach sand conditions and replace sand lost during storm events. Portions of the shoreline which are undeveloped are generally left to the natural forces of nature and receive minimal maintenance.

Alternatives	Considerations
Alternative 1 - Status Quo	<p>Erosion during storm events can remove significant quantities of sand from the shoreline.</p> <p>Sand is replaced upon dredging the Nissequogue River.</p> <p>Swim beach sand is replenished and maintained to enhance patron enjoyment.</p>
Alternative 2 – Beach naturalization	<p>Portions of the shoreline outside of the designated swim beach are left to natural erosional processes. Beach sand is not replenished or maintained.</p> <p>Shoreline area will migrate.</p> <p>Consistent with the management strategies of Sunken Meadow Creek.</p>
Alternative 3 – Protect shoreline	<p>Continues the existing shoreline nourishment using appropriate material from Nissequogue River dredging operations.</p> <p>The bluff adjacent to Callahan’s Beach Park should be protected through a partnership with the Town of Smithtown.</p>

Preferred Alternative: 3

Shoreline protection and nourishment will continue. OPRHP will continue to place the sand from dredging operations on the Nissequogue River on the shoreline as they become available. When they become unavailable, parks will reconsider shoreline management strategies. To protect the bluff, the placement of sand will be expanded to include both sides of the jetty.

Sunken Meadow Creek Bank Protection

Background for Analysis: Much of the Sunken Meadow Creek bank is covered with vegetation. Much of this vegetation is invasive. If an invasive species removal project is conducted along the creek banks, minimal native vegetation will be left to protect the banks.

Alternatives	Considerations
Alternative 1 - Status Quo	Invasive species and native plants protect the creek banks from erosion.
Alternative 2 – Reduce erosion along sandy bluff at the mouth of the Kings Park Bluff.	Patron use and natural erosion from the creek and Sound are impacting the bluff. A project was initiated by the Town of Smithtown to address natural erosion.

Preferred Alternative: 2

OPRHP will coordinate with the Town of Smithtown to explore the construction of a bank stabilization project previously developed for the Kings Park Bluff. Points along the bluff receiving significant erosion from patrons will receive improvements to both educate patrons, direct access to the water and protect the bluff.

Stream Water Quality

Background for Analysis: Water quality at the park is monitored in Sunken Meadow Creek. The most significant threat to water quality from the park is stormwater containing oil and other fluids leaked from parked cars. This stormwater flows into culverts and then to the creek. Best Management Practices to address stormwater runoff should be used on projects involving parking lot modifications or improvements.

As part of OPRHP’s commitment to protecting water quality, Integrated Pest Management (IPM) principles are followed at the golf course, using an environmentally conscious approach to the management of pests such as insects and weeds. Sunken Meadow Creek is monitored regularly by OPRHP and local partners to protect its quality and identify any water quality concerns in a timely manner. For more information on IPM please visit the following link;
<http://www.epa.gov/opp00001/factsheets/ipm.htm>

As part of the Sunken Meadow Creek Restoration Project, water quality along the creek is expected to improve. Regular tidal flow in this area will cleanse natural contaminants caused by bird and other wildlife which have reduced water quality upstream from the dike.

Invasive Species Management

Background for Analysis: Several invasive species can be found throughout the park at various locations. An invasive species management plan has not been created for the park to determine impacts to native vegetation or wildlife.

Phragmites australis (“Phragmites” or common reed) is a common non-native aquatic invasive species in New York. Since the construction of the dike in 1957, this non-native plant has thrived upstream from the dike where it is less impacted by tidal conditions. In October 2012 the dike was breached by Hurricane Sandy allowing for the area to naturalize over time. The *Phragmites* in Sunken Meadow Creek is choking out native species and limiting habitat opportunities for native wildlife and needs to be addressed,; however, with the introduction of saline water it is expected that *Phragmites* will slowly die off and native species will return.

Alternatives	Considerations
Alternative 1 - Status Quo	<p>Invasive species continue to spread throughout the park.</p> <p>Labor constraints persist limiting the amount of time spent on control.</p> <p>Salinity of the water slowly reduces the quantity of <i>Phragmites</i> in the creek.</p>
Alternative 2 – Manual removal	<p>Labor intensive.</p> <p>Could use volunteer labor to aid removal.</p>
Alternative 3 – Chemical treatment	<p>Is considered a last resort by OPRHP.</p> <p>May impact water quality.</p>
Alternative 4 – Actively manage <i>Phragmites</i>	<p>Develop strategies for the management of <i>Phragmites</i>.</p>
Alternative 5 –Develop an Invasive Species Management Plan.	<p>Would undertake more thorough survey to fully assess and delineate areas that have potential for restoration and protection. Will identify where the greatest needs are.</p> <p>Will identify priorities and strategies for implementation.</p> <p>Will identify the type of removal necessary for each type of invasive species.</p>

Preferred Alternative: 4 and 5

Through the naturalization of the Sunken Meadow Creek, *Phragmites* will be managed. Additional efforts will be evaluated as required in the future if naturalization is not as impactful as expected. An Invasive Species Management Plan will be developed for the park to identify areas of invasive species and methods to control them. In the meantime, measures already occurring such as early detection and rapid response of invasive species will continue.

Wetlands

Background for Analysis: Wetlands in the park are a significant resource for habitat and scenic qualities. The 81-acre low salt marsh is a federally regulated tidal wetland. Two other small State regulated wetlands are located in the uppermost areas of Sunken Meadow Creek and were created as a result of the former private fish rearing ponds. One fish pond is ½ acre, the other is two acres in size.

Alternatives	Considerations
Alternative 1 - Status Quo	Continue to monitor, protect and study wetlands. Continue partnerships for the monitoring and protection of the wetlands.
Alternative 2 – Improve wetland monitoring and protection.	Implement a wetland interpretation and education program. Encourage additional research projects through partnerships. Continue documenting post-Hurricane Sandy changes to habitat, plants and wildlife.

Preferred Alternative: 1 and 2

Wetland protection will be improved by encouraging additional research projects and developing an interpretation and education program to assist patrons with actions they can undertake to protect this and any other wetland. Research and documentation will continue to be compiled on post Hurricane Sandy naturalization of the creek channel.

Mowed Lawn Areas

Background for Analysis: The park has multiple recreational fields, golf courses, picnic areas and open lawns which are all heavily used and mowed regularly. Through the past years the park has reduced mowing where practical as part of the OPRHP mowing reduction plan.

Alternatives	Considerations
Alternative 1 - Status Quo	Mowing continues on all active use areas. Consideration is given to stop mowing passive use areas of the park.
Alternative 2 – Increase lawn areas and mowing	Remove a portion of Field 2 and plant grass for picnicking.
Alternative 3 – Decrease lawn areas and mowing to reduce labor and fossil fuel consumption.	Reduce mowing in all passive or unused areas. Eliminate mowing in non-essential recreational fields.

Coordinate mowing with permitted recreational field use groups.

Plan reduced mowing for habitat enhancement wherever feasible.

Preferred Alternative: 2

The park currently manages lawn for the high volume of patrons and recreational uses. Recreational demands warrant the need to expand mowing slightly with the inclusion of additional picnicking/field opportunities in Parking Field 2 and 3.

Fish and Wildlife Resources

There are particular protocols for dealing with nuisance wildlife on a species by species basis. In the Park, these animals include geese, swans and other types of birds, feral cats, deer and certain species of fish.

OPRHP should continue the park policies concerning wildlife. Current policies and programs dealing with wildlife resources at the park are adequate and effective. The park should continue its relationship with partners as a part of these policies, including nuisance wildlife management on a case by case basis.

Rare and Endangered Species

Background for Analysis: The nesting grounds for state endangered/federally threatened Piping Plover and the state threatened Common Tern and Least Tern are impacted by park use and non-native animals. Patrons walk through nesting grounds, off leash dogs disrupt nesting birds and nearby feral cats have been seen roaming in this area. Portions of commonly known nesting grounds are cordoned off from public use during nesting periods. Wire fencing is placed around known nests to protect nesting birds from predators and other threats.

Alternatives	Considerations
Alternative 1 - Status Quo	Habitat remains impacted by patron use and non-native animal species. Continue to monitor Tern/Plover population. Efforts to protect habitat continue.
Alternative 2 – Improve conditions for survival of threatened/endangered species	Enhance educational opportunities to protect habitat from damage caused by patron use. Remove non-native animal species from areas adjacent to sensitive habitat zones. Control predators.
Alternative 3 – Update park management plan	Improves protection.

for rare and endangered species.

Identifies any new species

Identifies population changes.

Preferred Alternative: 1, 2 and 3

OPRHP will continue to monitor and protect rare and endangered species by addressing patron and wildlife impacts. Education and interpretive programming will be improved to convey information to patrons about these species and the impacts to their habitat. The management plan will be updated to include changes which have taken place in the park.

Cultural Resource Protection Strategies/Management

Archaeological Resources

Any new construction which will result in ground disturbance will require a site specific survey and approval from OPRHP’s Division for Historic Preservation. Some specific categorical exclusions from this requirement are listed at the end of this document in Appendix J.

Historic Resources

Staff members from the Division for Historic Preservation of OPRHP have visited the park as part of this master plan process. This visit has been conducted in order to assess the condition and historic significance of park buildings and sites.

Specific historic structures that the planning team felt needed more analysis and consideration of alternatives include the Main Bathhouse and the Park Maintenance Facility. Analysis results and considerations are included in Appendix A within the Infrastructure analysis.

Former Fish Hatchery Area

Background for Analysis: This area appears to have been built between 1920 and 1940. However, its origins are unknown. The area includes a concrete fish ladder, two built ponds (two others are on private property), weirs, an insulated pump house, and a small concrete bridge. Foundations of other structures, possibly residences can be found surrounding the fish ponds. The historic integrity of the area has been retained and with further analysis, this area may be considered NRE.

Alternatives	Considerations
Alternative 1 - Status Quo	Area is used for passive recreation. Trail connects the park to Route 25A. Remnants of structures remain.
Alternative 2 – Provide additional research to provide additional information.	Coordinate with local history groups to document the history of this area. Could be a student research project. Interpretive programming could be developed for this area.

Preferred Alternative: 2

Because of the limited information known of this area, outreach to local history groups is encouraged to gain a greater understanding of what this area once was and its significance. Upon developing that research, interpretive programming and signage will be developed to educate patrons.

Scenic Resources

Reconstruct Historic Fire Tower/Overlook

Background for Analysis: An 80’ fire tower was constructed by the Conservation Department in 1948 on the highest point in the park. It was removed from the site in 1960. Public comments suggested the reconstruction of this historic feature or the creation of a scenic vista point in the immediate area.

Alternatives	Considerations
Alternative 1 - Status Quo The fire tower/overlook is not constructed	Does not impact park operations. Scenic viewing opportunities remain in their present locations.
Alternative 2 - Reconstruct historic fire tower.	A very scenic view of the Sound is provided. The American’s with Disabilities Act requirements need to be met for new construction. Safety and operational concerns exist.

Preferred Alternative: 1

Due to operational and safety concerns and funding requirements, the fire tower will not be reconstructed. The site of the former fire tower will be interpreted to educate patrons about its location and past use to protect Long Island from wildfires.

Historic Scenic Vista Points

Background for Analysis: There are several significant historic vistas located in the park. Two of these areas have seen significant vegetation growth and are not representative of the vistas they once were. One of these areas is located to the east of East Orchard Picnic Area and was constructed in the 1950’s during a major expansion at the park. This overlook area provided almost a 180 degree view of the Sound. Since that time, mature trees have filled in this view. Minimal vegetative management is provided to keep a small portion of this vista available.

Historically, the park entrance provided a much greater vista of the Sound. Through time, trees have matured and are reducing the visibility of the Sound. This area is also identified by the Smithtown Local Waterfront Revitalization Program (LWRP) as a significant scenic resource for the town.

Adjacent to Route 25A there was once was a historic fire tower constructed in 1948. This tower was taken out of active service in the fire control program and removed in 1960. Public comments suggested the reconstruction of this historic feature or the creation of a scenic vista point in the immediate area.

Alternatives	Considerations
Alternative 1 - Status Quo	Views of the Sound remain obstructed by vegetation. Vegetation protects hillside from natural and user erosion.
Alternative 2 – Hillside overlook adjacent to the East Orchard Picnic Area is brought back to the original condition as a historic vista.	Would involve a significant removal of trees. Would create opportunities for erosion. Would impact existing wildlife habitat.
Alternative 3 – Selective pruning surrounding the overlook adjacent to the East Orchard Picnic Area is provided to open up vistas of the Sound.	Impacts to the habitat minimized. Erosional forces remain close to status quo condition. Opens scenic vistas to the Sound.
Alternative 4 – Improve vistas at park entrance.	Supports the Smithtown LWRP. Creates a dramatic entrance to the park Vista is historically significant.

Preferred Alternative: 3

Selective pruning and removal of the trees adjacent to the overlook area will allow patrons convenient access to a significant vista of the Long Island Sound. Other areas of the park that have trees located on them will be left to naturalize.

Education and Interpretation Programs

Background for Analysis: The park has educational panels along the boardwalk, however, there are no other interpretive panels in other areas of the park. The park does not provide educational programming. Through the public input process, it was recommended that educational and interpretive programming be expanded in the park.

Alternatives	Considerations
Alternative 1 - Status Quo – Limited education and interpretation remains	Expansion is not considered.
Alternative 2 – Improve education and	Opportunities exist along Sunken Meadow Creek

interpretation in the park

as part of the creek restoration project.

Opportunities exist in underutilized areas in the main bathhouse.

Self-guided interpretive trails could be developed for cultural and natural resource education.

Volunteer educator program could be developed.

Preferred Alternative: 2

The interpretative programming in the park will be improved to educate patrons of the many resources the park has to offer. Themes to be included are natural resources, cultural resources and the naturalization of Sunken Meadow Creek due to Hurricane Sandy. Other themes may be included as the programming develops. Education and interpretation will be included in the Main Bathhouse improvements (see below).

Infrastructure

Main Bathhouse

Background for Analysis: The main bathhouse, constructed between 1932 and 1934, has seen significant use through the years and is in need of repair. The locker room area is not currently used but provides ample space for expansion. The shower rooms and restrooms are in need of updating and improvements. Additionally, the park office is located in the main bathhouse building and is in need of improvements to meet the operational and administrative demands of this high use park. The public information process indicated a desire for a concessions operation from this building in its previous location outside the park office.

Alternatives

Considerations

Alternative 1 - Status Quo

Alternative 2 – Improve the main bathhouse complex

Reapportion space in the bathhouse complex for the park office, Park Police office and life guard office.

Construct visitor orientation/visitor center area.

Enlarge and improve the women’s restroom providing additional facilities.

Reconfigure and improve the men’s restroom.

Improve the changing/shower area.

Improve the winter restrooms.

Construct an education and interpretation area with classroom space.

Construct a new life guard and park police

offices.

Construct and employee break room.

Enhance the entrance to the park office.

Restoration of restrooms, showers, first aid office, life guard offices, improve sewage system.

Expand concession operation into the former concessions stand.

Restore historic integrity of this National Register of Historic Places Eligible structure.

Preferred Alternative: 2

Improvements to the main bathhouse are presently being undertaken as part of the agency’s capital improvement program to enhance patron and staff use of the facility. Improvements will make use of space in the bathhouse not presently used and provide additional and improved facilities to meet the year-round demands at the park. Because this structure is NRE, the State Historic Preservation Office has reviewed bathhouse design plans and provided guidance for restoration.

Park Maintenance Area

Background for Analysis: Maintenance demands at the park continue to grow. Constructed in 1920, the maintenance area does not meet the present operational needs of the maintenance staff. Interior space limitations require park equipment and materials remain outside in all weather conditions.

Alternatives	Considerations
Alternative 1 - Status Quo	<p>Operational and storage issues remain.</p> <p>Lack of secure storage; equipment is stored outside year round.</p> <p>Salt and sand storage remains stored under tarps.</p> <p>Lockers/bathrooms need expansion.</p> <p>Access issues – delivery trucks hit toll booths; access directly to maintenance would be safer and more efficient.</p>
Alternative 2 – Make building improvements to address issues with current conditions.	<p>Construct enclosed storage facility to accommodate park maintenance vehicles and equipment.</p> <p>Construct a salt and sand storage facility for winter operation.</p>

	<p>Provide additional lockers, shower and bathrooms.</p> <p>Provide vehicle lift.</p> <p>Provide additional security and fire alarms.</p> <p>Upgrade electric service.</p>
Alternative 3 – Improve access	Reopen the Kohr Road access to the park for staff, delivery and emergency personnel.

Preferred Alternative: 2 and 3

A conceptual plan shall be developed for the maintenance area to provide improvements. The Kohr Road entrance will be available for staff, emergency and delivery vehicles to improve access to the park.

Toll Plaza

Background for Analysis: The toll plaza has not seen improvements since its construction in 1958. It has seen significant use and is in need of replacement to enhance patron and staff convenience and bring it up to current standards.

Alternatives	Considerations
Alternative 1 - Status Quo	Operational issues remain.
<p>Alternative 2 Replace the toll plaza and building using current design standards and technology but meeting historic preservation standards and in keeping with design aesthetics of the park/parkway.</p> <p>Construct wider and taller driving lanes.</p> <p>Install credit card readers and other cashless means of collecting fees.</p> <p>Consider golfer course access</p>	<p>The toll plaza and parkway are National Register of Historic Places Eligible (NRE) structures.</p> <p>Expanded driving addresses safety issues with the current height and width.</p> <p>Cashless fee collection may speed up patron processing while reducing the number of manned stations.</p> <p>Access to the golf course is impacted by day use traffic.</p>

Preferred Alternative: 2

The toll plaza will be replaced. Although NRE, the toll plaza is outdated and does not meet the operational needs of staff or the size requirements of several of today’s larger vehicles entering the park. The new toll plaza design elements shall include both Parkway and the Long Island Region park system aesthetics. Golf course access will be considered when redesigning this toll plaza.

Golf Course Roadway

Background for Analysis: The golf course roadway (Naples Ave) carries a relatively high volume of vehicular traffic. Pedestrians regularly use this roadway to walk, run and bicycle. Access to the golf course is hindered on busy days by day use traffic congestion.

Alternatives	Considerations
Alternative 1 - Status Quo	User conflicts with existing road access. Pedestrians continue to use road.
Alternative 2 – Assess traffic calming alternatives to reduce speed.	Slows traffic.
Alternative 3 – Construct an adjacent multi-use trail to reduce conflicts between pedestrians and vehicles on the roadway.	Pedestrian use of the roadway is reduced. User conflicts on roadway are reduced. Physical activity is encouraged.
Alternative 4 – Provide separate golf course entrance through the golf course.	Possible access from Route 25A. Impacts to the golf course. Residential area requires vegetative screening. High development costs. Could assist with the golf maintenance area relocation. Provides convenient golf course access.
Alternative 5 – Provide a separate entrance near Callahan’s Beach Park	Will impact traffic volume on entrance road to Callahan’s Beach Park. Would need to be coordinated with the Town of Smithtown. Will impact residents adjacent to roadway. Provides convenient golf course access. Will impact mature trees. High development costs.
Alternative 5 – Restrict pedestrian activity on roadway	Discourages physical activity. Reduces the potential for vehicular and pedestrian conflict. Low public support.

Preferred Alternative: 3

A multi-use pathway will be developed between the roadway and the bluff to provide an area for pedestrian activity and connectivity away from the golf course roadway. See Figure 15 – Golf Course Maintenance Area Alternatives Map.

Golf Course Maintenance Area

Background for Analysis: The golf course maintenance area does not currently meet all of the operational needs. Due to space limitations, maintenance equipment is stored outside in the elements causing an increased maintenance and deterioration. Additionally, equipment storage is within the view of park patrons and visually unattractive.

Alternatives	Considerations
Alternative 1 - Status Quo	Golf course maintenance not in a desirable location.
Alternative 2 – Move golf course maintenance area to the carriage house area.	Adjacent to the bluff. Long term location may not be suitable with climate change and increased erosion to the bluff. Clearing of trees required. The area is an underutilized portion of the park. Will impact wildlife habitat. The area is easy to develop. Allows for vegetative screening from Naples Ave and the golf course area. Requires maintenance vehicles and golf cars to cross roadway. Does not impact the golf course.
Alternative 3 – Relocate the golf course maintenance area between the Blue Course and the Red Course.	Noise could impact adjacent homeowners and golfers. Would need screening from the golf course. Area would be hit by golf balls. Access road would impact golf course layout. Minimal tree removal required. Minimal site grading is required. Convenient access to the golf course

	remains.
Alternative 4 – Relocate the golf course maintenance area near the golf course entrance.	<p>The existing roadway can be used.</p> <p>Adequate space is provided.</p> <p>Drainage issues will need to be addressed.</p> <p>Mature tree removal will be required.</p> <p>Location is adjacent to golf course.</p> <p>Requires maintenance vehicles and golf carts to cross roadway.</p> <p>Does not impact the golf course.</p>

Preferred Alternative: 4

The golf course maintenance area will be moved across Naples Ave near the golf course entrance. Moving this area will provide much needed expansion of covered storage, distance the area from a very heavy patron use area, and allow for the current maintenance area to be used for golf activities. As part of this project, the golf course irrigation pumps will require moving and fuel tanks would be removed. See Figure 15 – Golf Course Maintenance Area Alternatives Map.

East Concessions Building (Near Parking Field 3)

Background for Analysis: The East Concessions Building/Pavilion was constructed in 1957 and has seen few improvements since that time. The building is in need of rehabilitation/renovation.

Alternatives	Considerations
Alternative 1 - Status Quo	The pavilion continues to deteriorate.
Alternative 2 - Rehabilitate and follow up with long-term maintenance plan.	<p>Restore exterior of the building.</p> <p>Replace mechanical systems.</p> <p>Renovate interior.</p>

Preferred Alternative: 2

The concession building will be rehabilitated and a long term maintenance plan developed.

West Concessions Building (Near Parking Field 2)

Background for Analysis: The West Concessions building, constructed in 1958, has recently seen improvements including a new septic system.

Alternatives	Considerations
Alternative 1 - Status Quo	Building used for concession operation.
Alternative 2 – Improve event access to beach without impairing public use of boardwalk.	Build stairway/ramp west of the end of the boardwalk to beach from concession area.
Alternative 3 – Concessionaire improvements	Continue to upgrade and maintain the building.

Preferred Alternative: 2 and 3

To improve access to the beach and reduce conflict between concession events and patrons using the boardwalk, a stairway will be constructed for event goers to access the beach reducing impacts of patrons using the boardwalk.

Shade/Rain Shelters

Background for Analysis: At certain points throughout the park, shade is needed for patrons to use while in the park. These areas include points around the playgrounds and in open grass areas in the picnic area beside the traffic circle.

Alternatives	Considerations
Alternative 1 - Status Quo	Shade shelters are not located in the park.
Alternative 2 – Provide shade/rain shelters in open grass areas and/or by playgrounds for parents.	Shade and rain structures would serve patrons well at key locations. Trees planted in open areas will take years to provide adequate shade and do not provide shelter from rain.

Preferred Alternative: 2

Shade/Rain shelters will be provided at key locations in open picnic areas for people to use for picnicking. They will also be constructed adjacent to playgrounds for parents to use while supervising their children on the playground.

Boardwalk

Background for Analysis: The boardwalk has seen significant improvements to the decking in previous years. A portion of the water system that supplies drinking fountains requires significant maintenance and upkeep. Public comments suggested lengthening of the boardwalk to one mile, the addition of benches with backrests and providing low-level lighting for evening use.

Alternatives	Considerations
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Alternative 1 - Status Quo	Boardwalk remains $\frac{3}{4}$ of a mile long in its current condition.
Alternative 2 – Lengthen the boardwalk	Provides additional length for exercise and viewing of the Sound. Increases long term maintenance. Considerable expense.
Alternative 3 – Construct benches with backrests	Assists patrons with back related issues. Enhances park patron’s experience.
Alternative 4 - Finish replacing aging drinking water lines under the boardwalk	Reduces long term staff time maintaining old and broken water lines.
Alternative 5 – Provide low level lighting in key areas of the boardwalk.	Improves visibility in low light conditions. The park is considered a day-use park. Lighting encourages evening use. Should not impact other permitted activities.

Preferred Alternative: 3, 4 and 5

Benches with backrests will be provided along the boardwalk through a memorial bench program. Patrons wishing to purchase a bench for the boardwalk may contact the park office for more information. Aging waterlines will be replaced to reduce leakage and staff time maintaining the system. Low level, Dark Skies compliant lighting will be added to key areas of high use along the boardwalk to enhance the park patron experience during times of low light.

Utilities

Electric

The electric system throughout the park was last updated in 1957. Subsequently, many repairs have been made through the years. The entire electric system in the park will be investigated and upgrades made as required. Emergency generators will be provided for main facilities including the bathhouse, maintenance area, golf course irrigation system and concession buildings as appropriate.

Drinking Water

Drinking water is supplied by the municipal water service. Maintenance to this system is provided on an as needed basis. The water system in the park is old and in many cases in need of replacement. Investigation into the system and potential leaks will take place in the future.

Wastewater

Portions of the wastewater system have received improvements while others are in need of replacement. Wastewater treatment systems have been upgraded at the East and West Pavilions

while the systems for the main bathhouse and the East and West Orchard Picnic Areas are in need of replacement. These systems are scheduled for replacement as funding allow.

Cellular Phone Service

Portions of the park and local community have not had cellular phone service making park operations and emergency response coordination challenging. Through the public input process, the expansion of cellular phone service in the area was recommended. Environmental review was conducted and a project implemented to provide additional cellular phone service in the area by constructing a public safety and shared resource wireless telecommunications facility in Parking Field 5.

Outdoor Lighting

Background for Analysis: The park is primarily a day-use park; however, there are times when outdoor lighting at certain locations would be beneficial. Through the public input process, improved lighting and light pollution strategies were recommended.

Alternatives	Considerations
Alternative 1 - Status Quo	<p>Outdoor lighting in the park is minimal.</p> <p>Lighting and nighttime activity at Field 3 provided under agreement with the Town of Smithtown.</p> <p>Concession events are conducted in the evenings.</p> <p>The park is otherwise a day use facility.</p> <p>Permitted evening access for fishing and stargazing is not impacted.</p>
Alternative 2 - Lighting is increased around the park office and a portion of Parking Field 1.	<p>Low level down-lighting would enhance the area during low light situations.</p> <p>Safety for staff and patrons.</p>
Alternative 3 - Lighting is provided along the boardwalk.	<p>Low level down-lighting would enhance the area during low light situations.</p> <p>Was recommended during the public input process.</p> <p>Would require additional staff and Park Police.</p>
Alternative 4 – Lighting is provided for a portion of Parking Field 2 and walkway for concession.	<p>Would address current issues due to lack of lighting in area utilized in evenings.</p>

Preferred Alternative: 2, 3 and 4

Lighting will be installed in portions of Parking Fields 1 and 2 to enhance patron experience during low light and evening events. Low level down-lighting will be provided at key locations along the boardwalk for use during low light and during evening events. To reduce the impact of lighting on the surrounding area, strategies to minimize light pollution will be used during the design of these lighting systems.

Park Wide Landscaping

Background for Analysis: There is generally a lack of trees in recreational use areas in the park. Trees in medians and around parking fields are also sought out by patrons for a shaded picnic area.

Alternatives	Considerations
Alternative 1 - Status Quo	A current planting plan does not exist for the park.
Alternative 2 – Planting plans will be developed to provide improved/additional native plants for certain areas as improvements in the park are made.	Additional trees should be planted in appropriate areas. Historic trees along parking lots and walkways will be replaced upon damage or death. Shrubs instead of trees should be provided around parking fields and other vehicular access ways to discourage picnicking and other uses in unsafe areas.

Preferred Alternative: 2

A planting plan will be developed. Shrubbery will be planted at key locations to eliminate picnicking from areas around parking fields and roads. Historic trees will be replaced upon death, damage or disease.

Sustainability

Background for Analysis: The parks electrical infrastructure is outdated, in disrepair and in need of replacement. Renewable energy products have been investigated in the past and their use in parks is a component of OPRHP’s sustainability initiatives.

Alternatives	Considerations
Alternative 1 - Status Quo	Renewable energy products are not present in the park.
Alternative 2 – Consider energy efficient options within scope of work for new facilities, and existing facilities as upgraded or replaced.	Consider solar panels on roofs, wind generation on light poles or other areas where could place small turbines.)
Alternative 3 – Consider proposals by others for renewable energy generation, if an	Possible visual intrusion. Transmission to grid by power company another

environmentally and visually acceptable design consideration.
 can be developed and with reasonable
 consideration by power company to OPRHP.

Preferred Alternative: 2 and 3

Renewable and energy efficient options will be considered during the construction or renovation of all structures. If proposals are received for renewable energy generation by outside sources, they will be considered.

Emergency Address System

Background for Analysis: The current emergency address system uses park staff and bullhorns during emergency situations. To improve patron safety, a more efficient and affective system is needed in key areas of the park, particularly the boardwalk.

Alternatives	Considerations
Alternative 1 - Status Quo - Continue to use bullhorns	Can be an inefficient use of staff time during emergencies.
Alternative 2 – Improve the emergency address system	System will focus on the beach and other high use areas. Increases patron safety during emergencies. Will address large quantities of people. Redirects staff labor towards other emergency related issues.

Preferred Alternative: 2

An emergency address system will be installed at the park to assist staff and protect patrons during emergency events.

Roads and Bridges

Background for Analysis: Roadways and bridges in the park have not received funding in recent years and are in need of maintenance and improvements. Several roadways throughout the park are in need of repaving, the entrance road to the park is concrete and in need of stabilization and the bridge over Route 25A is in need of repair. The vehicular bridge crossing Sunken Meadow Creek is a three lane bridge. The middle lane is used to assist traffic flow during times of peak demand. To assist with traffic flow during these times, wider lanes are needed. Safer pedestrian and bicycle access is also needed.

Alternatives	Considerations
Alternative 1 - Status Quo	Roadways and bridges remain in their present conditions and continue to deteriorate.
Alternative 2 – Repave and repair park roadways	<p>Parking Fields 2, 3, 4 and sections of the park roadways are milled and repaved.</p> <p>Sections of the entrance road to the park are repaired.</p>
Alternative 3 - Rehabilitate the bridge over Route 25A and Sunken Meadow Creek	Both bridges are showing signs of age and are in need of repair.
Alternative 4 – Widen bridge over Sunken Meadow Creek	<p>Will improve access and egress to and from the park and reduce congestion.</p> <p>Will reduce staff time needed to manage traffic.</p> <p>Lanes are designed for the current speed limit.</p> <p>Vehicles travel faster than the speed limit in this area.</p>
Alternative 5 – Add a separate pedestrian bridge	<p>The proposed multi-use pathway entering the park is 12’ wide.</p> <p>The sidewalk on the existing vehicular bridge is 4’ wide and does not accommodate multiple uses.</p> <p>The sidewalk can be removed and vehicular lanes expanded upon the construction of a pedestrian bridge.</p> <p>The separation of vehicular traffic from pedestrian traffic is preferred.</p> <p>A suitable location is present.</p>

Preferred Alternative 2, 3, 4, and 5

The roadways in the park will be repaired and repaved as needed. The bridges over Route 25A and Sunken Meadow Creek will be rehabilitated and upon the construction of a separate pedestrian bridge, the sidewalk will be removed from the Sunken Meadow Bridge and the vehicle lanes widened.

Stormwater Drainage

Background for Analysis: Many culverts throughout the park are in disrepair and or clogged; these need replacement to provide ample drainage. Many of the parks culverts lead directly to Sunken Meadow Creek taking any contaminates in the stormwater with it reducing water quality.

Alternatives	Considerations
Alternative 1 - Status Quo	Drainage remains impaired in areas of the park.
Alternative 2 – Improve the stormwater drainage system.	Drainage is improved from parking lots, roadways and use areas of the park. Culverts are replaced, cleaned or installed to improve water flow. Best Management Practices should be explored (e.g., bioswales, rain gardens) to filter parking lot stormwater where appropriate.

Preferred Alternative: 2


To improve the water quality and drainage in the park, the stormwater system will be assessed and improved where appropriate.

Parking Areas

Parking Field 5

Background for Analysis: Parking Field 5 is the remnants of a picnic area parking lot. It currently serves as a trailhead and for the BOCES building. Local residents frequently use this area for pedestrian access to the park and its trail system from sidewalks along Route 25A. Parking for BOCES programs has deteriorated. Equestrian use occurs at this area sporadically. Through the years, this area has been used by the Suffolk County Water Authority for a well and pump location. Future plans for this area include the construction of a cell phone tower to provide service to the area. Public suggestions for this area include designating it as a trailhead for a mountain bike/multi-use trail system, constructing tennis courts, large group picnic area and allowing access to dogs on the adjacent trails.

Alternatives	Considerations
Alternative 1 - Status Quo	Parking lot is in disrepair. Plans to construct a cellular phone tower in this area exist.
Alternative 2 – Improve parking for BOCES staff and buses.	Parking area needs defining. A parking plan for the area needs to be developed.
Alternative 3 – Provide an area for special permitted events for backpack scout camping or other activities.	Requires installation of public restrooms. Agreement with scouting groups developed in advance of event.

Alternative 4- Redevelop as a picnic area.	Would provide a suitable trailhead location.
	<p>Demands for picnicking are high.</p> <p>The area is not close to the Sound.</p> <p>The area was not heavily used when it was a picnic area. Patrons wanted convenient beach access.</p> <p>Is used to house water pumps for Suffolk County Water Authority.</p> <p>Can be used for overflow parking and picnicking on busy days</p>

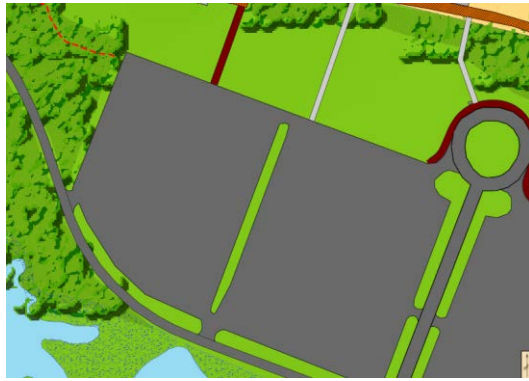
Preferred Alternative: 2, 3 and 4

The Parking Field 5 area will be improved to serve BOCES, Scouting groups, trail users and other patrons more effectively. The parking area will be paved and striped to assist vehicular traffic and improve the patron experience. Parking Field 5 will be a designated trailhead for trails in the southern portion of the park with connectivity across Route 25A improved and designated. It will also serve as a picnic area and overflow parking, particularly for days of peak demand. A comfort station will be constructed in this area to serve patrons. An additional well will be constructed on the periphery of the parking field. See Figure 18 – Parking Field 5 and Appendix G – Recreation Facilities Plan for more information.

Parking Field 2

Background for Analysis: Parking Field 2 is currently used for overflow parking during summer holidays and busy weekends as needed. This use of the area for overflow parking is a critical requirement for operation of the park especially access to the swimming area. It is also used a few times per year in the off season by permit issued to model plane enthusiasts. This area was once marshland which was filled in 1945 to expand much needed available parking. Its drainage system is in disrepair causing substantial standing water after rain events. Because the area has no programming during the operating season (when it is not being used for overflow parking) it can be considered underutilized.

Alternatives	Considerations
Alternative 1 - Status Quo – Overflow parking	<p>Keep current uses and constraints associated with this parking lot.</p> <p>Not the most effective use of the area.</p> <p>Continues to flood during heavy rain.</p> <p>Impervious surfacing contributes to</p>



stormwater run off.

Overflow parking in this area is still available as needed.

Alternative 2 – Expand picnic area.



- Area is raised and the stormwater system is improved to minimize flooding and protect the creek.

Additional picnicking opportunities are needed in the park.

The expansion of picnicking increases the demands for parking.

The area is low and will be impacted by climate change/sea level rise in the future.

Parking is needed for the West Pavilion.

Could serve as a trail head parking lot.

Design of area to retain overflow parking is more of a challenge. Relocation of displaced overflow parking likely necessary.

Trees are needed in the expanded picnic area.

The bathhouse restrooms will be the designated restroom facilities.

Alternative 3 – Restore marshland and natural habitat

Expands habitat for park wildlife.

Phragmites will migrate into newly restored marshland from the adjacent infestation.

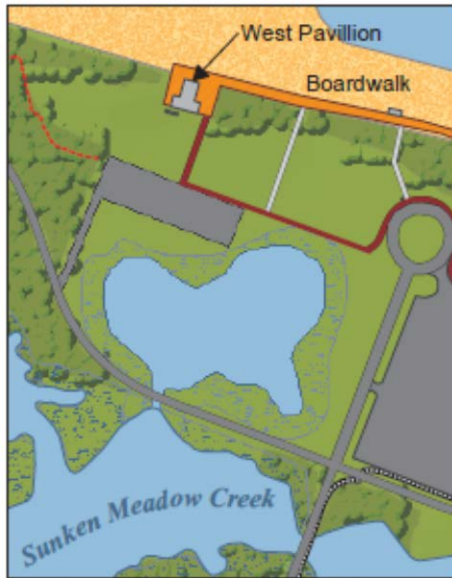
A parking area is needed for the West Pavilion.

Additional infrastructure is not located adjacent to the coast.

The area was once marshland.

Eliminates overflow parking on busy weekends.

Existing recreational uses are impacted.



Alternative 4 – Provide recreational fields and courts

Additional maintenance time and labor.
Public support for facilities.



Decreases quantity of overflow parking during peak visitation.
Increases the demand for parking.
Porous surface would improve stormwater runoff.
Facilities will be impacted by the sea level rise.

Alternative 5 – Construct a reinforced grassed field



Would allow for informal recreational use.

Would require mowing.

Will allow for overflow parking during busy weekends.

Parking patrons will require additional staff.

Will significantly reduce stormwater runoff in the area.

Existing uses would remain.

Alternative 6 – Construct a dual use porous parking area.



Will allow for informal recreational use.

Requires mowing.

Will allow for parking during busy weekends

Does not require addition staff to direct cars.

Trees provide shade for cars and picnickers.

Pavilion rental parking is separated out.

Pedestrian connectivity is improved.

A comfort station is constructed.

Preferred Alternative: 6

The parking area will support the adjacent picnic area allowing patrons to play field activities or picnic. American Plane-trees, or Sycamores, are planted to designate zones which will be used for both parking and organized field games as needed. A comfort station is constructed in the picnic area and ongoing storm-water runoff issues are addressed. The surrounding American Plain-trees are replaced upon death or removal. Model airplane use of Field 2 will continue to be allowed until improvements are made where it will then be reevaluated.

Multimodal Connections

Background for Analysis: The park presently has very limited connection to forms of transportation other than vehicles. Improving multimodal connections is a very sustainable practice as it reduces the need for vehicular traffic into the park and supports the initiatives of OPRHP.

Alternatives	Considerations
Alternative 1 - Status Quo	Limited opportunities exist for multimodal transportation to the park.
Alternative 2 – Improve opportunities	<p>Patrons could use a variety of connections if they were available and promoted.</p> <p>Is a sustainable practice.</p> <p>Reduces the demand for parking.</p> <p>Reduces the funds collected from parking fees.</p>

Preferred Alternative: 2

A connection to the Long Island Railroad (LIRR) will be made and/or supply information to people taking the train on how to get to the park. OPRHP will coordinate with the LIRR to place information on their webpage. Information will also be placed on the Sunken Meadow Facebook page. Pathways to the park should be developed and promoted to encourage multimodal transportation to the park. The park will outreach to the NYS Department of Transportation to determine appropriate and effective methods to improve these opportunities.

Comparison of Status Quo and Preferred Master Plan Alternative

Element/Topic	Status Quo Alternative	Preferred Master Plan Alternative
Main Bathhouse/Park Office	The bathhouse will continue to operate in its current condition. Park administration will continue to be coordinated from the office, located in the bathhouse building.	Improvements to the main bathhouse are underway. Improvements will make use of space in the bathhouse not presently used and provide additional and improved facilities to meet the year-round demands at the park
Maintenance Area	Storage of construction materials and equipment remains uncovered year round. Roadway salt and sand remains uncovered.	A conceptual plan will be developed for the maintenance area to provide improvements. The Kohr Road entrance will be available for staff, emergency and delivery vehicles to improve access to the park.
Golf Maintenance Area	The golf course maintenance area is located adjacent to the golf course and clubhouse. Storage of equipment remains uncovered year round.	The golf course maintenance area will be moved across Naples Ave near the golf course entrance. The current maintenance area to be used for golf activities and events.. As part of this project, the golf course irrigation pumps will require moving and fuel tanks would be removed.
Toll Plaza	Plaza remains in its current condition with operational constraints. Improvements to the fee collection system are developed.	The toll plaza will be replaced using current design standards and aesthetics consistent with the park and the parkway.
Parking Field 2	Remains largely unused for much of the year. Is used for overflow parking and for special events. In the fall and winter months it is used for flying model airplanes.	The area is developed into a grassy overflow parking area and recreational area. Shade trees are planted to define parking and storm-water runoff issues are addressed. The surrounding American Plaintrees are replaced upon death or removal and the parking field will be open to patrons seasonally.

Element/Topic	Status Quo Alternative	Preferred Master Plan Alternative
Parking Field 5	Remains an undesignated trailhead and equestrian access to the Bridle Path. Area expands to include a cell phone tower.	Parking Field will be improved to serve BOCES, Scouting groups, picnickers, trail users and other patrons more effectively. The parking area will be repaved and provide additional parking during busy weekends.
Overlook Area	The Sound is not visible from the overlook after the trees have leafed out. Minimal vegetative management is done to keep this vista open.	Selective pruning and removal of the trees adjacent to the overlook area will take place to allow patrons convenient access to a significant vista of the Long Island Sound.
Golf Course Roadway	Vehicles and pedestrians continue to use the golf course roadway (Naples Avenue).	Vehicular access to the golf course will remain on Naples Ave. A multi-use pathway will be developed between the roadway and the bluff to provide an area for pedestrian activity and connectivity away from vehicles.
Roads and Bridges	Several roadways throughout the park are in need of repaving, the entrance road to the park is concrete and in need of stabilization and the bridge over Route 25A and Sunken Meadow Creek are in need of repair.	The roadways in the park will be repaired and repaved as needed. The bridges over Route 25A and Sunken Meadow Creek will be rehabilitated and upon the construction of a separate pedestrian bridge, the sidewalk will be removed from the Sunken Meadow Bridge and the vehicle lanes widened.
East Pavilion	The building is in need of rehabilitation/renovation.	The concession building will be rehabilitated and a long term maintenance plan developed.
West Pavilion	Building continues to serve large groups.	A stairway will be constructed for event goers to access the beach reducing impacts of patrons using the boardwalk.
Shade/Rain Shelters	Does not exist in the park.	Shade/Rain shelters will be provided at key locations in open picnic areas for people to use for picnicking. Shelters will also be

Element/Topic	Status Quo Alternative	Preferred Master Plan Alternative
		constructed adjacent to playgrounds for parents to use while supervising their children on the playground.
Campground –Full Service	Camping is not allowed in the park.	Full service camping will not be constructed in the park
Scout Camping - Backpack	Primitive group camping opportunities are not allowed in the park.	Primitive group camping opportunities will be provided to scouting groups wishing to use the park for park service projects.
Rental Pavilions	The West and East Orchard Pavilions are the only reservable pavilion. Pavilion space is provided on the back side of the East Orchard Pavilion is underutilized.	The East Orchard pavilion’s adjacent enclosed room will be adapted for food preparation and warming. Two additional pavilions and a comfort station will be constructed in the East Orchard Picnic Area for large group rental.
Boardwalk	The boardwalk remains in its current length and condition.	The boardwalk will have improvements including additional benches with backrests through the memorial bench program; waterline replacement; the installation of low level, Dark Skies compliant lighting at key areas of high use.
Picnicking	Overuse of picnic areas continues. Minimal improvements are made as funding allows.	The East Orchard bathrooms will be rehabilitated and the pavilion will be placed on the reservation system. The enclosed portion of this pavilion will be converted to a food preparation and warming area. A portion of Parking Field 2 and 3 is converted to a picnic area. The Parking Field 5 picnic area is rehabilitated.

Element/Topic	Status Quo Alternative	Preferred Master Plan Alternative
Fishing	Fishing opportunities are not expanded or improved. Patrons continue fish from the shore.	During the restoration of Sunken Meadow Creek, fishing access points along the creek may need to be reevaluated.
Flora and Fauna Observation	Designated areas in key locations are not provided	To assist patrons with flora and fauna identification, additional education and interpretation will be provided at key locations in the park.
Dog walking	The designated dog walking area remains in the east portion of the park on designated trails. Access remains from eastern boundaries of the park.	On leash dog walking opportunities will remain in their present location. Trail signage will be installed at access points identifying the trail conditions at each location.
Cross country running course	The course remains in its current location using a combination of natural surface or a mix of asphalt millings and soil.	The park will continue to use asphalt millings to stabilize the course. The layout of the course will remain the same.
SCUBA diving	SCUBA diving is an unregulated activity in the park.	Areas of the park will be designated by park staff for SCUBA access.
Kayaking/Canoeing/Paddle boarding/Windsurfing	An unimproved launch site remains on Sunken Meadow Creek. Windsurfing is allowed access to the Sound from the beach.	To improve water access for park patrons and protect the surrounding maritime grassland habitat, changes will be made to improve and consolidate the access points for kayak/canoe/paddle boards on Sunken Meadow Creek. Windsurfing access to the Sound will remain unchanged.
Astronomy/Star gazing	Astronomers and star gazers area allowed access to the park by permit.	The construction of additional astronomic observation facilities for a very limited quantity of users is not recommended due in part to the additional facilities needed. The use of existing facilities will remain.

Element/Topic	Status Quo Alternative	Preferred Master Plan Alternative
Model Airplanes	Model airplanes are permitted in Parking Field 2 during the off season.	Opportunities will remain in the Parking Field 2 area until the area is redeveloped. Any further additional seasonal expansion will be considered at Nissequogue River State Park.
Multimodal Connections	Connections to local bus and train stations exist primarily for vehicular traffic.	A connection to the Long Island Railroad (LIRR) will be made and/or supply information to people taking the train on how to get to the park. OPRHP will coordinate with the LIRR to place information on their webpage. Information will also be placed on the Sunken Meadow Facebook page. All multi-modal connections to the park should be developed. We need to develop safe pathways, a bike path along the Parkway then promote it. DOT would be a good partner for this project.
Pedestrian Connections	Connections remain in there current conditions and locations.	Connections to the surrounding communities are improved and the usage of non-motorized transportation to the park is encouraged through improved facilities such as bicycle racks. A multi-use pathway will be developed adjacent to the Parkway and the roadway to the golf course. See Figure 16 – Pedestrian Connections Map.
Trails	Trails remain in their current locations and conditions. Connections to adjacent areas are not provided.	Outreach will be provided to local trail groups for planning, design, maintenance, relocation and reclamation of trails as identified by OPRHP trail standards. Connections will be made to adjacent parks

Element/Topic	Status Quo Alternative	Preferred Master Plan Alternative
		to enhance pedestrian access to the park.
Trailheads	Trailheads are not identified for trails other than the Greenbelt Trail.	Parking Fields 3, 4 and 5 will be designated as trailheads. Park signage will be developed to include these areas for trail access.
Hiking	Allowed on all trails.	With the exception of the Bridle Path and the Greenbelt Trail, trails in the park will be multi-use trails
Mountain biking	Allowed on all trails.	With the exception of the Bridle Path and the Greenbelt Trail, trails in the park will be multi-use trails
Equestrian	Equestrian use is allowed on the Bridle Path.	Equestrian use will remain on the Bridle Path.
Swim Beach	The designated swim beach is located on a ¾ mile portion of the shoreline adjacent to the boardwalk. Patrons must swim in guarded areas.	The swimming beach will remain as is. Operational constraints as well as resource protection do not warrant the expansion of the guarded swim beach.
Driving Range	Remains in its current condition and is operated by concession.	Improvements to the driving range will be made to increase accessibility to patrons with limited abilities.
Golf	The golf course remains in its current condition.	Courses will continue to serve mid-level golfers. Improvements made to the course will raise course standards and improve the quality of play for patrons.
Disc Golf	A disc golf course is not present in the park.	Disc golf will be allowed in the park if it is constructed and maintained by an outside organization and does not interfere with other activities in the park.

Element/Topic	Status Quo Alternative	Preferred Master Plan Alternative
Mini Golf	Mini golf is not present in the park.	Mini golf will not be constructed in the park. Considerations will be given only if funding and staffing levels improve.
Tennis Courts	Tennis courts are not present in the park.	Town and County parks, public schools and the private sector will continue to serve the local demand for tennis. Tennis courts will not be constructed in the park.
Softball	The park has two maintained softball fields and four unmaintained softball fields.	Operational demands at the park do not warrant the expansion of softball. Unmaintained fields and open areas will remain available for informal softball games and other activities.
Soccer/Cricket	The park does not have a designated soccer or cricket field but there are many open grass areas commonly used for soccer, cricket and other activities.	The creation of a designated soccer/cricket field will limit the flexibility needed at this park to provide various activities for a wide variety of user groups. Undesignated soccer opportunities will remain in their current location.
Sunken Meadow Creek	Due to Hurricane Sandy, the creek is open to tidal flow. A plan to restore Sunken Meadow Creek to a tidal creek has been developed.	Restoration of habitat in the creek will continue. Monitoring of changes due to increased tidal flow will continue to take place.
Park Landscaping	A current plan does not exist for the park. The existing trees and shrubs are maintained.	A planting plan will be developed. Shrubbery will be planted at key locations to eliminate picnicking from areas around parking fields and roads. Historic trees will be replaced upon death, damage or disease.
Water System	The water system is old, potentially leaking and in many cases in need of	Investigation into the system and potential leaks will take place in the future.

Element/Topic	Status Quo Alternative	Preferred Master Plan Alternative
	replacement.	Replacement will take place as indicated by the investigation.
Wastewater System	Wastewater treatment systems have been upgraded at the East and West Pavilions A treatment system for the main bathhouse is presently under construction and the East and West Orchard Picnic Areas systems are in need of replacement.	Wastewater systems for the main bathhouse are being replaced. the East/ West Orchard Picnic Areas will be also be replaced.
Electric System	Electric service was last updated in 1957, is outdated and remains in disrepair.	The electric system throughout the park will be investigated and upgrades made as required. Emergency generators will be provided for main facilities including the bathhouse, maintenance area, golf course irrigation system and concession buildings as appropriate.
Outdoor Lighting	Outdoor lighting is not present in any portions of the park except Parking Field 3 under and agreement with the Town of Smithtown.	Lighting will be installed in portions of Parking Fields 1 and 2 to enhance patron experience during low light and evening events. Low level down-lighting will be provided at key locations along the boardwalk for use during low light and during evening events. To reduce the impact of lighting on the surrounding area, strategies to minimize light pollution will be used during the design of these lighting systems.
Telephone System	Cell phone service from one carrier is provided in the park.	Additional carriers are encouraged to use the cell phone tower in the Parking Field 5 area.
Emergency Address System	Staff continue to use bullhorns to address patrons during emergencies as	An emergency address system will be installed to assist staff and protect patrons

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	appropriate.	during emergency events.
Stormwater Drainage	Many culverts throughout the park are in disrepair and or clogged.	To improve the water quality and drainage in the park, the stormwater system will be assessed and improved where appropriate.
Cultural resources	The State Historic Preservation Office (SHPO) is consulted during the renovation of NRE structures and during new construction resulting in ground disturbance.	Consultation with SHPO concerning NRE structures and ground disturbing construction will continue. A interpretation partnership with the Kings Park Heritage Museum will be explored.
Historic Fire Tower Site	Footings remain on the site of the former fire tower.	The site of the former fire tower will be interpreted to educate patrons about its location and past use to protect Long Island from wildfires.
Invasive Species Management	Invasive species continue to spread throughout the park. Labor constraints persist reducing the amount of time spent on control.	Phragmites will be managed as part of the restoration of the Sunken Meadow Creek. An Invasive Species Management Plan will be developed for the park to identify areas of invasive species and methods to control them.
Fish and Wildlife Resources	OPRHP wildlife policies are implemented to improve habitat and protect native species.	Continue to implement park policies concerning wildlife. OPRHP will work with partners to address these policies, including nuisance wildlife on a case by case basis.
Wetlands	Saltwater marsh habitat has been improved in the park due to the impacts of Hurricane Sandy.	To protect and preserve the wetlands a wetland interpretation and education program will be implemented. Additional research projects will be encouraged through new and existing partnerships. Restoration of the

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		wetlands will continue.
Shoreline Erosion	The shoreline from the jetty to the mouth of the Nissequogue River is nourished with sand from dredging operations on the Nissequogue River. Sand from other sources is not placed on the beach.	Shoreline protection and nourishment will continue. OPRHP will continue to place the spoils from dredging operations on the Nissequogue River on the shoreline as they become available. When they become unavailable, parks will reconsider shoreline management strategies. To protect the bluff, the placement of spoils will be expanded to include both sides of the jetty.
Bird Conservation Area	A Bird Conservation Area for the park does not exist.	A Bird Conservation Area for the park will be created. See Figure 23 – BCA Map.