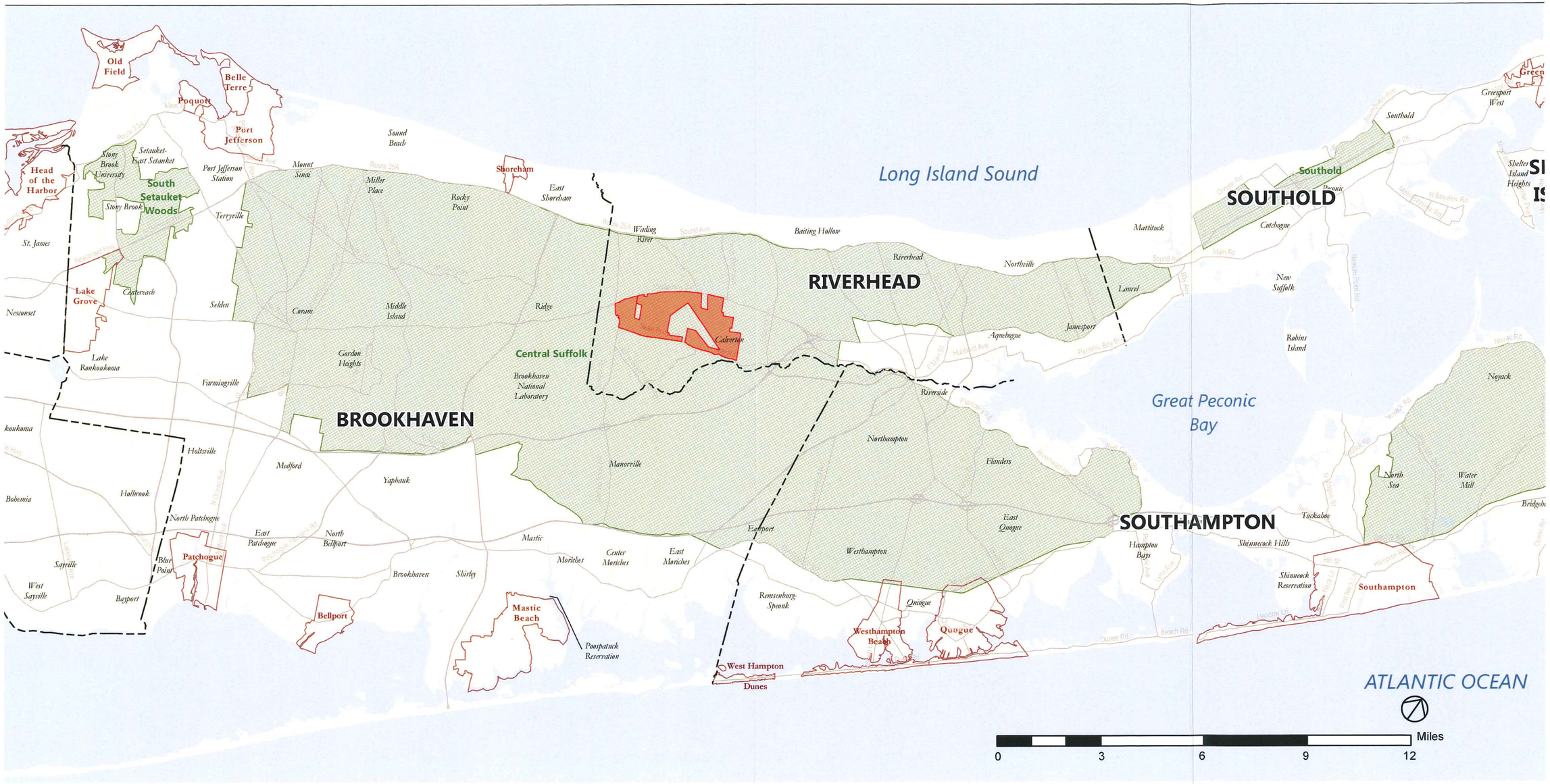
Date: 07.00.14



LEGEND

- EPCAL Property
- Special Groundwater Protection Area
- Village Boundary

Source: Suffolk County Department of Economic Development & Planning, Division of Planning & Environment; NYS Office of Information Technology Services

PROPOSED SUBDIVISION OF EPCAL PROPERTY
DRAFT SUPPLEMENTAL GENERIC ENVIRONMENTAL IMPACT STATEMENT
Calverton, New York

Special Groundwater Protection Areas

Figure **33**

Pursuant to 6 NYCRR §617.2(i), a CEA is "... a specific geographic area designated by a state or local agency, having exceptional or unique environmental characteristics," and the potential impacts of a proposed action upon the environmental characteristics of a CEA must be considered in determining the significance of an action in accordance with 6 NYCRR §617.7.

As is characteristic of Hydrogeologic Zone III, the groundwater quality within the Central Suffolk SGPA is considered to be excellent. The *SGPA Plan* identifies problems and concerns regarding groundwater contamination in this region, namely point source discharges from individual sewage treatment plants, landfills and potential hazardous waste disposal sites, and non-point discharges from unsewered medium-density residential and commercial developments, agricultural practices, etc. (Pages 3-73 to 3-82).

As indicated in NYCRR Part 617.9(b)((5)(iii)(h):

> *"The draft EIS should identify and discuss the following only where applicable and significant...*
>
> > *if the proposed action is in or involves resources in Nassau or Suffolk Counties, impacts of the proposed action on, and its consistency with, the comprehensive management plan for the special groundwater protection area program as implemented pursuant to article 55 or any plan subsequently ratified and adopted pursuant to article 57 of the Environmental Conservation Law for Nassau and Suffolk counties"*

As discussed below and noted in Footnote 59, above, the Long Island Pine Barrens Protection Act (Article 57 of the Environmental Conservation Law) was adopted in 1993, subsequent to the Article 55. Since the site is located within the CPB and the Central Pine Barrens Comprehensive Land Use Plan (CLUP) addresses properties within the CPB, an analysis of the proposed project with respect to the *SGPA Plan* is not required. An analysis of the proposed action with the CLUP is provided in Section 3.1.2 of this DSGEIS and discussed below.

The Long Island Central Pine Barrens

As indicated in Section 2.3.1 and discussed in more detail in Section 3.1.1, the EPCAL Property is located within the CPB. The Long Island Central Pine Barrens is a 100,000-acre area located in central and eastern Long Island that encompasses a portion of the towns of Brookhaven, Riverhead and Southampton. Approximately 320 acres located in the western portion of the EPCAL Property are located within the Central Pine Barrens Core Preservation Area (Core). The remainder of the EPCAL Property is located within the Central Pine Barrens Compatible Growth Area (CGA).

According to § 57-0105 of the Long Island Pine Barrens Protection Act, the New York State legislature found that the purpose of the legislation is to allow the state and local governments to protect, preserve and properly manage the unique natural resources of the Pine Barrens-Peconic Bay system and to encourage coordination of existing programs and studies affecting land and water resources in the region and to protect the value of the existing public and private investment that has already been made to acquire land in the region.

As noted in Section 3.1.1, pursuant to Chapter 9 (Section 9.2) of the Central Pine Barrens Comprehensive Land Use Plan (CLUP), Volume 1: Policies, Programs and Standards, the redevelopment of the EPCAL Property was considered to be an economic development activity and, therefore, "considered a public improvement pursuant to Section 57-0107(13)(i) of the Pine Barrens Protection Act and therefore does not constitute 'development' within the meaning of all sections of the Pine Barrens Protection Act." As excerpted from Chapter 9, Section 9.2 of the CLUP,

> *"Pursuant to Public Law 103-c337, Section 2833, the Secretary of the Navy is authorized to convey to the Town of Riverhead Community Development Agency a 2,900 acre tract of real property at Calverton, more particularly described as the Calverton Naval Weapons Industrial Reserve Plant, subject to the condition that the real property is used for the economic redevelopment of the site and that the redevelopment authority be comprised of entities having an interest in the land use of the region.*
>
> *The Pine Barrens Protection Act, Section 57-0107(13)(i), provides that public improvements undertaken for the public welfare do not constitute development within the meaning of the law. Based upon the above referenced Public Law, all economic development activity upon the lands of the Calverton Naval Weapons Industrial Reserve Plant conveyed by the Secretary of the Navy is considered a public improvement pursuant to Section 57-0107(13)(i) of the Pine Barrens Protection Act and therefore does not constitute 'development' within the meaning of all sections of the Pine Barrens Protection Act. Further, Public Law 103-c337 contemplates the development of a Comprehensive Master Plan and attending Generic Environmental Impact Statement to guide the location and intensity of economic development activity on the site; such plan and GEIS to be adopted prior to the conveyance of the property to the Town."*

It is further noted, as stated in footnote 1 to Section 9.2, "[t]his policy was approved unanimously by resolution of the Commission at its 1/11/95 meeting."

Notwithstanding this, given that portions the subject property are within the boundaries of the CGA, the relevant policies are discussed in Section 3.1.1 and a consistency analysis of the proposed action with those policies is included in Section 3.1.2 of this DSGEIS.

Water Supply

The subject property is not within an existing water district or service area. However, the Riverhead Water District (RWD) has made an application to the NYSDEC to annex the entire site into that district. Additional information regarding public water supply at the subject property is provided within in Section 3.7.1 of this DSGEIS.

The EPCAL Property was originally served by three on-site wells. According to H2M, the Water District's consultant, all of the wells that were previously used for the drinking water supply for the former development were taken out of service due to contamination issues, including the well known as the Riverhead Waste District Plant No. 12, which was located within Calverton Camelot.

In preparation for potentially expanding the RWD to cover the entire NWIRP Calverton Property, and in response to the needs of the site in light of the well contamination issue, a water main was extended west along NYS Route 25 from the current district boundaries when the two new wells (RWD Plant No. 11) were constructed at the northwest corner of the property, and the main was interconnected with the on-site distribution system. Portions of the existing on-site water distribution system have been incorporated into a new overall distribution system supplied by the new wells and designed to service Calverton Camelot.

Currently, water demand from the property is minimal, as existing usage of the property is essentially limited to the community center and designated parks.

Suffolk County Sanitary Code and Sewage Disposal

In order to protect the groundwater quality in Suffolk County, the SCDHS adopted Articles 6, 7, and 12 of the Suffolk County Sanitary Code (SCSC). Article 6, entitled, *Realty Subdivisions, Developments and Other Construction Projects*, contains several provisions relevant to the subject property:

Section 760-607(A) of the SCSC indicates that, for projects other than conventional single-family residential realty subdivisions and developments, a community sewerage system method of sewage disposal is required when any of the following conditions are met:

- The construction project is located within Groundwater Management Zones III, V, or VI, and the population density equivalent is greater than that of a realty subdivision or development of single-family residences in which all parcels consist of an area of at least 40,000 square feet.

- The construction project is located outside of Groundwater Management Zones III, V, or VI, and the population density equivalent is greater than that of a realty subdivision or development of single-family residences in which all parcels consist of an area of at least 20,000 square feet.

- The construction project, or any portion thereof, is located within an existing sewer district, unless hardship can be demonstrated.

- The construction project is located in an area where the subsoil or groundwater conditions are not conducive to the proper functioning of individual or subsurface sewerage systems.

As indicated above, the subject property is situated within Groundwater Management Zone III, as indicated on the *Suffolk County Sanitary Code – Article 6 SCDHS – Groundwater Management Zones* (SCDHS, 1998). Accordingly, for the 2,323.9±-acre subject property, the maximum permissible discharge to on-site sanitary systems would be approximately 697,170± gpd. A community sewerage method of sewage disposal would be required if the anticipated quantity of sanitary waste generation exceeds that amount.

As discussed in Section 3.7.1 of this DSGEIS, an existing sewage treatment plant (STP) occupies a portion of Calverton Camelot, outside the subject property. The STP currently accepts sanitary waste at a rate of approximately 25,000 gpd. With the exception of the nearby Stony Brook Incubator (Tax Parcel No. 600-135-1-7.30) and a minimal amount of waste generated by the on-site community center, all wastes accepted by the STP originate at occupied parcels within Calverton Camelot. The STP discharges treated effluent to McKay Lake under a SPDES Permit held by the Calverton Sewer District (see Appendix N). Sludge is collected from settling tanks and hauled to Suffolk County's Bergen Point Water Pollution Control Facility.

Prior to conveyance of the overall property to the Town in 1996, the sewage collection system consisted of gravity piping and two pump stations which delivered sewage to the on-site STP. The existing network of gravity sewers, pump stations and force mains has been supplemented in recent years in conjunction with the ongoing development of Calverton Camelot to include extension of gravity sewers generally coincident with the proposed Calverton Camelot roadways. The two existing pump stations have been upgraded and a third completed to service existing

lots within the subdivision,[66] a fourth pump station location has been identified to serve future development of the southeast portion of the subdivision. In addition, a sewer connection was previously provided for the Stony Brook University Business Incubator site, as noted above. Additional dry force mains (for future use) have been installed in anticipation of pumping effluent from the STP to the northeast corner of the subject property (north of the groundwater divide) as part of future upgrades to the plant.[67]

Article 7, *Water Pollution Control*, of the SCSC is intended to protect water resources "...from discharges of sewage, industrial and other wastes, toxic or hazardous materials and stormwater runoff," and sets forth restrictions and prohibitions for certain discharges of such materials. Article 7 sets forth additional restrictions on discharges within deep recharge areas and water supply sensitive areas, and enumerates those activities which are excluded from such restrictions (e.g., application of approved fertilizers or pesticides, deicing salts, discharge of sewage to municipal sewers, etc.). As previously discussed, the subject property is in Zone III, which is considered to be a deep recharge area for the purposes of Article 7. The subject property is not within a defined water supply sensitive area.

Article 12, *Toxic and Hazardous Materials Storage and Handling Controls*, of the SCSC relates to the storage and handling of toxic and hazardous materials. As the subject property is unoccupied, there are no toxic or hazardous materials being stored or used on-site.

Current Groundwater Conditions

As discussed in detail in Section 3.12, there are several portions of the EPCAL Property that continue to be investigated and remediated by the U.S. Navy. These portions of the site have not yet been transferred to the Town CDA. With respect to groundwater conditions, contaminant sources have been removed from Sites 6A and 10B (see Figure 41 in Section 3.12.2) through various remedial actions, and a groundwater treatment system began operation in the Southern Area in October 2013 to address residual contamination that continues to migrate into groundwater. The effectiveness of this system will be monitored to determine whether additional remedial actions are needed at Sites 6A or 10B, or the Southern Area.

Removal actions and operation of a groundwater treatment system appear to have largely addressed contamination at Site 7 (off-site) (see Section 3.12.1), although further remediation of limited areas may be required. Monitoring will continue at Site 7 in order to determine whether additional remediation is needed.

[66] H2M Group – Riverhead Water District Extension No. 75, Calverton Enterprise Park Record Map, Last revised May 5, 2008
[67] Ibid.

Once these parcels are remediated (if necessary), they would be transferred to the Town CDA. Thus, other than these several on-going monitoring and remediation projects noted above, no other impacts to groundwater resources from the former use of the site by the U.S. Navy/Grumman have been identified.

Stormwater Runoff and Drainage

Stormwater runoff is generated by events of precipitation and is divided into three components: surface runoff, interflow, and base flow. Surface runoff is that portion of the stormwater that remains after a precipitation event and is not captured by depression storage or ponding, does not infiltrate the ground's surface, and is not evapotranspired from the earth's surface. Interflow is that portion of stormwater that infiltrates the surface into the soil zone and moves in a horizontal direction until reaching a surface water body. The base flow is the portion of stormwater that infiltrates the surface and soil profile to reach groundwater.[68]

In the NYSDEC manual, *Reducing the Impacts of Stormwater Runoff From New Development*, the concept of stormwater management is such that there is qualitative control as a system of vegetative and structural measures that can be used "to control the increased volume and rate of surface runoff caused by man-made changes to the land" and "to control or treat pollutants carried by surface runoff." The goal of stormwater management is to prevent substantial alteration of the "quantity and quality of stormwater run-off from any specific development...from predevelopment conditions."

Stormwater Management

The existing storm drainage systems consist of a combination of subsurface piping (with inlet structures) and open/natural swales within approximately 10 different watersheds within and just outside the EPCAL Property. In general, the gravity piping systems are limited to the runways, taxiways and Calverton Camelot (i.e., the area of the existing U.S. Navy/Grumman buildings). Stormwater from the remainder of the subject property is directed to open channels and swales.

All of the watersheds discharge to McKay Lake (under the current SPDES Permit held by the Calverton Sewer District) (see Appendix N) or through localized swales that discharge off-site to the south toward Swan Pond, adjacent wetlands and the Peconic River. The Supplemental Environmental Assessment[69] prepared for

▼

[68] *Reducing Impacts of Stormwater Runoff from New Development*, New York State Department of Environmental Conservation. As indicated on the NYSDEC website (www.dec.state.ny.us), "This document provides guidance on site planning and stormwater management including an example of a **model stormwater ordinance**. The document is out of print at this time because it is being revised and updated. Watch this web page for the update."

[69] Cameron Engineering Supplemental Environmental Assessment for Calverton Camelot Subdivision, March 2002.

Calverton Camelot notes that individual lots are required to contain on-site runoff as they are developed, thereby reducing the contribution to the existing drainage systems. This appears to be the case for the few recently-developed lots within the subdivision.

Town of Riverhead Stormwater Management and Erosion and Sediment Control Ordinance

In recognition of the need to address potential adverse impacts associated with stormwater runoff (e.g., sediment and pollutant transport, erosion, reduced groundwater recharge, etc.), the Town Board of Riverhead adopted Chapter 110 of the Code of the Town of Riverhead entitled, *Stormwater Management and Erosion and Sediment Control* (hereinafter, the "Stormwater Ordinance"). The Stormwater Ordinance codifies the requirements of the NYSDEC's SPDES General Permit for Stormwater Discharges from Construction Activities (GP-0-10-001, as amended or revised). The Ordinance requires that a Stormwater Pollution Prevention Plan (SWPPP) be prepared for all land development and redevelopment activities within the Town (subject to exemptions set forth at §110-5 of the Code of the Town of Riverhead). The SWPPP sets forth the measures by which the potential for erosion and sedimentation would be addressed during and beyond construction/ development activities planned for a particular site, subject to various performance and design criteria. For certain projects, additional SWPPP components are required to address water quantity and quality control.

With respect to the aforementioned performance and design criteria, §110-7.A of the Code of the Town of Riverhead adopts (by reference) those presented in the most current versions of the NYSDEC's *New York State Stormwater Design Manual* and the *New York Standards and Specifications for Erosion and Sediment Controls.* The most recent versions to date were published in August 2010 and August 2005, respectively. Alternative approaches to stormwater management and/or erosion and sediment control may be approved, but equivalence to the above-referenced standards must first be demonstrated.

Surface Water, Wetlands and Floodplains

Peconic Watershed and Headwaters/ Wild Scenic and Recreational Rivers System

Few perennial streams drain the county. The largest stream is the Peconic River, whose headwaters are located approximately three-quarters of a mile upstream of the Brookhaven National Laboratory. The Peconic River empties into Flanders Bay, part of the Great Peconic Bay, near Riverhead. It drains an area of about 75 square miles. The second largest is Carmans River which heads near Middle Island and empties into the Great South Bay near Shirley. It drains about 71 square miles.

Carlls River heads near Wyandanch and empties into the Great South Bay near Babylon. It drains approximately 35 square miles. The Nissequogue River heads near Hauppauge and empties into the Smithtown Bay of Long Island Sound. It drains about 27 square miles. The Connetquot River heads between Ronkonkoma and Central Islip and empties into the Great South Bay near West Sayville. It drains an area of about 24 square miles. Sampawams Creek heads near Deer Park and empties into the Great South Bay at Babylon. It drains an area of about 23 square miles. Many other small creeks empty into the southern bays. Most of these creeks are subject to tidal flow.

Two basins that have no surface-drainage outlet are in the county. The largest is the Selden basin near Coram, the other is the Lake Ronkonkoma basin. Elsewhere in the county, small areas have no surface-drainage outlet. Runoff runs into shallow, closed depressions and evaporates or percolates into the groundwater. However, runoff from most developments and highways is disposed of by recharge basins dug into the highly permeable sand and gravel substratum.

According to the U.S. Fish & Wildlife Service report entitled *Wetlands of the Peconic River Watershed*, prepared by Ralph W. Tiner, Regional Wetlands Coordinator of the National Wetlands Inventory Program, aside from the Peconic River, the watershed also contains several other prominent water bodies including Peconic Lake, Swan Pond, Canoe Pond, Fox Pond, Prestons Pond, Linus Pond, Sandy Pond, Forest Pond, Jones Pond, Zekes Pond, Grassy Pond, Peasys Pond, Round Pond, Horn Pond, Merritts Pond, McKay Lake, and Wildwood Lake. The watershed drains in an easterly direction into the estuarine portion of the river and eventually into Peconic Bay.

As indicated, shallow, groundwater-fed Coastal Plain ponds, some formerly cultivated for cranberries, are found throughout the headwaters areas, many in pristine condition. These ponds are characterized by seasonally and annually fluctuating water levels with well-developed shoreline vegetation.

The Peconic River watershed contains 2,009 acres of wetlands which represents three percent of the watershed area. Palustrine wetlands predominate, occupying approximately 95 percent of the wetlands, whereas estuarine wetlands make up the remaining five percent.

In addition, with respect to wetlands associated with the Peconic River Watershed,

> *"Nearly all of the wetlands (including ponds) were rated as potentially significant for surface water detention and 97% were considered important for retention of sediments and other particulates.... Seventy-eight percent of the wetlands were predicted as significant habitat for non-aquatic wildlife and nutrient transformation. About two-thirds of the wetlands were identified as significant for streamflow maintenance and shoreline stabilization. Fifty-seven percent was deemed important*

> *for providing waterfowl and waterbird habitat, whereas only 32% was rated as potentially important as fish and shellfish habitat. An additional 28% of the wetland acreage was identified as providing shade over streams which is important for aquatic life."*

The Peconic River contains three major areas of significant to fish and wildlife resources, unique plant communities or regional biological diversity within the overall river complex, including 1) Peconic River and Headwaters, 2) Dwarf Pine Plains and 3) Bald Hills Pine Plains. Approximately one half of the area is owned by Suffolk County and managed in cooperation with The Nature Conservancy, and the remainder is owned by multiple private landowners and the U.S. Government. The Peconic Headwaters is composed primarily of mixed oak, pine barrens and open habitat (see Appendix P).

The *Peconic Headwaters Natural Resources Management Area Unit Management Plan* provides the basis for managing the Otis Pike Preserve and several other parcels of State land within the Long Island Central Pine Barrens Preserve core preservation area, according to the NYSDEC. The planning unit contains approximately 5,000 acres in the unincorporated areas of the Towns of Riverhead and Brookhaven. The Plan includes recommendations to protect the area's diverse forest, grassland, wetland and riverine communities while providing compatible outdoor recreational opportunities. With the exception of a small area located east of the easternmost runway (which is indicated as managed, but restricted – no trespassing), the subject property does not contain any portion of the Otis Pike Preserve Cooperative Hunting Area or other managed lands (see Appendix P).

According to the NYSDEC's Wild Scenic and Recreational River System Overview,[70]

> *"...the state's Wild Scenic and Recreational Rivers Act[71] protects those rivers of the state that possess outstanding scenic, ecological, recreational, historic, and scientific values. These attributes may include value derived from fish and wildlife and botanical resources, aesthetic quality, archaeological significance and other cultural and historic features.*
>
> *State policy is to preserve designated rivers in a free flowing condition, protecting them from improvident development and use. This policy is intended to preserve the enjoyment and benefits derived from these rivers for present and future generations.*
>
> *DEC's regulations implementing the Wild Scenic and Recreational Rivers Act affect management, protection, enhancement, and control, of land use and development on all designated river areas in New York State, excluding those on private lands within the Adirondack Park."*

[70] http://www.dec.ny.gov/permits/6033.html

[71] Article 15 Title 27, Environmental Conservation Law Implementing Regulations – 6 NYCRR Part 666

There are four rivers on Long Island designated as scenic and/or recreational (i.e., Carmans River, Connetquot River, Nissequogue River and Peconic River). The subject property is located just north of the Peconic River and partially within the boundaries of the Peconic River Wild, Scenic and Recreational River System (WSRRS) corridor. Separate portions of the Peconic River are designated as both scenic and recreational.

According to the NYSDEC WSRRS Map for the Peconic River, southern portions of the subject property are located within the scenic portion of the Peconic River WSRRS (see Figure 38), with the remainder located outside of the WSRRS corridor. Therefore, improvements to the property would be subject to compliance with Article 15 of the Environmental Conservation Law (Part 666: Regulation for Administration and Management of the Wild, Scenic and Recreational Rivers System in New York State Excepting Private Land in the Adirondack Park).

Pursuant to the 2001 NYSDEC WSRRS Permit issued in connection with the subdivision of the subject property to create Calverton Camelot (NYSDEC Permit No. 1-4730-01050/00001), there appears to be a covenant on the property to maintain a 500-foot buffer of existing natural vegetation to be preserved in its present state and remain in perpetuity along north side of Grumman Boulevard. This excludes roadway rights-of-way, railroad tracks, perimeter security, runways, taxiways and concrete tie-downs.

Peconic Estuary Program and Brown Tide Comprehensive Assessment and Management Program

According to the *1997 EIS*, in 1987, the Clean Water Act was amended to provide for the creation of a National Estuary Program (NEP). As part of the NEP, the Peconic Estuary was designated in 1991 and the Peconic Estuary Program (PEP) was established. The Peconic Estuary contains a large variety of natural communities, from upland pine barrens along the Peconic River to soft-bottom benthos in the bays. There is a larger percentage of undisturbed habitats and a greater diversity of natural communities within this watershed than anywhere else in the coastal zone of New York State. The PEP is a partnership of local, state, and federal governments, citizen and environmental groups, businesses and industries, and academic institutions. The PEP Comprehensive Conservation and Management Plan (CCMP) was approved in 2001 by the EPA. The CCMP was prepared to address the following management areas:

- water and sediment quality, dealing with abatement and control
- living resources, focusing on protection and restoration
- land use and water resources, including conservation areas and special protective legislation and initiatives.

There are 340 management tasks included in the CCMP; priority topics include Brown Tide, nutrients, habitat and living resources, pathogens, toxic pollutants, and critical lands protection.

As part of the County's ongoing response to the brown tide problem, the Brown Tide Comprehensive Assessment and Management Program (BTCAMP) was initiated in 1988. The program's objectives were to research the causes and impacts of the brown tide as well as investigate more conventional water quality problems affecting local bay areas. The BTCAMP study concentrated on the Peconic Estuary system, although other marine waters where the brown tide had occurred, including Shinnecock Bay, Moriches Bay, and Great South Bay, were also occasionally examined. BTCAMP found that although all algal growth requires nitrogen and phosphorus macronutrients, the brown tide is apparently not triggered by them. The study suggested that the brown tide may have been caused by other factors including meteorological patterns and specific chemicals (organic nutrients, chelators, and certain metals), and recommended further laboratory and field research in these areas.

According to the Summary of the BTCAMP, aside from brown tide, BTCAMP also examined conventional water quality standards. The study noted that nitrogen guidelines have been exceeded in various portions of the Peconic Estuary. "Based on extensive monitoring and mathematical modelling of impacts of management alternatives, BTCAMP recommends the general policies of 'no net increase' of direct nitrogen loading to surface waters and 'no substantial degradation of groundwater' in the Peconic River... groundwater contributing areas...A 'no degradation of surface water quality' policy is recommended for the eastern Peconic System." Furthermore, according to the BTCAMP "stormwater runoff remediation should occur primarily on a site-specific basis, where feasible, rather than on a system-wide scale."

Wetlands and Other Water Bodies

According to Section 3.11 (pages 6-13) of the *1997 FEIS*, 25 wetlands, wetland complexes and deepwater habitats were identified on the subject property. The *1997 FEIS* further indicates that these areas range in size from 0.1 to 126 acres, for a total of 251 acres of habitat.

As detailed in Section 3.11.1 of this DSGEIS and depicted on Figure 34, herein, there are six NYSDEC-regulated wetlands located entirely or partially within the overall boundaries of the subject property, including NYSDEC Wetland Nos. W-16, W-24 through W-27 and R-5.

Figure 35 depicts the National Wetlands Inventory (NWI) wetlands located entirely or partially within the overall boundaries of the subject property, which include wetlands designated by the NWI as:

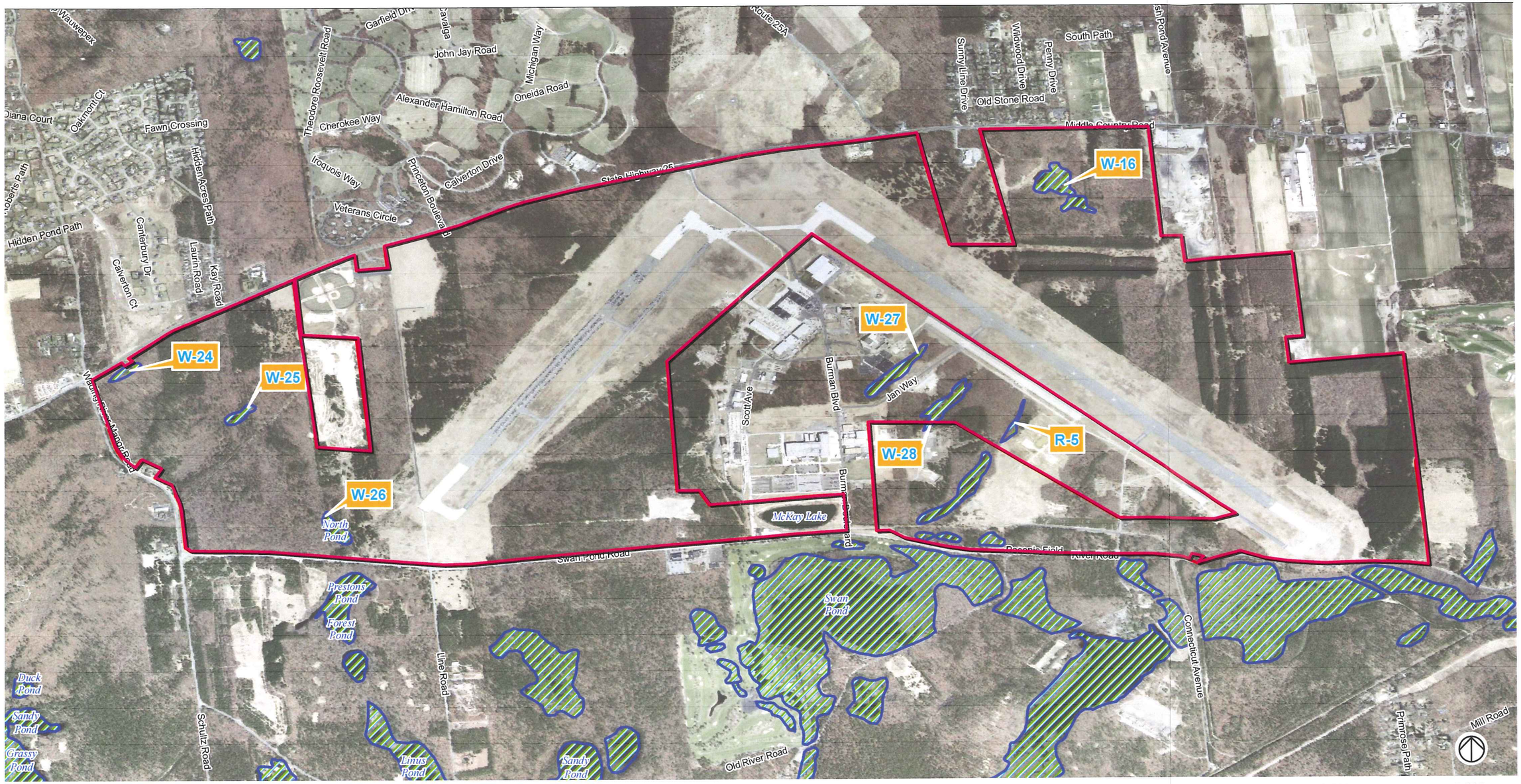
- PUBH (Palustrine, Unconsolidated Bottom, Permanently Flooded)
- PUBHh (Palustrine, Unconsolidated Bottom, Permanently Flooded Diked/Impounded)
- PUBHx (Palustrine, Unconsolidated Bottom, Permanently Flooded, Excavated)
- PF1O1C (Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded)
- PFO1Eh (Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded/Saturated, Diked/Impounded)
- PFO1FH (Palustrine, Forested, Broad-Leaved Deciduous, Semipermanently Flooded, Diked/Impounded)
- PFO5E (Palustrine, Forested, Dead, Seasonally Flooded/Saturated)
- PEM1Cx, (Palustrine, Emergent, Persistent, Seasonally Flooded, Excavated)
- PEM1/SS1Ax (Palustrine, Emergent, Persistent/Palustrine Scrub-Shrub, Excavated)
- PSS1Eh (Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded/Saturated, Diked/impounded).

According to the NYNHP, the subject property or vicinity also supports a "high quality occurrence" of the ECNYS Coastal Plain Pond community, as detailed in Section 3.11.1 of this DSGEIS.

With regard to other water bodies, McKay Lake, which is located along the southern boundary of the subject property, is not classified or regulated as a wetland by the NYSDEC. This anthropogenic (created by humans) water body is approximately 9.3 acres in size and previously received non-contact cooling water discharge from industrial activities, treated sanitary effluent and stormwater runoff from paved areas within the site. As noted in the *1997 EIS*, McKay Lake has an interim discharge to Swan Pond, which ultimately discharges to the Peconic River via a series of former cranberry bogs. Unlike many of the ponds on the site, since it is not part of the Coastal Plain pond complex, McKay Lake retains water on a year-round basis. McKay Lake and all other ponds on the site are classified as "C" waters, which best use is designated by the state for fishing, and are deemed suitable for fish propagation and survival.

As noted in the *1997 EIS*, the natural ponds in the area are formed by the water table intersecting with the land surface. When the water table lowers, the water levels in the ponds drop, sometimes to near desiccation. During drought years, in addition to the Peconic River, only McKay Lake and a small area of Prestons Pond (off-site) retain water. The other ponds are shallow in depth and occasionally dry up during years of low rainfall.

Date: 07.00.14



LEGEND

- EPCAL Property
- NYSDEC Freshwater Wetlands
- @-# NYSDEC Wetland ID

0 1,250 2,500 5,000 Feet

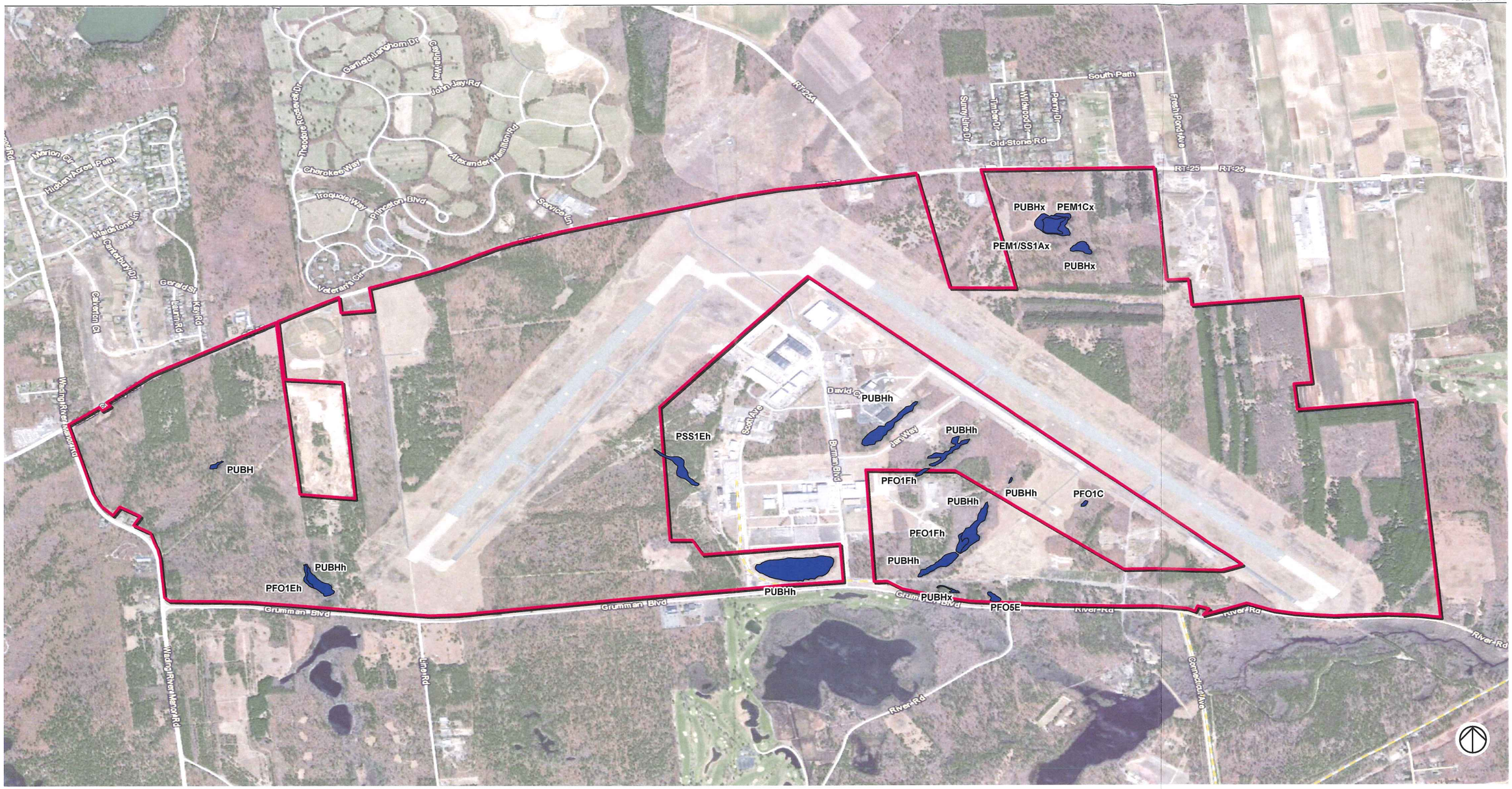
Source: NYS Regulatory Freshwater Wetlands for Suffolk County, NYSDEC, July 2013; 2013 NYS Digital Ortho-imagery, NYSITS, October 2013; Tax map parcel linework from Town of Riverhead GIS S.R.P.T.A. 2008

PROPOSED SUBDIVISION OF EPCAL PROPERTY
DRAFT SUPPLEMENTAL GENERIC ENVIRONMENTAL IMPACT STATEMENT
Calverton, New York

NYSDEC Freshwater Wetlands

Figure **34**

Date: 07.00.14



LEGEND

- EPCAL Property
- NWI Wetland

0 1,250 2,500 5,000 Feet

Source: Town of Riverhead GIS; U.S. Fish and Wildlife Service National Wetlands Inventory Wetland Mapper http://www.fws.gov/wetlands/Data/mapper.html. Octoberr 31, 2011

PROPOSED SUBDIVISION OF EPCAL PROPERTY
DRAFT SUPPLEMENTAL GENERIC ENVIRONMENTAL IMPACT STATEMENT
Calverton, New York

NWI Wetlands

Figure **35**

Significant Coastal Fish and Wildlife Habitat and Coastal Boundary

The New York State Department of State (NYSDOS) Division of Coastal Resources administers the State's Coastal Management Program, a comprehensive management program for coastal land and water use activities that implements the Federal Coastal Zone Management Act of 1972 in New York State. The Coastal Management Program encourages coordination and consistency among State agencies as they consider various activities within or affecting coastal resources, and establishes State Coastal Policies to guide decision-making and to emphasize the relevance of existing regulations (e.g., State tidal and freshwater wetland regulations) that are in-place to protect critical coastal resources. The New York State agencies most directly responsible for implementation of the State Coastal Policies include the NYSDOS, the NYSDEC, the Department of Energy (NYSDOE), the Public Service Commission, and the Office of Parks, Recreation and Historic Preservation (OPRHP).[72]

Selected coastal areas in New York State have been designated by NYSDOS as Significant Coastal Fish and Wildlife Habitats. These areas are afforded protection under State Coastal Policy No. 7:

> *"As a result of being connected to groundwater resources, coastal plain ponds and their associated plant and animal communities are extremely sensitive to fluctuations in water levels and to any physical or chemical change in the water, such as increased nutrient loads. Changes in ground and surface water level due to human activity such as building and development could alter the normal hydrological conditions of the ponds and thereby endanger these communities. Even development located at some distance from these ponds has the potential to alter groundwater conditions."*

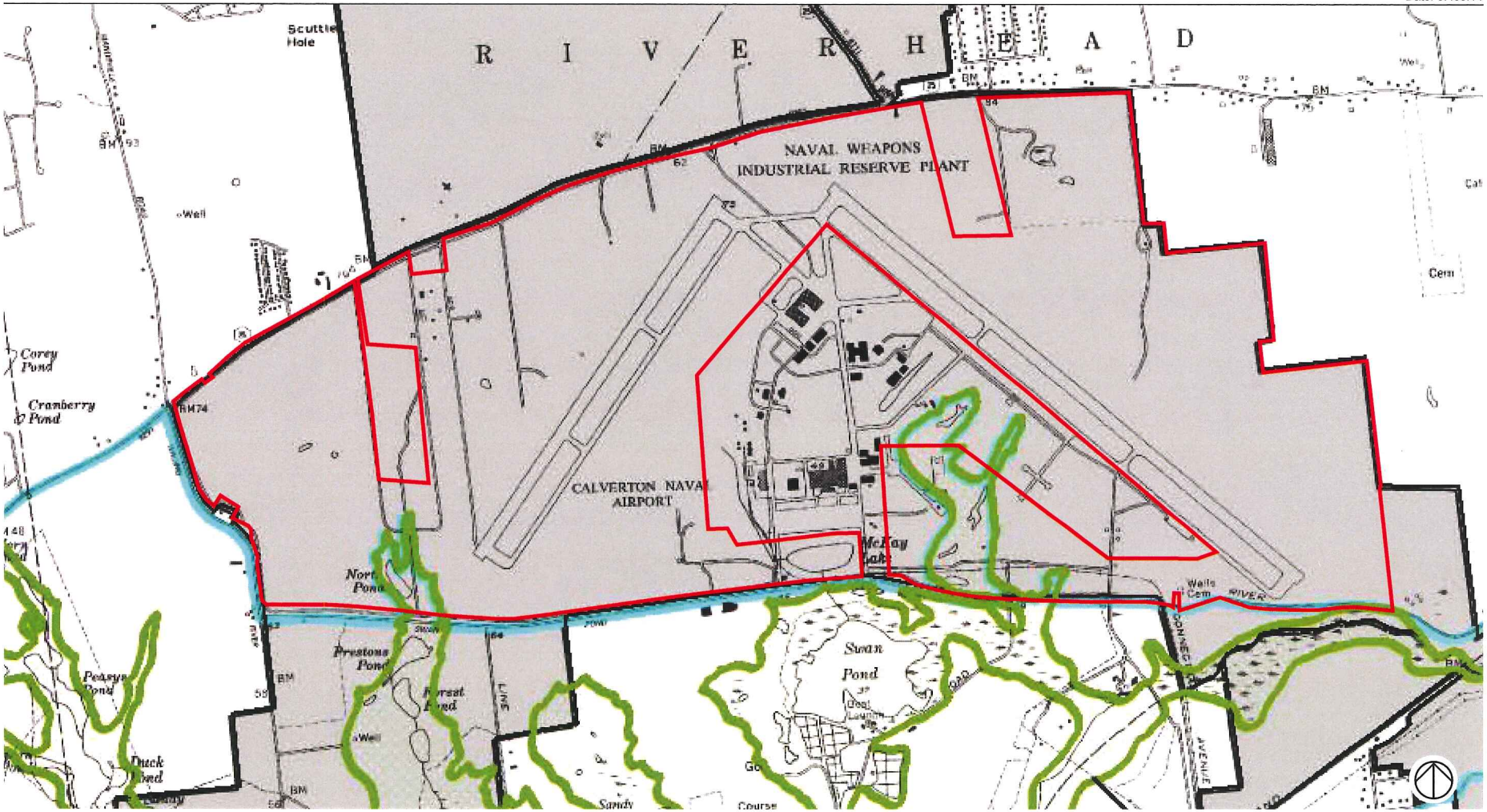
As previously indicated, the Peconic River is located within both the CGA and the Core of the CPB and is shown within the coastal boundary (see Figure 36). \

According to the Coastal Fish & Wildlife Habitat Assessment Form for the Peconic River:

[72] The New York State Coastal Management Program and Final Environmental Impact Statement (NYSDOS, 1982 – 2006).

"Any activity that would degrade water quality, increase turbidity or sedimentation, or alter flows in the Peconic River would have an impact on the fish and wildlife species using the area. Discharges or runoff of sewage effluent, pesticides, or other hazardous materials into the river would be detrimental to many of the resident aquatic species and also to the potential human uses of those resources... Elimination or disturbance of adjacent wetland and forest habitats would adversely affect certain wildlife species that are relatively uncommon on Long Island, and would diminish the existing wilderness character of the Peconic River.

Date: 07.00.14



LEGEND

- EPCAL Property
- Landward Coastal Boundary
- Significant Coastal Fish and Wildlife Habitat

Source: Town of Riverhead GIS; New York State Department of State Coastal Atlas Panel LI 36- http://nyswaterfronts,com/dowloads/longisland/li36.pdf, October 31, 2011

VHB

PROPOSED SUBDIVISION OF EPCAL PROPERTY
DRAFT SUPPLEMENTAL GENERIC ENVIRONMENTAL IMPACT STATEMENT
Calverton, New York

Coastal Boundary – Significant Coastal Fish and Wildlife Habitat

Figure **36**

A discussion of the potential impacts to the Significant Coastal Fish and Wildlife Habitat and coastal boundary due to implementation of the proposed action is provided in Section 3.10.2, below.

Floodplains

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) was reviewed to determine whether any portions of the subject property are within the 100-year floodplain. The subject property is included in several FIRM panels - - Panel Nos. 36103C0437H, 36103C0439H, 36103C0441H, 36103C0442H, 36103C0443H and 36103C0444H. As shown on Figure 37, there are no special flood hazard areas within the subject property (i.e., the site is located outside of the 100-year floodplain).

3.10.2 Potential Impacts

Groundwater

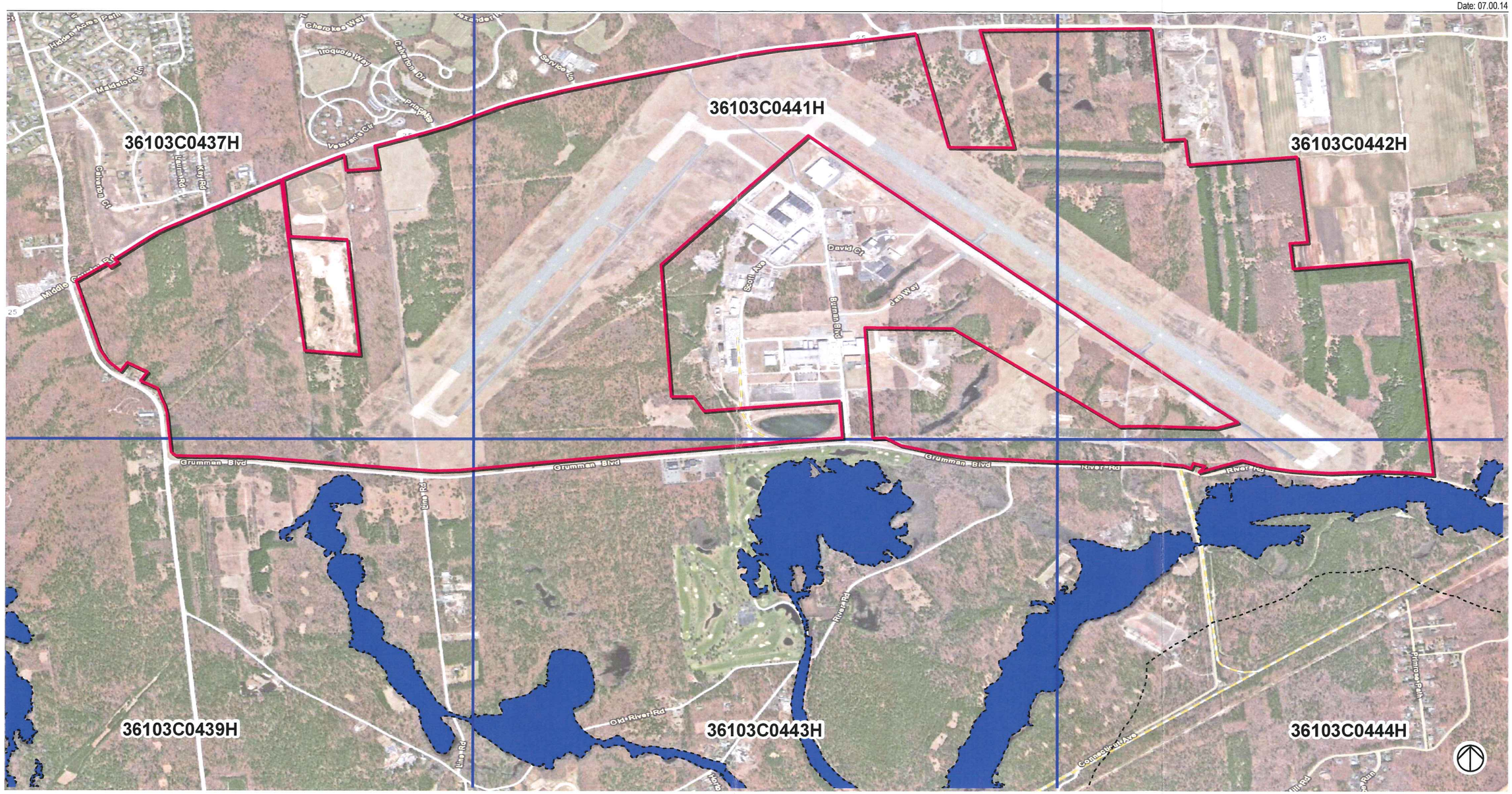
208 Study

The subject property is located in Hydrogeologic Zone III and is a deep flow recharge zone. In order to minimize the impacts to groundwater, which is the principal goal of the 208 Study, the proposed development will comply with the recommendations of the "Highest Priority Areawide Alternatives" of the 208 Study as follows:

- *Require nitrogen removal for treatment plants recharging effluent.*

Effluent generated by future development at the EPCAL Property would be collected and treated at the Calverton STP. The Calverton STP is proposed to undergo expansion and would be upgraded from a secondary treatment system to a tertiary treatment system that would remove nitrogen from the effluent before it is recharged. Therefore, the treatment plant processing the effluent generated by the future EPCAL development would include nitrogen removal. Furthermore, the discharge point for the STP would be relocated to the north of the groundwater divide and away from the Peconic River watershed. Thus, this watershed would no longer be impacted from nitrogen associated with the Calverton STP discharge.

Date: 07.00.14



LEGEND

- EPCAL Property
- Flood Zone A
- Flood Zone X
- FEMA Flood Insurance Rate Map Panel

0 1,250 2,500 5,000 Feet

Source: Esri, DigitalGlobe, GeoEye, i-cube, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP,swisstopo, and the GIS Use Community Town of Riverhead GIS

VHB

PROPOSED SUBDIVISION OF EPCAL PROPERTY
DRAFT SUPPLEMENTAL GENERIC ENVIRONMENTAL IMPACT STATEMENT
Calverton, New York

FEMA Flood Insurance Rate Map (FIRM)

Figure **37**

- *Provide for the routine maintenance of on-site [sanitary] disposal systems*

  No on-site sanitary systems are proposed. Therefore, this recommendation is not relevant to the proposed action.

- *Restrict the use of inorganic, fast-acting fertilizers. Promote the use of low-maintenance lawns*

  The use of low-maintenance lawns, as well as slow-acting fertilizers within the future development on the EPCAL Property would be required to the extent practicable for each development. Therefore, the proposed action meets this recommendation.

- *Control stormwater runoff to minimize transport of nutrients, metals and organic chemicals to groundwaters*

  Stormwater runoff associated with the overall subdivision infrastructure would be collected and recharged on site through the use of drainage reserve areas and drywells. It is expected that the design would store the runoff from an eight-inch storm for the areas from which stormwater is collected. The intent is for the stormwater from the public roadway right-of-way (with some practical allowance for front yards of the respective lots) to be handled by the drainage reserve areas. The individual lots will be required to collect and store all runoff created by those lots on site using drywells, on-site drainage reserve areas, etc., in accordance with current Town site plan regulations. Therefore, the proposed action would comply with this recommendation.

- *Prohibit the use of certain chemical cleaners in on-lot [sanitary] systems*

  As noted above, the no on-lot sanitary systems are proposed to be used, as the lots within the subdivision are proposed to be connected to the Calverton STP. Therefore, this recommendation is not relevant to the proposed action.

Overall, the proposed action is consistent with the relevant recommendations of the *208 Study* with regard to Hydrogeologic Zone III.

Final Long Island Groundwater Management Plan

This study identified the site as located within an area identified with shallow groundwater contamination with organics. As discussed Section 3.12 of this DSGEIS, as part of the US Navy's protocol with respect to environmental contamination and remediation, no property would be transferred to the Town CDA until the US Navy issues a Finding of Suitability to Transfer (FOST). The purpose of the FOST is to report the environmental suitability of a parcel for transfer to nonfederal agencies or

to the public. This is discussed in more detail in Section 3.12 of this DSGEIS. Therefore, the US Navy would address the impacts of groundwater contamination beneath the site, prior to the transfer of any additional property to the Town CDA. Implementation of the proposed action would not affect the US Navy's investigation/remediation efforts.

Special Groundwater Protection Area

As discussed in Section 3.10.1, since the Long Island Pine Barrens Protection Act was adopted subsequent to the *SGPA Plan*, a consistency analysis with the recommendations of this plan is not relevant. However, the proposed action, which includes the protection of large contiguous areas of open space within the EPCAL Property, would be protective of groundwater resources, particularly in deep aquifer recharge areas, which is the intent of both the *SGPA Plan* and the Long Island Pine Barrens Protection Act.

Long Island Central Pine Barrens

As discussed in Section 3.1.2 of this DSGEIS, the redevelopment of the EPCAL Property was considered to be an economic development activity and, therefore, "considered a public improvement pursuant to Section 57-0107(13)(i) of the Pine Barrens Protection Act and therefore does not constitute 'development' within the meaning of all sections of the Pine Barrens Protection Act." Nevertheless, the Town has designed the proposed EPCAL subdivision to comply with the standards (as set forth at Volume 1, Chapter 5, Section 5.3 of the CLUP), and as such, the proposed action would be protective of groundwater resources. See Section 3.1.2 for a detailed consistency analysis.

Water Supply

Section 3.7.2 discusses the proposed action's impact on the water supply. The consultant to the Riverhead Water District, H2M, has indicated that at 2025, peak water demand, including irrigation would be approximately 350,000 gpd (243 gpm) and at ultimate build-out, peak water demand would be approximately 1,990,000 gpd (1,382 GPM).

The RWD would have sufficient supply well pumping capacity to meet the demands of the proposed development at 2025. However, since the Water District must be concerned with the increase in demand of all development throughout the District, the Water District will be proposing to construct an additional water supply well with an estimated capacity of 2.0 mgd or 1,380 GPM within the next several years. The District projects that a water supply well will be needed for the ultimate build-out. This well would be in addition to the well discussed under the 2025 scenario for District-wide growth.

As the location of these wells has not yet been determined, nor has a study been conducted as to the specific needs of the District, though an estimate has been made regarding the 2025 requirement of a 2.0 mgd well. As such, the specific pumpage effects of the new wells to serve both the EPCAL Property and other developments District-wide cannot be determined at this time, and would be subject to a separate environmental review when a plan for such additional well is identified. With respect to groundwater impacts, while more potable water would be drawn to serve development at the EPCAL Property (and other future development in the RWD), additional stormwater from increased impervious surface at this site would be collected and recharged on the EPCAL Property, as required by Town regulations. In addition, the treated sewage that was formerly discharged to McKay Lake, under the proposed action, would now be discharged directly into the ground on the EPCAL Property, north of the groundwater divide. These two actions would assist in replenishing the aquifer and help to balance the potable water being withdrawn to serve the future development.

Eastern tiger salamander breeding ponds, as well as other ponds/wetlands, have been documented at the EPCAL property, as discussed above and in Section 3.11.1. As coastal plain ponds, these waters are influenced by groundwater levels within the shallow Upper Glacial Aquifer. Any additional public water supply wells would likely be installed within, and draw groundwater from, the deeper Magothy Aquifer. As the Magothy Aquifer is hydraulically disconnected from Upper Glacial aquifer with respect to groundwater flow, no significant adverse impacts to water levels within the on-site ponds are anticipated as a result of the potential installation of additional public water supply wells. Thus, additional pumpage for water supply purposes would not have an impact on the eastern tiger salamander breeding ponds or any of the other natural ponds within the coastal plain pond system on the site.

With respect to the potential effects of additional groundwater pumpage on contamination and remediation efforts, since the existing wells are located north of the groundwater divide (along Route 25) and the contamination and remediation areas are located south of the groundwater divide, near Grumman Boulevard and since the distance between the two areas is between one and two miles , it is unlikely that additional groundwater drawn from these existing wells would impact the contamination or the remediation efforts being undertaken by the US Navy. As the location of future wells is not known at this time, the potential impact cannot be determined. The RWD would, in its analysis of potential new well locations, take into consideration the location of the contamination and the specific remediation, if it has not been completed at the time the new wells would be required.

See Section 3.7.2 for additional details regarding the water supply.

Suffolk County Sanitary Code and Sewage Disposal

A detailed description of sewage disposal is contained in Section 3.7.2 of this DSGEIS. Assuming a 2,000 gpd per acre sewer allocation (on average on developable lots), as estimated by the Calverton SD, it is projected that development at the year 2025 would comprise approximately 126 acres within the subdivision and generate approximately 252,000 gpd of sewage effluent. Based upon a total of 568.5 acres of development, using the 2,000 gpd per acre calculation, ultimate development at the EPCAL Property would be expected to generate up to 1,137,000 gpd of sewage at full build-out.

As discussed in detail in Section 3.7.2, the STP is proposed to be upgraded from a secondary to a tertiary treatment plant (which would provide nitrogen removal). The proposed upgrade and expansion of the existing Calverton SD sanitary collection, conveyance and treatment facilities will be phased to accommodate the amount and type of development anticipated by the Theoretical Mixed Use Development Program, as discussed in Section 3.10.2, as well as District-wide growth. The phasing will also allow the STP to achieve groundwater discharge standards at a design flow at least matching the anticipated 2025 development flow. The expansion area is shown on the Subdivision Map as Lot 45. In addition, a sewage disposal (STP Recharge Parcel), which relocates the effluent to disposal north of the groundwater divide and away from the Peconic River, is shown on the Subdivision Map as Lot 43. More detailed discussions of impacts to the STP are included in Sections 3.7.2 and 3.10.2 of this DSGEIS.

Specific expansion plans for the STP have not yet been determined. However, according to the Town's sewer consultant, the facility would be able to add modules to accommodate full build-out of the EPCAL Property, such that no significant adverse impacts from sewage discharge would result (as the plant would be upgraded and expanded, and the discharge point would be relocated to the north of the divide). See Section 3.7 for additional details regarding sewage disposal.

Current Groundwater Conditions

As discussed above and in Section 3.12 of this DSGEIS, as part of the US Navy's protocol with respect to environmental contamination and remediation, no property would be transferred to the Town CDA until the US Navy issues a Finding of Suitability to Transfer (FOST). The purpose of the FOST is to report the environmental suitability of a parcel for transfer to nonfederal agencies or to the public. Thus, until the US Navy has transferred the remaining property (209± acres) to the Town CDA, no development may occur in this area (see Figure 41 in Section 3.12.2). Once the US Navy remediates the property, it could be transferred to the Town CDA for development. Implementation of the proposed action will not affect

any of the US Navy's investigation or remediation activities on the remaining impacted property.

Stormwater Runoff and Drainage

As discussed in detail in Section 3.7.2, overland flow of stormwater runoff would change from the existing condition. Stormwater runoff would be contained on the site through the use of drainage reserve areas and drywells. The intent of the stormwater management design is to create drainage reserve areas in topographically appropriate places throughout the subdivision for the purpose of providing storm drainage for the public road network. The roadway infrastructure will include a system of catch basins and piping designed to convey stormwater runoff to the drainage reserve areas. In addition to the major drainage reserve areas originally shown on the Subdivision Map, it may be necessary to install some intermediate/smaller drainage reserve areas to serve areas that are topographically isolated from the main drainage areas. Where needed, these drainage reserve areas would be placed in easements. Overall, it is expected that the design would store the runoff from an eight-inch storm for the areas from which stormwater is collected. The individual lots will be required to collect and store all runoff created by those lots on site using drywells, on-site drainage reserve areas, etc., in accordance with current Town site plan regulations.

As also discussed in detail in Section 3.7.2, an overall SWPPP will be prepared for the subdivision incorporating measures to control erosion and sedimentation, as indicated in Chapter 110, *Stormwater Management and Erosion and Sediment Control*, of the Town Code. Each individual lot (at the time of development) will be required to conform to the overall SWPPP and provide site-specific details regarding erosion and sedimentation control.

Implementation of the sequenced construction process and other BMPs, as discussed in the publication entitled *New York Standards and Specifications for Erosion and Sediment Controls*, and as shown on the SWPPP, would assist in ensuring that the proposed development would minimize the stormwater runoff impact to groundwater and surface water resources. As such, no significant adverse impacts associated with stormwater runoff are anticipated.

Surface Water, Wetlands and Floodplains

Peconic Watershed and Headwaters/Wild, Scenic and Recreational River System

A portion of the subject property is within the boundaries of the Peconic River's Wild Scenic and Recreational River System boundary (scenic portion). Therefore, project

activities will be implemented in accordance with Article 15 of the Environmental Conservation Law.

As indicated in Section 2.5, the *1997 EIS* found that there was a conflict with the Peconic River Scenic Corridor and the proposed development areas of the Preferred Reuse Plan. With regard to the Peconic River Scenic Corridor (regulated under the NYSDEC WSRRS program), it was found that approximately 526 acres of the NWIRP Calverton property was identified as located within said scenic corridor, which would prevent its development. Under the Preferred Reuse Plan, this area was proposed to be developed. However, the *1997 FEIS* stated that the Pine Barrens Commission would support a re-delineation of the Peconic River Scenic Corridor boundary in order to allow for the development proposed under Preferred Reuse Plan, provided that the following conditions are met:

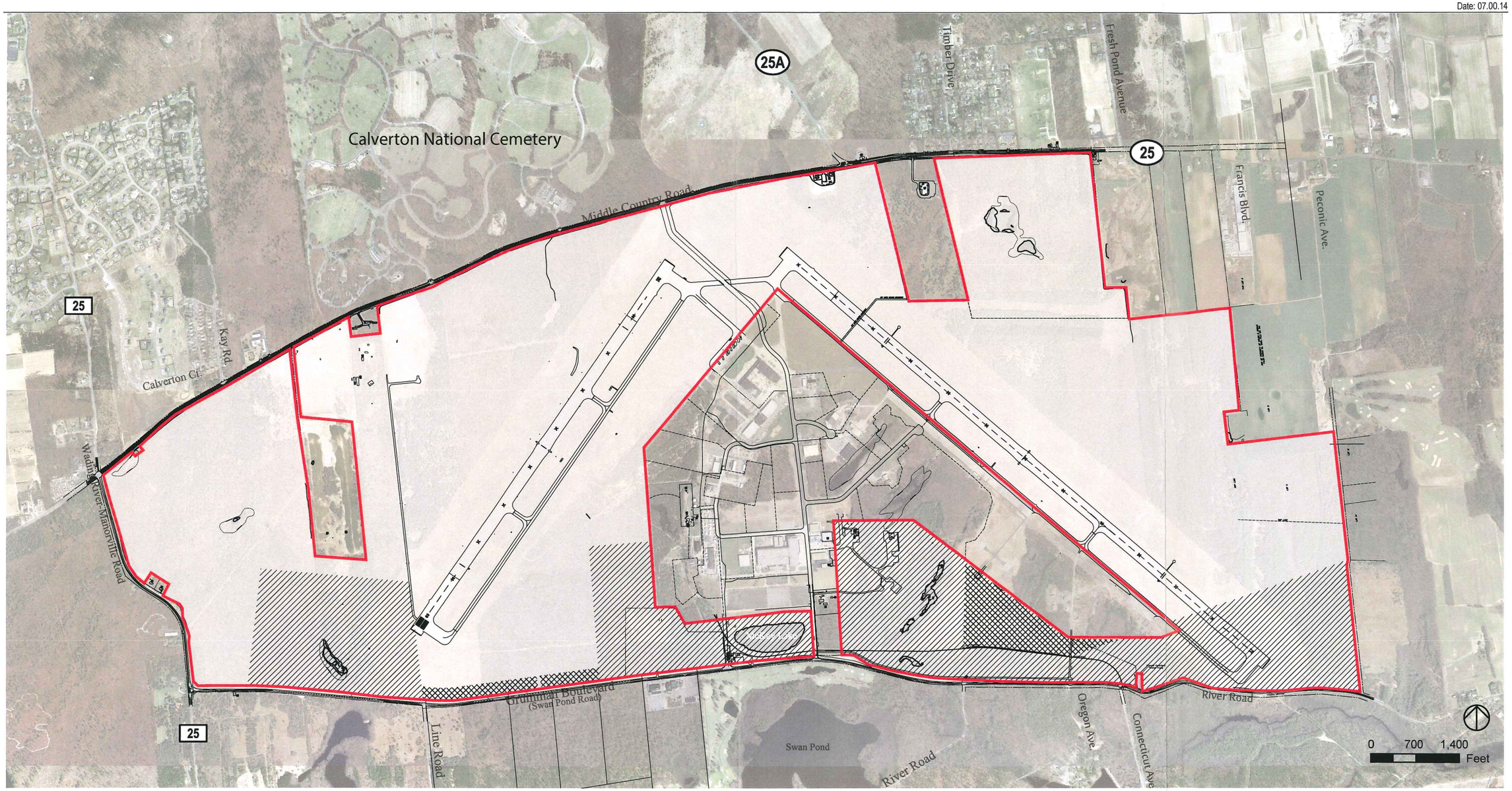
- *adherence to the Pine Barrens standards and guidelines through adoption of a planned development district (PDD) or, in other words, a Planned Unit Development (PUD) that is consistent with the Pine Barrens.*

- *incorporation of plans for wastewater treatment plant infrastructure improvements for the Calverton STP.* (Page 6-8).

If these conditions were met, the scenic corridor could be relocated, where no development would occur, and would, therefore, pose no restrictions to the Preferred Reuse Plan.

The same issue exists with the proposed Subdivision Map, as some development is proposed for an area that is within the current WSRRS boundary. As such, it is proposed that the WSRRS boundary be relocated. Recent discussions with the NYSDEC (the agency that administers the WSRRS program) have indicated that the NYSDEC would make adjustments to the WSRRS boundary in order to accommodate development in locations that are more appropriate than where it is currently permitted based upon the existing WSRRS boundary line, and where it would be more protective of certain scenic and ecological features (see Figure 38), which shows the proposed revised boundary lines). The EPCAL Property currently contains approximately 455.8 acres of Peconic River WSRRS Corridor. The re-delineation of the boundary line would add 46.4± acres to the Corridor, increasing the total to 502.2 acres. The boundary re-delineation would not remove any acreage from the Corridor. This net increase of 46.4± acres would have a positive impact on the scenic and ecological resources within Corridor, since no development would occur within this area.

Date: 07.00.14



LEGEND

- EPCAL Property
- Existing W.S.R.R. Area
- Proposed W.S.R.R. Area

Source: Town of Riverhead GIS and VHB

PROPOSED SUBDIVISION OF EPCAL PROPERTY
DRAFT SUPPLEMENTAL GENERIC ENVIRONMENTAL IMPACT STATEMENT
Calverton, New York

New York State Wild, Scenic and Recreational River System

Figure **38**

As discussed in Section 3.10.1, the BTCAMP examined brown tide, as well as other water quality standards and recommended no degradation of groundwater and surface water and no net increase of direct nitrogen loading to surface waters. The proposed action includes the upgrading of the Calverton STP from a secondary system to a tertiary system, which would reduce nitrogen loading. Furthermore, the sewage effluent disposal area is proposed to be relocated to north of the groundwater divided and away from the Peconic River, as part of the overall upgrade and expansion of the Calverton STP. In addition, stormwater would be captured and recharged on site through the use of drainage reserve areas and drywells. Thus, no stormwater runoff generated by the proposed development would be directed to surface waters. Based upon the foregoing, implementation of the proposed action would be consistent with the recommendations of the BTCAMP, and no significant adverse impacts to surface waters or groundwater is anticipated.

Wetlands and Other Water Bodies

None of the wetlands on the site is proposed to be disturbed or impacted by future development of the EPCAL Property. As shown on the Subdivision Map, there would no development with 1,000 feet of either the northeastern or southernmost tiger salamander ponds. Therefore, there would be no significant adverse impacts to these ecological resources associated with the proposed action.

As previously noted, the Calverton STP currently discharges treated effluent and process wastewater, to McKay Lake under a SPDES Permit held by the Calverton Sewer District, and sludge is collected from settling tanks and hauled to Suffolk County's Bergen Point Water Pollution Control Facility. In addition, stormwater runoff from all of the watersheds on-site discharge to McKay Lake under the current SPDES Permit held by the Calverton Sewer District. As previously indicated, McKay Lake has an intermittent discharge to Swan Pond, which discharges to the Peconic River via a series of former cranberry bogs.

With implementation of the proposed action, sewage effluent would be disposed into the groundwater, and this disposal will occur north of the groundwater divide in the northeastern portion of the property (away from the Peconic River). Furthermore, stormwater would be collected on-site through the use of drainage reserve areas and drywells. Therefore, implementation of the proposed action would have a positive impact by removing sewage effluent and stormwater runoff from entering McKay Lake. This positive impact on McKay Lake would extend to both Swan Lake and the Peconic River, since, as indicated above, McKay Lake discharges to Swan Pond and then into the Peconic River. Additional discussion of the potential impacts on wetlands is included in Section 3.11.2, below.

Significant Coastal Fish and Wildlife Habitat and Coastal Boundary

As detailed in Section 3.10.1, portions of the Peconic River Significant Coastal Fish and Wildlife Habitat coastal plain pond complexes extend onto the EPCAL property at two locations (see Figure 36 and Appendix P). The two locations include the North Pond wetland complex, located within the CPB Core Preservation Area at the southwestern portion of the subject property, and an unnamed pond/wetland complex located at the southern portion of the EPCAL property that also extends onto the Calverton Camelot subdivision property. The proposed action and the CHPP (see Section 3.11.2 and Appendix Q) have been specifically developed to avoid the loss of, and to minimize development-related disturbance to, wetland and aquatic habitats, including the Peconic River Significant Coastal Fish and Wildlife Habitat. Accordingly, the lots proposed for future development are all situated within upland areas and located a minimum of 1,000 feet from the Peconic River Significant Coastal Fish and Wildlife Habitat, including the two locations where this habitat extends onto the EPCAL property. As such, the two aforementioned Peconic River Significant Coastal Fish and Wildlife Habitat wetland complexes and all existing undeveloped uplands located within 1,000 feet would be preserved lands following implementation of the proposed action.

Based upon the foregoing, no significant adverse impacts to the Peconic River Significant Coastal Fish and Wildlife Habitat are anticipated as a result of the proposed action.

Floodplains

According to the FEMA Flood Insurance Rate Map, no portion of the property is located within the 100-year floodplain and the property is not located within any special flood hazard areas. Therefore, such resources would not be affected by project development.

3.10.3 Proposed Mitigation

The following are the mitigation measures that are proposed with respect to potential impacts to water resources:

- The future development of the EPCAL Property would be connected to the Calverton STP, which would be upgraded to tertiary treatment, expanded and the discharge from which would be relocated north of the groundwater divide. As such, project implementation will be in accordance with the requirements of the Suffolk County Sanitary Code, Article 6.

- To the extent practicable, low maintenance vegetation would be installed as part of individual lot development. This would reduce both fertilizer use and irrigation requirements, thereby reducing potential impacts to groundwater resources.

- In accordance with the *208 Study*, project implementation would be in conformance with the "highest priority areawide alternatives" to minimize risk to the water resources on the site and the surrounding area.

- The EPCAL Property will become part of an existing water district and future development will connect to the existing water distribution system, thereby minimizing impacts to groundwater resources.

- In order to minimize impacts to water resources, the site would be developed using best management practices regarding construction and the use and containment of materials/chemicals.

- The proposed subdivision would store the runoff from an eight-inch storm for the areas from which stormwater is collected. Furthermore, individual lots will be required to collect and store all runoff created by those lots on site using drywells, on-site drainage reserve areas, etc. for an eight-inch storm, in accordance with current Town site plan regulations.

- An overall SWPPP will be prepared for the subdivision incorporating measures to control erosion and sedimentation, as indicated in Chapter 110, *Stormwater Management and Erosion and Sediment Control*, of the Town Code. Each individual lot (at the time of development) will be required to conform to the overall SWPPP and provide site-specific details regarding erosion and sedimentation control.

  In addition, implementation of the sequenced construction process and other BMPs, as discussed in the publication entitled *New York Standards and Specifications for Erosion and Sediment Controls*, and as shown on the SWPPP, would assist in ensuring that the proposed development would minimize the stormwater runoff impact to groundwater and surface water resources.

- The proposed subdivision has been designed to maintain the scenic and undeveloped nature of the Peconic River headwaters and the WSRRS Corridor, with the re-delineation of the WSRRS and the implementation of buffers within the areas adjacent to these features. Re-delineation of the WSRRS boundary would add approximately 46.4 acres to the Peconic River WSRRS Corridor.

- There will be no disturbance to any wetland located either wholly or partially on the EPCAL Property due to implementation of the proposed action.

- A 1,000-foot buffer shall be provided around each on-site water body that is identified as a tiger salamander pond on the Subdivision Map.

3.11 Terrestrial and Aquatic Environment

3.11.1 Existing Conditions

Introduction

Numerous investigations of the ecological communities, vegetation and wildlife of the subject property have been conducted on the subject property for over fifteen years. These investigations are primarily summarized in:

- *1997 FEIS*
- *2001 Supplemental FEIS*
- *2005 Final Supplemental Environmental Impact Statement for Calverton Enterprise Park Reuse Zoning Change*
- 2008 Coalition for Open Space EPCAL *Herpetofauna and Avifauna Inventory Summary* (the "COS Study")
- 2009 Nature Conservancy *EPCAL Grassland Birds Summary* (the "TNC Study").

The information contained in these documents is summarized below, and has been supplemented by ecological field surveys undertaken by VHB as part of the evaluation of the proposed action.

In addition, in order to determine the potential for rare plants, wildlife and ecological communities at the subject property, the New York Natural Heritage Program (NYNHP) was consulted. In correspondence dated February 7, 2014, the NYNHP indicated that records exist for various New York State (NYS)-listed plants, wildlife and two ecological communities at or in the vicinity of the subject property, as summarized below.

The *1997 FEIS* includes a characterization of existing terrestrial, wetland, and aquatic habitats at the subject property and also provides inventories of observed and expected plant and wildlife species, based upon NYSDEC records and field surveys conducted in 1985 and 1989. With respect to protected species, the *1997 FEIS* indicates that there were six species (three animals and three plants) with NYS Legal Status of "Endangered," "Threatened," "Special Concern" or "Rare" within the NWIRP Calverton Property, based upon annual NYNHP field surveys beginning in 1986 and 1987 and two other studies dated 1996 and 1997.

Pursuant to 6 NYCRR §182.2, New York State Endangered wildlife species are defined as *"any native species in imminent danger of extirpation or extinction in New York or any species listed as endangered by the United States Department of the Interior in the Code of the Federal Regulations (50 CFR part 17)."* New York State Threatened species

are defined in 6 NYCRR §182.2 as *"any native species likely to become an endangered species within the foreseeable future in New York or any species listed as threatened by the U.S. Department of the Interior in the Code of the Federal Regulations (50 CFR part 17)."* Finally, New York State Special Concern wildlife species are those that are *"at risk of becoming threatened in New York... Species of special concern do not qualify as either endangered or threatened...but have been determined by the department to require some measure of protection to ensure that the species does not become threatened."*

With respect to plants, pursuant to 6 NYCRR §193.3, New York State Endangered plants are those species *"in danger of extirpation throughout all or a significant portion of their ranges within the state and requiring remedial action to prevent such extinction."* Threatened plants are defined in 6 NYCRR 193.3 as species *"that are likely to become endangered within the foreseeable future throughout all or a significant portion of their ranges within the state."* Finally, "Rare" plants are described as those species with *"20 to 35 extant sites or 3,000 to 5,000 individuals statewide."*

The six NYS Endangered or Threatened species identified in the *1997 FEIS* are:

- eastern tiger salamander (*Ambystoma tigrinum*) (NYS Legal Status: Endangered)
- spotted salamander (*Ambystoma maculatum*) (no current NYS Legal Status)
- barrens buckmoth (*Hemilueca maia*) (NYS Legal Status: Special Concern)
- rose coreopsis (*Coreopsis rosea*) (NYS Legal Status: Rare)
- Nuttall's lobelia (*Lobelia nuttallii*) (NYS Legal Status: Rare)
- slender pinweed (*Lechea tenuifolia*) (NYS Legal Status: Threatened).

It is important to note that, as indicated above, spotted salamander currently has no NYS Legal Status.

Both the *2001 Supplemental FEIS* and *2005 Supplemental FEIS* provide brief summaries of existing conditions at the NWIRP Calverton Property, based upon information in the *1997 FEIS*, as summarized above.

Based upon two site-specific surveys, the COS Study identified ten amphibian and reptile species on the subject property.

According to the COS Study, avifaunal records from three major sources (local breeder's records, National Audubon Society survey data and NYS Breeding Bird Atlas results) identify 120 bird species as having been observed on or near the subject property. Twenty-seven of these species are considered to be grassland-dependent birds, with 14 confirmed breeders and 11 probable or possible breeders on or in the vicinity of the subject property. Moreover, the COS Study documents six NYS-Endangered, Threatened or Special Concern grassland bird species as breeding and/or having been observed on the subject property, as summarized in Table 75.

Data summarized in the COS Study, which dates from as early as 1980, indicates that the breeding range of several grassland species has declined or disappeared from the areas surrounding the subject property, in some cases resulting in the subject property remaining as the only known breeding habitat in the area. Based upon the documented presence of protected grassland birds at the subject property, as well as an overall decline in local and regional grassland bird habitat, the COS Study further identifies the subject property grasslands as an ecologically important and vital habitat for a diverse range of grassland-dependent bird species.

The TNC Study summarizes the known occurrence of grassland-dependent bird species at the subject property, based upon National Audubon Society survey data and NYS Breeding Bird Atlas results. The TNC Study also provides species accounts and "minimum field size" information for fourteen grassland species, include the six species with NYS Legal Status listed in the COS Study, plus two additional NYS Special Concern grassland species identified as probable breeders on the subject property.

In addition to the aforementioned studies, the October 2008 NYSDEC Draft Scope of Issues (see Appendix Q) indicates that agency records exist for eastern tiger salamander, northern harrier and short-eared owl occurring on or adjacent to the subject property. During on-going consultations, the NYSDEC has identified these three animals, as well as five additional protected species (spotted salamander, barrens buckmoth, rose coreopsis, Nuttall's lobelia and slender pinweed) originally identified in the *1997 FEIS* (as summarized above), as concerns for any potential redevelopment at the subject property.

Based upon the foregoing studies, existing ecological conditions at the subject property are well-documented. Accordingly, the field surveys conducted as part of this existing conditions analysis were intended to confirm observed/expected vegetation, wildlife and habitats identified in earlier studies. This analysis further provides an assessment of the potential for protected native plants and animal species, based upon field observations, previous site assessments and NYNHP records. The field surveys were conducted primarily within the areas proposed for potential redevelopment (i.e., wooded areas successional habitats and paved areas within and proximate to the runways, although some similar habitats on other portions of the subject property were also inspected for comparative purposes.

Vegetation

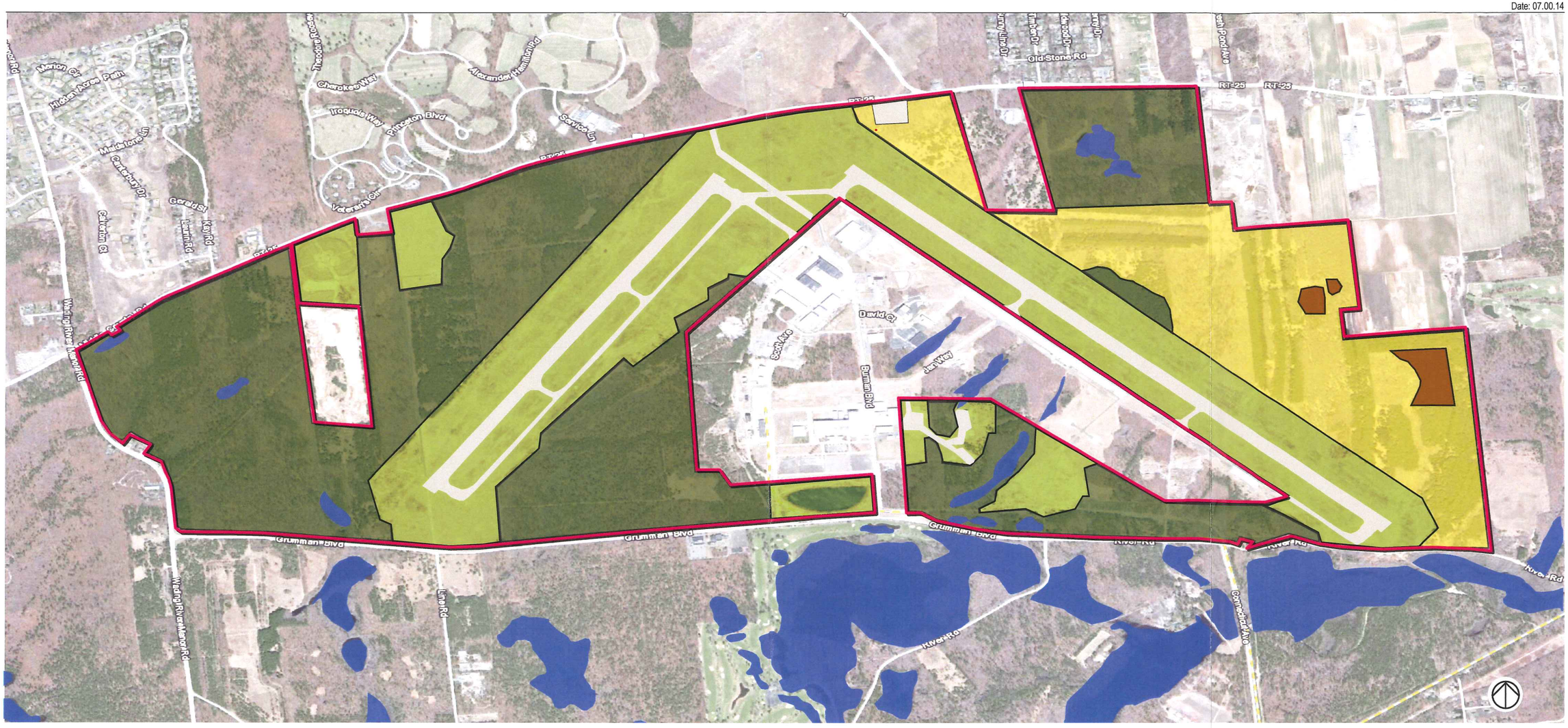
Field surveys of the runway areas and vicinity were conducted by VHB on September 2, September 26, and October 7, 2011, and March 6, 2014. In order to describe and categorize existing habitats observed during the field surveys, VHB consulted the NYNHP publication *"Ecological Communities of New York State"*[73] (ECNYS), which provides detailed descriptions and rarity rankings for various ecological communities found throughout NYS, including those currently supported on the subject property. Although the *1997 FEIS* did not employ the ECNYS classification system, the descriptions of the various on-site terrestrial ecological communities contained in that document generally correspond to the following ECNYS-defined communities observed during the field surveys:

- Pitch Pine-Oak Forest
- Pitch Pine-Oak-Heath Woodland
- Pine/Spruce/Conifer Plantation
- Successional Old Field
- Successional Shrubland
- Paved Road/Path.

The following provides a summary of each ecological community, based upon the field inspections and descriptions from the *1997 FEIS*. The ecological community map (see Figure 39) illustrates the general location(s) of each community.

[73] Edinger, G.J., et al. (editors). 2002. Ecological Communities of New York State. Second Edition (Draft). New York Natural Heritage Program, NYSDEC.

Date: 07.00.14



LEGEND

- EPCAL Property
- Pitch Pine-Oak Forest
- Pitch Pine-Oak-Heath Woodland
- Tree Plantation/Successional Shrubland
- Successional Old Field
- Paved Road/Path
- Surface Water/Wetland

0 1,250 2,500 5,000 Feet

Source: VHB

PROPOSED SUBDIVISION OF EPCAL PROPERTY
DRAFT SUPPLEMENTAL GENERIC ENVIRONMENTAL IMPACT STATEMENT
Calverton, New York

Ecological Communities

Figure **39**

Pitch Pine-Oak Forest

This ecological community is dominant throughout most of the area to the north of the western runway and in some areas to the north of the eastern runway. ECNYS describes the Pitch Pine-Oak Forest ecological community as follows:

> *"...a mixed forest that typically occurs on well-drained, sandy soils of glacial outwash plains or moraines; it also occurs on thin, rocky soils of ridge tops.*
>
> *The dominant trees are pitch pine (Pinus rigida) mixed with one or more of the following oaks: scarlet oak (Quercus coccinea), white oak (Q. alba), red oak (Q. rubra), or black oak (Q. velutina). The relative proportions of pines and oaks are quite variable within this community type. At one extreme are stands in which the pines are widely spaced amidst the oaks, in which case the pines are often emergent above the canopy of oak trees. At the other extreme are stands in which the pines form a nearly pure stand with only a few widely spaced oak trees.*
>
> *The shrub layer is well-developed with scattered clumps of scrub oak (Quercus ilicifolia) and a nearly continuous cover of low heath shrubs such as blueberries (Vaccinium pallidum, V. angustifolium) and black huckleberry (Gaylussacia baccata).*
>
> *The herbaceous layer is relatively sparse; characteristic species are bracken fern (Pteridium aquilinum), wintergreen (Gaultheria procumbens), and Pennsylvania sedge (Carex pensylvanica)."*

Similar to the above description, a wide variation in the relative proportions of pines versus oaks exists within the Pitch Pine-Oak Forest observed on the subject property, presumably in response to fire regime. Generally speaking, increased burn frequency and/or severity results in dominance of pitch pine over tree oak species, while oaks dominate in areas with low burn frequency/severity, and particularly in areas where fire has been historically suppressed. Other factors, including soil moisture, soil fertility and human disturbance are also relevant to community composition. Sandy, xeric (dry), low nutrient soils favor pitch pine, while mesic (moist), more nutrient-rich soils are needed to support most oaks and other hardwoods. The variants of the Pitch Pine-Oak Forest community type observed on the subject property include the following:

- Forests dominated by widely-spaced pitch pines, with only a few scattered oaks, a sparse, patchy shrub stratum consisting of heaths, bayberry (*Morella pensylvanica*) and/or bearberry (*Arctostaphylos uva-ursi*) and a nearly continuous groundcover stratum dominated by sedges (e.g., Pennsylvania sedge) and grasses.

- Mixed oaks (i.e., white, scarlet and black oak) with scattered large (and often senescent) pitch pines and a low but relatively continuous heath stratum.

- Nearly pure stands of white oak, with few pitch pines and a dense, nearly continuous heath understory stratum.

- Intermediate variations of the three communities described above.

The community variants described above are consistent with the "Pitch Pine-Oak Woodlands" and "Oak-Pine Woodlands" community descriptions of the *1997 FEIS*.

Large, contiguous blocks of the Pitch Pine-Oak Forest ecological community occupy the western portion of the subject property, to the north and south of the western runway and the northeastern portion of the subject property. Although present, this community is less prevalent in the vicinity of the eastern runway and exists as smaller and often non-contiguous habitat blocks interspersed with Pitch Pine-Oak-Heath Woodland, Tree Plantation and Successional Shrubland communities, as described below. Also, as noted below, a "high quality occurrence" of Pitch Pine-Oak Forest has been documented by the NYNHP to the south of the subject property, in the vicinity of Sandy Pond East.

The Pitch Pine-Oak Forest ecological community is ranked by the NYNHP as G4, S4. According to the NYNHP, G4 indicates a community that is considered *"apparently secure globally, though it might be quite rare in parts of its range, especially at the periphery."* The S4 ranking denotes a community that is considered *"apparently secure in New York State."*

Pitch Pine-Oak-Heath Woodland

The Pitch Pine-Oak-Heath Woodland community discussed here was described as "Pitch Pine-Shrub Oak Woodlands" in the *1997 FEIS*. During the field inspections, it was observed that this community occurs in small, scattered pockets at the southeastern portion of the subject property, in the area to the north of the eastern runway (see Figure 39) ECNYS describes Pitch Pine-Oak-Heath Woodland as follows:

> *"...a pine barrens community that occurs on well-drained, infertile, sandy soils in eastern Long Island (and possibly on sandy or rocky soils in upstate New York). The structure of this community is intermediate between a shrub-savanna and a woodland.*
>
> *Pitch pine and white oak are the most abundant trees, and these form an open canopy with 30 to 60% cover. Scarlet oak and black oak may also occur in the canopy.*
>
> *The shrub layer is dominated by scrub oaks, and includes a few heath shrubs such as huckleberry and blueberry. The density of the shrub layer is inversely related to the tree canopy cover; where the trees are sparse, the shrubs form a dense thicket, and where the trees form a more closed canopy, the shrub layer may be relatively sparse. Stunted, multiple-stemmed white oaks may be present in the shrub layer if the site has burned regularly.*

> *Characteristic species of the groundcover include bearberry (Arctostaphylos uva-ursi), Pennsylvania sedge (Carex pensylvanica), golden heather (Hudsonia ericoides), beach heather (Hudsonia tomentosa), and pinweed (Lechea villosa).*
>
> *Like other closely related pine barrens communities, the woodland provides habitat for buckmoth (Hemileuca maia) and prairie warbler (Dendroica discolor).*
>
> *This community is adapted to periodic fires; the fire frequency has not been documented, but it probably burns less frequently than pitch pine-scrub oak barrens (i.e., more than 15 years between fires)."*

The *1997 FEIS* described this community as occurring infrequently and in small scattered pockets, particularly on the southeast portion of the subject property (Section 3.11, page 6). During the field inspections, a few small, scattered examples of Pitch Pine-Oak-Heath Woodland were observed on the southeast portion of the subject property, in the area to the north of the eastern runway (See Figure __). Similar to the above description, these communities are characterized by an open canopy of pitch pine and white oak, with a dense understory shrub stratum dominated by scrub oak (*Quercus ilicifolia*) and scattered heath species. The main distinctions between Pitch Pine-Oak-Heath Woodland and Pitch Pine-Oak Forest community are the open canopy, scrub-oak dominated shrub layer and the greater fire frequency needed to maintain the former community. As indicated in the ECNYS community description, Pitch Pine-Oak-Heath Woodland is adapted to periodic fires and requires a greater burn frequency than that which occurs within the various Pitch Pine-Oak Forest communities that comprise the forest cover over most of the subject property. According to the *1997 FEIS*, "wildfires have been suppressed in the fenced area to protect buildings and agriculture," with records existing for just two wildfires that occurred in the southwestern and eastern site areas of the site "in the early 1980s." Thus, the limited extent of Pitch Pine-Oak-Heath Woodland at the subject property and the historic paucity of this community at the subject property as a whole are most likely due to historic fire suppression.

Pitch Pine-Oak-Heath Woodland is ranked by the NYNHP as G3G4, S2S3. G3 indicates a community that is considered

> *"either rare and local throughout its range (21 to 100 occurrences), or found locally (even abundantly at some of its locations) in a restricted range (e.g., a physiographic region), or vulnerable to extinction throughout its range because of other factors."*

The S2 ranking designates "typically 6 to 20 occurrences, few remaining individuals, acres, or miles of stream, or factors demonstrably making it very vulnerable in New York State" and the S3 designation indicates "typically 21 to 100 occurrences, limited acreage, or miles of stream in New York State."

Pine/Spruce/Conifer Plantation

Tree plantations were observed in several locations to the north of the eastern runway. Species observed within the plantations include various pines such as eastern white pine (*Pinus strobus)* red pine (*P. resinosa*) and other pines, spruces (*Picea* spp.) and larches (*Larix* spp.). Similarly, the *1997 FEIS* indicates that "several tracts in the fenced area, north and east of Runway 32-14 (the eastern runway) support plantations of white pine and spruce, established in the 1960s." Based upon observations during the field inspections, the tree plantations have not been actively managed for some time and successional vegetation (i.e., herbaceous plants, shrubs and pioneering tree species) from surrounding wooded and grassland habitats is present to dominant amongst the planted trees. Tree plantations were not observed within the western portion of the subject property.

For the purposes of this summary, the Pine Plantation, Spruce Plantation, and Conifer Plantation ECNYS ecological communities have been combined into a single community. In general, the ECNYS describes these tree plantations as:

> *"...a stand of softwoods planted for the cultivation and harvest of timber products, or to provide wildlife habitat, soil erosion control, windbreaks, or landscaping...These plantations may be monocultures, or they may be mixed stands with two or more co-dominant species."*

The Pine, Spruce, and Conifer Plantation ecological communities are distributed throughout New York State and are ranked as G5, S5 by the NYNHP. G5 describes a community that is "demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery," while S5 denotes a community that is considered "demonstrably secure in New York State."

Successional Old Field

The vast majority of the area immediately adjacent to the eastern and western runways currently supports grassland habitat. An additional grassland habitat block exists to the south of the eastern runway, for a total of 646.2 acres of existing grasslands at the subject property. According to the TNC Study, this habitat is "by far the largest remaining grassland on Long Island." As ECNYS does not include a grassland habitat description specific to the subject property or the Long Island region, the on-site grasslands are best defined by the ECNYS Successional Old Field community description:

> *"...a meadow dominated by forbs and grasses that occurs on sites that have been cleared and plowed (for farming or development), and then abandoned...Shrubs may be present, but collectively they have less than 50% cover in the community."*

The Successional Old Field community represents the initial stage in the process of ecological succession, which is the process by which a cleared or otherwise disturbed habitat progresses by stages to a climax forest community over time. The disturbance that has maintained the subject property grasslands and prevented succession to later ecological stages is maintenance of the runway adjacent areas in the form of mowing. In the absence of this disturbance, colonization by shrubs and woodland tree species would result in succession to later ecological stages (i.e., shrubland, woodland, forest) over time and would render this habitat unsuitable for grassland habitat species, particularly the resident grassland bird species documented in the COS and TNC Studies referenced previously and described below.

The *1997 FEIS* classified the on-site grasslands as "Semi-Improved Vegetation," indicating lands that are "...subject to annual, semiannual, or once in three – to four-year maintenance (mowing) operations...Examples of semi-improved vegetation include the clear zones required along the runways..."

The grasslands observed along the eastern and western runways are dominated by several grass species, including broomsedge (*Andropogon virginicus*), fall switchgrass (*Digitaria cognatum*), fescue (*Festuca* spp.) foxtail (*Setaria* spp.), little blue stem (*Schizachyrium scoparium*), switchgrsass (*Panicum virgatum*) and timothy (*Phleum pretense*), etc.), as well as forbs (e.g., sweet everlasting (*Pseudognaphalium obtusifolium*), common mullein (*Verbascum trbahapsus*), toadflax (*Linaris vulgaris*), horseweed (*Conzya canadensis*), hawkweeds (*Hieracium* spp.), etc.), with numerous other herbaceous species also present, as detailed in the *1997 FEIS*. Vegetative cover is generally dense, however, sparsely-vegetated and unvegetated areas of exposed sandy soil are scattered throughout the grasslands. Qualitative observations indicate that vegetative cover and species composition are similar between the western and eastern runway areas.

The Successional Old Field ecological community is distributed throughout New York State and is ranked as G4, S4 by the NYNHP. However, as discussed previously, the subject property grasslands have been recognized as the largest remaining grassland habitat on Long Island which provides habitat for many declining grassland-dependent birds, including at least eight confirmed or probable breeding species with NYS Legal Status, as discussed below. Nevertheless, as previously described, continued periodic mowing is necessary to maintain this grassland habitat in its present state. In the absence of this disturbance, succession to later ecological stages over time would render this habitat unsuitable for existing resident grassland bird species. Currently, there is no consistent, periodic mowing of these areas.

Successional Shrubland

The Successional Shrubland community represents the next stage in the process of ecological succession, following Successional Old Field. ECNYS defines Successional Shrubland as:

> *"...a shrubland that occurs on sites that have been cleared (for farming, logging, development, etc.) or otherwise disturbed. This community has at least 50% cover of shrubs."*

Although this or a similarly-described ecological community was not noted in the *1997 FEIS*, Successional Shrubland currently exists primarily within areas that were subject to historic disturbance, including portions of the former agricultural fields and tree plantations to the north of the eastern runway. According to the *1997 DEIS*, some agricultural fields were still being actively farmed at that time, while other recently inactive agricultural fields appear to have been classified as "old field" and included under the "Semi-Improved Vegetation Category." Thus, at that time it is likely that these locations supported little to no evidence of the shrub cover that has colonized the inactive agricultural fields on the subject property in the intervening years. Other areas of successional shrubs exist in border areas and clearings within the Tree Plantation communities described above.

Much of the shrub cover observed within the Successional Shrubland is comprised of colonizing tree saplings (e.g., pitch pine, oaks) and shrubs (e.g., heaths, bearberry, and bayberry) from adjacent forest and woodland habitats. However, in some areas, typical Successional Shrubland species are also present, including eastern red cedar (*Juniperus virginiana*), brambles (*Rubus* spp.), black cherry (*Prunus serotina*) saplings and non-native/invasive multiflora rose (*Rosa multiflora*) shrubs,

The Successional Shrubland ecological community is distributed throughout New York State and is ranked as G4, S4 by the NYNHP.

Paved Road/Path

Runway and internal roadway areas are best described by the ECNYS Paved Road/Path community profile:

> *"...a road or pathway that is paved with asphalt, concrete, brick, stone, etc. There may be sparse vegetation rooted in cracks in the paved surface."*

As indicated in the above description, the runways, taxiways and associated paved areas observed on the subject property support sparse vegetation in cracked areas, including typical "weedy" species, as well as grasses and forbs from the neighboring grasslands.

The Paved Road/Path community is distributed throughout New York State and is ranked as G5, S5 by the NYNHP.

Long Island Central Pine Barrens

The subject property is located within the CPB. The CPB is a 100,000-acre area located in central and eastern Long Island that encompasses a portion of the towns of Brookhaven, Riverhead, and Southampton. Approximately 438 acres located in the western portion of the subject property are located within the CPB Core Preservation Area. The remainder of the subject property is located within the CPB Compatible Growth Area (CGA). The subject property is also located within the Central Suffolk Special Groundwater Protection Area (SGPA) and supports several habitats identified within the CPB Comprehensive Land Use Plan (CLUP) as Natural Pine Barrens Communities. As described above, these include extensive Pitch Pine-Oak Forest and successional communities (including the aforementioned runway area grasslands), as well as several patches of the Pitch Pine-Oak-Heath Woodland ecological community. As described below, wetland and aquatic habitats, including several habitats identified in the CLUP as rare Natural Pine Barrens Communities, are also found at and adjacent to the subject property.

As previously noted, the ecology of upland forest communities within the CPBs is primarily the result of coarse, xeric (dry), nutrient-poor soils and frequent fires. This combination ecological conditions results in an ecosystem that favors a low diversity community comprised of drought- and fire-resistant vegetation over other woodland species that are less tolerant of these conditions. The gradients of soil texture and fire frequency/severity generally determine species composition within CPB forest communities. Generally speaking, increased burn frequency and/or severity results in dominance of pitch pine over tree oak species within the canopy, while oaks dominate in areas with low burn frequency/severity, and particularly in areas where fire has been historically suppressed by humans. Soil moisture and fertility are also relevant to community composition. Sandy, xeric, low nutrient soils favor pitch pine, while mesic (moist), more nutrient-rich soils are needed to support most oaks and other hardwoods found within the CPB. As detailed previously within the Pitch Pine-Oak Forest community description, the wide variations observed in the relative proportions of pitch pines to oaks across this community, as well as differences in the density of the shrub and groundcover strata, appear to be strongly influenced by the soil moisture gradient and fire regime factors described above. Historic fire suppression associated with historic site usage has undoubtedly contributed to current species composition within this community. Similarly, a more frequent fire return interval than that of the Pitch Pine-Oak Forest community is likely the primary factor resulting in the scattered pockets of Pitch Pine-Oak-Heath Woodland observed at the subject property.

In addition to fire suppression, other anthropogenic disturbances, most notably clearing, have influenced existing ecological conditions and community composition

over much of the subject property. As described above, historic clearing for agriculture and the establishment of tree plantations have resulted in the existing successional communities to the north of the eastern runway. Similarly, the disturbance that has maintained the subject property's grasslands and prevented succession to later ecological stages is the maintenance of the runway adjacent areas in the form of periodic mowing. In the absence of this disturbance, colonization by shrubs and woodland tree species would result in succession to later ecological stages (i.e., shrubland, woodland, forest) over time.

Wetlands and Aquatic Habitat

As described in Section 3.11 (pages 6-13) of the *1997 FEIS*, 25 wetlands, wetland complexes and deepwater habitats were identified on the subject property. The areas range in size from 0.1 to 126 acres, for a total of 251 acres of habitat that support wetland and aquatic plant and wildlife species, some of which are identified as rare species in the NYHHP records summarized below. The locations of the wetlands and potential wetlands are depicted in Figure 3.11-2 of the *1997 FEIS*.

As detailed in Section 3.10.1 of this DSGEIS and depicted on Figure 34, there are six NYSDEC-regulated wetlands located entirely or partially within the overall boundaries of the subject property, including NYSDEC Wetland Nos. W-16, W-24 through W-27 and R-5.

Figure 35 depicts the National Wetlands Inventory (NWI) wetlands located entirely or partially within the overall boundaries of the subject property, which include wetlands designated by the NWI as:

- PUBH (Palustrine, Unconsolidated Bottom, Permanently Flooded)
- PUBHh (Palustrine, Unconsolidated Bottom, Permanently Flooded Diked/Impounded)
- PUBHx (Palustrine, Unconsolidated Bottom, Permanently Flooded, Excavated)
- PF1O1C (Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded)
- PFO1Eh (Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded/Saturated, Diked/Impounded)
- PFO1FH (Palustrine, Forested, Broad-Leaved Deciduous, Semipermanently Flooded, Diked/Impounded)
- PFO5E (Palustrine, Forested, Dead, Seasonally Flooded/Saturated)
- PEM1Cx, (Palustrine, Emergent, Persistent, Seasonally Flooded, Excavated)
- PEM1/SS1Ax (Palustrine, Emergent, Persistent/Palustrine Scrub-Shrub, Excavated)
- PSS1Eh (Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded/Saturated, Diked/impounded).

According to the NYNHP, the subject property or vicinity also supports a "high quality occurrence" of the ECNYS Coastal Plain Pond community, which the NYNHP defines as follows:

> *"The aquatic community of the permanently flooded portion of a coastal plain pond with seasonally and annually fluctuating water levels. These are shallow, groundwater-fed ponds that occur in kettle-holes or shallow depressions that occur in the outwash plains south of the terminal moraines of Long Island and New England. A series of coastal plain ponds are often hydrologically connected, either by groundwater or sometimes by surface flow in a small coastal plain stream. Water is typically acidic, darkly stained and has low transparency. The substrate is typically sand to muck…"*

The Coastal Plain Pond community is ranked by the NYNHP as G3G4, S2. Although the location of the Coastal Plain Pond community was not provided in the NYNHP correspondence, a pond community observed at the northeastern portion of the subject property and identified as a tiger salamander breeding pond by the NYSDEC is characteristic of the above description.

As all of the aforementioned wetland habitats or regulated adjacent areas would be preserved, these features were not included in the field inspections of the subject property conducted as part of this assessment.

Wildlife

Section 3.11.2 of the *1997 FEIS* provides a summary of observed and expected wildlife on the subject property. In addition, multiple records, including survey results, habitat analyses, and impact assessments for avian species and herpetofauna exist and are summarized in the COS Study and the TNC Study. As such, with the exception of the rare species inspections summarized below, no further field wildlife surveys or inventories were conducted as part of the current site assessment. The following provides a summary of on-site wildlife, based upon the aforementioned documents.

Herpetofauna

With respect to herpetofauna, Section 3.11.2 of the *1997 FEIS* includes a list of 21 anticipated species; however the list is not based upon actual survey data from the subject property. As summarized in the COS Study, according to 1990-1999 New York State Amphibian and Reptile Atlas Project (NYSARAP) data, 24 amphibian and reptile species have been reported on or within the vicinity of the subject property.

The COS Study further identifies ten amphibian and reptile species observed directly on the subject property during two undated site-specific surveys, including three species with NYS Legal Status. An additional site-specific survey conducted in 2008-2009 by Dru Associates identified 18 herpetofaunal species, including five species with NYS Legal Status. Based upon the foregoing data, observed and expected herpetofauna for the subject property and vicinity are summarized in Table 72.

Table 72 – Summary of Herpetofauna Data

Common Name	Scientific Name	1997 FEIS Anticipated Species	NYSARAP Data (1990-1999)	COS Site-Specific Surveys (Undated)	Dru Associates (2008-2009)	NYS Legal Status
common snapping turtle	*Chelydra serpentina*	X	X		X	
common musk turtle	*Sternotherus oderatus*	X				
eastern box turtle	*Terrapene carolina*	X	X		X	SC
eastern painted turtle	*Chrysemys picta*	X	X	X	X	
red-eared slider	*Trachemys scripta elegans*		X			
spotted turtle	*Clemmys guttata*		X		X	SC
eastern garter snake	*Thamnophis sirtalis*	X	X		X	
eastern hognose snake	*Heterodon platirhinos*	X	X	X		SC
eastern ribbon snake	*Thamnophis sauritus*	X	X		X	
northern black racer	*Coluber constrictor*	X	X			
northern ringneck snake	*Diadophis punctatus*		X			
northern water snake	*Nerodia sipedon*	X	X			
eastern spadefoot toad	*Scaphiopus holbrookii*	X	X		X	SC
Fowler's toad	*Bufo fowleri*	X	X	X	X	
American bull frog	*Rana catesbiana*	X	X	X	X	
gray tree frog	*Hyla versicolor*	X	X	X	X	
green frog	*Rana clamitans*	X	X	X	X	
northern spring peeper	*Pseudacris crucifer*	X	X	X	X	
pickerel frog	*Rana palustris*		X		X	
wood frog	*Rana sylvatica*	X	X			
eastern tiger salamander	*Ambystoma tigrinum*	X	X	X	X	E
marbled salamander	*Ambystoma opacum*	X	X	X	X	SC
red-spotted newt	*Notophthalmus viridescens*	X	X		X	
northern redback salamander	*Plethodon cinerus*	X	X		X	
spotted salamander	*Ambystoma maculatum*	X	X	X	X	

E= Endangered; SC=Special Concern

Birds

Regarding avian species, the subject property has been the subject of numerous past and recent investigations for the presence of grassland bird species. These studies, conducted by a variety of groups with varying interests, have been performed in an attempt to quantify species diversity, as well as species density.

According to the COS Study, avifaunal records from three major sources (local breeder's records, National Audubon Society survey data and NYS Breeding Bird Atlas results) identify 120 bird species as having been observed on or near the subject property. Twenty-seven of these species are considered to be grassland-dependent birds, with 14 confirmed breeders and 11 probable or possible breeders on or in the vicinity of the subject property.

Moreover, the COS Study documents six NYS-Endangered, Threatened or Special Concern grassland bird species as breeding and/or having been observed on the subject property:

- short-eared owl (*Asio flammeus*) (NYS Legal Status: Endangered)
- northern harrier (*Circus cyaneus*) (NYS Legal Status: Threatened)
- upland sandpiper (*Bartramia longicauda*) (NYS Legal Status: Threatened)
- horned lark (*Eremphila alpestris*) (NYS Legal Status: Special Concern)
- vesper sparrow (*Pooecetes gramineus*) (NYS Legal Status: Special Concern)
- grasshopper sparrow (*Ammodramus savannarum*) (NYS Legal Status: Special Concern).

As previously noted, data summarized in the COS Study, which dates from as early as 1980, indicate that the breeding range of several grassland species has declined or disappeared from the areas surrounding the subject property, in some cases resulting in the subject property remaining as the only known breeding habitat in the area. The COS Study recognizes the subject property grasslands as an ecologically important and vital habitat for a diverse range of grassland-dependent bird species.

The TNC Study also summarizes the known occurrence of grassland-dependent bird species at the subject property, including the six species with NYS Legal Status listed in the COS Study, plus two additional NYS Special Concern grassland species identified as probable breeders on the subject property: common nighthawk (*Chordeiles minor*) and whip-poor-will (*Caprimulgus vociferous*).

In another recent study of the subject property, conducted in 2008 by Amy S. Greene Environmental Consultants, Inc. (the "ASG" study), the subject property was surveyed for the 13 target grassland bird species, based upon Amy S. Greene Environmental Consultants, Inc.'s consultations with the NYSDEC. The ASG study is provided as Appendix Q of this DSGEIS.

The results of the ASG study found the subject property being used by northern harrier, short-eared owl, American kestrel, horned lark, savannah sparrow, and eastern meadowlark during the winter survey. Amy S. Greene Environmental Consultants, Inc. also found American kestrel, upland sandpiper, horned lark, vesper sparrow, savannah sparrow, and eastern meadowlark nesting on the subject property.

Based on the presence of the species noted on-site in the ASG study, paired with other on-site observations of grassland species discussed previously, a significant portion of the subject property contains a grassland habitat which provides suitable habitat for a variety of grassland birds, including at least eight grassland-dependent avian species with NYS Legal Status listed as confirmed or probable breeders on the subject property (see Table 75).

As described above, the extensive grassland habitat at the subject property is associated with the subject property's runway areas. It is important to note that the disturbance that has maintained the subject property's grasslands and prevented succession to later ecological stages has been historic maintenance of the runway areas in the form of periodic mowing. In the absence of this disturbance, colonization by local shrub and woodland tree species would result in succession to later ecological stages (i.e., shrubland and forest) over time and would render this habitat unsuitable for grassland specialist birds, including the NYS-listed species listed above.

Mammals

Section 3.11.2 of the *1997 FEIS* details 13 mammal species as observed on the subject property, based upon data from 1989. Similar to present-day qualitative observations, the *1997 FEIS* details a large at- or above-capacity whitetail deer population on the subject property. The report also describes low natural population levels for several smaller mammals of woodlands and fields, wetlands and aquatic habitats on the subject property. More recently, Dru Associates reports 13 mammal species observed on the subject property during 2008-2009. Table 73 provides a summary of mammals observed on the subject property, based on the two aforementioned resources.

Table 73 – Observed Mammals

Common Name	Scientific Name	1997 FEIS	Dru Associates (2008-2009)
eastern chipmunk	*Tamias striatus*	x	x
eastern cottontail	*Sylvilagus floridanus*	x	x
eastern gray squirrel	*Sciurus carolinensis*	x	x
eastern mole	*Scalopus aquaticus*	x	
masked shrew	*Sorex merriami*		x
meadow vole	*Microtus pennsylvanicus*		x
Mink	*Mustella vison*	x	
Mole	*Scalopus sp.*		x
Muskrat	*Ondatra zibethica*	x	x
raccoon	*Procyron lotor*	x	x
red fox	*Vulpes*	x	
shorttail shrew	*Blarina breviculata*		x
striped skunk	*Mephitis*	x	x
Virginia opossum	*Didelphis marsupialis*	x	x
Weasel	*Mustella sp.*	x	
white-footed mouse	*Peromyscus nuttalli*		x
whitetail deer	*Odocoileus virginianus*	x	x
Woodchuck	*Marmota monax*	x	

Although not reported in the *1997 FEIS* or the Dru Associates survey, other mammals may also be present on the subject property, including, but not limited to, southern flying squirrel (*Glaucomys volans*), pine mouse (*Microtus pinetorum*) Norway rat (*Rattus norvegicus*) and bats (Order Chiroptera).

Rare Species/Habitat Potential

The Town has coordinated with the NYSDEC so that a habitat protection plan could be developed to protect species that would not cause significant adverse impacts to the various rare/protected species that have been documented at the subject property, identified in the *1997 FEIS*, as well as other rare or protected species. As such, due to the avoidance of all on-site wetlands, ponds and the terrestrial areas within 1,000 feet of these features, breeding and non-breeding habitat for eastern tiger salamander, spotted salamander and marbled salamander would not be impacted. For the same reason, no significant adverse impacts are expected for the two wetland plant species, rose coreopsis and Nuttall's lobelia, as these plants are not expected to occur within the upland habitats to be cleared as a result of the proposed action.

In correspondence dated February 7, 2014, the NYNHP indicated that records exist for various NYS-listed wildlife, plants and ecological communities at or in the vicinity of the subject property. Table 74 provides a summary of the NYNHP records.

Table 74 – Summary of NYNHP Records

Common Name	Scientific Name	NYS Legal Status	Record Date	Record Location
short-eared owl	*Asio flammeus*	Endangered	not provided	on-site
eastern tiger salamander	*Ambystoma tigrinum*	Endangered	not provided	on-site
eastern wormsnake	*Carphophis amoenus*	Special Concern	2007	south side of River Road (off-site)
banded sunfish	*Enneacanthus obesus*	Threatened	not provided	not provided
coastal barrens buckmoth	*Hemileuca maia ssp.*	Special Concern	1987 and 2002	Firebreak Pond East (on-site), Middle Country Road woods (location unknown)
comb-leaved mermaid-weed	*Proserpinaca pectinata*	Threatened	2000 and 2005	Third Pond (location unknown), Forest Pond (off-site), Calverton woods (location unknown)
rose coreopsis	*Coreopsis rosea*	Rare	1987 and 2005	North Pond (on-site), Forest Pond (off-site), Third Pond (location unknown), Calverton woods (location unknown)
small floating bladderwort	*Utricularia radiata*	Threatened	1984, 1985 and 1991	Prestons pond (off-site), Forest Pond (off-site), Third Pond (location unknown)
short-beaked beakrush	*Rhynchospora nitens*	Threatened	2005	Forest Pond (off-site), Third Pond (location unknown)
coppery St. John's-wort	*Hypericum denticulatum*	Endangered	1996	Third Pond (location unknown)
pine barren bellwort	*Uvularia puberula*	Endangered	1987	Swan Pond (off-site)
slender pinweed	*Lechea tenuifolia*	Threatened	1986	North Pond Firebreak Road (on-site)

Common Name	Scientific Name	NYS Legal Status	Record Date	Record Location
American ipecac	*Euphorbia ipecacuanhae*	Endangered	2000	Swan Pond (off-site)
slender crabgrass	*Digitaria filliformis*	Endangered	1987	Linus Pond (off-site)
tooth-cup	*Rotala ramosior*	Threatened	1984	Conoe Pond (off-site)
Wright's panic grass	*Dichanthelium wrightianum*	Endangered	2005	Third Pond (location unknown)
coastal plain pond shore		high quality occurrence of rare community type	Not provided	Third Pond (location unknown)
pitch pine-oak forest		high quality occurrence		Sandy Pond East (off-site)

The NYNHP records for several of the species listed on the table above have been confirmed to have been from off-site locations. These include eastern wormsnake and the following plant species: pine barren bellwort, American ipecac, slender crabgrass, tooth-cup and Wright's panic grass. The remaining plant records include several wetland plant species listed on the United States Army Corps of Engineers (USACE) Northcentral and Northeast 2013 Regional Wetland Plant List as either "obligate wetland" (OBL [almost always occurs in wetlands]) or "facultative wetland" (FACW [usually occurs in wetlands]). As such, if still present on-site, these species would be restricted to wetland habitats, the listed wetland plants include comb-leaved mermaid-weed, rose coreopsis, small floating bladderwort, short-beaked beakrush, and coppery St. John's-wort. As the proposed action would preserve all existing ponds and wetlands on the subject property, surveys of these plants and of wetland and aquatic habitats in general were not conducted as part of this DSGEIS. Similarly, no pond surveys were conducted for the presence of banded sunfish.

Several plant and wildlife species listed in the NYNHP records (eastern tiger salamander, coastal barrens buckmoth, rose coreopsis and slender pinweed), as well as two additional species (spotted salamander and Nuttall's lobelia) were identified by the NYSDEC as "species of concern" in 1997 and are discussed below.
In the *1997 FEIS* and *2001 Supplemental Environmental Impact Statement*, the NYSDEC identified six species as concerns for any proposed redevelopment on the subject property, including four species identified in the NYNHP records summarized in Table 33. The six species were originally listed in the *1997 FEIS* as occurring at six separate locations within "the fenced area," based upon annual New York Natural Heritage Program field surveys beginning in 1986 and 1987 and two other studies dated from 1996 and 1997. The listed species include three animals and three plants:

- eastern tiger salamander (NYS Legal Status: Endangered)
- spotted salamander (no current NYS Legal Status)
- coastal barrens buckmoth (NYS Legal Status: Special Concern)
- rose coreopsis (NYS Legal Status: Rare)

- Nuttall's lobelia (NYS Legal Status: Rare)
- slender pinweed (NYS Legal Status: Threatened).

It is important to note that, although listed as a Special Concern species in the *1997 FEIS*, spotted salamander currently has no NYS Legal Status.

At the request of the NYNHP, specific locations for the six species were not included in the *1997 FEIS*. However, the document indicates that four of the locations occur within the CPB Core Preservation Area. Another location is described as *"a wetland surrounded by old field and maintained lawn"* that supports eastern tiger salamander, while the final location is described only as a *"natural area"* where eastern tiger salamander, spotted salamander and Nuttall's lobelia were found. Additionally, as summarized in Table 33 and detailed below, the NYNHP's recent correspondence provides more detailed location information for the coastal barrens buckmoth, rose coreopsis and slender pinweed species records.

With respect to eastern tiger salamander and spotted salamander specifically, the *1997 FEIS* indicates that there are four breeding ponds on the subject property that support the former species, one of which also supports breeding populations of the latter. Additionally, the COS Study documented *"numerous eastern tiger salamanders in several onsite ponds."* More recently, the NYSDEC has indicated the locations of two tiger salamander breeding ponds at the northeastern portion of the subject property and within Calverton Camelot to the south of the western runway. Given the fact that the proposed action would preserve all existing ponds and wetlands on the subject property, eastern tiger salamander breeding pond surveys were not conducted as part of this DSGEIS. Similarly, as no development is proposed within a 1,000 foot radius of any potential breeding pond on the subject property,[74] surveys of eastern tiger salamander terrestrial habitat were not conducted. It is important to note that preservation of eastern tiger salamander breeding ponds and non-breeding habitat on the subject property would also serve to protect spotted salamander, as adults of this species are not known to migrate more than 360 feet from breeding ponds in NYS.[75] Accordingly, spotted salamander surveys were not conducted.

Field inspections of the subject property and the areas for potential redevelopment in particular were conducted on September 2, September 26, October 7, 2011, as well as on March 7, 2014, in order to determine the presence or absence of the remaining four species identified by the NYSDEC and listed in the *1997 FEIS*. The following provides a narrative of the field inspections as they relate to each species.

[74] The NYSDEC publication *Guidance for Land Cover Set Asides for Conservation of the Eastern Tiger Salamander and Suggested Methods to Avoid, Minimize and Mitigate Impacts* includes guidelines recommending the preservation of 100 percent of existing upland forest habitat within 535 feet of breeding ponds and preservation of a minimum of 50 percent of adjacent upland habit within 1, 000 feet of breeding ponds.

[75] Gibbs, James P., et.al. 2007. The Amphibians and Reptiles of New York State. Oxford University Press.

Rose coreopsis (*Coreopsis rosea*) is a narrow-leaved, herbaceous plant that grows from one to two feet in height and produces pink or white daisy-like flowers from July to early September.[76] As indicated previously, the NYS Legal Status for rose coreopsis is "Rare," indicating that the species has 20 to 35 extant sites or 3,000 to 5,000 individuals statewide. As detailed in the *1997 FEIS* and based upon NYNHP species data, habitat for rose coreopsis includes damp sand, gravel or peat soils associated with areas of standing water, coastal plain pond shores/margins and wet depressions.[77] According to the USACE, the wetland indicator status for rose coreopsis is FACW, indicating that rose coreopsis usually occurs in wetlands.[78] The species was identified at North Pond, located at the southwestern portion of the subject property in 1987. Based upon these considerations, if still present on the subject property, rose coreopsis would be found growing within pond margin of North Pond or other wetland habitats, rather than the upland habitats of the areas for potential redevelopment. Rose coreopsis was not observed within the areas for potential redevelopment during the field inspections.

Nuttall's lobelia is a linear-leaved, vascular plant of one to five feet that produces light blue, four-lobed flowers from late June to October. The habitat requirements for this species are wet sands of coastal plains and bogs.[79] Similar to rose coreopsis, the USACE wetland indicator status for Nuttall's lobelia is FACW and the *1997 FEIS* habitat description for Nuttall's lobelia includes wetland areas such as coastal plain pond margins, swamps and wet meadows. Although not included in the current NYNHP records for the subject property and vicinity, the *1997 FEIS* further describes this plant as occurring at a tiger salamander breeding pond located on the subject property (the location of the pond was not provided). Based upon these considerations, if still present on the subject property, it is likely that Nuttall's lobelia occurs at this location or potentially within other pond and wetlands habitats, as opposed to the dry upland habitats supported within the areas for potential redevelopment. Nuttall's lobelia was not observed within the areas for potential redevelopment during the field inspections.

Slender pinweed occurs within dry, often grassy, natural or artificial open habitats, including pine or oak barrens and disturbances within these habitats such as roads, firebreaks, all-terrain vehicle (ATV) trails, or runways.[80] Based upon these considerations, the subject property, including the areas for potential redevelopment, support ample habitat for slender pinweed. As detailed on Table 33, the species was identified in 1986 at the subject property along the North Pond firebreak road. During the field inspections, particular scrutiny was given to clearings and disturbed

▼

[76] Newcomb, L. 1977. Newcomb's Wildflower Guide. Little, Brown and Company.
[77] New York Natural Heritage Program. 2013. Online Rose Coreposis Guide. Available online at: http://acris.nynhp.org/guide.php?id=8762 Accessed February 25, 2014.
[78] Lichvar, R.W. 2013. The National Wetland Plant List: 2013 wetland ratings. Phytoneuron 2013-49: 1-241.
[79] Gargiullo, M.B. 2010. A Guide to Native Plants of the New York City Region. Rutgers University Press.
[80] New York Natural Heritage Program. 2013. Online Slender Pinweed Guide. Available online at: http://acris.nynhp.org/guide.php?id=8950&part=2 Accessed February 25, 2014.

areas within the Pitch Pine-Oak Forest habitats, runway area grasslands and the vegetation growing within pavement cracks of the runways themselves. At the time of the field inspections, multiple specimens of a closely-related but more common species, narrowleaf pinweed (*Lechea intermedia*) (no NYS Legal status) were observed in an area of exposed sandy soil along a footpath located to the south of the eastern runway. Slender pinweed is distinguished from narrowleaf pinweed by differences in length between the outer and inner sepals. In summary, much of the subject property supports suitable habitat for slender pinweed and the plant may still occur on-site; however, no evidence of this plant was observed within the areas for potential redevelopment during the field inspections.

The NYNHP records indicate that the coastal barrens buckmoth was identified in 1987 at "Firebreak Pond East." The coastal barrens buckmoth is a day-flying moth with an adult flight period occurring on sunny days from September through October.[81] As the females lay eggs on the twigs of scrub oak (and occasionally other shrubby oak species) and larvae feed on the same plants, the preferred habitat for the coastal barrens buckmoth includes open, xeric areas with extensive scrub oak thickets, particularly Pitch Pine-Scrub Oak Barrens and Maritime Shrublands.[14] Similarly, ECNYS lists barrens buckmoth as a characteristic species of Pitch Pine-Scrub Oak Barrens and Pitch Pine-Oak-Heath Woodlands. Locally, according to the Central Pine Barrens Joint Policy and Planning Commission, coastal barrens buckmoth has been reported from ten locations within the CPB, with the highest densities of adults occurring in Dwarf Pine Plains, where scrub oak and dwarf chinquapin oak (*Quercus prinoides*) are the required host plant for eggs.[82] Dwarf Pine Plain and Maritime Shrubland habitats do not occur on or proximate to the subject property. Furthermore, the Pitch Pine-Scrub Oak Barrens habitat (i.e., Pitch Pine-Oak-Heath Woodlands) currently occurs only in small, scattered pockets on the subject property, none of which were observed to occur within the areas for potential redevelopment, which primarily supports other ecological communities. Thus, the subject property, and the areas for potential redevelopment in particular, currently do not support extensive areas of optimal breeding, larval or adult habitat for barrens buckmoth, although some smaller areas exist outside of the areas for potential redevelopment.

The three field inspections for barrens buckmoth all occurred on calm, sunny days during September and October of 2011. In order to evaluate the optimal barrens buckmoth habitat available on the subject property, several of the aforementioned pockets of Pitch Pine-Oak-Heath Woodlands located outside of the areas for

▼

[81] Massachusetts Division of Fisheries and Wildlife Natural Heritage Endangered Species Program Barrens Buckmoth Fact Sheet. Available online: http://www.mass.gov/dfwele/dfw/nhesp/species_info/nhfacts/hemileuca_maia.pdf

[82] Central Pine Barrens Joint Policy and Planning Commission. 1995. Central Pine Barrens Comprehensive Land Use Plan Volume 2: Existing Conditions. Available online: http://pb.state.ny.us/cpb_plan_vol2/vol2.pdf

potential redevelopment were assessed, however; barrens buckmoth was not observed within these areas. Within the areas for potential redevelopment, special attention was given to shrubby, open areas (i.e., clearings and edge areas located within and adjacent to Pitch Pine-Oak Forest), as these places would provide the best available habitat for the barrens buckmoth, if present. Individuals of five butterfly species were identified during the field inspections: American copper (*Lycaena phlaeas*), clouded sulphur (*Colius philodice*), orange sulphur (*Colius eurytheme*), monarch (*Danaus plexippus*) and common buckeye (*Junonia coenia*). Moth species, including barrens buckmoth, were not observed within the areas for potential redevelopment at the time of the field inspections. In summary, although the subject property supports potentially suitable, though not optimal, habitat for the barrens buckmoth, the most favorable habitat pockets for this species are not located within or adjacent to the areas for potential redevelopment.

Although the grassland habitat at the subject property provides suitable nesting and overwintering habitat to a variety of species, much of the historic interest regarding the subject property has been directed toward the protection of the short-eared owl, which is a NYS Endangered species known to occur at the subject property. As the NYSDEC has identified the short-eared owl as a priority concern for the subject property, greater attention is provided to this species in this narrative. Although the protection of the short-eared owl is receiving greater consideration, the overall protection of grasslands on the subject property detailed in Section 3.11.1 should be viewed as a landscape-approach that will result in the preservation of a number of grassland birds and other wildlife species on the subject property.

Short-eared owls are a medium-sized owl, approximately 15 inches in length, with small ear tufts that appear as low ridges along the top of the head. Adult plumage is brown with buffy mottling and streaking on the breast and light and dark patches on the upper sides of the wings. The call of the short-eared owl is a raspy, repeated wak-wak-wak bark.

The short-eared owl reaches the northern end of its eastern range in Quebec, Canada, while the southern limit of its range extends to South America. In New York, the short-eared owl is a year-round resident largely confined to the St. Lawrence Valley, Lake Champlain Valley, Great Lakes plains and Long Island.[83]

This species of owl prefers to roost, forage and nest in inland open areas such as fallow fields, hay fields, grasslands, airports and sedge meadows. Such owls are sensitive to human activity and require large tracts of undisturbed upland areas. They form winter roosts on the ground within open areas, such as fields or marshes. The short-eared owl opportunistically inhabits areas where small mammals are abundant. The short-eared owl is the most diurnal of all the northeastern owls, as

[83] Aslop, F.J. *Birds of North America: Eastern Region*. DK Publishing, Inc., 2001.

they are often observed in the late afternoon and at dawn or dusk. The owls exhibit a flight technique that propels them low over grasslands and marshes, moving back and forth with slow, irregular wing beats. These owls eat primarily small mammals, but occasionally take small birds, and the young sometimes eat insects. When hunting, these owls dive from perches or fly low over the ground and pounce on the prey from above, sometimes hovering briefly before they drop.

Winter roosts are selected based on opportunity for protection from the weather and are typically located on the edge of or within their hunting area.[84] Clark found that dense snow cover caused wintering owls to relocate roosts to areas of dense conifers for protection from the weather. They form winter roosts on the ground within open areas, such as fields or marshes. Females construct the nest in the vegetation by scraping a bowl shaped area and lining it with grasses and feathers.

The owls typically nest in grasslands that have short (less than one foot), dense cover.[85] They prefer large grassland areas for nesting; however short-eared owls are more influenced by the total amount of grassland in the landscape rather than the size of individual grassland tracts in an area.[86]

In the central portion of their range, short-eared owls typically maintain a territory in which they both hunt and breed, and are considered irregular migrants.[2] The owls are nomadic specialists that are heavily influenced by the densities of microtine populations.[4] North American studies found that there was an inverse relationship between short-eared owl territory size and meadow vole (*Microtus pennsylvanicus*) abundance.[2] The reviewed scientific literature does not cite specific territory sizes for the short-eared owl, apparently due to the bird's irregular migratory behavior and the fact that territory size appears to be more closely connected to prey availability rather than the amount of habitat available in a geographic area.

Short-eared owls primarily consume a variety of small mammals, with meadow voles (*Microtus pennsylvanicus*) accounting for a large part of their diet. In addition to voles and other small mammals, the owls will also consume birds and the young will sometimes eat insects. From year to year, the amount of prey may vary, and if prey is not abundant, the reproductive success of the owls is usually depressed. Short-eared owls opportunistically inhabit areas where small mammals are abundant.

▼

[84] Clark, R.J. *A Field Study of the Short-Eared Owl, Asio Flammeus (Pontoppidan) in North America.* Wildlife Monographs. 1975. Volume 47.

[85] Weller, M.W., I.C. Adams, Jr., B.J. Rose. *Winter Roosts of Marsh Hawks and Short-Eared Owls in Central Missouri.* The Wilson Bulletin. 1955. Volume 67, No. 3, pgs. 189-193.

[86] Herkert, J.R., S.A. Simpson, R.L. Westemeier, T.L. Esker, J.W. Walk. *Response of Northern Harriers and Short-Eared Owls to Grassland Management in Illinois.* Journal of Wildlife Management. 1999. Volume 63(2), pgs 517-523.

Voles are a highly predictable prey item for short-eared owls, with short-term activity cycles of about three hours and exhibition of some level of local synchrony.[87] Predictability of prey species allows an efficiently foraging predator to restrict its hunting times to the times of peak vole activity. Variability in vole activity accounts for the partial diurnality of the short-eared owl.

Meadow vole populations are characterized by cyclic fluctuations in density within a period of two-to-five years. Voles are active at any time of day, and are characterized by short term activity cycles of approximately three hours, as noted above. In areas of dense cover, vole activity is mostly diurnal, while in areas of sparse cover, activity is mostly crepuscular (at dusk and dawn).[88] Grasses are a crucial component of maintaining suitable vole habitat conditions for food and cover. Biomass of grasses (including pasture grasses), vegetation complexity and amount of downed wood tend to provide optimum habitat for vole population buildups and enhanced survival, particularly during overwinter periods.[89] Downed wood is an important moisture reservoir and may provide a sheltered, cooler microclimate attractive to voles in summer. In winter, along with vegetation (particularly grasses), it may provide a mechanical support creating a snow-free space at the ground surface. It is this combination of vegetation and downed wood that predisposes successional seedlings to feeding by voles.[7]

Nesting habits and nomadism make the short-eared owl particularly vulnerable to habitat loss. Conversion of open habitats to agriculture, grazing, recreation, housing and reforestation threaten its long term viability.[90] Short-eared owls are particularly sensitive to habitat loss and fragmentation, as they require relatively large tracts of grassland and are ground nesters, making them susceptible to predation pressure.

Regarding avian species, based upon the COS, TNC and ASG surveys summarized previously, significant portion of the subject property contains a grassland habitat which provides suitable habitat for a variety of grassland birds, including at least eight NYS-Endangered, Threatened or Special Concern grassland species listed as confirmed or probable breeders on the subject property (see Table 75). As summarized in this table, these species include short-eared owl, northern harrier, upland sandpiper, common nighthawk, grasshopper sparrow, horned lark, vesper sparrow and whip-poor-will.

▼

[87] Reynolds, P., M.L. Gorman. *The timing of hunting in short-eared owls (Asio flammeus) in relation to the activity patterns of Orkney voles (Microtus arvalis orcadensis).* Journal of Zoology. 1999. Volume 247, pgs 371-379.
[88] Reich, L.M. *Microtus pennsylvanicus.* American Society of Mammalogists. 1981. Volume 159, pgs 1-8.
[89] Sullivan, T.P., D.S. Sullivan. *Forecasting vole population outbreaks in forest plantations: The rise and fall of a major mammalian pest.* Forest Ecology and Management. 2010. Volume 260, pgs 983-993.
[90] New York Department of Environmental Conservation. *Short-eared Owl Fact Sheet.* 2011.

Table 75 – NYS-Endangered, Threatened, or Special Concern Grassland Bird Species Observed On-Site

Common Name	Scientific Name	NYS Legal Status
short-eared owl	*Asio flammeus*	E
northern harrier	*Circus cyaneus*	T
upland sandpiper	*Bartramia longicauda*	T
common nighthawk	*Chordeiles minor*	SC
grasshopper sparrow	*Ammodramus savannarum*	SC
horned lark	*Eremphila alpestris*	SC
vesper sparrow	*Pooecetes gramineus*	SC
whip-poor-will	*Caprimulgus vociferus*	SC

E= Endangered; T=Threatened; SC=Special Concern

As described above, the extensive grassland habitat at the subject property is associated with the subject property runway areas. It is important to note that the disturbance that has maintained the subject property grasslands and prevented succession to later ecological stages has been historic maintenance of the runway areas in the form of periodic mowing. In the absence of this disturbance, colonization by local shrub and woodland tree species would result in succession to later ecological stages (i.e., shrubland and forest) over time and would render this habitat unsuitable for grassland specialist birds, including the NYS-listed species listed above.

With respect to other herpetofauna species, as summarized previously, in addition to the aforementioned eastern tiger salamander, three recent site-specific surveys have identified five NYS Special Concern Species as occurring on the subject property: marbled salamander, eastern hognose snake, eastern box turtle, spotted turtle and eastern spadefoot toad (see Table 29). Specific locations for these species were not provided with the survey data. In addition, the NYNHP reports that records exist for the NYS Special Concern eastern wormsnake in the vicinity of the property.

3.11.2 Potential Impacts

Comprehensive Habitat Protection Plan

Introduction

A Comprehensive Habitat Protection Plan (CHPP) has been prepared to summarize the existing ecological resources at the site (e.g., existing ecological communities and rare species) (see Section 3.11.1, above), to detail the expected impacts to these resources as a result of the proposed action, and to set forth those measures to be implemented to protect identified habitats on the subject property (see Appendix Q). Based upon consultations with the NYSDEC, the CHPP details the habitat protection

measures developed to mitigate impacts, through the preservation, creation and management of key habitat areas for resident plant and wildlife species. The CHPP provides for protection of significant habitat area for 23 rare wildlife and plant species through the preservation of large, contiguous blocks of existing upland and wetland/aquatic habitats at the subject property. It further provides for the management of much of the site as a habitat preserve for grassland bird species.

Vegetation Impacts

As depicted on the *Habitat Protection for Enterprise Park at Calverton* (see Appendix Q), implementation of the proposed action would result in the subdivision of the EPCAL Property into 50 lots, of which 42 lots would be for ultimate redevelopment with a mix of uses (e.g., business [commercial and retail], industrial, residential, recreation, utilities). The existing habitats on these 42 lots would be subject to clearing upon the ultimate redevelopment of each parcel. However, as detailed below, the Town has coordinated with the NYSDEC to develop a subdivision map that would preserve significant portions of all existing ecological communities, particularly those that serve as habitat for rare/protected species. These included lands within the CPB Core Preservation Area and other wooded habitat areas, the WSRR corridor, drainage reserve areas, and the proposed grassland habitat preserves.

A summary of the impacts to the habitat and vegetation for each existing ecological community identified in Section 3.11.1, above follows:

Pitch Pine-Oak Forest

As described previously, this ecological community is dominant throughout most of the area to the north of the western runway and in some areas to the north of the eastern runway. The majority of existing on-site habitat that would be zoned for ultimate development and subject to clearing as a result of the proposed action would be from this community type. As detailed in Section 3.11.1, this ecological community is considered to be "apparently secure" in New York State by the NYNHP and is common in the general surrounding area of the subject property. Furthermore, as detailed in the CHPP, large contiguous blocks of this habitat would be preserved at the subject property to the north of the eastern runway, to the south of both runways and particularly within the lands comprising the CPB Core Preservation Area at the western portion of the subject property. It is also anticipated that additional Pitch Pine-Oak Forest habitat will occupy the subject property over time, as preserved areas supporting Tree Plantation and Successional Shrubland communities located to the north of the eastern runway develop into forested communities through the process of ecological succession, as described below.

Furthermore, the proposed action has been designed such that vegetated open space areas within the proposed lots would be contiguous with each other and with vegetated areas on adjacent parcels. The proposed lot layout has been specifically

arranged such that areas of existing Pitch Pine-Oak Forest and other natural vegetation to remain are concentrated within the rear and side yards of the proposed lots, and contiguous to existing areas of Pitch Pine-Oak Forest on adjoining off-site properties. Additionally, all interior limits of natural vegetation to remain will be delineated by split-rail fence to act as a reference for future homeowners, and would assist in clearing limit enforcement. Therefore, although the majority of clearing and ultimate redevelopment would occur primarily within areas of existing areas of Pitch Pine-Oak Forest, significant areas of this community would be preserved at the subject property.

Pitch Pine-Oak-Heath Woodland

The NYNHP ranks this community as "very vulnerable," with few remaining acres remaining in New York State. The Pitch Pine-Oak-Heath Woodland community occurs within scattered pockets at the southeastern portion of the subject property, in the area to the north of the eastern runway. As detailed in the CHPP, this area would be preserved as open space as part of the proposed action. Accordingly, no significant adverse impacts to the on-site Pitch Pine-Oak-Heath Woodland habitat are anticipated as a result of the proposed action.

Pine/Spruce/Conifer Plantation

As detailed in Section 3.11.1, historic tree plantations that have not been subject to active management for some time exist in several locations to the north of the eastern runway. Portions of the on-site plantation communities are located within Lots 40 through 43 and thus would be zoned for ultimate redevelopment and clearing as a result of the proposed action. However, other on-site examples of these communities would be preserved within the proposed open space areas to the north and south of these lots, including those within the lands proposed for preservation. Similar to existing conditions, it is anticipated that colonization by successional vegetation from surrounding wooded and grassland habitats observed during the field inspections would continue within the preserved tree plantations following implementation of the proposed action, resulting in the eventual conversion of these anthropogenic habitats to forested communities dominated by tree species from neighboring habitats. However, as tree plantation communities are considered by the NYNHP to be "demonstrably secure" in New York State and are common regionally, no significant adverse impacts to this community type are anticipated as a result of the proposed action.

Successional Old Field (Grasslands)

The vast majority of the areas immediately adjacent to the eastern and western runways currently supports grassland habitat that has been characterized under the ECNY Successional Old Field community description, which is considered "apparently secure" in New York State by the NYNHP. However, as detailed in

Section 3.11.1, the subject property grasslands have been recognized as the largest remaining grassland habitat on Long Island and represent an important habitat for many declining grassland-dependent birds, including at least eight confirmed or probable breeding species with NYS Legal Status.

Implementation of the proposed action would result in the removal of 188.1 acres of the existing 646.2 acres of grassland habitat at the subject property, primarily in the area to the north of the runways. However, as detailed in the CHPP, the proposed action includes the preservation of the remaining 458.1 acres of existing grassland habitat, representing over 70 percent of the existing grasslands at the subject property. Furthermore, the proposed action would also result in the creation of an additional 138.3 acres of on-site grassland habitat, through the conversion of existing paved runway/taxiway areas and wooded habitat to grasslands. As further detailed in the CHPP, the total proposed grassland acreage of 596.4 acres would be actively maintained as habitat for grassland bird species in accordance with Best Management Practices (BMPs) developed by New York Audubon and the NYSDEC[91] for grassland bird habitat, as indicated below in Section 3.11.3 (Proposed Mitigation) and in the CHPP. In total, a net loss of 49.8 acres of grassland habitat would occur as a result of the proposed action.

In summary, the proposed action would result in the gradual removal of some existing grassland habitat over time, as the aforementioned lots to the north of the runways are redeveloped. However, the majority of existing grasslands would be preserved, and additional grassland habitat would be created, resulting in an actively managed habitat preserve for grassland birds and other wildlife. It is important to note that currently, the existing grasslands at the subject property are not actively managed, and no long-term management plan is currently in place. As such, should implementation of the proposed action not occur, it is anticipated that the existing grassland habitat at the subject property would ultimately be lost through the process of ecological succession.

Successional Shrubland

The Successional Shrubland ecological community is represented in scattered locations at the subject property that have been subject to historic disturbance, including portions of the former agricultural fields and tree plantations to the north of the eastern runway. Some areas of this community occur within Lots 40 through 43, and therefore would be zoned for ultimate redevelopment and eventual clearing as a result of the proposed action. However, other on-site examples of Successional Shrubland would be preserved within the proposed open space areas to the north

[91] New York State Department of Environmental Conservation. 2014. *Best Management Practices for Grassland Birds*. Available online at: http://www.dec.ny.gov/pubs/86582.html Accessed March 27, 2014.

and south of these lots. Regardless of the proposed action, and in the absence of additional disturbance, it is anticipated that the process of ecological succession that is already underway will continue within the successional Shrubland habitats following implementation of the proposed action, resulting in the eventual conversion to wooded communities. However, given that the Successional Shrubland community is by definition a dynamic, transitional habitat that is considered by the NYNHP to be "apparently secure" in New York State, no significant adverse impacts to this community type are anticipated as a result of the proposed action.

Paved Road/Path

As detailed in Section 3.11.1, the Paved Road/Path ecological community is represented in the paved runways and taxiways and associated paved areas at the subject property. These areas support sparse vegetation in cracked areas, including typical "weedy" species, as well as grasses and forbs from the neighboring grasslands. As a result of the proposed action, 59.5 acres of this habitat would be converted to grasslands. However, the Paved Road/Path community is distributed throughout New York State and is considered "demonstrably secure" by the NYNHP. Further, the grasslands to be created have a significantly higher stormwater recharge potential and wildlife habitat value than the impervious, primarily unvegetated surfaces that comprise the Paved Road/Path community. In particular, as described below, the conversion of paved surfaces to grasslands would create additional on-site habitat for grassland birds, including several rare species known to utilize the site. Taking these factors into account, no significant adverse impacts are anticipated due to the proposed decrease in this habitat type.

Impacts to Ecological Resources within the CPB

As previously detailed, no development would occur within or adjacent to the CPB Core Preservation Area lands located at the western portions of the subject property. Lands located within the CPB Core Preservation Area, which consist primarily of Pitch Pine-Oak Forest woodlands and wetland habitats, would be preserved as open space. As such, no significant adverse impacts to the CPB Core Preservation Area are anticipated as a result of the proposed action.

The remaining portions of the subject property are located within the CPB Compatible Growth Area. A detailed discussion of the standards for development in the Compatible Growth Area, along with the proposed action's relationship thereto and consistency therewith is presented in Section 3.1.2 of this document. As previously discussed, these areas consist of woodland and successional habitats, as well as paved areas. The majority of land that would be zoned for ultimate development as a result of the proposed action is existing Pitch Pine-Oak Forest habitat. However, as detailed in the CHPP, large contiguous blocks of this habitat located within the Compatible Growth Area would be preserved to the north of the

eastern runway, to the south of both runways. Additionally, Pitch Pine-Oak-Heath Woodland habitat and significant areas of and Successional Shrubland would also be preserved. With respect to grassland habitat, implementation of the proposed action would result in a net loss of 49.8 acres of grassland habitat would occur as a result of the proposed action. However, a total of 596.4 acres of grassland habitat would be preserved or created from existing paved areas within the Compatible Growth Area. The grasslands would be actively maintained as habitat for grassland bird species, as previously described and set forth in the CHPP in Appendix Q.

Summary

In summary, while the proposed action would result in the gradual loss of forested habitat, primarily at the northern and western portions of the subject property as the lots proposed for development are cleared over time, this loss would be mitigated by the preservation of existing forested habitat at other portions of the subject property, particularly within the Pitch Pine-Oak Forest-dominated, CPB Core Preservation Area lands at the western portion of the subject property. Additional forested habitat is expected to develop over time within successional habitat areas that would be preserved as a result of the proposed action. While some of the existing grassland habitat would also ultimately be lost to development, implementation of the proposed action would result in the preservation of the remaining 458.1 acres of existing grassland habitat, at the subject property, as well as the creation of an additional 138.3 acres of grassland. In total, a net loss of 49.8 acres of grassland habitat would occur as a result of the proposed action. The total proposed grassland acreage of 596.4 acres would be actively maintained as habitat refuge for grassland bird species and other wildlife, as set forth in the CHPP. As no long-term management plan for the subject property's grasslands currently exists, it is expected that the existing grassland habitat at the subject property would ultimately be lost through the process of ecological succession should the implementation of the proposed action not occur.

Wildlife Impacts

The primary impact of the proposed action to resident wildlife would be through habitat loss within the 42 lots proposed for redevelopment. As detailed above in the Vegetation Impacts section, habitat loss would occur primarily within Pitch Pine-Oak Forest and successional communities, including grassland habitats.

In analyzing the overall potential impacts of the proposed action to local and regional wildlife populations due to displacement of wildlife, it is important to note that the assumption that resource availability is the only limiting factor controlling wildlife carrying capacity (density) on the subject property and in the general surrounding area is an oversimplification, as many other factors influence wildlife population densities (e.g., disease, parasites, predation, weather, human disturbances, etc.). Therefore, it is possible that wildlife species populations may

already be below the theoretical carrying capacities at portions of the subject property and surrounding properties, due to one or more of these limiting factors. For example, the existence of disturbed conditions due to historic land usage or the presence of non-native/invasive vegetation at portions of the subject property may be limiting factors for wildlife species at the subject property. Nevertheless, under the assumption that resource availability is the only limiting factor affecting population density, in the short-term, it is anticipated preserved habitats within and surrounding the subject property would experience a temporary increase in wildlife populations during the clearing and construction on the lots proposed for redevelopment, due to emigration of individuals from the disturbed portions of the subject property. Individuals of some less mobile species or juveniles of certain species may suffer direct elimination during clearing of habitats within the proposed land use plan area. More mobile animals would be forced to migrate to unaffected habitats, both on the subject property or in the general surrounding area. Subsequently, it is anticipated that inter- and intra-specific competition for available resources within these surrounding habitats would result in a net decrease in local population size for most species, until equilibrium between wildlife populations and available resources is achieved.

Over the long-term, clearing and development of existing forested and successional areas will result in a reduction of available habitat for wildlife species on the subject property. However, given that development within the proposed land use plan area would likely occur in incremental stages over the course of multiple years, the displacement or wildlife to surrounding habitat and resulting increased competition for available resources would also occur incrementally as well. Furthermore, as detailed in the CHPP, the proposed action includes the preservation of significant portions of all existing vegetated community types, including large contiguous blocks of forested and grassland habitats. As such, it is anticipated that habitat area for all existing resident wildlife species would remain and be preserved (and enhanced) as a result of the proposed action.

Regarding avian species in particular, implementation of the proposed action would result in the loss of some grassland bird habitat at the subject property, primarily in the area to the north of the runways in the vicinity of NYS Route 25. However, as detailed in the CHPP, the proposed action includes the preservation of the remaining 458.1 acres of existing grassland bird habitat, representing over 70 percent of the existing grasslands at the subject property. Furthermore, the proposed action would also result in the creation of an additional 138.3 acres of on-site grassland bird habitat, through the conversion of existing paved runway/taxiway areas and wooded habitat to grasslands. In total, a net loss of 49.8 acres of grassland habitat would occur as a result of the proposed action. As further detailed in the CHPP, the total proposed grassland acreage of 596.4 acres would be actively maintained as habitat for grassland birds, including shorted-eared owl, northern harrier and other rare/protected bird species. It is important to note that, as a successional community, the subject property grasslands have been maintained as a result of periodic

disturbance. Currently however, the subject property grasslands are not actively managed, and there is no long-term management plan currently in place for these grasslands. In the absence of a management plan, colonization by shrubs and woodland tree species would result in succession to later ecological stages (i.e., shrubland, woodland, forest) and the incremental loss of grasslands at the subject property, thus rendering the subject property unsuitable as a significant refuge for grassland birds. Based upon the foregoing, the chief impact of the proposed action with respect to avian species would be the preservation of existing grasslands, the creation of additional grasslands and the existence of an actively managed grassland bird refuge.

Rare Species/Habitat Potential

As detailed in Section 3.11.1, the subject property provides habitat for various rare plant and wildlife species. Accordingly, the CHPP has been specifically developed based upon consultations with the NYSDEC to avoid or minimize impacts to rare plants and wildlife, and to preserve and create habitat areas utilized by these species.

As described below, the CHPP provides for the preservation of large contiguous blocks of habitat known to support rare species, including forest habitat, grasslands and successional habitats. A summary of the impacts of the proposed action on rare species identified at the subject property follows.

The subject property has been documented as an important habitat for grassland birds, with at least eight NYS-Endangered, Threatened or Special Concern grassland species documented as confirmed or probable breeders at the subject property including short-eared owl, northern harrier, upland sandpiper, common nighthawk, grasshopper sparrow, horned lark, vesper sparrow and whip-poor-will. Clearing of the lots proposed for redevelopment would result in the loss of some existing habitat for these species. Given that development within these lots would likely occur in incremental stages over the course of multiple years, grassland habitat loss would also occur incrementally as well. In order to mitigate this loss of habitat, the CHPP provides for the preservation of the remaining 458.1 acres of existing grassland bird habitat. Furthermore, an additional 138.3 acres of on-site grassland bird habitat would be created through the conversion of existing paved runway/taxiway areas and wooded habitat to grasslands, resulting in a net loss of 49.8 acres of grassland habitat would occur as a result of the proposed action. This conversion would occur during the initial stages of the proposed action, thus ensuring that replacement habitat has been established before any clearing of grasslands occurs. The proposed 596.4 acres of preserved and converted grassland habitat would be actively maintained as a grassland bird refuge. Although the protection of the short-eared owl has historically been given greater consideration with respect to the subject

property, the grassland preservation/creation plan should be viewed as a landscape-approach which will result in the preservation of habitat for a number of grassland birds, including those species that have already been documented at the subject property.

It is important to note that, as a successional community, the on-site grasslands have been maintained as a result of periodic disturbance. Currently however, they are not actively managed, and there is no long-term grassland management plan in place. In the absence of a management plan, colonization by shrubs and woodland tree species would result in succession to later ecological stages (i.e., shrubland, woodland, forest) and the incremental loss of grasslands at the subject property, thus rendering the subject property unsuitable as a significant refuge for grassland birds. Based upon the foregoing, the chief impact of the proposed action with respect to avian species would be the preservation of existing grasslands, creation of additional habitat and management of both as a grassland bird refuge.

As discussed in Sections 3.10.1 and 3.11.1, the subject property supports various wetland and aquatic resources that provide habitat for a number of rare/protected species identified in NYNHP records and/or previous ecological surveys as occurring or potentially occurring on the subject property. These include seven vascular plants of wetland and/or aquatic habitats (comb-leaved mermaid-weed, rose coreopsis, Nuttall's lobelia, small floating bladderwort, short-beaked beakrush, and coppery St. John's-wort) as well as the fish species banded sunfish. In addition, ECNYS Coastal Plain Pond community is listed in NYNHP records as occurring at or in the vicinity of the subject property. As detailed in the CHPP, the lots proposed for future development as part of the proposed action are all situated within upland areas and located a minimum of 1,000 feet from the nearest wetland or aquatic resource feature. As a result, all existing wetland and aquatic habitats at the subject property, as well as significant portions of the surrounding upland areas, would be preserved. As such, no loss or physical disturbance of wetlands, aquatic features adjacent habitats would occur. Therefore, no significant adverse impacts are anticipated for the seven aforementioned plants, banded sunfish or the Coastal Plain Pond community as a result of the proposed action.

The protection afforded to on-site wetland and aquatic habitats by the CHPP would also preserve all known breeding and non-breeding habitat for the NYS-Endangered eastern tiger salamander. As detailed above and in Section 3.10.1, the NYSDEC has identified two breeding ponds at the subject property that are utilized by the eastern tiger salamander. The two ponds are located at the northeastern portion of the subject property and proximate to the south of the subject property, within Calverton Camelot. Pursuant to the NYSDEC *Guidance for Land Cover Set Asides for Conservation of the Eastern Tiger Salamander and Suggested Methods to Avoid, Minimize and Mitigate Impacts*, it is recommended that 100 percent of existing upland forest habitat within 535 feet of breeding ponds and a minimum of 50 percent of adjacent upland habit within 1,000 feet of breeding ponds be preserved. As detailed in the CHPP, the lots

proposed for future development as part of the proposed action are all situated a minimum of 1,000 feet from the two tiger salamander breeding ponds identified by the NYSDEC. As such, no loss of, or physical disturbance to, the two aforementioned breeding ponds would occur and the surrounding upland habitat for eastern tiger salamander would be preserved as well. Therefore, no significant adverse impacts are anticipated for the eastern tiger salamander as a result of the proposed action. As the CHPP provides for the preservation of all wetland and aquatic habitats and adjacent upland areas located at the subject property, protection of breeding and non-breeding habitat for three other NYS Special Concern amphibian or reptile species documented at the subject property would also be accomplished. These include marbled salamander, eastern spadefoot toad and spotted turtle. Additionally, the NYS Special Concern snake species eastern wormsnake has been documented in the vicinity of the subject property and may also occur at the subject property, particularly within moist forested areas near water features. If present, potential on-site habitat for this species would also be afforded by the CHPP through the preservation of wetlands and adjacent habitats.

The two other NYS Special Concern reptiles that have been documented at the subject property (eastern box turtle and eastern hognose snake), are species of drier upland forest and successional habitats particularly in the vicinity of wetlands. As such, habitat loss for these two species would occur on the lots proposed for redevelopment as a result of the proposed action. However, the CHPP provides for preservation of significant blocks of habitat for eastern box turtle and eastern hognose snake, including the Pitch Pine-Oak Forest-dominated CPB Core Preservation Area, successional habitat areas to the north of the eastern runway and all upland habitats within 1,000 feet of wetland and aquatic features. Although some of the existing grasslands that also provide suitable habitat for eastern box turtle would also ultimately be lost to development, implementation of the proposed action would result in the preservation of the remaining 458.1 acres of existing grassland habitat, at the subject property, as well as the creation of an additional 138.3 acres of grassland. In total, a net loss of 49.8 acres of grassland habitat would occur as a result of the proposed action.

Habitat loss would also occur for the upland vascular plant, slender pinweed, which has been documented on the subject property and most often occurs within dry, often grassy, natural or artificial open habitats, including pine or oak barrens and disturbances within these habitats such as roads, firebreaks, ATV trails, or runways. However, the preservation of forested and grassland habitat afforded by the CHPP and detailed previously would also serve to preserve significant habitat areas for slender pinweed, and no significant adverse impacts to regional populations of this species are anticipated.

With respect to coastal barrens buckmoth, the preferred habitat for this species includes open, xeric areas with extensive scrub oak thickets. At the subject property, these conditions are found within the pockets of Pitch Pine-Oak-Heath woodland,

observed within the successional habitat area to the north of the eastern runway. As detailed above, the coastal barrens buckmoth was not observed within this or other successional and woodland habitats during field surveys for this species. However, as the habitats would be preserved as part of the CHPP, if present at the subject property, no significant adverse impacts are anticipated for coastal barrens buckmoth as a result of the proposed action.

Impacts to Wetlands/Aquatic Habitat

As detailed in Section 3.11.1, various wetland and aquatic resources are located within or partially within the subject property boundaries, including ten NWI habitats and six NYSDEC-regulated wetland areas. The proposed action and the CHPP have been specifically developed to avoid the loss of wetland and aquatic habitats, and to minimize development-related disturbance to these resources. As such, the lots proposed for future development are all situated within upland areas and located a minimum of 1,000 feet from the nearest wetland or aquatic resource feature. These features include the two known eastern tiger salamander breeding ponds identified at and proximate to the subject property by the NYSDEC, as well as the ECNYS Coastal Plain Pond community listed in NYNHP records.

With respect to the Peconic Headwaters and the Peconic WSRRS corridor, no development is proposed for those portions of the subject property located within the WSRR corridor boundary. In fact, it is proposed that the WSRRS boundary be extended to include an additional 46.4 acres within the property (see Section 3.10.2 and Figure 38). These areas include existing woodlands, grasslands, wetlands and aquatic habitats located within the CPB Core Preservation Area at the southern portion of the subject property. Those portions of the subject property not located within the CPB Core Preservation Area are comprised of existing grassland habitat to be preserved, runways/taxiways to be converted to grasslands and existing cultural resources covenant areas. As such, wetland and adjacent upland habitats associated with the Peconic Headwaters and the Peconic River WSRRS corridor would remain as undeveloped/preserved lands following implementation of the proposed action. Thus, the impacts on ecological resources within the Peconic Headwaters and the Peconic WSRRS corridor would be positive. In addition, as discussed in Section 3.7.2, the relocation of the sewage disposal area to north of the groundwater divide (and away from the Peconic River) would also have a positive impact on the ecological resources within the Peconic Headwaters and WSRRS corridor.

Based upon the foregoing, no significant adverse impacts to wetland and aquatic resources are anticipated as a result of the proposed action.

3.11.3 Proposed Mitigation

The design of the subdivision (including the preservation of the most ecologically-sensitive areas of the site), and the implementation of the CHPP would minimize and mitigate, to the extent possible, impacts to terrestrial and aquatic habitat due to the implementation of the proposed action. Based upon consultations with the NYSDEC, the CHPP has been designed to mitigate the impacts of the proposed action on the existing ecological habitats identified at the subject property through the preservation, creation and management of key habitat areas for resident plant and wildlife species. The various habitat protection mitigation measures for the subject property are described in detail in the CHPP and illustrated on the *Habitat Protection for Enterprise Park at Calverton*. The mitigation measures are summarized below.

- Through the preservation of existing habitat and creation of new habitat, the CHPP provides for 596.4 acres of grassland within the EPCAL Property. These grasslands would be actively maintained as habitat for grassland bird species in accordance with BMPs developed by New York Audubon[92] and the NYSDEC[93] for grassland bird habitat, as detailed in the CHPP.

- Large contiguous blocks of Pitch Pine-Oak Forest habitat would be preserved at the subject property to the north of the eastern runway, to the south of both runways and particularly within the lands comprising the CPB Core Preservation Area at the western portion of the site. These woodlands represent significant upland habitat area for herpetofauna, including eastern tiger salamander and the five NYS-Special Concern species that have been documented at the site.

- The scattered pockets Pitch Pine-Oak-Heath Woodland located at the southeastern portion of the site would be preserved as open space under the CHPP. The preservation of this community would also preserve the optimal on-site breeding, larval and adult habitat for the NYS-Special Concern coastal barrens buckmoth, as well as potential habitat for slender pinweed.

[92] Morgan, M. and Burger, M. 2008. *A Plan for Conserving Grassland Birds in New York: Final Report to the New York State Department of Environmental Conservation under Contract No. C005137.* Audubon New York.

[93] New York State Department of Environmental Conservation. 2014. *Best Management Practices for Grassland Birds.* Available online at: http://www.dec.ny.gov/pubs/86582.html Accessed March 27, 2014.

- Significant blocks of the remaining terrestrial community types at the subject property, including Pine/Spruce/Conifer Plantation and successional Shrubland would be preserved under the CHPP.

- A key element of the CHPP is the preservation of all onsite wetland and aquatic habitats and avoidance of development within 1,000 feet of any of these resources.

- Extension of the Peconic WSRRS boundary farther north into the EPCAL Property and the additional of 46.4 acres to the WSRRS corridor would have a positive impact on ecological resources of the Peconic Headwaters and Peconic WSRRS corridor.

- Relocation of the sewage disposal area to north of the groundwater divide (and away from the Peconic River) would have a positive impact on the ecological resources of this habitat.

3.12 Petroleum and Hazardous Materials

3.12.1 Existing Conditions

Introduction

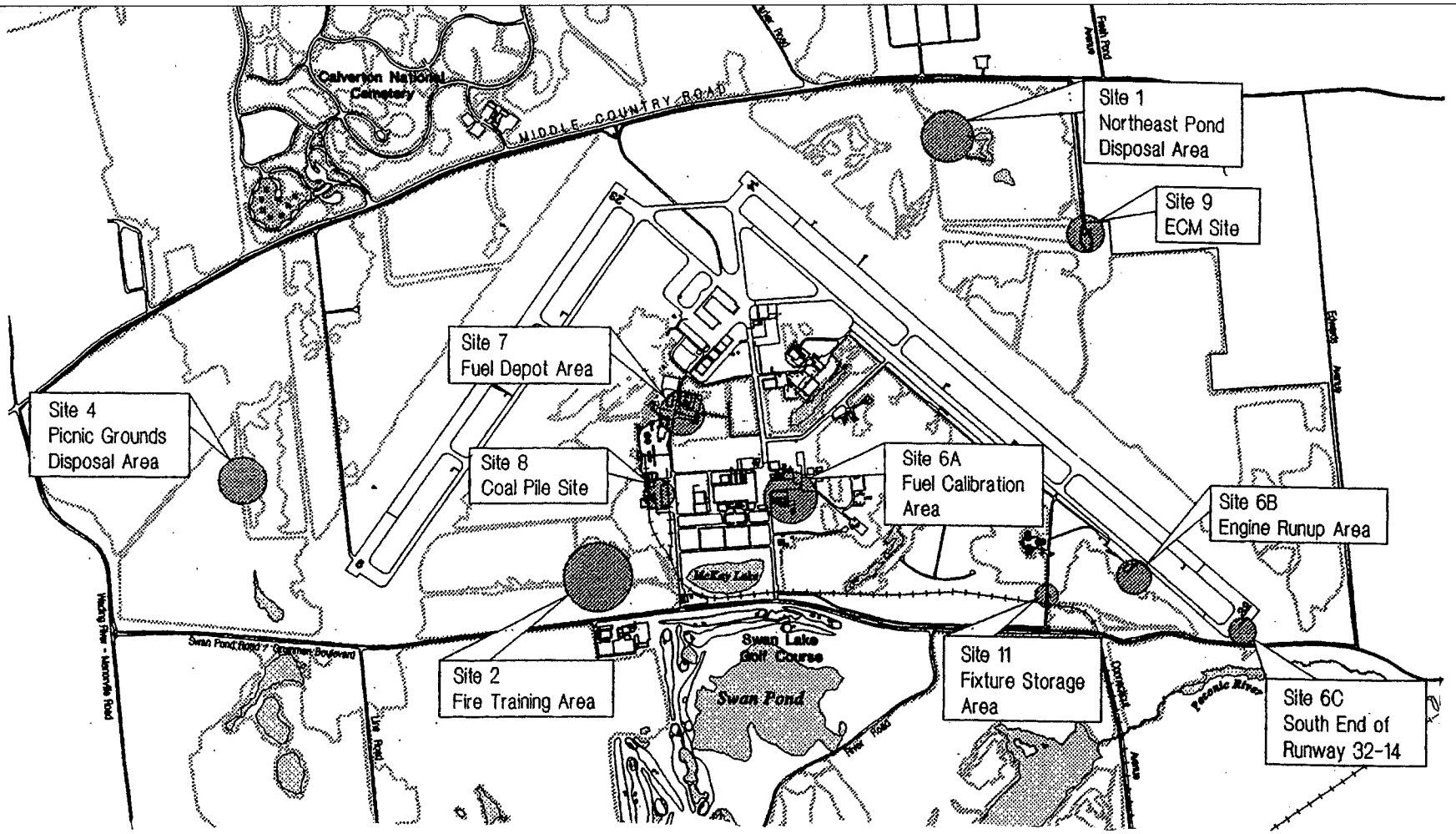
Section 3.12 of the *1997 EIS* provides a discussion of the hazardous waste generation, hazardous waste storage, and previous hazardous waste investigations (including the Initial Assessment Study, a Site Investigation, a Resource Conservation and Recovery Act [RCRA] Facility Investigation, a RCRA Facilities Assessment and Supplement, and a Basewide Phase I Environmental Baseline Survey and groundwater investigations). In addition, a Phase II Field Sampling Work Plan was prepared for areas selected for sampling. The *1997 EIS* also discussed the compliance program status through an Environmental Compliance Evaluation that was conducted in 1995. As noted in the *1997 EIS*, while the Town of Riverhead was given the authority to receive title to the property, a Finding of Suitability to Transfer (FOST) must be issued before such transfer. While most of the property has been transferred to the Town, several parcels remain under U.S. Navy ownership, as discussed below.

A summary of the information regarding petroleum and hazardous materials contained in the *1997 EIS*, as well as subsequent studies, is contained below, followed by a discussion of the current environmental status of the property.

Site History and On-site Operations

The subject property was occupied by the U.S. Navy beginning in 1954 and operated by Grumman until approximately 1996. Operations at the site included assembling, flight testing, refitting, and retrofitting naval aircraft.

From 1954 to 1996, on-site operations generated hazardous waste and these activities were largely confined to the area of Camelot Calverton, since most of the buildings and hangars are located in this area. However, according to the *1997 EIS*, there were a number of areas exterior to Calverton Camelot where on-site operations negatively impacted the property. These include Site 1 (Northeast Pond Disposal Area), Site 2 (Fire Training Area), Site 9 (Electronic Counter Measures [ECM] Area), Site 11 (Fixture Storage Area). Figure 40 indicates the location and usage of each site.



Source: CF Braun Engineering Corp., 1996, from 1997 U.S. Navy FEIS.

PROPOSED SUBDIVISION OF EPCAL PROPERTY
DRAFT SUPPLEMENTAL GENERIC ENVIRONMENTAL IMPACT STATEMENT
Calverton, New York

Initial Assessment Study Sites

Figure
40

On-Site Remediation Efforts

Since 1986, the U.S. Navy has conducted environmental investigations and cleanups throughout the site, in accordance with the terms of a NYSDEC-issued New York State RCRA permit, as well as under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980. The table below provides a brief overview of the aforementioned sites including former usage, identified contaminants, and status of remediation. Each site is discussed in greater detail below.

Table 76 – Description and Status of Sites

Site	Former Use	Contaminants	Remediation and Status
Site 1 – Northeast Pond Disposal Area	Demolition Debris Disposal	VOCs, SVOC, pesticides, PCBs in soil, sediments, surface water and groundwater.	Excavation of landfill material, soil, and sediment for offsite disposal. Remediation complete and no further action required.
Site 2 – Fire Training Area	Plane crash simulation	VOCs, SVOCs, metals, pesticides, and PCBs in soil and groundwater. Free product on groundwater.	Groundwater pump and treat, oil recovery well, oil water separator, air sparging/soil vapor extraction system and removal of concrete fire training ring and associated contaminated soil in 2006.
Site 9 – ECM Site	Electronic Testing	Limited impacts to soil.	Removal of building and equipment along with limited amount of soil. No further action required.
Site 11- Fixture Storage Area	Storage area	Trace amounts of contaminants	No further action required

Source: *Supplemental Environmental Assessment Part 1.D. – Information Details for a Full Environmental Assessment Form for Map of Calverton Camelot at Enterprise Park at Calverton*, Cameron Engineering Associates, LLP (March 2002).
Notes:
VOC – Volatile Organic compound
SVOC – Semi Volatile Organic Compound
PCB – Polychlorinated Biphenyl
ROD – Record of Decision

- **Site 1** is located within a 145±-acre parcel in the northeastern portion of the subject property (see Figure 40). This area was used for the disposal of demolition debris resulting in an approximate two-acre landfill, part of which encroached on the ponds. The landfill was covered and closed in 1984. A remedial investigation conducted in 2002 indicated surface soil, sediment, groundwater and surface water contaminated with volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, and polychlorinated biphenyls (PCBs). These impacts were linked to contaminated material in the landfill. A Record of Decision (ROD)[94] was issued in January 2003 and the selected remedy included excavating all landfill material, contaminated soil and sediment with subsequent off-site disposal. In response, the Navy excavated approximately 50,000 ± cubic yards of fill material and approximately 1,500 ± cubic yards of sediment from the vicinity of the ponds for off-site disposal. Following remediation, the site was restored to grade and vegetated. Site cleanup was completed by 2003-2004. Groundwater monitoring ended when it was determined that results were below standards at the Site 1 boundaries and no further action was required.

- **Site 2** is an 11± acre site located within a 32-acre parcel near the southern boundary of the EPCAL Property (see Figure 40). Site 2 was used for simulating plane crashes. Approximately 450 gallons of waste solvents were used each year from 1955 to 1984. Additional solvents and fuel oil were accidently spilled in 1982, which impacted both soil and groundwater. Subsequent site investigations confirmed subsurface contamination including, VOCs, SVOCs, metals, pesticides, and PCBs. Groundwater remedial activities measures in 1987 included both active and passive recovery in the area outside of the fire training ring. These measures included a groundwater pumping well, oil recovery well, and an oil/water separator. This active system was turned off in 1993. Free petroleum product (approximately 270 gallons) was recovered by hand bailing and continued until 1993. A pilot-scale air sparging/soil vapor extraction (AS/SVE) system was installed in 1995 to treat the contaminated soil and groundwater. The system was turned off in 1996 and turned back on and operated until 2000. As of year 2000, approximately 80 pounds of VOCs had been removed, thereby reducing the volume of contaminated soil. In addition, the system contributed to the biodegradation of the equivalent of 8,400 gallons of diesel fuel. According to the United States Environmental Protection Agency (USEPA) Documentation of Environmental Indicator Determination, completed by Tetra Tech, the groundwater contamination has not migrated beyond the

[94] The ROD presents the remedial action plan for an inactive hazardous waste disposal site and documents the information and rationale used to arrive at the decision. The ROD is the culmination of extensive investigations and a remedy selection that identifies a solution to remove significant threats to the public health and the environment. It serves as the definitive record of the remedy selection process for the site and a convenient reference to other documents that were developed during the remedy selection process.

facility boundaries. As an interim corrective measure, the U.S. Navy removed the concrete fire training ring and associated contaminated soil in 2009.

- **Site 9** is located within the same 145±-acre parcel as Site 1 (see Figure 40). The contaminant source was identified as the building and associated equipment. These were removed along with a limited amount of impacted soil as part of an Interim Corrective Action. No additional soil contamination was present. Groundwater monitoring conducted on- and off-site indicated VOC concentrations below New York State drinking water standards. No further action was recommended.

- **Site 11** is located in the southeastern portion of the property (see Figure 40). A 1995 RCRA Facility Assessment confirmed only trace amounts of chemicals in the soil and no further action was required.

A review of the Environmental Data Resources (EDR) Report performed for the adjacent Calverton Camelot, indicated a number of sites on the subject property that are listed on State and Federal databases. Sites located within the subject property, include a leaking tank at Building #6, which is southeast of Calverton Camelot and two NYSDEC spills, located south and southwest of Calverton Camelot. The leaking tank at Building #6 passed a tightness test after tank repairs, and the spill was closed by the NYSDEC in 1996. The other two spills were also closed by the NYSDEC. Based on the closure of the three NYSDEC spills, these sites are not considered an environmental concern for reuse of the property.

Adjacent Sites

Additional sites that have environmental concerns which are located inside the boundary of Calverton Camelot (but outside the EPCAL Property) include: Site 6A, Site 10B, Site 7, Site 10A, and Site 8. These sites are discussed since the identified impacts to groundwater from each site have been documented to have affected properties both inside and outside of Calverton Camelot. Additionally, information collected from these sites further documents the overall groundwater contamination beneath the property, especially in the southern half of the site. Table 77 provides a brief overview of these sites including usage, main contaminants and status of remediation. Each site is discussed in greater detail below.

Table 77 – Description and Status of Sites within the Calverton Camelot Industrial Subdivision

Site	Former Use	Contaminants	Remediation and Status
Site 6A – Fuel Calibration Area	Testing of aircraft fuel and engine systems	VOCs and SVOCs in soil and groundwater. Free product on groundwater. Identified as source of Southern Area groundwater plume and impacts to Site 10B groundwater.	Removal of USTs, groundwater recovery system including pumping well, oil recovery well and oil/water separator tank. In 2010, fuel calibration building demolished; abandonment of monitoring wells; non-hazardous PCB and petroleum contaminated soil excavated; sampling and addition of bioremediation product to excavation; and installation of new groundwater monitoring wells.
Site 10B – Engine Test House	Engine testing	Petroleum impacts to soil and groundwater. Groundwater impacts from Site 6A.	Demolition of Engine Test Building and Fuel Pump House and removal of USTs. Soil excavation and bioremediation.
Site 7 – Fuel Depot Area	Supplied aircraft fuel, gasoline and diesel	Floating product on groundwater.	Removal of USTs and floating product from wells. ROD – installation of an air sparging/soil vapor extraction system scheduled to operate until 2011, followed by institutional controls and natural attenuation monitoring.
Site 10A – Fuel Jet System Laboratory	Jet fuel testing	VOCs and jet fuel in soil and free product on the groundwater. Groundwater impacts from Site 7.	Removal of USTs and recovery of product from the groundwater.
Site 8 – Coal Pile Site	Storage of coal	Trace amounts of contaminants.	No further action

Source: *Supplemental Environmental Assessment Part I.D. – Information Details for a Full Environmental Assessment Form for Map of Calverton Camelot at Enterprise Park at Calverton*, Cameron Engineering Associates, LLP (March 2002).
Notes: UST – Underground Storage Tank

- **Site 6A** is located within a 40±-acre parcel on the southern portion of Calverton Camelot (see Figure 40). This area was used for testing of aircraft fuel and engine systems. The subsurface soils and groundwater were contaminated with VOCs and SVOCs. VOCs and SVOCs in groundwater have been documented as non-aqueous phase liquids (NAPLS). The source of this contamination is believed to be unreported spills during site operations. Former underground storage tanks (USTs) were removed in the early 1990s. A groundwater recovery system was installed in 1987 consisting of a pumping well, oil recovery well, and oil/water separator tank. This operation continued until 1993. Passive product recovery continued until 1996. A pilot study for a vacuum oil skimming unit was conducted in 1999, however never installed. Passive free product recovery was restarted in 2000 and continued to at least 2006. In 2005, the U.S. Navy conducted a groundwater investigation in Site 6A to define the extent of impact and direction of deep groundwater flow. Results indicated a significant decrease in VOCs since 1994.

In 2010, the following remedial actions were completed at Site 6A:

- The Fuel Calibration Building was demolished
- A total of 24 groundwater monitoring wells were abandoned
- Approximately 2,888± tons of non-hazardous PCB-contaminated soil was excavated
- Approximately 17,690± tons of non-hazardous petroleum-contaminated soil were excavated and sidewall sampling of the excavations indicated results below clean-up goals.
- Bioremediation product, oxygen-releasing compound, was added to the excavation, which was then backfilled
- Three new groundwater monitoring wells were installed

Site 6A was identified as the source of the Southern Area groundwater plume, which extends off-site southeast towards the Peconic River. The groundwater impacts are related to one or more releases of chlorinated solvents. Site 6A and Site 10B are linked together in what is currently known as Parcel B1.

- **Site 10B**, identified as the former Engine Test House, is located 1,000 feet south of Site 6A, within the same 40±-acre parcel (see Figure 40). In 2009, the Engine Test Building and Fuel Pump House were demolished as part of remedial action. In the area of a former UST, approximately 4,000± cubic yards of petroleum impacted soil was excavated and sidewall samples indicated concentrations below RCRA cleanup goals. Bioremediation product was applied to the excavation, which was then backfilled. Site 10B is located approximately 1,000 feet downgradient of site 6A. Site 10B has been impacted from VOC and SVOC groundwater impacts beginning from Site 6A.

  Fuel oil impacts were found in the area of a former UST that was removed in the mid-1990s. Approximately 80 cubic yards of fuel-contaminated soil were excavated during removal of the tank. Post-excavation samples below standards and bioremediation product added to excavation. The building and portion of the concrete pad were removed during remedial action in 2009. Impacts to this site include groundwater discharge Site 6A.

The following three adjacent sites (7, 10A and 8) have groundwater contamination that has remained within the boundaries of Calverton Camelot.

- **Site 7**, identified as the Fuel Depot Area, is located within a 10 + acre area in the center of Calverton Camelot. Site 7 was constructed in 1953 to supply aircraft fuel, gasoline and diesel. Floating product was identified in the groundwater and, as an interim measure, recovered from wells until 1995. All USTs were removed and a ROD was issued by the NYSDEC. Proposed remedial measures were approved in 1995. Construction and operation of an AS/SVE system was completed in 2006. This system was scheduled to operate until 2011. If

groundwater impacts are still present after the system is shut down, additional remediation will consist of institutional controls and natural attenuation monitoring, as noted below.

- **Site 10A**, identified as the Jet Fuel Systems Laboratory, is located within the same 10±-acre parcel as Site 7 and approximately 1,000 feet north of Site 6A. USTs were removed and the identified contaminants included VOCs and petroleum product. From 1993 until 1996 free product (jet fuel) was recovered from the groundwater. The bulk of the groundwater impacts to Site 10A are from Site 7, indicating a southeast groundwater flow direction.

- **Site 8**, located approximately 3,000 feet south of Site 7, is identified as the Coal Pile Storage Area. Investigations indicated only trace amounts of waste oil/solvent soil contamination. The levels detected in the soil and groundwater were generally below federal and state action standards. Based on this information, no further action was recommended. Thus no further discussion is required.

The primary soil and groundwater impacts at the subject property are related to fuel oil, gasoline, and diesel contamination (see Sections 4.9 and 4.10 of this DSGEIS). Remedial actions have included the removal of USTs and petroleum and solvent contaminated soil, installation of air sparging (AS) and soil vapor extraction (SVE) systems and product recovery from groundwater monitoring wells. In 2011, a soil vapor intrusion investigation was conducted for existing on-site structures and the results did not indicate potential impacts.

A Remedial Feasibility Investigation was conducted by the U.S. Navy in 1997 and indicated on-site VOC-contaminated groundwater with the potential for off-site migration. As a follow-up, the U.S. Navy submitted a Feasibility Study for Site 6A, Site 10B and on-site Southern Area groundwater plume along with a separate Feasibility Study for the off-site Southern Area groundwater plume in 2006. An off-site groundwater investigation was initiated in 2009. Reported VOC values are up to 220 times drinking water standards.

A number of groundwater supply wells, which are no longer in use, have been impacted. Recent documentation of plume length indicates that it stretches approximately 3,500 feet south of River Road (Grumman Boulevard). Impacts have been noted in the Peconic River. The main source of this VOC contamination is identified as Site 6A, with some contribution from Site 10B.

A RCRA Permit Modification was issued on in February 2007 to remove Sites 1, 9 and 10A from the Permit. These parcels were then transferred to the Town CDA. A RCRA Permit Modification was issued in July 2008, to select excavation and off-site disposal or source areas at Sites 6A and 10B.

Remedial actions were conducted as Sites 10B and 6A in 2009 and 2010, respectively, according to the Tetra Tech NUS, Study of 2011. At Site 10B, for example, hazardous materials (e.g., asbestos, lead-based paint, PCBs) were removed, the Engine Test Building and Fuel Pump House were demolished, approximately 1,900 pounds of and oxygen-released compound (ORC) was applied to the excavation base, and the area was backfilled with excavated soil that was determined to be suitable for on-site reuse. With Site 6A, remediation included removal of hazardous waste, abandonment of 24 monitoring wells, demolition of the Fuel Calibration Building excavation of non-hazardous petroleum-contaminated soil, application of ORC to the excavation based, backfilling of excavated material and install of three new groundwater monitoring wells in the excavation footprint, according to the Tetra Tech NUS study of 2011.

The US Navy completed a Corrective Measures Study for the Southern Area in April 2011, allowing the federal government to move ahead with remedial plans. The selected option was the design and construction of a groundwater pump-and-treat system. Following a review period, this plan was modified and a Statement of Basis for Remedy Selection and a Proposed Plan for Site 6A – Southern Area Groundwater Plume was prepared by the U.S. Navy. The preferred alternative consists of Land Use Controls to prevent human exposure to VOC-contaminated groundwater; extraction, treatment and discharge of groundwater to reduce or eliminate off-site migration of contaminants; and groundwater monitoring to determine if additional action is required to optimize operation of the treatment system. This additional treatment may include anaerobic biodegradation and/or air sparging. A 45-day review and comment period was established by the U.S. Navy and the NYSDEC with an end date of December 12, 2011.

A review of the Environmental Data Resources (EDR) Report performed for the adjacent Calverton Camelot indicated a number of sites within this subdivision that are listed on State and Federal databases. This portion of Calverton Camelot has multiple designations including RCRA-Treat, Storage and Disposal (TSD), which indicates on-site usage, storage and disposal of hazardous waste; RCRA-NonGen, which indicates that hazardous waste is not presently generated at the site; CORRACTS (RCRA Corrective Action Sites), which identifies hazardous waste handlers; US Engineering Controls indicating various forms of remediation; and select sites where no further remedial action is planned (NFRAP). A CERCLA site, Grumman Aerospace, is also located in this central area and was proposed for inclusion on the National Priorities List (NPL), which is also known as the Superfund

Program. As of the date of the EDR report, June 9, 2011, and as of February 2014, when the USEPA website was last accessed, this site was not included on the NPL list.

Based on past site operations and use of hazardous materials, a portion of the NWIRP site (that is still owned by the U.S. Navy) is listed on the NYSDEC Registry of Inactive Hazardous Waste Disposal Sites. The site is part of the State Superfund Program. As discussed in more detail below, the U.S. Navy still owns (and has not transferred) approximately 209 acres comprising Sites 2, 6A, 7, 10B and the Southern Area, in order to continue environmental investigation and remedial activities (see discussion below).

According to the NYSDEC Environmental Site Remediation Database (ESR Database):

> *"OU1 [Operable Unit 1] Northeast Pond Area - Remedial work on this site has been completed, Unrestricted Soil Cleanup Objectives (SCO) and state groundwater standard were met. Site ownership has been transferred to town. OU2 Site 7 - Fuel Depot - Constructed in 1953 to supply aircraft fuel, gasoline and diesel fuel for NWIRP operations. All the underground storage tanks have been removed. A Record of Decision (ROD) was issued and approved by the United States Navy, with concurrence by NYSDEC and NYSDOH. A full Scale Air Sparging/Soil Vapor Extraction Construction Work Plan was approved on December 12, 2005. The construction was completed and operation began in 2006. Site 10A - Jet Fuel Systems Laboratory - Used for testing fuels and fuel systems. In addition to the Laboratory building there was an area behind the northwestern corner of the building, where several underground storage tanks were removed. Contamination at this site includes VOCs and petroleum products. In 1993 Northrop Grumman initiated floating free product (jet fuel) recovery from the water table, which continued until early 1996. OU3 Site 6A - Fuel Calibration Area, / Site 10B - Engine Test House - Starting in 1956, the fuel calibration area was used for testing of aircraft engine and fuel systems. The area consists of a cinder block building and associated fuel tanks. The entire complex was replaced in 1980 by the new fuel calibration area. As many as 230 gallons of fuel are recorded to have been spilled in these areas. Groundwater contaminants found included a free product layer and contaminated groundwater containing fuel-type and chlorinated VOCs. The chlorinated VOCs are believed to be from unreported spills of solvents used to clean the aircraft engines and fuel systems. A groundwater recovery unit was installed in 1987. This unit included a pumping well, an oil recovery well and an oil/water separator tank. Active Groundwater and free product extraction continued until 1993. Passive product recovery completed the removal. Groundwater migrating from the OU3 source area has been documented. Levels of VOCs including DCA exceed the 5ppm level in the plume. An active groundwater extraction and treatment remedial system has been proposed at Navy property's Fence. OU4 Site 2 - Fire Rescue Training Area - This 11 acre training area was used to simulate plane*

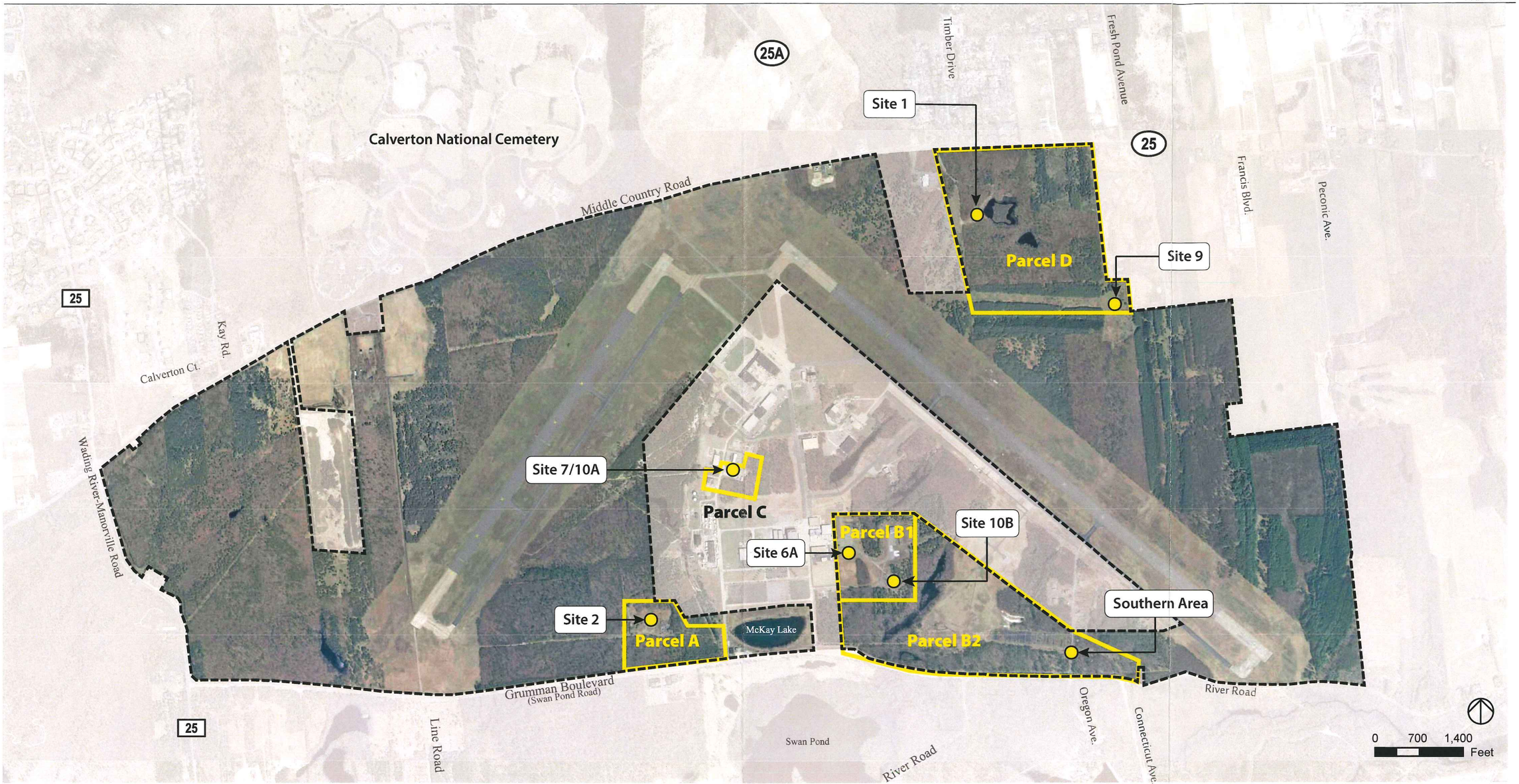
crashes. From 1955 to 1984, 450 gallons of waste solvents per year were used in the training exercises. Additional solvents and fuel oil were accidently spilled in 1982. Floating free product was removed from the wells and the site was partially remediated through air sparging in 1998. Fire Training Area - The Navy removed the concrete fire training ring and contaminated soil that may exist above or below the ring as an interim corrective measure during 2009. OU5 Fuel Calibration Area (Site 6A), Engine Test House (Site 10B) and Southern Area Sources. Navy had excavated and removed contaminated soil from the Fuel Calibration Area (Site 6A) and Engine Test House (Site 10B)."

In addition, according to the ESR Database, the wells used for potable water are contaminated above drinking water standards, but are currently being treated. No other water supply sources are known to be impacts. Since the site is fenced, there is little potential for unauthorized trespass, and, thus, public exposure is unlikely. "Analytical data from close-out investigations will be reviewed prior to de-listing or site use changes to evaluate the potential for human exposure to residual contamination."

The current status of the EPCAL Property, according to James M. Tarr, CPG, CG, Remedial Project Manager for the U.S. Navy, the US Navy maintains ownership of several parcels within the EPCAL property, all of which continue to be investigated and remediated as part of the Navy's Environmental Restoration Program (see Appendix R). The U.S. Navy-owned parcels include Parcel A (Site 2 – Fire Training Area), Parcel B1 (Site 6A – Fuel Calibration Area and Site 10B – Engine Test House), Parcel B2 (the Southern Area, southeast of Sites 6A and 10B) and Parcel C (Site 7 – Fuel Depot). See Figure 41 for the location of the US Navy-owned parcels and sites.

Site 2 continues to undergo investigation and remediation of both environmental contaminants and unexploded ordnance, and further remedial actions are expected to occur over the next several years. Contaminant sources have been removed from Sites 6A and 10B through various remedial actions, as described above, and a groundwater treatment system began operation in the Southern Area in October 2013 to address residual contamination that continues to migrate into groundwater. The effectiveness of this system will be monitored to determine whether additional remedial actions are needed at Sites 6A or 10B, or the Southern Area.

Date: 07.00.14



LEGEND

EPCAL Property

Parcel Areas

Source: Site and Parcel Map, AECOM, January 2014.and NYS Digital Ortho-imagery, NYS Office of Information Technology Services, November 2010

VHB

PROPOSED SUBDIVISION OF EPCAL PROPERTY
DRAFT SUPPLEMENTAL GENERIC ENVIRONMENTAL IMPACT STATEMENT
Calverton, New York

Remediation Areas

Figure
41

Removal actions and operation of a groundwater treatment system appear to have largely addressed contamination at Site 7 (adjacent), although further remediation of limited areas may be required. Monitoring will continue at Site 7 in order to determine whether additional remediation is needed. All four parcels (including Sites 2, 6A, 7 [adjacent] and 10B, as well as the Southern Area), which total approximately 209 acres, are expected to remain under US Navy ownership for the foreseeable future, while the need for further remedial actions is evaluated. See Section 4.12 for a description of the procedures regarding the future disposition of such parcels.

3.12.2 Potential Impacts

Based upon a review of the Figure 41, which shows the location of the areas that are still being remediated by the US Navy, and thus have not been officially transferred to the Town of Riverhead, in conjunction with the proposed Subdivision Map (see Figure 7), there are no overlaps. Specifically, none of the areas that are still undergoing remediation (approximately 209 acres), and are thus not currently owned by the Town of Riverhead, are proposed for development.

The U.S. Navy will not transfer the remaining 209± acres to the Town of Riverhead until all remediation is complete. As mentioned in Section 3.12, a FOST must be issued prior to transfer of property. The purpose of the FOST is to report the environmental suitability of a parcel for transfer to nonfederal agencies or to the public by disclosing that one of the following is true:

- No hazardous substances were known to have been released or disposed of on the parcel. Section 120(h) of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

- The requirements of CERCLA 120(h)(3) have been met for the parcel being transferred, which specifies that where the condition above does not apply (which is the condition in this case), deeds to transfer must disclose/contain:
  - Information on the type, quantity, and time of release of hazardous substances, and a description of the remedial action (RA) taken, if any, and
  - A covenant warranting that all remedial action necessary to protect human health and the environment with respect to any such substance has been taken before the date of transfer and any additional remedial action found to be necessary after the date of such transfer shall be conducted by the federal government.

Property transfer of contaminated areas would not occur prior to the construction, installation, and successful operation of an approved remedial design, thus, no adverse impacts related to hazardous waste are anticipated.

Therefore, by the time end users would be purchasing and/or leasing property from the Town, there would be no significant adverse impact to the proposed development from previous contamination of the property.

In addition to historical uses of the property, it should be noted that any hazardous substance user or generator that may choose to locate within the EPCAL property would be subject to prevailing local, County, and State agencies having jurisdiction. At this time, although the zoning permits the development of industrial and commercial uses on the property, it is not possible to determine the quantity or type of hazardous materials that may be used, stored or generated on the property. However, such hazardous material users or generators would be required to file information on hazardous material usage, storage and generation with the local fire department, the County and the NYSDEC. It is also expected that there would be fertilizer-dependent landscaping within the EPCAL Property (approximately 121 acres [five percent of the overall site]), associated with both the non-residential and residential portions of the development. Such landscaping is anticipated to require the application of some herbicides and pesticides as part of routine maintenance. However, no significant impact to soils and groundwater is expected due to the routine application of such herbicides and pesticides, as part of the EPCAL Property development.

Overall, it is not expected that development of the subject property, in accordance with the permitted uses in the proposed PD District, would have a significant adverse impact on petroleum and hazardous materials generation or management.

3.12.3 Mitigation

- The U.S. Navy is in the process of remediating several areas of the EPCAL property, as described in Section 4.12 of this DSGEIS. Once these areas are remediated to the satisfaction of the U.S. Navy a FOST will be prepared and the last remaining portions of the EPCAL property turned over to the Town CDA.

- While no other petroleum or hazardous materials impacts associated with the former use of the EPCAL Property have been identified, should such impacts occur during site development, they would be addressed in conformance with prevailing regulations and appropriate mitigation would be required.

- With respect to the potential for future impacts associated with petroleum or hazardous materials, as no specific tenants have been identified, no specific impacts can be identified at this time. Should impacts be identified during site plan approval for individual lots within the EPCAL Property, they would be addressed in conformance with prevailing regulations and appropriate mitigation would be required.

3.13 Visual Resources

3.13.1 Existing Conditions

Visual Resources and Community Character

On-Site Views and Character

In order to determine the visual characteristics of the subject property and the surrounding area, site and area inspections were conducted, and photographs were taken to record the existing conditions. Photographs of the subject property and the surrounding community are contained in Figure 9 and Figure 10 of this DSGEIS, respectively.

As previously indicated, the subject property is, with the exception of several open space/recreational uses and former runway/taxiway facilities, undeveloped. It was formerly used by the U.S. Navy and Grumman for the purposes of aircraft assembly and testing. Accordingly, remnants of the military airport facilities and infrastructure, including paved runways and taxiways, remain visible, but are relatively unused (with the exception of an off-site skydiving facility, which building is located within Calverton Camelot) and, thus, are in poor condition. There are no buildings on the EPCAL property, with the exception of a one-story Town of Riverhead Community Center on the southern portion of the property, off Grumman Boulevard. This facility and its adjacent parking area, as well as McKay Lake, are visible from Grumman Boulevard. The Grumman Memorial Park at the northeast corner of the EPCAL Property, along Route 25, contains two large airplanes that are on display and a small paved parking area within a maintained landscaped area. Veteran's Memorial Park at the northwest portion of the property, along Route 25 is developed with athletic fields. These park facilities are visible and have direct access from Route 25.

The overall character of the EPCAL Property is defined by its wooded land on the westernmost and easternmost portions of the site, with flat grasslands and the former airport-related facilities located in the center.

From Route 25, there is an extensive view of the central portion of the property (for a 0.4±-mile stretch) and, although off-site, a number of the large, former U.S. Navy/Grumman buildings that are within Calverton Camelot, are visible (at a distance) from Burman Boulevard, including the former control tower. As Route 25 is a heavily-traveled roadway, with a current average annual daily traffic (AADT) figure of approximately 8,000 vehicles trips in the segment between Wading River

Manor Road and Route 25A, there are a substantial number of viewers of the subject property from the north. Many of these buildings are also clearly visible from Grumman Boulevard at Burman Boulevard on the southern end of the EPCAL Property. However, since Grumman Boulevard is not nearly as heavily-traveled as Route 25 (AADT of 1,625 vehicle trips), the number of viewers of the site from these roadways is substantially lower than from the north.

Since the site is essentially flat, expansive interior views of the property are available from along Burman Boulevard, the main spine that traverses the EPCAL Property as well as Calverton Camelot from north to south (see photographs of the runways and interior roadway, below).

Surrounding Area

The character of the area immediately surrounding the subject property is defined by the Calverton National Cemetery (although the majority of this facility is not visible from the roadway, except at its entryways), undeveloped woodland and agricultural land to the north, interspersed with one- and two-story single-family residences, small, and generally one-story commercial and retail establishments. Development occurs in pockets along the north side of this roadway, so that there is no continuous "wall" of either development or woodland/open space along the north side. As previously noted, parts of the off-site Calverton Camelot development are visible from Route 25, past the subject property. Calverton Camelot contains some of the large buildings, which were formerly a part of the U.S. Navy/Grumman facility. Some of these larger buildings are visible from Route 25, although they are located almost one-half-mile south of that roadway. The buildings are not architecturally distinctive or coherent as far as size, architectural style, color, etc. (see Figure 10 for additional surrounding area photographs).

Calverton Camelot consists of paved roadways and multi-story buildings along Burman Boulevard. These buildings can be seen from the portion of Burman Boulevard that adjoins the EPCAL Property as well as from the interior roadways of Calverton Camelot and from Grumman Boulevard (to the south).

Views along the Grumman Boulevard/River Road corridor, running along the southern perimeter of the subject property, are more limited than they the views along Route 25. The views along Grumman Boulevard predominantly consist of undeveloped woodland and some residences to the south, although portions of the Swan Lake Golf Club are visible near Burman Boulevard. There are also several former, abandoned and dilapidated Grumman buildings that are visible along the south side of Grumman Boulevard. In addition, looking north from Grumman Boulevard into the subject site, woodlands as well as the community center, McKay Lake, and the ends of the runways/taxiways of the former Grumman facility are also visible from Grumman Boulevard and areas to the south.

Beyond these areas, community character is generally consistent with those areas immediately surrounding the subject property, which includes primarily one- and two-story, single family residences, agricultural land, and open space and recreation lands, although there is some one-story commercial and industrial development that is visible along Route 25.

Overall, the existing views of and from the previously-developed portions of the EPCAL Property are not of extraordinary quality. However, the portions of the site that are currently wooded provide visual relief from the surrounding development, which, with the exception of Calverton Camelot and several tall cell towers and antennae (some up to 125 feet in height) within the immediate area, is relatively small in scale and mass.

Comprehensive Plans

Riverhead Comprehensive Plan

With respect to visual/scenic resources, according to the Riverhead Comprehensive Plan:

Riverhead has a distinctive scenic and historic character, comprised of farmland, open space, historic hamlet centers (including downtown Riverhead), historic structures and sites, and unique natural resource areas such as the Pine Barrens. Because these resources play a key role in maintaining Riverhead as a desirable tourist destination and as an attractive place to live and work, these resources should be protected and carried forward into the Town's future, as development continues to occur. (Page 5-1)

Goals and objectives of the Town of Riverhead with respect to its visual/scenic character involve maintaining and protecting scenic corridors and specific natural features.

The Comprehensive Plan notes that "many people experience the Town's rural and natural landscape from the Town's roads, whether they are traveling by car, by bus, on foot, or via bicycle." One of the goals set forth by the Comprehensive Plan is to "protect the visual quality of scenic corridors throughout Riverhead, and work to improve the scenery along other roads."

In addition, the Town wishes to protect specific features such as "farmland, woodlands, grasslands, wetlands, riparian corridors, waterfront areas, geological features, old-growth trees, and other open space areas and natural features that contribute to Riverhead's scenic quality."

In addition, one of the policies set forth by the Comprehensive Plan is to "establish design guidelines and subdivision standards for cluster development, such that scenic views are protected to the greatest possible extent."

Overall, Riverhead recognizes that its scenic characteristics "contribute strongly to Riverhead's long-term economic vitality and business development due to their ability to attract visitors and tourists." Therefore, their preservation is vital to Riverhead's economic future.

Calverton Enterprise Park Urban Renewal Plan

The *1998 Calverton Enterprise Park Urban Renewal Plan* was prepared in 1998 in accordance with the New York State Urban Renewal Law, which was established, in

part, to address areas that were occupied by "deteriorated... obsolete and dilapidated buildings and structures" and "buildings abandoned or not utilized in whole or substantial part." The law states that incentives be established to encourage development of such areas to ""eliminate slums and blight and to promote...community growth and development in a manner consistent with the furtherance of the public welfare."

The *Urban Renewal Plan* confirmed that the abandonment of the subject property has caused economic distress in the area and that redevelopment that includes manufacturing, industrial, or other high-tech facilities should be pursued given the existing infrastructure on-site. While the goals of the *Urban Renewal Plan* are primarily economic, several objectives of the plan focus on the appearance, visual character, and quality of life of the area, such as:

- *Encouragement of development and rehabilitation of structures within the Calverton Enterprise Park to enhance the reuse and physical appearance of the facility.*

The *Urban Renewal Plan* concludes that redevelopment efforts should use the existing infrastructure on-site, respect the natural environment, and encourage the types of redevelopment activities that will reflect the character of the region, including its visual and scenic character.

Existing Light Emissions

The Town of Riverhead considers light emissions in its legislation regarding the construction and installation of exterior lighting. The installation of outdoor lighting must be conducted in accordance with the Town of Riverhead's Code, Section 108, Article XLV: Exterior Lighting.

Riverhead has also established a Dark Skies Advisory Committee. This committee supports educational and legislative efforts to eliminate light pollution. Light pollution is defined as: glare, light trespass, and "up" lighting which contributes to sky glow by unshielded, misplaced, excessive, or unnecessary outdoor night lighting.

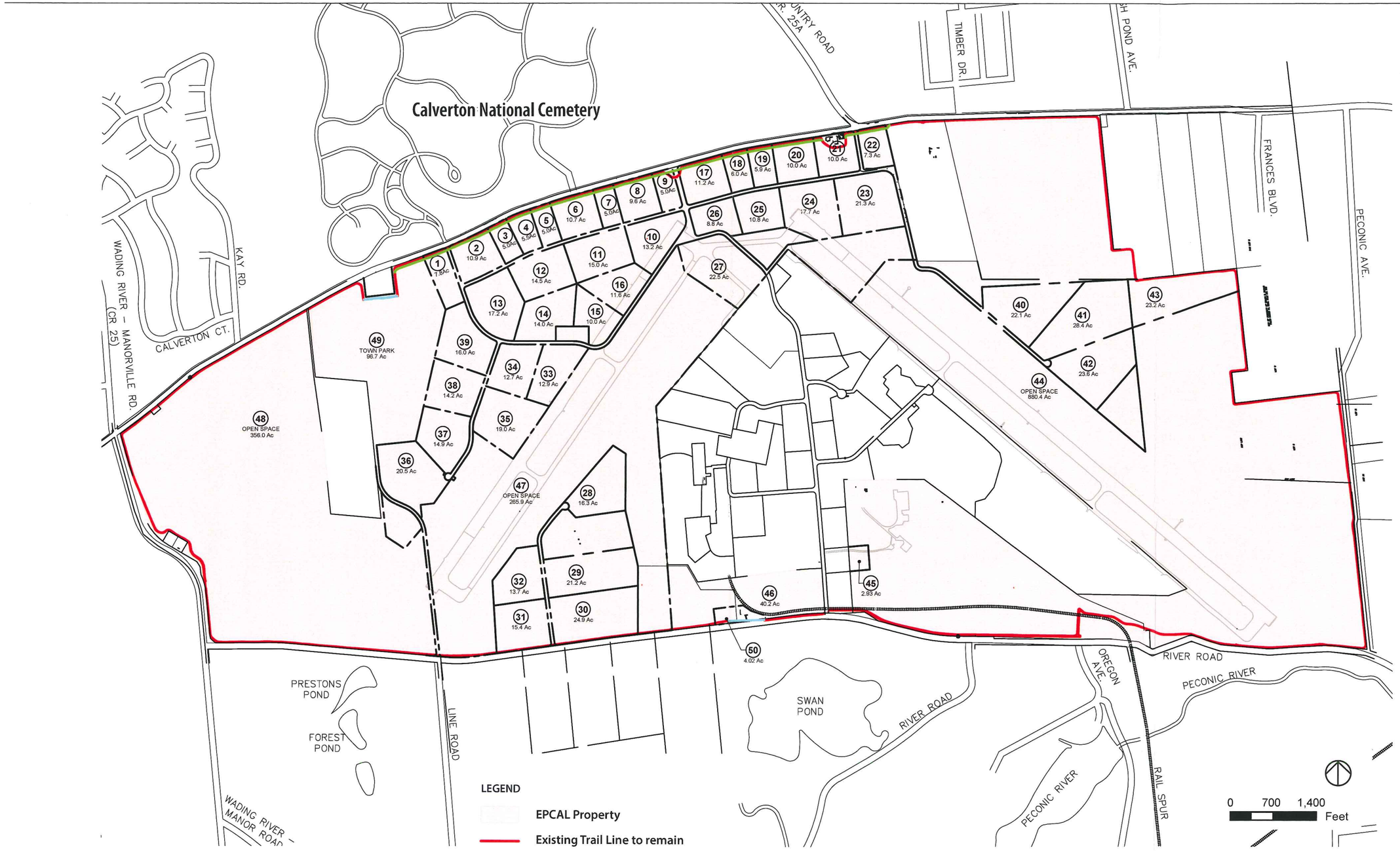
The lighting currently associated with the subject property includes the community center and lighting along roadways. Currently, there is lighting at Grumman Memorial Park, but there is no lighting at Veterans Memorial Park, although the Town is contemplating installation of lighting at the ballfields, parking areas and dogpark.

3.13.2 Potential Impacts

Subject Property and Surrounding Area

In order to maintain the visual character of the area, and to preserve ecological resources located on the EPCAL Property, the Subdivision Map includes a 50-foot-wide buffer along Route 25. Should vegetation exist within this buffer area, it will be retained. However, if vegetation does not exist, or is insufficient, landscaping/supplemental vegetation would be required to be installed to enhance this buffer as part of site plan approval for the individual lots. This will ensure that proposed development lots located in this area (Lots 1 to 9 and 17 to 22, as shown on the Subdivision Map [see Figure 7]) are visually screened from the roadway. In addition, the WSRRS boundary/buffer located along Grumman Boulevard is proposed to be extended 200 feet north onto the subject property in the area containing proposed development Lots 30 and 31 (west of Burman Boulevard). (This boundary is also proposed to be extended to the north, east of Burman Boulevard; however, this area is proposed to be preserved.) A benefit to moving this buffer to the north is that it will assist in visually screening development occurring in this area from public views along Grumman Boulevard. The only other developed areas along Grumman Boulevard that are situated within the EPCAL Property are the existing community center and McKay Lake, which are proposed to remain.

As noted on the Subdivision Map (see Figure 7), in conformance with the Town Comprehensive Plan's goal of allowing pedestrians and bicyclists to experience the Town's visual and natural resources, a continuous walkway/bike path will be maintained around the perimeter of the site and would consist of currently paved and unpaved areas (see Figure 42). This trail is proposed to be paved and would be supplemented, as necessary, as part of the site plan approval process. Lots containing the trail will be subject to covenants and restrictions requiring construction and maintenance of the trail. This trail will not only provide recreation and open space opportunities on the site, it will assist in preserving and enhancing the visual character of the site.



Source: VHB

PROPOSED SUBDIVISION OF EPCAL PROPERTY
DRAFT SUPPLEMENTAL GENERIC ENVIRONMENTAL IMPACT STATEMENT
Calverton, New York

Trail Map

Figure **42**

With the exception of approximately 7,800 linear feet along Route 25 (which contains the proposed access points, Lots 1 to 9 and 17 to 22, and represents only one-half the property's site frontage on this roadway) and approximately 2,300 linear feet along Grumman Boulevard (which contains an access driveway, Lots 30 and 31, and represents less than 15 percent of the property's frontage along this roadway), much of the visible area of the site will remain unchanged/undisturbed since large stretches of woodlands are proposed to be maintained, based upon extensive discussions with the NYSDEC. In addition, no disturbance would occur along Wading River Manor Road. Thus, while the visual character of portions of the EPCAL Property will change upon implementation of the proposed action and future development of the proposed subdivision, this change will be mitigated by the installation of buffers along the roadway, and the design of individual buildings and landscaping will be controlled by the proposed PD District.

While the PD District was created to help foster economic development on the EPCAL Property; the layout, design and visual aspects of the overall subdivision were also carefully considered in order to assist in attracting purchasers and tenants. While individual property owners and tenants will determine the specific designs of their buildings, standards have been incorporated into the PD District to control the overall visual quality of future development (including setbacks, building heights, building materials and landscaping). For example, the PD District specifies that the highly visible areas (especially along the major roadways) be properly buffered and landscaped to minimize light/visual impacts in order to maintain the open space and open character of the existing site as much as possible (see Appendix F).

The PD District recognizes that the quality of the built environment and its relationship to the natural landscape is a key indicator of quality of life. Thus, the objective of the design considerations for the PD District is to provide high quality design of buildings, landscaping, parking, and other site and building design characteristics, as expressed in the legislative intent. These standards emphasize methods that reduce the large-scale visual impact of buildings and encourage innovative design (e.g., varied roof lines, use of canopies, marquees and architectural treatments on the building façade, installation of planter walls, hedges and clusters of landscape materials, use of durable and high quality building materials and texture patterns, minimal color variations). Structures would be designed to a maximum height of 50 feet, although 75-foot buildings would be permitted via granting of a special permit. Areas within subdivision lots that are not developed must be landscaped and maintained. Design considerations also include outdoor storage, fencing, signage, and street lighting.

The implementation of the PD District and future development of the subdivision would result in a change to the visual character of the EPCAL Property, as well as the surrounding area. The portion of the EPCAL Property that has been cleared (in the area of the runways and taxiways) would either be developed, or in some portions, covered with newly installed grassland vegetation. The proposed action also

includes the preservation of approximately 787 acres of woodland throughout the EPCAL Property, which, as noted above, is particularly visible along large stretches of Route 25. AS part of the proposed action, the westernmost and easternmost extents of the property along Route 25 (approximately 3,630 linear feet along the western frontage and 2,530 linear feet along the eastern frontage of Route 25) would remain undisturbed. Moreover, as described above, a buffer would be required along Route 25 and, in conformance with the proposed PD District, emphasis would be placed upon the design of the entrances along Route 25, as the main gateways to the property. None of the area along Wading River Manor Road is permitted to be developed. Therefore, the views of the woodlands along the east side of that roadway would remain. On the south side of the EPCAL Property, only a small portion of Grumman Boulevard (2,300± feet) west of Burman Boulevard is proposed to be developed as part of the overall subdivision; the remainder would be retained in its present condition, including the 3,050±-foot stretch of property containing the existing Town community center and McKay Lake.

Based on PD District design guidelines, the structures proposed in the areas to be developed would be designed with a cohesive appearance and consistent landscaping along the building frontages. Streets would be paved and sidewalks would be installed in front of the buildings, where currently no sidewalk exists. PD design standards also call for the proper buffer and landscaping to minimize the visual impact on the surrounding area.

The proposed action would improve the built environment by upgrading the facilities and infrastructure at the site, including but not limited to, roads, sidewalks, curbs, public landscaping, street and walkway lighting, parking areas, all which would contribute to and reinforce the positive aesthetic character of the site.

The layout of the proposed subdivision is such that the majority of the future lots are within approximately 1,800 feet of Route 25, along the northern portion of the site. However, several areas of the proposed future development are interior and would not be visible to the general public. Lots 40 through 42 (as shown on Figure 7) are located internal to the overall property and are completely surrounded by EPCAL lands. Lots 33 through 39 are located south of Route 25, and while they would be visible from Veteran's Memorial Park and the off-site Calverton Camelot parcel, they would be minimally visible from Route 25, especially due to the 50-foot vegetated buffer that will be required along this roadway. With respect to Grumman Boulevard, as noted above, only two lots (30 and 31) are proposed to front on this roadway, with an additional three developable lots (as well as the DRA) located to the north. Depending upon the proposed development on Lots 30 and 31, and the fact the WSRRS boundary along Grumman Boulevard would be modified to extend 200 feet north into the subject property in this area, future buildings on Lots 28, 29 and 32 may not be visible from the public roadway. It should be noted that any of the

lots that are developed along public roadways will have to provide a landscaped buffer, as well as other landscaping in order to minimize visual impacts and to soften the views of the future buildings/structures.

While development/redevelopment of the EPCAL property will alter some of the visual characteristics thereof, 787 acres of woodland would be maintained and 596 acres of grassland would be either maintained or created, (much of which is visible from neighboring properties). Impacts to views of the EPCAL Property from off-site would be mitigated by the establishment of a 50-foot-wide vegetated buffer. As described earlier, the area in the vicinity of the EPCAL Property includes pockets of development on both the north and south sides of Route 25 and Grumman Boulevard interspersed among either woodland or farmland. While large expanses of open space would remain, as described above, there would be some development in locations that are visible from area roadways.

As demonstrated above, the careful layout and design of the subdivision, which was, in part, accomplished through extensive meetings between the Town and the NYSDEC, will not only preserve specific ecological characteristics of the site (which was the specific goal), but would also help maintain the visual characteristics of the property along Route 25, Grumman Boulevard and Wading River Manor Road, since most of this area will remain undisturbed, as previously detailed.

Comprehensive Plans

Riverhead Comprehensive Plan

The Town of Riverhead has a distinctive scenic character and unique natural resources (e.g., the Pine Barrens) that require preservation in order to maintain the Town as a desirable tourist destination, as well as an attractive place to live and work. One of the goals of the Town with respect to visual resources is to protect the scenic corridors, including areas along Route 25. The proposed action includes a 50-foot-wide vegetated buffer along Route 25, in the area where subdivision lots 1 to 9 and 17 to 22 are proposed. With the exception of Veteran's Memorial Park and Grumman Memorial Park, which are desirable destinations for local residents as well as tourists, the remainder of the property frontage will be maintained in its natural, wooded condition. Thus, the visual resources of the Route 25 scenic corridor would be maintained in conformance with the Riverhead Comprehensive Plan.

In addition, the Riverhead Comprehensive Plan indicates that many residents and visitors experience the scenic character of the Town on foot and on bikes. As noted above, the proposed action includes a continuous walkway/bike path that would be maintained around the perimeter of the site and would consist of currently paved and unpaved areas. This trail is proposed to be completely paved and would be supplemented, as necessary, as part of the site plan approval process. Subdivision

lots containing the trail (see Figure 42) will be subject to covenants and restrictions requiring construction and maintenance of the trail. Although some of the scenic characteristics experienced from this trail would be altered with the future development of the site, most of the trail passes through the hundreds of acres of woodlands, grasslands and wetlands that are being preserved as part of the proposed action. Thus, in conformance with the Comprehensive Plan, the scenic character of the site will be preserved not only for motorists, but for pedestrians and bicyclists.

As indicated above, one of the policies set forth by the Comprehensive Plan was to establish design guidelines to foster cluster development in order to protect scenic views to the maximum extent possible. The proposed EPCAL subdivision achieves this goal, as it has been clustered to protect ecological and scenic resources. The proposed arrangement of the lots can be characterized as a cluster subdivision, based on the fact that the Town worked with the NYSDEC to specifically isolate and protect certain ecologically-sensitive areas and allow development on other areas, especially those areas that have been previously developed. While protecting ecological features (including 787 acres of woodlands, 16 acres of wetlands, 596 acres of grasslands, and 104 acre of other meadow/brushland), this clustering of development in specific areas of the site also serves to preserve views along public corridors.

As indicated above, the Town views the preservation of its scenic characteristics as vital to its long-term economic stability and its ability to attract visitors and businesses. The proposed action echoes this sentiment based upon the design guidelines that have been incorporated into the proposed PD District and the design of entire subdivision layout that has been proposed.

Calverton Enterprise Park Urban Renewal Plan

As indicated above, the *Urban Renewal Plan* concludes that redevelopment efforts should use the existing infrastructure on-site, respect the natural environment, and encourage the types of redevelopment activities that will reflect the region's visual and scenic character. The proposed action specifically respects the natural environmental by protecting specific ecological features of the site and allowing development in other areas. In addition, the area proposed for development, while much of it has been disturbed, it does not include any of the existing buildings; these are located off-site in Calverton Camelot. The existing infrastructure includes the runways/taxiways and some utilities. A portion of the runways/taxiways are proposed to be redeveloped, and the remainder planted to enhance the existing grassland community. Overall, while the visual character of the EPCAL Property will change upon redevelopment of the site, the proposed requirements of the PD District will protect the visual character and reflect the region's character.

Light Emissions

Proposed facilities will be multi-level and generate light emissions related to exterior and interior lighting. Streets will also incorporate lighting. The new facilities on the site would increase the amount of exterior lighting viewed from the surrounding roads and developments. However, such exterior lighting is subject to the Town's exterior lighting requirements (Article XLV, Chapter 108-246 to 108-256), which specifies that "all exterior lighting shall be designed, located and lamped in order to prevent: (a) overlighting; (b) energy waste; (c) glare; (d) light trespass; (e) skyglow." The future development of the proposed subdivision is also subject to the requirements of the proposed PD District.

While some proposed facilities will generate light emissions related to exterior and interior lighting and street lighting is part of the plan, PD design standards consider the layout and character of the subject property to minimize the effect of new light emissions to the area. Standards specify that areas be properly buffered and landscaped to minimize light/visual impacts. These standards also state that signage lighting must be low-level and minimize glare, and that external and street lighting should be similar from one development to the next in terms of fixture/light post style and color of light.

Indoor and outdoor lighting associated with the future buildings along the south side of Route 25 would be visible from the area of the Calverton National Cemetery, as well as undeveloped land. Additional access roads proposed to intersect with Route 25 would require additional street lighting for at least two new intersections. It should be noted that the area closest to the residential developments to the northwest of the site and at the northeastern portions of the EPCAL Property on the north side of Route 25 would remain undeveloped; therefore, there would be no lighting emission impacts in these areas.

The majority of the EPCAL property that abuts Grumman Boulevard would be designated as open space. Thus, the lighting added in association with Lots 30 and 31 would be limited, and associated lighting impact would be minimal, and would not affect any developed area south of Grumman Boulevard. The new access road proposed to intersect with Grumman Boulevard to serve lots 28 through 32 would, most likely, require additional street lighting. This lighting would be in accordance with both the PD District and Article XLV of the Town Code.

Light emissions will not change on the sections of Route 25 that are adjacent to the easternmost and westernmost portions of the EPCAL property, as those areas would be left as open space.

3.13.3 Proposed Mitigation

- In order to ensure that there would be positive impacts to the visual character of the EPCAL property, and that the potential for significant adverse impacts would be minimized, the following specific mitigation measures have been incorporated into the proposed project:
  - Preservation of approximately 787 of woodlands and wetlands, much of which is located along the most visible portions of the site (along Route 25 at the westernmost and easternmost extents of the property, including 3,630 linear feet and 2,530 linear feet, respectively).
  - Preservation of over 4,550 linear feet of woodland along the western extent of Grumman Boulevard, east of Wading River Manor Road, and over 8,500 linear feet, east of Burman Boulevard.
  - No disturbance of any vegetation along Wading River Manor Road, thus preserving the existing visual character of the site frontage along this roadway.
  - Establishment of a 50-foot-wide vegetated buffer along Route 25 in the area of proposed development (Lots 1 through 9 and 17 through 22), and a 200-foot-wide vegetated buffer (WSSRS boundary) along Grumman Boulevard in the area adjacent to proposed Lots 30 and 31 to visually screen and soften views of future development on these lots.
  - Preservation/creation of 596 acres of grasslands, which would enhance the appearance of the site.

- Extension of the WSRRS boundary north onto the EPCAL Property to provide additional protection for the Peconic River, which, in turn will assist in preserving visual resources on the southern portion of the site.

- Preservation and expansion of the pedestrian and bicycle trail around the perimeter of the site. The trail will be enhanced where necessary, and future lot owners will be required to either maintain, if existing, or construct and maintain that portion of the trail that is situated on their lots. The trail would traverse much of the wooded area of the site, offering scenic views to pedestrians and bicyclists using the site for recreational purpose.

- Creation of a new zoning district (the PD District) that is sensitive to site and building design. The PD District incorporates specific design measures with regard to building setback and height, use of building materials, varied rooflines, and landscaping and buffering among other items, all which will affect the visual character in a positive way.

- Assurance that the future development that occurs within the EPCAL subdivision is subject to the Town's regulations regarding exterior lighting.

4.0

Cumulative Impacts

4.1 Introduction

In addition to impacts associated with the proposed action, cumulative impacts to area resources may occur as a result of existing, proposed, or future projects and activities. This section analyzes other projects in the area that, in conjunction with the proposed action may result in impacts that cumulatively would be greater than the impacts from each project if considered individually. As described in *The SEQR Handbook* (New York State Department of Environmental Conservation, Division of Regulatory Affairs, November 1992), *cumulative impacts* are defined as:

> *...impacts on the environment that result from the incremental or increased impact of an action(s) when the impacts of that action are added to other past, present and reasonably foreseeable future actions. Cumulative impacts can result from a single action or a number of individually minor but collectively significant actions taking place over a period of time. Either the impacts or the actions themselves must be related.*

Each of these resource category issues are discussed below, but first, brief descriptions of each planned or proposed project are provided.

4.2 Pending/Proposed Developments

According to the Town of Riverhead, only one additional project is currently under consideration in the vicinity of the EPCAL Property – Hamlet Centre at Calverton. Hamlet Centre is a proposed mixed-use development that would contain a 14,000 SF retail shopping center (with apartments above), 50 low-rise apartments (14 of which would be located above the retail stores), and eight single-family homes situated on lots of between one-half and three-quarters of an acre. The overall development would be on a parcel of approximately 16 acres in size, located along the north side of Route 25 across from the northeast portion of the subject property. This development is expected to occur within the 2025 timeframe of the proposed action.

In addition, the existing, adjacent Calverton Camelot is approximately 40 percent built-out from what was approved by the Town (1,268,212 SF built v. a total of 3,229,350 SF approved). All of the remaining development has been assumed to occur within the 2025 timeframe. It should be noted that the impacts of the total square footage associated with Calverton Camelot were considered in the environmental impact analysis performed for that proposed development.

4.3 Evaluation of Cumulative Impacts

The following provides a qualitative analysis of the cumulative impacts that may result from the combination of the proposed action and the Hamlet Centre at Calverton projects:

Land Use and Zoning

As noted in Section 3.1.1, the land use pattern along Route 25 is mixed in nature. Areas surrounding the EPCAL property are largely undeveloped, with various cemetery, residential, recreational, commercial and industrial uses interspersed. Although the proposed action and the Hamlet Centre project would change the uses of the respective sites from generally unused to developed (with a mix of uses), such change is in keeping with the mixed nature of Route 25. In addition, while the EPCAL development involves a rezoning, the Hamlet Centre does not. However, it appears that several variances are required for Hamlet Centre.

Calverton Camelot is an industrial subdivision that has been approved for over 3.2 million square feet of development. It takes advantage of many of the facilities, including the buildings, which were associated with the U.S. Navy's/Grumman's use of the property. As previously noted, the subdivision is only approximately 40 percent built out from the total development that was approved. Calverton Camelot includes facilities such as Skydive Long Island, Riverhead Building Supply, Eastern Wholesale Fence, Metro Bio Fuels, Mivila Foods, etc. These facilities would be separate and apart from the future tenants associated within the EPCAL Property. It is assumed that no changes of zone would be required in connection with the build-out of the remaining portions of the Calverton Camelot industrial subdivision.

The cumulative land use and zoning impacts of the proposed action, the Hamlet Centre project, and build-out of Calverton Camelot, would include that a greater proportion of the overall neighborhood would be developed and devoted to beneficial use as compared with existing conditions. However, open space and other natural areas (both on and off of the EPCAL property) would continue to be a significant component of the neighborhood's land use pattern, and the mix of uses at these project sites would be consistent with the mix of uses already established in the area. Therefore, no significant adverse cumulative land use and zoning impacts are anticipated.

Community Facilities and Services/Socioeconomics

All of the three developments are located in the Riverhead School District (although Calverton Camelot does not contain any residential development). The proposed Hamlet Centre appears to be completely located in the Wading River Fire District (which also provides ambulance service), while Calverton Camelot is almost wholly served by the Manorville Fire District (with a small portion of the southeastern segment of this subdivision in the Riverhead Fire District). The entirety of Calverton Camelot is served by the Riverhead Ambulance District. Finally, all three developments are located in the jurisdiction of the Riverhead Police Department.

The development of these projects will combine to increase the demand upon the local community service providers (e.g., fire and rescue, police protection, solid waste, schools). These impacts (and thus the demand for services) would not occur at the same time. The build-out of the EPCAL Property has a much longer time horizon than either of the two other pending projects.

With respect to the Riverhead CSD, the proposed development at EPCAL with a projected 300 multifamily residential units is expected to generate approximately 66 school-aged children (representing a 1.3 percent increase over the 2013-14 enrollment) at full build-out, and the 50 multi-family and eight single-family residences associated with the Hamlet Centre would also be expected to generate additional school-aged children. However, the significant annual net fiscal benefit to the Riverhead CSD that would be expected to result from full build-out at EPCAL (estimated at $25.7 million – see Section 3.2.2 of this DEIS), as well as taxes generated by the build-out of the Calverton Camelot subdivision (which would generate no school-aged children) and tax contributions from the Hamlet Centre, would be cumulatively more than offset the costs of educating the additional projected students.

Similarly, each of these projects will provide significant increases in funding to municipal service districts (in the form of property taxes) to compensate for any potential increased costs. In addition, the future population would increase the pool of volunteers for the fire departments and the ambulance services, and many of the future tenants of development would be expected to provide for their own internal safety and security operations (thereby reducing the overall potential burden on service providers).

Overall, no significant adverse cumulative impacts upon community services are expected to result from these three projects, and significant socioeconomic benefits are expected to result from increased property tax contributions and job generation.

Transportation

As described in Section 3.4.2, the analysis of expected future traffic conditions for the proposed action included expected traffic volumes generated by planned/approved transportation improvement projects and other planned developments located in the vicinity of the subject property, including Hamlet Centre.

The following is the expected traffic volume from the Hamlet Centre:

AM Peak:42 vehicle trips
PM Peak:76 vehicle trips
Saturday Midday Peak: 90 vehicle trips

The following vehicle trips have been added to the no-build 2025 condition in the traffic analysis. These trips are based upon the net trips resulting from the total trips associated with the fully-built Calverton Camelot v. the 2013 existing condition:

AM Peak:410 vehicle trips
PM Peak:394 vehicle trips.

As the Traffic Impact Study accounted for the Hamlet Centre and build-out of the Calverton Camelot subdivision in its assessment of potential impacts of the proposed action, same represents a cumulative analysis of these three projects upon transportation. Section 3.4.2 describes the potential traffic impacts of these two other projects cumulatively with those of the proposed action, and Section 3.4.3 discussed the proposed mitigation.

The cumulative traffic impacts of the proposed EPCAL subdivision and the two other identified planned developments, as well as the proposed mitigation are summarized as follows:

- The existing roadway network in the study area cannot support the level of traffic projected with the full build-out of the Theoretical Mixed Use Development Program in 2035, even with the implementation of all roadway mitigation measures that, at this time, are reasonable to implement given the configuration of the area roadways, available rights-of-way, and other factors (such as Pine Barrens Core Preservation Area land).

- In order to ensure that the traffic generated by the permitted development can be adequately mitigated, as each use is approved, constructed and occupied, traffic counts must be taken to document the total number of trips actually being

generated. Once the total number of trips generated by the EPCAL Property reaches 5,000 trips per hour (combined entering and exiting) during the critical weekday a.m. peak hour, no further development can be approved unless additional evaluation and mitigation (as necessary based on the evaluation) is conducted.

- Below the level of 5,000 trips per hour (combined entering and exiting) from the EPCAL Property during the critical weekday a.m. peak hour, the impacted intersections can be mitigated with physical changes such as widening, additional lanes and changes to lane designations, changes in signal timing parameters, such as cycle, phase-splits and signal progression. Recommendations to this effect are included in the TIS (see Appendix K-2 of this DSGEIS).

- Mitigation phasing has been developed, and identifies trip generation thresholds at which certain mitigation must be in place. It is noted that these thresholds are based on the trip generation associated with the development lots within the subdivision.

- It must be understood that no one can predict, over a multi-year development period, what specific uses would be developed and at what levels. For example, if a significant portion of the site is developed for warehouse uses, minimal traffic would result. Moreover, if a significant area was used as a solar field, virtually no traffic would result from that area. Therefore, trip generation associated with the actual mix of uses developed on the site could vary widely.

- As lots are developed on the EPCAL Property, traffic counts must be collected internally to determine actual traffic being generated by the EPCAL subdivision to ensure that the mitigation is in place when the specific level of traffic generation set forth for each of the mitigation levels described in this study are reached.

- All access points to the adjacent roadway network are proposed to be signalized, in accordance with the mitigation phasing schedule set forth in this study.

- The traffic generated by the EPCAL development, as well as the other two developments can be accommodated by the adjacent roadway network with the recommended mitigation measures in place.

- The traffic generated by all three developments is not expected to unduly affect the accident rates on the adjacent roadways.

- The proposed subdivision of the EPCAL property would result in construction of improvements to the subdivision lots over a period of many years. It is expected that the other two developments would be completed by 2025, while the build-

out of the EPCAL Property would extend beyond this time period. Therefore, specific steps, identified within the TIS, should be taken to ensure that the cumulative impacts due to construction of all of the project during the period up to 2025, are minimized.

The analysis performed in this study concludes that the development of the proposed subdivision, as well as the other two developments can be accommodated by the surrounding roadway network given the implementation of the identified roadway mitigation and the limiting of the critical trip generation from the EPCAL Property during the weekday a.m. peak hour to 5,000 trips (combined entering and exiting).

Air Quality

Short-term construction impacts may occur at the subject property, at the Hamlet Centre site, and within the Calverton Camelot subdivision as its remaining lots are developed. Short-term air quality impacts could include fugitive dust as a result of excavation, demolition and grading operation. Such construction-related air quality impacts would be short in duration. It is expected that each project would employ construction best management practices to reduce potential dust impacts. The results of the air quality impact analyses presented in Section 3.5.2 of this DSGEIS reflect the additional mobile air emissions sources associated with all three developments, as these are included in the traffic projections that form the basis for the study. Relevant to the future build out of both the Calverton Camelot properties and the subject EPCAL property, which will occur over an extended timeframe, is that the USEPA has ruled to require controls that will dramatically decrease relevant emissions through cleaner fuels and engines. Longer-term cumulative air quality impacts are not expected to be significant, as they are anticipated to meet local and federal air quality standards. However, is should be noted that Suffolk County currently remains a non-attainment area for the 8-hour ozone as well as for $PM_{2.5}$ (the 2006 $PM_{2.5}$ 24-hour standard). The proposed action will incorporate various mitigation measures to address potential construction-related air quality impacts and reduce GHG emissions, and it is expected that the other anticipated developments may also incorporate similar controls or development features.

Overall, based on the above, no significant adverse cumulative air quality impacts are expected.

Noise

In addition to traffic noise impacts, the noise analysis methodology for the proposed action assessed potential noise impacts from stationary sources. The noise analysis concluded that, in general, in the future with the proposed project, vehicular traffic would be expected to be the dominant noise source throughout the study area.

Based on the results of the noise analysis for the proposed action, mobile source noise from new traffic (including the Hamlet Centre and Calverton Camelot) would produce impacts to certain receptors studied along Route 25. Under the existing conditions, 21 receptor locations currently experience sound levels that exceed or equal the NYSDOT highway overall sound level criterion. Based upon the analysis performed, under the 2035 Build Condition, an additional eight receptor locations will exceed this criterion. In addition, 33 receptor locations will experience sound level increases exceeding the NYSDOT allowable increase of six dB(A), with the impacted receptor locations experiencing between a six decibel and seven decibel increase. Because the mobile source noise analyses reflected traffic conditions upon the development of not only the subject property, but also the two other developments, the identified impacts represent the cumulative noise impacts of all three developments.

However, as discussed in Section 3.6.3, with respect to mitigating mobile noise source impacts during project operation, a reduction in the speed limit along Route 25 by five miles per hour could be employed, if necessary. This reduction in speed limit (if implemented by the NYSDOT) would reduce the number of receptors that would be impacted. Therefore, the cumulative noise impacts would be reduced. The proposed development at EPCAL is committed to identifying the rooftop mechanical equipment and appropriate mitigation measures during the design process to ensure that the sound levels from the proposed project's rooftop mechanical equipment will not exceed the Town's noise impact criteria. The Hamlet Centre and future Calverton Camelot projects will also be subject to compliance with the Town of Riverhead's noise ordinance (Chapter 81 of the Town Code, *Noise Control*), which is protective of potential noise impacts.

Various mitigation measures would be employed during construction activities at the EPCAL property to minimize potential adverse noise impacts, as described in Section 3.6.3 (e.g., equipment maintenance, prohibiting extending idling of equipment, and limiting work to non-sensitive time periods). It is expected that similar practices and measures would be used in construction of the Hamlet Centre and Calverton Camelot developments, thereby minimizing potential noise impacts. Additionally, because of the distances between the three development properties (i.e., the Hamlet Centre is located a minimum of one half-mile from the nearest proposed developable lot within EPCAL, separated by densely vegetated areas and Route 25; and Calverton Camelot is surrounded by the EPCAL property, but [with the exception of one lot] all proposed developable lots are separated from the Calverton Camelot parcels by proposed open spaces of varying depths), the development sites at the EPCAL property are spread across the site, and the EPCAL and Calverton Camelot subdivisions would be developed over time, it is unlikely that multiple construction sites would be active within a concentrated area near a sensitive receptor for any extended period.

Based on the foregoing, with the relevant mitigation measures incorporated into the design of the proposed action, no significant cumulative noise impacts are expected.

Infrastructure

The proposed project, the Hamlet Centre, as well as the remaining development at Calverton Camelot would all be served by the Riverhead Water District. With the planned future installation of additional wells within the district (the location and design of which would be determined in the future), adequate supply is expected to exist to accommodate all water demands by the three development projects, such that no significant cumulative impacts would occur.

Effluent from Calverton Camelot and the EPCAL Property would be conveyed to the existing STP (which is proposed to be upgraded from secondary to tertiary treatment and expanded to accommodate the expected quantities of additional sewage). The discharge area is proposed to be relocated north of the groundwater divide upon upgrade of the STP. Sewage disposal for the Hamlet Centre development would be via a new on-site sewage treatment plant, located at the northernmost extent of the property. All sanitary discharge would be subject to SPDES permitting requirements, including limitations on discharge location, quantities, and concentrations, and regular monitoring to ensure compliance (as applicable). Accordingly, and as all treatment systems would be designed to accommodate future sanitary flows of the respective developments, no cumulative impacts upon sewage treatment infrastructure would result.

Stormwater runoff generated at each of the three project sites would increase due to the establishment of buildings, paved parking areas, and other impervious surfaces. Stormwater runoff at the EPCAL property would be controlled via a stormwater management system for the internal roadway network, and the containment and recharge of runoff within each of the individual lots. The method of stormwater capture and recharge is not known for the Hamlet Centre. However, this development, as well as the proposed action and the build-out of Calverton Camelot, would be required to comply with Chapter 110 of the Town Code, *Stormwater Management and Erosion and Sediment Control*, such that stormwater runoff generated at these properties would be required to be contained and recharged on-site. The three development sites would not discharge stormwater runoff to a single system of stormwater management infrastructure, such that no significant adverse cumulative impacts upon same would result.

Cultural Resources

Known cultural resources at, and in the vicinity of, the project sites, are limited to archaeological resources. Archaeological resources at the EPCAL property and the Calverton Camelot subdivision have been investigated, and their locations would not be impacted by either proposed development. No impacts upon these resources

would result from the Hamlet Centre project, and no physical impacts upon any archaeological resources that may exist at the Hamlet Centre property would result from the other two developments. Accordingly, no cumulative archaeological impacts would result.

Geology, Soils, and Topography

It is anticipated that the proposed action, as well as the development of the Hamlet Centre and Calverton Camelot would require clearing and grading/regrading of portions of their sites. Each project would be incorporate various measures for erosion and sediment control (and water quantity and quality control, as applicable) to obtain coverage under NYSDEC SPDES GP-0-10-001 and to comply with the Town of Riverhead's associated requirements set forth at Chapter 110 of the Town Code, *Stormwater Management and Erosion and Sediment Control*. Such conformance would minimize the potential for soil erosion and sedimentation both during construction and operations. The terrain across each of the three project sites is relatively flat, and no extensive excavation or filling is anticipated, such that no significant adverse topographic impacts would result and no overall modification of the topography of the area's landscape would occur as a result of the three projects. As such, no cumulative adverse impacts to geology, soils or topography would be expected.

Water Quality and Hydrology

There are no wetlands or water bodies located in the vicinity of the Hamlet Centre property, and that site is not located within a special flood hazard area. In addition, the wetlands and associated buffer areas located within the boundaries of Calverton Camelot, as well as the subject property, would remain undisturbed. Therefore, there would be no impact to such resources.

Furthermore, the proposed STP on the Hamlet Centre site is located north of the groundwater divide and sewage disposal from the Calverton STP, which serves Calverton Camelot and the EPCAL Property would also take place north of the groundwater divide. This would minimize potential impacts to the water quality and hydrology of the Peconic River watershed.

With respect to potable water supply, the existing supplies of the Riverhead Water District and its two planned future wells would be expected to adequately serve the additional demand for potable water resulting from the development of the Hamlet Centre and build-out of the EPCAL and Calverton Camelot properties.

As discussed throughout this DSGEIS, even though the Town has asserted that the proposed action is not subject to the land use standards for the Compatible Growth Area set forth in the Central Pine Barrens CLUP, the proposed EPCAL development would comply with such standards, including those designed to protect and

maintain water quality and water resources. The two additional projects would be required to comply with these standards, and, based upon the findings of the Generic Environmental Impact Statement for the CLUP, given that these developments would comply with the relevant CLUP standards, there would be no significant adverse impacts (individually or cumulative) upon water resources resulting from their development.

Overall, based on the foregoing, no significant adverse cumulative impacts upon water resources are expected to result from the Hamlet Centre, EPCAL and Calverton Camelot developments.

Terrestrial and Aquatic Environment

There would be impacts to natural vegetation (and impacts to wildlife from the losses in habitat area) on the subject property, Calverton Camelot and the Hamlet Centre properties due to clearing for buildings, paved surfaces, and landscaping. However, these impacts will be minimized by limiting clearing areas, installation of landscaping, and similar measures. Additional development at Calverton Camelot property would remove some existing vegetation in the southeastern portion of the property (adjacent to the Grumman Boulevard and the eastern runway) and along the western property line of that subdivision. However, as shown on the proposed development plans for Calverton Camelot, large areas of existing trees would be maintained.

The provision of a CHPP for the EPCAL Property, preservation of large wooded portions of the Calverton Camelot site, and similar mitigation of ecological impacts related to Hamlet Centre (including preservation of a large portion of the northern segment of the Hamlet Centre property), would minimize the potential for cumulative impacts on the terrestrial environment.

The tiger salamander ponds on both Calverton Camelot and the EPCAL Property would be protected to the maximum extent possible with the provision of significant buffer areas. As there are no wetlands or water bodies located on the Hamlet Centre property, there would be no impacts to such aquatic resources.

It should be noted that the proposed action would be consistent with the land use standards for the Compatible Growth Area set forth in the Central Pine Barrens CLUP (despite the Town's position that they are not applicable to the proposed development), and that these standards are intended to protect local ecological resources. The two additional projects would be required to comply with these standards. Based upon the findings of the Generic Environmental Impact Statement for the CLUP, given that these developments would comply with the relevant CLUP standards, there would be no significant adverse impacts (individually or cumulative) upon water resources resulting from their development.

With the retention of significant natural areas, the implementation of the CHPP for the EPCAL property (and its various measures to protect sensitive ecological resources), and consistency of the three projects with the Central Pine Barrens CLUP, no significant adverse cumulative impacts upon the terrestrial and aquatic environment.

Petroleum and Hazardous Materials

Development on the Hamlet Centre, Calverton Camelot and EPCAL properties would be subject to prevailing regulations regarding the use and storage of petroleum and/or hazardous materials on these properties. With respect to Calverton Camelot, the entire property was released to the Town CDA by the U.S. Navy. Therefore, the property was considered to be "clean" of petroleum/hazardous materials or it was remediated to the satisfaction of the U.S. Navy. Contamination from past land use activities at the overall NWIRP property has been extensively investigated, and various remediation activities conducted. Remaining impacted property is limited to the portion of the EPCAL property that would not be transferred to the Town of Riverhead until remedial actions are completed, and these areas would not be affected by any one of the three projects, nor by the three projects cumulatively. Accordingly, there would be no cumulative impacts associated with petroleum and hazardous materials.

Visual Resources

As each of the projects along Route 25 (EPCAL and Hamlet Centre) will alter the use and appearance of their sites, there will be a cumulative change to the visual resources along that roadway.

Much of the development of Calverton Camelot (including future development) is not visible from Grumman Boulevard. It is anticipated that site and building design, vegetated buffer and landscaping associated with the proposed action would enhance the appearance of the subject property. With respect to Calverton Camelot, most of the additional development would occur on the interior of the site and would minimally visible from the public roadways in the area, with the exception of Burman Boulevard, which bisects the property.

With respect to the Hamlet Centre project, it would also be located along Route 25 and would include substantial building setbacks (to preserve the open character of the site). This, along with extensive landscaping plantings to complement the proposed building architecture, will result in an attractive and appropriate visual character along Route 25.

Since much of the woodland, as well as grassland on the subject property and on Calverton Camelot would be preserved, and the existing runways within/adjacent to

these developments would be partially planted with new grassland, visual resources in these areas would be preserved, and thus the cumulative impact would not be significant.

Because views along area roadway corridors and within surrounding areas would not be significantly altered by the three developments, no significant adverse cumulative impacts upon visual resources would be expected.

5.0 Unavoidable Adverse Effects

The potential environmental impacts associated with the implementation of the proposed action, including ultimate development in accordance with the PD District, have been described in Section 3.0 and mitigation measures have also been therein. Those potential environmental impacts -- both short-term and long-term -- that cannot be either entirely avoided or fully mitigated are described below.

5.1 Short-Term Impacts

- The proposed creation and adoption of the PD District, the rezoning of certain tax parcels into the PD District, subdivision of the EPCAL Property in accordance with the PD District, and development in accordance with the Theoretical Mixed-Use Development program, would have physical short-term impacts. Development within the EPCAL Property, in accordance with implementation of the PD District, would result in several construction-related impacts that cannot be completely mitigated. These impacts are associated with the site preparation and development for the initial subdivision (including grading, excavation, installation of internal roadways and utilities and construction of building and parking facilities). Build-out of the overall project is expected to occur in stages over a long horizon (between 10 and 20 years). Construction will not be continuous over the entire build-out of the project. Furthermore, construction is expected to occur in various portions of the property at different times so that one area will not be affected on a continual basis. In addition, approximately 1,500 acres of woodlands, wetlands, meadow/brushland and grassland will either be preserved or created. This vegetation, along with the proposed 50-foot-wide vegetated buffer along Route 25 and 200-foot-wide buffer along a portion of Grumman Boulevard will assist in shielding construction impacts from surrounding properties. Specific short-term impacts are identified below:

- Soils will be disturbed by grading, excavation, and mounding activities during construction and ultimate site development.

- Despite the use of extensive and strategically-placed erosion control measures, based upon the preparation and implementation of a SWPPP, minor occurrences of erosion may occur.

- Despite the use of best management practices, as described above, during the construction process, there is the potential for minor releases of fugitive dust during dry periods, as well as exhaust and emissions from construction equipment and increased traffic on local roadways, However, dust would, for the most part, be controlled by covering of soil piles and watering down of the site.

- There may be an impact to roadways due to the movement of construction vehicles associated with site development activities.

- Slight increases in noise levels at the site boundary may result from construction activities. However, construction times and days would be limited based upon the Riverhead Town Code.

- The visual quality of the area of development may be temporarily diminished by the presence and operation of construction equipment on the project site.

- Construction activities may result in some wildlife impacts, most likely relocation of individuals of most species to contiguous and non-contiguous habitats, including those to be preserved as part of the CHPP.

5.2 Long-Term Impacts

- Several long-term impacts associated with proposed action, including development in accordance with the PD District, as analyzed based upon the Theoretical Mixed-Use Development program (at both 2025 and for the ultimate build-out), have been identified. While mitigation measures have been proposed to reduce or eliminate most of these long-term adverse impacts, there are long-term impacts, which cannot be fully mitigated; these are set forth below.

- Although the long-term impacts listed below are unavoidable, they are not necessarily significant.

- Development and redevelopment activities would increase the area of impervious surfaces (buildings and pavement), which would, in turn, increase runoff on the subject property. However, in order to address such increase, stormwater will be contained and recharged within the property boundaries through the use of drainage reserve areas and drywells. Stormwater management will be implemented as required by Chapter 110 of the Riverhead Town Code.

- Vegetation would be removed from portions of the site in order to subdivide and develop the EPCAL Property, which would impact habitat. However, the Core Area of the CPB would be maintained in its entirety. In addition, while grassland habitat would be removed, new grassland communities would be created on portions of the existing runways. Overall there would be a net loss of 49.8 acres of grassland habitat. However, in all, over 1,500 acres of woodland, brushland (grassland) and wetlands (together comprising 65± percent of the site) would be maintained/created at the EPCAL Property.

- While there would be a change in visual character along portions of both Route 25 and Grumman Boulevard, the majority of the visual landscape along these roadways would be either maintained or supplemented with vegetated buffers.

- Although extensive traffic mitigation measures have been developed, implementation of the proposed action will increase traffic along area roadways...

- Based upon the increase in traffic from new employees, visitors, residents, deliveries, etc., and installation of stationary sources, there will be increases in air emissions.

- There will be an increase in sanitary discharge associated with the development permitted under the PD District. However, the existing infrastructure and STP

are proposed to be expanded to collect and treat this additional sewage flow. Furthermore, sewage discharge is proposed to be relocated north of the groundwater divide to remove it from the Peconic River watershed.

- There will be an increase in the amount of potable water drawn from the aquifer and used within the EPCAL Property. However, the Riverhead Water District has indicated its ability to serve the proposed development.

- There would be additional solid waste generated at the site, although same would not adversely impact solid waste management strategies or plans.

- Should residential units be developed on the subject property, the proposed development would increase permanent population, including school-aged children, which would increase the demand for community services. However, implementation of the proposed action would substantially increase tax revenues, which would offset costs associated with increased demand.

- There will be an increase in the amount of energy used at the site. However, a portion of the future development is anticipated to include energy (e.g., renewable energy) producing facilities, as such facilities are permitted by the proposed zoning and shown on the Reuse and Revitalization Plan.

6.0

Conditions/Criteria Under Which Future Actions Will Be Undertaken or Approved Including Requirements for Subsequent SEQRA Compliance

6 NYCRR §617.10(c) and (d) state, in pertinent part:

> *"(c) Generic EISs...should set forth specific conditions or criteria under which future actions will be undertaken or approved, including requirements for any subsequent SEQR compliance..."*
>
> *(d) When a final generic EIS has been filed under this part:*
>
> *(5) No further SEQR compliance is required if a subsequent proposed action will be carried out in conformance with the conditions and thresholds established for such actions in the generic EIS or its findings statement;*
>
> *(6) An amended findings statement must be prepared if the subsequent proposed action was adequately addressed in the generic EIS but was not addressed or was not adequately addressed in the findings statement for the generic EIS;*
>
> *(7) A negative declaration must be prepared if a subsequent proposed action was not addressed or was not adequately addressed in the generic EIS and the subsequent action will not result in any significant environmental impacts;*
>
> (8) *A supplement to the final generic EIS must be prepared if the subsequent proposed action was not addressed or was not adequately addressed in the*

generic EIS and the subsequent action may have one or more significant adverse environmental impacts."

Moreover, in 2013, the New York State Senate and Assembly passed legislation establishing the Enterprise Park at Calverton Reuse and Revitalization District (see Appendix E). As described in Section 2.4.10, this legislation creates, among other things, an expedited review process of 90 days for projects consistent with the Reuse and Revitalization Plan, as set forth in this DSGEIS, including the conditions and criteria presented herein. Accordingly, if a subsequent site-specific project conforms to the conditions and criteria, it would be eligible for expedited review.

Based upon the analyses contained in this DSGEIS, the following represent the proposed conditions and thresholds, which, if met, would allow full development of specific parcels within EPCAL without the need for further SEQRA compliance, and thus would be eligible for the 90-day review process, described above:

- Construct only those uses set forth in the PD District as either permitted and/or supportive.

- All development must conform to the applicable provisions of permits issued to the Town of Riverhead by the New York State Department of Environmental Conservation with respect to freshwater wetlands; the Wild, Scenic and Recreational Rivers Systems; and endangered species.

- Provide a 1,000-foot buffer around each wetland that is identified as a tiger salamander pond on the Subdivision Map.

- Each lot must capture and store the runoff from a two-inch storm.

- Sanitary discharge to the Calverton STP associated with development of all parcels within the EPCAL Property shall not exceed 1,137,000 gpd (which represents an average of 2,000 gpd per developable acre in the subdivision). In the event that development/ redevelopment is proposed that would cause this capacity to be exceeded, additional evaluation must be conducted and additional sewage capacity must be secured from the Calverton Sewer District to support the additional development.

- Development at the EPCAL Property cannot collectively demand more than 1,990,000 gpd (1,382 gpm) of water until additional well capacity is developed with the water purveyor.

- Based on the analyses conducted, traffic is the most significant potential adverse impact, and it requires the most mitigation. The mitigation identified is based upon the Theoretical Mixed-Use Development Program. However, as previously explained, the actual uses developed will determine the actual traffic generation

and the mitigation required (i.e., the traffic generated by a solar farm is negligible, but the traffic generated by a large-scale manufacturing facility could be substantial). In order to ensure that the traffic generated by the permitted development is adequately mitigated, as each use is approved, constructed and occupied, traffic counts must be taken to document the total number of trips actually being generated.

Mitigation measures identified for the interim Build Year of 2025 and the Full Build 2035 are set forth below.

Table of Mitigation 2025... 1 of 4

Location		Capacity Improvements		Signal Improvements	
		Existing Conditions	Proposed in 2025	Existing Conditions	Proposed in 2025
1	NY 25 & Wading River Manor Road	Eastbound – One exclusive left turn lane, one through lane and shoulder being used as a right turn lane Westbound – One exclusive left turn lane, one through lane and shoulder being used as a right turn lane Northbound - One shared left turn and through lane and one exclusive right turn lane Southbound - One shared left turn and through lane and one exclusive right turn lane	Eastbound – One exclusive left turn lane, two through lanes and one exclusive right turn lane Westbound – One exclusive left turn lane, two through lanes and one exclusive right turn lane Northbound - One exclusive left turn lane, one through lane and one exclusive right turn lane Southbound - One exclusive left turn lane, one through lane and one exclusive right turn lane	Two-phase semi-actuated signal with permitted left turns 80 Second cycle all time periods	Multi-phase Actuated-Coordinated signal East-West left turns fully protected North-South left turns protected/permitted AM/PM Cycle length: 100 seconds Saturday Cycle length : 90 Seconds Optimize phase splits to correlate to future volumes. Optimize offsets to the adjacent signals
2	NY 25 & Burman Boulevard (Site Access)	Eastbound – One through lane and one exclusive right turn lane Westbound – One exclusive left turn lane and one through lane Northbound - One exclusive left turn lane and one exclusive right turn lane	Eastbound – Two through lanes and one exclusive right turn lane Westbound – Two exclusive left turn lanes and two through lanes Northbound - Two exclusive left turn lanes and two exclusive right turn lanes	Two-phase semi-actuated signal with permitted left turns 95 Second cycle all time periods	Multi-phase Actuated-Coordinated signal Westbound Lefts turns fully protected EB right turn overlaps NBL NB right turn overlaps WBL AM/PM Cycle length: 100 seconds Saturday Cycle length : 90 Seconds Optimize phase splits to correlate to future volumes. Optimize offsets to the adjacent signals
3	NY 25 & NY 25A / East Site Access	Eastbound – One shared left turn and through lane Westbound – One through lane and one channelized right turn lane Southbound - One exclusive left turn lane and one channelized right turn lane	Eastbound – One exclusive left turn lane, two through lanes and one exclusive right turn lane Westbound - Two exclusive left turn lanes, two through lanes and one channelized right turn lane Northbound - Two exclusive left turn lanes, one through and one exclusive right turn lane Southbound - Two exclusive left turn lanes, one through and one channelized right turn lane	Two-phase semi-actuated signal with permitted left turns 95 Second cycle all time periods	Multi-phase Actuated-Coordinated signal Westbound Lefts turns fully protected Northbound Lefts turns fully protected Other left turns protected/permitted WB right turn overlaps SBL NB right turn overlaps WBL AM/PM Cycle length: 100 seconds Saturday Cycle length : 90 Seconds Optimize phase splits to correlate to future volumes. Optimize offsets to the adjacent signals

Table of Mitigation 2025... Continued 2 of 4

Location		Capacity		Signal Improvements	
		Existing Conditions	Proposed in 2025	Existing Conditions	Proposed in 2025
4	NY 25 & Edwards Avenue	Eastbound – Single shared left turn/ through and right turn lane Westbound – Single shared left turn/ through and right turn lane (shoulder being used to go around turning vehicles and to make a right turn) Northbound - Single shared left turn/ through and right turn lane Southbound - Single shared left turn/ through and right turn lane	Eastbound – One exclusive left turn lane, two through lanes and an exclusive right turn lane Westbound – One exclusive left turn lane, one through lane and a shared through/right turn lane Northbound - One exclusive left turn lane, one shared through /right turn lane Southbound - One exclusive left turn lane, one through lane and one exclusive right turn lane	Two-phase semi-actuated signal with permitted left turns 90 Second cycle all time periods	Multi-phase Actuated-Coordinated signal All left turns protected/permitted AM/PM Cycle length: 100 seconds Saturday Cycle length : 90 Seconds Optimize phase splits to correlate to future volumes. Optimize offsets to the adjacent signals
5	NY 25 & Manor Road/ Splish Splash Drive	Eastbound – One exclusive left turn lane, a shared through / right turn lane Westbound – One exclusive left turn lane, one through, and an exclusive right turn lane Northbound - One shared left turn/ through lane and the approach flares to provide a right turn lane Southbound - Single shared left turn/ through and right turn lane	Eastbound – One exclusive left turn lane, one through lane and shared through/right turn lane Westbound – One exclusive left turn lane, one through lane and a shared through/right turn lane Northbound - No Change Proposed Southbound - No Change Proposed	Semi-actuated signal with protected permitted westbound left turns 115 Second cycle all time periods	Multi-phase Actuated-Coordinated signal AM/PM Cycle length: 100 seconds Saturday Cycle length : 90 Seconds Optimize phase splits to correlate to future volumes. Optimize offsets to the adjacent signals
6	NY 25 & Calverton National Cemetery/ West Site Access	Eastbound – One exclusive left turn lane, and one through lane Westbound – One through lane and one exclusive right turn lane Southbound - One exclusive left turn lane and one exclusive right turn lane	Eastbound – One exclusive left turn lane, two through lanes and an exclusive right turn lane Westbound – Two exclusive left turn lanes and two through lanes and one exclusive right turn lane Northbound - One exclusive left turn lane, a shared left turn / though lane and one exclusive right turn lane Southbound - No change proposed	Unsignalized T-intersection Southbound Approach Stop Controlled	Signalize Multi-phase Actuated-Coordinated signal Westbound Lefts turns fully protected Eastbound left turns protected/permitted North-south split phasing AM/PM Cycle length: 100 seconds Saturday Cycle length : 90 Seconds Optimize phase splits to correlate to future volumes. Optimize offsets to the adjacent signals

Table of Mitigation 2025... Continued 3 of 4

Location		Capacity		Signal Improvements	
		Existing Conditions	Proposed in 2025	Existing Conditions	Proposed in 2025
7	**Edwards Avenue & River Road**	Eastbound – One shared left turn / through lane, and the approach flares to provide a right turn lane Westbound – Single shared left turn/ through and right turn lane Northbound - One shared left turn / through lane and one channelized right turn lane Southbound - Single shared left turn/ through / right turn lane	No Change Proposed	Unsignalized Intersection Eastbound & Westbound approaches stop controlled	Signalize Two-phase semi-actuated signal with permitted left turns Northbound approach leading AM/PM Cycle length: 80 seconds Saturday Cycle length : 70 Seconds Optimize phase splits, vary with time period to correlate to future volumes
8	**Grumman Boulevard & Burman Boulevard (Site Access)**	Eastbound – Single shared left turn / through lane Westbound – Single shared through / right turn lane Southbound - Single shared left turn/ right turn lane	Eastbound – One exclusive left turn lane and one through lane Westbound – Single shared through / right turn lane Southbound - One exclusive left turn lane and one exclusive right turn lane	Unsignalized Intersection Southbound Approach Stop Controlled	Signalize Two-phase semi-actuated signal with permitted left turns 70 Second cycle all time periods Optimize phase splits, vary with time period to correlate to future volumes
9	**New Intersection Grumman Boulevard & West Site Access**		Eastbound – – One exclusive left turn lane, one through lane Westbound – Single shared through / right turn lane Southbound - One exclusive left turn lane and one exclusive right turn lane		Unsignalized Intersection Southbound Approach Stop Controlled
10	**Wading River Manor Road & Grumman Boulevard**	Westbound – One exclusive left turn lane and one exclusive right turn lane Northbound - Single shared through / right turn lane Southbound - Single shared left turn / through lane	Westbound – Two exclusive left turn lanes and one free channelized right turn lane Northbound - One through lane and a free channelized right turn lane Southbound - One exclusive left turn lane and a through lane	Unsignalized Intersection Westbound Approach Stop Controlled	Signalize Two-phase semi-actuated signal with permitted Southbound left turns 70 Second cycle all time periods Optimize phase splits, vary with time period to correlate to future volumes

Table of Mitigation 2025... Continued 4 of 4

Location		Capacity		Signal Improvements	
		Existing Conditions	Proposed in 2025	Existing Conditions	Proposed in 2025
11	**Wading River Manor Road & North Street**	Eastbound – One shared left turn / through lane, and the approach flares to provide a right turn lane Westbound – Single shared left turn/ through and right turn lane Northbound - Single shared left turn/ through and right turn lane Southbound - Single shared left turn/ through and right turn lane	Eastbound – Single shared left turn/ through and right turn lane Westbound – No change proposed Northbound - No change proposed Southbound - No change proposed	All-way Stop	Signalize Two-phase semi-actuated signal with permitted left turns 70 Second cycle all time periods Optimize phase splits, vary with time period to correlate to future volumes
12	**Wading River Manor Road & LIE North Service Road**	Westbound – Stop Controlled with One shared left turn / through lane, and one right turn lane Northbound - One exclusive left turn lane and one through lane Southbound - One through lane and a channelized right turn lane	Westbound – No change proposed Northbound - One exclusive left turn lane and two through lanes Southbound - No change proposed	Unsignalized Intersection Westbound Approach Stop Controlled	Signalize Two-phase semi-actuated signal with protected/permitted Northbound left turns AM/PM Cycle length: 80 seconds Saturday Cycle length : 70 Seconds Optimize phase splits, vary with time period to correlate to future volumes
13	**Wading River Manor Road & LIE South Service Road**	Unsignalized Eastbound – Stop Controlled with One shared left turn / through lane, and one right turn lane Northbound - One through lane and a channelized right turn lane Southbound - One exclusive left turn lane and one through lane	Signalized Eastbound – One exclusive left turn lane, one shared left turn / through lane, and one right turn lane Northbound - No change proposed Southbound - No change proposed	Unsignalized Intersection Eastbound Approach Stop Controlled	Signalize Two-phase semi-actuated signal with protected/permitted Southbound left turns AM/PM Cycle length: 80 seconds Saturday Cycle length : 70 Seconds Optimize phase splits, vary with time period to correlate to future volumes

Table of Mitigation 2035... 1 of 4

Location		Capacity		Signal Improvements	
		Proposed in 2025	**Additional Changes Proposed in 2035**	**Proposed in 2025**	**Additional Changes Proposed in 2035**
1	**NY 25 & Wading River Manor Road**	Eastbound – One exclusive left turn lane, two through lanes and one exclusive right turn lane Westbound – One exclusive left turn lane, two through lanes and one exclusive right turn lane Northbound - One exclusive left turn lane, one through lane and one exclusive right turn lane Southbound - One exclusive left turn lane, one through lane and one exclusive right turn lane	Eastbound – No Change Proposed Westbound – Two exclusive left turn lanes, two through lanes and one exclusive right turn lane Northbound - One exclusive left turn lane, one through lane and two exclusive right turn lane Southbound - Two exclusive left turn lanes, one through lane and one exclusive right turn lane	Multi-phase Actuated-Coordinated signal East-West Lefts turns fully protected North-South Left turns protected/permitted AM/PM Cycle length: 100 seconds Saturday Cycle length : 90 Seconds Optimize phase splits to correlate to future volumes. Optimize offsets to the adjacent signals	AM/PM Cycle length: 120 seconds Saturday Cycle length : 100 Seconds SB right turn overlaps EBL NB right turn overlaps WBL Optimize phase splits to correlate to future volumes. Optimize offsets to the adjacent signals
2	**NY 25 & Burman Boulevard (Site Access)**	Eastbound – Two through lanes and one exclusive right turn lane Westbound – Two exclusive left turn lanes and two through lanes Northbound - Two exclusive left turn lanes and two exclusive right turn lanes	Eastbound – Two through lanes and two exclusive right turn lane Westbound – No Change Proposed Northbound - No Change Proposed	Multi-phase Actuated-Coordinated signal Westbound Lefts turns fully protected EB right turn overlaps NBL NB right turn overlaps WBL AM/PM Cycle length: 100 seconds Saturday Cycle length : 90 Seconds Optimize phase splits to correlate to future volumes. Optimize offsets to the adjacent signals	AM/PM Cycle length: 120 seconds Saturday Cycle length : 100 Seconds Optimize phase splits to correlate to future volumes. Optimize offsets to the adjacent signals
3	**NY 25 & NY 25A / East Site Access**	Eastbound – One exclusive left turn lane, two through lanes and one exclusive right turn lane Westbound - Two exclusive left turn lanes, two through lanes and one channelized right turn lane Northbound - Two exclusive left turn lanes, one through and one exclusive right turn lane Southbound - Two exclusive left turn lanes, one through and one channelized right turn lane	Eastbound – No Change Proposed Westbound - No Change Proposed Northbound - Two exclusive left turn lanes, one through and two exclusive right turn lanes Southbound - No Change Proposed	Multi-phase Actuated-Coordinated signal Westbound Lefts turns fully protected Northbound Lefts turns fully protected Other left turns protected/permitted WB right turn overlaps SBL NB right turn overlaps WBL AM/PM Cycle length: 100 seconds Saturday Cycle length : 90 Seconds Optimize phase splits to correlate to future volumes. Optimize offsets to the adjacent signals	AM/PM Cycle length: 120 seconds Saturday Cycle length : 100 Seconds Optimize phase splits to correlate to future volumes. Optimize offsets to the adjacent signals

Table of Mitigation 2035... Continued 2 of 4

Location		Capacity		Signal Improvements	
		Proposed in 2025	Additional Changes Proposed in 2035	Proposed in 2025	Additional Changes Proposed in 2035
4	**NY 25 & Edwards Avenue**	Eastbound – One exclusive left turn lane, two through lanes and an exclusive right turn lane Westbound – One exclusive left turn lane, one through lane and a shared through/right turn lane Northbound - One exclusive left turn lane, one shared through /right turn lane Southbound - One exclusive left turn lane, one through lane and one exclusive right turn lane	No change proposed	Multi-phase Actuated-Coordinated signal All left turns protected/permitted AM/PM Cycle length: 100 seconds Saturday Cycle length : 90 Seconds Optimize phase splits to correlate to future volumes. Optimize offsets to the adjacent signals	AM/PM Cycle length: 120 seconds Saturday Cycle length : 100 Seconds SB right turn overlaps EBL Optimize phase splits to correlate to future volumes. Optimize offsets to the adjacent signals
5	**NY 25 & Manor Road/Splish Splash Drive**	Eastbound – One exclusive left turn lane, one through lane and shared through/right turn lane Westbound – One exclusive left turn lane, one through lane and a shared through/right turn lane Northbound - No Change Proposed Southbound - No Change Proposed		Multi-phase Actuated-Coordinated signal AM/PM Cycle length: 100 seconds Saturday Cycle length : 90 Seconds Optimize phase splits to correlate to future volumes. Optimize offsets to the adjacent signals	AM/PM Cycle length: 120 seconds Saturday Cycle length : 100 Seconds Optimize phase splits to correlate to future volumes. Optimize offsets to the adjacent signals
6	**NY 25 & Calverton National Cemetery/Site Access**	Eastbound – One exclusive left turn lane, two through lanes and an exclusive right turn lane Westbound – Two exclusive left turn lanes and two through lanes and one exclusive right turn lane Northbound - One exclusive left turn lane, a shared left turn / though lane and one exclusive right turn lane Southbound - No change proposed	Eastbound – No change proposed Westbound – No change proposed Northbound - One exclusive left turn lane, a shared left turn / though lane and two exclusive right turn lanes Southbound - No change proposed	Signalize Multi-phase Actuated-Coordinated signal Westbound Lefts turns fully protected Eastbound left turns protected/permitted North-south Split phasing AM/PM Cycle length: 100 seconds Saturday Cycle length : 90 Seconds Optimize phase splits to correlate to future volumes. Optimize offsets to the adjacent signals	AM/PM Cycle length: 120 seconds Saturday Cycle length : 100 Seconds NB right turn overlaps WBL EB right turn overlaps NBL Optimize phase splits to correlate to future volumes. Optimize offsets to the adjacent signals

Table of Mitigation 2035... Continued 3 of 4

Location		Capacity		Signal Improvements	
		Proposed in 2025	Additional Changes Proposed in 2035	Proposed in 2025	Additional Changes Proposed in 2035
7	**Edwards Avenue & River Road**	No Change Proposed	Eastbound – No change proposed Westbound – No change proposed Northbound - One exclusive left turn lane, a shared left turn / through lane and one channelized right turn lane Southbound - No change proposed	Signalize Two-phase semi-actuated signal with permitted left turns Northbound approach leading 80 Second cycle all time periods Optimize phase splits, vary with time period to correlate to future volumes	North-south split phasing EB right turn overlaps NBL 90 Second cycle all time periods Optimize phase splits, vary with time period to correlate to future volumes
8	**Grumman Boulevard & Burman Boulevard (Site Access)**	Eastbound – One exclusive left turn lane and one through lane Westbound – Single shared through / right turn lane Southbound - One exclusive left turn lane and one exclusive right turn lane	Eastbound – Two exclusive left turn lanes and one through lane Westbound – No change proposed Southbound - No change proposed	Signalize Two-phase semi-actuated signal with permitted left turns 70 Second cycle all time periods Optimize phase splits, vary with time period to correlate to future volumes	80 Second cycle all time periods Optimize phase splits, vary with time period to correlate to future volumes
9	**New Intersection Grumman Boulevard & West Site Access**	Eastbound – One exclusive left turn lane, one through lane Westbound – Single shared through / right turn lane Southbound - One exclusive left turn lane and one exclusive right turn lane	Eastbound – One exclusive left turn lane, one through lane Westbound – One through lane and an exclusive right turn lane Southbound - One exclusive left turn lane and one exclusive right turn lane	Unsignalized Intersection Southbound Approach Stop Controlled	Signalize Two-phase semi-actuated signal with permitted Southbound left turns 80 Second cycle all time periods Optimize phase splits, vary with time period to correlate to future volumes
10	**Wading River Manor Road & Grumman Boulevard**	Westbound – Two exclusive left turn lanes and one free channelized right turn lane Northbound - One through lane and a free channelized right turn lane Southbound - One exclusive left turn lane and a through lane	No change proposed	Signalize Two-phase semi-actuated signal with permitted Southbound left turns 70 Second cycle all time periods Optimize phase splits, vary with time period to correlate to future volumes	Optimize phase splits, vary with time period to correlate to future volumes

Table of Mitigation 2035... Continued 4 of 4

Location		Capacity		Signal Improvements	
		Proposed in 2025	Additional Changes Proposed in 2035	Proposed in 2025	Additional Changes Proposed in 2035
11	**Wading River Manor Road & North Street**	Eastbound – Single shared left turn/ through and right turn lane Westbound – No change proposed Northbound - No change proposed Southbound - No change proposed	Eastbound – One exclusive left turn lane and a shared through and right turn lane Westbound – No change proposed Northbound - No change proposed Southbound - No change proposed	Signalize Two-phase semi-actuated signal with permitted left turns 70 Second cycle all time periods Optimize phase splits, vary with time period to correlate to future volumes	EB left turn protected/permitted AM/PM Cycle length: 100 seconds Saturday Cycle length : 80 Seconds Optimize phase splits, vary with time period to correlate to future volumes
12	**Wading River Manor Road & LIE North Service Road**	Westbound – No change proposed Northbound - One exclusive left turn lane and two through lanes Southbound - No change proposed	No change proposed	Signalize Two-phase semi-actuated signal with protected/permitted Northbound left turns AM/PM Cycle length: 80 seconds Saturday Cycle length : 70 Seconds Optimize phase splits, vary with time period to correlate to future volumes	No Change Proposed
13	**Wading River Manor Road & LIE South Service Road**	Signalized Eastbound – One exclusive left turn lane, one shared left turn / through lane, and one right turn lane Northbound - No change proposed Southbound - No change proposed	No change proposed	Signalize Two-phase semi-actuated signal with protected/permitted Southbound left turns AM/PM Cycle length: 80 seconds Saturday Cycle length : 70 Seconds Optimize phase splits, vary with time period to correlate to future volumes	No Change Proposed

As, given the size of development, and the anticipated multi-decade build-out period, it is not possible to determine at what specific time (i.e., year) mitigation must be in place. Accordingly, with respect to off-site mitigation, the following discussion provides the required off-site mitigation phasing, and identifies trip generation thresholds at which certain mitigation must be in place. As lots are developed, traffic counts must be collected to determine actual traffic being generated to ensure that the mitigation set forth below is in place when the specific level of traffic generation set forth for each of the mitigation levels below are reached. As counting of the subdivision access points to the external road network would capture traffic not associated with the subdivided lots, these counts should be performed at the individual lot access points. These counts should capture the weekday a.m. peak period of activity as this has been determined to be the critical time period.

- *Initial Construction* (Mitigation Level One) - Prior to the occupancy of any significant developed space within the subdivision, the proposed access roadways should be constructed. The intersection configurations for locations 2, 3, 6, 8 and 9 (as indicated Table of Mitigation 2025) should be constructed as described in Table of Mitigation 2025. In addition, given the conditions expected to prevail at the intersection of Middle Country Road and Edwards Avenue, the improvements detailed in Table of Mitigation 2025 for location 4 should be in place. It is noted that this improvement requires additional right-of-way. However, this location is currently the worst performing location in the study area currently and will deteriorate further by 2025.

- *Mitigation Level Two* - Prior to occupancy of buildings in the subdivision that increase trip generation of the development during the weekday a.m. peak period above 750 vehicles per hour (combined entering and exiting), the mitigation detailed in Table of Mitigation 2025 for locations 1, 5, 7, 10, 12 and 13 shall be completed.

- *Mitigation Level Three* - Prior to occupancy of buildings in the subdivision that increase trip generation of the development during the weekday a.m. peak period above 1,500 vehicles per hour (combined entering and exiting), the mitigation detailed in Table of Mitigation 2025 for location 11 shall be completed.

- *Mitigation Level Four* - Prior to occupancy of buildings in the subdivision that increase trip generation of the development during the weekday a.m. peak period above 2,000 vehicles per hour (combined entering and exiting), Middle Country Road should be improved to a five lane section from just east of CR 46 (William Floyd Parkway) through just east of Manor Road /Splish Splash Drive.

- *Mitigation Level Five* - Prior to occupancy of buildings in the subdivision that increase trip generation of the development during the weekday a.m. peak period above 3,000 vehicles per hour (combined entering and exiting), the mitigation detailed in Table of Mitigation 2035 for locations 1, 3, 4, 6, 7 and 8 shall be completed.

- *Mitigation Level Six* - Prior to occupancy of buildings in the subdivision that increase trip generation of the development during the weekday a.m. peak period above 4,000 vehicles per hour (combined entering and exiting), the mitigation detailed in Table of Mitigation 2035 for locations 2, 5, 9, 10 and 11 shall be completed.

Below the level of 5,000 trips per hour (combined entering and exiting) during the critical weekday a.m. peak hour, the impacted intersections can be mitigated with physical changes such as widening, additional lanes and changes to lane designations, changes in signal timing parameters, such as cycle, phase-splits and signal progression. Once the total number of trips generated reaches 5,000 trips per hour (combined entering and exiting) during the critical weekday a.m. peak hour, no further development can be approved unless additional traffic evaluation is conducted, and as necessary based on actual conditions, additional mitigation that can be implemented is identified (e.g., currently unavailable right-of-way is available to accommodate the necessary mitigation)

In the event that any of the above conditions are proposed to be exceeded by future development, additional SEQRA compliance would be necessary in accordance with 6 NYCRR §617.10(d)(2), (3) or (4), as would be appropriate, given the actual development plan proposed and the associated potential environmental impacts associated therewith.

Furthermore, with respect to future development approvals (i.e., after the Town Board adopts the PD District, applies the zoning to the EPCAL Property, and approves the subdivision, as described above), applicants will be required to obtain site plan approval from the Town Board for proposed development. In addition to the standard site plan application requirements and those specific requirements set forth in the PD District, at the time a site plan is submitted to the Town, an applicant must comply with the following.

- Prepare and submit a construction traffic management and logistics plan. This plan, at a minimum, should indicate the following:
  - Days/hours of proposed construction activity
  - Designated routes of heavy vehicles to and from the site
  - Parking areas for workers and heavy vehicles
  - Construction staging areas
  - Measures to ensure protection of land within the EPCAL Property that is proposed to be preserved.

- Provide on-site borings in order to determine specific soil conditions, and to ensure that appropriate construction measures are implemented.

- Submit confirmation that dust will be controlled during construction (and how same will be controlled), that there will be emission controls for construction vehicles, and that construction vehicles and equipment will be properly maintained to minimize air emissions during construction.

- Demonstrate that the proposed plan meets or exceeds the New York State Energy Conservation Construction Code, which requires the use of energy efficient products in all new and renovated construction.

- Provide greenhouse gas mitigation measures, which may include:
  - Use of highly-reflective (high albedo) roofing materials
  - Use of green roofs
  - Maximization of interior daylighting
  - Glazing of windows
  - Installation of high-efficiency heating, ventilation and air conditioning systems
  - Incorporating additional insulation for the roves and walls
  - Incorporating motion sensors and lighting and climate control
  - Use of efficient, directed exterior lighting
  - Reducing overall energy demand through appropriate design and sizing of systems
  - Supplementation with self-generated energy (e.g., on-site renewable energy sources)
  - Tracking of energy performance of building and developing a strategy to maintain efficiency.

- If rooftop (or outdoor not on the rooftop) mechanical equipment is proposed, in order to mitigate potential noise impacts, appropriate mitigation measures must be provided (e.g., screening, setbacks) to ensure that the sound levels from such equipment will not exceed the Town's noise impact criteria.

- For Lots 1 through 9 and 17 through 22, each site plan must depict a 50-foot vegetated buffer along Route 25 (Middle Country Road), and a covenant for its maintenance and preservation, acceptable to the Town, must be submitted and filed.
- For Lots 30 and 31, each site plan must depict a 200-foot vegetated buffer along Grumman Boulevard, and a covenant for its maintenance and preservation, acceptable to the Town, must be submitted and filed.

- Lots fronting on New York State Route 25 may be granted temporary access to New York State Route 25 by the NYSDOT, if the interior subdivision access road is not completed at the time such lot(s) are developed. In such

situation where NYSDOT has granted such temporary access, a covenant that confirms that such temporary access will be abandoned as soon as access to the interior subdivision road is available, must be submitted and filed, in a form acceptable to the Town and the NYSDOT.

- Demonstrate that water conservation measures, which may include low-flow fixtures, low-flow toilets, and/or drip irrigation, will be implemented.

- Demonstrate that runoff from an eight-inch storm will be collected and stored in using drywells, on-site drainage reserve areas, or other drainage features acceptable to the Town.

- Demonstrate that the overall SWPPP will be complied with and provide site-specific details regarding erosion and sedimentation control for each lot, in conformance with the SWPPP and Town regulations.

- Demonstrate conformance to the Town's regulations regarding exterior lighting.

- Demonstrate that low-maintenance vegetation is being incorporated into landscape design.

- If any petroleum products, chemicals, hazardous materials or the like are proposed to be handled or stored, approval must be submitted from the appropriate regulatory agency (e.g., SCDHS, NYSDEC).

- Provide a letter of sewer availability upon application to the Suffolk County Department of Health Services.

- As there will be a continuous pedestrian walking/biking trail around the perimeter of the EPCAL Property, any lots that are to contain such trail, as shown on the Subdivision Map, must construct (if not already constructed) and maintain such trail. A covenant, acceptable to the Town, must be prepared and filed with respect to this requirement.

- Although not a site plan approval item, if any cultural resources are encountered during site development, the applicant must notify the Town of Riverhead CDA, which must notify OPRHP, in accordance with the MOA, and mitigation must be undertaken by the developer as identified by OPRHP and the Town, based upon the specific circumstance.

7.0 Alternatives and Their Impacts

As specified in the Final Scope, the following alternatives are examined in this section of the DSGEIS:

- SEQRA-mandated No-action Alternative (site remains as it currently exists)
- Mixed Use and Polo Alternative
- Alternative Subdivision Design, prepared by representatives of the environmental community
- Alterative Subdivision Design, which "reverses" areas to be developed and areas to be preserved
- Grassland Creation Alternative

The following sections discuss each of the alternatives.

7.1 No-Action Alternative

The SEQRA-mandated, no-action alternative would leave the site as it currently exists. Existing uses contained on the site are discussed in Section 3.1.2 of this DSGEIS. The current uses on the subject property are quasi-public spaces, recreational-related fields and facilities, and open space. The majority of the site is comprised of former runways, taxi-ways and grassland.

The no-action alternative is inconsistent with the Town's right and obligation to develop the property, as was required when the U.S. Navy transferred the property to the Town CDA (which is empowered to foster local economic development under the New York State General Municipal Law), does not meet the objectives of the Town to develop the property as part of its overall economic development strategy, and is not viewed to be a feasible alternative. Nevertheless, despite this alternative not being feasible, SEQRA requires that this option be evaluated in the DSGEIS. The zoning and land uses on the site would remain the same. No new zoning district

would be created for future development. The existing zoning (Calverton Office (CO), Light Industrial, Planned Industrial Park (PIP), and Planned Recreational Park (PRP) would remain.

The existing runways and taxiways would remain in their current state of disrepair and disuse (with the exception of use by the off-site sky-diving facility). The other uses contained on the site (i.e., community center, Grumman Memorial Park, Veteran's Memorial Park) would remain, as they would whether or not the proposed action is approved and implemented.

The Town CDA would maintain possession of the site, and no property or sales tax revenue would be generated, no employment opportunities would be created, no private investment would be attracted to the site and there would be no use of this public asset. This is in contravention of the purpose of the transfer from the U.S. Navy to the Town CDA, which indicated that the use of the property should be for economic development purposes.

With respect to ecological resources, the EPCAL property contains grassland that provides breeding and/or foraging habitat for a diverse range of grassland-dependent bird species. As previously indicated, these include the NYS-Endangered short-eared owl, NYS-Threatened northern harrier and common nighthawk and the NYS-Special Concern species grasshopper sparrow, horned lark, vesper sparrow and whip-poor-will. It is important to note that the disturbance that has maintained the EPCAL Property grasslands and prevented succession to later ecological stages has been historic mowing. In the absence of this disturbance (leaving the site in its present condition under the no-action alternative), colonization by local shrub and woodland tree species would result in succession to later ecological stages (i.e., shrubland and forest) over time and would render this habitat unsuitable for grassland specialist birds, including the NYS-listed species listed above. Specialist species from other faunal groups (i.e., mammals and reptiles), as well as native grassland vegetative species would also experience declines or would disappear from the site entirely due to habitat loss. Eventually, it is anticipated that the unmaintained runway areas would succeed to a forest community similar to the surrounding oak- and pitch-pine dominated woodlands located to the north, east and west. Thus, under the no-action alternative, the resultant decline in habitat and species diversity would diminish the overall ecological value of the site as compared to existing conditions and to the proposed action.

Implementation of this alternative would not affect the U.S. Navy's on-going remediation of portions of the site that have yet to be transferred to the Town CDA.

Given that implementation of the no-action alterative would not achieve the economic development objectives set forth when the property was transferred from the U.S. Navy to the Town CDA, this alternative is not feasible for the Town to pursue.

7.2 Mixed-Use and Polo Alternative

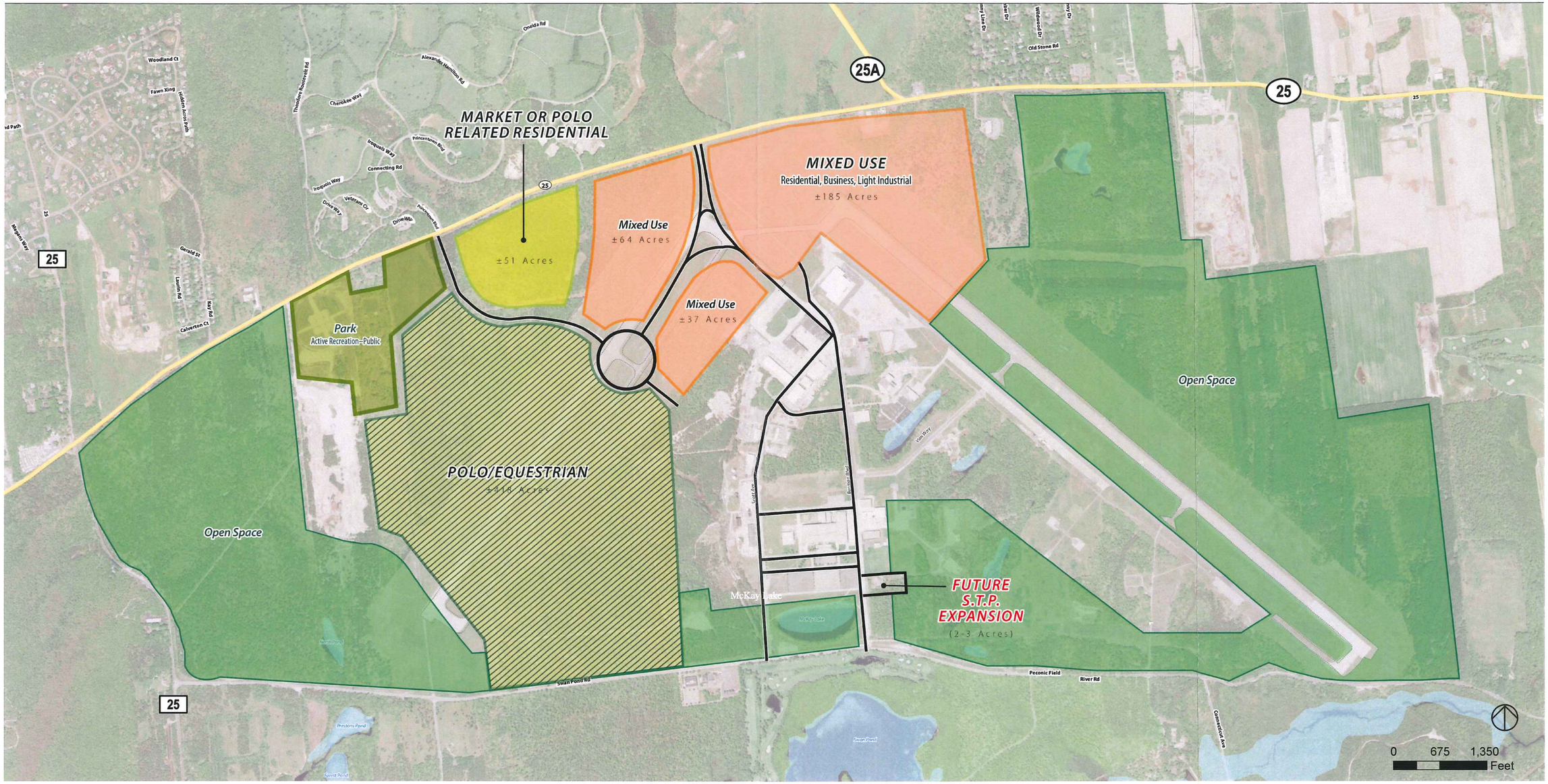
The DSGEIS includes a mixed-use and polo alternative, based upon a prior offer to the Town to purchase a portion of the property for development of a Polo and Mixed Use Complex scenario. A scenario containing polo and mixed use components was analyzed in the RKG *Market Assessment* (see Appendix I) and a related conceptual plan (see Figure 43).

As shown on Figure 43, this alternative would commit most of the central portion of the EPCAL Property for the development of a major polo and mixed complex. The conceptual plan shows approximately 416 acres encompassing the polo fields and equestrian complex (including a 10,000±-seat stadium), a 51±-acre area for market or polo-related residential, two mixed-use areas of approximately 64 acres and 37 acres and a separate mixed-use area (residential, business and light industrial) comprising 185 acres. The remainder of the property would consist of the Town Park (Veteran's Memorial Park), a two-to-three-acre future sewage treatment plant expansion area, roadways, drainage facilities, and over 1,400 acres of open space in the western, eastern, northeastern and most of the southern portions of the site. These open space areas generally correspond to those that the Town, with extensive input from NYSDEC, proposed to maintain in their present condition.

This alternative is envisioned as a "world center for polo" and intended to expand outreach, market penetration and appeal of polo in the United States. The suggestion of the location of such facility on Long Island, in general, and Riverhead, in particular, was based on its proximity to the Hamptons, as well as the equestrian heritage in the Long Island Region.

The prior offer regarding the polo use explained that expectation is that the homes within the polo community would not necessarily be for year-round occupancy, but would be weekend (or event-related) homes used infrequently for polo-related activities and entertaining (would be second or third homes for the people purchasing them).

Date: 07.00.14



LEGEND

- Open Space
- Park Active
- Polo/Equestrian
- Mixed Use
- Market or Polo Related Residential

Source:VHB

PROPOSED SUBDIVISION OF EPCAL PROPERTY
DRAFT SUPPLEMENTAL GENERIC ENVIRONMENTAL IMPACT STATEMENT
Calverton, New York

Mixed-Use and Polo Alternative

Figure
43

In its analysis, RKG indicated that the equestrian industry in New York reportedly supports more than 12,700 direct jobs, and an additional 22,500 indirect and induced jobs. The racing industry is the largest equestrian economic sector, supporting more than half of all direct jobs, as well as more than half of the direct impact on gross domestic product (GDP). However, racing actually has the fewest number of horses of any of the sectors analyzed, accounting for approximately 11.5 percent of the horse population. Showing and recreation (including polo) account for almost 75 percent of the horse population.

Furthermore, the total economic impact associated with showing and recreation is estimated to be in excess of $800 million annually, split approximately equally between the two categories. Direct economic impacts are reported to be in excess of $480 million. These sectors provide a reported 5,200 direct jobs, and more than 15,000 total jobs throughout the State. Moreover, horses generate economic activity for their care, maintenance and feeding. The Deloitte study[95] indicates that an average show horse costs more than $3,700 per year in 2005, while the average recreational horse costs approximately $2,600.

RKG indicated that an alternative that incorporates polo/equestrian is consistent with the region's agricultural tourism base and it could offer some synergistic possibilities with regional farms and vineyards. It could help to expand tourism from the Hamptons and other areas of Long Island, based upon the opportunity to attend a polo match in Riverhead. A compatible, or similar but alternate, use to polo that is considered viable for the EPCAL site would be an entirely equestrian center (not centered on polo).

However, according to RKG, both polo and equestrian uses would generate a different type of economic benefit for the Town than the more conventional industrial or office park alternatives. These uses would generate fewer on-site jobs and would, most likely, create lesser value in the way of taxable real estate (buildings and other improvements) than industrial/commercial uses. RKG notes that if the Town were to choose this alternative, it should secure payment-in-lieu-of-taxes agreement, to ensure that the polo fields/equestrian uses are not considered as agricultural or recreational properties from a taxing perspective, which would make them significant less economically viable for the Town.

With respect to other impacts, the mixed use/polo alternative would be expected to generate fewer impacts (e.g., traffic, sewage generation, water use) than the proposed action, as polo is a seasonal sport. There would be peak usage periods for the polo facilities (as well as the polo-related residences and some of the associated business uses), especially in the Spring and Summer, when the impacts noted above would be more concentrated. Also, a 10,000±- seat stadium would be expected as part of the

[95] "The Economic Impact of the New York Horse Industry," prepared in 2005 by Deloitte for the American Horse Council Foundation.

polo facility. During polo season, there may be events that draw thousands (or tens of thousands) of people to the area in a concentrated time period. During these periods, traffic on the road network around the site would increase significantly, water use and sewage generation would increase and there may be an increased demand for community services, such as police protection.

The other mixed uses shown on the site (including residential business and light industrial) are expected to function year-round. Thus, the impacts associated with these facilities would also occur year-round. However, since the acreage associated with the mixed uses is less than that of the developable lots in the proposed action, overall impacts are expected to be less than those of the proposed action.

On an overall basis, the impacts associated with the development of the EPCAL property as a polo and mixed-use facility are anticipated to be less than those associated with the proposed action. The exception to this is that job creation, property and sales tax generation and overall economic benefits are expected to be significantly less than those associated with the proposed action.

7.3 Alternative Subdivision Design

An alternative subdivision design was prepared by representatives of the environmental community (known in this case The Coalition for Open Space at EPCAL) (see Figure 44). It should be noted that this plan shows the Calverton Camelot (Burman subdivision) as well as the Stony Brook Incubator and Island Water Park as being within the fenced boundary of EPCAL. While these properties were at one time part of the "area within the fence," they are no longer part of the subject EPCAL Property.

Over the course of several years, the Town met numerous times with environmental groups to listen to and address their concerns regarding the preservation of open space. The Town took these concerns and the areas of requested preservation to the NYSDEC. The open space areas, as shown on this alternative plan, do not entirely conform to those shown on the proposed Subdivision Map (see Figure 7). However, the environmental groups' comments regarding open space were seriously considered in the creation of the Re-Use and Revitalization Plan and the Subdivision Map.

The proposed open space on the Coalition for Open Space at EPCAL plan, within the EPCAL Property, totals 1,656 acres, whereas the open space shown on the proposed Subdivision Map (see Figure 7) totals approximately 1,516 acres. The open space that is shown on this alternative plan is situated in some areas that are proposed to be developed as part of the proposed action, especially along Grumman Boulevard (east of the westernmost runway) and along a portion of Route 25 where the runways converge. The woodland located at the eastern portion of the site (east of the eastern runway) is shown as development area in this alternative, whereas in the proposed action, a relatively small portion of it (86± acres) is proposed for future development.

Based upon the layout, the location of the developable lots within this alternative would not be as viable as those of the proposed action. For example, the development of the area in the central portion of the site, adjacent to Calverton Camelot, would not be accessible from a public roadway. It would only be accessible from within Calverton Camelot, and the Town does not have an easement over the land that would permit such connection. This development area also would not be accessible from Grumman Boulevard, unless a road was established through the open space preservation area.

Date: 07.00.14

LEGEND

Project Areas

- Enterprise Park at Calverton (EPCAL) Fenced Boundary
- Berman Development Project
- EPCAL Property

Proposed Land Uses

- Proposed Open Space
- Existing Open Space
- Development Areas

EPCAL Acreages & Percentages

Total EPCAL Site Acres:	2,920
Core Pine Barrens Acres:	300 (10%)
Compatible Growth Acres (CGA):	2,620 (90%)
Existing Open Space in CGA:	92 (4%)
Proposed Open Space in CGA:	1,364 (52%)
Available for Development in CGA:	1,160 (44%)

0 0.25 0.5 Miles

N W E S

Source: (c) Prepared by the Nature Conservancy on Long Island for the Coalition for Open Space at EPCAL, 2009
(Sources: Suffolk County Planning Dept., SCRPTSA, NYS OFT, NYSEC, TNC, Town of Riverhead).

VHB

PROPOSED SUBDIVISION OF EPCAL PROPERTY
DRAFT SUPPLEMENTAL GENERIC ENVIRONMENTAL IMPACT STATEMENT
Calverton, New York

The Coalition for Open Space at EPCAL
Alternative Subdivision Plan

Figure
44

In addition, the development area shown at the eastern extent of the property (east of the eastern runway– see Figure 44) would not be accessible from any public roadway. In order to access this area, a roadway would have to be established either through forested area (that is proposed to be preserved under the proposed action) along Grumman Boulevard or from a roadway that would have to be established along the extreme eastern edge of the parcel in the northeastern portion of the property (noted on the plan as Town of Riverhead +/- 145 acres), which contains a tiger salamander pond.

As shown in this alternative (see Figure 44), the entirety of the existing runways would be become open space. This is different from the proposed action, which allows for development on the northern portion of the runways, adjacent to Route 25, and also conflicts with another alternative (see Grassland Creation Alternative, below), which has been investigated by the Town, and found to be viable.

From an environmental standpoint, this alternative preserves all of the grassland on the site, as well as tiger salamander ponds and other wetland features. It preserves some of the forested land, but shows development on other forested areas, including development on the more valuable forested land along Route 25, northwest of the western runway. With respect to the WSRRS corridor (both existing and proposed), this alternative preserves more land within the corridor than the proposed action.

In considering this alternative (assuming the access issues identified above could be overcome), the overall zoning and development concept that is proposed is similar to that of the proposed action. There would be large contiguous areas of vegetation/open space that would be preserved, and large areas of land that would be developable. The differences between the proposed action and this alternative are not substantial. However, since this alternative includes 140 additional acres of open space than the proposed action, it would likely result in somewhat less development. Less development would result in somewhat fewer environmental impacts such as less traffic, less water use, less sewage generation, lower demand for community services, etc.

7.4 Reverse Alternative Subdivision Design

This alternative contemplates reversing the areas to be developed and the areas to be preserved on the EPCAL Property. It should be understood that the Town of Riverhead engaged with the NYSDEC in extensive discussions regarding which areas of the site were most in need of preservation. The Reuse & Revitalization Plan, which led directly to the proposed Subdivision Map, was a result of these extensive discussions with the NYSDEC. Reversing the areas to be developed with the area to be preserved would not conform to the discussions with/representations made to the NYSDEC, and would not maintain the most ecologically sensitive areas of the site (Pine Barrens and Grasslands).

In this alternative, as in the proposed action, no development would take place within the Core of the CPB or in the 1,000-foot buffer area around the tiger salamander ponds. Reversing the area of development with the area of preservation would significantly reduce the area of grassland habitat on the site to be preserved. The reduction of grassland could impact several threatened and endangered species, including the northern harrier and the short-eared owl.

Reversing the areas to be preserved and developed would ultimately preserve more forested area, including a large, contiguous block of pitch pine-oak forest in the northwestern portion of the site, just west of the western runway. While this forested area is more valuable than other forested areas on the site, overall, the preservation of grassland habitat as opposed to pitch pine-oak forest is viewed to be more valuable, since grassland habitat is much less common on Long Island than pitch pine-oak forest. Moreover, as part of the US Navy's overall disposition of property in this area, the US Navy preserved over 3,000 acres of pine barrens and other habitats in the immediate area of the EPCAL Property.

Based upon the reversal, the runways would be developed and more of the land located within the WSRRS corridor (both existing and proposed) would be preserved. While the area within the WSRRS corridor within the area west of Burman Boulevard would be preserved, more area to the east of Burman Boulevard would potentially be disturbed, if permitted by the NYSDEC.

Overall, from an ecological standpoint, this alternative would have more impact on the grassland habitat and less impact on the pitch pine-oak forest. From a development perspective, much of the development would occur on the runways areas and in the eastern, interior portion of the site, far from Route 25. The property along Route 25 is viewed by the Town to be some of the most valuable for economic development purposes, as it has direct access to a major public roadway.

It is expected that the level of development under this alternative would be similar to that of the proposed action. Therefore, the impacts of this alternative with respect to, for example, traffic and sewage generation would also be similar.

7.5 Grassland Creation Alternative

Based upon additional investigation and analysis conducted by the Town of Riverhead, an alternative grassland creation concept (to that shown in the in the Habitat Protection Plan in Appendix Q) has been developed.

A total of 646.2 acres of native grassland currently exists on the EPCAL Property. In this alternative grassland creation concept, development of Lots 27 and 33 (as contemplated in the proposed action), comprising 22.5 acres and 12.9 acres respectively, which contain grasslands, would be eliminated. In addition, Lots 34 (12.7 acres) and 35 (19 acres), which also contain grassland, would be reduced in size in order to increase the open space area to offset the creation of grassland on the existing runways (which is contemplated under the proposed action). Overall, under this alternative, approximately 46.4 acres of native grassland would be preserved in this area (and this acreage removed from potential development), and the 59.5 acres of grassland that would have been created on the runways under the proposed action would not occur. Based upon this alternative, there would be a total of 583.3 acres of grassland on the EPCAL Property, 13.1 acres fewer than the 596.4 acres of grassland in the proposed action. However, all of the 583.3 acres of grassland in this alternative would be native, while 536.9 acres in the proposed action would be native grassland (with the remaining 59.5 acres proposed to be created).

In this alternative, the runways would be preserved for future use and/or development (which could occur on previously-developed, already impervious land instead of on native grassland).

If the runways are proposed to remain undisturbed (or used for their intended purpose), the level of development under this alternative would be somewhat (but not significantly) less than under the proposed action, as 46.4 acres of development shown in the proposed action (Lots 27 and 33 and part of Lots 34 and 35) would be eliminated in favor of allowing native grassland to remain. Consequently, the environmental impacts would be somewhat less than those of the proposed action. However, if the runways are converted to development areas, the amount of the development area would increase by net 13.1 acres, and, theoretically, the level of development could increase, but would not exceed the level of development of the proposed action.

8.0

Irretrievable and Irreversible Commitment of Resources

Implementation of the proposed action would result in a permanent commitment of both natural and human resources. Those resources that would be consumed, converted, or made unavailable for further uses due to construction, operation, or use of the proposed project are described below.

Natural/Man-made Resources

Approximately 664 acres of natural vegetation would be removed from the property to accommodate potential future development. However, over 1,500 acres of vegetation would be either preserved or created.

Certain additional natural and man-made resources related to the construction aspects of the development would be committed. These resources include, but are not limited to, concrete, steel, asphalt, lumber, paint, water, and topsoil. Mechanical equipment resources would be committed to assist personnel in the construction at the property. The operation of construction equipment will require electricity, water resources, and fossil fuels. Completed development would require electricity, natural gas, and water.

Human Resources

Human resources, in terms of person hours, would be irreversibly committed upon the commencement of construction activities for implementation of the proposed action. The construction phases of the proposed development would require a commitment of labor. The hours needed for construction would be limited and short-term in nature, as construction is anticipated to continue for between 10 and 20 years. This need for construction workers, however, can be viewed as a beneficial impact to the construction industry, as over 9,600 jobs are expected to be created during

construction. Upon completion of construction, it is anticipated that approximately 25,600 permanent full-time jobs would be created on-site. Other labor commitments, such as the services of police and fire department personnel, would increase as a result of development of the subject property. However, these would be offset by increased tax revenues.

The commitment of natural and human resources associated with the implementation of the proposed action would be offset and balanced by its proposed conservation and development that avoids sensitive natural resources and preserves/creates substantial areas of open space (over 1,500 acres). In addition, the commitment of such resources would also be offset and balanced by the substantial local and regional economic benefits, including net positive annual fiscal revenues (e.g., property tax, sales tax) and permanent jobs.

9.0 Growth-Inducting Impacts

The SEQRA process requires the analysis of any growth inducing impacts associated with a proposed action. Since the primary purpose of the U.S. Navy's transfer of the EPCAL Property to the Town CDA was to foster economic development on and around the property, the future development associated with implementation of the proposed action would induce growth in the area.

The PD District itself is proposed by the Town of Riverhead to encourage the efficient use of land at the EPCAL Property and foster the development high quality business/industrial park that promotes economic development, enhances the tax base and generates permanent jobs. The proposed PD District in its essence would facilitate growth.

The proposed PD District would encourage and permit development of the EPCAL Property and create positive growth within the subject property by attracting businesses, employees, visitors and, if demand arises, residents. As described in Section 3.2.2, development in accordance with the PD District, based upon ultimate build-out of the Theoretical Mixed-Use Development Program is estimated to generate approximately 25,600 permanent jobs. In addition, the permanent jobs that would be generated could create spin-off development in the general area, and the future businesses that locate on the site could also spur associated or supportive businesses, which would be an economic benefit on a local and regional scale.

As is demonstrated in Section 3.4.2 of this DSGEIS, the mix of uses set forth in the Theoretical Mixed-Use Development Program (at full build-out) represents a worst-case scenario and depicts the maximum development potential of the site. This maximum development potential may never be achieved, but it is analyzed pursuant to the requirements of SEQRA. It must be understood, however, that no one can predict, over a multi-year development period, what specific uses would be developed and at what levels. For example, if a significant portion of the site is developed for warehouse uses, minimal traffic would result, minimal water would

be used, minimal sewage would be generated, etc. Moreover, if a significant area was used as a solar field, there would be virtually no water use, sewage disposal or traffic generation from that area. Therefore, the growth inducing impacts associated with the Theoretical Mixed-Use Development Program (at full build-out) may be substantially less than as described herein.

Although the PD District has been designed to primarily promote industrial and office uses, it does contain provisions for supportive residential and retail uses, generally for employees who may wish to live and/or shop proximate to their workplace. In its supportive nature, while addressing the potential demand for residential and retail uses generated by the proposed non-residential uses, development in accordance with the PD District, based upon the Theoretical Mixed-Use Development Program, would generate only a minimal number of residents (650 at full build-out) and school-aged children (66 at full build-out). The supportive residential component of the development is not expected to induce significant growth with respect to community service providers, and any such demand would be offset by the tax revenues generated. It is expected that on-site residents may create a demand for additional retail/service facilities outside of the EPCAL Property, especially within downtown Riverhead.

As discussed in Section 3.2.2, the full-build out of the subject property could be anticipated to generate upwards of 25,600 employees. Such employees may already reside within a reasonable commutation distance from the EPCAL site. Those who do not may first choose to live at or close to the subject property, within the Town of Riverhead. Therefore, it is anticipated that the proposed action would result in secondary population generation off-site due to the proposed development of non-residential uses on the property. This secondary population growth has the potential to induce demand for additional community services, as well as retail/business services. Again, the additional tax revenues generated from the economic activities at EPCAL would help offset the cost of these additional services.

The PD District contains provision for supportive retail. The purpose of such uses is to allow employees (and any on-site residents) within the EPCAL Property to utilize on-site retail/service facilities. All employment generated by such retail/service uses is accounted for in the overall estimation of jobs noted earlier. As discussed above, the generation of upwards of 25,600 employees may result in population growth within the Town. In addition, such employees would likely provide a substantial increase in demand for retail and other commercial services within the Town (including downtown Riverhead), even those employees who may not live within the Town, but who may want to patronize the restaurants, shops, etc. within the downtown and surrounding area. Therefore, it is anticipated that the proposed action would result in secondary demand for retail and other commercial/business services off-site due to the proposed development of non-residential uses on the property. This would stimulate the local economy and benefit downtown Riverhead, as commercial vacancies would be reduced, existing businesses would be

the recipients of additional demand, and new businesses may be established. Another concern of any development project is the potential to create secondary demand for infrastructure through the implementation of the proposed action. Although the potential does exist to induce additional demand for infrastructure (such as roads and utilities [e.g., potable water, sewage treatment, energy]), the subdivision of the subject property would include an upgrade/expansion to the area STP and road improvements to mitigate traffic impacts associated with development of the EPCAL Property, which would benefit not only any development at the EPCAL Property, but the community at large.

10.0

Use and Conservation of Energy

Currently, PSEG Long Island (formerly LIPA) and National Grid provide electricity and natural gas service, respectively, to the limited uses on the EPCAL Property, as well as the adjacent properties such as Calverton Camelot and the Stony Brook University Business Incubator at Calverton, and would continue to do so under the proposed redevelopment. See Section 3.7 for additional information regarding the electricity and natural gas infrastructure. As the potential development in accordance with the proposed PD District would increase the demand for both electricity and natural gas, consultations were undertaken with PSEG Long Island and National Grid for review of the both plans. Correspondence was sent to both agencies notifying them of the project and requesting information regarding service availability (see correspondence in Appendix N of this DSGEIS). In correspondence dated March 26, 2014, PSEG Long Island responded that it will provide service to the proposed project in accordance with their filed tariff and schedules in effect at the time the service is required (see Appendix N). According to the letter "service to be provided via customer installed underground cable to pole line on South side of 25A. Detailed load information must be provided to finalize design." To date, no written response has been received from National Grid.

As it is not possible to quantify the demand for energy at this time, for all site-specific applications under the proposed PD District, both PSEG Long Island and National Grid (or equivalent) would be consulted to confirm service availability and to identify potential site improvements and/or alternative energy use/ energy reduction techniques.

The proposed PD District permits all uses that promote economic development, and specifically cites energy-related uses, such as renewable energy facilities (e.g., solar) as principal permitted uses. The PD District also permits the development of supportive residential and retail uses on the site. The ability to have a mix of uses on the EPCAL Property would assist in minimizing vehicle miles traveled (and fossil fuels used) since employees (and residents) can shop for necessities within the EPCAL Property and would also allow employees to live proximate to their jobs.

In addition, internal travel distances will also be minimized, as the developable lots have generally been clustered (mostly to the north, although there is one grouping of lots along Grumman Boulevard and one group located in the eastern portion of the property). While these clusters were developed in order to preserve specific environmental resources on the property, they also function to limit the number and location roadways on the site, which would also minimize vehicle miles traveled internally, and thus fossil fuels consumed.

Furthermore, the proposed subdivision includes the construction and/or maintenance of a Walkway/Bikeway Trail that would permit pedestrian and bicycle transportation throughout the site. The PD District also indicates that pedestrian sidewalks should be provided along the frontage along New York State Route 25 (Middle Country Road) so as to provide connectivity to the continuous perimeter Walkway/Bike Trail within the EPCAL Property and areas outside of the EPCAL Property. Further, the PD District notes that on-site concrete or brick sidewalks should be provided to create a continuous pedestrian network throughout the area. The inclusion of the trail system and sidewalks on and around the property would also potentially assist in reducing automobile usage and vehicle miles traveled.

With respect to greenhouse gases, future development will be designed to be energy efficient and will meet or exceed the New York State Energy Conservation Construction Code, which requires the use of energy efficient products in all new and renovated construction. In addition to the stationary source mitigation measures that are anticipated to be introduced as part of the project, the mobile source mitigation measures discussed above in the microscale analysis and the Transportation section of this DSGEIS (Section 3.4.3) including operational and physical roadway improvements, will contribute to minimizing greenhouse emissions.

Based upon the foregoing, it is expected that the proposed action would not result in a significant adverse impact due to increased energy demands, and ultimately may be an energy producer should energy-related facilities locate on the EPCAL Property, as permitted by the proposed zoning.

11.0
References

23 CFR Part 772, Procedures for Abatement of Highway Traffic Noise and Construction Noise

1990 United States Clean Air Act

1998 Historic and Archaeological Covenants, New York State Historic Preservation Officer (1998)

2008 Coalition for Open Space EPCAL Herpetofauna and Avifauna Inventory Summary

2009 Nature Conservancy EPCAL Grassland Birds Summary

A Comprehensive Reuse Strategy for the Naval Weapons Industrial Reserve Plan at Calverton, Environmental Issues Summary, February 1996

A Comprehensive Reuse Strategy for the NWIRP at Calverton, HR&A Inc., March 1996

Absorption Analysis for NWIRP/EPCAL, RKG (April 25, 2012)

Agreement Between The Community Development Agency and Riverhead, New York and the New York State Historic Preservation Office Regarding Historic and Archaeological Resources at the Former Naval Weapons Industrial Reserve Plant, Calverton New York, Riverhead Community Development Agency and New York State Historic Preservation Officer, 1998

AKRF *Comprehensive Reuse Strategy for the Naval Weapons Industrial Reserve Plant at Calverton, Phase II Environmental Considerations*, dated December 11, 1995

AKRF *Comprehensive Reuse Strategy for the Naval Weapons Industrial Reserve Plant at Calverton, Environmental Issues Summary Phase III – Recommended Reuse Strategy*, dated February 1996

Aslop, F.J. Birds of North America: Eastern Region. DK Publishing, Inc., 2001.

Assessing Energy Use and Greenhouse Gas Emissions in Environmental Impact Statements. New York State Department of Environmental Conservation. Office of Air, Energy and Climate. July 15, 2009

"Battle begins over resorts, indoor ski mountain" *The Associated Press.* (May 30, 2008).

Bird Study, Amy S. Greene Environmental Consultants, Inc., 2008

Chapter 81 of the Code of the Town of Riverhead

Chapter 108 of the Code of the Town of Riverhead

Chapter 110 of the Code of the Town of Riverhead

Central Pine Barrens Comprehensive Land Use Plan (June 28, 1995)

Central Pine Barrens Joint Policy and Planning Commission. 1995. *Central Pine Barrens Comprehensive Land Use Plan Volume 2: Existing Conditions.* Available online: http://pb.state.ny.us/cpb_plan_vol2/vol2.pdf

Clark, R.J. A Field Study of the Short-Eared Owl, Asio Flammeus (Pontoppidan) in North America. Wildlife Monographs. 1975. Volume 47.

Correspondence, dated October 16, 2008 from the NYSDEC to the Town of Riverhead providing comments on the previously-considered REPCAL development

Draft Environmental Impact Statement (February 1997) and Final Environmental Impact Statement (December 1997) for Disposal and Reuse of Naval Weapons Industrial Reserve Plant

Draft Scope for Draft Supplemental Environmental Impact Statement – Rechler Center for Business and Technology (September 2008)

Draft Scope, New York State Department of Environmental Conservation, 2008

Ecological Communities of New York State, New York Natural Heritage Program

Environmental Data Resources (EDR) Data Map Area Study Report for the Calverton Property, Calverton, NY, dated June 9, 2011

Federal Emergency Management Agency. Flood Insurance Rate Map, Suffolk County, New York. Map Nos. FM36103C0437H, FM36103C0439H, FM36103C0443H, and FM36103C0444H. 2009.

Final Supplemental Environmental Impact Statement for Calverton Enterprise Park Reuse Zoning Change (September 2005)

Full Development of Calverton Camelot – 2009, Traffic Impact Study, Cameron Engineering & Associates, LLP

Gargiullo, M.B. 2010. *A Guide to Native Plants of the New York City Region.* Rutgers University Press.

Gibbs, James P., et.al. 2007. *The Amphibians and Reptiles of New York State.* Oxford University Press.

Groundwater Atlas of the United States – Segment 12, USGS, 1995

H2M Group – *Riverhead Water District EXTENSION No. 75*, Calverton Enterprise Park Record Map, last revised May 5, 2008.

HCM 2010 – Highway Capacity Manual – 2010, Transportation Research Board of the National Academies

Herkert, J.R., S.A. Simpson, R.L. Westemeier, T.L. Esker, J.W. Walk. *Response of Northern Harriers and Short-Eared Owls to Grassland Management in Illinois.* Journal of Wildlife Management. 1999. Volume 63(2), pgs 517-523.

Highway Noise Fundamentals. Federal Highway Administration, September 1980.

Highway Traffic Noise: Analysis and Abatement Guidance, June 2010 (Revised January 2011), U.S. Department of Transportation Federal Highway Administration

Infrastructure Evaluation, Parsons, Brinkerhoff, Quade & Douglas, Inc., October 17, 1995

Institute of Transportation Engineers. *Trip Generation Manual – 9th Edition* 2012,

Long Island Regional Planning Board (LIRPB). 1992. *The Long Island Comprehensive Special Groundwater Protection Area Plan. LIRPB.* Hauppauge, New York.

Long Island Regional Planning Board (LIRPB). 1982. *The Long Island Segment of the Nationwide Urban Runoff Program. LIRPB.* Hauppauge, New York.

Long Island Regional Planning Board. 1978. *Long Island Comprehensive Waste Treatment Management Plan.* Vols. I & II. Hauppauge, New York.

Long Island Regional Planning Board. 1984. *Nonpoint Source Management Handbook.* Hauppauge, New York.

"Long Island town cancels $2.2 billion resort with indoor skilling hill." *The Associated Press.* (November 12, 2010).

Manorville Fire Department Webpage (http://www.firehouse.com/group/10580549/manorville-fire-dept)

Massachusetts Division of Fisheries and Wildlife Natural Heritage Endangered Species Program Barrens Buckmoth Fact Sheet. Available online: http://www.mass.gov/dfwele/dfw/nhesp/species_info/nhfacts/hemileuca_maia.pdf

National Wetlands Inventory Mapper (http://www.fws.gov/wetlands/Data/mapper.html), Accessed October 31, 2011

Newcomb, L. 1977. *Newcomb's Wildflower Guide.* Little, Brown and Company.

New York State Ambient Air Quality Reports (2007, 2008, and 2009).

New York State Coastal Management Program and Final Environmental Impact Statement (New York State Department of State, 1982 – 2006).

New York State Department of Education. *2013 – 2014 New York State Property Tax Report Card.*

New York State Department of Environmental Conservation. Environmental Navigator Webpage (http://www.dec.ny.gov/imsmaps/facilities/viewer.htm)

New York State Department of Environmental Conservation. *Final Groundwater Management Plan.* 1986.

New York State Department of Environmental Conservation. Long Island Aquifers Webpage (http://www.dec.ny.gov/lands/36183.html).

New York State Department of Environmental Conservation. *New York Standards and Specifications for Erosion and Sediment Controls.* August 2005.

New York State Department of Environmental Conservation. *New York State Stormwater Management Design Manual.* August 2010.

New York State Department of Environmental Conservation. *Reducing the Impacts of Stormwater Runoff from New Development.*

New York State Department of Environmental Conservation Webpage (http://www.dec.ny.gov/)

New York State Department of Environmental Conservation Wild, Scenic and Recreational Rivers Systems maps

New York State Department of Environmental Conservation. Wild, Scenic and Recreational Rivers Permit Program Webpage (http://www.dec.ny.gov/permits/6033.html)

NYSDEC Wild Scenic and Recreational Rivers System Permit, dated 8-31-01, for "Subdivision of 2,566.90-acre Parcel into 4 Lots"

New York State Department of Environmental Conservation Registry of Inactive Hazardous Waste Disposal Sites

New York State Department of Environmental Conservation. *Responsiveness Summary for Public Comments Received on the New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activity Permit No. GP-0-08-001 Issued Pursuant to Article 17, Titles 7, 8, and Article 70 of the Environmental Conservation Law.* www.dec.ny.gov.

New York Department of Environmental Conservation. Short-eared Owl Fact Sheet. 2011.

New York State Department of Health – Suffolk County Hospitals (http://hospitals.nyhealth.gov/browse_search.php?form=COUNTY&rt=suffolk)

New York State Department of State Significant Coastal Fish and Wildlife Habitats

New York State Department of Transportation *Environmental Procedure Manual,* Chapter 3.1 August 1998. (NYSDOT Noise Impact Criteria)

New York State Education Department Property Tax Report Card website: http://www.p12.nysed.gov/mgtserv/propertytax/

New York State Greenhouse Gas Emissions Inventory and Forecasts for the 2009 State Energy Plan. New York State Energy Research and Development Authority. August 06, 2009

New York State Historic Preservation Office. http://www.oprhp.state.ny.us/nr/main.asp.

Opportunities and Constraints Analysis, HR&A Inc., October 2005
Parsons Brinckerhoff Quade & Douglas, Inc. *Infrastructure Evaluation.* October 17, 1995.

Peconic Bay Medical Center website:
http://www.peconicbaymedicalcenter.org/z-about/

Property Survey, Louis McLean, dated October 21, 2011

Real Estate Market Assessment, Calverton Enterprise Park (EPCAL), RKG Associates, December 8, 2011

Reducing the Impacts of Stormwater Runoff From New Development, New York State Department of Environmental Conservation

Reed, P. B. Jr. *National List of Plant Species that Occur in Wetlands: Northeast (Region 1).* United States Fish and Wildlife Service. 1988.

R Reich, L.M. "Microtus pennsylvanicus." American Society of Mammalogists. 1981. Volume 159, pgs 1-8.

Reynolds, P., M.L. Gorman. "The timing of hunting in short-eared owls (Asio flammeus) in relation to the activity patterns of Orkney voles (Microtus arvalis orcadensis)". Journal of Zoology. 1999. Volume 247, pgs 371-379.

Riverhead Central School District website:
http://www.riverhead.net/HTML/ourschools.html

Riverhead Resorts, LLC – various documents, including brochure from
http://ledointl.com/rh/Index.html

Salvato, P.E., DEE, Joseph, A., et.al. *Environmental Engineering.* Fifth Edition. John Wiley & Sons, Inc. Hoboken, New Jersey. 2003.

Soil Survey of Suffolk County, New York, United States Department of Agriculture, 1975

Suffolk County iMap v. 2.0 – General Land Information:
http://gis.co.suffolk.ny.us/LandViewer/index.html

Suffolk County Sanitary Code. Suffolk County Department of Health Services. November 2011.

Sullivan, T.P., D.S. Sullivan. "Forecasting vole population outbreaks in forest plantations: The rise and fall of a major mammalian pest." Forest Ecology and Management. 2010. Volume 260, pgs 983-993.

Supplemental Final Environmental Impact Statement, Cameron Engineering & Associates, LLP, March 2002

Supplemental Final Environmental Impact Statement, Dvirka and Bartilucci Consulting Engineers, September 2005

Synchro Studio 8 – 2011, Trafficware, Ltd

Tetra Tech NUS, Inc., "Documentation of Environmental Indicator Determination, RCRA Corrective Action," NWIRP Calverton, NY, EPA ID# NYD003995198 (undated)

Tetra Tech NUS, Inc., *Corrective Measures Study (CMS)/Feasibility Study (FS), Southern Groundwater Plume, NWIRP, Calverton*, NY, March 2011

Town of Riverhead Comprehensive Master Plan, November 2003

Town of Riverhead, *EPCAL Urban Renewal Plan*, Town of Riverhead Community Development Agency (September 1998)

Town of Riverhead Provided Geographic Information Systems Data

Town of Riverhead Resolution No. 849, executed October 6, 1998

Town of Riverhead Resolution No. 830, executed September 7, 1999

Town of Riverhead Sanitation Department website: http://www.riverheadli.com/sanitation.html

Town of Riverhead Town Code (http://www.ecode360.com/RI0508)

U.S. Department of the Interior, National Wetlands Inventory. 1980 – 1994. Ma No. 901.

U.S. Department of Transportation, New York State Freshwater Wetland Maps. 1975. Map No. 17 of 39.

U.S. Environmental Protection Agency – *Clean Air Act*

U.S. Environmental Protection Agency – *National Air Quality and Emissions Trends Report*, 1999, March 2001.

United States Environmental Protection Agency, National Ambient Air Quality Standards

United States Environmental Protection Agency Criteria Pollutants

United States Environmental Protection Agency Envirofacts Data Warehouse, Air Facility System data

U.S. Environmental Protection Agency – Region 2 Waste, NY, *RCRA Cleanup Fact Sheet, NWIRP Calverton*, dated January 2006

United States Geological Survey. 1967. Wading River Quadrangle, New York, Suffolk County, 7.5 Minute Series (Topographic), USGS Department of the Interior.

U.S. Environmental Protection Agency – Topic Searches: Air webpage (http://www.epa.gov/enviro/facts/topicsearch.html#air)

Water-Table and Potentiometric-Surface Altitudes in the Upper Glacial, Magothy and Lloyd Aquifers beneath Long Island, New York, March-April 2006, USGS, 2009

Water-Table and Potentiometric-Surface Altitudes in the Upper Glacial, Magothy and Lloyd Aquifers beneath Long Island, New York, April-May 2010. United States Geological Survey (2013).

Weller, M.W., I.C. Adams, Jr., B.J. Rose. Winter Roosts of Marsh Hawks and Short-Eared Owls in Central Missouri. The Wilson Bulletin. 1955. Volume 67, No. 3, pgs. 189-193.

Wildlife Survey, Dru Associates, 2008-09

http://www.syracuse.com/have-you-heard/index.ssf/2010/11/long_island_town_cancels_22_bi.html

http://www.msnbc.msn.com/id/24892175/ns/us_news-environment/t/battle-begins-over-resorts-indoor-ski-mountain/#.Tl1J6KhJfQU