

**EXPANDED ENVIRONMENTAL
ASSESSMENT FORM (EAF) PART I**

**DEFOREST WILLIAMS ESTATES
TOWN OF HUNTINGTON**

**S.C.T.M NUMBERS:
0400-016-2-13.4 & 13.5
0400-016-08-8**

Hamlet of Cold Spring Harbor, Town of Huntington
Suffolk County, New York

NP&V Project No. 95018

**May 2010
Revised March 2011**



DEFOREST WILLIAMS ESTATES
Town of Huntington, Suffolk County, New York

EXPANDED EAF PART I
(Environmental Assessment Form)

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**Expanded Part I
Environmental Assessment Form (EAF)**

DeForest Williams Estates

Town of Huntington, Suffolk County, New York

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1.0 DESCRIPTION OF THE PROPOSED PROJECT

1.1 Introduction

This Expanded Environmental Assessment Form (EAF) Report is intended to provide supplemental environmental and planning information to the Town of Huntington Planning Board regarding the pending subdivision application for the DeForest Williams Estates property. The property is 42.02 acres of partially developed land located on Shore Road in the Town of Huntington, Suffolk County, New York. The proposed project involves a fifteen (15) lot clustered subdivision to allow for future the construction of new single-family homes. The property is currently developed with a single family dwelling and barn accessed from Shore Road on the southwestern portion of the property, an area of landscaping and the remains of a formal hedge/garden and series of trails in the central portion of the property and a single family dwelling in the northwestern portion of the property. The existing single family dwelling in the northwestern portion of the property, as well as an outparcel located immediately south of this dwelling are currently accessed via an existing 25 foot wide easement from Walnut Tree Lane. An aerial photograph depicting the subject property is provided in **Figure 1-1**. (Note: All figures are provided at the end of the main text)

No changes are proposed to the existing structures (proposed to remain on Lots 13, 14 and 15) or their current accesses via Shore Road and the driveway easement. Lots 1-12 are proposed to be accessed via a newly constructed cul-de-sac extension from Spring Hill Road. A more detailed description of the proposed project is provided below in Section 1.4, and the associated Preliminary Map, prepared by Nelson & Pope, Engineers and Surveyors are provided in Plate 1 at the end of this document.

The Town of Huntington Department of Planning and Environment (hereafter “Department”) conducted an initial review of the project and provided comments in a letter dated October 13, 2009. This Expanded Part I EAF report is provided to provide supplemental information to address issues/comments identified by the Department in this letter, greater detail regarding the existing environmental conditions and features of the property, an expanded description of the proposed project and the mitigation measures that will be incorporated into future development of subject property. The topic areas included in this Expanded Part I EAF report are:

- Steep Slopes
- Soils, Drainage, Erosion and Stormwater Control
- Water Resources
- Ecologically Sensitive Features
- Zoning, Land Use, and Community Character
- Visual and Aesthetic Resources
- Cultural Resources

The Part I EAF for the proposed project is included herein as **Appendix A**.

1.2 Project Background, Need, Objectives and Benefits

The proposed action involves the subdivision of the subject property, which was subject to a previous subdivision known as “Williams Plat,” filed in 1988. Prior to the “Williams Plat” subdivision, the subject property was identified as Lot 7 of “Wawapek Farms Section 6” map which was filed in 1978. The current proposal seeks a subdivision of the subject property to create 15 lots in accordance with the property’s Residential R-80 zoning designation (see **Preliminary Map**, included as **Plate 1**). A yield map was prepared and submitted to the Town for review. The Planning Board (at a meeting on October 28, 2009) made a Tentative Determination approving the Yield Map (last revised May 12, 2009 and included herein as **Plate 2**), which established the 15 lot yield of the property, with a parkland dedication of 4.42 acres. A copy of the letter approving the yield map is provided in **Appendix D**.

The need for the project is related to the benefits to be derived if the project is implemented. The Applicant, the Estate of Priscilla DeForest Williams and Doug Williams, intends to subdivide the property in accordance with the established zoning to achieve the highest and best use of the property. The subdivision has been “clustered” in accordance with Section 278 of New York State Town Law in order to create conservation areas intended to permanently protect existing areas of wooded steep slopes in the western and southern portions of the property.

The objective of the project sponsor is motivated in part by the desire to produce a profitable economic return on the land, which would result from a high-quality residential development. The Applicant is seeking to provide a use that will conform to the zoning of the property as a clustered subdivision, as well as conform to the surrounding land use pattern and, at the same time, provide an economic return to the Town through increased tax revenues. It should be noted that the Applicant has not yet determined the means for future development of the individual lots subsequent to subdivision approval. One of three options are currently being considered: 1) the land may remain in the estate for development at a future date; 2) the property will be sold to a developer who will then develop the lots and associated infrastructure improvements; 3) the Applicant may construct the roadway and associated infrastructure improvements and then sell the individual lots for custom development.

The benefits of the proposed project are based on social, economic and land use considerations. The Applicant believes that the project will provide an opportunity for high quality residential housing in a desirable area of the Town of Huntington, while permanently preserving and protecting areas of steep slopes and open space through the creation of conservation easements and park land with no cost to the Town. The proposed project will also result in generation of a substantial number of temporary jobs during the construction phase of the project. In addition, the project will generate a substantial amount of real property tax revenues to applicable taxing jurisdictions, though it is expected to result in corresponding increases in demand for services, particularly in regard to school enrollments associated with the proposed residential development.. The project will also provide a permanent land use for the site which the applicant believes has a high probability of success through full utilization.

1.3 Location and Property Characteristics

The proposed project site is located on the northeast side of Shore Road and is bordered on the northeast by Spring Hill Road and Mowbray Lane in the Hamlet of Cold Spring Harbor, Town of Huntington, Suffolk County, New York. The site is identified as Suffolk County Tax Map District 0400 Section 016, Block 02, Lots 13.4 and 13.5 and District 0400 Section 016 Block 08 Lot 8. A location map is provided as **Figure 1-2**.

The single family residence and barn located in the southwestern portion of the site are located within the Town's Cold Spring Harbor Historic District and the Shore Road Historic District, which is identified as number 90NR01844 on the National Register of Historic Places. No changes are proposed to the structures within these historic districts (proposed to remain on Lots 14 and 15) and their current access via a private driveway from Shore Road is proposed to remain. The existing 25 foot wide easement extending from the western terminus of Walnut Tree Lane to the northern portion of the property will also remain. This easement provides access to the existing single family dwelling in the northwestern portion of the site (proposed Lot 13), as well as an outparcel located adjacent to the south of Lot 13. A dirt path and series of foot trails are located in the central portion of the property, which begin from the western terminus of Spring Hill Road and provide access to the formal hedge/garden located in the northern portion of the property (existing trails/path are shown on the **Preliminary Map, Plate 1**). The western and southern portions of the property are primarily forested land which contains steep slopes trending in a westerly direction. The northern-central portion of the property is cleared and currently maintained as turf.

The property is zoned R-80 which requires a two acre minimum lot size. The surrounding land uses can be characterized as primarily single-family, low-density, residential areas, with a small commercial area located to the southeast. The property is listed on the Town of Huntington Open Space Index (Parcel OSI# NW-6) as a Priority 3 property. Priority 3 properties are "exclusively those with slopes in excess of 15% on all or part of the land."

Cold Spring Harbor, which is designated as a significant Coastal Fish and Wildlife Habitat, is located immediately to the west of the site, on the west side of Shore Road. The majority of the site is located in FEMA Flood Zone X, with small portions of the site abutting Shore Road located in FEMA Flood Zone AE (**Figure 1-3**). It should be noted that the portions of the subject site which are situated in Flood Zone AE are located along Shore Road and are not proposed for development, and therefore the presence of this flood zone on the subject site will not affect the proposed development. The western and southern portions of the property are also located within the Landward Coastal Boundary identified on the New York State Coastal Area Map (see **Figure 1-4**). A Local Waterfront Revitalization Program has not yet been adopted for this area; therefore the presence of this coastal boundary on the subject site will not affect the proposed development.

The site is serviced by existing electric power lines, public water service provided by the Suffolk County Water Authority, and utilizes on site sanitary systems. The site is situated with the Cold

Spring Harbor Central School District, the Cold Spring Harbor Fire District and the Town's No. 9 Tri-State garbage collection district.

1.4 Project Design and Layout

The proposed project involves a fifteen lot clustered subdivision of 42.02 acres in the hamlet of Cold Spring Harbor, Town of Huntington. Of the proposed 15 lots, three lots will be occupied by the two existing single family dwellings and barn (all to remain) on proposed Lots 13, 14 and 15. Lots 13 through 15 will range in size from 2.05 acres to 4.21 acres. Lots 1-12 are proposed to be clustered in the northeastern portion of the property (in areas of existing lawn and flatter topography). These lots will range in size from 1.06 to 1.89 acres in size. Parkland dedication areas totaling 8.64 acres and 4.20 acres are proposed in the eastern, western and southern portion of the property (areas of wooded, steep slopes south, east and west of proposed Lots 5-13). No clearing, grading or land disturbance will be permitted within the parkland areas and a four foot high post and rail fence will be installed along the perimeter of the parkland area to delineate the boundary. Additionally, a 50 foot conservation buffer is proposed at the rear of each lot/adjacent to the proposed dedicated parkland areas to preserve the quality of the parkland area and the areas of wooded steep slopes on the property. The 50 foot conservation area on each of the lots will be recorded on the individual lot deeds and shown on all building permit surveys prepared for individual lot development. The conservation area will also be delineated by monuments on the site and will remain as open space in perpetuity as natural and scenic buffer where no clearing, grading or filling will be permitted. The proposed limits of clearing, grading and ground disturbance associated with the future construction associated with development of the proposed subdivision (totaling 14.57 acres) are shown on the **Preliminary Map (Plate 1)**.

Lots 1-12 are proposed to be accessed via a newly constructed cul-de-sac extension from Spring Hill Road. A 50 foot road right of way is provided and the roadway will be offered for dedication to the Town of Huntington. Drainage for the proposed roadway and contributing area (totaling 14.2 acres, see Preliminary Map) will be provided via an on site recharge basin proposed in the eastern portion of the property. A recharge basin is proposed in a 0.99 acre area in the easternmost portion of the site and is proposed to be dedicated to the Town. A 5 foot wide future roadway widening dedication area (0.13 acres) is also proposed along the site's frontage on Shore Road. The **Preliminary Map (Plate 1)** illustrates the proposed subdivision lot layout and proposed areas of dedication. The remains of a dilapidated shed located east of the existing trail within proposed Lot 5 and an existing water irrigation cistern system (not functioning) north and east of the trail on proposed Lot 6 will be removed as part of proposed project. The existing coverages and physical characteristics of the subject site and the corresponding site quantities and characteristics of the project are provided in **Table 1-1**.

As previously stated, the means for future development of the individual lots has not yet been determined. It is assumed that the lots will be developed in the future with homes of similar construction to those in the surrounding area. It should be noted that individual building permits will need to be secured for each home following final subdivision approval. For analysis purposes, it is assumed that improvements on the individual lots will include a 5,000 SF housing

footprint, with an additional 5,000 SF of impervious area for accessory driveways, pools, and patios, etc. It should be noted that when the individual lots are developed, the residential design will be subject to §198-64 of Town Code if any building footprint proposed is located in an area with slopes greater than 10%. No changes are proposed to the existing structures to remain on Lots 13-15.

**Table 1-1
SITE AND PROJECT CHARACTERISTICS
Existing & Proposed Conditions**

Parameter	Existing Conditions	Proposed Conditions
Coverages:	---	---
Natural/ Park	±37.76 acres	±25.44 acres ⁽¹⁾
Buildings/Impervious/Paved	±1.05 acres	±4.62 acres ⁽²⁾
Landscaped	±3.21 acres	±10.97 acres
Recharge Basin	0 acres	±0.99acres
Total	±42.02 acres	±42.02 acres
Water Resources:	---	---
Water Use/Wastewater Generation	±600 gpd ⁽³⁾	±4,500 gpd ⁽³⁾
Additional Irrigation Demand	N/A ⁽⁴⁾	±13,540 gpd ⁽⁵⁾
Total Water Use	±600gpd	±18,040 gpd
Recharge Volume	±21.56 MGY ⁽⁶⁾	±25.95 MGY ⁽⁷⁾
Nitrogen Concentration	±0.64 mg/l ⁽⁶⁾	±2.31 mg/l ⁽⁷⁾

Note: gpd-gallons per day; MGY-million gallons per year; mg/l-milligrams per liter; lbs/day-pounds per day.

- (1) Includes 0.13 acres of natural area along Shore Road to be dedicated to the Town for future road improvements. No physical disturbance to this area would occur as a result of the proposed project.
- (2) Assuming a 5,000 SF building footprint and 5,000 SF of impervious area for accessory structures (pool, patio, driveway) in addition to the proposed roadway.
- (3) Per SCDHS design criteria for wastewater system sizing (300 gpd/single family dwelling). Existing barn is not occupied under current conditions. Assumes 300 gpd allowable flow for the barn/Lot 14 under future conditions.
- (4) Although landscaped areas are present on the subject property, irrigation systems are not presently in use.
- (5) Assumed to be fertilized at 2.30 lbs/1,000 SF/year and irrigated at 5.5 inches/year (4 month irregation period)
- (6) See **Appendix B-2**.
- (7) See **Appendix B-3**.

An internal roadway, Williams Court, is proposed at the terminus of Spring Hill Court. The roadway is proposed to be 50 feet in width, and will provide access to Lots 1 through 12. Lots 13 through 15 will continue to have access from Shore Road and the easement which connects to Walnut Tree Lane. As requested by the Cold Spring Harbor Fire District, a 6 foot wide emergency access buffer will be provided along the existing driveways for Lots 13 through 15 (see **Preliminary Map** and **Appendix D**). Drainage easements are also proposed on Lots 3 and 12. The property will remain in private ownership, with lots eventually sold to individual owners. The newly constructed roads, drainage easements and recharge basin will be offered for dedication to the Town.

Grading and Drainage

The subject property exhibits significant topographic relief throughout 61% of the property. As a result, development of individual homesites will be subject to §198-64 of Town Code if any

building footprint proposed is located in an area with slopes greater than 10%. Excavations will be necessary for the construction of the recharge basin, basements, and roadways for the proposed subdivision. While excavations for individual buildings will be determined at the time of individual building permit applications, it is anticipated that roadway construction will result in $\pm 4,200$ CY of material to be removed from site, and the excavation of the proposed recharge basin will result in an additional $\pm 9,000$ CY of material to be removed from site.

Stormwater will be recharged on site through the use of a recharge basin located in the eastern portion of the site. Stormwater will be collected in proposed roadside catch basins and conveyed via gravity flow through conveyance pipes to the proposed recharge basin. The basin will require excavation and will maintain side slopes of 1:3 with design specifications in conformance with Town requirements for capacity, access, slopes, buffers, fencing, and general design. The recharge basin will have a capacity to accommodate stormwater runoff from in excess of a nine inch rainfall (92,442 CF). The proposed capacity of the recharge basin is $\pm 243,000$ CF, which exceeds the Town's requirements. Individual homesites will be graded to divert runoff to low points and drywells will be provided for roof runoff (designed for a three-inch rainfall) in accordance with Town requirements. The building permits for individual lots will be subject to individual plot plan review and approval prior to issuance of a building permit.

The project will be subject to the requirements of Chapter 170 of the Town Code and compliance with the New York State Department of Environmental Conservation (NYSDEC) General Permit for Stormwater Discharge from Construction Activities (hereafter, GP-1-10-001 or "Stormwater Permit"). The Applicant will be required to prepare a Stormwater Pollution Prevention Plan (SWPPP) that includes erosion control planning to ensure that disturbed areas are minimized to the extent possible and protection measures such as silt fence, temporary sediment basins, and check dams are provided downslope of grading, and that construction access, staging, stockpiling and construction management requirements of the Town are complied with. The Town will review all drainage and erosion control plans to ensure compliance with Town requirements and control of stormwater and potential impacts.

Sanitary and Water

Sanitary wastewater will be generated as a result of the proposed use of the site. All such effluent will be treated within individual lots in separate conventional on-site septic systems. This form of disposal is acceptable provided the projected wastewater design flow does not exceed standards established by the Suffolk County Department of Health Services (SCDHS).

Article 6 of the SCSC addresses sewage facility requirements for realty subdivisions, in order to limit the loading of nitrogen in various groundwater management zones as established by the SCDHS. The project is designed to conform with Article 6 of the Suffolk County Sanitary Code (SCSC). The site is located in Groundwater Management Zone VIII, which allows discharge of not more than 600 gallons per day (gpd) per acre unless sewage treatment is provided. The subject site is 42.02 acres in size, thus, the Population Density Equivalent (total allowable flow) on the subject site is 25,212 gpd. The proposed project will not exceed the allowable flow of the property as 15 homes with a projected sanitary flow of 4,500 gpd are proposed. Therefore, conventional on site sanitary systems may be used for this development in accordance with

Article 6 of the SCSC and design flow factors established by SCDHS. The subdivision will require the review and approval of the Suffolk County Department of Health Services (SCDHS) for subdivision conformity and water supply connection.

Potable water will be provided from the existing Suffolk County Water Authority (SCWA) distribution system. The project will include the extension of an 8-inch water main from Spring Hill Road to the east of the site for Lots 1-12 (see **Figure 1-5**) and new services to the existing buildings on proposed Lots 14 & 15 would be provided from the existing SCWA main on Shore Road. It should be noted that an existing system of water mains extends through the subject property (see **Preliminary Map**) which currently serves the existing structures on the subject property and two off-site single family residences located to the south of the subject property (40 Shore Road and 36 Spring Street). It is intended that the existing water distribution lines would be abandoned. Therefore, the Applicant's engineer (Nelson & Pope) has contacted the SCWA and requested that SCWA investigate the possibility of connecting 40 Shore Road and 36 Spring Street to an existing SCWA main and verify that these two lots are currently still connected via the existing distribution system located on the subject property (see correspondence, **Appendix D**). All necessary connections, meters, easements and installations will be provided to ensure adequate water supply. It is noted that there are no private wells located within 150 feet of the subject property.

1.5 Construction Schedule and Operations

As discussed above, the means for future development of the individual lots and required site improvements have not yet been determined. One of three options are currently being considered: 1) the land may remain in the estate for development at a future date; 2) the property will be sold to a developer who will then develop the lots and associated infrastructure improvements; 3) the Applicant may construct the roadway and associated infrastructure improvements and then sell the individual lots for custom development. However, it is expected that the roadway, recharge basin, and associated drainage infrastructure will be constructed first, followed by individual lots development as lots are sold.

The construction process will begin with the survey of road alignment and vertical control will be completed to establish road installation and proper grades. Areas requiring erosion controls will be protected with silt fencing and other appropriate best management practices where necessary to contain stockpile areas, downslope areas, adjacent roads and drainage inlets. As construction begins, construction equipment, materials and vehicles will be staged, parked and loaded/unloaded within the site. All construction access will be from Spring Hill Road.

It is anticipated that grading, recharge excavations, and road and utility installation will take approximately 12 to 18 months, while building construction would be completed based on sales. Impacts are minimized as a result of development concentrated on the interior of the property with substantial buffers surrounding the development area, the limited duration of construction and activity primarily during normal daytime hours. Construction activities will not occur outside weekday and Saturday daytime hours (7 AM to 6 PM).

In accordance with the NYSDEC Phase II SPDES Program and Chapter 170, Article II of the Town of Huntington Code, coverage under the NYSDEC General Permit for Stormwater Discharges from Construction Activities (“General Stormwater Permit” or “GP-0-10-001”) will be obtained prior to the initiation of construction activities. Prior to filing for coverage under the General Stormwater Permit, the required SWPPP be prepared for the development of the property, including a detailed erosion and sediment control plan to manage stormwater generated on-site during construction activities, and for post-construction stormwater management. A SWPPP will be prepared to ensure compliance with water quality and quantity requirements pursuant to the NYS Stormwater Management Design Manual (“Design Manual”), Chapter 170 of the Town of Huntington Code and GP-0-10-001 requirements and will be submitted to the Towns for review and approval prior to final site plan approval and filing with the NYSDEC. In addition, an erosion control plan will be prepared incorporating the NYSDEC Guidelines for Urban Erosion and Sediment Control, and use of measures such as:

- Silt fencing, storm drain inlet protection and other similar good housekeeping procedures will be utilized.
- Construction equipment and vehicles will be parked and loaded/unloaded within the site.
- A construction entrance with “rumble strips” will be placed at the site entrance to prevent soil on truck tires from being tracked onto the public road system.
- The construction process will begin with establishment of flagged clearing limits to protect areas to remain natural/conservation areas, followed by installation of the erosion control measures.
- Once grading activities are complete, temporary seeding of inactive areas and installation of the landscaping will be performed while the structure addition is being completed.
- The drainage system and revegetation plan will further provide permanent stormwater controls once construction is completed.

Development of the property is not anticipated to significantly increase erosion/sedimentation or stormwater impacts, as a result of proper site grading procedures, erosion controls, and drainage system design. The Notice of Intent (NOI) requesting coverage under the General Permit will be submitted to the Town of Huntington with the SWPPP for review prior to filling in accordance NYSDEC requirements, and prior to the initiation of construction activities at the subject property.

1.6 Permits and Approvals Required

A number of approvals will ultimately be required for the proposed project. A list of anticipated approvals is provided in **Table 1-2**.

Table 1-2
APPROVALS REQUIRED

Applicable Board/Agency	Approval Type
Town Planning Board	Subdivision Approval
Town Building Department	Building Permits
Town Department of Engineering	Chapter 170 Stormwater Pollution Prevention Plan Approval
SCDHS	Wastewater Disposal; Water Supply
NYSDEC	SPDES General Permit for Stormwater Discharges from Construction Activity
SCWA	Water Supply and Connection

2.0 NATURAL ENVIRONMENTAL RESOURCES

2.1 Topography

2.1.1 Existing Conditions

The subject property lies along the eastern shoreline of Cold Spring Harbor on the east side of Shore Road and consists of a steep sloped vegetated bluff that rises to a plateau with a relatively flat contour. The elevated plateau rises to an elevation ranging from 170 to 180 feet above mean sea level (msl) and descends to the south, southwest and west to a minimum elevation of 10 feet at msl which is located along Shore Road. The overall topography is characterized by a mix of shallow to steep and very steep slopes with grades ranging from 0% to 25% and higher. A Steep Slope Analysis for the subject site, provided in **Figure 2-1**, illustrates the topography of the site includes 17.37 acres (41.33% of the property) of Very Steep Slope Areas (slopes greater than 25%); 5.92 acres (14.09% of the property) of Steep Slope Areas (slopes of 16-25%); and 18.73 acres (44.58% of the property) of flatter terrain (slopes of 0-15%). The average grade on the property is 33.08%. The majority of the very steep slopes are located in the central, south, southwestern and western portions of the property. The more gently sloped topography which comprises the plateau of the site is located within the central and northeastern regions of the property. According to the Town of Huntington Zoning Code (§ 198-60.1-A), no building permit shall be issued and no site plan or subdivision shall be approved by any department, agency or board for the development of land in any zoning district if any portion of the property is a Hillside Area until the provisions of Article X (The steep Slopes Conservation Law) have been applied. A Hillside Area is identified in § 198-61 of the Town code as a geographical area, whether natural or manmade and whether on one or more lots, have a slope of 10% or greater. Approximately 25.81 acres of the site (61%) of the site is considered a Hillside Area. The areas of slopes on the subject site are identified in **Table 2-1**.

**TABLE 2-1
 STEEP SLOPE ANALYSIS**

Slope (%)	SF	Acres
0-10	706,266.51	16.21
11-15	109,728.58	2.52
16-20	107,127.05	2.46
21-25	150,635.07	3.46
>25	756,735.96	17.37
TOTAL	1,830,493.17	42.02

2.1.2 Anticipated Impacts

The subject property exhibits significant relief throughout 61% of the property. As a result, development of individual homesites will be subject to §198-64 of Town Code if any building footprint proposed is located in an area with slopes greater than 10%. As depicted on the **Preliminary Map (Sheet 1 of 2)** the proposed lots for new construction (Lots 1-12) have been clustered to the northeastern portion of the property, which exhibits the flattest topography. This area occupies the northeastern 16.29 acres of the site which predominantly consist of slopes that are 0-10%. However, some clearing and grading will be required in portions of several lots where slopes range from 16 to greater than 25%. Conservation areas have been established to protect the steep slope areas of the property (the rear yards of Lots 5-12 and in the western portion of the property). Additionally, limits of clearing, grading and ground disturbance for construction activities on Lots 1-12 and the associated roadway and drainage improvements has been depicted on the Preliminary Map. The clearing limits further restrict disturbance within the hillside areas. Individual plot grading plans will be required for review and approval by the Town prior to development of each lot. Following grading and construction within each individual lot, as well as the proposed roadway and recharge basin, grade transitions will not result in slopes that exceed 1:3.

Excavations will be necessary for the construction of the recharge basin that is to be located in the eastern end of the property as well as the site access roadway. Excavation of the recharge basin and the installation of the roadway are anticipated to result in the generation of approximately 9,000 cubic yards and 4,200 cubic yards of cut, respectively, that will be exported from the property.

It should be noted that a total of 16.42 acres of the subject property that exhibits steep slopes will be preserved as 12.84 acres of dedicated parkland area and 3.58 acres of conservation buffer area on the individual lots. These areas will not be subject to grading or construction activities and will be protected by deed restrictions.

All construction trucks and equipment, as well as material storage and staging areas will use the proposed construction entrance to the site, which will be located on the proposed Spring Hill Road extension in the same location as the eventual site entrance to the project. Truck traffic and its impacts would be temporary, and would occur on roads that have sufficient capacity to accommodate this traffic with minimal potential for impact.

The potential for erosion during the construction period will be mitigated by conforming to the requirements of Chapter 170 of the Town Code and the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities program. Under this program, a site-specific SWPPP must be prepared and submitted to the Town for review and approval. Once the Town approves the SWPPP, the applicant must file a Notice of Intent with the NYSDEC to obtain coverage under the SPDES General Permit, designated GP 0-10-001.

A variety of temporary erosion and sediment controls will be provided to ensure soil stabilization and protection of exposed areas during the period of construction to the maximum extent

practicable. An Erosion Control Plan will be prepared to ensure that disturbed areas are minimized to the extent possible and protection measures such as silt fence, temporary sediment basins, and check dams are provided downslope of grading. Other appropriate best management practices will be employed where necessary to contain stockpile areas, downslope areas, adjacent roads and drainage inlets and prevent/reduce wind-blown dust. As construction begins, construction equipment, materials and vehicles will be staged, parked and loaded/unloaded within the site. It is noted that construction activities will be limited to the construction limits indicated on the Preliminary Map, which involves mainly the areas of flattest topography on the property. In accordance with Chapter 170 of the Town Code and the NYSDEC General Stormwater Permit, inspections of the installed erosion controls are required to be conducted every seven (7) calendar days and within twenty-four (24) hours of any storm event producing 0.5 inches of precipitation or more throughout the construction period. Inspections shall be supervised by a qualified professional and a record of all inspection reports will be maintained on site as required by the General Stormwater Permit.

Development of the property is not anticipated to significantly increase erosion/sedimentation as a result of proper site grading procedures, erosion controls, and use of construction best management practices. The Notice of Intent (NOI) requesting coverage under the General Permit will be submitted to the Town of Huntington with the SWPPP for review prior to filling in accordance NYSDEC requirements, and prior to the initiation of construction activities at the subject property.

2.1.3 *Proposed Mitigation*

- 16.42 acres of the subject property which exhibit steep slopes will be preserved as park, additional parkland area and parkland buffer area and will not be subject to grading or construction activities.
- Following grading and construction within each individual lot as well as the proposed roadway grade transitions will provide slopes not to exceed 1:3.
- Development of individual homesites will be subject to §198-64 of Town Code if any building footprint proposed is located in an area with slopes greater than 10%. An overall clearing limit on the subject property has been established which reveals that clearing and grading will be necessary throughout the proposed area of development. This area occupies the northeastern 16.29 acres of the site which predominantly consist of slopes that are 0-10%.
- All construction trucks and equipment, as well as material storage and staging areas will use the proposed construction entrance to the site, which will be located on proposed Spring Hill Road extension in the same location as the eventual site entrance to the project. Truck traffic and its impacts would be temporary, and would occur on roads that have sufficient capacity to accommodate this traffic with minimal potential for impact.
- The potential for erosion during the construction period will be mitigated by conforming to the requirements of the Town Code, and with the NYSDEC review of the project's runoff control methods under the SPDES program. Under this program, a site-specific SWPPP must be prepared and submitted to the Town for review and approval. Once the Town approves the SWPPP, the applicant must file a Notice of Intent with the NYSDEC to obtain coverage under the SPDES General Permit, designated GP 0-10-001.

- An Erosion Control Plan will be prepared to ensure that disturbed areas are minimized to the extent possible and protection measures such as silt fence, temporary sediment basins, and check dams are provided downslope of grading. Other appropriate best management practices will be employed where necessary to contain stockpile areas, downslope areas, adjacent roads and drainage inlets and prevent/reduce wind-blown dust.
- In accordance with Chapter 170 of the Town Code and the NYSDEC General Stormwater Permit, inspections of the installed erosion controls are required to be conducted every seven (7) calendar days and within twenty-four (24) hours of any storm event producing 0.5 inches of precipitation or more throughout the construction period. Inspections shall be supervised by a qualified professional and a record of all inspection reports will be maintained on site as required by the General Stormwater Permit.

2.2 Soils

2.2.1 Existing Conditions

The USDA Soil Survey of Suffolk County, New York (**Warner et al., 1975**) provides a complete categorization, mapping and description of soil types found in Suffolk County. Soils are classified by similar characteristics and depositional history into soil series, which are in turn grouped into associations. These classifications are based on profiles of the surface soils down to the parent material, which is little changed by leaching or the action of plant roots. An understanding of soil character is important in environmental planning as it aids in determining vegetation type, slope, engineering properties and land use limitations. These descriptions are general, however, and soils can vary greatly within an area, particularly soils of glacial origin. The slope identifiers named in this subsection are generalized based upon regional soil types; the more detailed subsection on topography should be consulted for analysis of slope constraints.

The soil survey identifies the subject site as lying within an area characterized by Carver-Plymouth-Riverhead Association soils (**Figure 2-2**). The soil survey identifies the portion of this association occupied by the subject site as being comprised of Carver and Plymouth sands, 15-35% slopes (CpE), Montauk Fine Sandy Loam (MfB), Montauk Fine Sandy Loam (MfC), Montauk Silt Loam, 3-8% slopes (MkB), Riverhead and Haven soils, graded, 0-8% slopes (RhB)

Specific descriptions of the soils found on-site are as follows (**Warner et al., 1975**):

Carver and Plymouth sands, 15-35% slopes (CpE) - The Carver series consists of deep, excessively drained coarse-textured soils. This soil type is found almost exclusively on moraines except for a few steep areas on side slopes along some of the more deeply cut drainage channels on outwash plains. The hazard for erosion is moderate to severe.

Montauk Fine Sandy Loam (MfB) - This soil series consists of deep, well drained to moderately well drained, moderately coarse textured to medium-textured soils that formed in fine sandy loam or in a mantle of silt loam and loam. This soil is found on the moraines, and in many places slopes are complex and undulating. The hazardous of erosion is moderate to slight.

Montauk Fine Sandy Loam (MfC) - This soil series consists of deep, well drained to moderately well drained, moderately coarse textured to medium-textured soils that formed in fine sandy loam or in a mantle of silt loam and loam. This soil is found on the moraines, it has an uneven surface and many kettle holes are characteristic of this landform. The hazard of erosion is moderately severe.

Montauk Silt Loam, 3-8% slopes (MkB) - This soil series consists of deep, well drained to moderately well drained, moderately coarse textured to medium-textured soils that formed in fine sandy loam or in a mantle of silt loam and loam. This gently sloping to undulating soil is found on moraines in western part of the county south of Huntington, eastern parts of Shelter Island and at Montauk Point. The hazard of erosion is moderate to slight.

Riverhead and Haven soils, graded, 0-8% slopes (RhB) – These soil are generally on outwash plains and the areas are large and uniform. The hazard of erosion is slight and is only limited by moderate droughtiness. This soil is well suited to all crops and is extensively used for that Purpose. Most areas in the western portion of the County are used for housing developments and industrial parks.

The Soil Survey was also consulted for information of the potential limitations on development that the soils may present. The constraints for all five of the on-site soils are summarized in **Table 2-2**. As noted in the table, four of the soils, which are found on the site pose “severe” limitations for development due to slopes, sandy surface layer and moderately slow permeability. Specifically, these limitations affect sewage disposal fields, streets, lawns and landscaping as well as paths and trails. In addition, these soils also affect irrigation, embankment foundations and foundations for low buildings due to low available moisture capacity, moderately steep to steep slopes, low compressibility and possible large settlement under vibratory load.

Soils are also classified into hydrologic soil groups (HSG's) to indicate the minimum rate of infiltration obtained for bare soil after prolonged wetting and are one element used in determining runoff potential. The HSG's, which are classified into Groups A, B, C and D are characterized as follows: Group A soils are sandy; Group B soils are silty loam; Group C soils are sandy clay loam; and Group D soils are clay. The HSG soil groups indicate the rate of infiltration of water which is controlled by surface conditions as well as the transmission rate of water, which is the rate at which the water moves within the soil. This rate is controlled by the soil profile. Infiltration and transmission rates become lower as you moved from Group A (greater than 0.30 in/hr) to Group D (0-0.5 in/hr) type soils. The three soils located within the portion of the property to be developed, as indicated in **Section 2.2.1** and shown by **Figure 2-2** are Carver and Plymouth sands, Montauk Silt Loam and Montauk Fine Sandy Loam soils. The hydrologic classifications for these soil types are as follows: Carver and Plymouth sands (Group A), Montauk Silt Loam (Group B) and Montauk Fine Sandy Loam (Group B). Group A soils have low runoff potential and high infiltration rates even when thoroughly wetted. These soils consist chiefly of deep, well to excessively drained sands or gravels and have a high rate of water transmission (greater than 0.30 in/hr). Group B soils have moderate infiltration rates when thoroughly wetted and consist chiefly of moderately deep to moderately well drained soils with moderately fine to moderately coarse textures. Group B soils have a moderate rate of water transmission (0.15-0.30 in/hr). The subsurface soils on the site, according to their hydrologic soil groups classifications, have generally moderate to high rates of water transmission.

TABLE 2-2
Soil Limitations

SOIL FEATURE AFFECTING:	Carver and Plymouth sands, 15-35% slopes (CpE)	Montauk Fine Sandy Loam, 0-3% (MfB)	Montauk Fine Sandy Loam, 3-8% (MfC)	Montauk silt loam, 3-8% slopes (MkB)	Riverhead and Haven soils, graded, 0-8% slopes (RhB)
Irrigation	Very Low available moisture capacity; rapid water intake; moderately steep to steep slopes on CpE	Moderate available moisture capacity in units MfA and MfB			--
Embankment Foundation	Strength generally adequate for high embankments; slight settlement possible under vibratory load; moderately steep to steep slopes on unit CpE	Strength adequate on high embankments			--
Foundations for low buildings	Low compressibility; large settlement possible under vibratory load; moderately steep to steep slopes on unit CpE	Low compressibility; moderate slopes on MfC			--
Drainage	Excessively drained; not applicable				--
LIMITATION FOR:					
Homesites	Severe: slopes; sandy surface layer for lawns and landscaping as well as paths and trails.	Slight			
Sewage disposal fields		Severe: moderately slow permeability			Slight
Streets and parking lots		Slight	Moderate: slopes		
Lawns and landscaping		Slight			
Paths and trails		Slight			

Notes: No affect on soil feature reported.

2.2.2 Anticipated Impacts

According to **Table 2-2**, the four of the surface soils present on the subject site are expected to pose severe limitations on development in several ways, including sewage disposal, local roads and streets, lawns, and paths and trails. This is primarily due to steep slopes and sandy surface layer for CpE soils and the moderately slow permeability characteristics of MfB, MfC and MkB type soils. However, based on proper engineering and design techniques, including use of detailed engineered Erosion Control Plan which will establish limits of clearing and grading,

suitable grades and slopes and proper drainage conveyance and retention as well as appropriate sanitary system design as discussed in **Section 1.4**, it is expected appropriate mitigation of these identified severe limitations will occur to allow for the development of suitable homesites. Disturbed areas of the site will be stabilized during construction and will be graded to an appropriate slope (no more than 1:3 slopes) in order to provide suitable surface areas to accommodate development of two additional home sites. In addition, the SCDHS maintains review and approval authority in regard to sanitary and drainage system design and construction, including approval of the soil material through which recharge will percolate. Thus, the permeability of the soils should not be a constraint on development, and no significant impacts are anticipated

Plans to further reduce surface soil limitations on site development include a low proposed development density (1 unit/2.8 acres) providing limited sewage impacts, appropriate grading to stabilize soils and prevent erosion, sufficient stormwater drainage capacity conforming to Town drainage design standards, graded slopes less than 33.33%, and preservation of 16.42 acres ($\pm 33\%$ of the total site area) of the property as parkland dedication area or conservation buffer area on the individual lots. This combined with clearing limits and retention of existing natural vegetation within Lots 13, 14 and 15 that have pre-existing homes will result in a total of ± 25.44 acres of the 42.02 acres site (or 60.5%) retained as natural and undisturbed. These proper engineering and design techniques are anticipated to create limited impacts on surface soils and drainage so that suitable home sites and on-site septic systems can be safely established.

2.2.3 *Proposed Mitigation*

- In addition to limiting overall disturbance of natural areas steep slope areas, an Erosion Control Plan will be prepared for the proposed project which establishes the limits of clearing and grading and measures to minimize impacts to steep slope areas and exposure of bare soils.
- To inhibit the free flow of stormwater runoff from the site, the removal of natural vegetation at the site will be limited to the greatest extent possible allowing vegetation to remain primarily along the boundaries of the subject property.
- Disturbed areas not covered with building or pavement will be revegetated with landscape vegetation consisting of lawns, shrubbery and trees.
- Areas of the site (totaling 25.44 acres) which will not be disturbed by construction or grading activities will remain as natural vegetation. This includes the designation of a separate park and conservation areas on the south, southwestern and western portions of the site (totaling 16.42 acres or $\pm 39\%$ of the total site).
- Additional protection against erosion and sedimentation will be provided through implementation of an overall grading plan to reduce grading and provide erosion control. In addition, new individual homesites will be designed with proper grading which can be reviewed in more detail at the time of building permit review.
- Stormwater will be recharged on site through the use of a recharge basin located in the eastern portion of the site. Stormwater will be collected in proposed roadside catch basins and conveyed via gravity flow through conveyance pipes to the proposed recharge basin, which has been sized to accommodate stormwater runoff from in excess of a nine inch rainfall (92,442 CF). The proposed capacity of the recharge basin is $\pm 243,000$ CF, which exceeds the Town's requirements.

- Individual homesites will be graded to divert runoff to low points and drywells will be provided for roof runoff (designed for a three-inch rainfall) in accordance with Town requirements. The building permits for individual lots will be subject to individual plot plan review and more detailed site design analysis can be conducted in connection with individual site architecture.

2.3 Water Resources

2.3.1 Existing Conditions

A regulated freshwater wetland pond exists immediately to the south of the property. It is identified as #H-3 on the Huntington quadrangle DEC Freshwater Wetlands Map in **Figure 2-3**. Article 24 of the NYS Environmental Conservation Law (ECL) regulates development within 100 feet of freshwater wetlands, and includes requirements for buffer areas and setbacks from freshwater wetlands. The freshwater wetland is greater than 100 feet from the subject property and no disturbance within 100 of this wetland is proposed by the project. No streams were observed on the subject property during two field inspections by Nelson, Pope & Voorhis staff hydrogeologist. (However, water was observed emanating from the existing water cistern located in the central portion of the subject site). The Suffolk County Soil Survey (see **Figure 2-2**) also does not indicate the presence of intermittent streams on the subject property (an intermittent stream is noted further to the north of the subject property).

Cold Spring Harbor is located immediately west of the subject property, directly west of Shore Road. The NYSDEC also regulates activities within tidal wetland areas through Article 25. NYSDEC jurisdiction extends 300 ft from the wetlands boundary or to the 10 foot contour or to the edge of an existing roadway which predates the adoption of the regulations; whichever is more seaward (**NYSDEC 1992**). The seaward edge of Shore Road is the limit of NYSDEC Article 25 jurisdiction; therefore the subject property is not within NYSDEC jurisdiction.

The United States Geological Survey (USGS), in conjunction with other agencies maintains a network of observation wells for the purpose of determining the elevation of groundwater throughout Long Island, and the USGS maps groundwater levels on a periodic basis. Using the most recent groundwater map available (**Figure 2-4**), the elevation of groundwater beneath the site is less than 10 feet (**USGS, 2006**), although levels would be expected to vary slightly between years and on a seasonal basis. The highest surface elevation at the site is 180 feet in the central portion of the subject property, and the lowest surface elevation is 10 feet along the southwestern property boundary along Cold Spring Harbor. Thus, the maximum depth to groundwater on site is in the range of approximately 170 feet in the central portion of the site; and the minimum depth to groundwater is less than 10 feet along the property frontage of Shore Road.

The groundwater budget for an area is expressed in the hydrologic budget equation, which states that recharge equals precipitation minus evapotranspiration plus overland runoff (SCDHS, 1987-2; p. 5-29). This indicates that not all rain falling on the land is recharged to groundwater. Loss

in recharge is represented by the sum of evapotranspiration and overland runoff. The equation for this concept is expressed as follows:

$$R = P - (E + Q)$$

where: R = recharge
P = precipitation
E = evapotranspiration
Q = overland runoff

Nelson, Pope & Voorhis, LLC has exclusive use of a microcomputer model developed for the purpose of predicting both the water budget of a site and the concentration of nitrogen in recharge. The model, referred to as SONIR (Simulation of Nitrogen in Recharge), utilizes a mass-balance concept to determine nitrogen in recharge. Critical in the determination of nitrogen concentration is a detailed analysis of the various components of the hydrologic water budget, including recharge, precipitation, evapotranspiration and overland runoff. The basis for this method of nitrogen budget analysis is well established, and similar techniques have been used to simulate nitrogen in recharge as published by the New York State Water Resources Institute, Center for Environmental Research at Cornell University, Ithaca, New York (BURBS A simulation of the Nitrogen Impact of Residential Development on Groundwater; Hughes et al., 1985). The SONIR model includes four (4) sheets of computations: 1) Data Input Field; 2) Site Recharge Computations; 3) Site Nitrogen Budget; and, 4) Final Computations. There are a number of variables, values and assumptions concerning hydrologic principles, which are discussed in detail in a user manual developed for the SONIR Model and provided in **Appendix B-1**.

The model has been run for water budget and nitrogen parameters for the existing site conditions. The results are presented in **Appendix B-2**. The site currently generates a total recharge volume of 18.89 inches per year, or 21.56 million gallons per year (MGY).

A more detailed assessment of the existing site conditions in regard to the quality of its groundwater resources can be made by calculating the total nitrogen input to groundwater, diluted by the total volume of recharge water. The resulting figure indicates the expected nitrogen concentration in recharge. SONIR was utilized to determine the present recharge and nitrogen entering the site; this calculation estimates a nitrogen concentration of 0.64 mg/l.

The Long Island Regional Planning Board (LIRPB), in conjunction with other agencies, prepared a management plan for Long Island groundwater resources in 1978 in accordance with Section 208 of the 1972 Federal Water Pollution Control Act Amendments. The purpose of the 208 Study was to investigate waste disposal options and best practice for ground and surface water protection. The study delineated Hydrogeologic Zones for the formulation of management plans based on groundwater flow patterns and quality (Koppelman, 1978). The subject site is located in Groundwater Management Zone VIII which recharges shallow groundwater systems. Based on the configuration of the water table, the horizontal movement of groundwater beneath the site appears to be westward toward Cold Spring Harbor. Water from this system is ultimately discharged from Cold Spring Harbor into the Long Island Sound.

To assess the impact that this increase in recharge may have on groundwater resources underlying the site the *Nationwide Urban Runoff Program (NURP)* Study was consulted. In 1982, the Long Island Regional Planning Board (LIRPB) prepared the (NURP) Study in order to attempt to address, among other things, the following:

- the actual proportion of the total pollutant loading that can be attributed to storm water runoff, given the presence of other point and non-point sources and conditions within the receiving waters;

The purpose of the NURP Study, carried out by the LIRPB, was to determine:

- the source, type, quantity, and fate of pollutants in storm water runoff routed to recharge basins, and
- the extent to which these pollutants are, or are not attenuated as they percolate through the unsaturated zone.

In order to accomplish this, five recharge basins, located in areas with distinct land use types, were selected for intensive monitoring during and immediately following storm events. Five recharge basins, three in Nassau and two in Suffolk, were chosen for the study on the basis of type of land use from which they receive storm water runoff. The following is a list and description of each drainage area:

<u>Site Location</u>	<u>Land Use</u>
Centereach	Strip Commercial
Huntington	Shopping Mall, Parking Lot
Laurel Hollow	Low Density Residential (1 acre zoning)
Plainview	Major Highway
Syosset	Medium Density Residential (1/4 acre zoning)

Based upon information presented in the NURP Study the volume of storm water recharge anticipated to be generated by the proposed project is not anticipated to contain significant concentrations of pollutants due to the following reasons:

- The study found that storm water runoff concentrations of most of the inorganic chemical constituents for which analyses were performed were generally low and in most cases, fell within the permissible ranges.
- In general, with the exception of lead and chloride, the concentrations of inorganic chemicals measured in storm water runoff do not have the potential to adversely affect groundwater quality.
- The number of coliform and fecal streptococcal indicator bacteria in storm water range from 10^0 MPN to 10^{10} MPN per acre per inch of precipitation.
- Coliform and fecal streptococcal indicator bacteria are removed from storm water as it infiltrates through the soil.

In addition, depth to water underlying the site in the area of the proposed development activities ranges from approximately 140 feet to 170 feet below surface grade which will provide a large unsaturated zone through which recharge can percolate prior to reaching the water table and will result in the attenuation or filtration of many of the pollutants that it may possess.

2.3.2 *Anticipated Impacts*

The proposed project involves low density residential development of less than one (1) unit per two acres which will limit impact associated with sanitary discharges. Adequate depth to groundwater is present on the site in the proposed area of development (± 140 to 170 feet) to allow for sufficient filtration of pollutants from on site sanitary and drainage systems.

Due to the steep slope constraints in the southern, southwestern and western portions of the site, the proposed development area has been situated in the topographically flattest portions of the property, which are located in the central and northeastern sections of the site. Utilizing this area of the property for development and creation of conservation areas as well as the park results in the minimization of the overall site disturbance necessary for site development and would not result in any disturbance within 100 feet of the adjacent freshwater wetland. Therefore, a NYSDEC Freshwater Wetlands Permit will not be required for the proposed development. Review of sanitary system, drainage system and other site improvement locations will be conducted by both the Town and SCDHS. Additionally, an on site drainage system will be provided as part of the proposed development to ensure that stormwater runoff will not overflow into the offsite wetland. Stormwater will be collected in proposed roadside catch basins and conveyed via gravity flow through conveyance pipes to the proposed recharge basin. The basin will require excavation and will maintain side slopes of 1:3 with design specifications in conformance with Town requirements for capacity, access, slopes, buffers, fencing, and general design. The recharge basin will have a capacity to accommodate stormwater runoff from in excess of a nine inch rainfall (92,442 CF). The proposed capacity of the recharge basin is $\pm 243,000$ CF, which exceeds the Town's requirements. Individual homesites will be graded to divert runoff to low points and drywells will be provided for roof runoff (designed for a three-inch rainfall) in accordance with Town requirements.

Wastewater will be generated as a result of the proposed use of the site for residential purposes. Article 6 of the Suffolk County Sanitary Code (SCSC) addresses sewage facility requirements for realty subdivisions, development and other construction projects in order to limit the loading of nitrogen in various groundwater management zones as established by the SCDHS. As promulgated under Article 6, a Population Density Equivalent must be determined for the subject site in order to determine the type of sewage disposal system required for the proposed project. This equivalent (or total allowable flow) is then compared to the design sewage flow for the project. If the project's design sewage flow exceeds the Population Density Equivalent, a community sewerage system or on-lot sewage treatment system is required. If the project's design sewage flow is less than the site's Population Density Equivalent, a conventional

subsurface sewage disposal system may be used, provided individual systems comply with the current design standards and no community sewerage system is available or accessible.

The project site is located within Groundwater Management Zone VIII as defined by the SCDHS. Based on the requirements of Article 6, no more than 600 gallons may be discharged per acre on a daily basis within this zone. The site acreage used for determining this Population Density Equivalent must not include wetlands, surface waters, or land in flood zones. The subject site is 42.02 acres in size and does not contain surface waters or wetlands. Thus, the Population Density Equivalent (total allowable flow) on the subject site is calculated as:

$$42.02 \text{ acres} \times 600 \text{ gallons/day/acre} = 25,212 \text{ gallons per day (gpd)}$$

The project is expected to generate a range of $\pm 4,500$ gpd of sanitary wastewater based on an estimated a sanitary flow of 300 gpd/unit, assuming all lots are occupied. This is well below the total allowed by the SCDHS under its current regulations within Groundwater Management Zone VIII, and as a result, conventional on-site sanitary systems are permitted.

Utilizing the same mass balance model described in previously, the water balance and concentration of nitrogen in recharge was calculated for the proposed project. **Table 1-1** provides a tabulation of existing and proposed site conditions. These coverage quantities were used in the SONIR (Simulation of Nitrogen in Recharge) model to obtain the results described herein.

The SONIR computer model results for the proposed project (**Appendix B-3**) indicate that a total of 25.95 MG/yr of water will be recharged on the site. This represents an increase in recharge generated on the property of approximately 10%. This anticipated recharge volume represents 22.74 inches of water distributed annually over the 42.02 acre site. The concentration of nitrates (as nitrogen) in this recharge is anticipated to be increased due to the proposed project to a total of 2.31 mg/l, representing a 1.60 mg/l increase above the current conditions. This concentration is well below the NYSDEC standard of 10 mg/l for nitrogen.

The proposed development on the project site is located approximately four hundred feet to the north of the off-site pond, is separated by extensive woodland, and is not expected to have a significant impact on the pond's water quality due to a variety of factors which are described below. Nutrient sources to the off-site pond are expected to largely be from stormwater runoff from the adjacent roadway, as well as shallow groundwater from adjacent land uses.

On a typical residential site, anthropogenic nitrogen sources primarily include sanitary waste and fertilizer use which results in nitrogen in stormwater and direct recharge. The sanitary wastewater from conventional on-site systems which would be generated by the proposed project is well below the total allowed by the SCDHS under its current regulations. Additionally, an on-site drainage system will be provided to ensure that stormwater runoff will not overflow into the offsite wetland. Stormwater will be collected in proposed roadside catch basins and conveyed via gravity flow through conveyance pipes to the proposed recharge basin, which will have a capacity to accommodate stormwater runoff from in excess of a nine inch rainfall (exceeding the

Town's requirements). Individual homesites will be graded to divert runoff to low points and drywells will be provided for roof runoff (designed for a three-inch rainfall) in accordance with Town requirements.

Nitrogen

As per the SONIR model used to characterize groundwater recharge under existing and proposed conditions on the subject site, the concentration of nitrates (as nitrogen) is anticipated to be increased due to the proposed project to a total of 2.31 mg/l, representing a 1.60 mg/l increase above the current conditions. This concentration is well below the NYSDEC standard of 10 mg/l for nitrogen. The total nitrogen load which may reach the pond is expected to be some fraction of the total load due to several factors; specifically, nitrogen loss due to natural attenuation through the thick unsaturated zone and to a lesser degree within the aquifer itself. Depth to water underlying the project site in the area of the proposed development activities ranges from approximately 140 feet to 170 feet below surface grade which will provide a large unsaturated zone through which recharge can percolate prior to reaching the water table. This substantial depth to groundwater in the proposed development area will result in the attenuation or filtration of many of the pollutants that it may possess from on-site sanitary and drainage systems. The effect of attenuation has been documented through a number of research efforts on Long Island, as well as in nearby states with similar climatic and geologic conditions.

The nitrogen load from the proposed project is expected to be reduced through natural attenuation as it passes through three distinct zones of influence before discharging into the pond and Cold Spring Harbor. The SONIR model accounts for reduction of nitrogen applied as fertilizer within the root zone. Extensive research by **Hughes & Porter (1983)** and the **LIRPB (1984)** carefully documented the uptake of fertilizer-derived nitrogen by plants and the storage of nitrogen in thatch and soils within the root zone. The resultant leaching rates of fertilizers are applied within the SONIR Model. In addition, SONIR accounts for off-gassing of nitrogen through conventional sanitary treatment systems based on **Hughes & Porter (1983)**. Research performed by **Valiela et al. (1997, 2000)** and supported by **Carmichael et al. (2004)**, finds that natural attenuation also occurs in the vadose (unsaturated) zone. Review of these published sources finds support for a 61% attenuation factor in the vadose zone. Valiela and Carmichael also documented attenuation factors which occur within the aquifer of as much as 35%. More locally based and recent research conducted by the SUNY Department of Geosciences for public water supply wells in Northport, NY, found overall nitrogen attenuation within a "system" of as much as 50%, but could only attribute 15% to denitrification occurring within the aquifer (**Young, 2007**). Finally, attenuation occurs within the bottom sediments of surface water systems as documented by Valiela for coastal/estuarine waters subject to groundwater outflow. More specific research conducted by the Woods Hole Group and Teal Partners for the Massachusetts Department of Environmental Protection investigated a variety of lake, pond, stream and coastal systems with respect to attenuation of nitrogen from groundwater outflow (**Woods Hole Group & Teal Partners, 2007**). This research involved water bodies on Cape Cod, a coastal peninsula with hydrogeologic origins and characteristics not unlike Long Island. The research documented attenuation of percentages of between 39-95% in several ponds in Chatham, with additional locations recording attenuation percentages of up to 84-96%. Ponds with outlets and streams that have a greater hydrologic influence on the surrounding water table

were found to have lower attenuation rates. Based on this research, Massachusetts Department of Environmental Protection uses general attenuation factors of 50% for ponds, 30% for streams and 40% for salt marshes for systems where site-specific information is not available, finding that these factors represent conservative attenuation rates given the findings. Using the available references noted above, and applying conservative factors for documented attenuation, the following rates are reasonable with respect to influx of potential nitrogen from the project site to the off-site pond: vadose zone – 61% attenuation: 39% conserved; aquifer zone - 15% attenuation: 85% conserved; and pond bottom sediment zone – 50% attenuated: 50% conserved.

Phosphorus

Freshwater systems are generally phosphorus-limited, whereas marine systems are nitrogen-limited. As a result, the primary nutrient of concern for freshwater wetlands is phosphorus. Phosphorus (P) is not a typical groundwater pollutant and minimal phosphorus enters surface and subsurface waters because of this nutrient's ability to readily bind to soil particles. Similar to nitrogen, it is a nutrient that can lead to eutrophication of a water body, particularly in freshwater systems. However, stormwater is the predominant pathway by which phosphorus enters surface waters. Groundwater nutrient loading models aimed at determining potential impacts to groundwater from development therefore do not typically address phosphorus as a pollutant of concern.

Increased phosphorus is not expected as a result of the proposed project, since stormwater will be retained on-site. No impacts due to stormwater are expected to occur given the proposed drainage system (designed for in excess of a 100 year storm) including a recharge basin designed to capture and recharge stormwater to groundwater through the unsaturated sediments beneath the site, coupled with proper erosion and sediment control during construction and under post-construction.

The largest sources of phosphorus pollution to water bodies include fertilizers, pet waste and sanitary system effluent. In sanitary systems, most phosphorus is derived from organic molecules, detergents and dishwashing powders (**Carodona, 1999**). Much of the phosphorus is anaerobically digested within the septic tank and converted to soluble orthophosphate (**Canter & Knox, 1985**). Once the effluent leaves the tank and moves into the soil, it is readily removed by the major pathway of adsorption onto soil particles and formation of precipitates with aluminum (Al^{3+}), iron (Fe^{3+}) and calcium (Ca^{2+}) under oxidizing conditions.

Unlike nitrogen, which has been observed to be quite conservative beyond the root zone (**Hughes & Porter, 1983**), substantial evidence from numerous past studies indicates phosphorus typically does not pose risks to water quality via travel through groundwater (**Canter & Knox, 1985; Jones et al., 1977; Carodona, 1999**). Many studies have documented high rates of sorption and phosphorus removal within the first few meters from sanitary leaching fields (**Reneau et al., 1989; Weiskel and Howes, 1992; Roberston et al., 1991; Willhelm et al., 1994**).

Movement of phosphorus through the soil is minimal, but can increase when “sorption sites” become occupied, at which point movement continues to increase depending upon application

rate, percolation rate and pH of the soil (**Canter & Knox, 1985**). Increased movement can also occur in localized situations where restrictive soils below a leaching field lead to a situation where a high ground water table or seasonal perched water table significantly limit the separation of effluent from groundwater. Saturation may dissolve orthophosphate precipitates in acid soils, at which point orthophosphate ions may desorb, become transported, and become available for subsequent adsorption and precipitation (**Caradona, 1999**). Studies by **Carlisle et al., (1981)** and **Cogger and Carlisle (1984)** (as cited in **Caradona, 1999**) reported septic systems in continuously saturated soils to have P concentrations exceeding 1.0 mg/l in wells located 5 feet away from the leaching field, but no differences were encountered between seasonally saturated and continuously saturated systems when sampled 25 and 50 feet away from the leaching field. These studies document highest phosphorus removal in close distance from the leaching field, with resultant low phosphorus concentrations in surrounding soils, even in restrictive soils.

Phosphorus may have additional opportunity to reach surface waters via overland flow of septic system effluent from malfunctioning septic systems. Malfunctioning systems located immediately adjacent to a receiving water body are assumed to be higher risk than those located farther away because the relatively short distance and travel time provide little or no opportunity for infiltration and adsorption of phosphorus to occur (**Kellogg, et.al, 2006**). Malfunctioning systems may produce surface ponding, leakage or improper treatment of septic effluent when there is insufficient separation distance to groundwater. Malfunction is more likely when systems are situated in restrictive soils with low permeability and high or perched water tables (typically characterized within C and D hydrological soil groups). Depth to groundwater, soil leaching properties and lateral distance must all be considered when assessing the potential impact of sanitary system phosphorus on surface water.

Stormwater related impacts are reduced when proper site analysis and the selection and placement of development suited to the site is utilized (**LIRPB, 1984**). As is recommended in the Nonpoint Source Management Handbook (**LIRPB, 1984**), the proposed project locates buildings and paved areas within portions of the site that generally contain favorable environmental conditions for development (e.g. nearly level and moderately coarse textured soils that are well drained). Site clearing and the area of proposed impervious surfaces will be clustered to allow for the preservation of at least 39% of the site in natural vegetation with permanent conservation easements or parkland dedication. Additional benefit will be achieved by locating infiltration features in areas of the site where the seasonal high water table is more than five feet below the surface. The Long Island segment of the Nationwide Urban Runoff Program (NURP) study concluded that concentrations of inorganic chemicals (e.g. phosphorus) measured in stormwater runoff does not have the potential to adversely affect groundwater quality (**LIRPB, 1982**). The NURP study additionally concluded that established recharge basins with plant growth on the basin floor further enhance infiltration because the plant root system keeps the soil layer loose and permeable, and provides channels for infiltrating water. As the project has been designed to avoid the potential for direct flow of stormwater to surface waters, and any stormwater generated on site will be infiltrated to the underlying soils, there is extremely low potential for stormwater phosphorus impacts to occur from the project site.

Properly located and designed systems have a much lower chance of malfunctioning and further diminish the potential for ponding and overland flow of effluent to surface waters (**Kellogg, et.al, 2006**). Under developed conditions, properly located septic systems which meet SCDHS design requirements in providing a sufficient distance from the recharge basin and with sufficient separation to ground water will not result in phosphorus impacts to groundwater or surface waters.

It is anticipated that the volume of runoff generated on the site would be increased as a result of the greater amount of impervious surfaces related to the proposed project. However, given the proposed drainage system and the reduced concentration of pollutants as a result of volatilization and attenuation as predicted by studies conducted for the NURP Study, stormwater impacts are not expected to be significant. In addition, the project will be in compliance with the NYSDEC State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (GP-0-10-001) requirements, and has provided an on-site drainage system designed to capture and recharge stormwater resulting from a nine-inch storm event. Site grading is designed to convey stormwater to drainage inlets, and runoff from impervious roadways will be conveyed to the recharge basin.

Development of the site is not anticipated to significantly increase erosion/sedimentation or stormwater impacts as a result of proper site design and grading procedures and incorporation of appropriate mitigation measures. The site will be subject to extensive erosion control requirements, and all drainage will be contained within the site using a subsurface drywell stormwater retention system. The development will conform to NYSDEC SPDES GP-10-01 requirements for stormwater control, erosion control and pollution prevention measures. An Erosion Control Plan will be prepared prior to development and the control measures will include:

- field delineation of areas to remain undisturbed with temporary fencing,
- Use of silt fence and flow diversion practices on downslope areas to prevent stormwater from impacting the adjacent wetland,
- Inlet protection, temporary barriers installed for the purpose of reducing sediment from entering storm drains before stabilizing the contributing drainage area, will also be constructed on the site.
- Retention of all drainage on site,
- All man-made slopes not to exceed 1:3, and inspection by engineering personnel of the Town during construction.

Pursuant to NYSDEC SPDES program, a Notice of Intent must be filed with the NYSDEC prior to commencement of construction, and a site specific Stormwater Pollution Prevention Plan (SWPPP) must be maintained on site. A copy of the final Notice of Intent (NOI), Stormwater Pollution Prevention Plan and erosion & sedimentation control plan will be submitted to the Town simultaneously with the NYSDEC submission. As a result of the mitigation measures noted above, it is not anticipated that the soil and drainage limitations noted will adversely impact development of the property.

As a result, the use of a recharge basin as well as the anticipated use of roof drywells sized and designed to capture runoff and recharge to groundwater through the unsaturated sediments beneath the site, coupled with proper erosion and sediment control during construction and under post-construction, it is expected that impacts due to stormwater will not occur.

2.3.3 Proposed Mitigation

- The adjacent freshwater wetland is located more than 100 feet from the property boundary. Additionally, the creation of conservation areas and the park will ensure that all disturbance associated with the subdivision is well outside the 100 foot NYSDEC regulated area;
- No disturbance is proposed within the regulated tidal wetlands (Cold Spring Harbor) adjacent area.
- To inhibit the free flow of stormwater runoff from the site, the removal of natural vegetation at the site will be limited to the greatest extent possible and provisions of conservation areas as well as the park have been provided.
- Due to the depth of the natural water table underlying the site (generally ± 140 to 170 feet in the proposed development areas of the site) and permeability of subsurface soils underlying the site, development of the subject site is not anticipated to adversely impact groundwater resources associated with the natural water table in the region of the development area.
- The SONIR computer model results for the proposed project indicate that a total of 25.95 MG/yr of water will be recharged on the site. This represents an increase in recharge generated on the property of approximately 10%. This anticipated recharge volume represents 22.74 inches of water distributed annually over the 42.02 acre site. The concentration of nitrates (as nitrogen) in this recharge is anticipated to be increased due to the proposed project to a total of 2.31 mg/l, representing a 1.60 mg/l increase above the current conditions. This concentration is well below the NYSDEC standard of 10 mg/l for nitrogen.
- All stormwater runoff generated on developed surfaces will be collected through a series of catch basins and conveyed to the proposed recharge basin. The system will be designed to accommodate runoff generated during a 9-inch storm event.
- An Erosion Control Plan will be prepared to provide sedimentation and erosion control measures designed to prevent the migration of overland runoff to adjacent properties.
- Coverage under the DEC General Permit Stormwater Discharges from Construction Activities will be obtained as required for the proposed construction site.

2.4 Ecology

2.4.1 Existing Conditions

The subject property is currently comprised of three single family residences, a formal garden, and wooded land. Coastal oak-heath forest occupies the majority of the property, approximately 37.76 acres (89.86%) of the site. The single family residences, accessory structures and access driveways total 1.05 acres. Landscaped area accounts for 3.21 acres (7.64%) of the site. **Figure 2-5** depicts the various habitats identified on the subject property. **Table 2-3** identifies the acreage of each habitat on the subject site.

**Table 2-3
 EXISTING HABITAT QUANTITIES**

Habitat Type	Acres	Percent
Coastal Oak-Heath Forest	37.76	89.86%
Landscaped	3.21	7.64%
Buildings/Paved	1.05	2.50%
TOTAL	42.02	100.00%

The following description was taken from **Edinger (2002)** which describes the primary habitat identified on site.

Coastal oak-heath forest: a large patch to matrix low diversity hardwood forest that typically occurs on dry, well-drained, sandy soils of glacial outwash plains or moraines of the Atlantic Coastal Plain. The forest is usually codominated by two or more species of oaks: scarlet oak (*Quercus coccinea*), white oak (*Q. alba*) and black oak (*Q. velutina*). Chestnut oak (*Quercus montana*) is also a common associate. Pitch pine (*Pinus rigida*) and trees of other genera, if present, typically occur at less than 1% cover each in the canopy. American chestnut (*Castanea dentata*) may have been a common associate in these forests prior to the chestnut blight; chestnut sprouts are still found in some stands. The shrublayer is well-developed typically with a low nearly continuous cover of dwarf heaths such as blueberries (*Vaccinium pallidum*, *V. angustifolium*) and black huckleberry (*Gaylussacia baccata*). The herbaceous layer is very sparse; characteristic species are bracken fern (*Pteridium aquilinum*), wintergreen (*Gaultheria procumbens*), and Pennsylvania sedge (*Carex pensylvanica*). Herb diversity is greatest in natural and artificial openings with species such as frostweed (*Helianthemum canadense*), false-foxtail (*Aureolaria* spp.), bearberry (*Arctostaphylos uva-ursi*), goat's-rue (*Tephrosia virginiana*), bush-clovers (*Lespedeza* spp.), and pinweeds (*Lechea* spp.).

As noted, the forested habitat found on site is best characterized as coastal oak-heath forest, which comprises 37.76 acres (89.86%) of the site. Black oak and chestnut oak dominate the tree canopy while blueberry is the predominant understory species. Other associated vegetation observed within this habitat include American holly, dogwood, beech, mossycup oak, yellow birch, white pine, red cedar, butternut, mockernut hickory, white oak, inkberry, Japanese honeysuckle, winged sumac, wineberry, multiflora rose, yew, English ivy, wild onion, garlic mustard, juniper, and creeping myrtle.

The review of NYSDEC Freshwater Wetland maps identifies freshwater wetland H-3 as being located in proximity to the southern property boundary (**Figure 2-3**). This wetland is identified on the National Wetland Inventory Map as “PUBHh” which is “palustrine, unconsolidated bottom, permanently flooded, diked/impounded” (**Figure 2-6**).

The NYSDEC tidal wetlands map also identifies tidal wetlands located approximately 100 feet to the west of the western property boundary (**Figure 2-7**). The tidal wetland areas identified are associated with Cold Spring Harbor and are defined as IM – Intertidal March, SM – Coastal Shoals, Bars and Mudflats and LZ – Littoral Zone. These wetland categories are further defined as follows:

Intertidal Marsh - The vegetated tidal wetland zone lying generally between average high and low tidal elevation in saline waters. The predominant vegetation in this zone is low marsh cordgrass, *Spartina alterniflora*.

Coastal Shoals, Bars and Mudflats - The tidal wetland zone that at high tide is covered by saline or fresh tidal waters, at low tide is exposed or is covered by water to a maximum depth of approximately one foot, and is not vegetated.

Littoral Zone - The tidal wetland zone that includes all lands under tidal waters which are not included in any other category. There shall be no LZ under waters deeper than six feet at mean low water.

It should be noted that no freshwater or tidal wetlands are present on the subject property.

Wildlife

Relatively few wildlife species were observed on-site, although it is expected that the property should support a number of wildlife species common to suburban and forested habitats, particularly those that are more tolerant of human activity. Species that avoid humans, and/or those that are sensitive to developed areas and activities associated with such properties are less likely to inhabit the subject site and are not expected to be abundant in the surrounding areas.

Avian species that might be expected on the property include a variety of woodpeckers, wrens, titmice, nuthatches, kinglets, thrushes, creepers, flycatchers, swallows, warblers, corvids, thrashers, orioles and blackbirds, doves, starling, grosbeaks, finches, towhees, juncos, and sparrows. During the warmer months, a variety of warblers may also migrate into the area. Though limited for hunting, owls and raptors may potentially utilize the site for nesting. Black capped chickadees, cardinals, red tailed hawks, mourning doves, eastern towhees and tufted titmice were heard on the subject property during the March 2010 site visit. Both a hairy woodpecker and a great horned owl were observed on site. Data from the 2004 Breeding Bird Survey for the census block that contains the site was obtained from the NYSDEC (**Appendix C-1**). This study surveyed the entire State by 25 km² census blocks over a five-year period (2000 to 2004) to determine the bird species which breed within the State. Most of the species listed by the NYSDEC breeding bird survey are likely to be found on site, with the exception of species common to habitats not found on site. No unique species were sighted during field inspections on the site nor are they expected, given the prior site disturbance and level of activity in the area.

A variety of small mammals would be expected and include the eastern chipmunk, eastern cottontail, eastern mole, house mouse, meadow-jumping mouse, white-footed mouse, masked shrew, short-tailed shrew, eastern gray squirrel, pine vole and long-tailed weasel. Of the larger mammals, the Virginia opossum, fox, white-tailed deer, striped skunk and raccoon would also be expected to utilize the property, although in somewhat lesser numbers than smaller mammals. No mammals were observed during the March 2010 site visit.

Among amphibian species, the spring peeper, eastern spadefoot toad, red-back salamander, and marbled salamander are expected, as they are found in upland habitats. The red-backed salamander is the most common salamander on Long Island, and is highly terrestrial. It prefers a dry woodland habitat with plenty of leaf litter and fallen logs to forage for insects (**Bishop, 1943**), and generally lays its eggs in clumps on damp logs or moss (**Conant and Collins, 1991**). The marbled salamander may also be present. The most likely reptiles to be present on site are the colubrid snakes, including the eastern garter snake and eastern milk snake. The only turtle species common to terrestrial habitats on Long Island is the eastern box turtle, which requires very little water (**Obst, 1988**). The box turtle is found in a variety of habitats, although it prefers moist woodlands, and would be expected on site and in the surrounding areas.

Rare and Endangered Species/Unique Habitat Potential

No rare, threatened or endangered plants were observed on site. The NYS Natural Heritage Program (NHP) was contacted to determine if there are any records of rare plants or wildlife in the vicinity. **Appendix C-2** includes a copy of the correspondence received from the NHP. The Program lists one community of special concern and one endangered plant within the vicinity of the proposed project. Four historical records of endangered and threatened plants were identified within the vicinity of the proposed project. A review of the habitat requirements and potential presence of this species is provided below, in addition to a description of the significant community identified.

Coastal oak-laurel forest is described as “a large patch low diversity hardwood forest with broadleaf canopy and evergreen subcanopy that typically occurs on dry well drained, sandy and gravelly soils of morainal hills of the Atlantic Coastal Plain. This forest is similar to the chestnut oak forest of the Appalachian Mountains; it is distinguished by lower abundance of chestnut oak (*Quercus montana*) and absence of red oak (*Quercus rubra*), probably correlated with the difference between the sand and gravel of glacial moraines versus the bedrock of mountains. The dominant tree is typically scarlet oak (*Quercus coccinea*). Common associates are white oak (*Q. alba*), black oak (*Q. velutina*), and chestnut oak. The shrub layer is well-developed typically with a tall, often nearly continuous cover of the evergreen heath, mountain laurel (*Kalmia latifolia*). Other characteristic shrubs include black huckleberry (*Gaylussacia baccata*) and blueberry (*Vaccinium pallidum*). The herbaceous layer is very sparse; characteristic species are bracken fern (*Pteridium aquilinum*), wintergreen (*Gaultheria procumbens*), and Pennsylvania sedge (*Carex pensylvanica*). Characteristic animals include white-tailed deer (*Odocoileus virginianus*). This forest is often associated with coastal oak-heath forest forming a forest complex on morainal hills. (**Edinger et al., 2002**)” This community was not identified on the subject property.

Georgia Bulrush (*Scirpus georgianus*) is an endangered graminoid plant that prefers full sun with damp fields/meadows, edges of wet forests, and edges of marshes. This species was last identified in 2006 in Laurel Hollow. Although some suitable habitat exists on the southern and western edge of the property in the drainage swale, this species is not expected on site due to the prevalence of invasive plant species and the high level of disturbance in the drainage swale found on the subject property.

Marsh Straw Sedge (*Carex hormathodes*) is a threatened graminoid plant that occurs in and adjacent to salt or brackish coastal, tidal marshes. This species was last identified in 1920 in Cold Spring Harbor. As no suitable habitat for the species exists on the subject site, and the historical nature of the species, this species is not expected on the subject site.

Yellow Flatsedge (*Cyperus flavescens*) is an endangered graminoid plant that prefers wet sandy sites. This species was last identified in Cold Spring Harbor in 1928. Although some suitable habitat exists on site in the drainage swale, this species is not expected on the subject site as a result of the historical record of the plant.

Little-leaf Tick-trefoil (*Desmodium ciliare*) is a forb/herb plant that prefers sandy, dry soils. This species was last identified in 1919 in Cold Spring Harbor. As no suitable habitat exists on site for this species, and due to the historical record of the plant, this species is not expected on the subject site.

Heart sorrel (*Rumex hastatulus*) is an endangered forb/herb plant that prefers sand, open ground and railroads. This species was last identified in 1914 in Cold Spring Harbor. As no suitable habitat exists on site for this species, and due to the historical record of the plant, this species is not expected on the subject site.

No exploitably vulnerable plants were identified on the subject property. "Exploitably vulnerable" plants are species which are not currently threatened or endangered, but which are commonly collected for flower arrangements or other uses. Native plants listed under NYCRR Section 193.3 are protected pursuant to the NYS Environmental Conservation Law (ECL) Section 9-1503 subdivision (f), which states that no person may knowingly "pick, pluck, sever, remove, damage by the application of herbicides or defoliants, or carry away, without the consent of the owner, any protected plant" (NYSDEC, 1975). As per this section of the ECL, the site owner would not be restricted in utilizing the site for the intended purpose. Therefore, the presence of protected plants would not restrict use of the site under the ECL.

Of the animal species that may utilize or be expected on the site, Cooper's Hawk, eastern spadefoot toad, and eastern box turtle are listed as special concern species. Special concern species are native species that are not recognized as endangered or threatened, but for which there is documented concern about their welfare in New York State as a whole. Unlike threatened or endangered species, species of special concern receive no additional legal protection under ECL 11-0535. This category is intended to enhance public awareness of those species that deserve additional attention (NYSDEC, 2007).

2.4.2 Anticipated Impacts

Vegetation

The impacts to the ecological resources of a project site are generally a direct result of clearing of natural vegetation, increase in human activity and associated wildlife stressors, and the resulting loss and fragmentation of wildlife habitat. The changes in habitat quantities are listed in **Table 2-4**.

Table 2-4
CHANGE IN HABITAT QUANTITIES
Existing Conditions vs. Proposed Project

Coverage Type	Existing Conditions		Proposed Project		Change (acres)
	acres	% of site	acres	% of site	
Coastal Oak-Heath Forest	37.76	89.9%	25.44	60.5%	-12.32
Landscaped	3.21	7.6%	10.97	26.1%	+7.76
Buildings/Paved	1.05	2.5%	4.62	11.0%	+3.57
Recharge Basin (Unvegetated)	0.0	0.0%	0.99	2.4%	+0.99
TOTALS	42.02	100.0%	42.02	100%	---

The habitats in the areas of development are not unique or sensitive, particularly in view of the prior use and development of the property. Habitat within areas of steep slopes will be retained to the maximum extent practicable, as development will be focused in the flatter areas of the property. The proposed project includes the retention of 25.44 acres of coastal oak-heath forest, which will continue to provide habitat within the site. Upon approval of the Preliminary Subdivision, trees which are greater than 8” in diameter will be mapped within the proposed clearing area and within a 20 foot buffer surrounding the proposed clearing area. Trees of significant size which can be retained during the clearing process will be noted on the subdivision map and marked in the field to ensure their retention. In addition, no development will occur within the conservation areas or park area which are in proximity to NYSDEC freshwater wetland H-3. Given the planned retention of natural areas and location of the site development, no significant adverse impacts to vegetation or habitat are expected.

As previously stated, the NHP identified the presence of one significant ecological community and one endangered plant within the vicinity of the proposed project, in addition to the four historical records of threatened and endangered plants. The significant community was not identified on the subject property, nor was the endangered plant. As the four endangered and threatened historically listed species have not been sited in the vicinity of the proposed project for over 80 years, these species are not anticipated to occur on the subject site and were not identified during field visits. As such, no impacts to endangered, threatened and rare species are anticipated as a result of the proposed project.

Exploitably vulnerable species are protected primarily because they are indiscriminately collected, rather than due to rarity within the State. The presence of these plants, if encountered during future site visits, would not preclude development of the site, as a property owner is permitted to remove exploitably vulnerable plant species from a site.

Wildlife

The majority of habitat on the property is dominated by coastal oak-heath forest. The property is not expected to act as a refuge for rare native flora or fauna. In addition, a total of 25.44 acres of the site will remain as natural area. The proposed project will favor those wildlife species that prefer edge and suburban habitats and those that are relatively tolerant of human activity. Most of the species expected on the property are at least somewhat tolerant of human activity, but

others will be impacted by the proposed clearing operation and increase in human activity. It is also expected that wildlife species that may utilize the area to be developed (particularly avian species) will migrate to undisturbed areas on the edges of the property, adjacent or near the site as a result of development.

In the short term, the edges of the property and lands adjacent to the subject property will experience an increase in the abundance of some wildlife populations due to displacement of individuals by the construction phase of the proposed project. Ultimately, competition with both conspecifics and other species already utilizing the resources of the surrounding lands should result in a net decrease in population size for most species. The effect on the density and diversity of both local and regional populations should be minimal, as 25.44 acres of natural area will remain and 10.97 acres of landscaped area will be installed which species will be able to utilize after construction.

Rare and Endangered Species/Unique Habitat Potential

There are no rare or endangered wildlife species expected on the site given the habitats present. The Cooper's Hawk, eastern spadefoot toad, and eastern box turtle are the only species potentially expected on site that are listed as special concern species. Although there is documented concern about their welfare in New York State, these species receive no additional legal protection under ECL 11-0535. This category is presented primarily to enhance public awareness of these species, which bear additional attention (NYSDEC, 2007).

2.4.3 Proposed Mitigation

- Native plant species that provide food and shelter to wildlife will be utilized in landscaped areas.
- The loss of woodland habitat on the property will be partially mitigated by the proposed establishment of 25.44 acres of natural area within the project site.
- Disturbance will be minimized to the maximum extent practicable, including delineating clearing limits at the site prior to construction in order to avoid inadvertent clearing.
- Trees which are greater than 8 inches in diameter will be mapped upon approval of the Preliminary Subdivision, and those which can be retained during clearing and construction activities will be marked in the field to ensure their retention.
- No known invasive plant species will be utilized, including those species listed in Resolution 614-2007 enacted by the Suffolk County Legislature.

3.0 HUMAN ENVIRONMENTAL RESOURCES

3.1 Land Use, Zoning and Plans

This section characterizes the human resources of the subject site and similar to **Section 2.0** above, this information will be utilized in analyzing the potential environmental impacts of the proposed project. Any significant environmental impacts which may occur as a result of the proposed project will be addressed.

3.1.1 Existing Conditions

Land Use

The subject site is residentially used and currently has three residences on-site. Two of the residences are accessible from Shore Road and the third is accessed via a 25-foot easement extending from the cul-de-sac on Walnut Tree Lane. The subject site consists of three tax parcels (SCTM No.400-16-2- 13.4 and 13.5 and 400-16-8-8), however one tax lot (SCTM No. 400-16-2-9.2) is encompassed by the subject site and is accessed from an extension of the 25-foot easement serving the residence on-site from Walnut Tree Lane.

The majority of the site is heavily wooded with the exception of the northeastern portion of the site which is mowed turf and features a formal hedge/garden that has fallen into disrepair. A series of trails are located in the central portion of the property, as well as the remains of a dilapidated shed located east of the existing trail within proposed Lot 5 and an existing water irrigation cistern system (not functioning) north and east of the trail on proposed Lot 6 (which will be removed as part of proposed project).

Current land use in the surrounding area is described based on aerial photographs and visual observations (see **Figure 3-1**). The subject property is surrounded mainly by residential uses, as follows:

- South: Single family residential homes, Cold Spring Harbor park, Main Street commercial district
- West: Shore Road, Cold Spring Harbor
- North: Single family residential homes, Cold Spring Harbor Beach Club
- East: Single family residential homes.

The commercial corridor along West Main Street (NYS 25A) contains several small-scale commercial uses including retail stores, restaurants, real estate office, post office, hair salon, whaling museum, Cold Spring Harbor Fire Station and municipal parking area.

Zoning

The site is presently zoned R-80 Residential, which allows single family dwellings; farm, nursery, truck garden, country estate; churches, temples, parish houses, convents, monasteries; public schools; private elementary and secondary schools providing full-time day instruction;

library, museum or art gallery; town park, playground, athletic field, beach, bathhouse, boathouse, marina; municipal parking field; fire station and municipal water supply reservoir.

The subject site and surrounding area is zoned R-80 Residential. Downtown Cold Spring Harbor along Main Street is zoned C-6 General Business. The current zoning of the subject property and surrounding area are shown in **Figure 3-2**.

Table 3-1 shows the dimensional requirements for the existing zoning on the project site.

**TABLE 3-1
 ZONING DIMENSION REQUIREMENTS- EXISTING ZONING**

	R-80
Maximum Building Height (Feet/ Stories)	35/2
Minimum Depth of Front Yard	50
Minimum Depth of Rear Yard	50
Minimum of Side Yards (Number)	2
Minimum of Side Yard Interior Lot (One Yard Width)	25
Minimum of Side Yard Interior Lot (Combined Width)	50
Minimum of Side Yard Corner Lot (Width of Street Side)	50
Minimum of Side Yard Corner Lot (Width of Interior Side)	25
Minimum Lot Area Per Dwelling Units	2 Acres
Minimum Lot Gross Area	2 Acres
Minimum Lot Width (Feet)	125
Minimum Lot Frontage	40
Maximum Building Coverage	--

A Yield Map (see **Plate 2**) was prepared for the property which identified 15 single family lots, a park and a two acre recharge basin. The Planning Board (at a meeting on October 28, 2009) made a Tentative Determination approving this yield. Correspondence confirming the determination for the Yield Plan is included in **Appendix D**.

Land Use Plans

Horizons 2020: Town of Huntington Comprehensive Plan Update

The Town has prepared a new Comprehensive Plan – Horizons 2020 – that charts a new course towards the future. The Comprehensive Plan articulates a Vision of Huntington in the years beyond 2020 based on extensive citizen input during the planning process. It provides the means to realize the Vision through clear and consistent goals, policies, and strategies and through specific actions.

The Vision Statement for the Comprehensive Plan reflects the values, aspirations, and priorities expressed by citizens during the planning process, including the following four fundamental elements:

Community Character: Protect Huntington’s small-town suburban character; preserve its rich heritage of historic resources; maintain and enhance its aesthetic character and identity; and practice responsible environmental stewardship.

Quality of Life: Provide quality schools, parks, and other community facilities; promote a vibrant arts community and cultural life; provide quality housing to meet the needs of Huntington’s diverse population; and continue Huntington’s tradition of citizen involvement and volunteerism.

Sustainable Community Structure: Manage new development and redevelopment to protect neighborhood and village character, preserve open space, and revitalize commercial corridors; maintain a diverse employment base; develop an accessible, multi-modal transportation system; and provide sustainable water, sewer, and stormwater infrastructure systems.

Responsive Town Government: Provide exceptional public services, programs, and facilities while continuing prudent fiscal management; provide leadership in managing growth and change; promote civil discourse and constructive dialog on challenging issues; encourage citizens to become well-informed and actively involved in civic affairs; and promote greater intergovernmental cooperation.

In addition, six Key Initiatives were been identified to organize and direct action by the Town to achieve the Vision Statement. These initiatives include:

Traffic Circulation

- Work with state and county agencies to retrofit the road network with state-of-the-art signalization and other targeted improvements to enhance operational efficiency and reduce traffic congestion.

Open Space Preservation

- Continue to expand the network of permanently reserved open space and improve the protection of sensitive environmental resources, such as groundwater supply.

Housing

- Alleviate substandard housing conditions, while promoting a more diverse housing stock affordable to all income groups.

Development Quality

- “Raise the bar” on development quality and sustainability through standards tailored to retain and complement the unique identity of the Town’s diverse neighborhoods, villages, and commercial areas, while addressing environmental, traffic, and other impacts.

Commercial Corridors

- Improve the aesthetic character and viability of commercial corridors through design standards and actions to promote revitalization and redevelopment of undesirable and obsolete development patterns with appropriate uses.

Sustainable Huntington

- Mobilize a community-wide initiative to achieve a more sustainable future for the Town of Huntington, through measures that conserve energy, reduce carbon emissions, and promote a healthy environment.

A series of goals, policies and action strategies have been created based on recommendations and information from the Comprehensive Plan Advisory Committee (CPAC) and revised based on public comments. The following items relate to the proposed project:

- The Vision Statement identified in the plan calls for the Town to have available quality housing, to be provided throughout the Town including a broader array of housing choices, accessible and affordable for households of different ages, lifestyles and economic means.

Town Open Space Plan

The Town of Huntington Open Space Index (the “Index”) is intended to aid in the preservation and conservation of open lands in the Town that promote a sense of natural or rural spaciousness. The subject site is listed as Index Parcel OSI# NW-6). The parcels listed in the Index are given a “priority” designation, based upon the perceived need to preserve the parcel. The Index indicates a priority of “3” for Parcel OSI#NW-6. For Priority 3, the Index states:

Properties in this classification are exclusively those with slopes in excess of 15% on all or part of the land. The CAC [Conservation Advisory Council] preference is to retain these slopes in natural vegetation to prevent erosion and as a common sense approach to preserving open areas where development is difficult anyway.

The western and southern portions of the property are also located within the Landward Coastal Boundary identified on the New York State Coastal Area Map (see **Figure 1-4**). A Local Waterfront Revitalization Program has not yet been adopted for this area; therefore the presence of this coastal boundary on the subject site will not affect the proposed development.

3.1.2 Anticipated Impacts

Land Use

The proposed project will not change the land use classification of the site from its current residential use. The proposed project will subdivide the 42.02-acre site into 15 single family parcels ranging in size from 1.06 acres (Lot 2) to 4.32 (Lot 14). The three existing residences on the subject site will remain, and be subdivided into three separate parcels (Lots 13, 14 and 15). Parkland dedication areas totaling 8.64 acres and 4.20 acres are proposed in the eastern, western and southern portion of the property (areas of wooded, steep slopes south, east and west of proposed Lots 5-13). Additionally, a 50 foot conservation buffer is proposed at the rear of each lot/adjacent to the proposed dedicated parkland areas to preserve the quality of the parkland area and the areas of wooded steep slopes on the property. A 0.99-acre recharge basin is proposed in the eastern portion of the site, which will be dedicated to the Town of Huntington.

Lots 1 through 12 will be accessed via a proposed cul-de-sac, Williams Court, off the existing Mowbray Lane North. Lot 13 contains one of the existing residences on-site, and will continue to be accessed via the 25-foot easement from Walnut Tree Lane. Lots 14 and 15 will continue to be accessed via the existing driveway off Shore Road.

Residential use is already well-represented in the area, so that the proposed project will only incrementally expand the amount of residential land use. The large parcel sizes required in the R-80 zoning district as well as the 12.84 acres of parkland dedication area and 50-foot wide conservation buffer areas (totaling 3.58 acres) within the individual lots bordering the proposed parkland area will create large natural buffers between existing residences in the vicinity. As a result the use is believed to be compatible with the surrounding area.

Zoning

The project proposes a 15-lot residential cluster subdivision with 8.64-acre additional parkland dedication area, 4.20-acre park area and 0.99-acre recharge basin. Residential development is an allowable use within the R-80 zoning district. As identified in the Yield Plan, 15 single family parcels are allowed as-of-right.

The minimum parcel size for the R-80 district is 2 acres; however, due to the clustered nature of the subdivision to create an 8.64-acre additional parkland dedication area, 4.20-acre park area and 0.99 acre recharge basin, the minimum parcel size requirements are lowered. Parcel sizes range from 4.32 acres (Lot 14 where the existing historic dwelling will remain) to 1.06 acres (Lot 2).

The proposed subdivision will comply with the requirements identified in the Town's Subdivision Regulations and Site Improvement Specifications.

Land Use Plans

Horizons 2020: Town of Huntington Comprehensive Plan Update

Based on the Generalized Future Land Use Map prepared for use with the land use policies and action strategies to guide Town decision making on land use matters, the Comprehensive Plan identifies the subject site for low density residential (**Figure 3-3**). The proposed single family residential subdivision will comply with the recommendation in the Comprehensive Plan.

The following elements of the Vision Statement and the proposed project's relevance to them are included below:

Community Character: Protect Huntington's small-town suburban character; preserve its rich heritage of historic resources; maintain and enhance its aesthetic character and identity; and practice responsible environmental stewardship.

The landscaped buffer along Jericho Turnpike will help to retain the visual aesthetic of the corridor, as well as the complex massing elements included in the building's architecture. The proposed project will be developed with sensitivity to the environmental features of the site and with respect to environmental stewardship.

Quality of Life: Provide quality schools, parks, and other community facilities; promote a vibrant arts community and cultural life; provide quality housing to meet the needs of Huntington's diverse population; and continue Huntington's tradition of citizen involvement and volunteerism.

The proposed project will provide quality housing for a segment of the population in the town that is currently under-represented and much needed.

Sustainable Community Structure: Manage new development and redevelopment to protect neighborhood and village character, preserve open space, and revitalize commercial corridors; maintain a diverse employment base; develop an accessible, multi-modal transportation system; and provide sustainable water, sewer, and stormwater infrastructure systems.

The proposed project will preserve approximately 24.96 acres of open space (or 59.4% of the overall site), of which 13.8 will be legally protected in perpetuity. The project will provide sustainable water, sewer and stormwater infrastructure systems that are designed specifically for the demands made by the project and to be sensitive to the environmental conditions of the site.

The following Key Initiatives and the proposed project's relevance to them are included below:

Open Space Preservation

Continue to expand the network of permanently reserved open space and improve the protection of sensitive environmental resources, such as groundwater supply.

Although the site will be developed with single family residences, approximately 22.8% of the site will remain in its natural vegetated state.

Development Quality

"Raise the bar" on development quality and sustainability through standards tailored to retain and complement the unique identity of the Town's diverse neighborhoods, villages, and commercial areas, while addressing environmental, traffic, and other impacts.

The subject site will be subdivided into 15 parcels, however new development is proposed on 12 of the newly created lots (no changes proposed to Lots 13-15). Quality architecture that is complimentary to the immediate adjacent area will be employed.

Sustainable Huntington

Mobilize a community-wide initiative to achieve a more sustainable future for the Town of Huntington, through measures that conserve energy, reduce carbon emissions, and promote a healthy environment.

The proposed project will be developed with sensitivity to the environmental features of the site and with respect to environmental stewardship. Upon construction of any residential structures, the proposed project will adhere to the standards provided in the Towns of Huntington's Energy Star legislation, §87-55.2 and §93-27.1, respectively.

Town Open Space Plan

Consistent with the Town CAC preferences to retain steep slopes in natural vegetation to prevent erosion, the proposed project is a clustered subdivision designed to avoid steep slope areas and

retain existing natural vegetation. Conservation areas totaling 8.46 acres are proposed within the individual lots to preserve areas of wooded steep slopes on the property. No clearing, grading or land disturbance will be permitted within the conservation areas and a four foot high post and rail fence will be installed along the perimeter of the conservation area to delineate the boundary. The conservation area of each of the lots will be recorded on the individual lot deeds and shown on all building permit surveys prepared for individual lot development. Proper measures have been incorporated into the project to minimize potential impacts to the steep slope areas to be retained, and focus development within the areas previously impacted.

3.1.3 Proposed Mitigation

- The project is located in an area characterized by residences located on large-parcels, as required by the R-80 zoning district, on and around the subject site.
- The proposed subdivision will preserve a large portion of the site, including a 4.20-acre park dedication and 8.64-acre additional parkland dedication area and 3.58 acre conservation buffer area within the individual lots.
- Several elements of the proposed subdivision conform to Horizons 2020: Town of Huntington Comprehensive Plan Update including preservation of open space, utilization of high quality architecture and energy efficient construction upon full build-out of the individual lots.
- Consistent with the Town CAC preferences to retain steep slopes in natural vegetation to prevent erosion, the proposed project is a clustered subdivision designed to avoid steep slope areas and retain existing natural vegetation. Conservation areas totaling 8.46 acres are proposed within the individual lots to preserve areas of wooded steep slopes on the property.

3.2 Visual/Community Character

3.2.1 Existing Conditions

The subject property is a residentially utilized property surrounded by mainly low density residential uses to the north, south and east and Cold Spring Harbor to the west. The single family dwelling and barn on the southwestern portion of the property are surrounded by wooded areas and are not readily visible from Shore Road. The existing single family dwelling in the northwestern portion of the property is also surrounded by wooded area and does not have access to a main road (accessed is via an existing 25 foot wide easement from Walnut Tree Lane); therefore this property is only visible from neighboring properties. An area of landscaping and the remains of a formal hedge/garden and series of trails are located in the central portion of the property and again this portion of the property is only visible from immediately adjacent residences.

The following discussion presents the existing visual character of the site and vicinity; the photographs in Appendix E-1 are typical views of the site and the surrounding area.

Views 1 through 3 illustrate the community surrounding the western terminus of Spring Hill Road, to which the proposed access roadway for Lots 1-12 will connect. View 1 illustrates the

current view into the site from Spring Hill Road, which depicts vegetation which restricts views into the site. Views 2 and 3 illustrate the vicinity of the Spring Hill Road and Mowbray Road intersection, which is characterized by high income, low density residential use.

Views 4 through 6 illustrate the views along Shore Road. As illustrated in the views, this area is generally characterized by high income, low density residential uses which are located on a hillside, limiting views of the residences from the roadway. The roadway and Cold Spring Harbor are also prominent features within this area.

Overall, the general area surrounding the subject site which is visible from the site access points area characterized by high income, low density residential uses, which may or may not have views of Cold Spring Harbor, depending on the location within the site and the current season.

3.2.2 *Anticipated Impacts*

A Visual EAF Addendum (**Appendix E-2**) was utilized to assist in the evaluation of the potential impacts of the proposed project. The proposed project involves the development of the northeastern portion of the property, which is mainly topographically flat. As such, it is anticipated that the greatest visual impact to the surrounding area would result from the increased visibility of the interior of the site from immediately adjacent residential properties and those traveling on the terminus of Spring Hill Road/Mowbray Lane as a result of clearing of vegetation for the proposed roadway extension and the future lots. It should be noted, however, that clearing will occur only where necessary for individual lot development, roadway installation, and recharge basin installation and as such, a significant amount of intervening vegetation is anticipated to remain, particularly along the southern and western property boundaries, which would aid in screening some of the proposed development. Street trees will be installed along new roadway in order to enhance the character of the development.

In addition, the proposed development would not be out of character with the surrounding community as the proposed site use would be a continuation of the uses surrounding the site, which is characterized by high income, low density residential development. It is expected that the newly developed lots would blend with the existing community, and would not provide a visual dichotomy with the surrounding area.

Views from Shore Road are not anticipated to change as the existing hillside and intervening vegetation would provide a visual buffer for the proposed development. There is a significant change in elevation from Shore Road (elevation 8-10 feet) to the proposed development area (elevation ±150 to 180 feet). It should be noted that boaters on Cold Spring Harbor may have an increased view of the development from the water, but that the addition of residences to the area would not be out of character of existing views in the vicinity of the property or other views of the area from the Harbor.

In general, the impact of the project on the visual resources of the area would be minimal, as observers in the surrounding area would have limited views of the subject site from both Shore

Road and Spring Hill Road. Any views into the subject site would not be out of character for the area and as such, are not anticipated to adversely affect the surrounding community.

3.2.3 Proposed Mitigation

- The proposed project will be consistent with other property uses in the vicinity of the site.
- The proposed subdivision has been clustered to locate proposed development within the topographically flattest portions of the property and within areas of existing disturbance. No changes are proposed to the existing single family dwellings on Lots 13-15, which front Shore Road and the northern property boundary.
- The retention of 25.44 acres of existing vegetation (16.42 acres which will be dedicated parkland or within conservation buffers), included the majority of the property's existing wooded, steep sloped areas will serve as buffer and screening for the proposed development activities.
- Clearing and grading of the site will occur as necessary, and vegetation will be retained where possible to provide screening of the interior of the site.
- Street trees will be installed on the proposed roadway.

3.3 Cultural Resources

3.3.1 Existing Conditions

Figure 3-4 is a portion of the NYS Office of Parks, Recreation and Historic Preservation (OPRHP) Cultural Sensitivity Map for the area including the subject property. It depicts areas of known and/or suspected cultural resources, which includes pre-historic and historic-era archaeological, historical and architectural resources. As illustrated, the subject site and its surroundings are within an area of known or suspected cultural resources. The single family residence and barn located in the southwestern portion of the site are located within the Town's Cold Spring Harbor Historic District and the Shore Road Historic District, which is identified as number 90NR01844 on the National Register of Historic Places. According to Town correspondence (see **Appendix F-2**), the existing historic residence known as "Wawapek Farm" (c1896) was designed by Grosvenor Atterbury, who's work is known for inclusion of greenery and open spaces. The remains of a formal garden associated with the subject property are located outside of the historic district, in the northeastern portion of the site. The gardens are currently minimally maintained, and include a large circular hedge, mowed lawn and several fenced plots of mixed trees, shrubbery and vine species which are in a manicured condition.

Due to the site's location in an archaeologically sensitive area, a Phase I archaeological investigation was conducted for the subject property which consisted of a Phase IA documentary study and a Phase IB archeological survey. A copy of the complete report is included as **Appendix F-1**. A map identifying the location of the archaeological test pit locations is included in the Phase I archaeological report in **Appendix F-1**. The Phase IA research included a review of the original and current environmental data, archeological site files, other archival literature, maps and documents. Results of the Phase IA study did identify records or files which would indicate the presence of prehistoric sites on or in the area of the subject property. The Phase IA

study determined that the project area has a higher than average chance for the recovery of prehistoric archaeological remains. The Phase IA study also identified one historic site within a 1 mile radius of the subject site. It was determined that the subject site had a higher than average potential for the recovery of historic aboriginal sites or Euro-American remains.

Based on these findings, a Phase IB survey was conducted to recover any physical evidence for the presence or absence of archaeological sites on the subject property. Consistent with OPRHP guidance, the Phase IB survey is limited to those areas proposed for development and does not include areas of steep slopes. The Phase IB survey involved a site walkover and subsurface soil testing of 266 shovel test pits. The findings of the Phase IB survey were as follows:

No historic, nineteenth century or earlier artifacts or features were encountered. No prehistoric artifacts or features were encountered. Likely early twentieth century dilapidated cabin and an open water/cistern system were encountered. No further work is recommended.

3.3.2 *Anticipated Impacts*

Based on the results and conclusions of the Phase I archeological investigation conducted on the subject property which concluded that there is no evidence of prehistoric or historic sites, remains or artifacts on the subject property, development of the proposed project will not have an impact on archeological resources and that no further investigation is recommended. No short or long term cultural resource impacts are expected.

No changes are proposed to the structures located within the Town's Cold Spring Harbor Historic District and the Shore Road Historic District (90NR01844 on the National Register of Historic Places). Individual lots are proposed for these structures (proposed Lots 14 and 15) and no changes are proposed to the existing access to these structures. In accordance with Chapter 198 of the Town Code, any future proposed exterior modifications or repairs to the structures within the historic district will require the review and issuance of a certificate of approval by the Town Board.

OPRHP reviewed the proposed subdivision map and Expanded EAF dated May 2010 and provided a comment letter dated September 10, 2010 (**Appendix F-2**). This letter indicated that it was OPRHP's opinion that "the development in and of itself may not adversely impact the character of the historic district. However, it is our believe that certain elements of the proposal will have adverse impacts on the district's salient characteristics." The concerns and recommendations in this letter are summarized below:

- The density of the clustered building lots. It was recommended that the lots be sized at a minimum of 2 acres.
- Retention of the existing historic features. It was recommended that the subdivision be reconfigured to allow for retention of integrity of the former manor by retaining the formal gardens and combining Lots 14 and 15.

- Protection of the historic structures. Deed restrictions were recommended to be placed on the lots containing the historic buildings to protect the structures from neglect and demolition.
- Request for narrow roadways and a future planting plan and building design/materials selection that keeps with the historic character of the area.

The Town of Huntington Planning Department prepared a response letter to the above referenced letter from OPRHP (**Appendix F-2**) which outlined the Town's policy of cluster development, which allows for clustering of lots equal to the number of lots demonstrated by an approved yield map to preserve natural and scenic qualities of a property. The Town's response letter notes:

...it is the Planning Board's intention to achieve a more meaningful balance between development and preservation by modifying lot sizes. This will better conserve the context of the important historic resources, while protecting more natural habitat. The result prevents the loss of wildlife and diminution of open space areas. It reduces erosion, impairment of scenic beauty, and permanent adverse changes to ecological systems.

The subdivision map was revised in September 2010 to address several of OPRHP's concerns. The subdivision plan changes included the 12.86 acres parkland dedication and the 50-foot conservation buffer areas along the rear of the lots adjacent to the proposed parkland. The creation of the parkland dedication and conservation buffers provides for permanent preservation of much of the natural areas surrounding the existing historic dwellings and provides for a significant buffer between the historic structures and the proposed lots where new construction would occur. The lots associated with the historic structures on Shore Road are each over 4 acres in size, with significant parkland and buffer provided adjacent to the lots.

OPRHP responded to the Town letter on November 15, 2010 (see **Appendix F-2**). The letter requested that some type of covenant be placed on the historic features of the land including both the buildings and the gardens. The proposed plan provides for preservation of the historic dwellings along Shore Road and clusters the proposed lots to the northern portion of the site in the areas of existing lawn and flatter topography. Significant efforts have been made to design a subdivision layout that considers and protects a wide variety of environmental and cultural elements of the property, including retention of the existing historic homes on large four acre lots, preservation of the existing wooded and steep slope portions of the property, separation of development from the off-site wetland to the south, etc. These efforts have resulted in minimizing impacts to the historic district as described above.

The remains of a formal garden associated with the subject property are located outside of the historic district. The gardens are located a significant distance from the existing historic dwellings on the property and would be separated from the historic dwellings by the proposed subdivision lots. Reconfiguring the subdivision in order to retain the gardens would result in significantly smaller lots or the loss of a lot. The applicant is willing to pursue formal historic documentation and recording of the gardens if found necessary prior any disturbance of the gardens and issuance of a building permit for proposed Lot 3. Additionally, as discussed in

Section 3.2, building and landscape design appropriate for the area will be installed on the lots to ensure the character of the community is preserved.

3.3.3 *Proposed Mitigation*

- As no archaeological sites, remains or artifacts were found to be present on the subject property, development of the proposed project is not expected to impact archaeological resources. As a result no mitigation measures related to prehistoric or historic sensitivity are considered necessary.
- No changes are proposed to the structures located within the Town's Cold Spring Harbor Historic District and the Shore Road Historic District (90NR01844 on the National Register of Historic Places). In accordance with Chapter 198 of the Town Code, any future proposed exterior modifications or repairs to the structures within the historic district will require the review and issuance of a certificate of approval by the Town Board.
- Removal of the formal gardens will be partially mitigated by the newly installed landscaping which will have a character which is consistent with the surrounding community. The applicant is willing to pursue formal historic documentation and recording of the gardens if found necessary prior any disturbance of the gardens and issuance of a building permit for proposed Lot 3.

4.0 SUMMARY AND CONCLUSIONS

This report presents an analysis of the setting of the subject site and an assessment of the importance of the various impacts with regard to the proposed project. Potential areas of concern are discussed in detail, and the potential impacts have been investigated. The potential impacts identified in the Expanded Environmental Assessment Form (EAF)/Part I EAF) which have been analyzed include:

- Steep Slopes
- Soils, Drainage, Erosion and Stormwater Control
- Ecologically Sensitive Features
- Zoning, Land Use, and Community Character
- Visual and Aesthetic Resources
- Cultural Resources

Primary findings are noted as follows:

- The proposed project conforms to R-80 Residence zoning and is proposed in the form of a cluster to preserve open space.
- The lots are clustered to provide development in the flattest portion of the site, minimizing development in areas of steep slopes.
- The retention of 25.44 acres of existing vegetation, included the majority of the property's existing wooded, steep sloped areas will reduce the potential for erosion, provide habitat for existing wildlife and serve as buffer and screening for the proposed development activities and limit visual impacts resulting from the project.
- 16.42 acres of the subject property which exhibit steep slopes will be preserved as park, additional parkland area and parkland buffer area and will not be subject to grading or construction activities. The establishment of conservation areas on the property will prevent clearing, grading or land disturbance within the conservation areas and will be designated by four foot high post and rail fence installed along the perimeter. The conservation area of each of the lots will be recorded on the individual lot deeds and shown on all building permit surveys prepared for individual lot development.
- Development of individual homesites will be subject to §198-64 of Town Code if any building footprint proposed is located in an area with slopes greater than 10%.
- No disturbance is proposed within the regulated tidal wetlands (Cold Spring Harbor) adjacent area or adjacent freshwater wetland.
- Due to the depth of the natural water table underlying the site (generally ± 140 to 170 feet in the proposed development areas of the site) and permeability of subsurface soils underlying the site, development of the subject site is not anticipated to adversely impact groundwater resources associated with the natural water table in the region of the development area.
- All stormwater runoff generated on developed surfaces will be collected through a series of catch basins and conveyed to the proposed recharge basin. The system will be designed to accommodate runoff generated during a 9-inch storm event.
- An Erosion Control Plan will be prepared to provide sedimentation and erosion control measures designed to prevent the migration of overland runoff to adjacent properties.
- No changes are proposed to the structures located within the Town's Cold Spring Harbor Historic District and the Shore Road Historic District (90NR01844 on the National Register of Historic Places). In accordance with Chapter 198 of the Town Code, any future proposed

- exterior modifications or repairs to the structures within the historic district will require the review and issuance of a certificate of approval by the Town Board.
- Removal of the formal gardens will be partially mitigated by the newly installed landscaping which will have a character which is consistent with the surrounding community. The applicant is willing to pursue formal historic documentation and recording of the gardens if found necessary prior any disturbance of the gardens and issuance of a building permit for proposed Lot 3.
 - The proposed project will be consistent with other property uses in the vicinity of the site.

The applicant has designed the project to achieve the following:

- Maintain the yield of the property to that which is permitted.
- Provide an aesthetically attractive development.
- Maintain existing steep slope and vegetated areas through the western and southern portions of the site.
- Minimize impacts to vegetation, the adjacent wetland areas and wildlife.
- Conform to all other appropriate land use requirements.

This investigation is useful in determining the importance of the impacts based on the criteria included in the format for a Part III EAF. The criteria are as follows:

- Probability of the impact occurring,
- The duration of the impact,
- It's irreversibility, including permanently lost resources of value,
- Whether the impact can or will be controlled,
- The regional consequence of the impact,
- The potential divergence from local needs and goals,
- Whether known objections to the project relate to this impact.

The environmental review process is a balancing process. The proposed project is in conformance with local land use planning initiatives as the use conforms to zoning. The proposed residential use is complimentary to local uses. The action and its potential impacts will be either insignificant or beneficial, and all such impacts will be localized such that no regional impacts are expected.

This report has been structured to provide additional information on the issues identified in the October 13, 2009 letter from the Town. This additional information is provided to assist the Planning Board in making a determination of the environmental significance of the proposed action. Therefore, based on this Expanded Environmental Assessment Form (EAF)/Part I EAF, it is respectfully submitted that no significant impact is expected to occur as a result of design and mitigation described herein, and as a result, a Negative Declaration is appropriate for the proposed action.

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FIGURES



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