

# DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

(DSEIS)

for

## The Condominiums at Sandy Hills Change of Zone Application

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**Hamlet of Middle Island, Town of Brookhaven  
Suffolk County, New York**

**Volume I of II  
Main Text and Plans**

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NP&V #00088

**NOVEMBER 2007  
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**DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT**  
for the  
**CONDOMINIUMS AT SANDY HILLS**

**Hamlet of Middle Island, Town of Brookhaven**  
**Suffolk County, New York**

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**LIST OF ACRONYMS**

6NYCRR - Title 6, New York Code of Rules and Regulations  
µg/l - micrograms per liter  
AASHTO - American Association of State Highway Traffic Officials  
ac - acres  
ACM - asbestos-containing material  
ags - above ground surface  
AICP - American Institute of Certified Planners  
APA - American Planning Association  
APE - Area of Potential Effect (NYSHPO term; refers to the area of disturbance. Also known as Project Area)  
asl - above sea level  
ASTM - American Society for Testing and Materials  
bgs - below ground surface  
BID - Business Improvement District  
BOCES - Board of Cooperative Educational Services  
BOH - Bureau of Habitat  
bsl - below sea level  
CBS - Chemical Bulk Storage  
C&D - construction and demolition  
CEA - Critical Environmental Area  
CEI - Certified Environmental Inspector  
CEP - Certified Environmental Professional  
CF - cubic feet  
CR - county route  
CRA - Critical Resource Area or Cultural Resources Assessment  
CRI - Cultural Resources Investigation  
CSD - Central School District  
CY - cubic yards  
dB - decibels  
dBA - decibels (A-weighted scale)  
DEIS - Draft Environmental Impact Statement  
DSEIS - Draft Supplemental Environmental Impact Statement  
EAF - Environmental Assessment Form  
ECL - Environmental Conservation Law  
EIS - Environmental Impact Statement  
ESA - Environmental Site Assessment  
FAR - floor-area ratio  
FEIS - Final Environmental Impact Statement  
GEIS - Generic Environmental Impact Statement  
GFA - gross floor area  
GIS - Geographic Information System  
gpd - gallons per day

GPR - Ground-Penetrating Radar  
GPS - Global Positioning System  
HOA - homeowners association  
ITE - Institute of Transportation Engineers  
lbs - pounds  
Leq - equivalent sound level  
LIGWI - Long Island Ground Water Institute  
LIPA - Long Island Power Authority  
LIRPB - Long Island Regional Planning Board  
LIRR - Long Island Rail Road  
LOS - level of service  
MCL - Maximum Contaminant Limit  
mg/kg - milligrams per kilogram  
mg/l - milligrams per liter  
MGY - million gallons per year  
mph - miles per hour  
MPN - Most Probable Number  
msl - mean sea level  
NOI - Notice of Intent  
N&P - Nelson and Pope  
NPL - National Priorities List  
NP&V - Nelson, Pope and Voorhis  
NURP - Nationwide Urban Runoff Program  
NYS - New York State  
NYSDEC - New York State Department of Environmental Conservation  
NYSDOE - New York State Department of Education  
NYSDOH - New York State Department of Health  
NYSDOS - New York State Department of State  
NYSDOT - New York State Department of Transportation  
OPRHP - Office of Parks, Recreation and Historic Preservation  
OSHA - Occupational Safety and Health Administration  
ppb - parts per billion  
ppm - parts per million  
psi - pounds per square inch  
SCCWRMP - Suffolk County Comprehensive Water Resources Management Plan  
SCDHS - Suffolk County Department of Health Services  
SCDPW - Suffolk County Department of Public Works  
SCPC - Suffolk County Planning Commission  
SCPD - Suffolk County Police Department  
SCWA - Suffolk County Water Authority  
SEIS - Supplemental Environmental Impact Statement  
SEQRA - State Environmental Quality Review Act  
SF - square feet  
SMP - Soil Management Plan  
SONIR - Simulation of Nitrogen in Recharge

SPDES - State Pollutant Discharge Elimination System

SR - state route

SSL - Soil Screening Level

STP - sewage treatment plant

SWF - Solid Waste Facility

SWPPP - Storm Water Pollution Prevention Plan

TMDL - theoretical maximum daily load

tph - trips per hour

USEPA - United States Environmental Protection Agency

USGS - United States Geological Survey

VOC - volatile organic compound

vph - vehicles per hour

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**SUMMARY**

## SUMMARY

### DESCRIPTION OF THE PROJECT

#### Introduction

This document is a Draft Supplemental Environmental Impact Statement (DSEIS) prepared for the Condominiums at Sandy Hills project proposed on a 39.38 acre parcel of vacant land in Middle Island, Town of Brookhaven, New York. A Generic Environmental Impact Statement (GEIS) for the 2006 *Land Use Plan for Coram, Middle Island and Ridge* ("MCRLUP") was prepared in 2006 by the Town of Brookhaven ("Town") and adopted by the Town Board on June 19, 2007, to which this document is a supplement. The Town prepared the MCRLUP to address strip zoning through three hamlets along Middle Country Road (also referred to as "NYS Route 25"). The proposed project conforms to the Town's MCRLUP by proposing a multiple family project with 135 units (10 percent of which will be offered as affordable) and 13,000 square feet (SF) of commercial use to complement the redevelopment of the Route 25 corridor and further enhance the concept of a walkable hamlet community.

#### Project Background

Previous applications have been made to develop the subject property based on the existing Residential A-1 zoning in early 1990s. The Town adopted a building moratorium which included the subject property (effective July 28, 2003) entitled "Creating New Chapter 17E entitled "Moratorium-Coram, Middle Island and Ridge". During the moratorium, the applicant applied for a Waiver of Relief from Chapter 17E to allow for processing of the "The Meadows @ Sandy Hills" on November 14, 2003. The waiver of relief was denied by the Town Board on June 7, 2005. After the moratorium ended (March 31, 2006), the applicant submitted an application for a preliminary cluster subdivision on April 4, 2006; however the Town Planning Department responded that the application was inconsistent with the MCRLUP. The applicant then began development of a mixed use plan, ultimately resulting in the proposed project plans included herein, in order to conform to Town goals for Middle Country Road and Middle Island area.

#### Public Need and Municipality Objectives

The proposed project will provide the permanent use of a vacant property in conformance with the Town's comprehensive planning goals and objectives. The Town's MCRLUP recognizes the need to defragment the zoning on Middle Country Road and the need for multifamily housing. Development of the site for the proposed purpose would not only fulfill this need within the area, but also conforms to the desires of the local community to limit fragmentation of zoning into or near residential areas. The MCRLUP recognizes the negative effects of the strip zoning along Middle Country Road and states that the Town has a strong desire to improve these conditions

through the creation of hamlet centers. The project site is proposed as multifamily housing units within a hamlet as described in MCRLUP and is identified as a key area for development due to its proximity to a key intersection and its potential for aiding in reducing strip zoning along Middle Country Road. Specifically, the MCRLUP identified the site as an area appropriate for a 144 unit residential development which would allow for easy access to the commercial center and the library on the southern side of Middle Country Road.

### Objectives of the Project Sponsor

The applicant seeks to create a balanced mixed-use community that will complement the surrounding community and conform to the Town's MCRLUP. The resulting proposed plan provides mixed-housing and small neighborhood convenience retail/office center to achieve a mixed use that has community support. The applicant's goals are to provide an economic return while meeting community needs and protecting environmental resources.

### Benefits of the Project

The Sandy Hills development plan employs sound planning principles of mixed use in order to achieve a livable community in an attractive enhanced park setting within a natural environment appropriate for the Compatible Growth Area of the Central Pine Barrens.

In summary, some of the benefits expected as a result of this project are noted below:

- Provide a more visually pleasing and functional section of Middle Country Road;
- Increase tax revenue;
- Provide multifamily housing;
- Provide affordable housing;
- Purchase of Pine Barrens Credits;
- Provide a development that conforms to the MCRLUP.

The plan for the subject property will provide an opportunity for viable residential and commercial development within an area of the Town well-suited to accommodate such growth. The proposal will promote the development of a vacant property in accordance with local comprehensive planning goals.

### Location

The project site is located south of Bailey Road, north of Middle Country Road, and east of Rocky Point Road (also known as "County Road 21"), in the hamlet of Middle Island. The site can be more particularly described as SCTM# 0200-378-02-33.3.

The property is located in the following land use and planning districts:

- Suffolk County Police Department, 7<sup>th</sup> Precinct, Patrol Sector 704
- Middle Island Fire Department
- Longwood Central School District
- Longwood Library District
- Central Pine Barrens, Compatible Growth Area
- A-1 (Residential) and J-2 (Business) Zoning
- LIPA/Keyspan Utility District
- Groundwater Management Zone III

### Project Design and Layout

The proposed plan includes a 135 unit residential development, 13,000 SF commercial building adjacent to Middle Country Road, a ±1,600 SF clubhouse, a village green/playfield (0.83 acres), a pool and a sewage treatment plant (STP) proposed to serve both the subject property and an adjacent proposed multifamily development (west side of Rocky Point Road). In keeping with the spirit and intent of the MCRLUP, the preliminary plan has been configured to create a central boulevard access road through the property terminating at Rocky Point Road directly opposite the proposed access road to a proposed multi-family housing project located on the west side of Rocky Point Road.

The multifamily residential units will consist of 88 townhouse units, 20 flats, 16 duplexes, three triplexes and eight live/work units, of which five townhouse units, five flats, and four live/work units will be set aside as affordable units. An on site STP is proposed to be situated on a total of 3.96 acres on the western portion of the site. The residential portion will be located primarily on the eastern and southern portion of the site and 16.3 acres of open space are provided in the northern and western portions of the property, as well as a perimeter buffer along the eastern property line. The two parcels of open space occurring on the western portion of the property will be connected through the vegetation to be retained on the ±3.96 acre STP parcel.

The village clubhouse and associated pool, and the commercial area will be located in the central eastern portion of the property. The village clubhouse will be 1,600 SF and will facilitate pedestrian activity to the clubhouse and social interactions among the community. A 13,000 SF commercial area is proposed in the southeastern corner of the property to service the hamlet and the proposed newly constructed residential units. It is intended that the presence of this commercial area will promote pedestrian activity since a vehicle would not be needed to reach the commercial area from residences in the southern portion of the property.

The overall site landscape concept will maintain contiguous natural vegetation over a minimum of 37 percent of the site and use of native species for revegetation of previously cleared areas and perimeter areas to open space. Native conservation and wildflower seed mixes are proposed along many of the site's perimeter to open space areas in efforts to reduce the amount of fertilizer dependent vegetation on the site. Some of the species used will be ornamental trees and shrubs, particularly surrounding the proposed buildings; however efforts have been made to

strictly limit the amount of fertilizer dependent vegetation permitted on site and utilize native species in proximity to retained open spaces. A total of 4.28 acres (11 percent) is proposed to be fertilizer dependent landscaping in the lawn areas surrounding the units, commercial area and the village green/playfield, therefore meeting Central Pine Barrens requirements to minimize fertilizer dependent vegetation to no more than 15 percent of a property.

An on-site drainage system of subsurface leaching pools designed for a five-inch rainfall event is proposed. Within the proposed development area, adequate depth to groundwater exists (in the range of 10-40 feet) and soils are anticipated to exhibit acceptable leaching characteristics (as evidenced by the sand and gravel operation north and west of the site), thereby ensuring that stormwater will recharge and that drainage systems will function properly.

The project is expected to generate a range of  $\pm 41,690$  gpd to  $\pm 50,000$  gpd of sanitary wastewater depending on the nature of the future commercial uses ultimately occupying the 13,000 SF of commercial space (i.e., flows may range from 0.03 gpd/SF for dry retail uses to maximizing the commercial space with restaurants and/or other higher water demand uses). The proposed project has been considered by the Suffolk County Department of Public Works (SCDPW) with respect to sanitary waste treatment in consideration of the Middle Island Townhomes project west of the site across Rocky Point Road. In review of these two projects, SCDPW suggested that these projects be combined to use a single STP. The subject site is the only site of the two that is of sufficient size and depth to groundwater to accommodate a full STP designed to SCDPW requirements. As a result, the applicant sought input from with respect to siting an STP on the subject site which would be capable of handling the combined flow from both projects. Approximately 50,000 gpd was attributed to the Sandy Hills site, and approximately 30,000 gpd was attributed to the Middle Island Townhomes site, for a combined STP size of 80,000 gpd. The proposed project will provide an STP designed for a capacity of approximately 80,000 gpd attributable to the subject site to accommodate this wastewater.

The proposed STP is located within approximately 3.96 acres on the southwestern portion of the site. SCDHS has reviewed the siting analysis prepared for the proposed STP and has found no objection to the location of an STP in the 3.96 acre area of the subject property where the STP is proposed.

Water service in the area of the proposed project is provided by the Suffolk County Water Authority. The Suffolk County Water Authority (SCWA), which maintains a 12 inch water main along Bailey Road and Middle Country Road. As described further in **Section 3.3.1**, the proposed project will connect to the existing water main distribution system for public water supply.

A summary of the existing and proposed site quantities are provided in **Table S-1**.

**TABLE S-1**  
**SITE AND PROJECT CHARACTERISTICS**  
**Existing and Proposed Conditions**

Coverages	Existing Conditions	Proposed Project
Natural/Open Space	±39.38 acres	±16.73 acres
Building/Paved	0.0 acres	±13.46 acres
STP	0.0 acres	±3.96 acres
Fertilizer Dependent Vegetation (lawn area and playfield)	0.0 acres	±4.28 acres
Non-Fertilizer Dependent Vegetation	0.0 acres	±0.94 acres
<b>Trip Generation</b>		
AM Peak Hour	0	112
PM Peak Hour	0	240
Saturday Peak Hour	0	311
<b>Water Resources:</b>		
Domestic Use (gpd) <sup>(1)</sup>	0	±41,300
Commercial Use (gpd) <sup>(2)</sup>	0	±390 - ±8,700
Irrigation (gpd) <sup>(3)</sup>	0	±5,230
Total Water Use (gpd)	0	±46,920 - 55,230
Recharge Volume (MGY) <sup>(4)</sup>	19.59	45.53
Sanitary Wastewater (gpd) <sup>(1, 2)</sup>	0	±41,690 - 50,000
Nitrogen Concentration (mg/l) <sup>(4)</sup>	0.01	±4.58
<b>Miscellaneous:</b>		
Solid Waste (lbs/day) <sup>(5)</sup>	0	±3,575
Total Taxes (\$/year)	±15,329	±549,032
School District Taxes (\$/year)	±10,108	±362,032
Total Residents <sup>(6)</sup>	0	±377
School-age children <sup>(7)</sup>	0	±57

- (1) Assuming SCDHS design flow rates of 300 gpd/unit, 0.3 gpd/SF clubhouse and 5 gpd/pool bather assuming 1 pool bather per 20 SF (1,250 SF pool).
- (2) Commercial uses not yet determined; depending on the nature of the future commercial uses, flows may range from 0.03 gpd/SF for dry retail uses to maximizing the commercial space with restaurants and/or other higher water demand uses (maximum combined residential and commercial sanitary wastewater flow not to exceed 50,000 gpd).
- (3) Assuming 5.5 inches of irrigation per year on fertilized areas for 4 month period (mid May to mid September).
- (4) See **Appendix B-2 and B-3**.
- (5) Assuming 5 lbs/day/capita and 1 lb/day/bedroom (US Census), 0.5 lbs/day/capita for community building, 90 lbs/day/100 SF of restaurant space, at 4,000 SF of restaurant space, and 1 lb/day/100 SF of office space, at 9,000 SF.
- (6) 2.83 capita/3 bedroom single family attached unit (83 units), 3.17 capita/3 bedroom single family attached unit affordable (5 units), 3.62 capita/2-4 attached units (19 units), 2.05 capita/5+ owned attached units (19 units), and 2.05 capita/5+ owned attached affordable units (9 units) (US Census).
- (7) 0.39/3 bedroom single family attached unit (83 units), 0.64/3 bedroom single family attached unit affordable (5 units), 0.83/2-4 attached units (19 units), 0.19/5+ owned attached units (19 units), and 0.19/5+ owned attached affordable units (9 units) (Burchell, et al., 2006).

### Construction Schedule

The applicant will proceed with construction upon final Town and other agency approvals. It is expected that a phased development plan will be pursued such that the access boulevard and a cluster of attached townhouse units will be constructed first. This will permit model units to be offered and sale of units to follow. The second phase is expected to include the construction of the STP, the commercial center with live/work units above it, and the remaining townhomes along the eastern portion of the site. Although the STP will be constructed during the second phase, it is expected to be functional by the closing of the first unit. It should be noted that if this is not possible, temporary sanitary systems will be installed as permitted by the health department. The final phase will consist of the construction of the village green/playfield, the village clubhouse, the pool, and the remaining townhomes, duplexes and triplexes. As each phase is constructed, removal of debris currently on the site will occur. All non-household debris (such as construction materials found on site) will be properly disposed of. It is expected that the residential phases will be built over a three to four year period.

### Site Operation

The residential property will remain in private ownership, with each of the residential units offered as units that are for sale, as none will be rented. The commercial portion of the site will also be maintained under private ownership and rented to tenants under lease agreements with the owner. Open space, landscaping, buffers and recreational areas, as well as the stormwater recharge systems and internal roadways will remain under the operation of a future home owner's association, which will be responsible for all on-site maintenance and repair as well as other management activities, including maintenance of the STP, landscaping maintenance, snow removal, garbage pick-up, etc. The proposed connector boulevard will be dedicated to the town. This will reduce the burden on Town highway maintenance demands. The village clubhouse will be owned and operated privately as well, and will maintain responsibility for upkeep of the acreage devoted to that use.

### Permits and Approvals Required

The following table outlines the required approvals necessary for the proposed project.

**TABLE S-2  
REQUIRED APPROVALS**

Applicable Board/Agency	Approval Type
Town Board	Change of zone to J-6 and MF
Town Planning Board	Site Plan and Subdivision Approval
Town Building Department	Building Permits
Suffolk County Dept. of Public Works	Sewage Treatment Plant Design
Suffolk County Sewer Agency	Sewage Treatment Plant Approval

Applicable Board/Agency	Approval Type
Suffolk County Dept. of Health Services	Article 6 (Wastewater System Design Review); Article 4 (Water Supply System Design Review)
NYS Dept. of Environmental Conservation	SPDES GP-08-01 Permit
NYS Dept. of Transportation	Road Opening Permit
Suffolk County Dept. of Transportation	Roadwork Access Authorization
Suffolk County Planning Commission (SCPC)	239m review
Suffolk County Water Authority	Water Supply and Connection
Central Pine Barrens JPP Commission	Hardship Approval

## ANTICIPATED IMPACTS AND PROPOSED MITIGATION

The following summaries the anticipated impacts and mitigation developed for the proposed project. Additional details pertaining to site characteristics under existing conditions and these identified impacts are contained in Sections 2 and 3 of the document.

### Topography

#### Anticipated Impacts

- The majority central, eastern and southeastern portions of the property are relatively flat with slopes of less than ten percent. However, the topography from the central to the western portion of the site trends downward from elevations of  $\pm 90$  feet above mean sea level (amsl) in the central portion of the site to elevation  $\pm 67$  feet amsl along Rocky Point Road. Therefore, in order to provide adequate building areas and to create a proper grade transition for the proposed boulevard connection road from Middle Country Road to Rocky Point Road, the development area will need to be graded (cut).
- It is estimated that approximately 189,851 CY of excess soil will be generated from on site grading operations (including excavations necessary for construction of the proposed roadways, basements and subsurface-leaching pools associated with the drainage system and STP), which will be transported offsite
- The clearing and grading process is expected to take 3-4 months to complete.
- The removal of this material from the site is expected to generate a total of 6,333 truck trips assuming a 30 CY holding capacity per truck. Assuming that four loading stations are established within the site, each of which loads two trucks/hour per 8-hour day, an estimated 99 working days would be needed to remove this material.

#### Proposed Mitigation

- Mitigation designed to limit the impact on topography at the subject property will consist of limiting the grading necessary in the steep sloped areas of the site using retaining walls and retaining many of the steep slope areas as undisturbed open space. The grading plan (see **Plate 2** at the end of the documents) has been devised to minimize the area and volume of disturbance; the grading envisioned is the minimum necessary to achieve the goals for the proposed

development. Resultant development areas will be permanently stabilized and slopes will not exceed 1:3.

- An erosion control plan has been prepared (included in **Plate 2** at the end of the document), which demonstrate the protection methods that will be utilized during construction to control transport of sediment and stormwater runoff and ensure slope stabilization upon the completion of construction activities.
- In accordance with the NYSDEC Phase II SPDES Program, coverage under the General Stormwater Permit will be obtained prior to the initiation of construction activities. A SWPPP, including a detailed erosion and sediment control plan will be prepared for the parcel to manage stormwater generated on-site during construction activities, and for post-construction stormwater management. The SWPPP will be prepared to ensure compliance with water quality and quantity requirements pursuant to the NYSDEC Design Manual, GP-08-01 and Town of Brookhaven Chapter 86 requirements. The SWPPP will be reviewed and approved by the Town prior to filing for permit coverage in accordance NYSDEC requirements and prior to the initiation of construction activities at the subject property.
- Use of a water truck, rumble strip, proper internal staging areas and provision of buffer areas.
- During the grading operation, truck traffic to and from the site will be routed along Middle Country Road and the LIE to the maximum practicable extent; trucks waiting to load will be routed and parked within the site in proximity to the grading area, to minimize the amount of truck movements, thereby minimizing the potential for raising dust.

## Soils

### Anticipated Impacts

- Five (5) of the soil types on the property pose “severe” limitations for development (specifically, steep slopes, flooding, and a sandy surface layer).
- Topsoil is intended to be stockpiled and re-used in for landscape areas in the developed parts of the site. Excess topsoil will be removed from the site to an approved disposal location.
- Scattered debris and drums currently exist on the subject property.
- Elevated levels of arsenic were detected during pesticide sampling.

### Proposed Mitigation

- Development in steep slope areas will be minimized by use of retaining walls and maintaining many of the steep slope areas undisturbed open space. The slopes running through the northern part of the site have been analyzed and are found to be 20-25 percent. All new slopes in excess of the accepted practice of 1:3 slope will be created to achieve the needed road grade through this slope transition.
- The area of the site underlain by these soils that will remain undisturbed and naturally-vegetated is approximately 34.9 percent.
- The developed portions of the site will first be subject to grading operations in order to provide an acceptable surface on which development can take place, followed by installation of landscaping to provide a means of stabilizing the soil to prevent erosion as soon as practicable following grading.

- Preservation of top soil, which is important for reestablishing indigenous plant growth within previously disturbed areas slated for preservation.
- Prior to the initiation of construction activities, the scattered debris and drums noted on the subject property will be removed from the property and disposed of at an appropriate facility.
- Preparation of a Soil Management Plan consistent with SCDHS Guidance for use of properties involving agricultural chemicals, to ensure isolation of soils from future occupants of the subject site. The SMP will be coordinated with the Town of Brookhaven during the review and approval of site plan/subdivision applications by the Town Planning Board similar to other projects completed under these guidelines within the Town of Brookhaven.
- Collection of end point samples after completion of soil management, to ensure the effectiveness of soil removal, tilling and cover in achieving arsenic concentrations below the SCDHS guidance value.
- Dust control and construction management will be utilized to avoid dermal contact and inhalation of soils containing agricultural chemicals.

## Subsurface Geology

### Anticipated Impacts

- The most intense cutting and filling will occur in the areas of the proposed buildings nearest to the northern portions of the site and the boulevard connection road in the southwestern portions of the site.
- It is estimated that a net excess of approximately 189,851 CY of soil will transported off site to be sold as fill or to an approved construction landfill.
- Test holes have not been dug yet, and unsuitable material may be encountered.

### Proposed Mitigation

- Due to the anticipated net cut on site, excavated soil will be removed from the site. The excavated soil may be sold as fill for other construction sites if the soil has acceptable properties. If excavated soil is lacking in acceptable properties, then all excavated soil will be carted to an approved construction landfill.
- A Grading and Drainage Plan has been prepared to minimize the area and volume of disturbance; the grading will be the minimum necessary to achieve the goals for the proposed development.
- Should soils with unsuitable drainage characteristics be present at the site any proposed on-site drainage system will be modified so that leaching facilities will be installed within soils that exhibit acceptable leaching characteristics, thereby ensuring that stormwater will recharge and that drainage systems will function properly.

## Water Resources

### Anticipated Impacts

- The construction of the developed portions of the proposed project will generate stormwater runoff.

- The project is expected to generate a range of  $\pm 41,690$  gpd to  $\pm 50,000$  gpd of sanitary wastewater which exceeds the total allowed by the SCDHS under its current regulations within Groundwater Management Zone III.
- Some residents in the immediate vicinity currently have private water wells, which may be impacted by the STP.
- The subject site is within the Carman's River Watershed, which may be impacted by stormwater runoff, fertilizer dependent species, and sanitary effluent.
- A letter from Stephen Jones at the SCWA dated July 17, 2007) expresses concerns over the location of the proposed STP and its effect on drinking water.
- Household chemicals will likely be the only toxic or hazardous materials used in the residential portions of the on-site.
- The concentration of nitrates (as nitrogen) in this recharge is anticipated to be increased due to the proposed project to a total of 4.58 mg/l, representing a 4.57 mg/l increase above the current conditions of the vacant site.

### Proposed Mitigation

- In conformance with the Town of Brookhaven requirements, all stormwater runoff generated on developed surfaces will be retained on-site, to be recharged to groundwater either through the proposed leaching pools or directly to the subsurface. Water generated on impervious areas of the property will be collected by a series of roadside and parking area catch basins which will either divert runoff to the ponds or directly recharge stormwater to the subsurface.
- An STP which conforms to setback and design requirements will be constructed to treat and recharge sanitary effluent. This STP is sized and designed to accommodate sanitary flow from the Middle Island Townhomes project and as a result is consistent with the recommendations of the SCDPW and will provide an opportunity for greater conformity to the Town's MCRLUP.
- The project will utilize public water, to be supplied by the SCWA via the existing 12" water main beneath Bailey Road and Middle Country Road.
- As recommended by the SCDHS, public water connection will be offered to those residents who currently have private water wells along Middle Island Road.
- The proposed STP, on-site stormwater recharge system, limit of fertilizer dependent species, and depth to groundwater in the developed area minimize impacts to the Carman's River Watershed.
- The proposed STP will be located in a portion of the site where the average elevation of the subject property, following grading, is expected to be approximately 82 feet above msl. With an average groundwater elevation underlying the site of 52 feet above msl this will result in a water table separation of approximately 30 feet. This will create a significant leaching zone through which effluent will travel prior to reaching the underlying water table and will further reduce nitrogen concentrations through filtration.
- Source Water Assessment Program (SWAP) maps for the Bailey Road well field were also consulted in order to determine if the proposed STP is located within the well fields contributing area. Review of the SWAP map reveals that the proposed STP lies approximately 1,200 feet south of the 50 year contributing area from which the Bailey Road well field draws groundwater. No other contributing area boundary was found to be located in the vicinity of the proposed STP. It should also be noted that the proposed STP will be located approximately 1,600 feet downgradient of the Bailey Road water supply well field and it is not expected that the pumping rate of the supply wells will be significant enough to alter the regional direction of water flow in

the area of the proposed STP and draw any generated discharges into the well field contributing area.

- The project consists primarily of residences, with some commercial spaces (expected and intended for small office and retail uses); no industrial uses are proposed. As a result, household and household-type cleaners and lawn fertilizers are likely to be the only toxic or hazardous chemicals present that could adversely impact groundwater quality. Educational materials regarding HHW and proper use of such substances could be made available to future condo owners and occupants through the site owner, and notification of the Town sponsored collection programs will be provided to residents and occupants, so that potential for spills or leakages of toxic materials can be minimized.
- To protect the quality of groundwater, fertilizer use will be minimized by limiting the amount of fertilizer-dependent landscaping to no more than 15 percent of the site (proposed plan limits fertilizer dependent vegetation to a total of 11 percent of the site based on turf areas and playfield). Landscape maintenance for the entire community will be conducted under the jurisdiction of the condo owners association, and will include a community-wide landscape maintenance contract. Fertilizer use will thus be controlled through initial applications to turf and landscape plantings (in order to establish plantings), as well as through the landscape grounds maintenance agreement.

## Vegetation

### Anticipated Impacts

- 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.
- 20.59 acres of woodland and successional habitat will be lost due to the proposed project.

### Proposed Mitigation

- A Landscape Plan has been prepared which includes the use of native trees and shrubs for the revegetation of open space areas, and conservation seed mixes for the creation of meadow areas and to reduce the area of fertilizer dependent turf grass. These native plant species provide food and shelter to wildlife.
- The loss of successional field and woodland habitat on the property will be partially mitigated by the proposed revegetation of 2.23 acres with native species and the establishment of 0.94 acres of supplemental non fertilizer dependant landscaped vegetation within the project site.
- Forty-two and a half percent of the property will be retained or revegetated back to natural conditions and the purchase of 1.72 Pine Barrens Credits is proposed to permanently preserve pine barrens vegetation with the Central Pine Barrens Core Preservation Area and assist in mitigating clearing in excess of the CPB regulations proposed on the site.
- Significant native trees along the site boundaries will be identified in the field and preserved, where practical, prior to construction in order to avoid inadvertent clearing of buffer vegetation. The preserved trees will then be supplementally planted with native vegetation following construction activities.

- A plan which provides open space in accordance with the CPB regulations has been prepared and is evaluated as Alternative 7.

## Wildlife

### Anticipated Impacts

- The property is not expected to act as a refuge for rare native flora or fauna, but does contain a small population of local birds and small mammals.
- The proposed project will result in the loss of existing vegetated area on the site.
- A tiger salamander breeding pond lies across CR 21 (Rocky Point Road) from the subject site.

### Proposed Mitigation

- Native plant species that provide food and shelter to wildlife will be utilized in landscaped areas, particularly along the northern and western site boundaries.
- The loss of woodland habitat on the property will be partially mitigated by the proposed establishment of 14.44 acres of open space within the project site, including preservation of the vast majority of the land within 535 feet of the known tiger salamander breeding pond located west of the property.
- Only passive uses will be allowed within the preserved woodland adjacent to the tiger salamander breeding pond.
- Significant native trees along the site boundaries will be identified in the field and preserved, where practical, prior to construction in order to avoid inadvertent clearing of buffer vegetation. The preserved trees will then be supplementally planted with native vegetation following construction activities.
- Areas of natural vegetation removed from the site will be reclaimed through the revegetation of 2.23 acres of native plantings in previously cleared and along perimeter buffer/natural areas. And by planting of landscaping species that will include 0.94 acres of non-fertilizer dependent species. Where practical, native plantings as per the approved species list of planting recommendations provided in the Central Pine Barrens Comprehensive Land Use-Plan have been specified on the proposed Landscape Plan.
- No known invasive plant species will be utilized, including those species specifically not recommended by the code of the Town of Brookhaven and those species listed in Resolution 614-2007 enacted by the Suffolk County Legislature.
- Approximately 14.5 acres (or 36.8 percent) of the existing Pitch Pine-Oak Forest will remain, and 2.23 acres (including 0.72 acres within the 535' tiger salamander setback) will be revegetated using native species.
- The loss of woodland habitat on the property will be partially mitigated by the proposed preservation of woodland in the northern and southwestern portions of the property as well as along the site buffers. Landscaping and turf will be the dominant vegetation surrounding the proposed structures and site access roadways. Native or near native transition landscape species are proposed adjacent to remaining woodland. This will supplement the remaining woodland buffers, although the habitat will be further reduced by the proposed development. Planting of

native tree species, such as oaks, and native shrubs will minimize the potential for colonization by introduced species.

## Land Use, Zoning and Plans

### Anticipated Impacts

- A multifamily residential use will be situated amongst surrounding commercial and single family residential uses.
- Pine Barrens standards adopted by the Town under Town Code Chapter 85-447, restrict clearing of natural vegetation to no more than 53 percent for the A-1 portion of the site and 65 percent for the commercially zoned portion of the site. The currently proposed project will preserve approximately 37 percent of natural vegetation on the subject site and revegetate approximately four percent of the site back to natural/native conditions, which is less than the minimum allowed for by the Central Pine Barrens Comprehensive Land Use Plan and the Town Code for mixed use development.
- The proposed project does not conform to the applicable recommendations of the SGPA Plan, in that it is proposed as a moderate density residential change of zone at a density based on the proposed MF zoning.
- The NURP Study found that any organic chemicals that may be present in stormwater generally volatilize on surfaces, and inorganic chemicals and bacteriological indicators are removed as recharge infiltrates through soil.

### Proposed Mitigation

- The proposed multi-family residential use has been situated to provide extensive buffering of adjacent uses through perimeter buffering particularly north of the site.
- Minimization of clearing to the maximum extent practicable, while still providing a viable project that conforms to the MCRLUP is recommended to conform as closely as possible to Pine Barrens standards.
- Purchase of Pine Barrens Credits to provide additional benefit for those aspects of the plan which do not strictly conform to the Pine Barrens Plan.
- The proposed development has been designed to be consistent with the requirements of Town zoning and land use plans as a form of mitigation of site development given its current A-1 zoning.
- The use of an on site STP will minimize impacts to groundwater, mitigating the SGPA plan's recommendations of a clustered subdivision.
- Proper stormwater handling will be employed and the project will conform to SPDES GP-08-01.

## Community Character

### Anticipated Impacts

- Approximately 24.16 acres are expected to be cleared for the proposed project, thus exposing more of the subject property.

#### Proposed Mitigation

- Clearing of the site will occur primarily within the interior of the property and naturally-vegetated buffers will be retained along all property lines which will limit views and noise to and from the project area.
- Views from residential properties located north and east will be hindered by a natural buffer and views from residential properties to the west will be limited due to the vegetative buffers placed along the property line. Views from the south will consist of commercial space that will conform architecturally to the MCRLUP. These areas will provide visual and aesthetic relief, and preserve the natural character of the property.
- Natural buffers will be enhanced by planting indigenous vegetation in areas previously disturbed.

#### Community Services

##### Anticipated Impacts

- The proposed project will create an increase in demand for community services.
- 57 new students are expected to be generated by the proposed project.
- Some single family residences on Middle Island Road currently have private water wells.
- The proposed project will generate an increase in water usage.
- The proposed project will generate sanitary effluent.
- The proposed project will generate an increase in energy usage.

##### Proposed Mitigation

- The proposed project will result in a significant increase in the amount of property taxes generated on the site, particularly as compared to existing site conditions. As a result, the project will offset at least a portion of the increased costs for community services to serve the project.
- The projected 57 new students are not anticipated to significantly impact the enrollment of the Longwood Central School District. The proposed project will increase the allocation of property taxes to the Longwood Central School District, which will offset a portion of the increased school district costs to educate the 57 school-age children generated. Alternative 7 described in **Section 5.6** provides a tax neutral alternative which would allocate enough tax revenue to cover the cost to educate the school children generated in that alternative.
- Adherence to the NYS Fire and Building Codes will increase the level of safety from fires and minimize the potential for use of ambulance services. In addition, use of fire/smoke alarms will assist in minimizing the incremental increase in the potential need for fire protective services.
- The applicant proposes to provide the Village Green for Village residents.
- As no significant adverse impacts are anticipated as a result of the increased solid waste generation of the proposed project, no mitigation is necessary or proposed.
- Public water supply connections and sewer connections will be provided for the single family residences on Middle Island Road.

- Water-conserving plumbing fixtures, mechanical systems, and rain sensors on irrigation systems will be utilized in construction, which will further minimize the volume of water required from the public water supply.
- The sanitary wastewater generated by the project will be treated and disposed in an on-site public STP.
- It is anticipated that energy-conserving measures including energy saving wall insulations, triple-glazed windows and energy efficient mechanical systems will be utilized, thereby mitigating the anticipated increase in energy consumption.

## Transportation

### Anticipated Impacts

- After the completion of the project under Scenario 2, the intersection of Rocky Point Road at Artist Lake Drive will continue to operate at No Build LOS conditions during the weekday PM and Saturday midday peak hours and will change from LOS B to LOS C with an increase in delay of 3 seconds during the weekday AM peak hour. The 3 seconds increase in delay should not significantly impact the operation of the intersection; hence, mitigation may not be necessary.
- After the completion of the projects under Scenario 1, three (3) of the five (5) signalized intersections studied (Middle Country Road at St. Margaret's Blvd, Middle Country Road at Middle Island Road and Rocky Point Road at Artist Lake Drive) will not experience changes in LOS from the No Build Scenario 1 Condition.
- After the completion of the project under Scenario 2, the intersection of Middle Country Road at St. Margaret's Blvd will continue to operate at No Build LOS conditions during the weekday AM peak hour and will change from LOS D to E during the weekday PM and Saturday midday peak hours. However, optimizing the NYS Route 25 network cycle lengths, signal timings and phasing will mitigate the LOS E to LOS D during the weekday PM and Saturday midday peak hours.

### Proposed Mitigation

- After the completion of the project under Scenario 1, the LOS at the intersection of Middle Country Road at Rocky Point Road will change from D to E during the AM peak hour and from E to F during the PM and Saturday midday peak hours. In order to mitigate the impacts created at this intersection, the following improvements may be considered:
  - Restripe the southbound CR 21 approach to provide one left turn lane, one through lane and one right turn lane
  - Optimize the traffic signal network cycle lengths, phasing and timings
  - With these improvements, the intersection will operate at No Build LOS D, E and E during the weekday AM, PM and Saturday midday peak hours respectively.
- After the completion of the project under Scenario 1, the intersection of Rocky Point Road at Longwood School signalized driveway will continue to operate at No Build LOS conditions during the weekday PM and Saturday midday peak hours and will change from LOS A to LOS B during the weekday AM peak hour with a 1.1 second increase in delay. The 1.1 seconds increase in delay should not significantly impact the operation of the intersection; hence, mitigation may not be necessary.
- After the completion of the project under Scenario 2, the intersection of Middle Country Road at Middle Island Road will continue to operate at No Build LOS during the weekday AM and Saturday midday peak hours and will change from LOS B to LOS C during the weekday PM peak hour. However, optimizing the NYS Route 25 network cycle lengths, signal timings and phasing will mitigate the LOS C to LOS B during the weekday PM peak hour.
- During the No Build Scenario 2 Condition, the signalized intersection of Middle Country Road at Rocky Point Road operates at LOS E, F and F during the weekday AM, weekday PM and Saturday midday peak hours respectively. After the completion of the project the poor No Build LOS will be maintained during the analyzed peak periods. In order to improve the operation of this intersection, we recommend that, Suffolk County and NYSDOT consider the following improvements:

- Construct a second eastbound NYS 25 through lane between Middle Island Road and the shopping center west driveway.
- Restripe the southbound CR 21 approach to provide one left turn lane, one through lane and one right turn lane.
- Optimize the traffic signal network cycle length, phasing and timings.
- With these recommended improvements the intersection will operate at LOS D, C and E (better than No Build LOS) during the weekday AM, PM and Saturday midday peak hours respectively.
- After the completion of the project, the intersection of Rocky Point Road and Longwood Middle School signalized driveway will continue to operate at No Build LOS conditions during the analyzed peak hours.
- The analyses of the unsignalized intersections showed that, the minor approaches of most of the unsignalized intersections currently operates at poor levels of service during the weekday PM and Saturday midday peak hours and will continue to operate at poor levels of service after the construction of the proposed projects. It is not unexpected to see results of LOS D, E or F for traffic at the stop-controlled approach of an unsignalized intersection with a major roadway. The availability of gaps in the traffic on the major roadway determines the level of delay that is assigned to the stop-controlled traffic. Higher volumes along major roadways result in fewer available gaps. It should be noted that, the critical gap acceptance calculated by the Synchro Software (Software utilized to conduct capacity analyses) is higher than the available gaps on the major roadways (NYS Route 25 and CR 21). This may be the reason why the capacity analyses are showing high delays on the side street approaches of the unsignalized intersections. However, motorists were observed in the field exiting side streets during short gaps. Therefore, the side street approaches are actually operating at better levels of service as compared to the calculated levels of service by the Synchro Software.

## Air Quality and Noise

### Anticipated Impacts

- No significant changes in noise levels will occur as a result of the proposed project.
- Dust may be emitted from the project site during construction.

### Proposed Mitigation

- As the proposed Sandy Hills development is not anticipated to result in any significant changes in the existing noise environment of the site or the vicinity, no mitigation is necessary or provided.
- Potential construction related fugitive dust emissions will be mitigated by use of a water truck kept on-site to wet excessively dry soils.

## Cultural Resources

### Anticipated Impacts

- Based on the results and conclusions of the Phase I archeological investigation conducted on the subject property which concluded that there is isolated evidence of prehistoric sites and no evidence of 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.

#### Proposed Mitigation

- Since only an isolated prehistoric artifact was recovered and no other archeological sites, remains or artifacts were found to be present on the subject property, development of the proposed project is not expected to impact archeological resources. As a result no mitigation measures related to prehistoric or historic sensitivity are considered necessary.

### CUMULATIVE IMPACTS

Cumulative impacts are the potential impacts of a proposed action taken in conjunction with those of other active or anticipated nearby development projects. Three developments were identified in the surrounding area.

- Middle Island Townhomes – 92 multi-family units on 13.51 acres. This project is located at the northwestern corner of NYS Route 25 at Rocky Point Road (CR 21). The project site was approved for a change of zone to MF by the Town Board on its own motion, based on the Middle Country Road Land Use Plan. The project is under review of a site plan and as a result, no construction has commenced at the time this DSEIS was prepared.
- Middle Island Village (4B's) – 240 multi-family units, 131,000 SF of commercial area and 17,000 SF community center on 19.03 acres. This project is located approximately 1,650 feet west of Rocky Point Road, of which the southern portion of the property borders Middle Country Road. The project is currently still under review for a change of zone. As a result, the actual development of this site is not expected to occur for a number of years as a change of zone must precede a full site plan review. It is noted that the use of this site as noted above would be consistent with the Town's vision as expressed in the MCRLUP.
- Middle Island Shopping Plaza – expansion of existing 69,864 SF shopping center consisting of 4,088 SF of office space and 16,550 SF of retail space on a total of 10.78 acres. This project is located on the southeast corner of Middle Country Road and Rocky Point Road. This represents a marginal increase to an existing center that is recognized in the MCRLUP. The project is currently still under site plan review and no construction has commenced at the time this DSEIS was prepared.

The potential impacts of those projects in conjunction with the proposed project; when considered together, may potentially result in impacts, which are greater than the individual impacts from each project. Impacts which may occur and may be increased on a cumulative basis are noted as follows:

- Construction impacts causing temporary increases in the potential for fugitive dust and construction traffic and noise during the construction period. This will occur regardless of land use and is not expected to occur all at one time as projects will be subject to varying schedules.

Individual sites should be subject to construction hour limitations and construction management, similar to that proposed for Sandy Hills. These impacts are temporary and unavoidable; however, proper construction management will limit impacts to the maximum extent.

- While these applications would combine to increase the demand upon local community services (e.g., schools, fire and police protection, utilities, and solid waste handling), these services will receive an increase in funds from the tax revenues generated from the developments, which would enable these service providers to continue to have sufficient capability to provide services. The Sandy Hills project can be designed for reduction of school aged children and a balance of tax revenue to offset the cost of providing services (see discussion for Alternative 7 in Section 5).
- As each of these four (4) projects (including the subject site) would change the use and appearance of their sites, there will be a cumulative impact on the visual resources and character of the community. The Town has completed the Middle Country Road Land Use Plan which seeks to revitalize the area of Middle Island in which these projects are located. The change in visual resources and community character will be consistent with this plan.
- Discharge of sanitary waste to groundwater. No existing public STP's are available to these sites. If the revitalization of Middle Island is to occur in conformance with the MCRLUP, new opportunities for sanitary waste treatment are needed. The proposed project (Sandy Hills) has been designed to provide a new STP that will be capable of receiving sanitary waste from other projects in the area. The location of the STP has been approved by SCDHS and once the change of zone is approved, full engineering and approvals for the STP will be obtained. It is expected that the Middle Island Townhomes project will utilize the proposed STP on the Sandy Hills property. Due to the unknown status of the Middle Island Village project and the large expected sanitary flow (approximately 75,000 gpd) currently predicted, this site could be accommodated in a 100% expansion of the Sandy Hills STP. The expansion of the Middle Island Shopping Plaza is expected to be able to be achieved using conventional on-site sanitary systems in conformance with Article 6 density requirements.

The Town's MCRLUP is an important consideration with respect to potential cumulative impacts. The MCRLUP seeks to situate increased density in hamlet areas and reduce density in transition areas outside of hamlets. This land use goal is also reflected in the Towns MF/PRC zoning districts which define Primary, Secondary and Tertiary zones for relatively lower incremental land use density. The site is across from the Middle Island Library and in a primary zone, and therefore is suitable for consideration of increased density. The Middle Island Shopping Plaza is an existing large center which is undergoing a small expansion and upgrade. Middle Island depends on the success of this center and as a result expansion and upgrade is good land use and consistent with the MCRLUP. The combination of these four (4) projects is expected and planned for through the MCRLUP and as a result, it is expected that cumulative impacts are minimized, or addressed through Town planning.

Cumulative impacts addressed in the GEIS for the MCRLUP assessed higher density for both the subject site and the Middle Island Townhomes project, a higher density for the Middle Island Shopping Plaza, and a lower density for the 4B's project. Specifically, 144 units were proposed on both the Sandy Hills and Middle Island Townhomes parcels, while only 135 and 92 are proposed, respectively, indicating that the Town GEIS anticipated 52 units more than proposed. The MCRLUP identified a total of 192 units for the 4B's property, and 240 are proposed,

indicating the Town GEIS anticipated 48 units less than proposed. As a result, the MCRLUP accounted for 4 more units than what is currently proposed by the combination of these projects.

Due to the general decrease in density of the proposed projects from the analysis in the MCRLUP, a lesser impact is expected than what was anticipated in that document. In addition to the lesser degree of impacts expected, traffic impacts are expected to be mitigated through the proposed boulevard connection of the Middle Island Townhomes and Sandy Hills projects. This connection will alleviate traffic congestion elsewhere along Middle Country Road by allowing for an additional access to the residences of the proposed projects.

Consideration is given to a broad geographic area designated as the Central Pine Barrens. The Pine Barrens Plan is applicable to the proposed project and would apply to other projects proposed within the Central Pine Barrens. The Pine Barrens Plan creates an additional safeguard through implementation of the Town Central Pine Barrens zoning districts, and/or CPBJPPC review of projects based on size and location and potential regional Pine Barrens implications. All projects in the Central Pine Barrens must conform to either local Pine Barrens zoning regulations, or be reviewed by the CPBJPPC.

## ALTERNATIVES

Alternative 1 is the “No Action” alternative, which is required by SEQRA and is intended to represent conditions if the site were maintained in its current status and condition (thereby enabling comparisons of impacts between the proposed project and all alternatives). The following lists the alternatives analyzed in this document:

**Alternative 1: No Action**

(The site remains in its current use and condition.)

**Alternative 2: As of Right Cluster Design**

(This alternative assumes that the project site is developed to maximum density under the properties existing zoning classification, with reference to the yield plan and reduced lot size similar to B residential zoning. This alternative would conform to all applicable standards and guidelines in the CPB Comprehensive Land Use Plan.)

**Alternative 3: Increased Commercial/Reduced Density**

(This alternative assumes that the site is developed with a layout similar to the proposed action, but with an increase in commercial/retail provided along the proposed connection road and a reduction in residential density by replacing 16 duplex units with 10 detached single family units.)

**Alternative 4: Alternate Road Layout**

(This alternative assumes the layout of the proposed action is modified to relocate the proposed connection boulevard and associated disturbance outside of the 535’ setback radius from the adjacent pond, which was previously identified as a tiger salamander breeding pond.)

Alternative 5: Acquisition for Open Space

(This alternative assumes that the site would be acquired by the Town of Brookhaven as an open space parcel.)

Alternative 6: Maximize Pine Barrens Development Credits

(This alternative assumes that the site would be designed with a layout that would maximize the usage of Pine Barrens Development Credits including reference to the optional program and the regulations pursuant to §85-450 and 85-451 of the Town Code.)

Alternative 7: Alternate Open Space Plan

(This alternative assumes that the site is developed with a layout that would conform to the clearing requirements within a Pine Barrens Compatible Growth Area.)

**Table S-1** provides a comparative summary of these alternatives based on a variety of impact parameters.

TABLE S-3  
COMPARISON OF ALTERNATIVES

Coverages	Existing Conditions	Proposed Project	Alternative 1&5: No Action/Acquisition for Open Space	Alternative 2: As of Right Cluster Design	Alternative 3: Increase Commercial/Reduced Density	Alternative 4: Alternate Road Layout	Alternative 7: Alternate Impact Reduction Plan
Natural/Open Space	39.38 acres	±16.73 acres	±39.38 acres	±21.65 acres	±18.08 acres	±16.73 acres	±18.50 acres
Building/Paved	0.0 acres	±13.46 acres	0.0 acres	±3.57 acres	±12.59 acres	±13.46 acres	±13.41 acres
STP Parcel	0.0 acres	±3.96 acres	0.0 acres	0.0 acres	±3.96 acres	±3.96 acres	±2.66 acres
Recharge Basin	0.0 acres	0.0 acres	0.0 acres	±2.23 acres	0.0 acres	0.0 acres	0.0 acres
Fertilizer Dependent Vegetation	0.0 acres	±4.28 acres	0.0 acres	±5.78	±4.98 acres	±4.28 acres	±4.81 acres
Non-Fertilizer Dependent Vegetation	0.0 acres	±0.94 acres	0.0 acres	±6.14	±3.72 acres	±0.94 acres	±0 acres
<b>Trip Generation</b>							
AM Peak Hour	0	112	0	33 <sup>(1)</sup>	143 <sup>(2)</sup>	112	62
PM Peak Hour	0	240	0	41 <sup>(1)</sup>	345 <sup>(2)</sup>	240	72
Saturday Peak Hour	0	311	0	41 <sup>(1)</sup>	468 <sup>(2)</sup>	311	79
<b>Water Resources:</b>							
Domestic Use (gpd, design) <sup>(3)</sup>	0	±41,300	0	±10,200	±39,500	±41,300	±41,300
Commercial Use (gpd) <sup>(3)</sup>	0	±390 - ±8,700	0	0	±825 - ±10,500	±390 - ±8,700	±1,663
Irrigation (gpd, annual average) <sup>(4)</sup>	0	±5,230	0	±7,070	±6,190	±5,230	±3,096
Total Water Use (gpd)	0	±46,920 - ±55,230	0	±17,270	±46,515 - ±56,190	±46,920 - ±55,230	±46,059
Sanitary Wastewater <sup>(3)</sup>	0	±41,690 - 50,000	0	±10,200	±40,325 - 50,	±41,690 - 50,000	±41,690 - 50,000
Recharge Volume (MGY)	19.59	45.53	19.59	25.21 <sup>(1)</sup>	44.81 <sup>(2)</sup>	45.53	45.49
Nitrogen Concentration (mg/l)	0.01	4.58	0.01	6.45 <sup>(1)</sup>	4.68 <sup>(2)</sup>	4.58	4.60
<b>Miscellaneous:</b>							
Solid Waste (lbs/day) <sup>(5)</sup>	0	±3,575	0	±760	±3,165	±3,575	±2,342
Total Taxes (\$/year)	15,328.89	±549,032	15,328.89	±279,115	±549,803	±549,032	±\$566,665
School District Taxes (\$/year)	10,107.50	±362,032	10,107.50	±184,048	±362,540	±362,032	±\$373,659
Cost to Educate (\$/year)	0	±856,938	0	±541,224	±691,564	±856,938	±303 <sup>(10)</sup>
Total Residents	0	±377 <sup>(6)</sup>	0	±125 <sup>(8)</sup>	±301	±377 <sup>(6)</sup>	±25 <sup>(11)</sup>

Notes:

(8) See Appendix J-1

(9) See Appendix J-2.

(10) Assuming SCDHS design flow rates of 300 gpd/residential unit + 0.3 gpd/SF community building and 5 gpd/pool bather assuming 1 pool bather per 20 SF in a 1,250 SF pool. Commercial uses not yet determined; depending on the nature of the future commercial uses, flows may range from 0.03 gpd/SF for dry retail uses to maximizing the commercial space with restaurants and/or other higher water demand uses (maximum combined residential and commercial flow not to exceed 50,000 gpd).

(11) Irrigation rate of 5.5 inches/year, assuming four months of irrigation (mid May to mid September) on fertilizer dependent areas.

(12) Assuming 5 lbs/day/capita and 1 lb/day/bedroom (US Census), 0.5 lbs/day/capita for community building, 90 lbs/day/100 SF of restaurant space, at 4,000 SF of restaurant space, and 1 lb/day/100 SF of office space, at 9,000 SF.

(13) 2.83 capita/3 bedroom single family attached unit (83 units), 3.17 capita/3 bedroom single family attached unit affordable (5 units), 3.62 capita/2-4 attached units (19 units), 2.05 capita/5+ owned attached units (19 units), and 2.05 capita/5+ owned attached affordable units (9 units) (US Census).

(14) Assuming 0.39/3 bedroom single family attached unit (83 units), 0.19/3 bedroom single family attached unit affordable (5 units), 0.83/2-4 attached units (19 units), 0.19/5+ owned attached units (19 units), and 0.19/5+ owned attached affordable units (9 units) (Burchell, et al., 2006).

(15) Assuming 3.67 capita/4 bedroom single family detached units (US Census).

(16) Assuming 1.05 SAC/4 bedroom single family detached units (Burchell, et al., 2006).

(10) Assuming 2.09 capita/2 bedroom single family attached unit, and 2.10 capita/2 bedroom affordable single family attached unit (Burchell, et al., 2006).

(11) Assuming 0.14 capita/2 bedroom single family attached unit which is not age restricted, and 0.19 capita/2 bedroom affordable single family attached unit which is not age restricted (Burchell, et al., 2006).

**SECTION 1.0**

**DESCRIPTION OF THE PROPOSED PROJECT**

## 1.0 DESCRIPTION OF THE PROPOSED ACTION

### 1.1 Introduction

This document is a Draft Supplemental Environmental Impact Statement (DSEIS) prepared for the Condominiums at Sandy Hills project proposed on a 39.38 acre parcel of vacant land in Middle Island, Town of Brookhaven, New York. A Generic Environmental Impact Statement (GEIS) for the 2006 *Land Use Plan for Coram, Middle Island and Ridge* ("MCRLUP") was prepared in 2006 by the Town of Brookhaven ("Town") and adopted by the Town Board on June 19, 2007, to which this document is a supplement. The Town prepared the MCRLUP to address strip zoning through three hamlets along Middle Country Road (also referred to as "NYS Route 25"). The proposed project conforms to the Town's MCRLUP by proposing a multiple family project with 135 units (10 percent of which will be offered as affordable) and 13,000 square feet (SF) of commercial use to complement the redevelopment of the Route 25 corridor and further enhance the concept of a walkable hamlet community. The majority of the overall site is currently zoned A-1 Residential (38.92 acres), with a small (0.46 acres) J-2 Business zoned section in the northwestern part of the site fronting Middle Country Road. A zone change is therefore necessary to allow for the proposed development. The change of zone request involves converting 38.92 acres of the Residential A-1 zoned portion of the site to MF Multifamily zoning and converting the remaining J-2 Business zoned 0.46 acres along Middle Country Road to J-6 zoning to allow for the proposed commercial component of the project. The applicant for the project is Sandy Hills, LLC ("applicant"). It is noted that there are two long thin tax parcels on the east side of CR 21 and adjoining the subject property, which are identified by Suffolk County Real Property information as being owned by others. These parcels had been owned by the applicant for the Sandy Hills project, but were erroneously conveyed to others. Since the change of zone application for the project was submitted, the applicant and his attorney met with Suffolk County Real Property, and it was determined that the parcels were in fact owned by the applicant. The correction is in the process of being mapped and recorded to merge these two parcels with the overall subject property. Therefore the overall site acreage depicted in the enclosed site plans (**Plate 2**, pocket at the end of the document) and analysis contained in this document is based on the corrected site acreage of 39.38 acres.

The review of environmental consequences of an action is regulated by Part 617, Title 6 of the New York Code of Rules and Regulations (6NYCRR Part 617), as promulgated under the NYS Environmental Quality Review Act (SEQRA). The Brookhaven Town Board assumed lead agency status and issued a Positive Declaration on June 19, 2007, requiring the preparation of this DSEIS (see **Appendix A-1**). The scope of this DSEIS addresses those items specified in the Positive Declaration (see **Appendix A-2**) and has been prepared by the applicant to fully disclose impacts, mitigation measures, and alternatives of the proposed project.

The overall project must be analyzed to ensure that the full impacts of the project are disclosed in conformance with SEQRA requirements for project review. The project must be presented in sufficient detail to permit project review and analysis of impacts; however, it is necessary to understand that the project is for a proposed mixed use development which would be facilitated by the proposed change of zone of 39.38 acres. The site plans prepared for the development (contained in **Plate 2** at the end of this document) provides sufficient detail to permit full

disclosure of impacts and impact analysis. Where appropriate, it is noted that the project will comply with requirements which will be imposed through future Planning Board site plan review and approval of more specific design plans. The Planning Board is an involved agency and will ultimately issue Findings based on this DSEIS and will have further opportunity to issue decisions with respect to the proposed commercial and residential development.

The purpose of the DSEIS is to provide information to decision-making agencies with respect to the proposed project, existing environmental conditions, potential impacts and mitigation, and to explore alternatives to the proposed action which may reduce potential impacts. The EIS review process will provide the public and involved/interested agencies with the opportunity to review this information, provide comments, and consider responses to comments on the DSEIS through the issuance of a Final SEIS by the Town Board of the Town of Brookhaven as lead agency, which will form the basis for adoption of Findings by decision-making agencies, leading to informed decisions with respect to the pending project.

## 1.2 Project Background, Need, Objectives and Benefits

### 1.2.1 Project Background

Previous applications have been made to develop the subject property based on the existing Residential A-1 zoning in early 1990s. The Town adopted a building moratorium which included the subject property (effective July 28, 2003) entitled "Creating New Chapter 17E entitled "Moratorium-Coram, Middle Island and Ridge". During the moratorium, the applicant applied for a Waiver of Relief from Chapter 17E to allow for processing of the "The Meadows @ Sandy Hills" on November 14, 2003. The waiver of relief was denied by the Town Board on June 7, 2005. After the moratorium ended (March 31, 2006), the applicant submitted an application for a preliminary cluster subdivision on April 4, 2006; however the Town Planning Department responded that the application was inconsistent with the MCRLUP. The applicant then began development of a mixed use plan, ultimately resulting in the proposed project plans included herein, in order to conform to Town goals for Middle Country Road and Middle Island area.

The current proposal seeks to conform to the goals of the MCRLUP and is designed to promote an unfragmented, community environment with both multifamily residential units and a commercial component. The site is designated in the Central Pine Barrens Comprehensive Land Use Plan (hereafter, the "Pine Barrens Plan") as a Compatible Growth Area, and the applicant will be required to apply for hardship to the Central Pine Barrens Commission to allow for additional clearing beyond the permitted 53 percent in the A-1 zoned areas of the property and 65 percent in the J-2 zoned portion of the site (see **Section 3.1.2**). The current proposal would require a change of zone from A-1 and J-2 to MF and J-6 to meet the goals of the MCRLUP (which are discussed in detail in **Section 3.1.1**, see also **Figure 3-5**). The change of zone request was submitted by the applicant on February 16, 2007 to the Town of Brookhaven.

### 1.2.2 Public Need and Municipality Objectives

The proposed project will provide the permanent use of a vacant property in conformance with the Town's comprehensive planning goals and objectives. The Town's MCRLUP recognizes the need to defragment the zoning on Middle Country Road and the need for multifamily housing. Development of the site for the proposed purpose would not only fulfill this need within the area, but also conforms to the desires of the local community to limit fragmentation of zoning into or near residential areas. The MCRLUP recognizes the negative effects of the strip zoning along Middle Country Road and states that the Town has a strong desire to improve these conditions through the creation of hamlet centers. The project site is proposed as multifamily housing units within a hamlet as described in MCRLUP and is identified as a key area for development due to its proximity to a key intersection and its potential for aiding in reducing strip zoning along Middle Country Road. Specifically, the MCRLUP identified the site as an area appropriate for a 144 unit residential development which would allow for easy access to the commercial center and the library on the southern side of Middle Country Road.

The project will provide a hamlet center which will provide residents with easy access to open space and a commercial center. Ultimately, this will reduce the need for car trips due to the close proximity of the commercial center. As a result, the proposed use serves multiple land use purposes by providing needed housing in an appropriate transition area in a manner that promotes the principles of sound planning. Overall, the proposed use is compatible with the land use and the desired zoning change is complimentary to local uses and fulfills a need in the area.

### 1.2.3 Objectives of the Project Sponsor

The applicant seeks to create a balanced mixed-use community that will complement the surrounding community and conform to the Town's MCRLUP. The resulting proposed plan provides mixed-housing and small neighborhood convenience retail/office center to achieve a mixed use that has community support. The applicant's goals are to provide an economic return while meeting community needs and protecting environmental resources.

### 1.2.4 Benefits of the Project

The Sandy Hills development plan employs sound planning principles of mixed use in order to achieve a livable community in an attractive enhanced park setting within a natural environment appropriate for the Compatible Growth Area of the Central Pine Barrens. The proposed project is designed so that the residential, and commercial land uses will be located within those portions of the parcel where such uses would be most in conformance with adjacent zoning and land uses, as well as the site's physical development restrictions [including clearing restrictions associated with Central Pine Barrens Compatible Growth Area regulations and proximity of the property to an off site pond requiring stringent protection measures by the NYSDEC due to the prior documented presence of an endangered species (tiger salamander) (see **Section 2.6.1**)]. The project will provide a mixed-use development with six (6) different styles of residential housing including affordable units, and some commercial use, all goals of the Town's MCRLUP. In addition, the applicant is constructing an STP that will permit the connection of other parcels

involving development in conformance with the MCRLUP as determined by the Town through land use review. The applicant is providing an expanded right-of-way and is constructing a road beyond what would normally be required for a multifamily site plan use, and as a result is providing infrastructure benefit and direct expenditures to further the Town's comprehensive planning goal of providing a public road interconnection between CR 21 and Middle Country Road. Further, while not the preference of the applicant, the proposed project involves the expansion of the commercially zoned portion of the property fronting Middle Country Road to assist in meeting the Town's land use objectives to create a hamlet center in Middle Island. Additionally, the applicant proposes to purchase 1.72 Pine Barrens Credits (see **Section 3.1.2** and **Plate 2** for Pine Barrens Credits calculations), which will result in a greater use of Pine Barrens Credits than if the property remained under its current A-Residence-1 zoning (since the site is ineligible as an ROD, see Section 5.5). The project will be a non-gated, privately owned and maintained with security and modern building construction standards, thereby, minimizing impact to other service providers.

In summary, some of the benefits expected as a result of this project are noted below:

- Provide a more visually pleasing and functional section of Middle Country Road;
- Increase tax revenue;
- Provide multifamily housing;
- Provide affordable housing;
- Purchase of Pine Barrens Credits;
- Provide a development that conforms to the MCRLUP.

The plan for the subject property will provide an opportunity for viable residential and commercial development within an area of the Town well-suited to accommodate such growth. The proposal will promote the development of a vacant property in accordance with local comprehensive planning goals.

### 1.3 Location and Existing Site Conditions

The project site is located south of Bailey Road, north of Middle Country Road, and east of Rocky Point Road (also known as "County Road 21"), in the hamlet of Middle Island (see **Figure 1-1**). The site can be more particularly described as SCTM# 0200-378-02-33.3. The property is presently vacant and unoccupied, except for any trespassing that may occur on the site, which is evidenced by the trails on the property. Unauthorized activities, such as the dumping of trash have occurred, as evidenced by construction debris and household debris throughout the site.

Nearby publicly owned properties include Cathedral Pines County Park to the south, a New York State Conservation area to the north, and Artist Lake to the south east. The site is also located in an archaeologically sensitive area as determined by the New York State Historic Preservation Office. No national, or state listed historic properties are located on or near the site. An in-progress listing is located to the southwest of the site and is identified by the National Historic Preservation Office as number 05NR0550 and is the Middle Island Presbyterian Church.

The property is located in the following land use and planning districts:

- Suffolk County Police Department, 7<sup>th</sup> Precinct, Patrol Sector 704
- Middle Island Fire Department
- Longwood Central School District
- Longwood Library District
- Central Pine Barrens, Compatible Growth Area
- A-1 (Residential) and J-2 (Business) Zoning
- LIPA/Keyspan Utility District
- Groundwater Management Zone III

It should be noted that the project contemplates that use of Pine Barrens Credits, and has filed the appropriate application with the CPBJPPC for a hardship exemption, which is further discussed in **Section 3.1**.

## 1.4 Project Design and Layout

### 1.4.1 Overall Site Layout

A full set of site plans has been prepared by Nelson and Pope, Engineers and Surveyors (included as **Plate 2**) for the purpose of analyzing the potential impacts of the proposed development. The proposed plan (see **Figure 1-2**) includes a 135 unit residential development, 13,000 SF commercial building adjacent to Middle Country Road, a  $\pm 1,600$  SF clubhouse, a village green/playfield (0.83 acres), a pool and a sewage treatment plant (STP) proposed to serve both the subject property and an adjacent proposed multifamily development (west side of Rocky Point Road). In keeping with the spirit and intent of the MCRLUP, the preliminary plan has been configured to create a central boulevard access road through the property terminating at Rocky Point Road directly opposite the proposed access road to a proposed multi-family housing project located on the west side of Rocky Point Road. An aerial photograph with the site plan overlay is provided in **Figure 1-3**. The multifamily residential units will consist of 88 townhouse units, 20 flats, 16 duplexes, three triplexes and eight live/work units, of which five townhouse units, five flats, and four live/work units will be set aside as affordable units. The residential portion will be located primarily on the eastern and southern portion of the site and 16.3 acres of open space are provided in the northern and western portions of the property, as well as a perimeter buffer along the eastern property line. The two parcels of open space occurring on the western portion of the property will be connected through the vegetation to be retained on the  $\pm 3.96$  acre STP parcel.

The STP is proposed to be situated on a total of 3.96 acres on the western portion of the site. The plant will be surrounded by a vegetated buffer to minimize a negative visual impact on the community and travelers on Rocky Point Road and will have a separate access from Rocky Point Road.

The village clubhouse and associated pool, and the commercial area will be located in the central eastern portion of the property. The village clubhouse will be 1,600 SF and will facilitate pedestrian activity to the clubhouse and social interactions among the community. A 13,000 SF

commercial area is proposed in the southeastern corner of the property to service the hamlet and the proposed newly constructed residential units. It is intended that the presence of this commercial area will promote pedestrian activity since a vehicle would not be needed to reach the commercial area from residences in the southern portion of the property.

A summary of the existing and proposed site quantities are provided in **Table 1-1**.

**TABLE 1-1  
SITE AND PROJECT CHARACTERISTICS  
Existing and Proposed Conditions**

Coverages	Existing Conditions	Proposed Project
Natural/Open Space	±39.38 acres	±16.73 acres
Building/Paved	0.0 acres	±13.46 acres
STP	0.0 acres	±3.96 acres
Fertilizer Dependent Vegetation (lawn area and playfield)	0.0 acres	±4.28 acres
Non-Fertilizer Dependent Vegetation	0.0 acres	±0.94 acres
<b>Trip Generation</b>		
AM Peak Hour	0	112
PM Peak Hour	0	240
Saturday Peak Hour	0	311
<b>Water Resources:</b>		
Domestic Use (gpd) <sup>(1)</sup>	0	±41,300
Commercial Use (gpd) <sup>(2)</sup>	0	±390 - ±8,700
Irrigation (gpd) <sup>(3)</sup>	0	±5,230
Total Water Use (gpd)	0	±46,920 - 55,230
Recharge Volume (MGY) <sup>(4)</sup>	19.59	45.53
Sanitary Wastewater (gpd) <sup>(1, 2)</sup>	0	±41,690 - 50,000
Nitrogen Concentration (mg/l) <sup>(4)</sup>	0.01	±4.58
<b>Miscellaneous:</b>		
Solid Waste (lbs/day) <sup>(5)</sup>	0	±3,575
Total Taxes (\$/year)	±15,329	±549,032
School District Taxes (\$/year)	±10,108	±362,032
Total Residents <sup>(6)</sup>	0	±377
School-age children <sup>(7)</sup>	0	±57

- (1) Assuming SCDHS design flow rates of 300 gpd/unit, 0.3 gpd/SF clubhouse and 5 gpd/pool bather assuming 1 pool bather per 20 SF (1,250 SF pool).
- (2) Commercial uses not yet determined; depending on the nature of the future commercial uses, flows may range from 0.03 gpd/SF for dry retail uses to maximizing the commercial space with restaurants and/or other higher water demand uses (maximum combined residential and commercial sanitary wastewater flow not to exceed 50,000 gpd).
- (3) Assuming 5.5 inches of irrigation per year on fertilized areas for 4 month period (mid May to mid September).
- (4) See Appendix B-2 and B-3.
- (5) Assuming 5 lbs/day/capita and 1 lb/day/bedroom (US Census), 0.5 lbs/day/capita for community building, 90 lbs/day/100 SF of restaurant space, at 4,000 SF of restaurant space, and 1 lb/day/100 SF of office space, at 9,000 SF.
- (6) 2.83 capita/3 bedroom single family attached unit (83 units), 3.17 capita/3 bedroom single family attached unit affordable (5 units), 3.62 capita/2-4 attached units (19 units), 2.05 capita/5+ owned attached units (19 units), and 2.05 capita/5+ owned attached affordable units (9 units) (US Census).
- (7) 0.39/3 bedroom single family attached unit (83 units), 0.64/3 bedroom single family attached unit affordable (5 units), 0.83/2-4 attached units (19 units), 0.19/5+ owned attached units (19 units), and 0.19/5+ owned attached affordable units (9 units) (Burchell, et al., 2006).

### 1.3.2 Clearing, Grading and Drainage

Grading operations will be necessary throughout the proposed area of development (±24.19 acres). The majority central, eastern and southeastern portions of the property are relatively flat

with slopes of less than ten percent. However, the topography from the central to the western portion of the site trends downward from elevations of  $\pm 90$  feet above mean sea level (amsl) in the central portion of the site to elevation  $\pm 67$  feet amsl along Rocky Point Road. Therefore, in order to provide adequate building areas and to create a proper grade transition for the proposed boulevard connection road from Middle Country Road to Rocky Point Road, the development area will need to be graded (cut). The areas of cut are expected to range from 0-6 feet in the northern central portion of the property, and only limited grading is anticipated to be necessary in the central portion of the property (in the vicinity of the proposed village green) and southern portions of the property fronting Middle Country Road. More significant cut ranging from 0-12 feet is anticipated to be necessary in the south central and southwestern portions of the property. The residential units fronting the boulevard will also be "stepped" to allow for the grade transition from the central portion of the property westward toward Rocky Point Road. It is estimated that the proposed grading program will result in approximately 190,000 CY of excess soil (cut), which will be transported offsite.

Following development, the roadways will maintain grades ranging from 1.0 to 3.0% to direct stormwater runoff to on-site drainage structures. Grading, site elevations and overall site design will be subject to detailed engineering and site plan review. The project will conform to applicable engineering standards. All created slopes will be 1:3 or less and will be stabilized using groundcovers.

A Grading and Drainage Plan has been prepared and provides details of the proposed grading program, including existing and proposed contours and proposed clearing limits (see **Plate 2**). All grading and the drainage systems will be required to conform to Town regulations, which require the following:

- Stormwater runoff or natural drainage shall not be diverted so as to overload existing drainage systems, create flooding or cause erosion or the need for additional drainage facilities on other private or public real property.
- Adequate drainage facilities for stormwater runoff shall be provided.
- Proposed slope embankments along adjoining property lines and street frontages shall have a slope not steeper than one foot on three feet (33 1/3 percent), unless an adequate stabilization or retaining wall is provided as approved by the Planning Board. All slopes shall be adequately stabilized with topsoil and seeding or other approved planting.
- The finished grade at a point no less than ten feet from the building shall be at least one foot below the lowest exterior opening in the foundation of the habitable portion of the structure, except that the finished grade may be no less than six inches at a point no less than 10 feet opposite open porches, patios and pedestrian ramps.
- Front and rear yards shall have a grade of not more than five percent for a distance of 25 feet, as measure din a horizontal plane from the structure. Side yards shall have a grade of not more than ten percent for a distance of ten feet, as measured in a horizontal plane from the structure. Al finished grades within 10 feet of the building shall pitch away from the building at a grade rate of not less than two percent.
- Where roof runoff from any building or structure will produce erosion or drainage problems with respect to adjoining properties, dry wells of adequate capacity shall be installed as an outfall for rainfall roof runoff.

- The driveway apron shall be at least one foot below the garage floor unless natural topography dictates grading away from the street and protective grading is provided for in the construction of the driveway with respect to adjoining structures and property.

Basements are anticipated for the residential units, and are expected to generate  $\pm 47.755$  CY of cut. The clearing and grading process is expected to take 3-4 months to complete. Grading activity will be conducted internally within the site and will not impact adjacent properties. In addition, construction management techniques outlined in Section 1.4 will ensure that sedimentation and erosion control measures are implemented. The proposed project will require a Pine Barrens Hardship Application due to the need to clear 24.19 acres (61.3 percent) of the site (in addition to  $\pm 0.72$  acres of site that has been previously cleared), which exceeds the Pine Barrens Commission's maximum clearing allowance of 53 percent for the residentially zoned portion of the property and 65 percent for the commercially zoned portion of the property (or a total of  $\pm 20.92$  acres). The applicant proposes to revegetate 2.23 acres of existing cleared areas and perimeter areas in proximity to open space using native species (see Landscape Plan provided in **Plate 2**). Additionally purchase 1.72 Pine Barrens Credits as a means of offsetting clearing in excess of the 53 percent.

An on-site drainage system of subsurface leaching pools designed for a five-inch rainfall event is proposed. A full drainage plan and details of the system will be provided at the time of site plan review. Within the proposed development area, adequate depth to groundwater exists (in the range of 10-40 feet) and soils are anticipated to exhibit acceptable leaching characteristics (as evidenced by the sand and gravel operation north and west of the site), thereby ensuring that stormwater will recharge and that drainage systems will function properly. As described in **Section 2.4.2**, the stormwater recharge design, the depth to groundwater on the site, and the general vertical and north northeast flow of groundwater on the subject site prevent stormwater from being recharged into the Carman's River watershed. On-site soil borings will be completed in connection with site plan review and Suffolk County Department of Health Services (SCDHS) review installation of drainage systems.

#### 1.4.3 Access, Road System and Parking

Vehicle access to the site will be provided by two full movement entrances, located on the western and southern portions of the property, connecting Middle Country Road to Rocky Point Road. The proposed boulevard roadway connection is designed to reduce traffic congestion from the new residences at the intersection of Middle Country Road and Rocky Point Road. Access to Rocky Point Road is proposed approximately 330 feet north of the southwestern corner of the property and is aligned with the access for the proposed "Middle Island Townhomes" multi-family project on the west side of Rocky Point Road. The southern access site will be located along Middle Country Road, approximately 150 feet west of the southeastern corner of the property. The STP will have a separate access point (for maintenance activities) approximately 1,165 from the southwestern corner of the property, located on County Road 21.

The proposed connection road originates as a 34-foot wide dual lane roadway at Middle Country Road and transitions to a split lane boulevard style roadway as the road reaches the residential portion of the project. The boulevard continues west to connect to Rocky Point Road as well as

north until it reaches the village green. On-street parallel parking is provided along portions of the boulevard and as well as other internal site roadways. A total of 469 parking stalls are provided, including 116 driveway and garage spaces in the residential portion of the site. The parking proposed exceeds the Town's parking requirement of 357 required stalls based upon two spaces per residential unit (270 spaces required) and one space per 150 SF of commercial floor area (87 parking spaces).

#### 1.4.4 Sanitary Disposal and Water Supply

As calculated in **Table 1-2** below, the project is expected to generate a range of  $\pm 41,690$  gpd to  $\pm 50,000$  gpd of sanitary wastewater depending on the nature of the future commercial uses ultimately occupying the 13,000 SF of commercial space (i.e., flows may range from 0.03 gpd/SF for dry retail uses to maximizing the commercial space with restaurants and/or other higher water demand uses). The expected sanitary flow for the proposed project is determined based on SCDHS design flow criteria, applied to the various components of the proposed project as follows:

**TABLE 1-2  
SANITARY FLOW RATE CALCULATIONS**

Flow Rate Factor	SCDHS Design Flow Factor	Estimated Sanitary Flow Rate (GPD)
<b>Residential (135 units)</b>	300 gpd/unit	$\pm 40,500$
<b>Village Clubhouse (<math>\pm 1,600</math> SF)</b>	0.3 gpd/SF	$\pm 480$
<b>Commercial (13,000 SF)</b>	0.03 gpd/SF (dry retail) 0.15 gpd/SF wet retail 30 gpd/seat restaurant	$\pm 390 - \pm 8,700^*$
<b>Pool (1,250 SF)</b>	5 (gpd/bather)	$\pm 310$
<b>Totals</b>	---	<b><math>\pm 41,370 - \pm 50,000</math></b>

\* Range from 0.03 gpd/SF for dry retail uses to maximizing the commercial space with restaurants and/or other higher water demand uses (maximum combined residential and commercial flow not to exceed 50,000 gpd).

The estimated  $\pm 41,370$  to  $\pm 50,000$  gpd of sanitary flow exceeds the total allowed by the SCDHS under its current regulations within Groundwater Management Zone III, and as a result an on-site sewage treatment system or connection to a municipal sewerage system is required. The proposed project has been considered by the Suffolk County Department of Public Works (SCDPW) with respect to sanitary waste treatment in consideration of the Middle Island Townhomes project west of the site across Rocky Point Road. In review of these two projects, SCDPW suggested that these projects be combined to use a single STP. The subject site is the only site of the two that is of sufficient size and depth to groundwater to accommodate a full STP designed to SCDPW requirements. As a result, the applicant sought input from with respect to siting an STP on the subject site which would be capable of handling the combined flow from both projects. Approximately 50,000 gpd was attributed to the Sandy Hills site, and approximately 30,000 gpd was attributed to the Middle Island Townhomes site, for a combined STP size of 80,000 gpd. The proposed project will provide an STP designed for a capacity of approximately 80,000 gpd attributable to the subject site to accommodate this wastewater.

The proposed STP is located within approximately 3.96 acres on the southwestern portion of the site. SCDHS has reviewed the siting analysis prepared for the proposed STP and has found no objection to the location of an STP in the 3.96 acre area of the subject property where the STP is proposed. The report indicated that the depth to groundwater would be approximately 23 feet and the location would not be within the contributing area to the Bailey Road well field. As noted in the report, it was recommended that an offer to extend public water to the private homes along Old Middle Island Road should be required as a condition for building the STP.

The plant will be provided with sufficient area for required 100 percent expansion as well as the required property line (150 foot) and habitable structure setbacks (200 foot) in accordance with Suffolk County Department of Health Services (SCDHS) and Suffolk County Sewer Agency (SCSA) requirements. It is expected that the STP parcel will eventually be subdivided and will be dedicated to the County to serve offsite developments. Buffer vegetation will surround the STP parcel to screen the residents and commuters on Rocky Point Road (C.R. 21) from the STP.

The proposed system will consist of an SBR design that has been accepted by the SCDHS, the SCSA, SCDPW, and the New York State Department of Environmental Conservation (NYSDEC) for similar applications. Positive features of this system include, but are not limited to: easy expansion, noise and odor-free operation, easy installation and reduced leaching field size requirements. As no chemicals are associated with the operation of this type of system, there is no danger of chemical spill, release, or explosion. The system will require a permit from the NYSDEC under the State Pollutant Discharge Elimination System (SPDES) program. Effluent limitations require the plant to meet a limit of 10 milligrams/liter (mg/l), and generally these plants operate at nitrogen concentrations of 6-8 mg/l. The plant will be designed and operated to meet this requirement and will routinely be self-monitored, and periodically monitored by SCDHS to ensure compliance. In accordance with Suffolk County regulations, leaching expansion areas will be provided which will be consistent with current requirements.

Water service in the area of the proposed project is provided by the Suffolk County Water Authority. The Suffolk County Water Authority (SCWA), which maintains a 12 inch water main along Bailey Road and Middle Country Road. As described further in **Section 3.3.1**, the proposed project will connect to the existing water main distribution system for public water supply.

#### 1.4.5 Site Landscaping and Lighting

The overall site landscape concept will maintain contiguous natural vegetation over a minimum of 37 percent of the site and use of native species for revegetation of previously cleared areas and perimeter areas to open space (see enclosed Landscape Plan, **Plate 2**). Native conservation and wildflower seed mixes are proposed along many of the site's perimeter to open space areas in efforts to reduce the amount of fertilizer dependent vegetation on the site. Some of the species used will be ornamental trees and shrubs, particularly surrounding the proposed buildings; however efforts have been made to strictly limit the amount of fertilizer dependent vegetation permitted on site and utilize native species in proximity to retained open spaces. A total of 4.28 acres (11 percent) is proposed to be fertilizer dependent landscaping in the lawn areas surrounding the units, commercial area and the village green/playfield, therefore meeting Central

Pine Barrens requirements to minimize fertilizer dependent vegetation to no more than 15 percent of a property.

Site lighting is proposed by the use of pole-mounted street lights located along the roadways to provide adequate illumination on streets and sidewalks for residents' safety and security purposes (Site Lighting Plan, **Plate 2**). The photometric analysis provided on the Site Lighting Plan indicates that there will be no projection of lighting off site from the proposed lighting fixtures on the project site. The proposed street lighting fixtures have solid/opaque hoods to prevent light from casting upwards. Details regarding the design of the proposed lighting fixtures are provided on the Site Lighting Plan.

## **1.5 Construction Schedule and Operations**

### Construction Schedule

The applicant will proceed with construction upon final Town and other agency approvals. It is expected that a phased development plan will be pursued such that the access boulevard and a cluster of attached townhouse units will be constructed first. This will permit model units to be offered and sale of units to follow. The second phase is expected to include the construction of the STP, the commercial center with live/work units above it, and the remaining townhomes along the eastern portion of the site. Although the STP will be constructed during the second phase, it is expected to be functional by the closing of the first unit. It should be noted that if this is not possible, temporary sanitary systems will be installed as permitted by the health department. The final phase will consist of the construction of the village green/playfield, the village clubhouse, the pool, and the remaining townhomes, duplexes and triplexes. As each phase is constructed, removal of debris currently on the site will occur. All non-household debris (such as construction materials found on site) will be properly disposed of. It is expected that the residential phases will be built over a three to four year period.

The construction process will begin with establishment of flagged clearing limits, followed by installation of staked hay bales and silt fencing as necessary along the property periphery (where slopes may cause off site sediment transport if uncontrolled) and adjacent to roadways. As construction begins, construction equipment, materials and vehicles will be staged, parked and loaded/unloaded within the site. All construction access will be from Rocky Point Road (C.R. 21), in line with the residential access locations. Rocky Point Road will not be used for construction equipment and vehicle/material storage or construction worker parking. The interior of the site can accommodate all construction parking and temporary storage and all activity will be setback well within the property. Building materials stored on-site are anticipated to be inert and therefore are not expected to have an adverse impact on the site. Equipment stored on-site which will be utilized during clearing and construction activities will be properly maintained and reputable contractors will be used for all site work. No significant or long-term construction impacts to the adjacent residences are anticipated.

Clearing and grubbing of phased development areas will take place next, followed by rough grading. Grading will be followed by installation of utilities and curbing, road base and a first lift of asphalt for road alignment and stabilization. Residential construction will then take place. Once construction of the units is complete, landscaping will be installed and road surface asphalt

lifts will be completed once construction vehicle use of roads is complete. "Rumble strips" will be placed at the site entrance to prevent soil on truck tires from being tracked onto the South Service Road. Construction activities will not occur outside weekday and Saturday daytime hours (7 AM to 6 PM).

Precautions will be taken to ensure sediment will not be transported off-site by stormwater runoff and as a result there is no expected impact to local water quality as a result of erosion and sedimentation control measures and permit compliance that will be implemented during construction activities. In accordance with the NYSDEC Phase II SPDES Program, coverage under the General Stormwater Permit will be obtained prior to the initiation of construction activities. Prior to filing for coverage under the General Stormwater Permit, the NYSDEC requires that a SWPPP be prepared for the parcel, 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 86 of the Town Code and GP-08-01 requirements and will be submitted to the Town for review and approval prior to 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, hay bales, and good housekeeping procedures will be utilized.
- Construction equipment and vehicles will be parked and loaded/unloaded within the site.
- "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, followed by installation of the erosion control measures.
- Construction of the structures can then begin concurrent with the utility connections. Once heavy construction is complete, finish grading will occur followed by soil preparation using topsoil mix, seeding and installation of the landscaping, which will be performed while the structures are 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 NOI requesting coverage under the General Stormwater Permit will be filed in accordance NYSDEC and Town requirements, prior to the initiation of construction activities at the subject property. It is anticipated that construction will be phased and that soil management, clearing, grading, recharge excavations and road, utility, and commencement of construction (final grading, construction and finishing) will take 24-36 months. Construction activities will not occur outside weekday and Saturday daytime hours (7 AM to 6 PM).

### Operation

The residential property will remain in private ownership, with each of the residential units offered as units that are for sale, as none will be rented. The commercial portion of the site will also be maintained under private ownership and rented to tenants under lease agreements with the

owner. Open space, landscaping, buffers and recreational areas, as well as the stormwater recharge systems and internal roadways will remain under the operation of a future home owner's association, which will be responsible for all on-site maintenance and repair as well as other management activities, including maintenance of the STP, landscaping maintenance, snow removal, garbage pick-up, etc. The proposed connector boulevard will be dedicated to the town. This will reduce the burden on Town highway maintenance demands. The village clubhouse will be owned and operated privately as well, and will maintain responsibility for upkeep of the acreage devoted to that use.

## 1.6 Permits and Approvals Required

This document is a DSEIS which will proceed through a review process consistent with EIS procedures contained in 6NYCRR Part 617.9(a). The document, once accepted by the Town, will be subject to a minimum 30-day comment period, which will end a minimum of 10-days after the close of a public hearing if one is held on the DEIS. The applicant will assist in responding to comments at the direction of the Town Board as lead agency; however, the lead agency will be responsible to prepare a Final EIS which responds to comments on the DEIS. Once the FEIS is adopted as complete, a minimum 10-day waiting period must pass, after which each permitting agency must adopt their findings in support of the required approvals for the project.

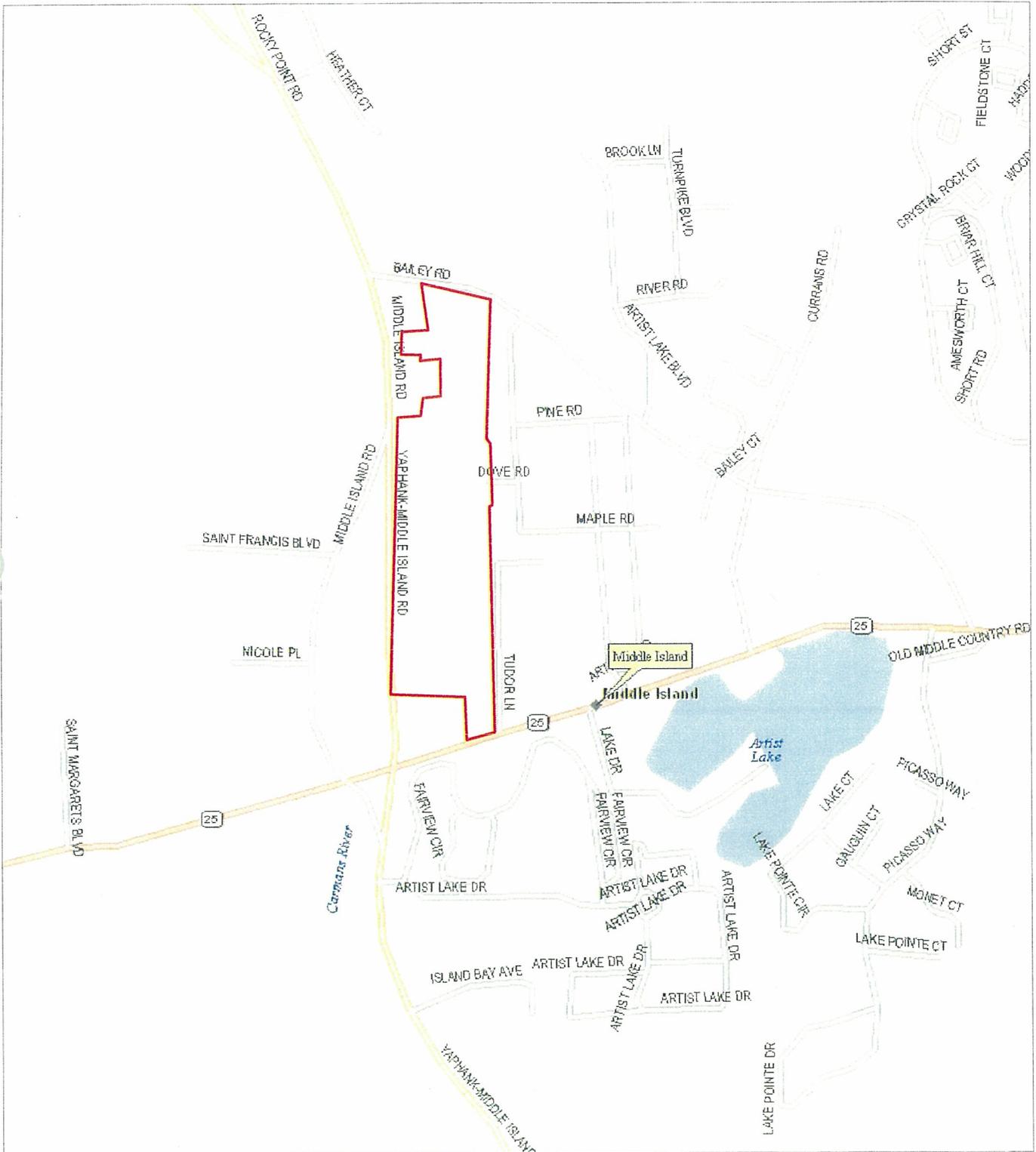
A number of approvals will ultimately be required for the proposed project. A list of anticipated approvals is provided in **Table 1-3**. The table identifies the agency from which the approval is required, the type of approval, and the criteria and project conformance. It is noted that the project is in the early stages of the approval process. Currently, all permits are being held in abeyance based on the pending change of zone permit. The SEQRA process will provide an opportunity for agencies to review and comment on the project and anticipate applications as the approval process proceeds. For those agencies that have current pending applications, following the SEQRA process, Findings Statements and decisions may be rendered.

**TABLE 1-3  
REQUIRED APPROVALS**

Applicable Board/Agency	Approval Type
Town Board	Change of zone to J-6 and MF
Town Planning Board	Site Plan and Subdivision Approval
Town Building Department	Building Permits
Suffolk County Dept. of Public Works	Sewage Treatment Plant Design
Suffolk County Sewer Agency	Sewage Treatment Plant Approval
Suffolk County Dept. of Health Services	Article 6 (Wastewater System Design Review); Article 4 (Water Supply System Design Review)
NYS Dept. of Environmental Conservation	SPDES GP-08-01 Permit
NYS Dept. of Transportation	Road Opening Permit
Suffolk County Dept. of Transportation	Roadwork Access Authorization
Suffolk County Planning Commission (SCPC)	239m review
Suffolk County Water Authority	Water Supply and Connection
Central Pine Barrens JPP Commission	Hardship Approval

FIGURE 1-1

LOCATION MAP

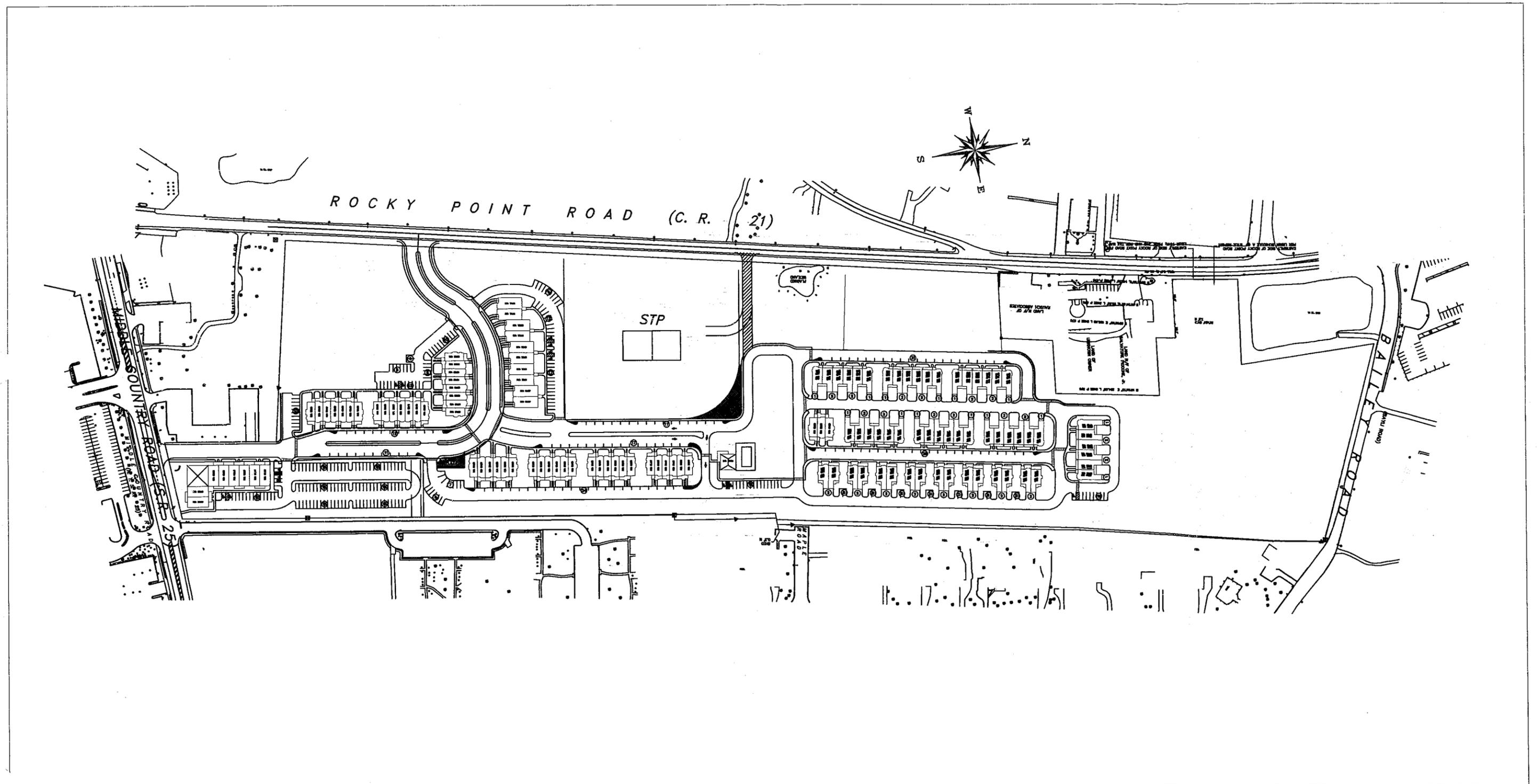


Source: DeLorme Street Atlas  
Scale: 1" = 1,000'



FIGURE 1-2

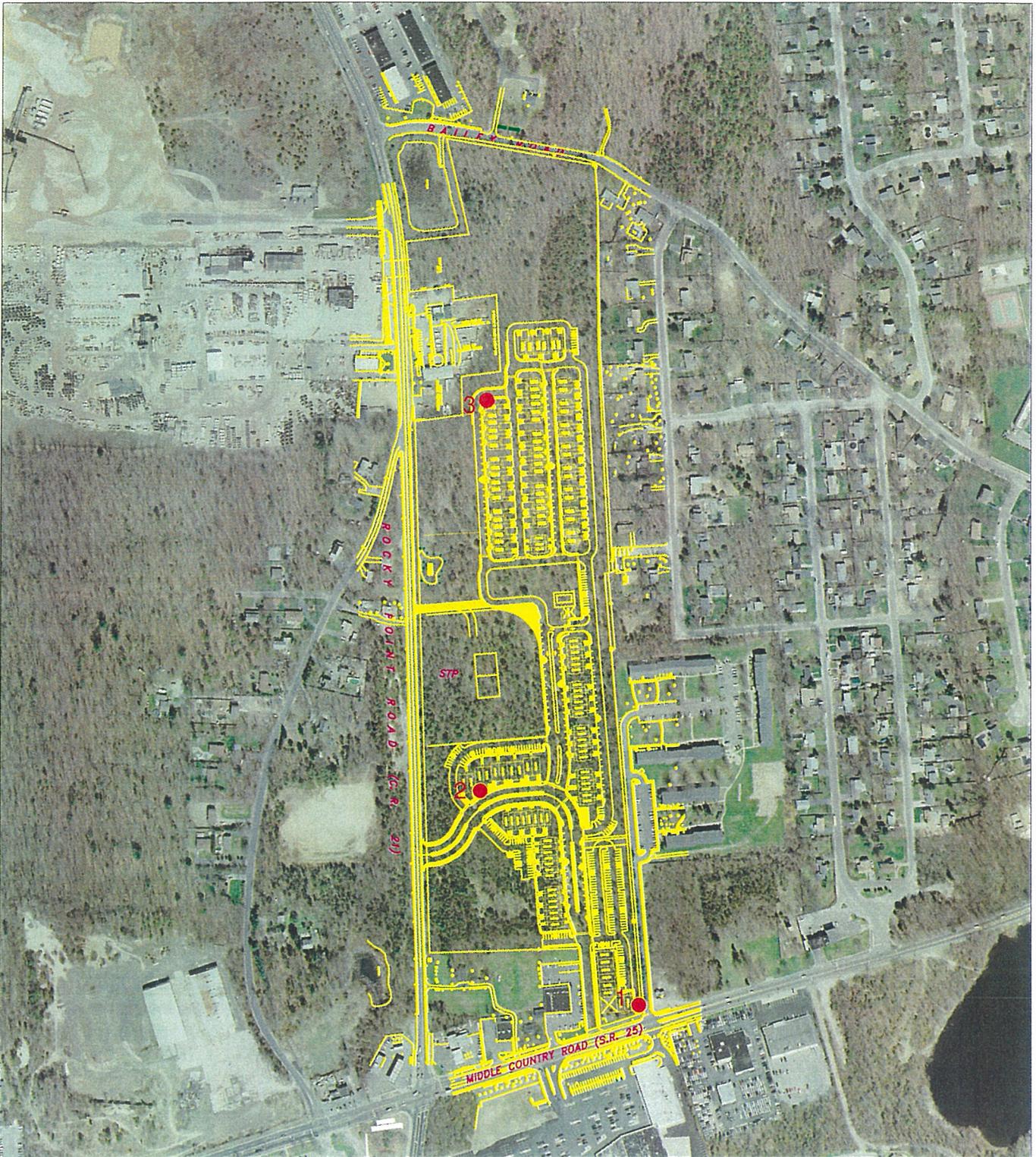
PROPOSED SITE PLAN



Source: Nelson and Pope, Preliminary Site Plan, Last Revised 11/6/2007  
Scale: 1" = 250'

FIGURE 1-3

AERIAL PHOTOGRAPH WITH SITE PLAN OVERLAY



Source: NYS GIS Orthophotomagey Program, Spring 2004; Nelson and Pope Preliminary Site Plan, Last Revised 11/6/2007  
Scale: 1" = 500'



**SECTION 2.0**

**NATURAL ENVIRONMENTAL RESOURCES**

## 2.0 NATURAL ENVIRONMENTAL RESOURCES

This section presents the natural resource characteristics of the subject site, and includes a discussion and analysis of anticipated impacts. Impacts are identified as short or long-term, and each section includes a brief comparison between the proposed project and alternative consistent with current J-2 and A-1 zoning. A full analysis of all of the alternatives is included in **Section 5** of this document. Discussion of anticipated impacts is followed by identification of mitigation measures which could reduce potential adverse impacts of the project, for each resource category.

### 2.1 Topography

#### 2.1.1 Existing Conditions

The general topography across the subject property trends from east to west at varying degrees of slope. The dominant topographic features on the property consist of a steeply sloped ridge line located along the northern portion of the property which exhibits an average slope of approximately 25 percent. In addition, an approximately 10,000 SF by 14 foot deep depression is centrally located along the western property line and exhibits side slopes of approximately 30 percent.

The subject site exhibits a maximum elevation of 92 feet above mean sea level (msl) within the eastern portion of the property and a minimum elevation of 54 feet above msl in the western portion of the property which is occupied by the deep depression noted above. The average slope on the property is 5.1 percent. Most of the property (88.4 percent) has a slope of less than 10 percent. Slopes greater than 10 percent primarily occur in areas that are proposed to remain as open space. A detailed image of the slopes on the property can be seen in **Figures 2-1 and 2-2**. Details of the percents and slopes of the property are described in **Table 2-1**.

**TABLE 2-1  
ON-SITE SLOPE PERCENTAGES**

Slope Percentage Range	Percent of Property	Area of Property (SF)
0-9.99	88.4	1,515,634
10-14.99	5.7	97,720
15-19.99	2.2	37,360
20-24.99	1.3	21,660
25-100	2.5	42,736
<b>Average Slope:</b>	<b>5.1%</b>	

### 2.1.2 Anticipated Impacts

Grading operations will be necessary throughout the proposed area of development ( $\pm 24.12$  acres). The majority central, eastern and southeastern portions of the property are relatively flat with slopes of less than ten percent. However, the topography from the central to the western portion of the site trends downward from elevations of  $\pm 90$  feet above mean sea level (amsl) in the central portion of the site to elevation  $\pm 67$  feet amsl along Rocky Point Road. Therefore, in order to provide adequate building areas and to create a proper grade transition for the proposed boulevard connection road from Middle Country Road to Rocky Point Road, the development area will need to be graded (cut). The areas of cut are expected to range from 0-6 feet in the northern central portion of the property, and only limited grading is anticipated to be necessary in the central portion of the property (in the vicinity of the proposed village green) and southern portions of the property fronting Middle Country Road. More significant cut ranging from 0-12 feet is anticipated to be necessary in the south central and southwestern portions of the property. The residential units fronting the boulevard will also be "stepped" to allow for the grade transition from the central portion of the property westward toward Rocky Point Road. It is estimated that approximately 189,851 CY of excess soil will be generated from on site grading operations (including excavations necessary for construction of the proposed roadways, basements and subsurface leaching pools associated with the drainage system and STP), which will be transported offsite. The removal of this material from the site is expected to generate a total of 6,333 truck trips assuming a 30 CY holding capacity per truck. Assuming that four loading stations are established within the site, each of which loads two trucks/hour per 8-hour day, an estimated 99 working days would be needed to remove this material. All trucks would use the proposed entrance to the site from Rocky Point Road to access the site. Truck traffic would be temporary, and would occur on roads that currently provide access for buses and trucks (Middle Country Road, County Road 83 and the Long Island Expressway). The hours of truck operation on roadways will be during the post morning peak hours (after 9 am) and multiple trucks will be staged on-site for loading.

Following development, the roadways will maintain grades ranging from 1.0 to 3.0% to direct stormwater runoff to on-site drainage structures. Grading, site elevations and overall site design will be subject to detailed engineering and site plan review. The project will conform to applicable engineering standards. All created slopes will be 1:3 or less and will be stabilized using groundcovers.

A full Grading and Drainage Plan is provided as **Plate 2** at the end of the document, which provides details on the proposed grading program, areas of disturbance and details of the proposed drainage system. All grading and the drainage system will conform to Town regulations, which require the following:

- Stormwater runoff or natural drainage shall not be diverted so as to overload existing drainage systems, create flooding or cause erosion or the need for additional drainage facilities on other private or public real property.
- Adequate drainage facilities for stormwater runoff shall be provided.
- Proposed slope embankments along adjoining property lines and street frontages shall have a slope not steeper than one foot on three feet (33 1/3 percent), unless an adequate stabilization or

retaining wall is provided as approved by the Planning Board. All slopes shall be adequately stabilized with topsoil and seeding or other approved planting.

- The finished grade at a point no less than ten feet from the building shall be at least one foot below the lowest exterior opening in the foundation of the habitable portion of the structure, except that the finished grade may be no less than six inches at a point no less than 10 feet opposite open porches, patios and pedestrian ramps.
- Front and rear yards shall have a grade of not more than five percent for a distance of 25 feet, as measure din a horizontal plane from the structure. Side yards shall have a grade of not more than ten percent for a distance of ten feet, as measured in a horizontal plane from the structure. Al finished grades within 10 feet of the building shall pitch away from the building at a grade rate of not less than two percent.
- Where roof runoff from any building or structure will produce erosion or drainage problems with respect to adjoining properties, dry wells of adequate capacity shall be installed as an outfall for rainfall roof runoff.
- The driveway apron shall be at least one foot below the garage floor unless natural topography dictates grading away from the street and protective grading is provided for in the construction of the driveway with respect to adjoining structures and property.

The clearing and grading process is expected to take 3-4 months to complete. Grading activity will be conducted internally within the site and will not impact adjacent properties. In addition, construction management techniques outlined in Section 1.4 will ensure that sedimentation and erosion control measures are implemented.

As discussed in **Section 1.4**, applicable erosion and sedimentation control guidelines will be observed during construction of the proposed project in order to minimize impacts. In accordance with the NYSDEC Phase II SPDES Program, coverage under the General Permit for Stormwater Discharges from Construction Activities (NYSDEC Permit No. GP-08-01) will be obtained prior to the initiation of construction activities. Prior to filing for coverage under the General Permit, the NYSDEC requires that a SWPPP be prepared for the parcel, 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 Technical Guidance and GP-08-01 and Town of Brookhaven Chapter 86 requirements. The NOI requesting coverage under the General Permit will be reviewed by the Town prior to filing in accordance NYSDEC requirements and prior to the initiation of construction activities at the subject property.

### 2.1.3 Proposed Mitigation

- Mitigation designed to limit the impact on topography at the subject property will consist of limiting the grading necessary in the steep sloped areas of the site using retaining walls and retaining many of the steep slope areas as undisturbed open space. The grading plan (see **Plate 2** at the end of the documents) has been devised to minimize the area and volume of disturbance; the grading envisioned is the minimum necessary to achieve the goals for the proposed development. Resultant development areas will be permanently stabilized and slopes will not exceed 1:3.
- An erosion control plan has been prepared (included in **Plate 2** at the end of the document), which demonstrate the protection methods that will be utilized during construction to control

transport of sediment and stormwater runoff and ensure slope stabilization upon the completion of construction activities.

- In accordance with the NYSDEC Phase II SPDES Program, coverage under the General Stormwater Permit will be obtained prior to the initiation of construction activities. A SWPPP, including a detailed erosion and sediment control plan will be prepared for the parcel to manage stormwater generated on-site during construction activities, and for post-construction stormwater management. The SWPPP will be prepared to ensure compliance with water quality and quantity requirements pursuant to the NYSDEC Design Manual, GP-08-01 and Town of Brookhaven Chapter 86 requirements. The SWPPP will be reviewed and approved by the Town prior to filing for permit coverage in accordance NYSDEC requirements and prior to the initiation of construction activities at the subject property.
- Use of a water truck, rumble strip, proper internal staging areas and provision of buffer areas.
- During the grading operation, truck traffic to and from the site will be routed along Middle Country Road and the LIE to the maximum practicable extent; trucks waiting to load will be routed and parked within the site in proximity to the grading area, to minimize the amount of truck movements, thereby minimizing the potential for raising dust.

## 2.2 Surface 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 Haven Series soils which consist of deep, well-drained, medium-textured soils that formed in a loamy or silty mantle over stratified coarse sand and gravel, which are present throughout the county, but are mostly in areas on the outwash plains between the two terminal moraines with slopes ranging from 0 to 12 percent.

A total of nine (9) soils have been identified on site; the locations of these soils are depicted in **Figure 2-3**. Specific descriptions of the soils found on-site follow (**Warner et al., 1975**):

*Carver and Plymouth sands, 0-3% slopes (CpA)* - The Carver series consists of deep, excessively drained coarse-textured soils. This soil type is found mainly on outwash plains; however, they are also found on some flatter hilltops and intervening draws on moraines. The hazard for erosion is slight.

*Carver and Plymouth sands, 3-15% slopes (CpC)* - The Carver series consists of deep, excessively drained coarse-textured soils. This soil type is found mainly on rolling moraines; however, they are also found on the side slopes of many drainage channels on the outwash plains. The hazard for erosion is slight to moderate.

*Haven loam 0-2% slopes (HaA)* - This map unit consist of deep, well drained, medium textured soils that formed in a loamy or silty mantle over stratified coarse sand and gravel. Most of these areas are on outwash plains; some are on moraines and generally are on top of low-lying hills. The hazard of erosion is slight and internal drainage is good. Natural fertility is low.

*Haven loam 2-6% slopes (HaB)* - The Haven series consists of deep, well drained, medium textured soils that formed in a loamy or silty mantle over stratified coarse sand and gravel. This soil is found on outwash plains and moraines, commonly along shallow drainage channels. The hazard of erosion is moderate to slight.

*Haven Loam, Thick Surface Layer (He)* - This soil is mainly on outwash plains throughout the county. These soil generally occupy the bottom of the larger drainage channels or closed depressions where silty material has accumulated from surrounding areas. Slopes are usually less than three (3) percent and areas of this soil are generally quite small.

*Made land (Ma)* - consists of areas that are mostly covered with pieces of concrete, bricks, trash, wire, metal, and other non-soil material. Some areas are on the surface of the original soil, others are in large holes dug for disposal purposes.

*Plymouth loamy sand, 3-8% slopes (PIB)* - Consists of deep, excessively drained, coarse-textured soils that formed in a mantle of loamy sand over thick layers of stratified coarse sand and gravel. This soil is on moraines and outwash plains. The erosion hazard is slight and soil tends to be droughty.

*Plymouth loamy sand, 8-15% slopes (PIC)* - This map unit consists of moderately sloping soils on moraines and outwash plains. Where it occurs on moraines, slopes are rolling in many places, and the surface is broken by closed depressions. On outwash plains this soil type is on the short side slopes along intermittent drainageways. The hazard of erosion is moderate to severe because of the slopes and the sandy texture of the soil. Slope and droughtiness are the main limitations on this soil for most nonfarm uses.

*Riverhead sandy loam, 3-8% slopes (RdB)* - The Riverhead series consist of deep, well-drained, moderately course-textured soils. These soils occur primarily on outwash plains. A few small irregular areas are on the moraines. Riverhead soils have moderate to high available moisture capacity. Internal drainage is good, with moderately rapid to very rapid permeability. Natural fertility is low.

The Soil Survey was also consulted for information of the potential limitations on development that the soils may present. Such constraints for the nine on-site soils are summarized in **Table 2-2**. As noted in the table, five (5) of these soils, which are found on large portions of the site pose "severe" limitations for development (specifically, steep slopes, flooding, and a sandy surface layer).

Three of these soils (CpA, CpC and RdB) occur in the northern portion of the site which is not currently scheduled to be extensively developed. The rest of the site consists primarily of PIB,

TABLE 2-2  
SOIL LIMITATIONS

SOIL FEATURES AFFECTING:	Carver and Plymouth Sands, 0-3% slopes (CpA)	Carver and Plymouth Sands, 3-15% slopes (CpC)	Haven Loam 0-2% slopes (HaA)	Haven Loam 2-6% slopes (HaB)	Haven Loam Thick surface Layer (He)	Made Land (Ma)	Plymouth Loamy Sand 3-8% slopes (PIB)	Plymouth Loamy Sand 8-15% slopes (PIC)	Riverhead Sandy Loam 3-8% slopes (RdB)
Highway Location	Poor trafficability; extensive cuts and fills likely on CpC		Very shallow cuts have nonuniform subgrade in places; He subject to ponding			*	Extensive cuts and fills likely on PIC		---
Embankment Foundation	Strength adequate for high embankments; slight settlement		Strength generally adequate for high embankments; slight settlements			*	Strength generally adequate for high embankments; slight settlement		Strength generally adequate for high embankments, slight settlement
Foundations for low Buildings	Low compressibility; large settlement possible under vibratory load		Low compressibility; He subject to ponding			*	Low compressibility; moderate slopes on PIC		Low compressibility
Irrigation	Very low available moisture capacity; rapid water intake; moderate to moderately steep to steep slopes on CpC		No unfavorable features; He subject to ponding and has slow water intake			*	Very low available moisture capacity; rapid water intake, moderate slopes on PIC		Moderate to rapid water intake; moderate available moisture capacity
LIMITATIONS FOR:	---	---	---	---	---	---	---	---	---
Sewage Disposal Fields	Slight	Slight to moderate: Slopes in places	Slight	Slight	Severe: flooded during prolonged wet periods in places	*	Slight	Moderate: slopes	Slight
Streets and Parking Lots	Slight	Moderate to severe: Slopes	Slight	Moderate: Slopes	Severe: flooded during prolonged wet periods in places	*	Moderate: slopes	Severe: slopes	Slight
Lawns and Landscaping	Severe: sandy surface layer	Severe: sandy surface layer	Slight	Slight	Slight	*	Severe: sandy surface layer	Severe: sandy surface layer	Slight
Paths and trails	Severe: sandy surface layer	Severe: sandy surface layer	Slight	Slight	Slight	*	Moderate: sandy surface layer	Moderate: sandy surface layer	Slight
Picnic/play areas	Severe: sandy surface layer	Severe: sandy surface layer	Slight	Slight	Moderate: flooding in places during season of use	*	Moderate: sandy surface layer	Moderate: sandy surface layer	Slight
Athletic fields and intensive play areas	Severe: sandy surface layer	Severe: sandy surface layer	Slight	Moderate: Slopes	Moderate: flooding in places during season of use	*	Moderate: sandy surface layer; slopes	Severe: slopes	Moderate: slopes

Notes: \*-Per Soil Survey, not included because characteristics are too variable to estimate.

HaA, HaB, and He. The limitations of these soils are related to landscaping, streets, and parking lots. It should also be noted that during an NP&V site visit in June 2007, surficial clay deposits were observed. Overall, the site had a generally sandy soil type, and the clay deposits are not expected to impact development of the site. The presence of these soils will be considered in site design.

A Phase I Environmental Site Assessment (ESA) was undertaken for the property in December 2004 to determine whether any potential environmental or public health concerns are present on the site. The purpose of the assessments is to, in part, establish a basis of understanding of the past and present uses of the sites in order to identify any recognized environmental conditions which may exist in connection with the site and surrounding properties. The Phase I ESA report summaries are provided in **Appendix A-3**.

The object of the Phase I ESAs was to identify obvious actual and potential sources of contamination associated with the property. The scope of the Phase I reports was consistent with American Society for Testing and Materials (ASTM) 1527-00 standards for format and content. Specifically, the Phase I(s) included: a site reconnaissance, a review of available environmental regulatory databases, a review of available history of ownership and land usage records, a review of municipal and County records, an interview with the property owner for consideration of past and present operational practices, a reconnaissance of the surrounding area, and a review available aerial photographs and topographic and Sanborn maps. At the time of the Phase I ESA site inspection, the site was vacant. The findings of the Phase I ESA for the property were as follows:

1. Due to the identification of the subject property on the County CLEARS list inventory for dumping, a soil sample should be collected from the bottom of the deep depression along the western property boundary. The sample should be analyzed for the presence of volatile and semi-volatile organic compounds as well as metals.
2. The scattered debris as well as drums noted on the subject property should be removed from the property and disposed of at an appropriate facility.
3. Due to the utilization of the site for agricultural purposes, it is recommended that if the site is to be used for residential purposes, the formerly farmed areas of the property be sampled for pesticides, herbicides and metals.

Based on the recommendations of the Phase I ESA report, a Phase II ESA (see **Appendix A-4**) was conducted on the property to address specific issues raised in the Phase I ESA. One composite soil sample was collected from the bottom of the deep depression along the western property boundary. The soil sample was transported to a New York State Certified Commercial Laboratory for analysis and was analyzed for volatile and semi-volatile organic compounds. The results on of the laboratory testing found no volatile organic compounds detected in the sample collected; however several semi-volatile organic compounds and metals were identified in soil retrieved from the bottom of the deep depression. However, none of the semi-volatile organic compounds and metals identified exceeds respective regulatory guidance values per 6 NYCRR Part 375. As a result, no remedial activity is recommended for the subject site.

Review of the historic aerial photographs of the subject site finds that most of the central and south parts of the site were cleared and appear to have been used for agricultural purposes. As a result, a Pesticide Survey was conducted to determine the concentration of agricultural chemicals in soils on the site. The survey (included in **Appendix A-5**) found elevated concentrations of arsenic, typical of Long Island farmland soils.

### 2.2.2 Anticipated Impacts

Five (5) of these soil types on the property pose "severe" limitations for development (specifically, steep slopes, flooding, and a sandy surface layer). Potential impacts with respect to steep slopes are addressed in **Section 2.2.1**; impacts will be reduced by observation of sound grading principals and maintaining slopes with a suitable angle of repose. As noted, erosion control measures and full site plan review for grading and drainage will preclude adverse impacts to surface soils.

With respect to flooding, soils in the area and specifically on the Middle Island Townhomes site immediately to the west and the Roanoke Sand & Gravel mine to the northwest are excellent well-drainage glacial moraine and outwash soils that exhibit good leaching qualities. The proposed project will utilize subsurface leaching pools for recharge of stormwater from a collection and conveyance system designed with suitable capacity to contain all runoff generated during typical storm events and as required by the Town of Brookhaven. The west depression on the site is within several feet of the regional groundwater table; however, the higher elevations of the property, where development is proposed, provides an adequate depth to groundwater in the range of 10-40 feet and as a result, flooding is not expected.

With respect to a sandy surface layer, topsoil is suitable for growth of vegetation as evidenced by the current forested condition of the property. Topsoil is intended to be stockpiled and re-used in for landscape areas in the developed parts of the site. Excess topsoil will be removed from the site to an approved disposal location. Soil augmentation is not expected to be necessary, but can be used if necessary. A detailed landscape plan has also been prepared (see **Plate 2**), which will be reviewed and approved by the Planning Board, and Planning Board inspectors will ensure that vegetation is established and healthy prior to release of the Certificates of Occupancy for various components of site development. This will ensure that potential impacts with respect to a sandy surface layer, flooding, and steep slopes are adequately addressed and as a result, no long-term soil impacts are expected. Short-term soil impacts will be mitigated through erosion control measures which were previously discussed.

Site remediation activities will be performed including removal of the scattered debris and drums noted on the subject property and preparation of a Soil Management Plan (SMP) will be prepared for the subject property to isolate soils with elevated levels of arsenic from future contact with future occupants. SCDHS provides guidance to Towns regarding the management of soils which contain elevated concentrations of agricultural chemicals. The primary concern with respect to these soils, is potential ingestion of large quantities of soil by children. SCDHS has not identified concerns with respect to groundwater contamination, and dermal contact or inhalation of dust from such soils has not been identified as a major concern (typical dust control and construction management techniques are sufficient to address airborne/dermal contact). As a result, isolation of soils from future site occupants is the recommended technique for managing

soils containing agricultural chemicals. Isolation includes either cover of soils with elevated chemical concentrations or removal of surface soils to non-impacted underlying soils. The proposed project will conform to SCDHS requirements for a SMP contained in the County's guidance document. Soil management will include the following measures:

- The final grading plan will be evaluated to determine where areas of clean underlying soils are exposed as a result of site grading activities.
- In those areas where clean soils are not exposed, removal of the surface 6 inches of soil in the front, side and rear yards of proposed residential structures will be completed.
- Removed surface soil will be placed in berms, under roads (mixed with sand to provide a stable base) and in common areas proposed for revegetation, to be covered with one foot of clean soil prior to revegetation or covered with pavement.
- After removal of 6 inches of soil, the exposed soils will be vertically mixed using tilling methods, and further covered with soil excavated for foundations and drainage system installations.
- End point samples will be collected to ensure the effectiveness of soil removal, tilling and cover in achieving arsenic concentrations below the SCDHS guidance value.
- After completion of construction, areas in the front, side and rear yards of residential units will be established in landscaping typical of residential settings.

As a result, the project has been evaluated in terms of its past agricultural use, and a suitable means of mitigation is described herein. The project will conform to SCDHS guidance, and a logical Soil Management Plan has been conceptually identified. A final SMP will be prepared once the change of zone is approved and the final alignment is determined so detailed site grading can be prepared. Given the measures provided herein, no significant adverse impacts are anticipated with respect to soils due to past site uses.

### 2.2.3 Proposed Mitigation

- Development in steep slope areas will be minimized by use of retaining walls and maintaining many of the steep slope areas undisturbed open space. The slopes running through the northern part of the site have been analyzed and are found to be 20-25 percent. All new slopes in excess of the accepted practice of 1:3 slope will be created to achieve the needed road grade through this slope transition.
- The area of the site underlain by these soils that will remain undisturbed and naturally-vegetated is approximately 34.9 percent.
- The developed portions of the site will first be subject to grading operations in order to provide an acceptable surface on which development can take place, followed by installation of landscaping to provide a means of stabilizing the soil to prevent erosion as soon as practicable following grading.
- Preservation of top soil, which is important for reestablishing indigenous plant growth within previously disturbed areas slated for preservation.
- Prior to the initiation of construction activities, the scattered debris and drums noted on the subject property will be removed from the property and disposed of at an appropriate facility.
- Preparation of a Soil Management Plan consistent with SCDHS Guidance for use of properties involving agricultural chemicals, to ensure isolation of soils from future occupants of the subject site. The SMP will be coordinated with the Town of Brookhaven during the review and approval of site plan/subdivision applications by the Town Planning Board similar to other projects completed under these guidelines within the Town of Brookhaven.

- Collection of end point samples after completion of soil management, to ensure the effectiveness of soil removal, tilling and cover in achieving arsenic concentrations below the SCDHS guidance value.
- Dust control and construction management will be utilized to avoid dermal contact and inhalation of soils containing agricultural chemicals.

## 2.3 Subsurface Geology

### 2.3.1 Existing Conditions

Long Island is located within the Atlantic Coastal Plain, a physiographic province in which substantial sediment deposits overlie the base, or bedrock (**Fuller, 1914**). The surface topography primarily reflects the glacial history of the Island and subsequent human activity. Understanding the geologic history and stratigraphy of Long Island is important in relating potential impacts of the project to hydrogeologic resources and their importance in Long Island's future.

The bedrock which underlies Long Island slopes south and east at a rate of approximately 70 feet per mile, and the overlying sediments increase in thickness toward the south (**Jensen and Soren, 1974; Smolensky, et al., 1989**). The elevation of the top of bedrock is approximately 1,425 feet below sea level in the area of the site (**Smolensky, et al., 1989**). Bedrock is probably of Precambrian age, and is overlain by unconsolidated sediments of Cretaceous and Quaternary age. The Cretaceous sediments contain three major groundwater aquifers: the Lloyd, Magothy and Upper Glacial Aquifers. **Figure 2-4** provides a cross section of Long Island for a profile running from Long Island Sound to the Atlantic Ocean in the vicinity of the project site, with the approximate site location indicated (**Jensen and Soren, 1974**).

The primary Cretaceous sediments on Long Island are the Raritan and Magothy Formations, which were deposited atop bedrock during the mid to late Cretaceous period (138 to 65 million years ago) as a result of sediment transport from highlands to the north of the Island (**Koszalka, 1984**). The Raritan Formation consists of two members: the Lloyd Sand and the Raritan Clay. The Lloyd Sand contains the Lloyd aquifer, which is separated from the overlying Magothy aquifer by the low permeability Raritan Clay (**Sutter et al., 1949; Jensen and Soren, 1974**). The upper altitude of the Lloyd sand member is approximately 1,100 feet below sea level in the vicinity of the site, indicating a thickness of 325 feet, and the top of the Raritan clay is approximately 950 feet below sea level, indicating a thickness of 160 feet. The Magothy Formation and Matawan Group, which form the Magothy aquifer, were deposited in the late Cretaceous (approximately 75 million years ago) following a period of erosion of the Raritan clay. The base of the Magothy is composed of coarse sand, gravel and pebbles as large as 2 inches in diameter. These coarse sediments are interbedded with fine to clayey sands and solid clays. Locally thick clay beds have been traced to spans of up to one mile. At the site, the upper altitude of the Magothy Formation is approximately 125 feet below sea level, indicating a thickness of about 825 feet (**Smolensky et al., 1989**).

During the Tertiary period (65 to 2 million years ago) there was erosion of Cretaceous deposits over much of Long Island due to hydrologic processes such as stream formation. Sea level was

low, and a large valley formed north of Long Island in what is now Long Island Sound. Most of the surface sediments evident on Long Island were deposited during the glacial advances of the Pleistocene epoch, Quaternary period (2 million years ago to 10,000 years ago). The Pleistocene was marked by cycles of glacial advance and subsequent retreat producing morainal and glaciofluvial (outwash) sediments on top of the Magothy Formation and Matawan Group. These Quaternary sediments, which consist of clay, silt, sand, gravel, and boulders, include both the Gardiners Clay and the Upper Glacial aquifer. The Ronkonkoma and Harbor Hills Terminal Moraines were deposited as part of this Upper Glacial deposit along the spine and the North Shore of Long Island as the glaciers retreated during the Wisconsin stage of the Late Pleistocene (approximately 25,000 to 10,000 years ago) (Koszalka, 1984, p. 15). Low, flat outwash plains formed southward as erosional processes carried sediments away from the moraines, and coastal processes formed barrier beaches along the south shore as sea level rose.

As noted in the preceding section, subsurface soil quality is excellent as evidenced by the sand and gravel operation north and west of the site, and the suitability of test holes on the Middle Island Townhomes site immediately west of the site. On-site soil borings will be completed in connection with site plan review and SCDHS review installation of drainage systems.

### 2.3.2 Anticipated Impacts

It is anticipated that 24.11 acres will be subject to clearing and grading operations for development of the proposed project. This area is located south of most of the 15-25 percent slopes located on the property. The acreage to be graded is comprised of 13.46 acres of Building/Paved Surfaces, 5.22 acres landscaped areas, 3.96 acres for the STP, and 2.23 acres which will be revegetated along the perimeter of open space areas with native species and conservation seed mixes (see **Table 1-1**). The most intense cutting and filling will occur in the areas of the proposed buildings nearest to the northern portions of the site and the boulevard connection road in the southwestern portions of the site. It is estimated that approximately 137,708 CY of cut and 6,915 CY of fill will be necessary in association with general earthwork necessary to create adequate grades for the proposed site improvements. Additional excavations will be necessary for leaching pools associated with the proposed drainage system ( $\pm 14,300$  CY of cut) and for building basements ( $\pm 47,755$  CY of cut). The STP construction will require a combination of cut for installation of sanitary leaching pools (approximately 653 CY) and approximately 3,650 CY of fill from on site sources to raise and level the area as required by SCDHS requirements for STP construction. Therefore, it is estimated that a net excess of approximately 189,851 CY of soil will be transported off site to be sold as fill or to an approved construction landfill (see Section 2.1.2 for details on removal of excess soil from the site). A detailed Grading and Drainage Plan has been prepared for the proposed project (see **Plate 2**), which demonstrates the existing and proposed grades associated with site construction. These plans will undergo detailed review by the Town during the site plan review process prior to excavation activities.

Test holes will be dug pending the approval of the change of zone. Further test holes may be required prior to any site plan or subdivision approvals from the Town Planning Board or SCDHS. This will permit evaluation of soils in conjunction with detailed grading, drainage and STP final design. Unsuitable material, if encountered, will be removed and backfilled with clean material to promote proper leaching of stormwater effluent.

No significant long-term adverse impacts are expected with respect to subsurface soils, since a grading plan will be devised to minimize the area and volume of disturbance; the grading will be the minimum necessary to achieve the goals for the proposed development. Short term impacts will be controlled by proper grading, erosion control, construction management and site stabilization techniques which will be employed as described in detail in **Section 1.5** of this document.

### 2.3.3 Proposed Mitigation

- Due to the anticipated net cut on site, excavated soil will be removed from the site. The excavated soil may be sold as fill for other construction sites if the soil has acceptable properties. If excavated soil is lacking in acceptable properties, then all excavated soil will be carted to an approved construction landfill.
- A Grading and Drainage Plan has been prepared to minimize the area and volume of disturbance; the grading will be the minimum necessary to achieve the goals for the proposed development.
- Should soils with unsuitable drainage characteristics be present at the site any proposed on-site drainage system will be modified so that leaching facilities will be installed within soils that exhibit acceptable leaching characteristics, thereby ensuring that stormwater will recharge and that drainage systems will function properly.

## 2.4 Water Resources

### 2.4.1 Existing Conditions

#### Surface Water and Drainage

The nearest surface water body to the site consists of a pond located approximately 231 feet to the west of the southwestern portion of the property, as illustrated in **Figure 2-5**. This pond has been documented by NYSDEC as a breeding pond for an endangered reptile species (tiger salamander). The pond is located on the west side of CR 21, north of NYS Route 25 behind a gas station and on the south part of the parcel associated with the Middle Island Townhomes project. Details regarding special protection measures for this pond based on NYSDEC policy are discussed in **Section 2.6.1**. Artist's Lake is the next nearest natural surface water body and is located approximately a half (1/2) mile to the southeast of the southeastern most corner of the site. A small wetland depression exists on the subject site and is subject to periodic retention of surface water dependent upon precipitation events. Regionally surface runoff and drainage flow along the surface topography of the area which slopes to the south.

#### Hydrogeology

Groundwater on Long Island is derived from precipitation. Precipitation entering the soils in the form of recharge passes through the unsaturated zone to a level below which all strata are saturated. This level is referred to as the water table. In general, the groundwater table coincides with sea level on the north and south shores of Long Island, and rises in elevation toward the center of the Island. The high point of the parabola is referred to as the groundwater divide. Differences in groundwater elevation create a hydraulic gradient which causes groundwater to flow perpendicular to the contours of equal elevation, or generally toward the north and south shores from the middle of the Island (**Freeze and Cherry, 1979**). Near the shore, water entering

the system tends to flow horizontally in a shallow flow system through the Upper Glacial Aquifer to be discharged from subsurface systems into streams or marine surface waters as subsurface outflow. Water that enters the system further inland generally flows vertically to deeper aquifers before flowing toward the shores (**Krulikas, 1986**).

The major water-bearing units beneath the subject site include the Upper Glacial aquifer, the Magothy aquifer, and the Lloyd aquifer (**Jensen and Soren, 1974; Koszalka, 1984**). The top altitude of the Upper Glacial aquifer is equal to the topographic elevation of the property which ranges from 54 to 92 feet above mean sea level (msl) and ranges in thickness from 50 to 600 feet. The top of the Magothy aquifer is approximately 540 feet below msl and exhibits an approximate thickness ranges from 100 ft. to 900 ft. (**Koszalka, 1984**). The Lloyd aquifer is 1,000 feet below msl and exhibits a thickness of 200 ft. (**Jensen and Soren, 1974; Koszalka, 1984**). Bedrock is present at a depth of about 1,210 feet below msl. Groundwater is encountered at an elevation of 52 feet above msl. The topographic elevation ranges from 92 feet to the south and 54 feet on the northwestern side of the site. Therefore the depth to water ranges from 2 to 40 feet below ground surface (bgs). However, it should be noted that the minimum elevation of the property is located within the small portion of the site occupied by the deep depression centrally located along the western property line. In consideration of this fact the average minimum elevation of the property which occurs along the western boundary of the site is approximately 64 feet above msl. Therefore, a more representative range for the depth to groundwater at the subject property may be estimated to be between 10 and 40 feet below ground surface. Regionally groundwater is observed to flow in a south-southeasterly direction. The regional groundwater flow direction can be found in **Figure 2-6**.

The Long Island Regional Planning Board, in conjunction with other agencies, prepared a management plan for Long Island groundwater resources in 1978 under a program funded by 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 (**Koppleman, 1978**). The subject site is located in Groundwater Management Zone III, and is characterized as a deep flow system possessing considerable potential for water supply development due to good groundwater quality and the high hydraulic conductivity's in both the Upper Glacial and Magothy aquifers (**SCDHS, 1985**).

#### Groundwater Quality

Several sources of information were investigated in order to characterize the existing groundwater quality in the vicinity of the site. The Suffolk County Comprehensive Water Resources Management Plan (SCCWRMP) provides general information concerning groundwater quality in Suffolk County based upon file review at the time of preparation of the study, which was released in 1987. More specific water quality data was obtained from the Suffolk County Water Authority (SCWA) for the nearest public supply well field in the area of the site. A discussion of water quality in relation the project location within the Carman's River Watershed is also included. The following paragraphs summarize water quality information available from these sources.

The SCWA maintains one (1) well field in the general area of the proposed project. The Bailey Road Well field is located adjacent to the north of the site. Well fields are monitored routinely by SCDHS for water quality. The 2007 Suffolk County Water Authority's Annual Drinking Water Quality Report was reviewed for overall water quality in the area. Based on the SCWA map, the subject site lies within distribution area 18, and the following information is available regarding water quality:

**TABLE 2-3  
GROUNDWATER QUALITY DATA**

Parameters	SCWA Zone 18	MCL
<b>Inorganics</b>		
Temperature (°C)	13	[n]
Turbidity (NTU)	ND	5
Dissolved Solids (mg/l)	86	[n]
Spec. Conductivity (umhos)	182	[n]
Field pH	7.2	[n]
Hardness	55.4	[n]
Alkalinity (mg/l)	45.5	[n]
Sodium (mg/l)	8.5	[n]
Sulfate (mg/l)	18.4	250
Chloride (mg/l)	12.7	250
Aluminum (mg/l)	0.05	[n]
Nitrate (mg/l)	2.17	10
Barium (mg/l)	ND	2.0
Calcium (mg/l)	19.7	[n]
Iron (ug/l)	44	300
Manganese (ug/l)	18	300
CO2 (mg/l)	4.3	[n]
Chlorine (mg/l)	0.7	4
Magnesium (mg/l)	4.22	[n]
Copper (mg/l)	ND	AL-1.3
Nickel (mg/l)	ND	100
Potassium (mg/l)	0.92	[n]
Phosphate (mg/l)	0.22	[n]
Silicon (mg/l)	7.2	[n]
Dissolved Solids (mg/l)	86	[n]
Perchlorate (ug/l)	0.35	18
Total Organic Carbon (mg/l)	0.94	[n]
<b>Synthetic Organic Compounds</b>		
Tetrachloroterephthalic Acid (ug/l)	1.2	50
<b>Volatile Organic Compounds</b>		
Chloroform (ug/l)	0.5	80
1,1,1-Trichloroethane (ug/l)	ND	5
<b>Disinfection By-Products</b>		
Bromochloroacetic Acid (ug/l)	0.6	[n]
Bromodichloroacetic Acid (ug/l)	0.6	[n]
Haloacetic Acids (ug/l)	1.3	60
Trihalomethanes (ug/l)	2.6	80

Source: 2007 SCWA Drinking Water Report for Zone 20.

Notes: Only those compounds detected are reported in Table 2-3.

Concentration reported represent average concentration for each zone.

MCL - Maximum Contaminant Level.

ND - Not detected.

[n] -No standards for parameter.

### Stormwater

Stormwater, as runoff, is the vehicle by which pollutants move across land and through the soil to groundwater or surface waters. Contaminants accumulate or are disposed of on land and improved surfaces. Sources of contaminants include:

- animal wastes
- highway deicing materials
- decay products of vegetation and animal matter
- fertilizers
- pesticides
- air-borne contaminants deposited by gravity, wind or rainfall
- general urban refuse
- by-products of industry and urban development
- improper storage and disposal of toxic and hazardous material

In 1982, the Long Island Regional Planning Board (LIRPB) prepared the L.I. Segment of the Nationwide Urban Runoff Program (NURP Study). This program attempted to address, among other things, the following:

- the actual proportion of the total pollutant loading that can be attributed to stormwater 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 USGS, was to determine:

- the source, type, quantity, and fate of pollutants in stormwater 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 stormwater runoff. The following is a listing and description of each drainage area:

#### Site Location

Centereach  
Huntington  
Laurel Hollow  
Plainview  
Syosset

#### Land Use

Strip Commercial  
Shopping Mall, Parking Lot  
Low Density Residential (1 acre zoning)  
Major Highway  
Medium Density Residential (1/4 acre zoning)

Based on the sampling program, the NURP Study reached the following relevant findings and conclusions:

Finding: Stormwater runoff concentrations of most of the inorganic chemical constituents for which analyses were performed were generally low. In most cases, they fell within the permissible ranges for potable water; however, there were two notable exceptions:

- median lead concentrations in stormwater runoff samples collected at the recharge basin draining a major highway (Plainview) consistently exceeded the drinking water standards;
- chloride concentrations in stormwater runoff samples generally increase two orders of magnitude during the winter months.

Conclusion: In general, with the exception of lead and chloride, the concentrations of inorganic chemicals measured in stormwater runoff do not have the potential to adversely affect groundwater quality.

Finding: The number of coliform and fecal streptococcal indicator bacteria in stormwater range from  $10^0$  MPN (Most Probable Number) to  $10^{10}$  MPN per acre per inch of precipitation.

Conclusion: Coliform and fecal streptococcal indicator bacteria are removed from stormwater as it infiltrates through the soil.

The handling of stormwater for the proposed use and potential impact on groundwater will be considered in **Section 2.4.2**.

As mentioned previously the subject site is located in Groundwater Management Zone III. In this zone, much of the area is in low density residential, primarily non-agricultural, land use. It has been recommended that this zone should be protected by applying land use restrictions as well as strict pollution source controls. As such the subject property has been designated as a Compatible Growth Area within the Central Pine Barren Zone. This designation allows development of the subject property in accordance with all applicable zoning regulations as long as it is compatible with other property uses in the region. It is recommended in the 208 Study that development in this zone utilize public sewers if available, or provide for wastewater collection/treatment where the wastewater generation rate is 300 gpd/ac or more. Therefore, for this 39.38 acre site, a septic tank/leaching pool system could be used to treat wastewater if, the volume of wastewater generated on-site is kept to 11,814 gpd or less. In addition, the 208 Study recommends: 1) that stormwater runoff be controlled on-site by preventing sediments, nutrients, metals, organic chemicals and bacteria from reaching surface and, eventually, ground waters; 2) that on-site disposal systems should be maintained properly; and 3) fertilizer use should be minimized on lawn areas.

The subject property is located within the Carman's River Watershed, as illustrated in **Figure 2-7**. The Carman's River itself is considered both a Wild and Scenic Recreational River and a NYSDOS Significant Fish and Wildlife Habitat, so water quality in this watershed is of high concern. Specifically, water quality in this area should be maintained or improved to prevent significant impacts to fish and wildlife.

### Water Balance and Nitrogen

Groundwater flows generally perpendicular to the lines of equal water table elevation as a result of this hydraulic gradient.

The groundwater budget for an area is expressed in the hydrologic budget equation, which states that recharge equals precipitation minus evapotranspiration plus overland runoff. This indicates that not all rain falling on the land is recharged. 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 (NP&V) has utilized a microcomputer model developed for its exclusive use in predicting both the water budget of a site and the concentration of nitrogen in recharge. The model, named **SONIR** (Simulation Of Nitrogen In Recharge), utilizes a mass-balance concept to determine the nitrogen concentration 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 **SONIR** model includes four sheets of computations: 1) Data Input Field; 2) Site Recharge Computations; 3) Site Nitrogen Budget; and 4) Final Computations. All information required by the model is input in Sheet 1. Sheets 2 and 3 utilize data from Sheet 1 to compute the Site Recharge and the Site Nitrogen Budget. Sheet 4 utilizes the total values from Sheets 2 and 3 to perform the final Nitrogen in Recharge computations. Sheet 4 also includes tabulations of all conversion factors utilized in the model.

It should be noted that the simulation is only as accurate as the data which is input into the model. An understanding of hydrologic principles is necessary to determine and justify much of the data inputs used for water budget parameters. Further principles of environmental science and engineering are applied in determining nitrogen sources, application and discharge rates, degradation and losses, and final recharge. Users must apply caution in arriving at assumptions in order to ensure justifiable results. 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 was run to obtain the existing water budget and nitrogen concentration in recharge. The run was based on current site conditions and land use coverages which includes 39.38 acres of natural woodland area. The site currently has a total site recharge of 19.59 million gallons per year (MG/Y), with a total nitrogen concentration of 0.01 milligrams per liter (mg/l). The results of this analysis are presented in **Appendix B-2**.

### Water Supply

The area surrounding the subject site receives public water supply from the Suffolk County Water Authority (SCWA). The nearest SCWA well field in the vicinity of the site is the Bailey Road Well Field located adjacent to the north of the subject property. The well field supplies water to the local distribution system, which includes a 12-inch water main along Bailey Road. The proposed project would connect to this existing water main distribution system for public water supply (see SCWA correspondence dated June 25, 2007 in **Appendix F**). It is noted that the SCWA has voiced concerns with respect to the siting of a STP on the proposed site in proximity due to the proximity of the site to the Bailey Road Well Field (see SCWA correspondence dated July 17, 2007 in **Appendix B-6**). Discussion of the STP siting and well protection is discussed in **Section 2.4.2** below.

### 2.4.2 Anticipated Impacts

#### Surface Water and Drainage

Construction and operation of the proposed project is not anticipated to have a significant impact on surface water or drainage on or in the vicinity of the subject property. The nearest NYSDEC-regulated surface water bodies to the subject property consist of a documented tiger salamander breeding pond to the west and Artist's Lake which is southeast of the subject property. Most of the land within the NYSDEC requested 535 ft. setback (see **Section 2.6.2** for further details) from the salamander pond to the west will be preserved as open space, thereby decreasing potential impacts to water quality due to site disturbance in the vicinity of the pond. Furthermore, the salamander pond is separated from the subject property by an existing roadway, and thereby further decreases the potential for impacts to the pond from the proposed project. Artist's Lake is a significant distance from the project site and is separated by intervening development, roadways and a park. There is no surface water connection to these surface water bodies and no impacts are expected. Additionally, a small, non-regulated pond occurs in the northwest portion of the site, as a result of receiving stormwater via a drainage swale from the road. No alterations to this wetland are proposed and a buffer of open space is proposed to surround the wetland (see proposed site plans, **Plate 2**).

An on-site drainage system of subsurface leaching pools designed for a five-inch rainfall event is proposed, which will capture and recharge stormwater runoff and therefore reduce overland flow of stormwater runoff into the adjacent surface waters. The Grading and Drainage Plans have been designed in accordance with NYSDEC accepted practices for water quantity and water quality controls and will be subject to review and approval by the Town of Brookhaven Engineering staff and Planning Board during site plan review. This review will ensure that all stormwater is retained on site in properly designed systems. Within the proposed development area, adequate depth to groundwater exists (in the range of 10-40 feet) and soils are anticipated to exhibit acceptable leaching characteristics (as evidenced by the sand and gravel operation north and west of the site), thereby ensuring that stormwater will recharge and that drainage systems will function properly. On-site soil borings will be completed in connection with site plan review and SCDHS review installation of drainage systems.

#### Hydrogeology

The average depth to water ranges from approximately 10 to 40 feet below ground surface (bgs) in the proposed development portions of the site (excluding a depression located on a limited

area in the western portion of the site). Regionally groundwater is observed to flow in a southerly direction. The subject site has adequate depth to groundwater to ensure that leaching of wastewater and stormwater recharge will occur efficiently. Recharge quality must be considered to determine water quality impacts. Related to recharge characteristics of the developed site is the density of development and sewage handling which are described below.

Wastewater will be generated as a result of the proposed use of the site for housing, and commercial 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 III as defined by the SCDHS. Based on the requirements of Article 6, no more than 300 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 39.38 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:

$$39.38 \text{ acres} \times 300 \text{ gallons/day/acre} = 11,814 \text{ gallons per day (gpd)}$$

The project is expected to generate a range of  $\pm 41,690$  gpd to  $\pm 50,000$  gpd of sanitary wastewater depending on the nature of the future commercial uses (flows may range from 0.03 gpd/SF for dry retail uses to maximizing the commercial space with restaurants and/or other higher water demand uses). This exceeds the total allowed by the SCDHS under its current regulations within Groundwater Management Zone III, and as a result an on-site sewage treatment system or connection to a municipal sewerage system is required.

The proposed project has been considered by the Suffolk County Department of Public Works with respect to sanitary waste treatment in consideration of the Middle Island Townhomes project west of the site across CR 21. In review of these two (2) projects, SCDPW suggested that these projects be combined to use one STP. The subject site is the only site of the two that is of sufficient size and depth to groundwater to accommodate a full STP designed to SCDPW requirements. As a result, the applicant sought input from SCDHS with respect to siting an STP on the subject site which would be capable of handling the combined flow from both projects. Approximately 50,000 gpd was attributed to the Sandy Hills site, and approximately 30,000 gpd was attributed to the Middle Island Townhomes site, for a combined STP size of 80,000 gpd.

A request for a siting analysis was submitted to SCDHS and a report was issued by Robert F. Farmer, P.E. dated February 16, 2007 (see **Appendix B-5**). This report found no objection to the

location of an STP in the 3.96 acre area of the subject property where the STP is proposed. The report indicated that the depth to groundwater would be approximately 23 feet and the location would not be within the contributing area to the Bailey Road well field. As noted in the report, it was recommended that an offer to extend public water to the private homes along Old Middle Island Road should be required as a condition for building the STP.

Therefore, the proposed project will provide an STP designed for a capacity of approximately 80,000 gpd attributable to the subject site and the adjacent Middle Island Townhomes site. The STP design will be the subject of an engineering report, and design and specification review and approval by the SCDHS and SCSA, with issuance of a State Pollutant Discharge Elimination System (SPDES) permit by SCDHS as an arm of the NYSDEC. STPs are required to meet discharge limitations under the SPDES permit effluent requirements; Sequence Batch Reactor or "SBR" plants of this size typically treat wastewater to 6-8 milligrams per liter (mg/l) of total nitrogen and consistently meet the total nitrogen limit of 10 mg/l, which is also the drinking water standard. SBR plants are different than conventional continuous flow STP's in that treatment occurs by timed sequences within a single vessel. The STP will be operated by a NYS licensed operator, and will be required to file discharge monitoring reports (DMRs). STPs are subject to inspection by personnel and are regularly maintained to ensure safety and ability to meet discharge limitations. As a result, no significant adverse impacts are expected as related to the STP.

#### Groundwater Quality

Groundwater impacts which may occur during construction activities could potentially result from building materials and equipment stored on-site. Building materials stored on-site are anticipated to be inert and therefore are not expected to have an adverse impact on the site. Equipment stored on-site which will be utilized during clearing and construction activities will be properly maintained and reputable contractors will be used for all site work.

The proposed project will consist of a mix of residential and commercial development. The residential and commercial components of the project are not expected to result in the use, generation or disposal of toxic substances which may be discharged to the subsurface. Household chemicals will likely be the only toxic or hazardous materials used in the residential portions of the on-site. Such materials, termed "household hazardous waste" (HHW) include any waste that is flammable, toxic, corrosive or reactive, and includes many household cleaners, paints, automobile maintenance wastes, pesticides, batteries, etc. These wastes may be exposed to individuals during use, may contaminate groundwater supplies when improperly discarded, and may injure sanitation workers or react with other substances during transport to or deposition in a landfill. According to the NYSDEC Household Hazardous Waste Report (April, 2000), education leading to waste reduction is by far the best approach to managing HHW, and the most environmentally sound method of disposal for many hazardous products is through a community HHW collection program. It is recognized that enforcement of limiting HHW use within the proposed project is generally not feasible. The NYSDEC offers several informational pamphlets concerning the use and disposal of HHW and the Town of Brookhaven sponsors collections of these HHW for proper disposal through its "STOP" (Stop Throwing Out Pollutants) Program. These educational materials will be made available to future homeowners through the HOA and notification of STOP collection programs dates will be provided.

The commercial component of the project will be required to comply with the regulations and restrictions outlined in Articles 6, 7 and 12 of the Suffolk County Department of Health Sanitary Code which sets density limitations as well as established regulations regarding the use, handling and storage of hazardous or toxic materials in a deep flow recharge area. Article 7 was designed and adopted by the Suffolk County Legislature, specifically to mitigate potential impact of industrial development in deep recharge areas, and prohibits the storage of more than 2,000 pounds dry weight, or 250 gallons of toxic or hazardous materials, as well as SPDES permitting of industrial discharge in this area (except under limited exceptions; see Article 7 of the SCSC). As a result water quality impacts from construction and industrial development are considered to be mitigated.

Stormwater will be recharged on-site through the use of leaching pools. Based on information presented in the NURP Study, this is an appropriate means of handling stormwater and as a result, such recharge is not anticipated to contain significant concentrations of pollutants. Therefore, the proposed project is in conformance with the applicable recommendations of the NURP Study in regard to the proposed stormwater recharge system and no significant adverse impacts are expected.

Currently there are no sewage treatment plants in vicinity of the site available to service the proposed development. As such, an on-site STP which can process up to 50,000 gpd related to the Sandy Hills project is proposed as described above. This will be combined with the Middle Island Townhomes projected 30,000 gpd for a total plant size of 80,000 gpd. The proposed STP will meet all setback and expansion requirements of the NYSDEC, SCSA and SCDHS. The proposed SBR system has been accepted by the New York State Department of Environmental Conservation for similar applications. Positive features of this system include, but are not limited to: easy expansion, noise and odor-free operation, easy installation and reduced leaching field size requirements. As no chemicals are associated with the operation of this type of system, there is no danger of chemical spill, release or explosion. The system will require a SPDES discharge permit from NYSDEC. Effluent limitations for nitrogen require the plant to meet a limit of 10 mg/l (milligrams/liter). The plant will be designed and operated to meet this requirement and in fact is expected to consistently produce effluent with 8 mg/l or less total nitrogen, and the system will be periodically monitored to ensure compliance.

As discussed above, the SCWA maintains a water supply well immediately north of the subject property which is located on the north side of Bailey Road. A letter from Stephen Jones at the SCWA dated July 17, 2007 (**Appendix B-6**) expresses concerns over the location of the proposed STP and its effect on drinking water. The proposed STP will be located in a portion of the site where the average elevation of the subject property, following grading, is expected to be approximately 82 feet above msl (reported to be at elevation 75 feet in the SCDHS STP siting study). The difference in elevation between the proposed STP (ground surface elevation of 82') and ground water table (52') is approximately 30 feet (exceeding the SCDHS estimated 23 foot separation from groundwater in the siting report), thereby providing a significant leaching zone through which effluent will travel prior to reaching the underlying water table. The leaching zone under either scenario (the 30 foot estimate or 23 foot SCDHS estimate), will further reduce nitrogen concentrations through filtration, thus minimizing impacts to drinking water.

Source Water Assessment Program (SWAP) maps for the Bailey Road well field were also consulted in order to determine if the proposed STP is located within the well fields contributing area. Review of the SWAP map reveals that the proposed STP lies approximately 1,200 feet south of the 50 year contributing area from which the Bailey Road well field draws groundwater. No other contributing area boundary was found to be located in the vicinity of the proposed STP. It should also be noted that the proposed STP will be located approximately 1,600 feet downgradient of the Bailey Road water supply well field and it is not expected that the pumping rate of the supply wells will be significant enough to alter the regional direction of water flow in the area of the proposed STP and draw any generated discharges into the well field contributing area (see Appendix B-5).

In general, the proposed STP and proposed on site stormwater recharge will limit impacts to the Carman's River Watershed. The STP will limit nitrogen recharge to the site and surrounding areas which mitigates impacts from the proposed development. The proposed on site stormwater recharge design also limits the extent to which any water affected by the development can travel. In compliance with the Pine Barrens Plan, fertilizer dependent species will be limited to 15 percent of the total project area, which will limit groundwater pollutants. Also, depth to groundwater in the area of proposed development ranges from 26 to 40 feet providing a substantial unsaturated zone for leaching and attenuation. As a result, no significant mounding of the water table from this increased recharge volume is expected, so no change in the direction of groundwater flow would result. Therefore, no significant impacts are expected to the Carman's River Watershed.

#### Water Balance and Nitrogen

Utilizing the same mass balance model described in Section 2.2.3, 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. Table 5-1 provides a comparison of the existing, proposed, and alternative recharge calculations. The volume of sanitary effluent was included for the proposed project alone, using the anticipated maximum STP allocation for the Sandy Hills project of 50,000 gpd. This volume is included the SONIR run for the proposed project based on the coverages and site conditions associated with the proposed site plan.

The SONIR computer model results for the proposed project (Appendix B-3) indicate that a total of 44.53 MG/yr of water will be recharged on the site. This represents an increase in recharge generated on the property in excess of two times the existing recharge volume. This anticipated recharge volume represents 42.57 inches of water distributed annually over the 39.38 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 4.58 mg/l, representing a 4.57 mg/l increase above the current conditions of the vacant site.

A SONIR model run was also completed for the Sandy Hills project combined with the Middle Island Townhomes project using an STP size of 80,000 gpd. The Middle Island Townhomes project is currently proposed at 66 units; however, there is an option to expand the project to 92 units if sewage treatment is available. This would result in an additional 30,000 gpd of sanitary flow. Approximate site coverage quantities for the expanded Middle Island Townhomes project

were obtained and combined with the Sandy Hills project for an additional SONIR model run included as **Appendix B-4**. The total recharge under this scenario is 65.79 MG/year and the projected concentration of nitrogen in recharge would be 5.05 mg/l.

The project will utilize public water, to be supplied by the SCWA via the existing 12 inch water main beneath Bailey Road and Middle Country Road. The potable water requirement of the project, ranging from  $\pm 41,690$  gpd to  $\pm 50,000$  gpd, is not anticipated to impact the ability of the SCWA to serve the subject site and existing customers. SCWA is chartered to provide water to its service district customers, based on approved tariffs. There are no large water consumptive uses in the area, and the subject site is in an area that has historically been intended for development. The presence of a 12 inch water main indicates a substantial distribution system in the area of the subject site. The site is intended to be connected to this system, and will pay the required rates for water used.

Based on the analyses presented above, the proposed project is not expected to result in any long or short term adverse environmental impacts to surface or groundwater resources. In comparison to the existing conditions, the proposed project will have a greater sanitary design flow and water use ( $\pm 41,690$  gpd to  $\pm 50,000$  gpd compared with 0 gpd), will recharge a higher volume of water (44.53 compared with 19.59 MGY), and will have a slight increase in concentration of nitrogen in recharge (0.01 compared with 4.58 mg/l for the Sandy Hills project alone and 5.05 mg/l for the combined Sandy Hills and the expanded Middle Island Townhomes project).

### 2.4.3 Proposed Mitigation

- In conformance with the Town of Brookhaven requirements, all stormwater runoff generated on developed surfaces will be retained on-site, to be recharged to groundwater either through the proposed leaching pools or directly to the subsurface. Water generated on impervious areas of the property will be collected by a series of roadside and parking area catch basins which will either divert runoff to the ponds or directly recharge stormwater to the subsurface.
- An STP which conforms to setback and design requirements will be constructed to treat and recharge sanitary effluent. This STP is sized and designed to accommodate sanitary flow from the Middle Island Townhomes project and as a result is consistent with the recommendations of the SCDPW and will provide an opportunity for greater conformity to the Town's MCRLUP.
- The project will utilize public water, to be supplied by the SCWA via the existing 12" water main beneath Bailey Road and Middle Country Road.
- As recommended by the SCDHS, public water connection will be offered to those residents who currently have private water wells along Middle Island Road.
- The proposed STP, on-site stormwater recharge system, limit of fertilizer dependent species, and depth to groundwater in the developed area minimize impacts to the Carman's River Watershed.
- The proposed STP will be located in a portion of the site where the average elevation of the subject property, following grading, is expected to be approximately 82 feet above msl. With an average groundwater elevation underlying the site of 52 feet above msl this will result in a water table separation of approximately 30 feet. This will create a significant leaching zone through which effluent will travel prior to reaching the underlying water table and will further reduce nitrogen concentrations through filtration.
- Source Water Assessment Program (SWAP) maps for the Bailey Road well field were also consulted in order to determine if the proposed STP is located within the well fields contributing area. Review of the SWAP map reveals that the proposed STP lies approximately 1,200 feet

south of the 50 year contributing area from which the Bailey Road well field draws groundwater. No other contributing area boundary was found to be located in the vicinity of the proposed STP. It should also be noted that the proposed STP will be located approximately 1,600 feet downgradient of the Bailey Road water supply well field and it is not expected that the pumping rate of the supply wells will be significant enough to alter the regional direction of water flow in the area of the proposed STP and draw any generated discharges into the well field contributing area.

- The project consists primarily of residences, with some commercial spaces (expected and intended for small office and retail uses); no industrial uses are proposed. As a result, household and household-type cleaners and lawn fertilizers are likely to be the only toxic or hazardous chemicals present that could adversely impact groundwater quality. Educational materials regarding HHW and proper use of such substances could be made available to future condo owners and occupants through the site owner, and notification of the Town sponsored collection programs will be provided to residents and occupants, so that potential for spills or leakages of toxic materials can be minimized.
- To protect the quality of groundwater, fertilizer use will be minimized by limiting the amount of fertilizer-dependent landscaping to no more than 15 percent of the site (proposed plan limits fertilizer dependent vegetation to a total of 11 percent of the site based on turf areas and playfield). Landscape maintenance for the entire community will be conducted under the jurisdiction of the condo owners association, and will include a community-wide landscape maintenance contract. Fertilizer use will thus be controlled through initial applications to turf and landscape plantings (in order to establish plantings), as well as through the landscape grounds maintenance agreement.

## 2.5 Vegetation

### 2.5.1 Existing Conditions

The project site is predominantly comprised of contiguous woodland, with dirt trails which traverse through the parcel. Residential development occurs to the north and east, and commercial development occurs to the south. There are several large contiguous blocks of woodland in the immediate vicinity.

The 39.38 acre subject parcel was inspected in June 14, 2007 and September 25, 2007. Qualifications of NPV staff that inspected the subject parcel are included in **Appendix C-5**. The property can best be described as containing Pitch Pine-Oak Forest, with small amounts of Successional Old Field vegetation in disturbed areas, as defined by the classification system developed by the NYSDEC (**Edinger et al., 2002**). Several trails occur throughout the site and remain partially unvegetated through use. There are no structures on site, although piles of construction debris do exist in the western portion of the site. The existing site habitat quantities as determined by aerial photography and field inspections by NP&V are presented in **Table 1-1**. **Figure 2-8** provides a habitat map of the subject property. Below is a detailed description of the habitat types found on site along with a list of species present or expected on the site.

The nearest NYSDEC-regulated freshwater wetlands consist of a known tiger salamander breeding pond (#MD-3) approximately 231 ft. to the west, and Artist's Lake (#MD-1) approximately 1,023 ft. to the southeast of the subject property. Additionally, a small, non-regulated freshwater pond approximately 13,000 SF in size was observed in the northwest

portion of the site, and occurs as a result of receiving stormwater via a drainage swale from Rocky Point Road. Upon NP&V inspection, the pond was shallow, surrounded by steep slopes, and littered with refuse. Duckweed was observed floating on the surface of the pond, which is an obligate wetland species. The duckweed was not abundant, but appeared to be healthy. The only wetland indicator species present at the pond was red maple, which is a facultative wetland species. Very few red maples were noticed surrounding the pond, all of which appeared to be in healthy condition at the time of field inspections.

The Town of Brookhaven also regulates wetlands within the town through Article XXVIIB, Wetland Overlay District. The Article has several requirements regarding yield and developable area, which are summarized as follows:

- Unless a greater lot area is required by the underlying zoning district, the minimum required lot area shall be 200,000 square feet, excluding lands underwater and surface water
- For parcels located partially within the Wetland Overlay District, yield shall be based upon the following:
  - Yield for that portion of the property designated as wetlands shall be based upon one dwelling unit per 200,000 square feet of lot area, excluding lands under water and surface water.
  - Yield for that portion of the property not designated as wetlands shall be based upon the underlying zoning district.
  - The wetland yield, combined with the underlying zoning yield, shall constitute the total yield for the property.
  - A variance application to the Town Board shall be required for all parcels that maintain a total yield of less than one dwelling unit.
  - There shall be no yields associated with underwater land.
- No development shall be permitted within that portion of the site designated as wetlands and lands under water or surface water. Development within a designated buffer area shall only be permitted after the review and approval of the Town Board and the Trustees of the Freeholders and Commonalty of the Town of Brookhaven.
- Wetlands or adjacent buffer areas shall not be utilized to determine compliance with the minimum landscaping or buffer requirements for any nonresidential use.

The yield of the subject site would remain at 34 lots under current zoning, including the Wetland Overlay District Regulations, which is further described in **Section 5.2**. The proposed project conforms to the regulation which does not permit development to occur within the wetland area, as the wetland area on the subject parcel is designated to be preserved as open space. The proposed project does have small areas of the STP access road which will be within the 100 foot buffer area surrounding the wetland. Development of these areas is subject to Town review through a wetland permit application, which will be submitted at the appropriate stage of development.

Pine barrens habitats occur in dry areas where a high degree of disturbance and nutrient poor soils exist. These habitats are characterized by pitch pine, oaks and other vegetation which are tolerant of dry, acidic conditions. These conditions and resultant vegetation exist on site.

The extensive pine barrens of Long Island are a result of the interacting effects of fire, drought and soil character. Pine barrens habitats are subject to relatively high degrees of disturbance due to periodic fires (Olsvig *et al.*, 1979; Reschke, 1990). Fire "sets back" the vegetation to an

earlier phase of succession, and the pine barrens habitats appear to be a series of successional stages that follow fires or other disturbance, although soil conditions may also affect the species composition at some sites (Olsvig *et al.*, 1979). Pitch pine and scrub oak are fire tolerant, and are generally the first species to recover after a fire. Individual pitch pines can withstand heat levels which destroy other types of trees. This species is dependent on fire to open its pine cones to release seeds. Therefore, pine barrens habitats with high fire frequency, such as pine-oak-heath woodland, are typically dominated by pitch pine and scrub oak. As the period between fires becomes longer, less fire tolerant trees such as white and scarlet oaks become dominant (Olsvig, *et al.*, 1979), and few pine seedlings reach maturity, resulting in a Pine-Oak forest habitat. Fertilization and the absence of drought also favors dominance by oaks, and the presence of pine barrens habitats in some areas may be determined more by soil conditions than fire frequency.

Pitch Pine-Oak forest has the lowest fire frequency of the pine barrens habitats defined by Reschke (1990), and typically burns only once in several decades. Pitch Pine-Scrub Oak Barrens have a fire frequency of 6 to 15 years, and Pitch Pine-Oak-Heath Woodland probably experiences more than 15 years between fires (Reschke, 1990). In the absence of fire, oaks would be expected to dominate, and few, if any, pitch pines would exist in the canopy. Understory species would be limited to those which are able to withstand shade conditions or require more moisture. The domination of oak species in portions of this habitat is likely due to the absence of fire.

The forest may have originally resembled a pitch pine-scrub oak barrens habitat, but through long periods of fire suppression, has more increasingly become dominated by oak species. Within this habitat type, there are several variations with regards to species dominance. Areas on site are more dominated by mature oaks, with relatively few pitch pines in the canopy, with other areas dominated by mature pitch pines, with relatively few oaks in the canopy. The following text describes this habitat on site in more detail.

Table 2-4 presents a list of vegetation observed or expected on site given the habitats present; it is based upon field investigations conducted by NP&V on June 14, 2007 and September 25, 2007. Qualifications of the NPV staff that inspected the site can be found in Appendix C-5. This list is not meant to be all-inclusive but was prepared as part of several field inspections to provide a detailed representation of what is found on site. Care was taken to identify any species that might be unusual for the area.

TABLE 2-4  
VEGETATION SPECIES

*Trees*

* Amur maple	<i>Acer ginnala</i>
* Norway maple	<i>Acer platanoides</i> [i]
* red maple	<i>Acer rubrum</i>
* black birch	<i>Betula lenta</i>
* green ash	<i>Fraxinus pennsylvanica</i> var. <i>subintegerrima</i>
eastern red cedar	<i>Juniperus virginiana</i>
* pitch pine	<i>Pinus rigida</i>

- \* white pine
- \* black cherry
- \* white oak
- \* scarlet oak
- \* scrub (bear) oak
- mossycup (bur) oak
- \* blackjack oak
- \* pin oak
- chestnut oak
- northern red oak
- post oak
- \* black oak
- \* black locust
- \* sassafras

*Pinus strobus*  
*Prunus serotina*  
*Quercus alba*  
*Quercus coccinea*  
*Quercus ilicifolia*  
*Quercus macrocarpa*  
*Quercus marilandia*  
*Quercus palustris*  
*Quercus prinus*  
*Quercus rubra*  
*Quercus stellata*  
*Quercus velutina*  
*Robinia pseudo-acacia [i]*  
*Sassafras albidum*

#### *Shrubs and Vines*

- chokeberry
- \* Japanese barberry
- \* deer tongue
- \* Asiatic bittersweet
- bittersweet
- sweetfern
- \* autumn olive
- \* glossy buckthorn
- black huckleberry
- golden heather
- beach heather
- \* long rooted cat's ear
- mountain laurel
- \* honeysuckle
- \* Japanese honeysuckle
- \* Morrow's honeysuckle
- \* Chinese matrimony vine
- stagger-bush
- \* northern bayberry
- \* Virginia creeper
- \* multiflora rose
- winged sumac
- smooth sumac
- \* brambles
- \* wineberry
- \* common greenbriar
- \* climbing nightshade
- \* poison ivy
- low bush blueberry
- \* highbush blueberry
- \* wild grape

*Aronia sp.*  
*Berberis thunbergii*  
*Carphephorus spp.*  
*Celastrus orbiculatus [i]*  
*Celastrus scandens [p]*  
*Comptonia peregrine*  
*Elaeagnus umbellata [i]*  
*Rhamnus frangula [i]*  
*Gaylussica baccata*  
*Hudsonia ericoides*  
*Hudsonia tomentosa*  
*Hypochaeris radicata*  
*Kalmia latifolia [p]*  
*Lonicera spp.*  
*Lonicera japonica [i]*  
*Lonicera morrowii [i]*  
*Lycium chinense*  
*Lyonia mariana*  
*Myrica pensylvanica [p]*  
*Parthenocissus quinquefolia*  
*Rosa multiflora [i]*  
*Rhus copallina*  
*Rhus glabra*  
*Rubus sp*  
*Rubus phoeniccolasius*  
*Smilax rotundifolia*  
*Solanum dulcamara*  
*Toxicodendron radicans*  
*Vaccinium angustifolium*  
*Vaccinium corymbosum*  
*Vitis spp.*

#### *Herbs and Ground Covers*

- \* white yarrow
- redtop

*Achillea millefolium*  
*Agrostis gigantean*

- \* garlic mustard
  - ragweed
  - pigweed
  - \* little bluestem
  - big bluestem
  - bearberry
  - \* mugwort
  - \* butterfly weed
  - aster sp.
  - stiff-leaved aster
  - \* lady fern
  - \* carex grass
  - chicory
  - \* spotted wintergreen
  - stripped pipsissewa
  - lady slipper
  - \* orchard grass
  - \* hairy small leaved tick trefoil
  - \* wild rye
  - trailing arbutus
  - \* wintergreen
  - hawkweed
  - \* holy grass
  - common St. Johnswort
  - orange grass
  - pinweed
  - \* duckweed
  - round-headed bush clover
  - hairy bush clover
  - trailing bush clover
  - common strawberry
  - club moss
  - wild lupine
  - Indian pipe
  - sensitive fern
  - cinnamon fern
  - panic grass
  - \* Oriental lady's thumb
  - \* pokeweed
  - bluegrass
  - Christmas fern
  - jointweed
  - bracken fern
  - milkwort
  - hair cap moss
  - \* goldenrod
  - Indian grass
  - goat's-rue
  - \* red clover
  - periwinkle
- Alliaria petiolata [i]*  
*Ambrosia artemisiifolia*  
*Amaranthus sp.*  
*Andropogon scoparius*  
*Andropogon gerardii*  
*Arctostaphylos uva-ursi*  
*Artemisia vulgaris [i]*  
*Asclepias tuberosa*  
*Aster sp.*  
*Aster linariifolius*  
*Athyrium filix-femina*  
*Carex lanuginosa*  
*Cichorium intybus*  
*Chimaphila maculata [p]*  
*Chimaphila umbellata [p]*  
*Cypripedium sp.*  
*Dactylis glomerata*  
*Desmodium ciliare*  
*Elymus virginicus*  
*Epigaea repens [p]*  
*Gaultheria procumbens [p]*  
*Hieracium sp.*  
*Hierochloa odorata*  
*Hypericum perforatum*  
*Hypericum gentianoides*  
*Lechea villosa*  
*Lemna minor*  
*Lespedeza capitata*  
*Lespedeza hirta*  
*Lespedeza procumbens*  
*Fragaria virginiana*  
*Lycopodium spp. [p]*  
*Lupinus perennis*  
*Monotropa uniflora*  
*Onoclea sensibilis*  
*Osmunda cinnamomea [p]*  
*Panicum sp.*  
*Polygonum caespitosum*  
*Phytolacca Americana*  
*Poa sp.*  
*Polystichum acrostichoides [p]*  
*Polygonella articulata*  
*Pteridium aquilinum*  
*Polygala nuttallii*  
*Polytrichum sp.*  
*Solidago sp.*  
*Sorghastrum nutans*  
*Tephrosia virginiana*  
*Trifolium pretense*  
*Vinca minor*

\* Species identified on site during field visits by NPV Staff.

- [i] NYS invasive species (no legal status)
- [e] NYS endangered species
- [t] NYS threatened species
- [p] NYS protected plant

### Rare and Endangered Plant Species Potential

No rare, threatened or endangered plants were observed on site. The N.Y. Natural Heritage Program (ECL 9-1503) was contacted to determine if there is any record of rare plants, habitats or wildlife in the vicinity. The Natural Heritage Program has 17 records of known occurrences of rare or state-listed plants, significant natural communities or other significant habitats on or in the vicinity of the subject site. A summary of each of these species and its potential for occurring on the property is provided below. Correspondence with the Natural Heritage Program is contained in **Appendix C-1**.

Rose coreopsis (*Coreopsis rosea*) is a rare vascular plant species which prefers shorelines and bogs. The last report of this species was located in Brookhaven, July 26, 2005. Although some suitable habitat exists along the bank of the small stormwater pond on the property, this species is not expected on site due to the prevalence of invasive plant species and was not observed during field visits. It is documented that rare and endangered species are more susceptible to invasive species due to their low abundance (Hoffmeister et al. 2005). Habitats with high amounts of fragmentation and disturbance, such as the subject site, are more susceptible to a reduction in biodiversity due to invasive species, which leads to the reduction of species which do not have defense mechanisms for the many modes of dominance strategies of invasive species (Hoffmeister et al. 2005).

The three-ribbed spikerush (*Eleocharis tricostata*) is an endangered graminoid plant that prefers coastal plain marshes, sandy lake edges, dune swales, and edges of peaty wetlands. The last report of this species was located in Brookhaven, July 26, 2005. Although some suitable habitat exists along the bank of the small stormwater pond on the property, this species is not expected on site due to the prevalence of invasive plant species and was not observed during field visits.

White boneset (*Eupatorium album var. subvenosum*) is a threatened forb/herb plant that prefers dry, sandy woods. The last report of this species was located in Brookhaven, August 4, 2004. Generally suitable habitat is found on site for this species, although a layer of surficial clay deposits observed throughout most of the site, as well as the presence of invasive plant species, decreases the suitability of the habitat. This species was not observed during field visits.

Wild ipecac (*Euphorbia ipecacuanhae*) is an endangered forb/herb plant that prefers dry, sandy soil. The last report of this species was in the general area of Brookhaven on August 15, 1923. Generally suitable habitat is found on site for this species, although a layer of surficial clay deposits observed throughout most of the site, as well as the presence of invasive plant species, decreases the suitability of the habitat. Due to the decreased suitability of habitat, as well as the historical record of the species, it is not expected on site and was not been observed during field visits.

Weak rush (*Juncus debilis*) is an endangered graminoid plant species which prefers open, unshaded habitat in seasonally wet, sandy, peaty or mucky substrate along the coastal plain. This

species was last sited on June 30, 1936 in the general area of Brookhaven. Although some suitable habitat exists along the bank of the small stormwater pond on the property, this species is not expected on site due to the prevalence of invasive plant species and the plant's historical record.

Slender pinweed (*Lechea tenuifolia*) is a threatened forb/herb plant that prefers dry, sandy, and rocky woods. The last report of this plant was in the general area of Brookhaven on August 17, 2000. Generally suitable habitat is found on site for this species, although a layer of surficial clay deposits observed throughout most of the site, as well as the presence of invasive plant species, decreases the suitability of the habitat. This species is not expected on site and was not observed during field visits.

Southern yellow flax (*Linum medium var. texanum*) is a threatened forb/herb plant that prefers rocky open woods with acidic soils. The last report of this species in the area was in the general area of Brookhaven on September 8, 1925. Due to the lack of suitable habitat on site, and the plant's historical record, this species is not expected on site.

Dwarf bulrush (*Lipocarpa micrantha*) is an endangered graminoid plant which prefers lakes, rivers, and emergent shorelines. The last report of this species was in the general area of Brookhaven on September 12, 2005. Although some suitable habitat exists along the bank of the small stormwater pond on the property, this species is not expected on site due to the prevalence of invasive plant species and was not observed during field visits.

Clustered bluets (*Oldenlandia uniflora*) is an endangered subshrub, forb/herb plant which prefers sandy soils or swampy ground. The last report of this species was in the general area of Brookhaven on September 12, 2005. Although some suitable habitat exists on the property, this species is not expected on site due to the prevalence of invasive plant species and the plant not being observed during field visits.

Carey's Smartweed (*Persicaria careyi*) is a threatened forb/herb plant that prefers swamps or cleared ground. The last report of this species was in the general area of Brookhaven on August 17, 2000. Although some suitable habitat exists in the area of the small stormwater pond on the property, this species is not expected on site due to the prevalence of invasive plant species and was not observed during field visits.

Rough hedge-nettle (*Stachys hyssopifolia*) is a threatened forb/herb plant that prefers sandy shores and swamps. The last report of this species was in the general area of Brookhaven on August 17, 2000. Although some suitable habitat exists in the area of the small stormwater pond on the property, this species is not expected on site due to the prevalence of invasive plant species and was not observed during field visits.

Silvery Aster (*Symphotrichum concolor*) is a threatened forb/herb plant that prefers dry, sandy soil, and open woods. The last report of this species was located in the general area of Brookhaven on October 8, 1933. Fire suppression is a threat to this species, as it generally requires more open areas, and as a result, the species adapts to grassy openings, roadsides and fence lines of successional coastal heathland. While the site may contain some suitable habitat (e.g. small cleared areas in the site), the more developed surrounding areas where historical fire suppression is prevalent and roadsides experience continued disturbance, may be more

appropriate habitat. The presence of invasive plants on the property further reduce the suitability of the habitat on site and observations conducted during multiple field visits have not found silvery aster to be present on the property. As a result, the species is unlikely to be found on the site.

Small floating bladderwort (*Utricularia radiata*) is a forb/herb plant that prefers ponds. The last report of this species was in the general area of Brookhaven on August 17, 2000. The small pond on the property does not appear to be deep enough to support submerged aquatic vegetation and therefore, no suitable habitat is known to exist on the property. This species is not expected on site and was not observed during field visits.

Spotted wintergreen, is an "exploitably vulnerable" species that is common in Long Island pine barrens and which was observed within the pitch pine-oak forest on the property. "Exploitably vulnerable" plants are species which are not currently threatened or endangered, but which are commonly collected for flower arrangements or other uses. Under ECL 1503.3, no person may "knowingly pick, pluck, sever, damage by the application of herbicides or defoliants or carry, without the consent of the owner thereof, protected plants" (NYSDEC, 1975). As per this section of the ECL the project sponsor (i.e. 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 NYS Environmental Conservation Law.

### 2.5.2 Anticipated Impacts

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 majority of the site is vegetated with pitch pine-oak forest. Pitch pine-oak forest is considered a significant ecological community, and a total of 14.50 acres of existing natural area, primarily consisting of pine-oak forest, will be retained as a result of the proposed project. An additional 2.23 acres of previously cleared areas and buffer areas will be supplemented with the planting of native trees, shrubs, and wildflower/grass seed mixes to provide further buffer and enhance wildlife habitat. **Figure 2-8** provides an effective illustration of the site's existing vegetated habitat.

The change in habitat quantities is listed in **Table 2-5**. The site currently provides approximately 39.38 acres of woodland and successional habitats, of which 14.50 acres will be retained and 2.23 acres will be revegetated using native species. These habitats are currently impacted by the prevalence of invasive species that occur throughout most of the property. Additionally, as shown by the Landscape Plan (see **Plate 2**) and in **Table 2-5**, the planned development intends to landscape approximately 17 percent of the site (including  $\pm 1.47$  acres of unfertilized meadow which would be periodically mowed within the 3.96 acre STP parcel). Some of the species used will be ornamental trees and shrubs, particularly surrounding the proposed buildings, however efforts have been made to strictly limit the amount of fertilizer dependent vegetation permitted on site ( $\pm 11$  percent under the proposed plan) and utilize native species in proximity to retained open spaces. As a result, the site will continue to provide natural habitat for wildlife and no significant local impacts to wildlife habitat are anticipated as will be described in greater detail in the next subsection. Additionally, there are no sensitive plant species which are known or

suspected to occur on the subject property (see **Appendix C-1**), and therefore no sensitive plants are anticipated to be impacted by the proposed project.

**TABLE 2-5**  
**HABITAT QUANTITIES**  
Existing and Proposed Conditions

Coverage Type	Existing Conditions		Proposed Project 135 Units		Change (ac) 135 Units
	Total (ac)	Percent	Total (ac)	Percent	
Buildings/Paved	0	0%	13.88	35.25%	13.88 (+)
Woodland & Successional	39.38	100 %	18.79	47.71%	20.59 (-)
Landscaped	0	0%	6.70	17.01%	6.70 (+)
<b>TOTAL</b>	<b>39.38</b>	<b>100.0%</b>	<b>39.38</b>	<b>100.0%</b>	---

Note: Habitat Quantities include proposed coverages within the 3.96 STP parcel

### 2.5.3 Proposed Mitigation

- A Landscape Plan has been prepared which includes the use of native trees and shrubs for the revegetation of open space areas, and conservation seed mixes for the creation of meadow areas and to reduce the area of fertilizer dependent turf grass. These native plant species provide food and shelter to wildlife.
- Development within the 150 feet of the wetland on the subject parcel will be subject to permit approval by both the NYSDEC and the Town of Brookhaven.
- The loss of successional field and woodland habitat on the property will be partially mitigated by the proposed revegetation of 2.23 acres with native species and the establishment of 0.94 acres of supplemental non fertilizer dependant landscaped vegetation within the project site.
- Forty-two and a half percent of the property will be retained or revegetated back to natural conditions and the purchase of 1.72 Pine Barrens Credits is proposed to permanently preserve pine barrens vegetation with the Central Pine Barrens Core Preservation Area and assist in mitigating clearing in excess of the CPB regulations proposed on the site.
- Significant native trees along the site boundaries will be identified in the field and preserved, where practical, prior to construction in order to avoid inadvertent clearing of buffer vegetation. The preserved trees will then be supplementally planted with native vegetation following construction activities.
- A plan which provides open space in accordance with the CPB regulations has been prepared and is evaluated as Alternative 7 (see **Section 5.6** of this document).

## 2.6 Wildlife

### 2.6.1 Existing Conditions

#### Wildlife

Site inspections were performed on June 14, 2007 and September 25, 2007 by NPV staff, whose qualifications can be found in **Appendix C-5**. Relatively few wildlife species other than song birds were observed on site, although it is expected that the woodland and successional field

habitats on the property should support a number of wildlife species common to suburban habitats, particularly those species that are more tolerant of human activity. Species that avoid humans and/or those species that are sensitive to development are less likely to inhabit the site. The following paragraphs describe the wildlife observed or expected on site.

**Birds**

Avian species which might be expected on the property include a variety of woodpeckers, wrens, titmice, nuthatches, thrushes, creepers, flycatchers, swallows, warblers, corvids, thrashers, orioles and blackbirds, doves, starling, grosbeaks, finches, towhees and sparrows. During the warmer months, a variety of warblers may also migrate into the area. Owls and raptors may use the site for hunting and limited numbers may breed in the surrounding areas. The subject site is not expected to be critical habitat for any avian species utilizing the site.

During the June 2007 site visit, blue jays, black capped chickadees, towhees and starlings were heard on site. During the September 2007 site visit, a wild turkey was also observed in the northern portion of the site. In order to provide a more detailed representation of the avian species potentially present on site, the NYS Breeding Bird Atlas was reviewed to obtain data from the 2000-2005 Breeding Bird Survey for the census block encompassing the subject parcel (**Appendix C-2**). This study surveyed the entire State by 25 km<sup>2</sup> 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. No unique species or species of special concern are expected given the surrounding site uses.

**Table 2-6** is a list of the bird species observed or expected on site given the habitats present; it is based upon the field investigation conducted by NP&V during June of 2007.

**TABLE 2-6  
BIRD SPECIES**

gray catbird	<i>Dumetella carolinensis</i>
Eastern bluebird	<i>Sialia sialis</i>
*black-capped chickadee	<i>Parus atricapillus</i>
common bobwhite	<i>Colinus irginainuse[d]</i>
indigo bunting	<i>Passerina cyanea</i>
Northern Cardinal	<i>Cardinalis cardinalis</i>
brown-headed cowbird	<i>Molothrus ater</i>
brown creeper	<i>Certhia familiaris</i>
American crow	<i>Corvus brachyrhynchos</i>
yellow-billed cuckoo	<i>Coccyzus americanus[d]</i>
black-billed cuckoo	<i>Coccyzus americanus</i>
mourning dove	<i>Zenaida macroura</i>
rock dove	<i>Columba livia</i>
American goldfinch	<i>Carduelis tristis</i>
house finch	<i>Carpodacus mexicanus</i>
purple finch	<i>Carpodacus purpureus</i>
common flicker	<i>Colaptes auratus</i>
least flycatcher	<i>Empidonax minimus</i>
willow flycatcher	<i>Empidonax trailii</i>

great-crested flycatcher  
common grackle  
ruffed grouse  
\*wild turkey  
ring-necked pheasant  
rose-breasted grosbeak  
red-tailed hawk  
broad-winged hawk  
American kestrel  
\*blue jay  
Northern (dark-eyed) junco  
Eastern kingbird  
golden-crowned kinglet  
Eastern meadowlark  
ruby-crowned kinglet  
Northern mockingbird  
white-breasted nuthatch  
northern oriole  
ovenbird  
common screech owl  
great-horned owl  
long-eared owl  
American robin  
pine siskin  
chipping sparrow  
field sparrow  
Savannah sparrow  
swamp sparrow  
white-crowned sparrow  
fox sparrow  
house sparrow  
song sparrow  
white-throated sparrow  
\*European starling  
barn swallow  
chimney swift  
scarlet tanager  
brown thrasher  
\*rufous-sided towhee  
hermit thrush  
wood thrush  
tufted titmouse  
veery  
red-eyed vireo  
blue-winged warbler  
black-and-white warbler  
black-throated blue warbler  
pine warbler  
prairie warbler  
yellow-rumped warbler  
yellow warbler

*Myiarchus crinitus*  
*Quiscalus quiscula*  
*Bonasa umbellu*  
*Meleagris gallopavos*  
*Phasianus colchicus*  
*Pheucticus ludovicianus*  
*Buteo jamaicensis*  
*Buteo platypterus*  
*Falco sparverius*  
*Cyanocitta cristatta*  
*Junco hyemalis*  
*Tyrannus tyrannus*  
*Regulus satrapa*  
*Sturnella magna*  
*Regulus calendula*  
*Mimus polyglottos*  
*Sitta carolinensis*  
*Icterus galbula*  
*Seiurus aurocapillus*  
*Otus asio*  
*Bubo virginianus*  
*Asio otus*  
*Turdus migratorius*  
*Carduelis pinus*  
*Spizella passerina*  
*Spizella pusilla*  
*Passerculus sandwichensis*  
*Melospiza georgiana*  
*Zonotrichia leucophrys*  
*Passerella iliaca*  
*Passer domesticus*  
*Melospiza melodia*  
*Zonotrichia albicollis*  
*Sturnus vulgaris*  
*Hirundo rustica*  
*Chaetura pelagica*  
*Piranga olivacea*  
*Toxostoma rufum*  
*Pipilo erythrophthalmus*  
*Catharus guttatus*  
*Hylocichla mustelina*  
*Parus bicolor*  
*Catharus fuscescens*  
*Vireo olivaceus*  
*Vermivora pinus[d]*  
*Mniotilta varia*  
*Dendroica caerulescens*  
*Dendroica pinus*  
*Dendroica discolor*  
*Dendroica coronata*  
*Dendrocica petchia*

horned lark	<i>Eremophila alpestris</i>
cedar waxwing	<i>Bombycilla cedrorum</i>
American woodcock	<i>Philhela minor</i>
Eastern wood-pewee	<i>Contopus virens</i>
downy woodpecker	<i>Picoides pubescens</i>
hairy woodpecker	<i>Picoides villosus</i>
red-bellied woodpecker	<i>Melanerpes carolinus</i>
house wren	<i>Troglodytes aedon</i>
common yellowthroat	<i>Geothlypis trichas</i>

[s] special concern species

\*species observed by NP&V staff, June & September 2007

[d] species in decline as noted by John Turner, Town of Brookhaven DEP

### Mammals

The habitats found on the project site are expected to support a number of mammal species. Small rodents and insectivores such as mice, shrews and voles are expected to be the most abundant mammals, but the property and surrounding area should also support larger mammals. A tunnel entrance typical of a small mammal was observed under accumulated leaf litter founding the southern portion of the property.

**Table 2-7** is a list of the mammal species that are expected to occur on the property because of existing conditions on-site and in the surrounding area. This list is not meant to be all-inclusive but is intended to provide a list of the most common species.

**TABLE 2-7  
MAMMAL SPECIES**

big-brown bat	<i>Eptesicus fuscus</i>
hoary bat	<i>Lasiurus borealis</i>
Keen's bat	<i>Myotis keenii</i>
little-brown bat	<i>Myotis lucifugus</i>
red bat	<i>Lasiurus borealis</i>
Eastern pipistrelle	<i>Pipistrellus subflavus</i>
silver-haired bat	<i>Lasionycteris noctivagans</i>
Eastern chipmunk	<i>Tamias striatus</i>
Eastern cottontail	<i>Sylvilagus floridanus</i>
white-tailed deer	<i>Odocoileus virginianus</i>
red fox	<i>Vulpes vulpes</i>
Eastern mole	<i>Scalopus aquaticus</i>
house mouse	<i>Mus musculus</i>
white-footed mouse	<i>Peromyscus leucopus</i>
Virginia opossum	<i>Didelphis virginiana</i>
raccoon	<i>Procyon lotor</i>
Norway rat	<i>Rattus norvegicus</i>
masked shrew	<i>Sorex cinereus</i>
short-tailed shrew	<i>Blarina brevicauda</i>
striped skunk	<i>Mephitis mephitis</i>
Eastern gray squirrel	<i>Sciurus carolinensis</i>
southern-flying squirrel	<i>Glaucimys volans</i>
meadow vole	<i>Microtus pennsylvanicus</i>

pine vole  
long-tailed weasel  
woodchuck

*Microtus pinetorum*  
*Mustela frenata*  
*Marmota monax*

\* Species observed on site by NP&V staff, June & September 2007

### ***Amphibians and Reptiles***

The site may support a limited number of terrestrial species. No amphibian species were encountered on the property, although one reptile (two occurrences), the box turtle, was observed. In June 2007, one (1) box turtle was observed in the southeast corner of the property, and in September 2007, a breeding pair was encountered near the stormwater pond in the northwest portion of the property. Two toads are common on Long Island in upland habitats. The spadefoot toad occurs in woods, shrublands and fields with dry, sandy loam soils, and breeds in temporary pools (**Behler and King, 1979**). The Fowler's toad prefers sandy areas near marshes, irrigation ditches and temporary pools. These species are the most likely amphibians to be present on the site. Salamanders and frogs may also potentially utilize the stormwater pond on property, although none were observed during the site visits conducted in June 2007.

Several species of reptiles might potentially be found on the property, including the eastern garter snake, eastern hognose snake, black racer and eastern milk snake (**Wright, 1957**). All of these species are terrestrial species found in a variety of habitats. The garter snake is relatively tolerant of human activity, but prefers moist soils and would be most likely to be present near the recharge basin to the north. The black racer and hognose snake prefer dryer soils while the milk snake is found in soils of varying moisture content. These snakes are all colubrid snakes, which feed on whole animals such as worms, insects or small amphibians (**Behler and King, 1979**). The larger milk snake, black racer and hognose snakes will also take small rodents and birds (**Behler and King, 1979**).

The only turtle species common to terrestrial habitats on Long Island (although listed in New York State as a species of special concern) is the eastern box turtle, which requires very little water (**Obst, undated**). The species is found in a variety of habitats, and prefers moist woodlands, but was encountered in the southern portion of the subject property. The box turtle feeds primarily on slugs, earthworms, wild strawberries and mushrooms (**Behler and King, 1979**). The similar wood turtle utilizes both aquatic and terrestrial habitats, but is restricted to eastern Long Island (**Conant and Collins, 1991**).

**Table 2-8** presents a list of reptile species that might occur on site given the existing habitats. This list is not intended to be all-inclusive but provides a detailed representation of what is or is likely to be found on site. In addition, further information regarding these species can be found in **Appendix C-3**.

**TABLE 2-8  
REPTILE AND AMPHIBIAN SPECIES**

*Amphibians*

Fowler's Toad	<i>Bufo woodhousei fowleri</i>
eastern spadefoot toad	<i>Scaphiopus holbrookii [s]</i>

*Reptiles*

Tiger salamander	<i>Ambystoma tigrinum[e]</i>
common garter snake	<i>Thamnophis sirtalis</i>
eastern hognose snake	<i>Heterodon platyrhinos [s]</i>
eastern milk snake	<i>Lampropeltis triangulum</i>
* Eastern box turtle	<i>Terrepena carolina [s]</i>

[e] NYSDEC endangered species

[s] NYSDEC special concern species

\* Species observed on site by NP&V staff, June & September 2007

Rare and Endangered Species/Unique Habitat Potential

The N.Y. Natural Heritage Program (ECL 9-1503) was contacted to determine if there is any record of rare plants, habitats or wildlife in the vicinity. The Natural Heritage Program has two records of known occurrences of state-listed animals or insects on or in the vicinity of the subject site (**Appendix C-1**). The Natural Heritage Program identified the buckmoth (*Hemileuca maia ssp. 5*), and the tiger salamander (*Ambystoma tigrinum*) as potentially occurring on the subject property. However, no endangered species were encountered during NP&V's June and September 2007 inspections of the property.

The tiger salamander (endangered) was listed by the Natural Heritage Program as occurring at the NYSDEC freshwater pond (#MD-3) located approximately 231 feet to the west of the boundary of the project site. Cryan (1984) had conducted an extensive search for tiger salamander breeding ponds within Suffolk County and concluded that the small, NYSDEC-regulated woodland pond (#MD-12) located approximately 2,300 feet to the northeast of the project site contained 26 larvae. Additional investigations by the NYSDEC in the 1990's identified #MD-3 as being degraded and were unsuccessful at capturing tiger salamanders within the pond during the breeding season. Joe Jansen from The Nature Conservancy was contacted on January 28, 2008 regarding any recent tiger salamander surveys in pond #MD-3. As per Joe Jansen, no recent tiger salamander surveys have been conducted on the pond or any ponds in the immediate area, and as of that conversation, none were scheduled. The fragmentation of the subject property from the known tiger salamander pond due to the presence of Rocky Point Road which separates the subject site from this pond decreases the potential for use of the property by migrating tiger salamanders (Cryan 1984). Nonetheless, the pond is still protected by the NYSDEC as a tiger salamander pond due to its potential for providing breeding habitat in the future. Typically, NYSDEC policy is to maintain existing suitable upland habitat for the tiger salamander within 535 feet of a breeding pond, with 50 percent of the suitable natural area within 1,000 retained as natural vegetation.

Tiger salamanders require vernal pools or shallow ponds without fish populations to lay their eggs, as well as expansive upland woodlands for the emerged adults. A map illustrating the

existing suitable habitat within a 535 foot and 1,000 foot radius of pond #MD-3 is included as **Figure 2-9**. Adult tiger salamanders may begin migrating toward their breeding ponds as early as November or December, burrowing as deep as two feet underground to wait out subfreezing parts of winter (Cryan 1984). Re-emergence and entry into breeding ponds is triggered by several heavy rains in succession during winter thaws, most often beginning in February but sometimes starting in January. The best breeding conditions consist of water over three feet deep with plenty of debris to hide under and attach egg masses to. By May, all of the adults have left the pond; however, during earlier breeding years, they may leave the pond before the end of March. After leaving the pond, the salamanders move into the surrounding uplands staying beneath logs, leaves, and the top few inches of soil. Adults typically stay within a 500-foot radius of their breeding ponds and therefore, the fate of this endangered species rests on the preservation of their breeding ponds and adjacent woodland habitat.

Based on the breeding biology for this species, the very shallow depths exhibited in the small stormwater pond on site are not expected to provide ideal breeding habitat for tiger salamanders (Cryan 1984). It is unknown if the ponded area contains standing water during the peak breeding season; if so, it would be expected that the ponded area would remain significantly more shallow than optimal breeding conditions based on the adjacent topography and associated upland vegetation. Additionally, the depression does not offer adequate vegetation "structure" in which to support the relatively large egg masses of the tiger salamander.

The buckmoth (*Hemileuca maia*) is an endangered insect that is listed by the Natural Heritage Program as potentially utilizing the site. This moth is found exclusively in Pine Barrens habitat, and prefers areas of open Pine Barrens which have burned within the past 20 years (Cryan, 1985). Important host plants to the developing caterpillars include the scrub oak (*Quercus ilicifolia*) and dwarf chestnut oak (*Quercus prinoides*). The moth prefers areas where these trees are less than 10 feet in height for both food and reproduction (Dirig and Cryan, 1977). Buck moths can be identified in the field in one of three ways: by the detection of larval caterpillars in May and June during which time they feed on the unfolding leaves of their host plant; by detection of adults in flight during autumn; and by detection of egg masses deposited on the twigs of their host plants. Unlike most moths, the buck moth mates in the fall and overwinters in the egg stage, rather than as a pupae. The eggs are laid in a tight spiral on the twigs of scrub oaks, and are identifiable during the winter months.

Although several occurrences of scrub oak were noted on site, there are no areas which have burned in the past 20 years and no areas with trees of less than 10 feet in height. Nonetheless, host plants were carefully inspected and no evidence of buck moth larvae or adults were observed during the June and September 2007 field visits. Only marginally suitable habitat for the species was encountered within these areas, and this species is generally not expected to utilize the site.

Of the wildlife species listed as being likely on the site, the Cooper's hawk, whip-poor-will, marbled salamander and eastern hognose snake are identified as special concern species. Special concern species are native species which 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 Environmental Conservation Law Section 11- 0535. This category is intended to enhance public awareness of those species which deserve additional attention.

## 2.6.2 Anticipated Impacts

The majority of habitat on the property is comprised of woodland habitats which contain several aggressive and non-indigenous invasive plant species. The property is not expected to act as a refuge for rare native flora or fauna, but does contain a small population of local birds and small mammals. The proposed project will favor those wildlife species which are tolerant of human activity and which prefer edge and suburban habitats.

The proposed project will result in the loss of existing vegetated area on the site. However, the retention of contiguous open space is expected to provide wildlife corridors and sufficient habitat for plant species found on site.

In determining impacts upon the existing wildlife populations, it can be assumed that an equilibrium population size is established for each species as determined by availability of resources in the habitat. Thus, the removal of habitat resulting from the proposed project will cause a direct impact on the abundance and diversity of wildlife using the site. Although the assumption that species are at equilibrium is an oversimplification, and population sizes of many species are controlled below the carrying capacity by other factors, it does provide a worst-case scenario in determining the impact of habitat loss. In addition to this direct impact, the moderate increase in intensity of human activity on the site may cause a minor indirect impact on the abundance of wildlife that will remain on the site and in the area under post-development conditions.

In the short term, lands adjacent to the subject property may experience an increase in the abundance of wildlife populations due to displacement of individuals by the construction phase of the proposed project. Mobile species would be expected to find suitable habitat in the north of the site where wooded areas currently exist and open space will remain. The effect on the density and diversity of regional and local populations should be minimal.

### Rare and Endangered Species

No rare or endangered wildlife species were identified in association with the subject property (**Appendix C-1**). Several endangered and threatened species are noted in **Table 2-8**; however, the endangered tiger salamander is not expected given the location of the breeding pond across CR 21 and the lack of evidence of recent use of this pond by the species. Additional discussion is provided below with respect to protection of part of the site as potential upland burrowing habitat for the tiger salamander; however, overall no impacts to threatened or endangered species are anticipated as a result of the project.

The NYSDEC Endangered Species Unit has been contacted for guidance concerning the conservation of tiger salamander populations in relation to the known breeding pond located west of the subject property (see correspondence letter, dated 11-16-07, in **Appendix C-4**). Dan Rosenblatt of the NYSDEC attended a meeting with NP&V and Town Planners at the Town of Brookhaven on June 23, 2006 to establish land use guidelines for tiger salamander protection in

connection with the Middle Island Townhomes project and the Sandy Hills project. Subsequent meetings with NYSDEC staff, Town representatives and the applicant were also held in February and April 2008. The Town was interested in ensuring that projects that were proposed as a result of the Middle Country Road Land Use Plan were feasible, and considered the natural resources in the area. The planning of both projects has considered this input and as a result, the needs of the species in consideration of the unique conditions of each site have been addressed. It was recognized that the breeding pond lies across CR 21 (Rocky Point Road) from the subject site, and that no recent information of species presence was available but work during the 1990's did not identify the species in association with the site. Nevertheless, protection of upland on the subject site surrounding the pond was discussed. The NYSDEC typically recommends the preservation of a 100 percent of land within a 535-foot radius from the edge of the known tiger salamander breeding pond and 50 percent of the land within a 1,000 foot radius from the edge of a breeding pond (see correspondence included in **Appendix C-4**). The subject site is unique given the lack of any documented tiger salamander activity since prior to 1984, the degraded condition of the pond, the intervening Suffolk County highway, and the location of the site within a planned hamlet center involving transportation linkages and development densities.

It was recognized during the series of meetings with the NYSDEC that alignment of the road with the Middle Island Townhomes road was a design necessity for conformance to the Town's Middle Country Road Land Use Plan. The use of uplands on the subject property by migrating salamanders from pond #MD-3 may be limited due to fragmentation of the subject property from the breeding pond by an the existing roadway, Rocky Point Road. This fragmentation further decreases the potential for impacts from the project on tiger salamander populations and the breeding pond. Nevertheless, NYSDEC seeks to protect historical breeding ponds to retain the potential for future use by the species. The following design parameters were established as a result of coordination and above mentioned meetings with NYSDEC:

- Retain as much existing natural habitat as possible within 535 feet, with the exception of the proposed connector road which would be aligned with the proposed road through the Middle Island Townhomes project on the west side of CR 21.
- Maintain a minimum 100 foot corridor of natural woods north through the subject property to interconnect with open space north of Bailey Road.
- Provide culverts (minimum 12' wide and 2' high) to facilitate species movement between open space areas.
- Provide fencing (can be post and rail or similar) to limit unauthorized access (especially from ATVs), from intended open space areas.
- Provide curb, window well and other design details required by NYSDEC in tiger salamander policy documents, for construction within 1,000 feet.

Nearly all of the upland habitat within the recommended 535-foot setback from the salamander pond will be preserved as open space, with exception of an approximately 80-foot wide area in the area of the proposed boulevard which is proposed to be graded. As illustrated in **Figure 2-9**, more than 50 percent of the suitable habitat within 1,000 feet of pond #MD-3 will be preserved. Additionally, no alterations to the small, non-regulated wetland in the northwest portion of the site are proposed. The project has been designed with input from NYSDEC in consideration of the unique circumstances and environmental conditions associated with the site and area; therefore it expected that potential impacts to endangered species have been minimized. Additionally, an alternative plan has been prepared and is evaluated in **Section 5.6** that

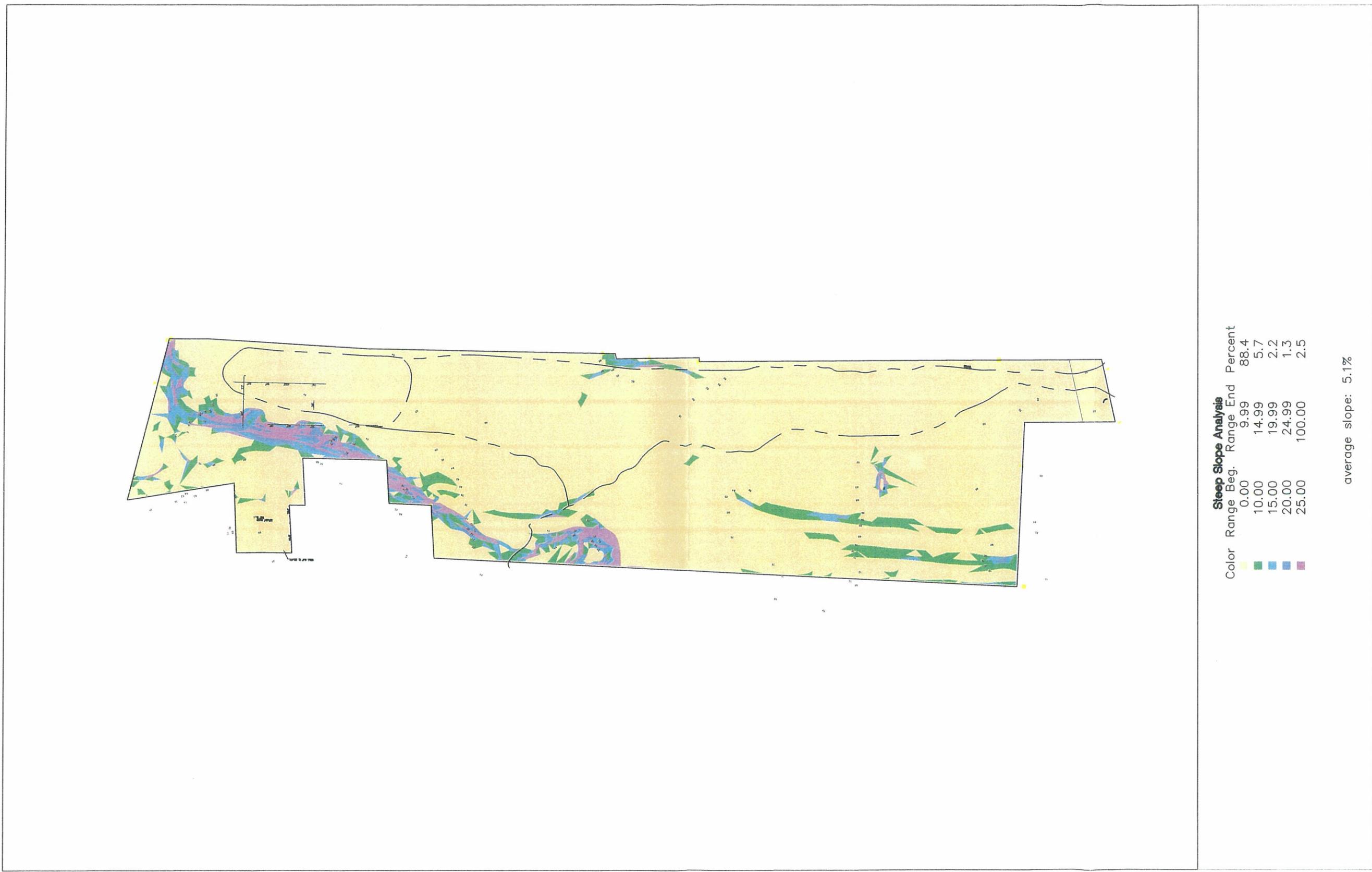
reconfigures the plan to provide greater areas of open space along the western portion of the property and corridors of natural woodland through the property to connect with open space north of Bailey Road.

Of the animal species which may potentially utilize the site, the Cooper's hawk, whip-poor-will, eastern spadefoot toad, eastern box turtle, and eastern hognose snake are 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 New York Environmental Conservation Law Section 11-0535. This category is intended to enhance public awareness of those species that deserve additional attention.

### 2.6.3 Proposed Mitigation

- Native plant species that provide food and shelter to wildlife will be utilized in landscaped areas, particularly along the northern and western site boundaries.
- The loss of woodland habitat on the property will be partially mitigated by the proposed establishment of 14.44 acres of open space within the project site, including preservation of the vast majority of the land within 535 feet of the known tiger salamander breeding pond located west of the property.
- Only passive uses will be allowed within the preserved woodland adjacent to the tiger salamander breeding pond.
- Significant native trees along the site boundaries will be identified in the field and preserved, where practical, prior to construction in order to avoid inadvertent clearing of buffer vegetation. The preserved trees will then be supplementally planted with native vegetation following construction activities.
- Areas of natural vegetation removed from the site will be reclaimed through the revegetation of 2.23 acres of native plantings in previously cleared and along perimeter buffer/natural areas. And by planting of landscaping species that will include 0.94 acres of non-fertilizer dependent species. Where practical, native plantings as per the approved species list of planting recommendations provided in the Central Pine Barrens Comprehensive Land Use Plan have been specified on the proposed Landscape Plan.
- No known invasive plant species will be utilized, including those species specifically not recommended by the code of the Town of Brookhaven and those species listed in Resolution 614-2007 enacted by the Suffolk County Legislature.
- Approximately 14.5 acres (or 36.8 percent) of the existing Pitch Pine-Oak Forest will remain, and 2.23 acres (including 0.72 acres within the 535' tiger salamander setback) will be revegetated using native species.
- The loss of woodland habitat on the property will be partially mitigated by the proposed preservation of woodland in the northern and southwestern portions of the property as well as along the site buffers. Landscaping and turf will be the dominant vegetation surrounding the proposed structures and site access roadways. Native or near native transition landscape species are proposed adjacent to remaining woodland. This will supplement the remaining woodland buffers, although the habitat will be further reduced by the proposed development. Planting of native tree species, such as oaks, and native shrubs will minimize the potential for colonization by introduced species.

SLOPE ANALYSIS

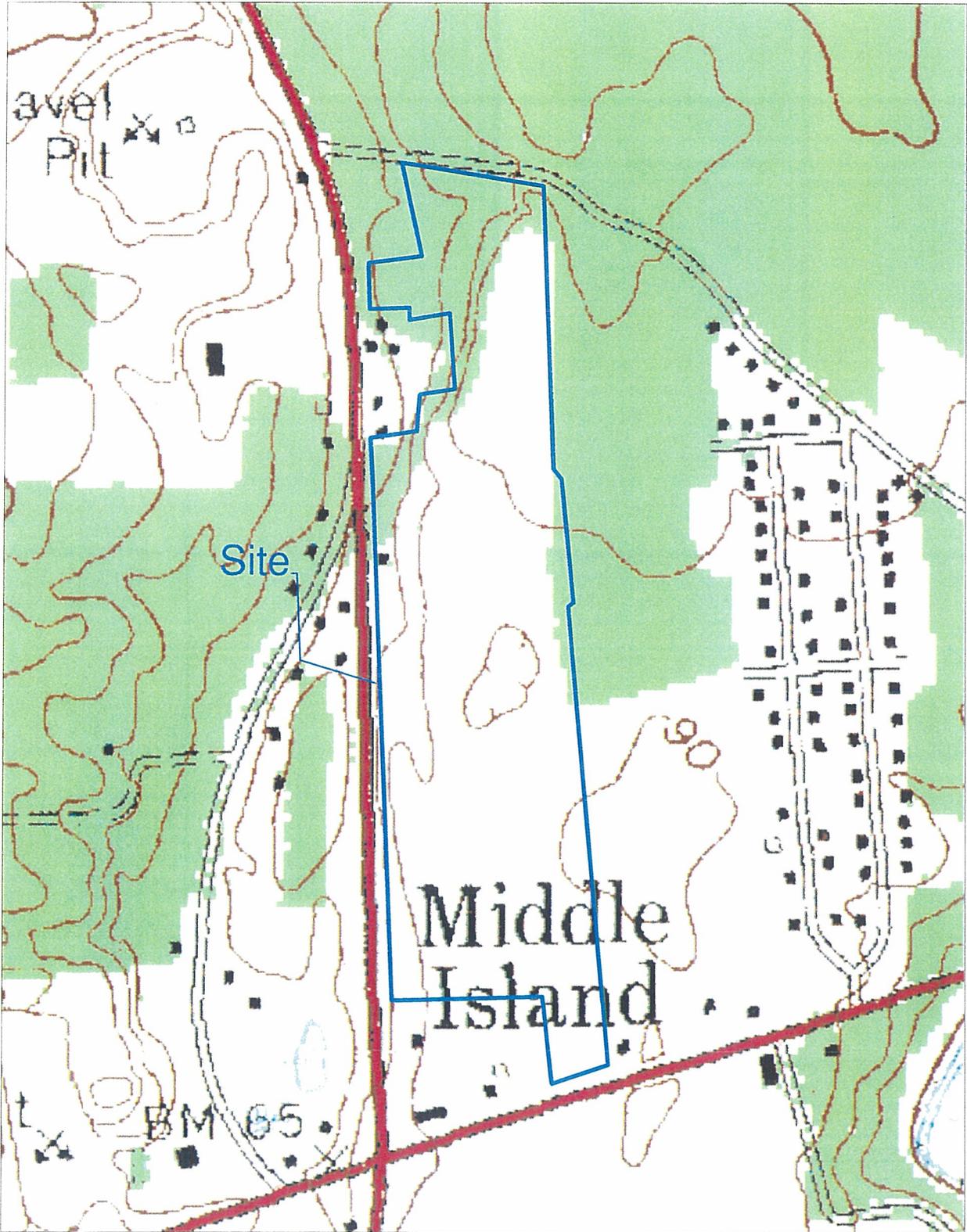


Source: Nelson and Pope  
Scale: 1" = 300'



FIGURE 2-2

TOPOGRAPHICAL MAP

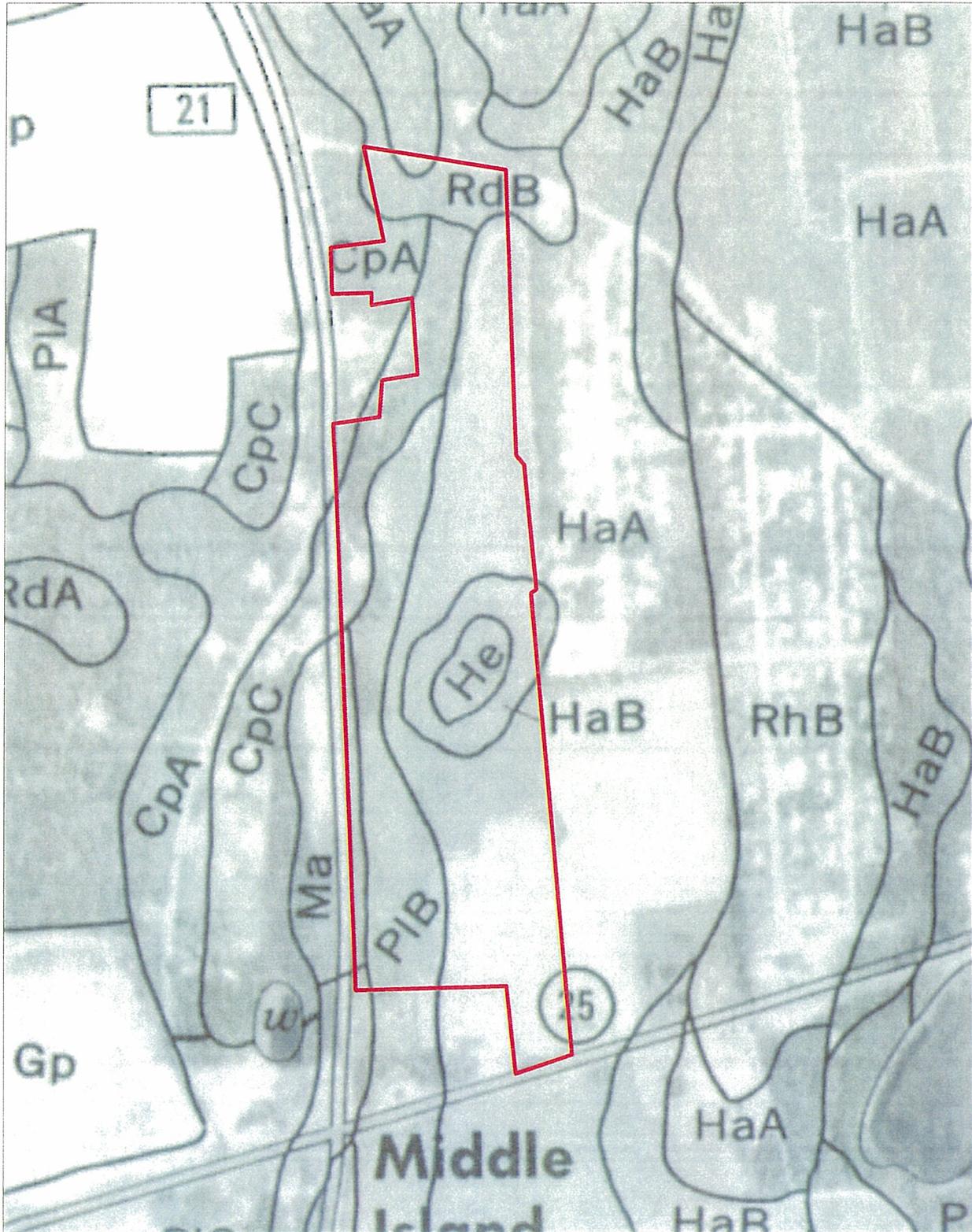


Source: USGS Topographic Quadrangle, Middle Island  
Scale: 1" = 500'



FIGURE 2-3

SOILS MAP



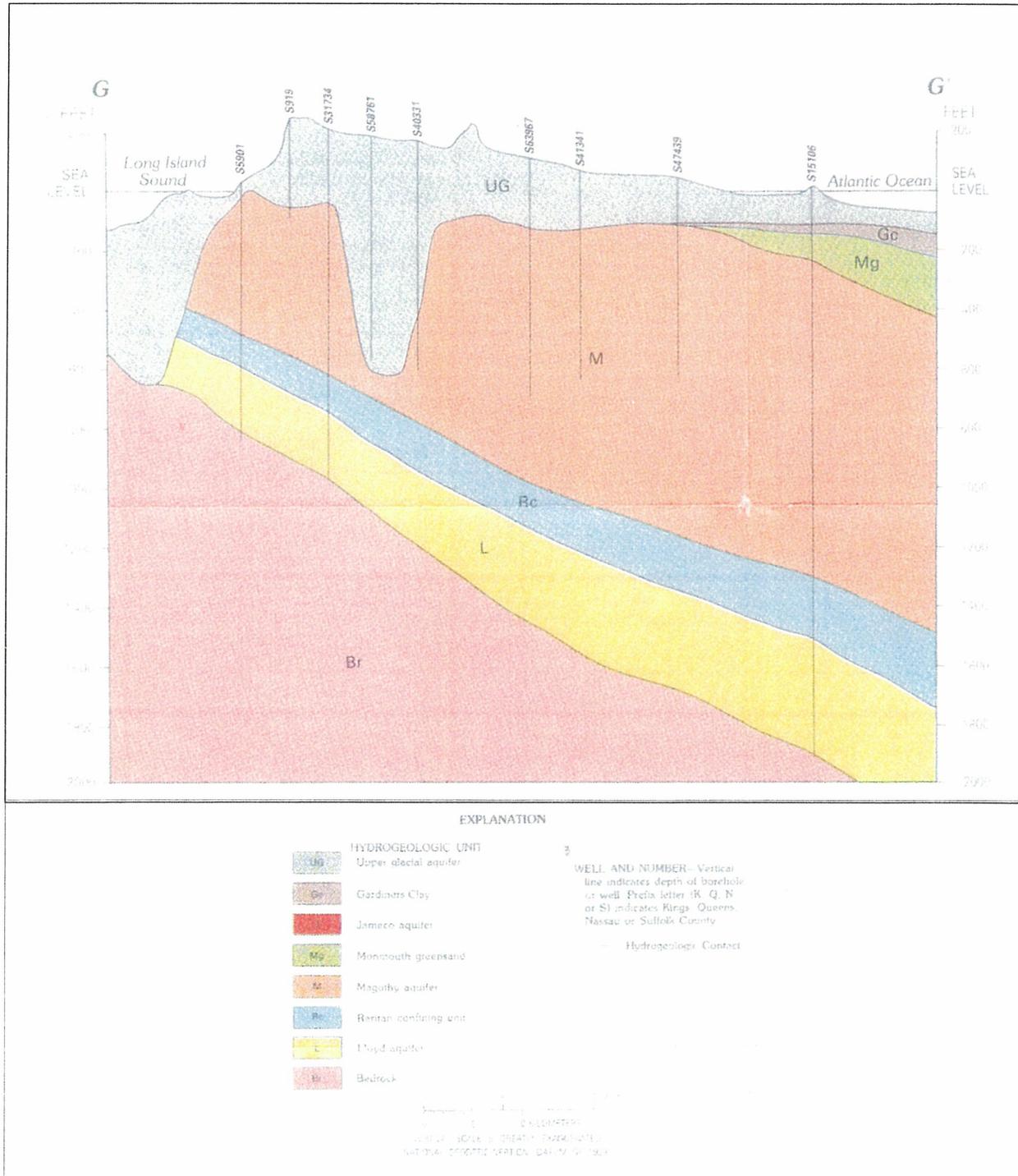
Source: Suffolk County Soil Survey  
Scale: 1" = 500'

NORTH



FIGURE 2-4

**GEOLOGIC CROSS SECTION**

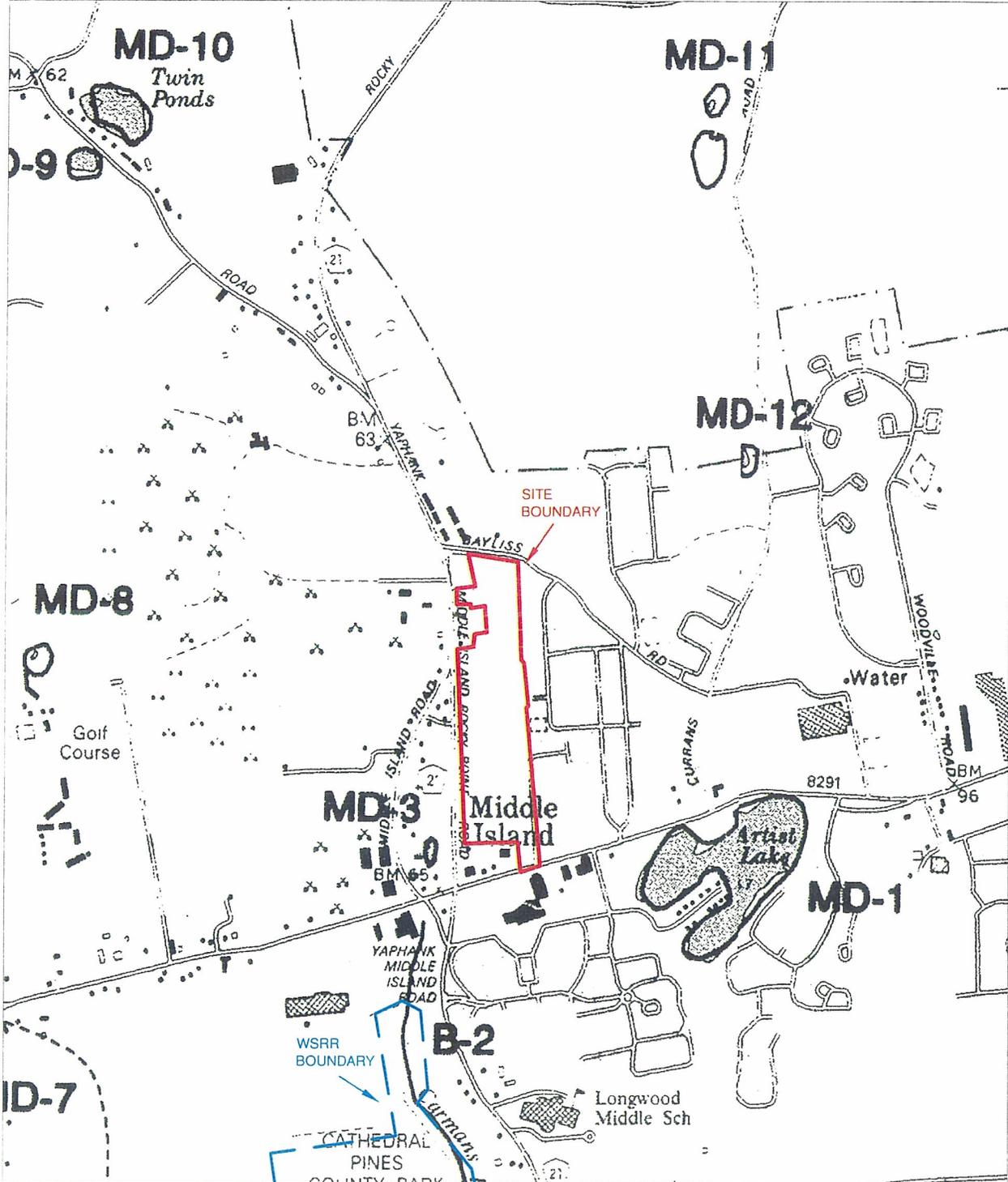


Source: Smolensky, Bruxton & Shernoff  
Scale: Not to Scale



FIGURE 2-5

**FRESHWATER WETLANDS MAP**



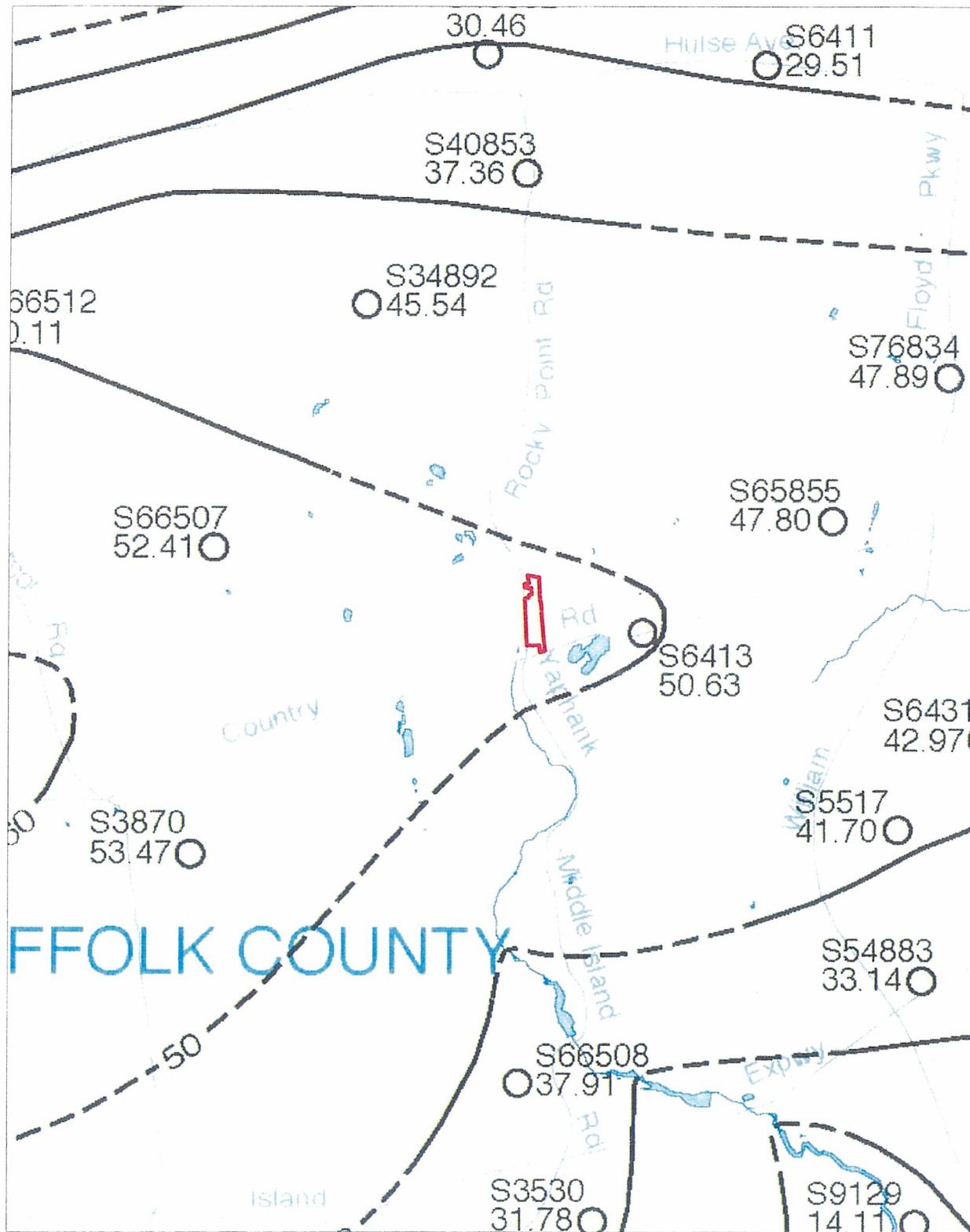
Source: NYSDEC Freshwater Wetlands Map, Middle Island Quadrangle  
Scale: 1" = 1,500'

NORTH



FIGURE 2-6

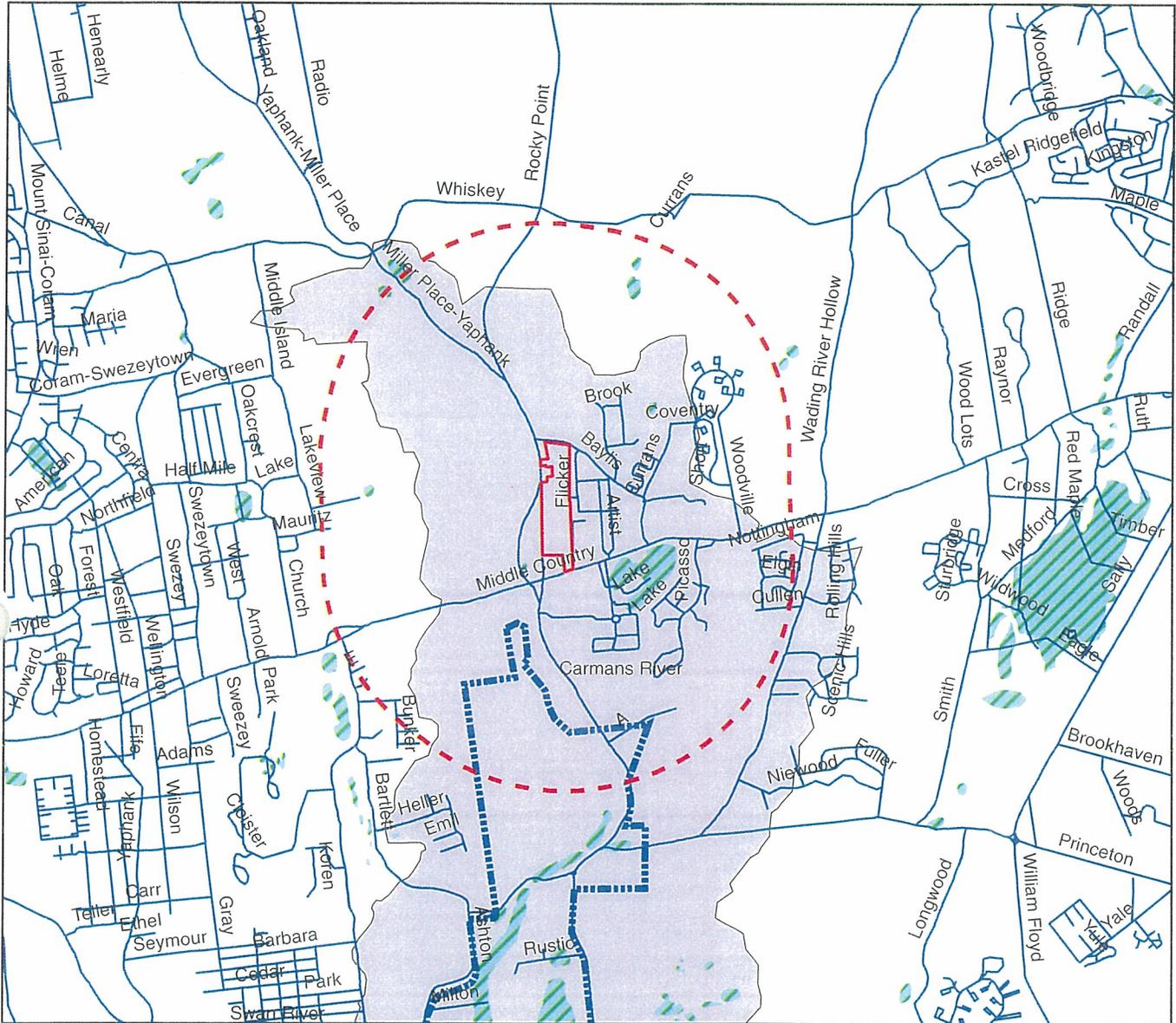
WATER TABLE



Source: USGS Water Resources Investigation Report, 2000  
Scale: 1" = 6,000'



**FIGURE 2-7**  
**CARMAN'S RIVER WATERSHED BOUNDARY**



**Legend**

-  1 Mile Radius
-  Site Boundary
-  Carman's River WSRR Boundary
-  Roads
-  Freshwater Wetlands
-  Carman's River Watershed Boundary



Source: SSER

1 inch equals 4,000 feet

FIGURE 2-8

HABITAT MAP



LEGEND

-  Freshwater wetland (5,570 SF)
-  Pine/Oak Forest

Source: NYSGIS Orthoimagery Program, 2004; NPV Field Visit, 6/2007  
Scale: 1" = 500'



**SECTION 3.0**

**HUMAN ENVIRONMENTAL RESOURCES**

### 3.0 HUMAN ENVIRONMENTAL RESOURCES

#### 3.1 Land Use, Zoning and Plans

This section presents the human environmental resources of the subject site, and includes a discussion and analysis of anticipated impacts. Impacts are identified as short or long-term, and are followed by identification of mitigation measures which could reduce potential adverse impacts of the project, for each resource category.

##### 3.1.1 Existing Conditions

This section will discuss existing land use in the vicinity of the site and the zoning that regulates these land use patterns.

##### Existing Land Use

Existing land use is mixed in terms of multifamily and single family residential, vacant land, utility use, light industrial use and commercial. **Figure 3-1** (2004 aerial photograph) and **Table 3-1** illustrate existing land use in vicinity of the subject property.

The following table is a brief description of the land use pattern in the area, relative to the site:

**TABLE 3-1  
LAND USE**

Location	Description
North	Residential, commercial, utility (water authority) and vacant woodland
South	Vacant auto shop, commercial center and library to southwest
East	Multifamily and single family residential and vacant woodland
West	Vacant woodland, light industrial, residential and sand mine

The subject property is an irregularly shaped parcel totaling approximately 39.38 acres. The site is primarily naturally vegetated, vacant woodland. Much of the area surrounding the site consists of vacant woodland. A multifamily residential development is located to the east of the site. Towards the northwest of the site, light industrial uses are observed, which includes a sand mine. A library is located to the southwest of the property, with other land use surrounding the property consisting of commercial uses.

The industrial area currently established in an active mining operation, is planned to become a 151 acre lake and active recreational use area. Currently, few recreational resources exist in the immediately surrounding area; however, Middle Island Country Club and Spring Lake Golf Course are located south and west of the site, respectively. Adjacent to the north of the industrial area along Rocky Point Road is the Twin Ponds Nature Preserve, which consists of 183 acres. As stated in the Final MCRLUP, "The Preserve is significant to endangered species and NYS

Species of Special Concern, such as tiger salamanders, box turtles, hawks and additional avian species, listed on the New York State and Federal Endangered Species lists.”

### Zoning

The subject property is located predominantly within the “A-Residence-1” District” as depicted on the *Town of Brookhaven* zoning map. Permitted uses in the A-1 district include single family dwellings, churches, public and parochial school, and open farming, with the exceptions listed in the Town Code Chapter 85-57. In additions, a small portion of the site falls within the “J-2 Business District” as depicted on the *Town of Brookhaven* zoning map. Permitted uses in the J-2 district include offices, health clubs, dry cleaners, day care centers, bowling alleys, banks, churches, commercial centers, delicatessens, non-degree granting schools, personal service shops, pharmacies, take out restaurants, shops that provide custom work, Laundromats, retail shops, undertaking establishments, and veterinarians.

The majority of the zoning in the project vicinity to the east, west, and north of the subject property consists of A-1 Residential and L-1 Industrial. A large amount of area to the southwest of the site consists of A-5 residential zoning. Directly across CR 21 is an area of NH-H Health Facility zoning. The A-1 Residential comprises of particularly large areas surrounding the site. The L-1 Industrial consists of a particularly large area to the west of the subject site and is primarily occupied by a mining company. The NH-H zoning district permits only nursing homes or hospitals. Accessory structures permitted for the A-1 District can be found in Town Code Chapter 85-57, and no accessory structures are permitted for the L-2 Industrial District. The same types of accessory structures are permitted in the A-5 zoning district as that of the A-1 zoning district. Accessory structure regulations do not apply to the NH-H zoning district.

A small area of MF Multifamily zoning abuts the property on the east. Permitted uses for MF zoning include rental housing units, attached or semi-attached single family residences, and detached single family residences. Allowed accessory structures for the MF zoning can be found in Town Code Chapter 85-77.

Two small areas, one north and one south of the subject property, consist of J-2, J-3, J-4 and J-5 business zoning. Permitted uses for J-2 business zoning are described above. J-3 Business zoning uses are not available due to Article XXII being repealed July 22, 2003. J-4 Business zoning allows for administrative buildings, day care centers, exhibit halls, art galleries, and undertaking establishments. J-5 Business zoning allows for colleges or universities, major restaurants, motor vehicle fueling stations, outdoor storage, and regional theatres. Accessory structures allowed for all of the above can be found in Town Code Chapters 85-228, 85-248, and 85-257. **Figure 3-2** provides an illustration of the zoning classification of the subject site and surrounding areas.

### Land Use Plans

The site is subject to restrictions and development guidelines under several land use plans. These plans are reviewed and described below.

*Town of Brookhaven’s Middle Country Road Land Use Plan for Coram, Middle Island & Ridge*

The Middle Country Road Land Use Plan was created to deal with the strip zoning through three townships along Middle Country Road. As a result of poor planning and suburban sprawl, Middle Country Road has highly fragmented uses which create traffic safety problems. The plan separates the redevelopment of Middle Country Road into three areas, one being in Middle Island. The plan recommends mixed use, multifamily, and single family development and for the creation of a hamlet in Middle Island.

The Sandy Hills parcel is mentioned specifically as being an ideal site for both multifamily and single family residences as part of the planned hamlet. The plan recommends 144 residential units, which include 27 single family units, and 9, 2 story buildings, with 16 units each (*Town of Brookhaven's Middle Country Road Land Use Plan for Coram, Middle Island, and Ridge*, p. 98, 101 & 307). **Section 3.1.2** provides an evaluation of the project's conformance with the Plan.

#### Central Pine Barrens Comprehensive Land Use Plan

For the purposes of this Draft EIS, the proposed project was reviewed for consistency with the "Central Pine Barrens District" (sections 85-443 through 451 Town Code) and the "Standard and Guidelines for Land Use" (Volume 1 Chapter 5) established by the Central Pine Barrens Comprehensive Land Use Plan. The location of the project with respect to the Pine Barrens zones is provided in **Figure 3-3**. The project lies in the center of the northwestern area of the CGA of the Central Pine Barrens.

The Long Island Pine Barrens Act of 1993 divided the Long Island Pine Barrens (LIPB) into two geographic areas, the entire Central Pine Barrens (CPB) and within this larger area is the smaller 52,500 acre Core Preservation Area (CPA). Areas not contained within the CPA are referred to as the Compatible Growth Area (CGA) and comprise approximately 47,500 acres.

Since the subject property is located within the CGA of the LIPB it is subject to the Central Pine Barrens Land Use Plan. **Table 3-3** (page 3-10) provides an evaluation of the project's conformance with the Plan. The Core Preservation Area (CPA) was identified as ecologically and hydrogeologically sensitive and intended to be preserved. However, development in the Compatible Growth Area (CGA) is permitted under strict guidelines. These standards and guidelines were adopted in the Central Pine Barrens Comprehensive Land Use Plan (Pine Barrens Plan) and the SEQRA Findings Statement of June 1995. A hardship application may be filed for those projects that do not meet the standards and guidelines in which the applicant must prove that significant reasons exist as to why the project cannot meet the standards and/or guidelines set forth.

Projects which conform to the Pine Barrens Plan and are not Development's of Regional Significance or located in Critical Resource Areas are reviewed at the Township level and do not require a separate decision from the Central Pine Barrens Joint Policy and Planning Commission (CPBJPPC or Pine Barrens Commission). Projects which do not conform to the Pine Barrens Plan require a Hardship waiver from the Pine Barrens Commission. The Town of Brookhaven zoning requirements for the Central Pine Barrens is described below.

#### Central Pine Barrens District – Town Code Chapter 85

The subject property is located within the Compatible Growth Area (CGA) of the Central Pine Barrens District of the Town of Brookhaven Section 85-443 Article XXXVII. Pursuant to Article 57 of the State Environmental Conservation Law the "Long Island Pine Barrens Protection Act" ("the Act") requires:

*Each local government with land use jurisdiction over lands within the Central Pine Barrens area shall enact land use regulations, which conform to the Central Pine Barrens Comprehensive Land Use Plan.*

Article XXXVII is promulgated in accordance with the mandates of Article 57 of the Environmental Conservation Law with the express intent of implementing the objectives and goals of the Central Pine Barrens Comprehensive Land Use Plan. These goals and objectives are intended to protect the sole source aquifer watershed of Suffolk County and ensure preservation of the aesthetic woodland quality of the area. These standards are outlined in the Town Code and are included in **Appendix D**.

1996 Brookhaven Draft Comprehensive Land Use Plan

Brookhaven Town completed an update to the Town's Comprehensive Plan in 1996. This plan reviewed zoning, land use, demographic and environmental trends and provided a basis for land use recommendations to guide the Town into the 21<sup>st</sup> Century. The subject property is recognized in this plan as appropriate for residential or multifamily use (**Draft 1996 Comprehensive Land Use Plan p. 207**).

Special Groundwater Protection Area Plan

The Long Island SGPA Plan was prepared by the Long Island Regional Planning Board in 1992 in order to study land use and groundwater quality within the several SGPA's on Long Island. The SGPA Plan makes specific recommendations for development within each SGPA, as well as general recommendations that are applicable to all of the identified SGPA's. Where restrictions of the Central Pine Barrens Comprehensive Land Use Plan, as promulgated under the Long Island Pine Barrens Protection Act, duplicate those of the SGPA Plan, the former supersede those of the latter. The following presents the applicable recommendations of the SGPA Plan.

The project site is located within the Central Suffolk SGPA (West) as defined under NYS law. A "Special Groundwater Protection Area" is defined in the NY ECL as:

"A recharge watershed area within a designated sole source aquifer area contained within counties having a population of one million or more which is particularly important for the maintenance of large volumes of high quality groundwater for long periods of time. For the purposes of this article, each "special groundwater protection area" shall be classified as a critical area of environmental concern as used under article eight of this chapter (Section 55-0107 ECL Article 55)."

Chapter 2 of the SGPA Plan provides general recommendations that pertain to all Special Groundwater Protection Areas on Long Island. The chapter provides a regional overview of groundwater resources on Long Island and discusses opportunities for protection and enhancement of groundwater quality. The plan then outlines general policy considerations, watershed rules and regulations, and best management practices. The primary focus of the plan is the use of existing local land use regulations and sanitary codes to manage development, and to reduce residential densities to a level that is environmentally acceptable. Protection of open space through clustering, rezoning and outright acquisition are also identified as measures for protection of the quality of groundwater recharge where appropriate. The plan also discusses the use of existing regulations to control the discharge of hazardous materials from industrial and commercial development.

The plan does not provide specific recommendations with respect to the subject site, other than a graphic depiction of the site in the context of the overall SGPA; the figure included in the SGPA plan recommends Cluster development for the site and this figure is reproduced herein as **Figure 3-4**.

The SGPA Plan promotes the general recommendation of appropriate zoning indicating that “. . . whenever conditions permit, unsubdivided and unsewered parcels in established neighborhoods should be upzoned to at least ¾ acre to 1 acre, and 2 acres if the parcel is large enough to conform to the general pattern.” The plan is useful for historical context but it is recognized that the more specific standards and guidelines of the Pine Barrens Plan achieve both pine barrens protection and groundwater management objectives intended in the SGPA plan.

Suffolk County Comprehensive Water Resources Management Plan

The Suffolk County Comprehensive Water Resources Management Plan (SCCWRMP) provides general information concerning groundwater quality in Suffolk County based upon file review at the time of preparation of the study, which was released in 1987. Further discussion an analysis of this plan is provided in **Section 2.4**.

Long Island Comprehensive Waste Treatment Management Plan (208 Study)

The Long Island Regional Planning Board, in conjunction with other agencies, prepared a management plan for Long Island groundwater resources in 1978 under a program funded by 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 III, which is characterized as a deep recharge zone. It is considered to have the most pristine groundwater quality and has a greater effect on drinking water supply resources than the other zones (**SCDHS, 1985**).

Stormwater, as runoff, is the vehicle by which pollutants move across land and through the soil to groundwater or surface waters. Contaminants accumulate or are disposed of on land and developed surfaces. Sources of contaminants include:

- animal wastes
- highway deicing materials
- decay products of vegetation and animal matter
- fertilizers
- pesticides
- air-borne contaminants deposited by gravity, wind or rainfall
- general urban refuse
- by-products of industry and urban development
- improper storage and disposal of toxic and hazardous material

Further discussion of impacts to groundwater of this site based on the 208 Study are analyzed in **Section 2.4**.

Nationwide Urban Runoff Program (NURP) Study

In 1982, the Long Island Regional Planning Board (LIRPB) prepared the L.I. Segment of the Nationwide Urban Runoff Program (NURP Study). This program attempted to address, among other things, the following:

- the actual proportion of the total pollutant loading that can be attributed to stormwater 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 USGS., was to determine:

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

Further details regarding this plan are discussed in **Section 2.4**, which specifically relates it to the water quality of the site.

#### The Longwood Mini-Master Plan

This mini-master plan was submitted to the Town of Brookhaven on behalf of the Longwood Alliance to provide a supplement to the Town's Comprehensive Plan. The purpose of the mini-master plan is to provide planning goals, recognize existing problems, identify needed public community facilities and provide guidance for planned future development regarding the specific needs and concerns of the hamlets included within the Longwood set of communities.

The plan does recognize that residential and mixed use areas are needed for the economic benefit of the community. The plan identifies the crossroads of CR 21 and Middle Country Road as the "natural hub of the community." The plan recommends that part of the mixed use of the land surrounding the crossroads of CR 21 and Middle Country Road be a residential area. The subject site is owned by the applicant and there are no known encumbrances that would impact use of the site other than various land use codes and Pine Barrens regulations identified herein.

### 3.1.2 Anticipated Impacts

The section above provides a full description of the potential impacts of the project with respect to land use and zoning of the site and surrounding area, and applicable land use plans.

#### Land Use

The proposed project will consist of a mix of residential and commercial uses. The residential component of the project will encompass an approximate area of 4.23 acres. The residential area will consist of 88 townhouse units, 20 flats, 16 duplexes, 3 triplexes, 8 live/work units for a total of 135 units. Of the total units, ten (10) percent will be offered as affordable units, specifically, 5 affordable townhouse units, 5 affordable flats and 4 affordable live/work units. In addition, 13,000 SF of commercial space will be located in the southeastern corner of the property and a village clubhouse (1,600 SF) will be located near the center of the eastern property line of the subject property. In addition, the subject property will have leaching pools for stormwater runoff and an on site STP (3.96 acres). Adjacent to the north of the STP will be a large block of open space which will aid in screening the proposed residences.

The project is in conformance with other land uses in the surrounding area, particularly the residential areas surrounding the subject site. In addition, the subject property will maintain 14.5 acres of naturally vegetated property in the Central Pine Barrens Compatible Growth Area and revegetate 2.23 acres with native trees and shrubs. The development presents a land use

opportunity since the mixed community on the subject site conforms to the Middle Country Road Land Use Plan. The site lies within an area with primarily residential uses to the east, and a mix of uses associated with CR 21 and Route 25 to the north, west and south. As a result, the site is somewhat of a transition location, providing an opportunity for commercial use along Route 25 and moderate density residential development within the site. The proposed use has a land use density of 3.7 units per acre and provides an interconnecting road thus improving circulation in the area. The site is believed to be a logical location for mixed use development of the type proposed. The use has been situated to provide extensive buffering of adjacent uses through perimeter buffering. As a result the use is believed to be compatible with the surrounding area.

The project has been designed for internal land use compatibility as well to complement and transition into the adjacent community. The proposed project includes both residential and commercial use. There are a minimum of 75 ft. setbacks between commercial and residential use, which will be maintained by roadways and vegetative buffers and the site abuts multiple family use to the east and situates appropriate use in other locations of the site. As a result, no significant adverse long or short-term land use impacts are expected with regard to the project. Furthermore, the transition between the residential community and the commercial component is designed to be more compatible, taking advantage of setbacks and vegetation as described above.

Recreational resources available in the area include the Twin Ponds Nature Preserve, but also a proposed 151 acre man made lake, a 7 acre man made pond, and 102 acres of parks and recreation area are expected to be located north and west of the site as the Roanoke Sand & Gravel operation completes the approved land use reclamation plan for the site. As described in the MCRLUP, "Such parks and recreational uses could include camping facilities, hiking trails, fishing piers, playgrounds, public parking and can also include such uses as an amphitheater or similar public assembly, community oriented uses." These proposed recreational resources will be available to future residents of the area. The proposed project includes a village clubhouse and pool for on-site residents and as a result, recreational resources are expected to be sufficient to accommodate the proposed project.

### Zoning

The subject property is located predominantly within the "A-Residence-1" District as depicted on the *Town of Brookhaven* zoning map. In additions, a small portion of the site falls within the "J-2 Business District" as depicted on the *Town of Brookhaven* zoning map. The project site is located in a predominantly residential zoned area. The proposed project seeks to retain both residential and commercial zoning, but switch the types of zoning to MF Multifamily residential and J-6 Business. The subject property conforms to the MF zoning requirements set forth by the Town Code and is illustrated in **Table 3-2** ( see page 3-8).

In addition, Pine Barrens standards adopted by the Town under Town Code Chapter 85-447, restrict clearing of natural vegetation to no more than 53 percent for the A-1 portion of the site and 65 percent for the commercially zoned portion of the site. The currently proposed project will preserve approximately 37 percent of natural vegetation on the subject site and revegetate approximately four percent of the site back to natural/native conditions, which is less than the minimum allowed for by the Central Pine Barrens Comprehensive Land Use Plan and the Town Code for mixed use development. Accordingly a hardship application to the CPBJPPC will be

required. A more detailed analysis of the consistency of the project with standards and guidelines for a project in a Compatible Growth Area (incorporated into Chapter 85-447 of the Town Code) is provided by **Table 3-3** ( see page 3-10).

**TABLE 3-2  
ZONING REQUIREMENTS**

Description	Required	Provided
Front Yard Setback	25' min.	58'
Rear Yard Setback	50' min.	605'
Side Yard Setback	50' min.	88'
Floor Area Ratio (FAR)	35% max	19.45%*
Building Height	35' max	35'
Lot Area	1 acres min.	36.46 acres
Lot Width	100' min.	725'

Note: \* Expected FAR; final will be determined through site plan review.

As previously noted, a small portion of the site is proposed to be zone J-6. This area, located in the southeast part of the site, will contain the commercial area.

The proposed project is designed to be consistent with the Middle Country Road Land Use Plan and as a result seeks the proposed zone change from A-Residence-1 to MF and J-6.

Land Use Plans

*Town of Brookhaven's Middle Country Road Land Use Plan for Coram, Middle Island & Ridge*

The Middle Country Road Land Use Plan was created to deal with the strip zoning through three townships along Middle Country Road. As a result of poor planning and suburban sprawl, Middle Country Road has highly fragmented uses which create traffic safety problems. The plan separates the redevelopment of Middle Country Road into three areas, one being in Middle Island. The plan recommends mixed use, multifamily, and single family areas for the creation of a hamlet in Middle Island. The proposed project is specifically mentioned in the land use plan as being slated for multifamily and single family residential development. The project is proposed as a multiple family project with a density of 3.7 units per acre and a small commercial use to complement the redevelopment of the Route 25 corridor and further enhance the concept of a walkable hamlet community, as illustrated in **Figure 3-5**. The proposed 135 multifamily unit project is lower in density than the 144 units studied by the Town in the MCRLUP GEIS. Overall, the proposed project is consistent with the Middle Country Road Land Use Plan.

The proposed project has been evaluated in terms of land use and zoning, as well as consistency with various land use plans which apply to the project site. The proposed project is believed to be consistent with land use and zoning, and has been designed with the intent of complying with land use plans. In addition to the Town Board which will make a zone change decision on the project, the project must receive approval from the CPBJPPC for a Hardship waiver from the clearing restrictions of the Pine Barrens Plan. The proposed project has been evaluated for consistency with the standards and guidelines which apply, and is designed to meet these requirements, except for where previously noted. The final determination will be made by the CPBJPPC; this Commission is an involved agency and will provide comments on this DEIS and ultimately issue a Findings Statement and a decision.

As a result, impacts with respect to land use, zoning and land use plans are minimized and no significant adverse short term or long term impacts are expected.

Central Pine Barrens Comprehensive Land Use Plan

The Central Pine Barrens Joint Planning and Policy Commission recognizes the need for balanced growth and development within the CGA provided that it is consistent with the water resource protection and habitat preservation goals of the Pine Barrens Protection Act.

Projects within the CGA are required to meet all standards and guidelines of the Central Pine Barrens Comprehensive Land Use Plan. To ensure that these standards and guidelines are met, the Town of Brookhaven reviews all submissions in the Central Pine Barrens for conformance to the Towns Central Pine Barrens District, and if one or more standards are not met, the application must be submitted for a Hardship waiver and approval of the CPBJPPC, prior to development of the property.

The proposed project does contemplate the use of Pine Barrens Credits. A Compatible Growth Area hardship application is currently being filed for the development of the land, of which details are provided in **Table 3-3** below. The current site plan calls for clearing of 61.3 percent of the site, which when combined with existing clearing on the site, results in a total cleared area of 63 percent of the site, leaving 37 percent of the site as naturally vegetated open space. Pursuant to the Central Pine Barrens regulations and Town Central Pine Barrens District, clearing is limited to 53 percent of the A-1 zoned portions of the property and 65 percent of the commercially zoned portions of the property, for a total of 20.92 acres of clearing permitted (or 18.45 acres of natural area to remain). The proposed project exceeds the clearing requirements by 3.956 acres (including areas of existing clearing), thus a hardship application to the CPB Commission will be necessary. The proposed project would revegetate approximately 2.231 acres with native species as noted on the Landscape Plan (see **Plate 2**). Additionally, as part of this application, 1.72 Pine Barrens Credits are proposed to be purchased to increase the retention of Pine Barrens Core Growth Area. An alternate plan which reduces the clearing necessary for the proposed development is evaluated as Alternative 7 (see **Section 5**) should the CPB Commission deny the applicant's hardship application.

TABLE 3-3  
CONFORMANCE TO COMPATIBLE GROWTH AREA STANDARDS

Standard (S)/Guideline (G)	Explanation and Document Page Reference (Attach additional sheets if necessary)
S 5.3.3.1.1 Suffolk County Sanitary Code (SCSC) Article 6 compliance	The proposed project will include an on-site Sewage Treatment Plant which will be in compliance with Article 6.
S 5.3.3.1.2 STP discharge	The proposed sewage treatment plant will be located outside of the Central Pine Barrens Core Preservation Area, but is within the Compatible Growth Area and therefore is not consistent with this Pine Barrens standard. An STP is requested by the Town to have capacity to serve other properties and advance the MCRLUP.
S 5.3.3.2.1 SCSC Articles 7 & 12 compliance	The residential portion of the proposed project does not include any uses which would generate, store, use or dispose of toxic or hazardous substances, other than common household cleaning supplies. For the commercial use, no businesses which would use hazardous substances are expected. It is important to note that this area is proposed for retail use, so any businesses that would have common cleaning supplies for sale would sell them in a pre-packaged form, and therefore these substances would not be liable to spill.
S 5.3.3.3.1 Significant discharges and public supply well locations	A well field and pump station are located north of the property across Bailey Road. The proposed sewage treatment plant is located ±1,900 feet away from this well field. The direction of groundwater flow is to the south-southeast, which is away from the Bailey Road wellfield. Due to the sewage treatment plant treatment process and setbacks provided, no impacts to nearby wells are anticipated.
S 5.3.3.4.1 Nondisturbance buffers	Freshwater pond MD-3 (NYSDEC Freshwater wetlands map) more than 535' from the nearest on-site development and is located southwest of the site across CR 21. This pond is ±225 feet from the site boundary and will not require a NYSDEC Article 24 wetland permit. A site specific open space design has been incorporated into the plan to address this pond as a former and potential tiger salamander habitat.
S 5.3.3.4.2 Buffer delineations, covenants and conservation easements	N/A; no wetland buffers are required under Article 24 due to the distance of the wetland from the site. Any open space retained on site will remain through approval of a binding site plan design and C&R's.

S 5.3.3.4.3	Wild, Scenic & Recreational Rivers (WSRR) Act compliance	N/A; the subject site is not within any designated Wild, Scenic, or Recreational River Corridor (see Figure 2-7); therefore the WSRR regulations do not apply.
S 5.3.3.5.1	Stormwater recharge	Stormwater runoff generated on developed surfaces within the site will be retained and recharged to groundwater on-site through the proposed leaching pools. No runoff from developed surfaces will be allowed to exit the site. The project's drainage system will be subject to the review and approval of the Town engineering and planning staff and the project will comply with SPDES GP-02-01 for stormwater project notification and preparation of a Stormwater Pollution Prevention Plan.
S 5.3.3.6.1	Vegetation Clearance Limits	This Standard requires that no more than 53% of the A-1 zoned property and 65% of the J-2 zoned property can be cleared for development. This would require that 18.46 acres of open space be retained. The proposed project seeks relief to clear a total of 24.16 acres (61.3%) of land for development. (It is noted that 0.72 acres of existing cleared area is present on the property). It is with this number that the applicant's hardship lies due to the need of the site to conform to the Town of Brookhaven's "Middle Country Road Land Use Plan." The Middle Country Road Land Use Plan identified the Sandy Hills site as a key site for multifamily housing, which is part of the plan's recommendations to revitalize the Middle Country Road corridor. (See Section 3.1.2)
S 5.3.3.6.2	Unfragmented open space	The proposed site plan calls for a large contiguous open space area on the north side of the site and four (4) other open space areas specifically designed for habitat and resource protection based on the site and input from the Town and NYSDEC. The open space includes two areas in the southwest corner, a section on the west side of the parcel, a section in the north part of the site and a strip along the eastern border (totaling 16.73 acres), as well as retention of contiguous natural vegetation in the area of the STP site not used for structure or leaching area. These are positioned so that there are corridors to each section of open space to give continuity and reduce fragmentation.
S 5.3.3.6.3	Fertilizer dependent vegetation limit	The proposed project will comply with the maximum allowable acreage of fertilizer-dependent landscaping of 15% (5.91 acres). The project proposes a total of 4.28 acres of fertilizer dependent vegetation (including the 0.83 acre playfield), which is 1.63 acres below the 15% maximum.
S 5.3.3.6.4	Native Plantings	The Landscape Plan includes native plant species recommended by the Central Pine Barrens Comprehensive Land Use Plan and contained in Figure 5-2 of the plan.

S 5.3.3.7.1	Special Species and Ecological Communities	<p>The New York Natural Heritage Program identified 15 potential special species and ecological communities. Based on a site inspection performed by NP&amp;V in June 2007, no endangered or threatened species are expected to be present on the subject site. It should be noted that tiger salamanders were documented in 1984 on the pond west of the subject site (#MD-3) but were not documented during NYSDEC survey's in 1994. As per a conversation with Joe Jensen from The Nature Conservancy (party which performs tiger salamander surveys for NYSDEC) on January 28, 2008, no recent surveys have been performed on that pond or any ponds within the immediate area, and none are currently scheduled. However, as detailed in Section 2.6.2, the plan has been designed to provide protected buffers around this pond in accordance with NYSDEC guidance to preserve habitat around the pond should a population be reestablished.</p>
S 5.3.3.9.1	Receiving entity for open space dedications	<p>N/A; The open space is not proposed to be dedicated; this acreage to remain privately owned by the HOA established for the project (the STP land will be offered for dedication) and will be permanently retained as open space. In this way, the Town does not have to maintain the open space, yet it will remain natural and undisturbed.</p>
S 5.3.3.12.1	Commercial and industrial compliance with SCSC	<p>The commercial property is expected to comply with the Suffolk County Sanitary Code through the use of the Sewage Treatment Plant. No businesses that use hazardous and/or toxic chemicals are expected to be located in the proposed commercial area.</p>

Central Pine Barrens District Town Code Chapter 85

The development standards applicable to the town Central Pine Barrens District are identified in **Table 3-3** above and are also contained in **Appendix D**. The proposed development has been designed to be consistent with these code requirements, except for the clearing standards, for which a Hardship waiver is requested. The standards in the Town Code are the same as the Pine Barrens Commission standards included in **Appendix D**. The application includes an analysis of the applicable requirements and the project is found to be consistent with the applicable Central Pine Barrens District standards, except for the amount of clearing proposed on the site. Should the CPB Commission deny the hardship application, an alternative plan has been prepared which reduces the proposed clearing on the property and is provided as Alternative 7 in **Section 5.6** of this document.

1996 Brookhaven Draft Comprehensive Land Use Plan

The proposed project will be consistent with the Brookhaven Draft 1996 Comprehensive Land Use Plan's residential land use and zoning plans as well as providing multifamily housing alternatives within the Town.

The growing population is under served by currently available housing, particularly with regard to diversity of housing and affordability. There is a need for diversity of housing types such as smaller homes, and rental homes as expressed in both the 1987 Town Comprehensive Plan and the 1996 Comprehensive Plan Update. Both plans recognize it is important to provide a mix of housing, not just single family housing. Affordable housing is one of the most significant issues that Town policy-makers will face within the coming years. The application assists in fulfilling this need for affordable housing within the Town by offering 10 percent of the 135 units at moderate income levels, and adds variety to housing patterns by adding diversification to the surrounding community. Of the 135 units, a total of 14 will be offered as affordable. These units will consist of 4 live/work units, 5 flats, and 5 townhouses.

The site is located in close proximity to the CR 21 and Middle Country Road crossroads area and will provide retail shopping opportunities within this and local communities. Ultimately, the commercial area within the subject site and the proximity to the crossroads may reduce the need for car trips and could provide convenience for the residents. As a result, the proposed use serves multiple land use purposes by providing needed housing in an appropriate transition area in a manner that promotes the principles of sound planning. Overall, the proposed use is compatible with the land use and the desired zoning change is complimentary to local uses and fulfills a need in the area.

Special Groundwater Protection Area Plan

The proposed project does not conform to the applicable recommendations of the SGPA Plan, in that it is proposed as a moderate density residential change of zone at a density based on the proposed MF zoning. However, potential impacts from on-site recharge of sanitary wastewater would be minimized by use of an on site STP designed and installed under the review authority of the SCDHS. A second potential impact source, lawn/landscaping chemical usage, has also been minimized by limiting the use of such substances to only 3.45 acres (8.95% of the property), as recommended by the Central Pine Barrens Commission, the

Plan, and Town Code Section 85-443. As such, impacts to groundwater are mitigated by the STP and the limiting of fertilizer dependent vegetation.

*Suffolk County Comprehensive Water Resources Management Plan*

Specific impacts to groundwater in relation to this plan are discussed in **Section 2.4**. Due to the proposed use of the site, and the history of the site use as vacant land, no impacts to groundwater quality from hazardous substances or volatile compounds are expected.

*Long Island Comprehensive Waste Treatment Management Plan (208 Study)*

This study recommends that on-site septic systems be used in Groundwater Management Zone III, where the overall wastewater generation totals 300 gpd/acre or less. As the proposed project would generate a total of approximately 50,000 gpd of sanitary wastewater, septic systems would not be allowed, and therefore a STP is proposed. The STP's design, installation and operation would be subject to the review and approval of the SCDHS, ensuring that the proper level of protection is provided. In addition, the project will control all runoff in an on-site drainage system, does not include a landfill, and will provide for proper STP maintenance, as required by the SCDHS.

In consideration of the above, the proposed project is designed to mitigate those recommendations of the 208 Study which involve groundwater protection and best management practice for protection of water supply and management of wastewater, and therefore no adverse impacts are anticipated.

*Nationwide Urban Runoff Program (NURP) Study*

Based upon information presented in the NURP Study, the increased recharge volume is not anticipated to contain significant concentrations of pollutants. The project will use recommended recharge techniques involving a recharge basin and catch basins. The NURP Study found that any organic chemicals that may be present in stormwater generally volatilize on surfaces, and inorganic chemicals and bacteriological indicators are removed as recharge infiltrates through soil. As noted, the minimum depth to groundwater is approximately 2 feet, but in the area to be developed can be as much as 40 feet, providing a substantial unsaturated zone for leaching and attenuation of entrained pollutants in the proposed development area.

Based on project design through use of leaching pools with adequate capacity to retain stormwater generated on site, the proposed development is in conformance with the applicable recommendations of the NURP Study in regard to the proposed stormwater recharge system. The proposed development of the site is not expected to have a significant impact to groundwater resources underlying the subject property and surrounding area as related to the recharge of stormwater runoff.

*The Longwood Mini-Master Plan*

The Mini-Master Plan Committee submitted this Plan on behalf of the Longwood Alliance to the Town of Brookhaven as a supplement to the 1996 Brookhaven Draft Comprehensive Land Use Plan. The purpose of this Plan was to provide planning goals and identify existing problems and needed public facilities for the communities within the Longwood area. The

communities encompassed within this Plan include Coram, East Yaphank, Yaphank, Middle Island and Ridge. To achieve this purpose the Committee compiled a comprehensive inventory and analysis of existing conditions that depict the physical and social attributes of the Longwood area. This included existing land uses, demographic profiles, transportation networks, existing community facilities, environmental and natural resources, assets and historical and cultural features.

The plan does recognize that residential and mixed use areas are needed for the economic benefit of the community. The plan identifies the crossroads of CR 21 and Middle Country Road as the “natural hub of the community.” The plan recommends that part of the mixed use of the land surrounding the crossroads of CR 21 and Middle Country Road be a residential area. The proposed project would be located at the northeastern corner of Middle Country Road and CR 21 which would make it accessible to the resources at the crossroads. In general, the proposed project plan is believed to be consistent with the mini-master plan.

### 3.1.3 Proposed Mitigation

- The proposed multi-family residential use has been situated to provide extensive buffering of adjacent uses through perimeter buffering particularly north of the site.
- Minimization of clearing to the maximum extent practicable, while still providing a viable project that conforms to the MCRLUP is recommended to conform as closely as possible to Pine Barrens standards.
- Purchase of Pine Barrens Credits to provide additional benefit for those aspects of the plan which do not strictly conform to the Pine Barrens Plan.
- The proposed development has been designed to be consistent with the requirements of Town zoning and land use plans as a form of mitigation of site development given its current A-1 zoning.
- The use of an on site STP will minimize impacts to groundwater, mitigating the SGPA plan’s recommendations of a clustered subdivision.
- Proper stormwater handling will be employed and the project will conform to SPDES GP-08-01.

## 3.2 Community Character

The proposed project is evaluated in other sections with respect to land use and land use compatibility, noise conditions and related aspects of community character. As a result, this section will address visual resource considerations as related to community character.

### 3.2.1 Existing Conditions

#### Visual Resources

The proposed project site is located on the north side of Middle Country Road, bounded on the west by Rocky Point Road and on the north by Bailey Road. Middle Country Road, which bounds the southern portion of the site, runs east-west. The interior of the site is not noticeable from the ground, as views into the site are obstructed by elevation differentials and vegetation. **Appendix E-1** provides a key map as well as site photographs from various vantage points along

Middle Country Road, Rocky Point Road, and Bailey Road. A key map of the view points, and photographs annotated to identify the general location of the subject site are provided in the figure.

Generally, as described in the GEIS for the MCRLUP, the visual character along the studied portion of Middle Country Road is poor and is identified as “sprawling and disorganized.” As stated in the GEIS, the area along Middle Country Road lacks architectural consistency, has uncoordinated development, has undistinguishable communities, and has poor pedestrian accessibility due to Middle Country Road’s highway like design, all of which contribute to a lack of community character, as defined in the GEIS.

Views along Rocky Point Road consist of wooded land along the southern portion of the roadway and industrial use along the northern portion of the roadway. It should be noted that the views on the western side of Rocky Point Road are expected to change in the near future due to the development of that site, which is described in **Section 4.1**.

Views along Bailey Road primarily consist of wooded land and single family residential housing. The bulk of the wooded land is comprised of land on both the subject site and the SCWA Bailey Road wellfield site. Single family residential views do not occur until the northeastern corner of the site is reached.

### 3.2.2 Anticipated Impacts

#### Visual Impacts

Approximately 24.16 acres are expected to be cleared for the proposed project. While the project will necessitate clearing of vegetation (an estimated 61.3% of the site), this clearing will occur mostly on the south and east sides of the property. Naturally-vegetated buffers will be retained along all property lines and larger contiguous natural areas will exist along CR 21 and Bailey Road. Views from the north and east will be obstructed by vegetative buffers. Views along the south edge of the property which border Middle Country Road will be designed to match the planned architectural style of the corridor and will include an attractive commercial use fronting Route 25 as envisioned in the MCRLUP. Architectural elevations as well as floor plans for the individual unit types for the proposed project are provided in **Appendix E-2**. The MCRLUP recommends that an overlay district be formed to account for the architectural style of the area, but makes no further recommendations. The improved areas will provide visual and aesthetic relief through buffering, and preserve the natural character of the property.

Retention of these buffers will minimize impacts for outside observers by reducing the visibility of the project. During the majority of the year, the depth of the buffers, combined with the thickness of the vegetation and the mix of taller trees and understory will result in a minimal opportunity to discern the residential buildings present on the subject site; it is anticipated that only during the winter (with the absence of leaves on the deciduous trees) will the residences be readily visible through the bare branches and remaining understory.

In general, the impact of the project on the visual resources of the site includes increasing the visibility of the proposed commercial building and infrastructure road system, which is

considered a beneficial impact to the Middle Country Road corridor as described in the GEIS for the MCRLUP. The primary impact will be to viewers from the south along Middle Country Road due to the removal of vegetation along this property line and the installation of a commercial building in combination with a mixed-use development. The development will not be out of character with the planned vision for the Middle Country Road corridor, and will not be overly obtrusive given the limited visibility due to surrounding lands and topography as described in **Section 3.2.1**. **Figure 3-6** provides a photo simulation for the project looking northeast from Middle Country Road illustrating the physical appearance of the building from the local road.

### 3.2.3 Proposed Mitigation

- Clearing of the site will occur primarily within the interior of the property and naturally-vegetated buffers will be retained along all property lines which will limit views and noise to and from the project area.
- Views from residential properties located north and east will be hindered by a natural buffer and views from residential properties to the west will be limited due to the vegetative buffers placed along the property line. Views from the south will consist of commercial space that will conform architecturally to the MCRLUP. These areas will provide visual and aesthetic relief, and preserve the natural character of the property.
- Natural buffers will be enhanced by planting indigenous vegetation in areas previously disturbed.

## 3.3 Community Services

### 3.3.1 Existing Conditions

The project site is served by the following service districts and community service providers:

- Middle Island Fire District
- Longwood Central School District
- Suffolk County Water Authority
- Suffolk County Police Departments 7<sup>th</sup> Precinct
- Long Island Power Authority
- Keyspan Natural Gas

Information regarding these community resources as well as the related fiscal considerations is discussed in this section.

#### Fiscal Considerations and Tax Revenue

The 39.38 acre subject property consists of the following Suffolk County Tax Map parcels: 0200-378-02-33.3. Based on 2006/2007 tax bills, under existing conditions the property taxes generated by the site are \$15,328.89. Approximately \$10,624.77 or 69.31 percent of the total taxes generated by the site are distributed to the Longwood Central School District which includes the Longwood Library District. The balance of the revenue generated by the parcel is apportioned to various local, Town and Suffolk County taxing districts.

Table 3-4 provides a summary of the tax districts, tax rates and assessed valuation compiled for the overall development site. The future taxes generated by the proposed project will be discussed in more detail in Section 3.5.1.

**TABLE 3-4  
EXISTING TAX REVENUE**

Jurisdiction	Tax Rate (\$/\$100 assessed)	Taxes Paid
School Dist-Longwood CSD	181.138	\$10,107.50
Library Dist-Longwood CSD	9.270	\$517.27
County Tax	3.432	\$191.51
County Police District	30.675	\$1,711.67
Town General	4.470	\$249.43
Highway Tax	2.852	\$159.14
Town General, Part Town Fund	1.361	\$75.94
Highway, Part Town Fund	10.516	\$586.79
\$100M Bond Act of 2004	1.051	\$58.65
Middle Island Fire District	24.852	\$1,386.74
Lighting District	1.944	\$108.48
Real Property Tax Law, Article 7	1.049	\$58.53
Real Property Tax Law	2.101	\$117.24
<b>TOTAL</b>	<b>274.711</b>	<b>\$15,328.89</b>

Educational Facilities

The project site is located within the Longwood Central School District which has seven schools: Longwood Senior High School (Grades 9-12), Longwood Junior High School (Grades 7-8), Longwood Middle School (Grades 5-6), Charles E. Walters Elementary School, Coram Elementary School, Ridge Elementary School and West Middle Elementary School (Grades K-4). The closest school to the proposed project is Longwood Middle School, 41 Yaphank-Middle Island Road, Middle Island, NY 11953, is located approximately 3,432 feet to the south.

According to information provided by the school district, the approximate enrollment of each of the schools within the district affected by the proposed project are as follows: Longwood Senior High School (3,100 students), Longwood Junior High School (1,420 students), Longwood Middle School (1,360 students), and West Middle Elementary School (775 students). Figure 3-7 illustrates the educational resources within the vicinity of the site.

The operating budget for the district during the 2006-2007 school year was \$181,240,681 resulting in a per student expenditure of \$15,034 (NYS Department of Education, 2006).

As the subject property is currently vacant woodland, there are currently no school children generated to the Longwood School District.

### Fire Protection

The site and surrounding area is located within the Middle Island Fire District and is served by the Middle Island Fire Department. The nearest fire department is located at the intersection of Arnold Drive and Middle Country Road, approximately 1.28 miles to the southwest of the subject property. **Figure 3-8** illustrates the fire stations in the area.

### Police Protection

The site and surrounding area is located within the jurisdiction of patrol sector 704 of the 7<sup>th</sup> precinct of the Suffolk County Police Department. The station house for the 7<sup>th</sup> precinct is located at 1491 William Floyd Parkway in Shirley. **Figure 3-8** illustrates the respective locations of police services within the vicinity of the site.

### Solid Waste Removal and Disposal

As the site is currently vacant, it does not generate any solid waste. The Town of Brookhaven collects and manages municipal solid waste within the Town; however, it does not provide any direct waste management services to commercial facilities. The owner, operator, and/or manager of such a facility must make arrangements to manage the wastes generated at such a property. The most common arrangement is to contract for waste removal with a local carting company. Wastes generated from a commercial facility in the Town of Brookhaven are accepted at the Town's facility, for a processing fee.

The Town Department of Waste Management does not dispose of residential or commercial waste at its Horseblock Road landfill. The Town has an Inter-Municipal Agreement with the Town of Hempstead for a minimum of 200,000 tons per year (tpy) of disposal capacity at the Hempstead Resource Recovery Facility in Westbury. Municipal solid waste is managed through a transfer station and sent to the Hempstead incinerator. In return, ash from the incinerator is landfilled at the Town of Brookhaven facility. The Town is permitted to accept certain other materials for landfilling; these materials must meet the restrictions of the Long Island Landfill Law, and must have prior approval from the Town.

The Town has mandatory source-separation ordinances, as required under New York State law. It is the responsibility of the owner, operator and/or manager of any facility to separate all mandatory recyclables from its waste stream, and to find a means of recycling these source-separated materials.

### Public Water Supply

The subject property and surrounding region is located within the service area of the Suffolk County Water Authority (SCWA). The site is presently vacant and is not currently served by the SCWA; however, SCWA maintains at least an 8" water main along Bailey Road. The water supply well nearest the site is the Bailey Road Well and Pump Station, which is immediately north of the subject property. **Figure 3-9** illustrates the water mains and location of the Bailey Road wellfield. This figure can be used to determine the existing development locations with public or private water. Review of SCWA maps indicate that water mains run through most of the neighborhoods adjacent to the subject property. Water mains are proximate to nearly all other developed areas in the immediately vicinity of the subject site. Both north and south of the site, public water is readily accessible to residents along Bailey Road and Middle Country Road.

It should be noted that many of the residents along Middle Island Road are supplied by private wells.

#### Wastewater Treatment

The site is presently vacant and therefore does not require the use of any wastewater treatment facilities for the disposal of sanitary or other liquid wastes. The area surrounding the site consists primarily of single family residences and small commercial businesses which utilize individual septic systems for the disposal of sanitary wastes.

#### Recreational Facilities and Local Amenities

The site consists of privately owned vacant woodland and is not used for any authorized recreational purpose. However, inspection of the site finds that there is an existing trail network within the site which is utilized for unauthorized recreational uses including hiking, mountain biking, horseback riding and off road all terrain vehicle riding. **Figure 3-10** illustrates the recreational resources available in the vicinity of the site.

#### Energy Suppliers

The Long Island Power Authority (LIPA) is the public electric company in the area. As the subject property is currently vacant it is not served by LIPA, but overhead electrically service will be available. Keyspan serves as the natural gas supplier for the area. A natural gas connection is available in the area along Middle Country Road in the form of a 4 inch high pressure gas main.

### 3.3.2 Anticipated Impacts

All community service providers were contacted by mail in letters sent on May 25, 2007. As a result, all recipients have been made aware of plans to utilize the subject property for a mixed-use development. Responses received from service providers are included in **Appendix F**. Further impact analysis and discussion regarding community services are included herein.

#### Fiscal Considerations and Tax Revenue

Community services and facilities are supported by tax revenue. The future tax revenue for the residential portion of the project is determined by assessed valuation factors provided by the Town Assessor's office based on anticipated unit types and sizes and amenities. These factors are used to determine the tax revenue expected from the project based on tax revenue distribution according to the tax bill. All analyses are based on current tax dollars.

Occupancy of the proposed project is expected to generate approximately \$549,032 in annual taxes (see **Table 3-5**). This represents a net increase of \$533,702.89 per year as compared to taxes generated by existing site conditions. The project will significantly increase taxes generated by the site, as well as increase tax revenues allotted to each taxing jurisdiction.

**TABLE 3-5  
ANTICIPATED TAX REVENUE**

<b>Jurisdiction</b>	<b>Tax Rate (\$/\$100 assessed)</b>	<b>Taxes Paid</b>	<b>Future Taxes</b>	<b>Tax Change</b>
School Dist-Longwood CSD	181.138	10,107.50	36,2018.30	351,910.80
Library Dist-Longwood CSD	9.270	517.27	18,526.96	18,009.69
County Tax	3.432	191.51	6,859.28	6,667.77
County Police District	30.675	1,711.67	61,306.54	59,594.87
Town General	4.470	249.43	8,933.78	8,684.35
Highway Tax	2.852	159.14	5,699.89	5,540.75
Town General, Part Town Fund	1.361	75.94	2,719.93	2,643.99
Highway, Part Town Fund	10.516	586.79	21,016.94	20,430.15
\$100M Bond Act of 2004	1.051	58.65	2,100.66	2,042.01
Middle Island Fire District	24.852	1,386.74	49,668.59	48,281.85
Lighting District	1.944	108.48	3,885.41	3,776.93
Real Property Tax Law, Article 7	1.049	58.53	2,096.36	2,037.83
Real Property Tax Law	2.101	117.24	4,199.16	4,081.92
<b>TOTAL</b>	<b>274.711</b>	<b>\$15,328.89</b>	<b>\$549,031.80</b>	<b>\$533,702.91</b>

Educational Facilities

To estimate the number of school-aged children that would likely be generated by the proposed development, a standard set of the most current and applicable multipliers developed by Robert W. Burchell, David Listokin, and William Dolphin (**Burchell et al, 2006**) for use by the Center for Urban Policy Research at Rutgers University was used. The multipliers applied are 0.39 for 3 bedroom single family attached homes (townhomes), 0.45 for 2 bedroom 2-4 unit structures (flats), and 0.83 for 3 bedroom 2-4 unit structures (duplexes and triplexes). The Longwood Central School District could expect to see an increase in enrollment due to the proposed project.

The proposed development will involve the construction of 42 3-bedroom townhomes (25'), 46 3-bedroom townhomes (20'), 20 2-bedroom flats, 16 3-bedroom duplexes, three 3-bedroom triplexes and eight 2-bedroom live/work units, of which ten percent will be offered as affordable units (specifically five 3-bedroom affordable townhomes, five 2-bedroom affordable flats, and four 2-bedroom affordable live/work units). Therefore based on the Rutgers school age children multipliers, the number of school-aged children is estimated to be approximately 57.

The impact of any project upon the school district in which it is located depends on the number of school-age children that will be generated, offset by increased tax revenues and the ability of the school district to provide educational services for these children. The ability of a school district to handle increased demand for educational services depends primarily upon the adequacy of long-term planning within the district, in combination with increased tax revenue generated from commercial and industrial uses to strengthen the tax base of the community.

Assuming all of the students were distributed to the Longwood Central School District and the same annual expenditures per student apply (\$15,034), the proposed project would represent

\$856,938 for the 135 unit proposal per year in expenditures for the estimated 57 students. Taxes generated for the school district would be approximately \$362,032 per year which would leave a deficit of \$494,906 per year.

As the district presently has an enrollment of 9,745 students and it is expected that the proposed project will generate an additional 57 school-aged children, the project would represent a 0.58 percent increase in enrollment.

Correspondence from the Longwood Central School District indicates the following:

*"... the proposed project would have an impact on staffing, as class sizes at most grade levels are at maximum capacity. Additionally, the Middle School, Junior High School and High School are at or above their capacity to absorb any more students than would come from a nominal growth in the population of the community.*

*The buses that serve the area of the proposed project are also at capacity and would require the district to add an additional bus route for each school. Each bus in our contracted fleet transports students to three school buildings throughout the day. Thus, under the current transportation schedule we would need to add one bus to the fleet to transport students to the High School, Elementary School and either the Middle or Junior High School, and another route for either the Middle or Junior High School."*

The proposed project is consistent with the MCRLUP and seeks a more appropriate use for the site in conformance with this plan. The school district has been notified of the project and may address long-term planning for the district in view of this and other plans identified in the MCRLUP. It is noted that the project site will be built and occupied over a period of time and students generated will be distributed over a number of grade levels, thus providing the district with an opportunity to plan for this growth. However, in effort to reduce the potential impacts to the school district resulting from the additionally projected school age children from the project, an alternative plan has been prepared (see **Section 5.6**) with a revised unit mix, including several senior units, which results in a tax neutral scenario (i.e., the projected tax revenue generated by the proposed project offsets the cost to educate the projected number of school age children).

#### Fire Protection

The proposed project will be serviced by the Middle Island Fire Department. A letter was sent regarding the subject site and the ability of the department to handle the additional development, with a request as to the details of the facility. The response letter, included in **Appendix F**, indicates that there are two fire stations located in the district; Station 1 is located at the corner of Middle Country Road and Arnold Drive, and Station 2 is located at the corner of Middle Country Road and Artist Drive. Station 1 has two Class "A" Pumpers, one Rescue Truck, one Brush Truck, one Fire Police, and two Ambulances. Station 2 has one Class "A" Pumper, one 105' Aerial Truck, a special operations unit for water rescue, one Fire Police, and one Ambulance. The fire department is currently a primarily volunteer department with approximately 85 volunteers.

The development will include current building materials and safety installations per the NYS Building Code. The project will be planned with suitable access for emergency vehicles and will

include installation of fire hydrants as directed through the site plan review process. The district did not identify any significant concerns with respect to serving the proposed project.

It is expected that the project will result in an increase to \$49,668.59 per year in tax revenue for the Fire Department, which is expected to offset the costs to provide the increase in fire protective services related to the development.

#### Police Protection

The proposed project will be serviced by the Suffolk County Police Department's 7<sup>th</sup> precinct. A letter was sent regarding the subject site and the ability of the precinct to handle the additional development. A response was received on June 29, 2007, which indicated that the development of the subject property would not necessitate a change in the amount of police protection provided.

It is expected that the project will result in an increase to \$61,306.54 in annual tax revenue for the SCPD, which is expected to offset the costs to provide the increase in police services.

#### Solid Waste Removal and Disposal

It is anticipated that the 377 residents and commercial buildings would generate a total of 3,575 lbs/day of solid waste. Solid waste generation for the residences was estimated based on an average of 5 pounds per day per capita. The community building was estimated at 0.5 pounds per day per capita; the restaurant was based on 90 pounds per day per 100 SF of restaurant space (assuming 4,000 SF of restaurant space); and office space was estimated at 1 pound per day per 100 SF of office space (assuming 9,000 SF of office space). The Town-wide average of 25 percent recyclable in this waste stream would be source-separated for curbside collection and taken to the Town of Brookhaven Resource Recovery Facility to handle solid waste generated by the proposed project. Based on the residential use proposed, this volume is not anticipated to contain significant amounts of potentially toxic or hazardous materials, other than empty household cleaner containers.

#### Public Water Supply

The proposed project will utilize the public water supply provided by the Suffolk County Water Authority. A response from the SCWA regarding availability of water service to the subject property was received on June 27, 2007, which indicated that the existing water main along Bailey Road would allow for public water connection to the subject site. Due to the location of residents who are supplied by private wells and the proposed location of the STP, an impact to the aforementioned residents may occur, and as such, public water connection will be offered to those residents.

#### Wastewater Treatment

The generation of wastewater by the proposed project would exceed the limits provided for by the SCDHS for Groundwater Zone III. Therefore, a 3.96 acre parcel is proposed on which a STP would be located which would be designed to adequately handle the sanitary effluent from the proposed development (see **Section 2.4.2** for details on the STP location and sizing).

### Recreational Facilities and Local Amenities

Currently, as the site is vacant, no true recreational facilities exist, with the exception of the trails currently in unauthorized use. Both a village clubhouse and a pool are proposed as part of the multifamily development. A village green/playfield is also proposed adjacent to the pool and clubhouse. These facilities, which will only be available to the residents of the proposed project, are expected to provide adequate recreation for the hamlet center.

### Energy Suppliers

The proposed project will use LIPA and Keyspan to supply energy resources to the subject property. Connections will be made to each utility through the creation of an internal distribution network within the proposed development. Connection of this network to LIPA will likely be through the transmission line which presently runs along the property and gas service will connect to the four (4) inch, gas main located along Middle Country Road. It is anticipated that both of these energy supply companies maintain adequate resources to supply the proposed project. In addition, energy saving devices will be utilized where practical to reduce the total energy demand which will be required by the project site upon completion.

As per §16-4.1, any new single-family dwelling, multiple-family dwelling, Planned Retirement Community (PRC) or Planned Retirement Congregate Housing Community (PRCHC) as defined in § 85-1, in buildings containing four units or less, not more than three stories in height, with a separate means of egress for each dwelling, minimum of one heating facility for each four dwelling units and a separate primary electric meter for each dwelling unit, including townhouses (hereinafter "subject dwelling"), shall be built to comply with the Long Island Power Authority New York ENERGY STAR Labeled Homes Program. As a result, all proposed units will be built to comply with such standards and will utilize energy efficient and low flow devices to reduce the amount of energy required.

The proposed project is not currently pursuing Leadership in Energy and Environmental Design (LEED) certification. The LEED Green Building Rating System sponsored by the U.S. Green Building Council provides a measure of the sustainable efforts of the final building designs. Although the project is still in the preliminary design stage, the applicant intends to evaluate potential sustainable design measures using the LEEDs Green Building Rating System as a general guideline. The project applicant is more concerned with implementing practical and useful strategies to reduce the "carbon footprint" of the project than necessarily receiving any type of LEED certification.

### 3.3.3 Proposed Mitigation

- The proposed project will result in a significant increase in the amount of property taxes generated on the site, particularly as compared to existing site conditions. As a result, the project will offset at least a portion of the increased costs for community services to serve the project.
- The projected 57 new students are not anticipated to significantly impact the enrollment of the Longwood Central School District. The proposed project will increase the allocation of property taxes to the Longwood Central School District, which will offset a portion of the increased school district costs to educate the 57 school-age children generated. Alternative 7 described in **Section**

5.6 provides a tax neutral alternative which would allocate enough tax revenue to cover the cost to educate the school children generated in that alternative.

- Adherence to the NYS Fire and Building Codes will increase the level of safety from fires and minimize the potential for use of ambulance services. In addition, use of fire/smoke alarms will assist in minimizing the incremental increase in the potential need for fire protective services.
- The applicant proposes to provide the Village Green for Village residents.
- As no significant adverse impacts are anticipated as a result of the increased solid waste generation of the proposed project, no mitigation is necessary or proposed.
- Public water supply connections and sewer connections will be provided for the single family residences on Middle Island Road.
- Water-conserving plumbing fixtures, mechanical systems, and rain sensors on irrigation systems will be utilized in construction, which will further minimize the volume of water required from the public water supply.
- The sanitary wastewater generated by the project will be treated and disposed in an on-site public STP.
- It is anticipated that energy-conserving measures including energy saving wall insulations, triple-glazed windows and energy efficient mechanical systems will be utilized, thereby mitigating the anticipated increase in energy consumption.

### 3.4 Transportation

The following discussion of transportation resources presented consists of a summary of the Nelson & Pope Traffic Impact Study prepared May, 2007. The entire study report is provided in **Appendix G**.

#### Study Methodology

The study assesses the traffic impacts associated with the proposed developments and identifies appropriate mitigation, if necessary. In executing the scope of work, the following steps were undertaken.

- A detailed field inspection was conducted to obtain an inventory of existing roadway geometry, location/geometry of existing driveways and intersections along with signing, signal timings, phasings and cycle lengths. Pedestrian and bicycle features at intersections and along roadways were identified and included in the traffic study.
- Transit service in the project area and locations of bus stops on the roadway network were identified.
- Turning movement volume counts were conducted during the weekday morning (7:00 AM to 9:00AM), weekday evening (4:00 PM to 7:00 PM) and Saturday midday (11:00 AM to 3:00 PM) peak periods at the following study intersections.
  - Middle Country Road (NYS Route 25) at St. Margaret's Boulevard
  - Middle Country Road (NYS Route 25) at Middle Island Road
  - Middle Country Road (NYS Route 25) at Rocky Point Road (CR 21)
  - Middle Country Road (NYS Route 25) at the Middle Island Shopping Center driveway
  - Middle Country Road (NYS Route 25) at Tudor Lane
  - Middle Country Road (NYS Route 25) at Currans Road

- Rocky Point Road (CR 21) at Miller Place-Yaphank Road/Andrew Way
  - Rocky Point Road (CR 21) at Bailey Road
  - Rocky Point Road (CR 21) at Middle Island Road
  - Rocky Point Road (CR 21) at Shopping Center Driveway
  - Rocky Point Road (CR 21) at Artist Lake Drive
  - Rocky Point Road (CR 21) at North Longwood Middle School Driveway
  - Rocky Point Road (CR 21) at Signalized Longwood Middle School Driveway
  - Rocky Point Road (CR 21) at South Longwood Middle School Entering Only Driveway
- Hourly traffic volumes collected along Middle Country Road (NYS Route 25) from Mt. Sinai-Coram Road to William Floyd Parkway and along Rocky Point Road (CR 21) from Miller Place-Yaphank Road to Longwood Road were obtained from the New York State Department of Transportation (NYSDOT).
  - Accident data for the study intersections and roadways in the vicinity of the site was obtained from NYSDOT and Suffolk County Department of Public Works.
  - A detailed accident analysis was performed for the intersection of Rocky Point Road (CR 21) and Middle Country Road (NYS Route 25) since it is designated as a high accident location by the Town of Brookhaven.
  - A horizon year of 2015 was utilized in this study as requested by the Town of Brookhaven
  - As requested by the Town of Brookhaven an annual growth factor of 1.5 percent obtained from the Middle Country Road Land Use Plan for Coram, Middle Island and Ridge was applied to the 2007 “normalized” Existing traffic volumes to estimate the increase in background traffic that would occur in 2015. These traffic volumes will be referred to as the Ambient Traffic Volumes.
  - The Town of Brookhaven Planning Department was contacted to obtain information on other planned projects that may impact traffic flow in the study area. The traffic generated by the other planned projects is referred to the Other Planned Projects Traffic Volumes.
  - Estimates of traffic that would be generated by the proposed developments were prepared utilizing trip generation data published by the Institute of Transportation Engineers (ITE) publication, *Trip Generation, Seventh Edition*. The site-generated traffic volumes were assigned to the adjacent street system based upon the anticipated directional trip distribution forecasted by Nelson & Pope.
  - In this Traffic Study, two Future Traffic Condition Scenarios will be analyzed:
    1. Scenario 1- 2015 Future Condition without Other Planned Projects  
Scenario 1 presents the analyses and anticipated impacts on the study intersections assuming no other planned projects get built in the study area other than the proposed “Condominiums at Sandy Hills” and “Middle Island Town homes” projects which will be referred to as the proposed projects in this report.
    2. Scenario 2 – 2015 Future Condition with Other Planned Projects  
Scenario 2 presents the analyses and anticipated impacts on the study intersections assuming that other planned projects in the study area and the proposed projects get built.

- The 2015 No Build Scenario 1 traffic volumes (Ambient traffic volumes) were developed by applying the 1.5 percent annual growth factor to the 2007 normalized Existing traffic volumes for a period of 8 years.
- The site traffic volumes were then added to the 2015 No Build Scenario 1 traffic volumes to generate the proposed 2015 Build Scenario 1 traffic volumes (Build volumes without Other Planned Projects).
- The 2015 No Build Scenario 2 traffic volumes were developed by adding the ambient traffic volumes to the other planned projects traffic volumes.
- The site traffic volumes were then added to the 2015 No Build Scenario 2 traffic volumes to generate the proposed 2015 Build Scenario 2 traffic volumes (Build volumes with Other Planned Projects).
- Capacity analyses were performed at the study intersections for the following Conditions:
  - 2007 Existing Condition
  - 2015 No Build Scenario 1 Condition (without traffic from Other Planned Projects)
  - 2015 Build Scenario 1 Condition (without Other Planned Projects)
  - 2015 No Build Scenario 2 Condition (with Other Planned Projects)
  - 2015 Build Scenario 2 Condition (with Other Planned Projects)
- The results of the analyses for the 2015 No Build Scenario 1 and 2015 Build Scenario 1 Conditions were compared to identify any significant impact associated with the proposed projects “Condominiums at Sandy Hills” and “Middle Island Townhomes” if no other planned projects are constructed prior to the construction of the proposed projects.
- The results of the analyses for the 2015 No Build Scenario 2 and 2015 Build Scenario 2 Conditions were compared to identify any significant impacts associated with the proposed projects “Condominiums at Sandy Hills” and “Middle Island Town homes” if, the other planned projects are constructed prior to the construction of the proposed projects.
- The site layout was reviewed for circulation and parking.
- The proposed parking was compared with the Town’s parking requirement.
- In accordance with the findings of the capacity computations, where appropriate recommendations were made to mitigate the project traffic impacts.

#### 3.4.1 Existing Conditions

The following descriptions of existing site transportation resources and traffic conditions is taken from the TIS.

## Existing Traffic Conditions

### *Land Use*

As previously discussed the “Condominiums at Sandy Hills” site is located on the northeast quadrant of the intersection of Middle Country Road and Rocky Point Road (CR 21) and the “Middle Island Townhomes” site is located on Rocky Point Road (CR 21) between Middle Island Road and Middle Country Road (NYS Route 25) in Middle Island, Town of Brookhaven, Suffolk County, New York. The “Condominiums at Sandy Hills” site is a vacant parcel currently zoned J-2 Business and A-1 Residential. The “Middle Island Townhomes” site is a vacant parcel currently zoned A-1 Residence (Lots 8 and 12.4) and MF Residence (Lot 13).

### *Roadway Conditions*

The following is a list of roadways included in the study network surrounding the site. The greatest portion of the traffic generated by the proposed developments will be distributed throughout the network. The general descriptions listed here refer only to the sections of the roadways that exist near the site. Their cross-section may vary further away from the site. The Average Annual Daily Traffic (AADT) is listed for each roadway where available in the most recent NYDOT Local Highway Traffic Volumes Report.

*Middle Country Road (NYS Route 25)* is an east/west urban principal arterial under the jurisdiction of the New York State Department of Transportation (NYSDOT). NYS Route 25 west of the Middle Island shopping center driveway provides one eastbound travel lane and two westbound travel lanes with a center left turn lane at some sections of the roadway and left turn lanes at key intersections. NYS Route 25 east of the Middle Island shopping center driveway provides one lane per travel direction with left turn lanes at key intersections. The section of NYS Route 25, between Mt. Sinai-Coram Road to Rocky Point Road (CR 21) has an average annual daily traffic (AADT) volume of approximately 22,196 vehicles per day (source: NYSDOT Traffic Volume Report 2004) and the section of NYS Route 25, between Rocky Point Road (CR 21) and William Floyd Parkway (CR 46), has an average annual daily traffic (AADT) volume of approximately 15,925 vehicles per day (source: NYSDOT Traffic Volume Report 2002). The horizontal alignment is straight and the vertical alignment is hilly in the vicinity of the site. The posted speed limit is 45 miles per hour. The land uses along this roadway in the vicinity of the site are predominantly commercial.

*Rocky Point Road (CR 21)* is a north/south minor arterial roadway under the jurisdiction of Suffolk County, providing one lane per travel direction. The section of Rocky Point Road (CR 21), between NYS Route 25 and Miller Place Yaphank Road, has an average annual daily traffic (AADT) volume of approximately 13,163 vehicles per day and the section of Rocky Point Road (CR 21), between NYS Route 25 and Longwood Road, has an average annual daily traffic (AADT) volume of approximately 18,249 vehicles per day (source: Suffolk County Department of Public Works). In the vicinity of the site, Rocky Point Road (CR 21) provides a slightly curving horizontal alignment and a rolling vertical alignment. The posted speed limit along Rocky Point Road (CR 21) Road is 50 miles per hour. The land uses consist of primarily residential developments south of NYS Route 25 and the wooded study sites to the north of NYS Route 25.

*Middle Island Road* is a north/south Town roadway intersecting Middle Country Road at its southern terminus and intersecting Rocky Point Road (CR 21) at its northern terminus. This roadway provides one lane per travel direction. Middle Island Road provides a curving horizontal alignment and a rolling vertical alignment. The posted speed limit along this roadway is 30 miles

per hour. The land uses along Middle Island Road primarily consist of residential properties, the vacant 4 B's site to the west and the vacant Middle Island Townhomes site to the east.

*Currans Road* is a north/south roadway extending from Middle Country Road to Whiskey Road. Currans Road has a curving horizontal alignment and provides one lane per travel direction. The land uses along this roadway are predominantly vacant lots.

*Tudor Lane* is a north/south local residential street that accesses an apartment complex. Tudor Lane has a straight horizontal alignment and a flat vertical alignment.

*St Margaret's Boulevard* is a north/south private local access road intersecting NYS Route 25 opposite the Wall Mart entrance. St. Margaret's Boulevard is a dead end road to the north and provides access to/from a Dental office, a Funeral home and a couple of residential homes.

*Miller Place-Yaphank Road* is a northwest/southeast roadway in the vicinity of Rocky Point Road (CR21) and intersects CR 21 at a T-intersection. Miller Place-Yaphank Road has a curving horizontal alignment and provides one lane per travel directions. The land uses along this roadway in the vicinity of CR 21 are a mix of residential uses and vacant lots.

*Bailey Road* - is an east/west roadway extending from Rocky Point Road to Currans Road. Bailey Road has a curving horizontal alignment and provides one lane per travel direction. The land uses along this roadway are predominantly residential.

*Artist Lake Drive* is an east/west local residential street that accesses a Condominium/Townhouse complex. Artist Lake Drive has a slightly curving horizontal alignment and a flat vertical alignment.

**Table 3-6** summarizes the lane configurations and traffic controls at the study intersections.

**TABLE 3-6  
INTERSECTION GEOMETRY**

Intersection	Approach	Lane Designation*	Traffic Control
Middle Country Road (NYS Route 25) at St. Margaret Boulevard	EB	L-T-R	Traffic Signal
	WB	L-T-TR	
	NB	L-TR	
	SB	LTR	
Middle Country Road (NYS Route 25) at Middle Island Road	EB	L-TR	Traffic Signal
	WB	L-T-TR	
	NB	LT-R	
	SB	LTR	
Rocky Point Rd (CR 21) at Middle Country Road (NYS Route 25)	EB	L-T-R	Traffic Signal
	WB	L-T-TR	
	NB	L-T-R	
	SB	L-TR	
Middle Country Road (NYS Route 25) at Shopping Center Driveway	EB	TR	Stop Control on Shopping Center Driveway
	WB	L-T	
	NB	L-R	
Middle Country Road (NYS Route 25) at Tudor Lane/Shopping Center Driveway	EB	LTR	Stop Control on Tudor Lane/Shopping Center Driveway
	WB	LTR	
	NB	LTR	
	SB	LTR	
Middle Country Road (NYS Route 25) at Currans Road	EB	L-T	Stop Control on Currans Road
	WB	TR	
	SB	LR	
Rocky Point Road (CR 21) at Miller Place-Yaphank Road/Andrew Way	EB	LT-R	Stop Control on Miller Place-Yaphank Road and Andrew Way
	WB	LTR	
	NB	L-TR	
	SB	L-TR	
Rocky Point Road (CR 21) at Bailey Road	WB	LR	Stop Control on Bailey Road
	NB	TR	
	SB	L-T	
Rocky Point Road (CR 21) at Middle Island Road	EB	LR	Stop Control on Middle Island Road
	NB	LT	
	SB	TR	
Rocky Point Road (CR 21) at Shopping Center Driveway	WB	LR	Stop Control on Shopping Center Driveway
	NB	TR	
	SB	L-T	
Rocky Point Road (CR 21) at Artist Lake Drive	WB	L-R	Traffic Signal
	NB	T-R	
	SB	L-T	
Rocky Point Road (CR 21) at Longwood School North Driveway	WB	R	Stop Control on School Driveway
	NB	TR	
	SB	LT	
Rocky Point Road (CR 21) at Longwood School Signalized Driveway	WB	L-R	Traffic Signal
	NB	T	
	SB	T	
Rocky Point Road (CR 21) at Longwood School South Driveway	NB	TR	
	SB	LT	

Notes: \* L = Left turn lane; T = through lane; R = Right turn lane

### *Pedestrian, Bicycle and Transit Facilities*

A field inventory of the existing pedestrian, bicycle and transit facilities along the roadways and intersections in the vicinity of the site were identified.

### *Pedestrian Facilities*

Of the signalized intersections studied only the intersections of Middle Country Road at St. Margaret's Boulevard and Middle Country Road at Rocky Point Road contain pedestrian push buttons and crosswalks. Sidewalks are provided on the south side of Middle Country Road between the Wal-Mart Access/St. Margaret's Boulevard and Rocky Point Road but not on the north side of Middle Country Road. Sidewalks are provided on both the north and south sides of Middle Country Road between Rocky Point Road and Tudor Lane. Sidewalks are provided along the east and west sides of Rocky Point Road in the vicinity of Middle Country Road.

### *Bike Routes and Transit Facilities*

Middle Country Road (NYS Route 25) and Rocky Point Road (CR 21) are designated bike routes with no striped bike lanes. Middle Country Road (NYS Route 25) is a transit route. Suffolk County Bus Route 58 (from East Northport to Riverhead) serves Middle Island via NYS Route 25. This route contains a number of stops along NYS Route 25 in the vicinity of the proposed site.

### *Traffic Volume Data*

Weekday turning movement counts were collected at the study intersections on Tuesday March 20, on Tuesday May 22, and on Tuesday June 12, 2007 during the weekday AM (7:00-9:00 AM) and PM (4:00-7:00 PM) peak periods. The weekend turning movement counts were collected on Saturday, June 2, and on Saturday June 16, 2007 during the Saturday midday peak period (11:00 AM – 3:00 PM). The volume data was tabulated to identify the peak hours at each of the study intersections. In order to perform a conservative analysis the peak hour volumes at each intersection were utilized in this study.

Weekday seasonal adjustment factors of 1.003, 1.080 and 1.120 for the months of March, May and June (months of weekday counts) and a weekend seasonal adjustment factor of 0.936 for the month of June (month of weekend counts) were obtained from NYSDOT. Applying the weekend normalization factor will increase the existing weekend traffic volumes, therefore the weekend counts were normalized to account for seasonal fluctuation. Applying the weekday normalization factors to the weekday traffic count data collected would effectively reduce the existing peak hour volumes. Therefore to be conservative, the weekday peak hour traffic volumes collected were not normalized. The existing intersection peak hour volumes are shown on Figures 3, 4, and 5 and detailed data are contained in Appendix A [of the TIS].

### *Accident History*

Accident data for the sections of roadways and intersections in the vicinity of the site was obtained from the NYSDOT and Suffolk County DPW. The most recent data available was from January 2001 to June 2004 (3.5 year period). The data was reviewed and summarized in the following table.

**TABLE 3-7  
ACCIDENT SUMMARY BY SEVERITY**

Location	Accident Severity			TOTAL
	Fatality	Injury	Property Damage	
CR 21 South of Whiskey Road	-	1	1	2
CR 21 at Miller Place Yaphank Road	-	14	36	50
CR 21 at Bailey Road	-	3	8	11
CR 21 at Middle Island Road	-	1	9	10
CR 21 North of NYS 25	-	5	11	16
CR 21 at NYS 25	-	21	95	116
CR 21 South of NYS 25	-	15	15	30
CR 21 at Artist Lake Drive	-	8	17	25
CR 21 at Island Bay Avenue	-	1	3	4
CR 21 North of East Bartlett Road	1	-	2	3
CR 21 North of Longwood Road	-	4	5	9
CR 21 at Longwood Road	-	10	27	37
CR 21 South of Longwood Road	-	1	-	1
NYS 25 West of Middle Island Road	-	22	35	57
NYS 25 at Middle Island Road	-	8	7	15
NYS 25 West of Rocky Point Road	-	8	17	25
NYS 25 West of Tudor Lane	-	4	6	10
NYS 25 at Tudor Lane	-	-	1	1
NYS 25 West of Lakeview Road	-	1	6	7
NYS 25 at Lakeview Road	-	1	-	1
NYS 25 West of Currans Road	-	6	5	11
NYS 25 at Currans Road	-	1	4	5
<b>Total</b>	<b>1</b> <i>1%</i>	<b>135</b> <i>30%</i>	<b>310</b> <i>69%</i>	<b>446</b> <i>100%</i>

**Table 3-7** indicates a total of 446 accidents occurred at or in the vicinity of study intersections during the analysis period one of which resulted in a fatality. The majority of accidents, 69 percent, involved property damage only. The locations with the greatest number of accidents are the intersection of NYS Route 25 at Rocky Point Road (CR 21), NYS Route 25 just west of Middle Island Road and CR 21 at Miller Place Yaphank Road with a total of 116, 57 and 50 accidents respectively. The fatal accident occurred on Rocky Point Road (CR 21) just north of East Bartlett Road and involved a fixed object collision.

A plurality of the accidents (40%) involved rear-end accidents. Most of the rear-end accidents occurred at the intersections of NYS Route 25 and Rocky Point, Rocky Point Road (CR 21). Most of these rear end accidents occurred on the northbound, southbound and eastbound directions. A detailed accident analysis was conducted for the intersection of Middle Country Road (NYS Route 25) at Rocky Point Road (CR 21) since it is designated as a high accident location (HAL) by the Town of Brookhaven.

Existing Condition Analysis

The 2007 existing peak hour traffic volumes depicted in Figures 3, 4, and 5 [in the TIS] were used to determine the existing capacity and LOS of the study intersection. **Tables 3-8** and **3-9** contain the LOS summary for the Existing Condition calculated through the Synchro software described previously. The detailed analysis worksheets are in Appendix F [of the TIS].

**TABLE 3-8  
EXISTING CONDITION LOS SUMMARY (SIGNALIZED)**

Location (Signalized Intersections)	AM Peak Hour		PM Peak Hour		Saturday Midday Peak Hour	
	LOS	Delay	LOS	Delay	LOS	Delay
Middle Country Road (NYS Route 25) at St. Margaret's Boulevard	A	6.8	B	15.0	B	18.3
Middle Country Road (NYS Route 25) at Middle Island Road	A	3.5	A	6.1	A	5.7
Middle Country Road (NYS Route 25) at Rocky Point Road (CR 21)	D	41.2	D	46.6	D	50.9
Rocky Point Road (CR 21) at Artist Lake Drive	B	10.2	A	3.7	A	3.7
Rocky Point Road (CR 21) at Signalized Longwood School Driveway	A	6.9	A	5.1	A	1.9

**TABLE 3-9  
EXISTING CONDITION LOS SUMMARY (UNSIGNALIZED)**

Location (Unsignalized Intersections)	Approach	Movmnt	AM Peak Hour		PM Peak Hour		Saturday Midday Peak Hour	
			LOS	Delay	LOS	Delay	LOS	Delay
Middle Country Road (NYS Route 25) at Shopping Center Driveway	EB	LTR	A	0.3	A	1.2	A	0.6
	WB	L	A	8.5	C	15.2	B	14.9
	NB	L	E	45.6	F	*	F	*
	NB	R	B	10.8	D	33.3	D	28.9
	SB	L	A	0.0	F	823.9	F	1539.0
	SB	R	B	14.1	B	13.3	C	15.0
Middle Country Road (NYS Route 25) at Tudor Place/Shopping Center Driveway	EB	LTR	A	0.1	A	0.6	A	1.1
	WB	LTR	A	0.4	A	1.1	A	2.4
	NB	LTR	C	24.2	F	653.5	F	58.5
	SB	LTR	C	22.3	C	20.5	F	261.0
Middle Country Road (NYS Route 25) at Currans Road	EB	L	A	9.2	B	10.3	A	9.8
	SB	LR	F	94.8	F	208.4	F	159.8
Rocky Point Road (CR 21) at Miller Place- Yaphank Road/Andrew Way	EB	LT	C	19.9	B	12.6	B	13.6
	WB	LTR	F	57.2	F	74.2	C	23.7
	NB	L	A	8.8	A	8.9	A	8.3
	SB	L	A	0.00	A	8.4	A	0.0
Rocky Point Road (CR 21) at Bailey Road	WB	LR	D	31.3	C	20.9	C	15.1
	SB	L	A	8.5	A	9.2	A	8.8
Rocky Point Road (CR 21) at Middle Island Road	EB	LR	C	19.2	C	21.9	C	23.8
	NB	LT	A	0.00	A	0.0	A	0.0
Rocky Point Road (CR 21) at Shopping Center Driveway	WB	LR	F	417.7	F	56.7	F	57.9
	SB	L	A	8.9	B	13.4	B	10.2
Rocky Point Road (CR 21) at Longwood School North Driveway	WB	R	B	12.2	C	21.8	A	0.0
	SB	LT	A	2.8	A	0.1	A	0.0
Rocky Point Road (CR 21) at Longwood School South Driveway	SB	LT	A	2.2	A	4.8	A	0.1

Notes: LOS = Level of Service, Delay = seconds/vehicle

\* = The delay is incalculable by the Synchro software

The analyses results for the unsignalized intersections may not be representative of the actual field conditions. It should also be noted that, the critical gap acceptance calculated by the Synchro Software (Software utilized to conduct capacity analyses) is higher than the available gaps on the major roadways (NYS Route 25 and CR 21). This may be the reason why the capacity analyses are showing high delays on the side street approaches of the unsignalized intersections. However, motorists were observed in the field exiting side streets during short gaps. Therefore, the side street approaches are actually operating at better levels of service as compared to the calculated levels of service by the Synchro Software.

### 3.4.2 Anticipated Impacts

The following descriptions and discussions of the anticipated transportation-related characteristics and impacts of the proposed project are taken from the TIS.

#### Traffic Related Impacts

##### *Proposed Development*

As part of this project, two developments “Condominiums at Sandy Hills” and “Middle Island Townhomes” are proposed. The Condominium at Sandy Hills development is comprised of 135 Condominiums/Townhouse units and 13,000 SF of retail space and the Middle Island Townhomes development is comprised of 92 Condominium/Townhouse units.

##### *Site Access*

As depicted on the site plan, access to the “Condominiums at Sandy Hills” site will be provided via two full movement driveways; one driveway located on Rocky Point Road (CR 21) and one driveway located on Middle Country Road (NYS Route 25). Access to the “Middle Island Townhomes” site will be provided via one full movement driveway on Rocky Point Road directly opposite the “Condominiums at Sandy Hills” site driveway. This driveway will provide cross-access to the two sites.

##### *Parking*

A total of 494 parking spaces (378 paved parking spaces, 58 driveways and 58 garage stalls) will be provided to support the “Condominium at Sandy Hills” development and 184 parking spaces will be provided to support the “Middle Island Townhomes” development. The parking calculations on the “Condominium at Sandy Hills” and “Middle Island Townhomes” site plans indicate that 378 parking spaces and 184 parking spaces are required respectively in accordance with the Town of Brookhaven parking code. The parking calculations for the proposed projects (Condominium at Sandy Hills and Middle Island Townhomes) were based upon requirements for Multifamily Residence (MF-1) District (2 parking spaces per unit) and 1 parking space per 150 SF of commercial space.

##### *Trip Generation*

In order to identify the impacts the proposed developments (Condominiums at Sandy Hills and Middle Island Townhomes) will have on the adjacent street system, it is necessary to estimate the magnitude of traffic volume to be generated during the peak hours and to estimate the directional distribution of the site traffic when traveling to and from the subject property. The proposed “Condominium at Sandy Hills” development will contain 135 Condominium/Townhouse units and 13,000 SF of retail space and the proposed “Middle Island Townhomes” development will

contain 92 Condominium/Townhouse units. The trip generation estimates for all the proposed uses were prepared utilizing data within the Institute of Transportation Engineers' publication, *Trip Generation, Seventh Edition*. This publication sets forth trip generation data obtained by traffic counts conducted at sites throughout the country. The following Table summarizes the trip generation estimates for the proposed "Condominiums at Sandy Hills" development. Appendix D contains the trip generation worksheets.

**TABLE 3-10  
TRIP GENERATION (CONDOMINIUMS AT SANDY HILLS)**

Time Period	Distribution	13,000 SF Shopping Center - ITE LUC	135 units (Residential Condominium/Townhouse) ITE LUC	Total
		820	230	
Weekday AM Peak Hour	Enter	28	12	40
	Exit	18	54	72
	Total	46	66	112
Weekday PM Peak Hour	Enter	78	52	130
	Exit	85	25	110
	Total	163	77	240
Saturday Midday Peak Hour	Enter	119	44	163
	Exit	110	38	148
	Total	229	82	311

Source: Trip Generation, 7<sup>th</sup> Edition, published by ITE

As can be seen from Table 3-10 above, the Condominium at Sandy Hills development will generate 112 trips (40 entering and 72 exiting) during the weekday AM peak hour, 240 trips (130 entering and 110 exiting) during the weekday PM peak hour and 311 trips (163 entering and 148 exiting) during the Saturday midday peak hour.

The following table summarizes the trip generation estimates for the proposed "Middle Island Townhomes" development. As can be seen from Table 3-11 below, the "Middle Island Townhomes" development will generate 48 trips (8 entering and 40 exiting) during the weekday AM peak hour, 56 trips (37 entering and 19 exiting) during the weekday PM peak hour and 69 trips (37 entering and 32 exiting) during the Saturday midday peak hour.

**TABLE 3-11  
TRIP GENERATION (MIDDLE ISLAND TOWN HOMES)**

Time Period	Distribution	92 units (Residential Condominium/ Townhouse) ITE LUC 230
Weekday	Enter	8
AM Peak	Exit	40
Hour	Total	<b>48</b>
Weekday	Enter	37
PM Peak	Exit	19
Hour	Total	<b>56</b>
Saturday	Enter	37
Midday	Exit	32
Peak Hour	Total	<b>69</b>

Source: Trip Generation, 7<sup>th</sup> Edition, published by ITE

The following Table summarizes the total trip generation estimate for the proposed two developments (Condominiums at Sandy Hills and Middle Island Townhomes). The proposed two developments will generate 160 trips (48 entering and 112 exiting) during the weekday AM peak hour, 296 trips (167 entering and 129 exiting) during the weekday PM peak hour and 380 trips (200 entering and 180 exiting) during the Saturday midday peak hour.

**TABLE 3-12  
TOTAL SITE GENERATED TRAFFIC**

Time Period	Distribution	Proposed two developments
Weekday	Enter	48
AM Peak	Exit	112
Hour	Total	<b>160</b>
Weekday	Enter	167
PM Peak	Exit	129
Hour	Total	<b>296</b>
Saturday	Enter	200
Midday	Exit	180
Peak Hour	Total	<b>380</b>

Source: Trip Generation, 7<sup>th</sup> Edition, published by ITE

*Trip Distribution and Assignment*

The volume of site traffic that would travel through the study intersections during peak hours was distributed and assigned to each movement based on the existing roadway travel patterns. The nature of the proposed land use and its associated travel patterns were considered as well. Figures 9 and 10 [of the TIS] present the trip distribution for the traffic generated by the “Middle Island Townhomes” and “Condominiums at Sandy Hills” developments respectively. Figures 11, 12, 13 [of the TIS] depict the combined traffic generated by the “Condominium at Sandy Hills” and

“Middle Island Townhomes “developments for the weekday AM, weekday PM and Saturday midday peak hours.

*Build Scenario 1 Condition*

The Build Scenario 1 Condition represents traffic conditions expected at the study intersections in the future year 2015 assuming only the proposed projects (Condominiums at Sandy Hills and Middle Island Townhomes) get built in the study area. The 2015 Build Scenario 1 Condition volumes were developed by adding the site generated traffic volumes to the AM, PM and Saturday midday No Build Scenario 1 (No Build without other planned projects) traffic volumes. Figures 14, 15 and 16 [of the TIS] depict the Build Scenario 1 (Build without other planned projects) traffic volumes.

*Scenario 1 (Without Other Planned Projects) Traffic Impact Analyses*

In order to identify the impacts created by the proposed projects (Condominium at Sandy Hills and Middle Island Townhomes) in the study area, capacity analyses were conducted at the study intersections for the No Build Scenario 1 and Build Scenario 1 Conditions during the weekday AM, PM and Saturday midday peak hours. The results of the capacity analyses for the No Build Scenario 1 and Build Scenario 1 Conditions were compared to determine the impact that will be created on the study intersections by the proposed projects (Condominium at Sandy Hills and Middle Island Townhomes). It should be noted that the Scenario 1 analyses did not include any other planned projects that may be constructed in the study area before the construction of the proposed projects. The results of these analyses will identify the impacts, if any, that may be created by the proposed projects (Condominium at Sandy Hills and Middle Island Townhomes) if no other planned projects get built in the study area.

*No Build Scenario 2 Condition*

The No Build Scenario 2 Condition represents traffic conditions expected at the study intersections in the future year 2015 with the construction of other planned projects in the study area. The No Build Condition traffic volumes under scenario 2 are estimated based on the following factors:

- Increases in traffic due to general population growth and developments outside of the immediate project area. This traffic increase is referred to as ambient growth.
- Other planned projects located near the project site that may affect traffic levels and patterns at the study intersections.

*Ambient Traffic Growth*

As requested by the Town of Brookhaven, a 1.5 percent annual growth factor was obtained from the Middle Country Road Land Use Plan for Coram, Middle Island and Ridge. The 2007 existing traffic volumes were increased by this factor for a period of 8 years to project volumes to the year 2015. These volumes are referred to as the Ambient traffic volumes.

*Other Planned Projects*

Planned projects that may be constructed prior to the proposed project and significantly influence the traffic flow through the study intersections would be considered as part of the Scenario 2 No Build analysis. The Town of Brookhaven was contacted to obtain information on any other planned projects in the area. As advised by the Town, the following proposed planned projects were included:

- 4B's LLC-Kogel (240 multi-family units and 130,000 SF of commercial space and a 17,000 SF community center) to be located on the northwest corner of Middle Country Road (NYS Route 25) and Middle Island Road.
- An expansion to the existing Middle Island Shopping Plaza (4,088 SF of office space and 16,550 SF of retail space) to be located at the southeast corner of Middle Country Road and Rocky Point Road.

Trip generation estimates for these other planned projects were prepared utilizing data within the Institute of Transportation Engineers' publication, *Trip Generation, Seventh Edition*. As shown in the table below, the combined trips attributed to the two other planned projects will generate 383 trips during the AM peak hour, 1092 trips during the PM peak hour and 1431 trips during the Saturday peak hour. The traffic for each development was assigned to the study intersections and is shown in Figures contained in Appendix C [of the TIS].

**TABLE 3-13  
OTHER PLANNED PROJECTS - SITE GENERATED TRIPS**

Planned Projects	Peak Hour	Peak Hour Trips		
		Enter	Exit	Total
4B's II LLC – Kogel (240 multi-family units, 130,000 SF Commercial space and 17,000 SF Community Center)	Weekday AM	147	168	315
	Weekday PM	448	447	895
	Saturday midday	606	554	1160
Middle Island Shopping Plaza expansion (4,088 SF of office space and 16,550 SF of retail space)	Weekday AM	45	23	68
	Weekday PM	93	104	197
	Saturday midday	141	130	271
<b>Total</b>	<b>Weekday AM</b>	<b>192</b>	<b>191</b>	<b>383</b>
	<b>Weekday PM</b>	<b>541</b>	<b>551</b>	<b>1092</b>
	<b>Saturday midday</b>	<b>747</b>	<b>684</b>	<b>1431</b>

The No Build Scenario 2 Condition traffic volumes were estimated by adding the traffic generated by the other planned projects to the Ambient traffic volumes. The No Build Scenario 2 Condition traffic volumes for the weekday AM, PM and Saturday midday peak hours are illustrated in Figures 17, 18 and 19 [of the TIS].

*Build Scenario 2 Condition*

The Build Scenario 2 Condition represents traffic conditions expected at the study intersections in the future year 2015 assuming that, the other planned projects and the proposed projects get built in the study area. The 2015 Build Scenario 2 Condition volumes (Build with other planned projects) were developed by adding the site generated traffic volumes to the AM, PM and Saturday midday No Build Scenario 2 (No Build with other planned projects) traffic volumes. Figures 20, 21 and 22 [of the TIS] depict the Build Scenario 2 (Build with other planned projects) traffic volumes.

*Scenario 2 (With Other Planned Projects) Traffic Impact Analyses*

Capacity analyses were conducted for the No Build Scenario 2 and Build Scenario 2 Conditions during the weekday AM, PM and Saturday midday peak hours to identify impacts, if any, created by the proposed projects (Condominium at Sandy Hills and Middle Island Townhomes) if all other planned projects in the study area get built prior to the construction of the proposed projects. The results of the capacity analyses for the No Build Scenario 2 and Build Scenario 2

Conditions were compared to determine the impact that will be created on the study intersections by the proposed projects (Condominium at Sandy Hills and Middle Island Townhomes).

Capacity analyses were conducted at this location for the Build Scenario 2 condition with the recommended improvements. The results of the capacity analyses with the recommended improvements reveal that, the intersection will operate at LOS D, C and E (better than No Build LOS) during the weekday AM, PM and Saturday midday peak hours respectively.

### 3.4.3 Proposed Mitigation

- After the completion of the projects under Scenario 1, three (3) of the five (5) signalized intersections studied (Middle Country Road at St. Margaret's Blvd, Middle Country Road at Middle Island Road and Rocky Point Road at Artist Lake Drive) will not experience changes in LOS from the No Build Scenario 1 Condition.
- After the completion of the project under Scenario 1, the LOS at the intersection of Middle Country Road at Rocky Point Road will change from D to E during the AM peak hour and from E to F during the PM and Saturday midday peak hours. In order to mitigate the impacts created at this intersection, the following improvements may be considered:
  - Restripe the southbound CR 21 approach to provide one left turn lane, one through lane and one right turn lane
  - Optimize the traffic signal network cycle lengths, phasing and timings
  - With these improvements, the intersection will operate at No Build LOS D, E and E during the weekday AM, PM and Saturday midday peak hours respectively.
- After the completion of the project under Scenario 1, the intersection of Rocky Point Road at Longwood School signalized driveway will continue to operate at No Build LOS conditions during the weekday PM and Saturday midday peak hours and will change from LOS A to LOS B during the weekday AM peak hour with a 1.1 second increase in delay. The 1.1 seconds increase in delay should not significantly impact the operation of the intersection; hence, mitigation may not be necessary.
- After the completion of the project under Scenario 2, the intersection of Middle Country Road at St. Margaret's Blvd will continue to operate at No Build LOS conditions during the weekday AM peak hour and will change from LOS D to E during the weekday PM and Saturday midday peak hours. However, optimizing the NYS Route 25 network cycle lengths, signal timings and phasing will mitigate the LOS E to LOS D during the weekday PM and Saturday midday peak hours.
- After the completion of the project under Scenario 2, the intersection of Middle Country Road at Middle Island Road will continue to operate at No Build LOS during the weekday AM and Saturday midday peak hours and will change from LOS B to LOS C during the weekday PM peak hour. However, optimizing the NYS Route 25 network cycle lengths, signal timings and phasing will mitigate the LOS C to LOS B during the weekday PM peak hour.
- During the No Build Scenario 2 Condition, the signalized intersection of Middle Country Road at Rocky Point Road operates at LOS E, F and F during the weekday AM, weekday PM and Saturday midday peak hours respectively. After the completion of the project the poor No Build LOS will be maintained during the analyzed peak periods. In order to improve the operation of this intersection, we recommend that, Suffolk County and NYSDOT consider the following improvements:
  - Construct a second eastbound NYS 25 through lane between Middle Island Road and the shopping center west driveway.
  - Restripe the southbound CR 21 approach to provide one left turn lane, one through lane and one right turn lane.

- Optimize the traffic signal network cycle length, phasing and timings.
- With these recommended improvements the intersection will operate at LOS D, C and E (better than No Build LOS) during the weekday AM, PM and Saturday midday peak hours respectively.
- After the completion of the project under Scenario 2, the intersection of Rocky Point Road at Artist Lake Drive will continue to operate at No Build LOS conditions during the weekday PM and Saturday midday peak hours and will change from LOS B to LOS C with an increase in delay of 3 seconds during the weekday AM peak hour. The 3 seconds increase in delay should not significantly impact the operation of the intersection; hence, mitigation may not be necessary.
- After the completion of the project, the intersection of Rocky Point Road and Longwood Middle School signalized driveway will continue to operate at No Build LOS conditions during the analyzed peak hours.
- The analyses of the unsignalized intersections showed that, the minor approaches of most of the unsignalized intersections currently operates at poor levels of service during the weekday PM and Saturday midday peak hours and will continue to operate at poor levels of service after the construction of the proposed projects. It is not unexpected to see results of LOS D, E or F for traffic at the stop-controlled approach of an unsignalized intersection with a major roadway. The availability of gaps in the traffic on the major roadway determines the level of delay that is assigned to the stop-controlled traffic. Higher volumes along major roadways result in fewer available gaps. It should be noted that, the critical gap acceptance calculated by the Synchro Software (Software utilized to conduct capacity analyses) is higher than the available gaps on the major roadways (NYS Route 25 and CR 21). This may be the reason why the capacity analyses are showing high delays on the side street approaches of the unsignalized intersections. However, motorists were observed in the field exiting side streets during short gaps. Therefore, the side street approaches are actually operating at better levels of service as compared to the calculated levels of service by the Synchro Software.

Based on the results of the Traffic Impact Study as detailed in the body of this report, it is the professional opinion of Nelson & Pope that, the construction of the proposed developments (Condominiums at Sandy Hills and Middle Island Townhomes) will not result in an adverse traffic impact at the study intersections with the implementation of the proposed mitigation measures.

### 3.5 Noise and Air Quality

#### 3.5.1 Existing Conditions

##### Existing Noise Characteristics

###### *General Noise Information*

The environmental impact of noise can have various effects on human beings ranging from annoyance to hearing loss. A noise problem is said to exist when noise interferes with human activities. Ambient noise levels are a function of location (urban, suburban, and rural), physical site characteristics, and existing surroundings.

Various noise scales have been developed to describe the response of an average human ear to sound. The most common unit utilized to characterize noise levels is the A-weighted decibel (dBA), which weighs the various components of noise according to the response of the human ear. Because the human ear perceives the middle range of frequencies better than the high or low

frequencies, the dBA scale assigns the middle range a much larger “loudness” value than higher and lower frequencies.

Physical measurements of noise may be measured in dBA using a sound level meter. The meter collects frequency values that are automatically interpreted as a function of human hearing frequency response (according to the A-weighted decibel scale). Because noise fluctuates, it is common to average noise levels over a period of time to describe the “equivalent continuous noise level” or  $L_{eq}$ . The weighted scale thus provides a measure of noise, which is meaningful for assessing ambient noise environments, and potential noise impacts as heard by human beings. The decibel scale is logarithmic; therefore, the laws for addition of logarithms must be utilized for addition of decibels. The addition of two identical noise levels will result in an increase of 3 decibels. For example, a noise level of 50 dBA added to an existing noise level of 50 dBA would result in an end noise level of 53 dBA, an increase that is considered to be the threshold for human detection.

On average, a change of 3 dBA is required for the average person to detect a difference in the level of noise, and a change in the range of 5-6 dBA is noticeable and is considered to be an impact as referenced in **Table 3-14**.

**TABLE 3-14**  
**PERCEIVED CHANGES IN NOISE LEVEL**

Change in dBA	Human Perception of Sound
2-3	Barely perceptible, threshold of detection
5-6	Readily noticeable
10	Doubling or halving of the loudness of sound
20	Dramatic change
40	Difference between a faintly audible sound and very loud sound

Source: (USDOT, 1980)

As a point of reference and comparison, an increase of 10 dBA is perceived as a doubling of the sound energy. Sound level is measured on a logarithmic scale, which will be explained below. **Table 3-14** relates changes in dBA to the perception of that change to a receiver as compared to a base reference of 50 dBA. In addition to actual increases in sound pressure, public reaction to noise levels is also a function of location (urban, suburban, rural), time of day, fluctuation of noise levels, duration, and individual judgment of the listener.

**TABLE 3-15  
COMMON NOISE LEVELS AND REACTIONS**

Sound Source	Noise Level (dBA)	Apparent Loudness	Typical Human Reaction
Military Jet Air raid siren	130	256 X as loud	Limit of amplified speech
Amplified rock music	110	64 X as loud	Maximum vocal effort
Jet takeoff at 500 meters Train horn at 30 meters	100	32 X as loud	
Freight train at 15 meters	95		
Heavy truck at 15 meters Busy city street Loud shout	90	16 X as loud	Very annoying Hearing damage (after 8 hours)
Busy traffic intersection	80	8 X as loud	Annoying
Highway traffic at 15 meters Train horn at 500 meters Noisy restaurant	70	4 X as loud	Telephone use difficult
Predominantly industrial areas Light car traffic at 15 meters City or commercial areas Residential areas close to industry Noisy office	60	2 X as loud	Intrusive
Quiet office Suburban areas with medium-density transportation	50	Base Reference	Speech interference
Public library	40	1/2 as loud	Quiet
Soft whisper at 5 meters	30	1/4 as loud	Very quiet

Note: The minimum difference in noise level noticeable to the human listener is 3 dBA. A 10 dBA increase in level appears to double the loudness, while a 10 dBA decrease halves the apparent loudness.

Source: (NYS DOT, 1980 and White, 1975)

In open environs, sound levels vary with the source as well as with the listener's distance from the source. Sound level decreases as a result of energy dispersion. The "inverse square law", by definition, predicts a 6-decibel reduction with each doubling of distance from a point source. This effect is due to natural dispersion only and is not a function of the presence of barriers or other objects. Because noise fluctuates, it is common to average noise levels over a period of time to describe the "equivalent continuous noise level" or  $L_{eq}$ .

Vegetation and noise barriers will also result in attenuation of noise levels. Densely wooded areas are expected to have an attenuation rate of 5 dBA for every 100-foot depth of woods (up to a maximum attenuation of 10 dBA). For low-density vegetation, a nominal amount of attenuation of 2 to 3 dBA per 100 feet of woods may occur.

### *Ambient Noise Environment*

The subject site is an elongated site with narrow frontage on the north side of Middle Country Road and frontage on Rocky Point Road (CR 21). The site is presently generally wooded and therefore, existing noise from adjacent roadways is attenuated for the majority of the site by the presence of vegetation and by distance as one moves away from the sources of roadway noise. Middle Country Road is a two lane regional arterial used heavily by passenger cars, trucks and buses. Rocky Point Road is a two-lane road which provides a local north-south route.

The ambient noise environment in the vicinity of the subject site is affected by a wide range of uses, including roadways, as well as residential, commercial, and industrial development. A commercial stone sales center which specializes in such items as outdoor fireplaces, wood stoves and barbeques is located adjacent to the site on the east side of Rocky Point Road. To the west of the site opposite Rocky Point Road lies the Roanoke Sand & Gravel mining site as well as a concrete facility. The industrial uses have been reported to result in complaints to the Town of Brookhaven<sup>1</sup>, however, operations specific to these facilities were not audible during field inspections at the subject site.<sup>2</sup> It is noted that the sand mining operations at the sand and gravel facility are conducted utilizing a dredge, with all mining occurring under water. This method results in minimal noise impacts related to the operations, which are a minimum distance of 500' west of CR 21 opposite the site. Based upon observations the dominant sources of noise at the project site were recognized as truck and other vehicular traffic on the adjoining County/State roads.

Noise investigations were completed on two separate occasions (on the afternoons of October 17, 2007 and November 14, 2007). Noise was measured during daytime hours at three stations located on the subject site to establish typical daytime ambient noise in the areas of the property where development is to occur. The stations were selected to represent typical ambient noise for the development features located nearest the sources of noise. **Figure 3-11** provides the location of each noise monitoring station and shows the relative location of proposed development features. Sound level measurements were collected using a SPER Scientific Model 8400029 Digital Sound Level Meter. The meter was calibrated both before and after every period of readings. One hundred noise readings were taken at 10-second intervals at each sampling station. Summary information regarding each of these stations follows; data sheets and a graphic presentation of noise levels for all stations are included in **Appendix H-1. Table 3-16** summarizes the maximum, minimum, and  $L_{eq}$  values for each station for both dates when monitoring occurred.

<sup>1</sup> As reported in the Middle Country Road Land Use Plan, Page 110.

<sup>2</sup> It is noted that a component of the Land Use Plan is the ultimate redevelopment of both industrial sites. The Roanoke Sand and Gravel site when reclaimed will be a public park featuring a large lake. The concrete facility is envisioned as an industrial office park, a use that is not expected to include outdoor operations to the extent of the current conditions.

*Station 1*

Station 1 is located on the southeast corner of the subject site approximately 30' feet north of Middle Country Road. Truck traffic and cars passing the site resulted in the highest noise levels at this location.

*Station 2*

Station 2 is located in a wooded area approximately 150' from Rocky Point Road where the nearest proposed residence is to be located. The station provides noise data from Rocky Point Road to the west and indicates the "drop off" of sound levels with distance from this roadway which is attenuated by the existing vegetation.

*Station 3*

Station 3 is located behind an existing commercial use where boats are stored approximately 250' from Rocky Point Road at the corner of the nearest proposed residence to the commercial and industrial uses on CR 21.

**TABLE 3-16  
SUMMARY OF AMBIENT NOISE DATA (DBA)**

Station	L <sub>eq</sub>		Maximum		Minimum	
	10/17/07	11/14/07	10/17/07	11/14/07	10/17/07	11/14/07
Station 1	66.6	69.7	73.8	84.0	50.6	53.2
Station 2	54.1	58.8	68.1	68.4	43.3	48.0
Station 3	48.2	59.0	57.1	69.0	43.2	51.5

The summary of daytime ambient noise monitoring data for two afternoons at the site varies; this may be explained by a variety of factors. For one, on October 17, 2007 the humidity was quite high, which can result in sound absorption and reduced levels. Of course, the level of vehicular traffic and activity at adjacent properties will vary from day to day. The presence of activity on the adjacent commercial use accounts for elevated levels at Station 3 on November 14, 2007 (where no reported activity was present at this station on October 17<sup>th</sup>). The data thus provides a snapshot to illustrate the range in ambient noise that may be expected for various levels of activity at adjacent properties and varying meteorological conditions. In any case, the maximum levels at each station are associated with trucks passing on adjacent roadways. It is important to note that although a dominant feature on Rocky Point Road, noise from the operations at the industrial facilities were not discernible from any of the three stations during the sound investigations.

Existing Air Quality

Air resources are a part of the local environmental conditions. This section describes the existing air resources including existing quality, regulatory framework and assessment procedures to determine if air related impacts are expected in connection with this project. **Appendix H-2** and **H-3** contains supporting information related to air quality standards and Long Island air quality.

*Meteorology and Climate*

The subsections below will describe the meteorological setting for central Long Island, which includes the subject site, and existing air quality based on published air quality monitoring data.

Long Island lies within the humid continental climatic region, and is characterized by four seasons with precipitation occurring throughout the year. Winter temperatures tend to be relatively severe with the average temperature during the coldest month at 32 degrees Fahrenheit or below. Summer tends to be long and hot with temperatures above 72 degrees Fahrenheit. Winters on Long Island tend to be warmer than on the surrounding mainlands due to the moderating effect of the Atlantic Ocean (because of its mass, the temperature of the water is very slow to change). Summers tend to be cooler, which is due to the moderating effect of seabreezes and the presence of the ocean.

Because air pollutants are carried and dispersed by wind, local air quality is directly affected by the local wind speed and direction. The prevailing ground level winds on Long Island are from the southwest in the summer, northwest in the winter, and close to equal distribution from these two directions during the spring and fall. **Table 3-17** provides the frequency of wind from various directions on an annual basis for the years 1979 to 1988.

**TABLE 3-17  
WIND DIRECTION**

Wind Direction	Annual Frequency (%)	Wind Direction	Annual Frequency (%)
N	5.95	S	4.59
NNE	5.16	SSW	10.36
NE	5.01	SW	10.67
ENE	4.01	WSW	6.68
E	3.15	W	6.95
ESE	2.95	WNW	10.13
SE	2.98	NW	9.61
SSE	3.45	NNW	8.35

Wind speed and gustiness are effective indicators of Long Island meteorological conditions and are monitored at Brookhaven National Laboratory (BNL) in Upton. **Table 3-18a** provides the wind speed for this period, as well as an indication of wind gustiness/stability, based upon the percent of time wind occurred within each specified range. Wind speed monitoring conducted at BNL finds that wind speed is between 5 and 16 miles per hour (mph) 63.95 percent of the time, with peak wind speeds of 1-12 mph 96.47 percent of the time and 3-9 mph 77.26 percent of the time. It is important to note the rare occurrences of wind speeds less than 1 mph (1.17%). **Table 3-18b** provides a record of wind stability for the period 1979-1988 as recorded at BNL.

Unstable wind conditions were recorded 54.22 percent of the time and wind speeds that are generally >1 mph indicating a high potential for atmospheric mixing.

**TABLES 3-18A AND 3-18B  
WIND SPEED AND GUSTINESS**

**Table 3-18a  
Wind Speed (1979-1988)**

Wind Speed (mph)	Frequency (in %)
<1	1.17
1-3	10.20
3-5	24.44
5-7	31.86
7-9	20.96
9-12	9.01
12-16	2.12
>16	0.23

**Table 3-18b  
Gustiness (1979-1988)**

Gustiness	Frequency (in %)
Very Unstable (BNL GC: A and B <sub>2</sub> )	11.16
Unstable (BNL GC: B <sub>1</sub> )	43.06
Neutral Instability (BNL GC: C)	13.04
Stable (BNL GC: D)	32.72

Source: Robert Brown, BNL Meteorologist Revision Date 2-21-91

Notes: Height of wind vane changed from 355 feet to 290 feet in May 1981.

BNL GC is the acronym for Brookhaven National Lab Gustiness Classification (A and B<sub>2</sub> represent the very unstable case; B<sub>1</sub>, the typical daytime unstable case; C, the strong wind-speed neutral stability case; and D, the nighttime stable case).

The subject site is located in a higher elevation area within the central part of Long Island corresponding to the Ronkonkoma terminal moraine. Prevailing winds coupled with atmospheric instability would be expected to cause atmospheric mixing. The subject site is not within a depression which would tend to accumulate air contaminants.

*Air Regulations*

The 1970 CAA required the Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) for six principal pollutants; carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), lead (Pb), particulate matter (PM), and sulfur dioxide (SO<sub>2</sub>).

Under the requirements of the Clean Air Act, the individual States are required to ensure that air quality levels do not exceed the NAAQS. Areas that exceed the NAAQS for any of the six criteria pollutants are designated nonattainment areas. Currently, Suffolk County (along with most of the eastern seaboard) is a nonattainment area for ozone and inhalable particulates (particulate matter <2.5 microns).

As required, New York State has a State Implementation Plan (SIP), which describes plans for attaining and maintaining compliance with the NAAQS for ozone and will need to prepare a plan by December 2007 for inhalable particulates. It should be noted that the SIP is not a static document; but is subject to review and update. In addition to the actual implementation plan, the SIP contains related correspondence between the State and EPA and other air quality documentation. The SIP essentially provides descriptions of emission control strategies, inventories of stationary and mobile sources, and predictions of future air quality based on the trends in air quality and expected results of the various improvement programs.

Suffolk County is no longer a nonattainment area for carbon monoxide. However, any development that may attract mobile source activity may be considered an indirect source of air contamination, as it may result in a net increase in carbon monoxide emissions. CO pollution is a localized problem, and tends to accumulate in areas where vehicles idle, such as at roadway intersections. It is noted that according to 6NYCRR Part 203, Indirect Source of Air Contamination, the areas south of 60<sup>th</sup> Street in New York City are the only areas in the State which may require an air permit for a new indirect source. However, the potential for air contamination from indirect sources in other areas of the State may be subject to review under general SEQRA requirements, regardless of attainment status.

*Air Quality Data and Applicable Standards*

The NYSDEC operates continuous and manual ambient air monitoring systems throughout the State to establish air quality. Air quality is compared to the NAAQS and New York State standards in the document contained in **Appendix H-2**. Air quality monitoring data is published by the DEC Division of Air Resources.

The nearest air quality monitoring stations to the project site are located in Hempstead and Holtsville and monitors the following pollutants on a continuous basis: sulfur dioxide, carbon monoxide and nitrogen dioxide are continuously monitored at the station located in Holtsville (Suffolk County) and particulate matter ( $\leq 10$  microns) are monitored in Hempstead. **Table 3-19** provides the most recent reported annual air quality monitoring data for these parameters (NYSDEC, 2007).

**TABLE 3-19  
AIR MONITORING DATA**

<b>HOLTSVILLE STATION</b>		
<b>Pollutant</b>	<b>Concentration (ug/m<sup>3</sup>)</b>	<b>Period of Record</b>
Sulfur Dioxide (SO <sub>2</sub> )		
Annual	18.2	2004-2006
24-hour average	93.6	2004-2006
3-hour average	176.8	2004-2006
Nitrogen Dioxide (NO <sub>2</sub> )		
Annual	24.5	2004-2006
Carbon Monoxide (CO)		
8-hour average	1,829	2004-2006
1-hour average	3,314	2004-2006
<b>HEMPSTEAD STATION</b>		
<b>Pollutant</b>	<b>Concentration (ug/m<sup>3</sup>)</b>	<b>Period of Record</b>
Invaluable Particulates (PM <sub>10</sub> )		
Annual	18	2002-2004
24-hour average	46	2002-2004

Notes: ug/m<sup>3</sup>: micrograms per cubic meter

Yearly averages and additional monitoring data from Suffolk and Nassau Counties are provided in **Appendix H-3** of this document. The data indicates generally excellent air quality in the area of the site where monitoring is conducted. Review of these data reveals a trend of general

improvement in air quality for the period 2004-2006 since nearly all average annual contaminant concentrations are low and within air quality standards. The single exception is ozone, which has varied from year to year. Ground-level ozone is considered a secondary pollutant, since it is formed through a photochemical reaction between nitrogen oxides and reactive hydrocarbons (VOCs) in the presence of elevated temperatures and ultraviolet light. The sources of the primary pollutants that form ozone include automobiles, trucks and buses, large combustion sources such as utilities, fuel stations, print shops, paints and cleaners, and engines (including construction and lawn equipment) (**EPA website, 1999, [www.epa.gov/airnow/consumer.html](http://www.epa.gov/airnow/consumer.html)**). Ozone level concentrations that exceed the NAAQS usually occur on hot sunny summer days with little to no wind. Implementation of more stringent emission controls and vehicle inspection requirements are strategies included in the SIP which are expected to contribute to the reduction of ozone concentrations. In conclusion, the present air quality in the vicinity of the site is expected to be excellent for the majority of the year, with the exception of a few days in summer when ozone levels are higher than normal.

With regard to particulates, according to the EPA website, "*sources of fine particles include all types of combustion activities (motor vehicles, power plants, wood burning, etc.) and certain industrial processes. Particles with diameters between 2.5 and 10 micrometers are referred to as 'coarse.'* Sources of coarse particles include crushing or grinding operations, and dust from paved or unpaved roads. Other particles may be formed in the air from the chemical change of gases. They are indirectly formed when gases from burning fuels react with sunlight and water vapor. These can result from fuel combustion in motor vehicles, at power plants, and in other industrial processes" (see <http://www.epa.gov/pmdesignations/faq.htm#1>). The EPA is currently developing a PM 2.5 guidance document to direct the States in preparation of implementation plans. The EPA rule will be finalized by early 2006 and State SIPs for PM 2.5 nonattainment areas are due in December 2007.

It is noted that although all monitoring data for inhalable particulates for the Region indicate conformance with NAAQS, Nassau and Suffolk Counties were included in the NY Metropolitan area for nonattainment area by the EPA. As inhalable particulates generally only exceed the NAAQS within the five boroughs of New York City, the NYSDEC appealed to the EPA to limit the nonattainment status to the five boroughs so the SIP might concentrate on improvements in this region, however, the EPA rejected the appeal.

#### *Local Air Quality Characteristics*

Sources of air emissions in the area are relatively few. The site abuts State Highway Route 25 to the south and County Road 21 to the west. Traffic flows well along these highways, with the signalized intersection creating an area of delays and idling vehicles. Based on the traffic impact study, only individual movements experience delays during limited time periods. As a result, local traffic related air impacts are not expected to cause degradation of air quality, especially considering atmospheric conditions.

The Roanoke Sand & Gravel operation lies to the west of the subject site on the west side of CR 21. In 1999, the NYSDEC approved a Mined Land Reclamation permit to allow the creation of a 151 acre lake on the 298 acre site. The operation will take from 18 to 24 years to complete and involves the hydraulic dredging of sand to a maximum depth of 110 feet into the groundwater

table. The proposed lake plan was thoroughly reviewed by the NYSDEC and the permit has extensive conditions relating to lake design, habitat protection, drainage and operational requirements. A Declaration of Covenants was recorded by the County Clerk on 11-19-2001 referencing the NYSDEC mining permit (Permit #1-4722-00661/00005) (**Appendix H-4**). The operation is ongoing at this time. With respect to potential air quality impacts, the operation uses “wet” sand removal methods using dredging equipment, and as a result, no fugitive dust or particulate air emissions are generated. The lake is set back at least 500 feet within the property, west of CR 21. There is a paved access and “haul” road to the facility, which further limits any potential generation of fugitive dust. The Roanoke Sand & Gravel mine operated above grade mining for many years prior to commencement of the lake construction, and during those times, dust may have been experienced in the community. The current operation has been designed to eliminate the potential to generate dust, and as a result, is not a factor in air quality conditions in the area of the subject site.

The area of the subject site has been inventoried and there are no sensitive receptors within 1,000 feet of the subject site. Land use to the west includes commercial, industrial and residential use. To the north is commercial, utility and residential use. To the east are single family and multiple family residences and to the south is the Route 25 commercial corridor, with a shopping center south of Route 25 opposite the site. There are no known or document sensitive receptors (such as hospital use, schools, retirement communities or children centers) in proximity to the subject site.

**Section 3.5.2** will provide a qualitative assessment of air quality based on local area meteorological and air quality characteristics and information related to the proposed project and potential sources in the area of the project site.

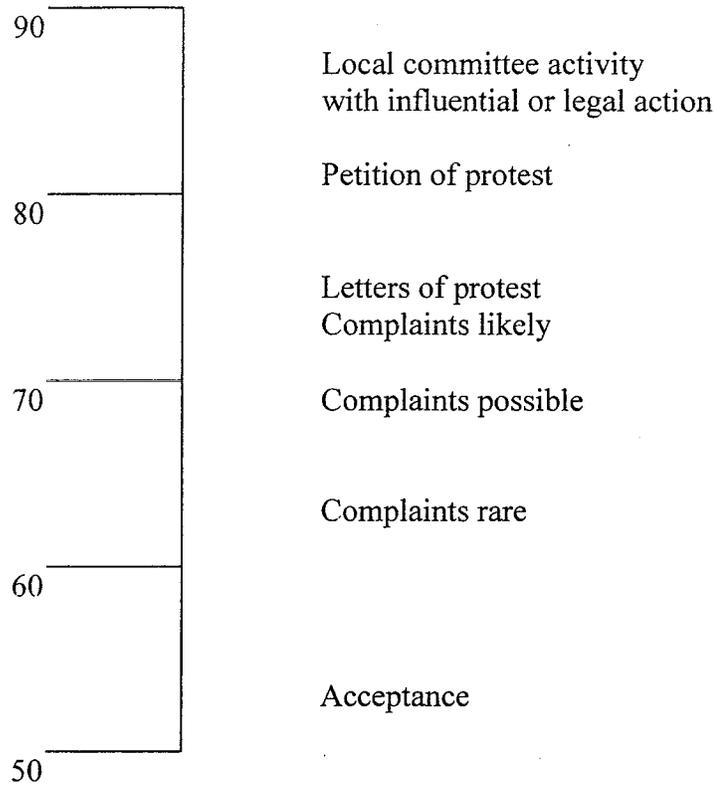
### 3.5.2 Anticipated Impacts

#### Noise Impacts

##### *General Discussion of Noise Impacts*

Noise may adversely affect human beings in a number of ways. The criteria by which to gauge the impact of noise includes the amount of annoyance based on noise level, the potential for interference with speech communication, and the probability of disturbed sleep due to noise (USEPA, 1981). Actions related to noise impacts by residential communities are triggered by much lower levels than levels that may cause hearing damage. The trends in public reaction to peak noise near residences are illustrated in **Table 3-20**.

**TABLE 3-20**  
**TREND OF PUBLIC REACTION TO PEAK NOISE NEAR RESIDENCES**



Source: Rau, and Wooten, 1980

*Noise Impacts Related to the Project and Area*

Under existing conditions, the site is subject to detectable noise levels generated by traffic on the surrounding roadways, particularly the southern portion of the property along Middle Country Road. In addition, adjacent commercial activities are audible at times in the northern area of the site. Noise from industrial activities was not detected or audible from any of the stations, and most specifically Station 3 located nearest to these land uses. It is expected that periodic noise from operations at the site will be audible, depending upon the level of activity, wind direction and other meteorological conditions.

As noted, noise monitoring within the site revealed that the traffic along Middle Country and Rocky Point Roads generates the major source of ambient noise for the periods sampled. The average continuous equivalent sound level ( $L_{eq}$ ) for the station with the highest ambient noise environment (Station 1, adjacent to CR 25) was between 66.6 dBA and 69.7 dBA. These levels fall in the context of “complaints possible” on the trends in public reaction to noise near residences illustration above.

The highest noise levels were obtained from passing trucks; the intermittent level of noise generated by passing trucks does not present a health risk with regards to hearing loss however, noise levels in this range are considered to be an annoyance, since this level interferes with

human activities (causing possible speech and sleep interference). According to the data presented in **Table 3-20**, residents would be likely to complain if these levels of noise were constant; however, due to the nature of the source, it is expected that complaints from homeowners in the main area of residential development would not occur to any significant degree. Regardless, the fact remains that traffic on Middle Country Road and Rocky Point Road is an unmistakable feature of the existing landscape, as are the commercial and industrial developments on Rocky Point Road. These features will be evident to any prospective occupant.

The proposed project would situate a 13,000 SF commercial use in this location, and residential “live-work” units are proposed to be located on the second story. It is important to note that the residential live-work units are not typical suburban residential homes; this type of unit needs to be located in a commercial area due to the nature of the use. The noise impact is thus inherent in the design of a mixed use development where live-work units are located adjacent to the transportation corridor. Ideally, the residential portion of live-work units will provide homes for owners or personnel of the associated commercial portion of the building, and such individuals will expect the level of activity and noise levels associated with the main roadway. However, in all cases, individuals interested in these units will factor in the proximity of the roadway in their decision. The live-work units do not include an outside patio where activity might be encouraged and thus, the impact analysis is based upon indoor levels. Any structure built to current building design standards will provide at least 20 dBA noise transmission loss through walls with closed windows. Insulation and use of double glazed windows and solid firewalls between units will provide additional transmission loss. Since the units will have central heating, ventilation and air conditioning units (HVAC) for climate control, windows will remain opened or closed at the occupant’s discretion, further minimizing the noise impact associated with the adjacent roadways. For the live-work units the transmission loss associated with current building standards will result in an indoor level ranging between 46.6 and 49.7 dBA during the day. Levels at night are expected to be less, when traffic volumes are significantly reduced. As a result, the live-work units will provide an acceptable living environment. Other portions of the residential development are set back more distant from Middle Country and Rocky Point Roads and will experience sound levels suitable for residential use. Given the type of development, outdoor activity will be limited, and building materials associated all structures will provide attenuation for noise transmission loss to ensure that interior sound levels are suitable for residential use. As with the livework units, only limited outdoor activities are expected to occur in proximity to the units. In addition, the majority of the units are within the interior and east side of the site and intervening buildings and vegetation as well as setbacks will reduce noise to acceptable levels. Based upon the analysis contained herein, it is expected that the ambient noise environment is suitable for the proposed development.

#### Air Quality Impacts

A number of air quality characteristics documented in **Section 3.5.1** would tend to minimize the potential for air quality impacts related to the subject site and its proposed use. The site is on the Ronkonkoma terminal moraine, and is subject to prevailing winds and atmospheric instability which would promote atmospheric mixing. The site is not within a depression which would cause air quality contaminants to accumulate, nor are there any sensitive receptors within 1,000 feet of the site. As a result, air quality impacts are not expected.

The site will generate traffic which is addressed in detail in the Traffic Impact Study included as an Appendix to this report. Mitigation proposed as part of the Traffic Impact Study will ensure that significant additional delays are not experienced at local intersections. Furthermore, the proposed project will achieve a road connection through the site from CR 21 to NYS Route 25. This connection is sought by approving agencies to reduce congestion at the CR 21/Route 25 intersection, and therefore is a benefit in terms of traffic flow and resultant air quality impacts. Given the environmental conditions related to air quality, the mitigation of traffic impacts and the provision of improved traffic circulation, no air quality impacts related to the proposed project are expected.

The proposed project would be expected to cause short-term air quality impacts due to fugitive dust during site grading operations, and possible equipment emissions during site work activities. Proposed grading activities are set back within the site as noted on the conceptual site plan. Any dust generation will be short term and temporary, only occurring during excessively dry and/or windy conditions while grading activities are occurring. Use of a water truck, interior development areas and lack of sensitive receptors as well as setbacks to any surrounding residential areas are expected to mitigate these potential impacts. Site construction will only occur as permitted by the Town and would be confined to normal day time, weekday hours. As a result, air quality impacts during construction are expected to be minimal, and if such impacts occur, they would be short term, temporary and would occur during day time, weekday hours, when receptors would be less affected. As a result, no significant air quality impacts are expected as a result of the proposed project.

Air quality impacts to the proposed new residents of the Sandy Hills community have also been considered. There are existing roads and commercial activities which exist in the area, and some level of dust and noise may occur due to the existing land use pattern. As noted in **Section 3.5.1**, a major potential source is the Roanoke Sand & Gravel operation west of the site across CR 21. Examination of the operation and permits for this facility find that it is set back at least 500 feet from CR 21, and involves a "wet" dredging operation for sand removal. The access/haul road is paved, and adequate mechanisms are in place to ensure that fugitive dust will not cause an undue impact on the local community. As a result, both air quality impacts from the site and to the site have been considered and are not expected to be significant or adverse.

### 3.5.3 Proposed Mitigation

As no long-term impacts to air quality are anticipated from the proposed project or to the proposed project, no mitigation is necessary or proposed other than the following typical construction practice to ameliorate short term, temporary impacts associated with construction.

- As the proposed Sandy Hills development is not anticipated to result in any significant changes in the existing noise environment of the site or the vicinity, no mitigation is necessary or provided.
- Potential construction related fugitive dust emissions will be mitigated by use of a water truck kept on-site to wet excessively dry soils.

### 3.6 Cultural Resources

#### 3.6.1 Existing Conditions

Based on the OPRHP map of Federal, National, and State listed historical sites and recognized archaeologically sensitive areas as seen in **Figure 3-12**, it was determined that the Sandy Hills site could potentially yield important prehistoric or historic artifacts. 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 I**. A map identifying the location of the archaeological test pit locations is included in the Phase I archaeological report in **Appendix I**.

A Phase IA archeological documentary study was conducted on the property to determine the potential recovery for prehistoric and historic archeological remains. The Phase IA research was conducted through 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. **Table 3-21** has a complete listing of identified sites and their characteristics. It was determined that the project area has an above average chance for the recovery of prehistoric sites, particularly for materials originating from the Woodland Period.

The study site is situated on well drained soils with level and steep sloped terrain which is located approximately 300 feet from a small pond and 1,000 feet from a freshwater swamp associated with Artist's Lake. The subject site is also approximately 2,200 feet north of the Carmans River. Artifact recovery would be expected to be limited to the level areas of the subject property with areas with steep slopes expected to procure little to no archaeological artifacts.

**TABLE 3-21  
PREHISTORIC SITE POTENTIAL**

NYSM Sites	NYSHPO Sites	Site Description
	A10302.0530	Prehistoric Site: Quartz flakes and clam shell fragments found.
	A10302.0531	Prehistoric Site: Clam shell fragments and FCR.
	A10302.001728	Twin Pond Site: Multicomponent, Late Archaic-Woodland periods.
10136	A10302.0001625	Getty Parcel Prehistoric Site: Late Woodland, flakes, biface, fcr.
8075		SUNY SB: Late Archaic with buried evidence, points, debitage and fcr.
8624		Artist's Lake Site. No information.
8625		Middle Island Site: debitage (chert).
	96PR1007	Ridgeco Site – Prehistoric Component: primarily a lithic procurement site for stone tool production, secondarily a gathering & processing site. Located along Middle Country Road, no water source, possible foot trail.

The Phase IA study also identified 6 historic sites within a 2 mile radius of the subject site, which are summarized in **Table 3-22**. It was determined that the subject site had a higher than average potential for the recovery of eighteenth to early twentieth century historical sites.

**TABLE 3-22  
HISTORIC SITE POTENTIAL**

NYSM Sites	NYSHPO Sites	Site Description
	A103-02-0528	Davis Thomson House Site, 19 <sup>th</sup> Century.
	A103-02-1559	Sweezy-Walters Site, Late 18 <sup>th</sup> Century.
	A10302.000529	20 <sup>th</sup> century refuse dump with bottles and ceramics.
	A10302.000162 5/10136	Sweezy Site: Contact period Native American and Euro-American site with quartz gunflints, and ca. 1740 house construction.
	A10302.002176	Randell Homestead Site: Residence, farm, mid 19 <sup>th</sup> century.
	96PR1007	Ridgeco Site – Historic component: 19 <sup>th</sup> to 20 <sup>th</sup> century stone structures destroyed by plowing and early 20 <sup>th</sup> century cement structures associated with Randell Farm.

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 which involved a site walkover and subsurface soil testing of 569 shovel test pits. One positively identified archaeological shovel test pit (STP 14) was identified which procured one quartz flake. Radial shovel testing was performed in a star pattern around the initial shovel test pit to search for additional artifacts, but no further evidence was recovered. Also, no historical artifacts were recovered at the site. As a result the final conclusion of the study was that no further investigation of the property related to its archeological sensitivity should be required or is recommended.

### 3.6.2 Anticipated Impacts

Based on the results and conclusions of the Phase I archeological investigation conducted on the subject property which concluded that there is isolated evidence of prehistoric sites and no evidence of 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.

### 3.6.3 Proposed Mitigation

- Since only an isolated prehistoric artifact was recovered and no other archeological sites, remains or artifacts were found to be present on the subject property, development of the proposed project is not expected to impact archeological resources. As a result no mitigation measures related to prehistoric or historic sensitivity are considered necessary.

FIGURE 3-1

LAND USE MAP



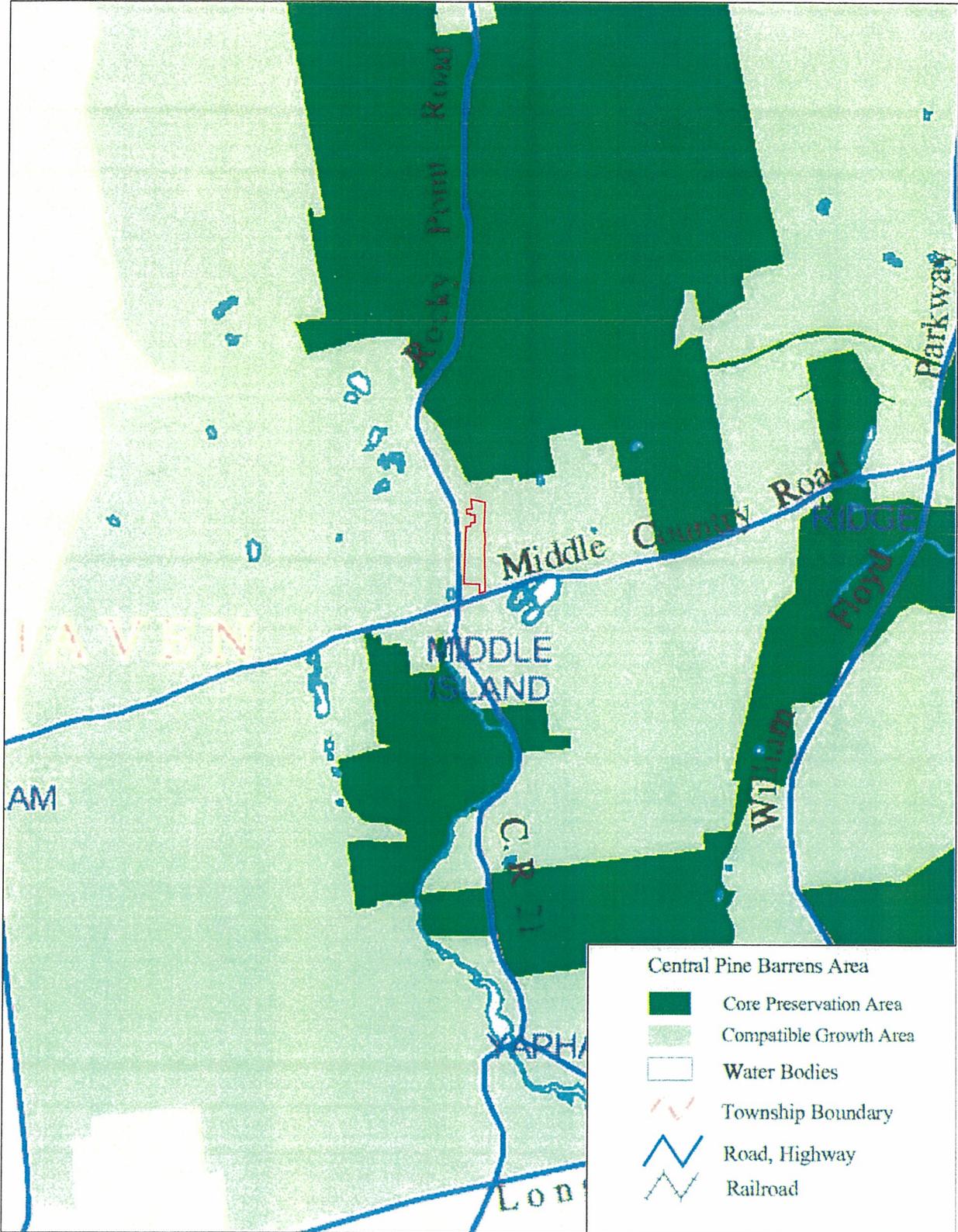
Source: NYS GIS Orthophotoimagery Program, Spring 2004  
Scale: 1" = 700'





FIGURE 3-3

PINE BARRENS CGA/CPA



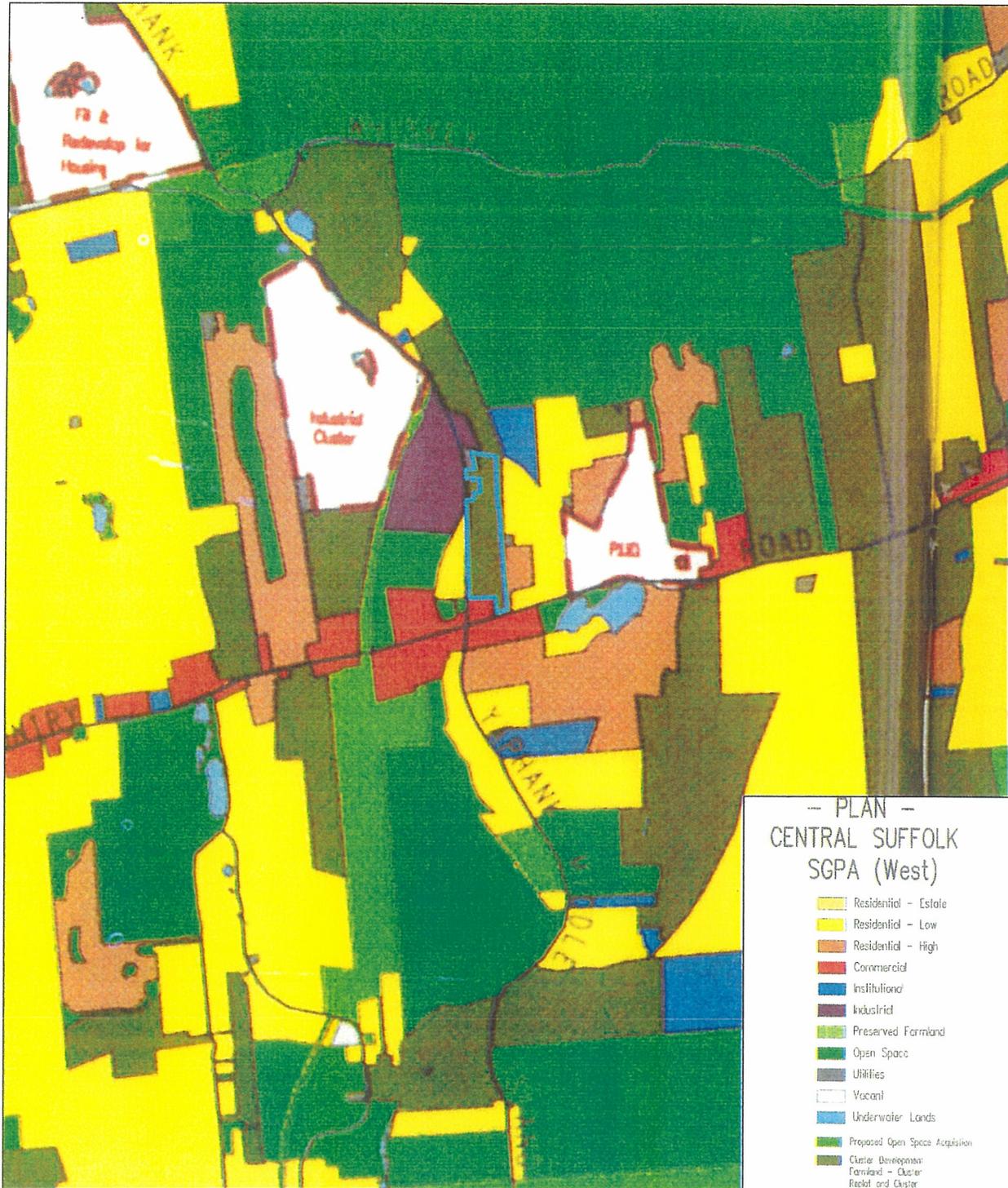
Source: Central Pine Barrens Joint Planning and Policy Commission Map  
Scale: 1" = 5,000'

NORTH



FIGURE 3-4

**CENTRAL SUFFOLK SGPA MAP**



Source: Long Island Regional Planning Board  
Scale: 1" = 3,000'



FIGURE 3-5

**MIDDLE COUNTRY ROAD LAND USE PLAN**

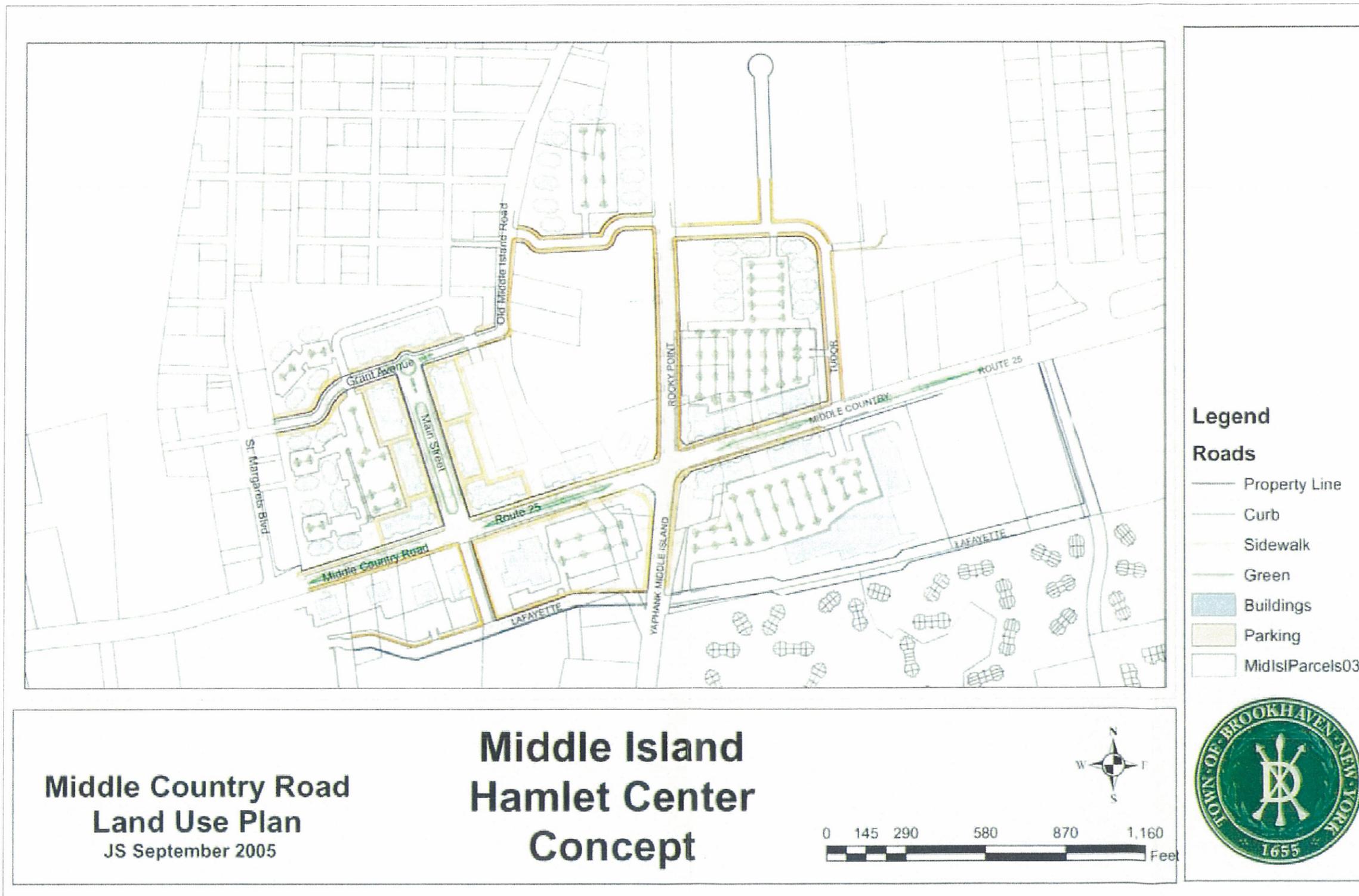


FIGURE 3-6

PHOTOSIMULATION OF PROPOSED PROJECT

EXISTING VIEW



PROPOSED VIEW

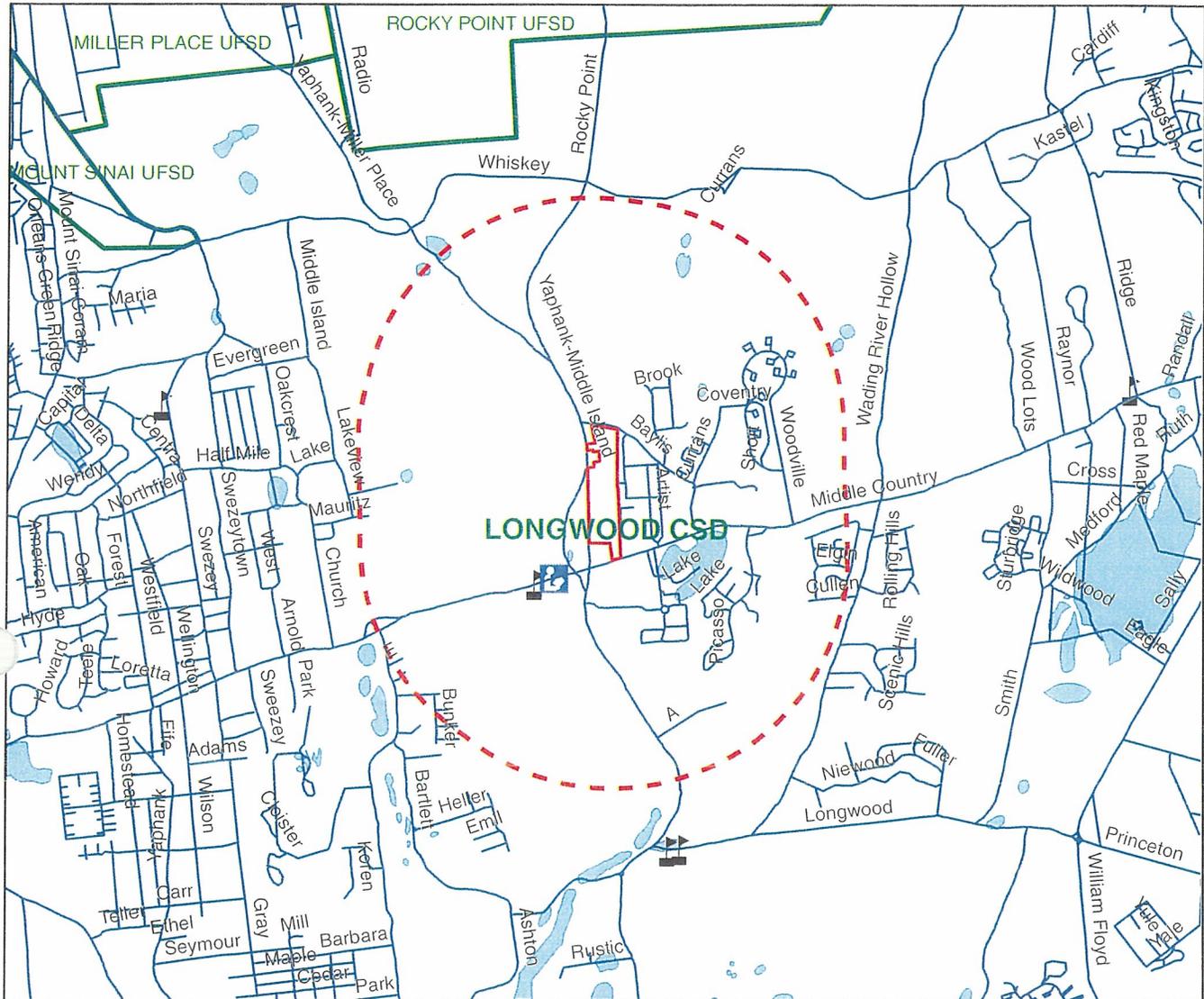


Source: NPV Photos, 11/14/2007; John DeFazio, Architect  
Scale: Not to Scale

NORTH



**FIGURE 3-7**  
**EDUCATIONAL RESOURCES**

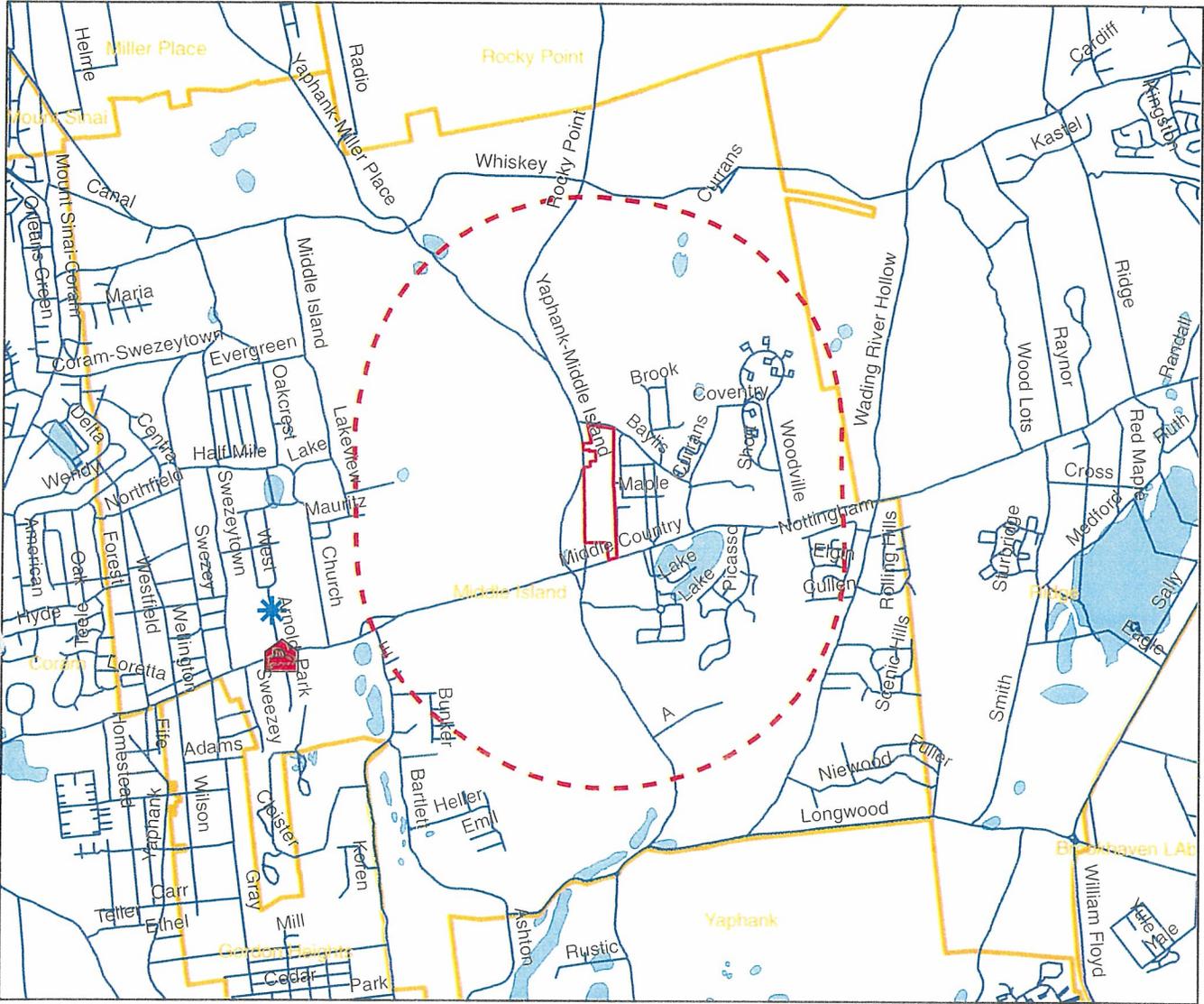


**Legend**

-  1 Mile Radius
-  Site Boundary
-  Railroad Stations
-  Roads
-  Railroad Tracks
-  Suffolk County School Districts
-  Public Libraries
-  Schools



**FIGURE 3-8**  
**HEALTH AND SAFETY RESOURCES**



**Legend**

- Site Boundary
- 1 Mile Radius

- Roads
- Railroad Stations
- Railroad Tracks

- \* Emergency Medical Services
- 🏠 Fire Departments
- Fire Districts

- P Town Police Stations
- Suffolk County Police Precincts
- Village Police



FIGURE 3-9

SCWA WATERMAIN MAP



Source: SCWA Watermain Map, 2007  
Scale: 1" = 1,000'



FIGURE 3-10

**RECREATIONAL RESOURCES**



**Legend**

- - - 1 Mile Radius
- Site Boundary
- Railroad Stations
- Roads
- + + + Railroad Tracks

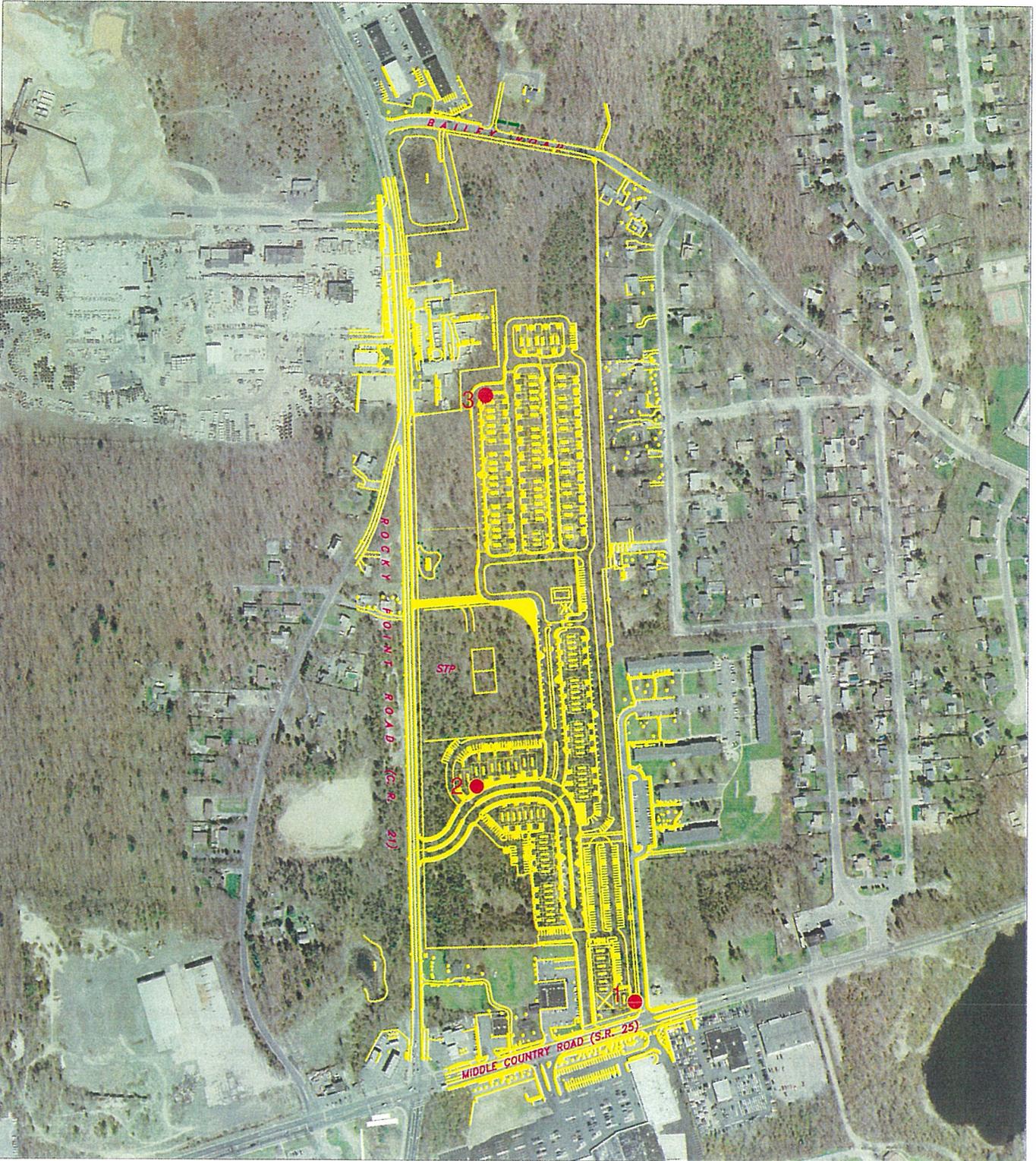
**Recreation**

- County Park
- Neighborhood Park/Playground
- State Park
- Town Facilities
- Town Park
- Conservation Areas



FIGURE 3-11

NOISE STATIONS



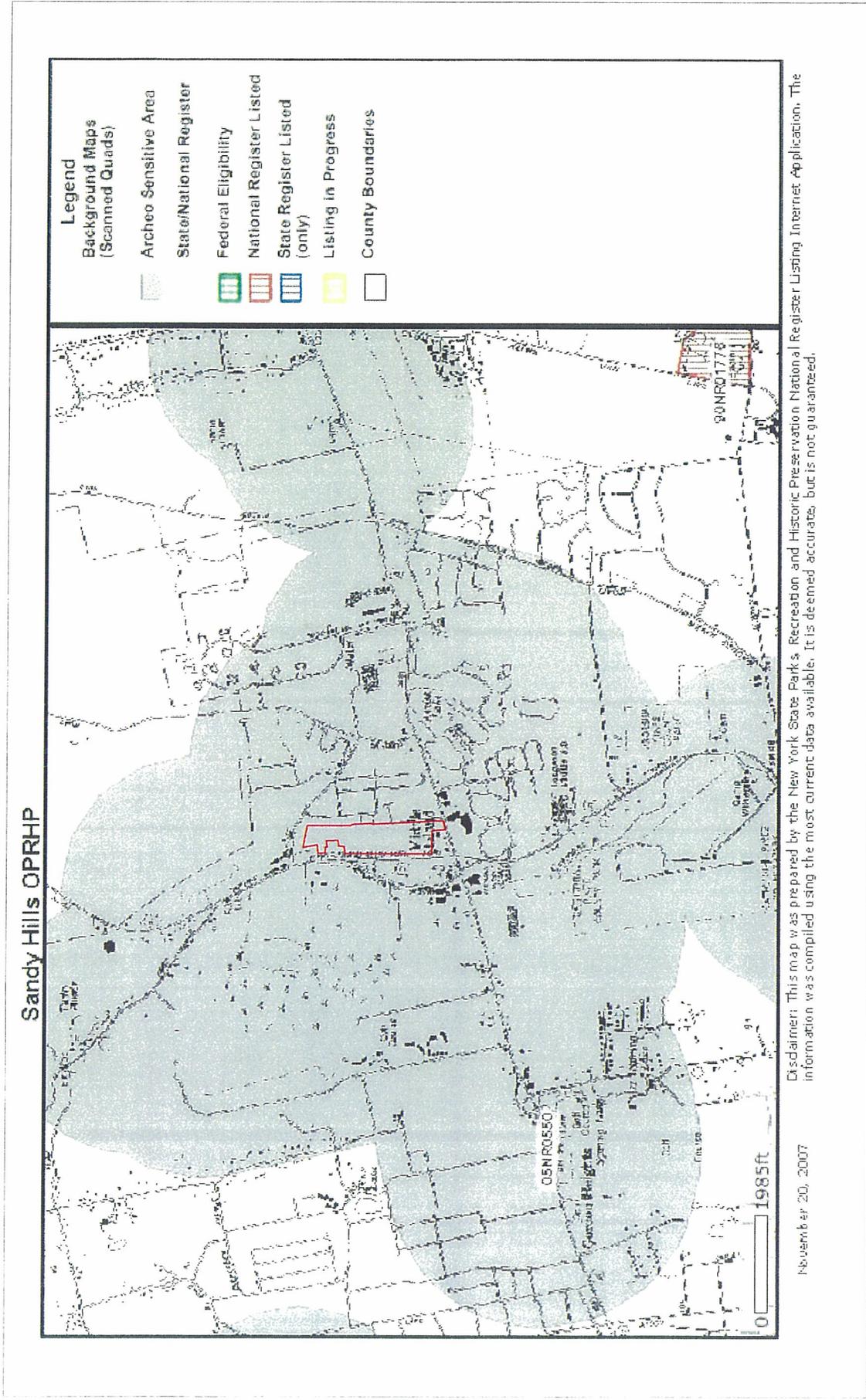
Source: NYS GIS Orthophotoimagery Program, Spring 2004  
Scale: 1" = 500'

NORTH



**FIGURE 3-12**

**OPRHP MAP**



Source: NYS Historic Preservation Office  
Scale: 1" = 3,000'



**SECTION 4.0**  
**MISCELLANEOUS**

## 4.0 MISCELLANEOUS

### 4.1 Cumulative Impacts

This subsection addresses the anticipated cumulative impacts of the proposed project, if any. Cumulative impacts are the potential impacts of a proposed action taken in conjunction with those of other active or anticipated nearby development projects. An analysis of cumulative impacts is generally required within a DEIS when it is expected that multiple projects within the same area may result in a greater cumulative impact than is suggested by an impact analysis of the individual actions. Three developments were identified in the surrounding area (see **Figure 4-1**).

- Middle Island Townhomes – 92 multi-family units on 13.51 acres. This project is located at the northwestern corner of NYS Route 25 at Rocky Point Road (CR 21). The project site was approved for a change of zone to MF by the Town Board on its own motion, based on the Middle Country Road Land Use Plan. The project is under review of a site plan and as a result, no construction has commenced at the time this DSEIS was prepared.
- Middle Island Village (4B's) – 240 multi-family units, 131,000 SF of commercial area and 17,000 SF community center on 19.03 acres. This project is located approximately 1,650 feet west of Rocky Point Road, of which the southern portion of the property borders Middle Country Road. The project is currently still under review for a change of zone. As a result, the actual development of this site is not expected to occur for a number of years as a change of zone must precede a full site plan review. It is noted that the use of this site as noted above would be consistent with the Town's vision as expressed in the MCRLUP.
- Middle Island Shopping Plaza – expansion of existing 69,864 SF shopping center consisting of 4,088 SF of office space and 16,550 SF of retail space on a total of 10.78 acres. This project is located on the southeast corner of Middle Country Road and Rocky Point Road. This represents a marginal increase to an existing center that is recognized in the MCRLUP. The project is currently still under site plan review and no construction has commenced at the time this DSEIS was prepared.

This section analyzes the potential impacts of those projects in conjunction with the proposed project; when considered together, these cumulative impacts may potentially result in impacts, which are greater than the individual impacts from each project. These actions must be considered in the context of regional plans and studies which provide parameters for land use and determine the pattern of development, and many of which establish thresholds and limitations to ensure appropriate and environmentally sensitive land use. Impacts which may occur and may be increased on a cumulative basis are noted as follows:

- Construction impacts causing temporary increases in the potential for fugitive dust and construction traffic and noise during the construction period. This will occur regardless of land use and is not expected to occur all at one time as projects will be subject to varying schedules. Individual sites should be subject to construction hour limitations and construction management, similar to that proposed for Sandy Hills. These impacts are temporary and unavoidable; however, proper construction management will limit impacts to the maximum extent.
- While these applications would combine to increase the demand upon local community services (e.g., schools, fire and police protection, utilities, and solid waste handling), these services will receive an increase in funds from the tax revenues generated from the developments, which

would enable these service providers to continue to have sufficient capability to provide services. The Sandy Hills project can be designed for reduction of school aged children and a balance of tax revenue to offset the cost of providing services (see discussion for Alternative 7 in Section 5).

- As each of these four (4) projects (including the subject site) would change the use and appearance of their sites, there will be a cumulative impact on the visual resources and character of the community. The Town has completed the Middle Country Road Land Use Plan which seeks to revitalize the area of Middle Island in which these projects are located. The change in visual resources and community character will be consistent with this plan.
- Discharge of sanitary waste to groundwater. No existing public STP's are available to these sites. If the revitalization of Middle Island is to occur in conformance with the MCRLUP, new opportunities for sanitary waste treatment are needed. The proposed project (Sandy Hills) has been designed to provide a new STP that will be capable of receiving sanitary waste from other projects in the area. The location of the STP has been approved by SCDHS and once the change of zone is approved, full engineering and approvals for the STP will be obtained. It is expected that the Middle Island Townhomes project will utilize the proposed STP on the Sandy Hills property. Due to the unknown status of the Middle Island Village project and the large expected sanitary flow (approximately 75,000 gpd) currently predicted, this site could be accommodated in a 100% expansion of the Sandy Hills STP. The expansion of the Middle Island Shopping Plaza is expected to be able to be achieved using conventional on-site sanitary systems in conformance with Article 6 density requirements.

The Town's MCRLUP is an important consideration with respect to potential cumulative impacts. The MCRLUP seeks to situate increased density in hamlet areas and reduce density in transition areas outside of hamlets. This land use goal is also reflected in the Towns MF/PRC zoning districts which define Primary, Secondary and Tertiary zones for relatively lower incremental land use density. The subject site is located in a primary zone, as are the Middle Island Townhome and Middle Island Village sites. As a result, more intense land use appropriate in these areas to advance the MCRLUP of providing revitalization of the area near CR 21 and Middle Country Road, while reducing density in transition areas along Middle Country Road and in the areas surrounding the hamlet. The Town has acted on the Middle Island Townhome plan by changing the zoning to MF on the Town Boards own motion. The 4B's project is still under consideration for a zone change, but it is noted that this site was used as the Kogel Lumber site and has been barren and abandoned for many years. The site is across from the Middle Island Library and in a primary zone, and therefore is suitable for consideration of increased density. The Middle Island Shopping Plaza is an existing large center which is undergoing a small expansion and upgrade. The revitalization of Middle Island depends on the success of this center and as a result, creation of new housing, retail, office, recreation, transportation linkages, as well as upgrading of existing developments and facilities in the area is good land use which is consistent with the MCRLUP. The combination of these four (4) projects is expected and planned for through the MCRLUP and as a result, it is expected that cumulative impacts are minimized, or addressed through Town planning. The Town's GEIS for the MCRLUP did address impacts, and it is expected that each project will undergo site and use specific SEQRA review similar to the preparation of this DSEIS for the proposed Sandy Hills project, particularly if there is a change in the magnitude of the project or site/area conditions that were not adequately addressed in the GEIS, or if potential impacts are identified. An understanding of the parameters established in the GEIS is important with respect to cumulative impact analysis for the purpose of this document, and is provided below.

Cumulative impacts addressed in the GEIS for the MCRLUP assessed higher density for both the subject site and the Middle Island Townhomes project, a higher density for the Middle Island Shopping Plaza, and a lower density for the 4B's project. Specifically, 144 units were proposed on both the Sandy Hills and Middle Island Townhomes parcels, while only 135 and 92 are proposed, respectively, indicating that the Town GEIS anticipated 52 units more than proposed. The MCRLUP identified a total of 192 units for the 4B's property, and 240 are proposed, indicating the Town GEIS anticipated 48 units less than proposed. As a result, the MCRLUP accounted for 4 more units than what is currently proposed by the combination of these projects.

Due to the general decrease in density of the proposed projects from the analysis in the MCRLUP, a lesser impact is expected than what was anticipated in that document. In addition to the lesser degree of impacts expected, traffic impacts are expected to be mitigated through the proposed boulevard connection of the Middle Island Townhomes and Sandy Hills projects. This connection will alleviate traffic congestion elsewhere along Middle Country Road by allowing for an additional access to the residences of the proposed projects. Also, because of the overall decrease in density of the proposed projects to that of the projects analyzed in the MCRLUP GEIS, a decrease in the need for community services is expected, as well as a decrease in solid waste generated, wastewater generated, and school children generated. As stated in the DSGEIS for the MCRLUP, "A review of potential impacts indicates a generally positive environmental impact from the proposed rezonings." When the decrease in overall density is considered, this statement is still considered to be true and as such, no significant negative environmental impacts are expected from the four proposed projects.

The cumulative aspects of actions must be considered in light of the Pine Barrens Plan and the generic, regional analysis that formed the basis for the plan. Zone changes must have merit and be approved by the Town Board. Community benefits, tax revenues, and the potential reduction of school age children, reduced vehicle trips, and land use compatibility, etc. may all be valid reasons to consider a change of zone. Such zone changes could potentially decrease impacts through reduction of home sizes, bedroom counts and family sizes, and may have substantial merit from a site specific and regional planning standpoint. Improved infrastructure such as providing an STP which facilitates other land use initiatives may also be a benefit, such as with the Sandy Hills project. This is why the Town Board has the legislative authority to consider and approve such zone changes if they are in keeping with the Town's comprehensive plan and have merit. Typically, extensive environmental review accompanies such zone changes, and forms the basis for Town decision-making.

The proposed Sandy Hills project, which is the subject of this DEIS provides an example of how site specific environmental review shapes a project through the review process. Analysis of the proposed project finds that the proposed multiple family and single family housing would generate school children to an extent where tax revenue does not cover the cost to educate these children. As a result, an alternative (see Alternative 7, Section 5) has been prepared to consider a mix of senior housing and smaller non-age restricted units in order to ensure that the project will not result in a deficit to the school district. Traffic associated with the Sandy Hills project is addressed through full Traffic Impact Study that considers the four (4) identified projects, thus ensuring that potential traffic impacts are addressed through mitigation and improvements to transportation systems. The Sandy Hills project and the Middle Island Townhomes project both

include road system linkages that will assist in the pattern of vehicular circulation in the area. The Middle Island Village project is not currently involved in a site specific EIS review process; however, this project will be reviewed in a similar manner, and can build on the analysis provided herein with respect to regional and cumulative impacts. The zoning for the Middle Island Townhomes project has already been approved on the Town's own motion due to its consistency with the MCRLUP and GEIS. Site plan review and curb cut permits from SCDPW and the Town will provide forums for further consideration of traffic and appropriate mitigation. The Middle Island Shopping Plaza already exists and improvements to this center will be reviewed under the site plan review process. As a result, there is a framework for consideration of actions established under existing land use plans (MCRLUP and the Pine Barrens Plan), and site specific review provides a means of further refining projects to ensure that environmental impacts will not occur. The cumulative impact analysis included herein, provides further information to evaluate the Sandy Hills project in consideration of other planned projects in the area. Further evaluation of these projects in relation to the Pine Barrens Plan is provided below.

Consideration is given to a broad geographic area designated as the Central Pine Barrens. The Pine Barrens Plan is applicable to the proposed project and would apply to other projects proposed within the Central Pine Barrens. The Pine Barrens Plan creates an additional safeguard through implementation of the Town Central Pine Barrens zoning districts, and/or CPBJPPC review of projects based on size and location and potential regional Pine Barrens implications. All projects in the Central Pine Barrens must conform to either local Pine Barrens zoning regulations, or be reviewed by the CPBJPPC.

The Pine Barrens Plan contemplates a credit transfer program to ensure preservation of the Core Preservation Area (CPA). Credit redemption can occur in many ways such as increases in density, support for zone changes, transfer of sanitary flow, transfer of clearing/fertilized areas to increase same on a less sensitive site, and possibly as special public benefit in connection with Planned Development District applications. No one method of transfer and credit redemption will provide the transfer opportunities needed to ensure preservation of the CPA. This will evolve over time as market factors, land use patterns and community needs unfold. At present, there is a market for Pine Barrens credits as well as a high value, and credit transfers do occur to advance the preservation program.

The proposed project seeks conformance to the Pine Barrens Plan to the maximum extent practicable, and in fact will include the redemption of Pine Barrens Credits if necessary to offset some aspect of the project. The Middle Island Townhomes site was subject to partial prior clearing; this is not a DRS, and will be reviewed by the Town for conformance to the Pine Barrens Plan. It is believed that the current development is designed to conform to the Town's Central Pine Barrens District. The 4B's project is also proposed on a more extensively cleared site that was associated with the Kogel lumber use. This project will undergo more thorough review as the zone change petition is further evaluated. The Middle Island Shopping Plaza is an existing commercial center and no impacts with respect to the Pine Barrens Plan are expected. As a result, cumulative impacts related to the Pine Barrens Plan do not appear to be of concern. Overall, cumulative impacts are expected to be beneficial given the intended land use pattern established by the Town in the MCRLUP that the four (4) identified projects are advancing.

## 4.2 Adverse Impacts That Cannot Be Avoided

The site has been characterized, and the potential impacts to the existing site have been assessed. Some impacts may still exist for which no mitigation is available. The impacts themselves have been quantitatively and qualitatively discussed in previous sections. The impacts of the proposed project will be minimized where possible, but this section acknowledges those impacts which may still occur.

- Potential fugitive dust and construction noise resulting from construction of the project.
- Grading and fill operations on the site will permanently alter the natural topography.
- Increase in vehicle trips generated on the site and on area roadways.
- Increase in the number of school-aged children generated on the site.

## 4.3 Irreversible and Irretrievable Commitment of Resources

This section is intended to identify those natural and human resources listed in the Environmental Setting section which will be consumed, converted or made unavailable for future use as a result of the proposed project. The development of the residential and commercial areas will result in irreversible and irretrievable commitment of resources. The importance of this commitment of resources is not anticipated to be significant, due to the fact that these losses do not involve any resources that are in short supply, semi-precious or precious to the community or region, or are otherwise substantial.

It is difficult to quantify the exact commitment of resources; however, once the project is complete, the following losses of irreversible and irretrievable resources are expected:

- Building materials used for construction of Sandy Hills, including but not limited to: wood, asphalt, concrete, fiberglass, steel, aluminum, brick, etc.
- Energy and related resources used in the construction, operation and maintenance of Sandy Hills, including fossil fuels, electricity and water.
- Visual character of the site, to be changed by Sandy Hills.

## 4.4 Growth-Inducing Aspects

Growth-inducing aspects include those direct and indirect effects which promote development in an area. Direct effects are those aspects which increase growth in and of themselves, and may include:

- an influx of new residents/consumers into an area (for a residential project),
- creation/revitalization of a retail center or other type of employment center (for a commercial or industrial project) in an area where such development is not present, or
- development of a facility of a type not previously represented in the area.

The number of new residents is not anticipated to represent increases sufficient to adversely impact public services, including the Longwood UFSD.

Indirect effects are those aspects of a project which enable growth on other sites, or increase the potential for other development in an area. Indirect effects may include:

- installation of new or expanded infrastructure improvements,
- increased sales receipts from material suppliers to the project, or
- increased number of businesses attracted to the area because of the increased number of potential customers.

Examples of infrastructure improvements include: extension of public sewer lines, construction of an STP with significant excess capacity, extension of public water distribution lines or installation of new wellfields, or extension of public transit services to an area previously unserved. Sandy Hills will provide an on-site STP for the exclusive use of the proposed project, water supply lines already exist in the vicinity, and bus services already exist within the area. In addition, there are already a significant number of businesses located within the region; therefore, the potential for other businesses to locate here already exists, and Sandy Hills will only incrementally increase this land use trend. As a result, indirect impacts are not anticipated, as these services are already present and available to the public, or are provided for the exclusive use of Sandy Hills.

In general, significant growth-inducing aspects of the proposed project are not anticipated. The roadways which will serve the area surrounding the site are already in place, and the interior roadway network for the site will be provided by the project sponsor. The amenities provided for residents within the senior community proposed will result in fewer vehicle trips, reducing impacts on area roads and reduced demands on community services. The proposed project is complementary to the existing residential and commercial pattern of development in the area and this portion of the Middle Country Road corridor. The projects residential component also conforms to the Town's master plan, which encourage diversifying the housing options available as well as and providing additional senior housing within the Town.

#### **4.5 Effects on the Use and Conservation of Energy**

An increase in the consumption of energy resources would typically be expected from the intensification of land use on a site. Use of new, energy-efficient building materials (e.g., insulations, windows, weather stripping, door seals, etc.) and mechanical systems, (e.g., air conditioners, heating systems, HVAC systems, water heaters, heat pumps, etc.) is anticipated, which would minimize the amount of energy resources required. Incorporation of such energy-conserving measures is not only required by New York State, but is a sensible building practice, particularly in light of the increasing cost of energy resources. It is expected that existing public utilities at the site will be more than adequate to meet the expected demand.

There will be an increase in energy use during the construction phase of the proposed project. These impacts are expected to be of short duration, and the long-term energy demand is expected to remain stable or decline. The proposed project will utilize energy efficient design standards to minimize energy consumption at the site. The buildings will be constructed in conformance with New York State and Town building codes, which require adequate insulation as well as other design standards that would minimize energy use. Water-saving plumbing fixtures can be specified for the proposed buildings in accordance with current building requirements and practice of the trade. Installation of low-flow toilets, showers, sinks and equipment would reduce unnecessary water loss, which would translate into conservation of the energy resources required to heat this water.

In summary, it is not anticipated that the project will result in significant adverse impacts on energy resources.



**SECTION 5.0**  
**ALTERNATIVES**

## 5.0 ALTERNATIVES

SEQRA requires the investigation of reasonable alternatives to a proposed project in order to determine the merits of the project as compared to other possible uses on the subject site, in consideration of the goals and capabilities of the applicant as well as realistic circumstances of the situation. The discussion and analysis of each alternative should be conducted at a level of detail sufficient to allow for the comparison of various impact categories by the decision-making agencies. The following lists the alternatives analyzed in this document:

**Alternative 1: No Action**

(The site remains in its current use and condition.)

**Alternative 2: As of Right Cluster Design**

(This alternative assumes that the project site is developed to maximum density under the properties existing zoning classification, with reference to the yield plan and reduced lot size similar to B residential zoning. This alternative would conform to all applicable standards and guidelines in the CPB Comprehensive Land Use Plan.)

**Alternative 3: Increased Commercial/Reduced Density**

(This alternative assumes that the site is developed with a layout similar to the proposed action, but with an increase in commercial/retail provided along the proposed connection road and a reduction in residential density by replacing 16 duplex units with 10 detached single family units.)

**Alternative 4: Alternate Road Layout**

(This alternative assumes the layout of the proposed action is modified to relocate the proposed connection boulevard and associated disturbance outside of the 535' setback radius from the adjacent pond, which was previously identified as a tiger salamander breeding pond.)

**Alternative 5: Acquisition for Open Space**

(This alternative assumes that the site would be acquired by the Town of Brookhaven as an open space parcel.)

**Alternative 6: Maximize Pine Barrens Development Credits**

(This alternative assumes that the site would be designed with a layout that would maximize the usage of Pine Barrens Development Credits including reference to the optional program and the regulations pursuant to §85-450 and 85-451 of the Town Code.)

**Alternative 7: Alternate Impact Reduction Plan**

[This alternative assumes that the site is developed with a similar density and layout to the proposed project, with a reconfigured site plan to 1) conform to the open space requirements of the Pine Barrens Compatible Growth Area, 2) provide greater natural area within the 1,000 foot radius of the off site tiger salamander breeding pond per NYSDEC guidance and 3) modify the unit mix to provide senior units and achieve a tax neutral development.]

It should be noted that for all of the proposed alternatives, the existing natural and human environmental resource conditions are described in detail in **Sections 2.0 and 3.0** and these

sections can be referred to for current site conditions. **Table 5-1** provides a comparative summary of these alternatives based on a variety of impact parameters.

### **5.1 Alternative 1&5: No Action and Acquisition for Open Space**

These alternatives assume that the proposed project is not built; the site remains in its current vacant and undeveloped condition. In one scenario, the site remains in its current condition. The site would remain unutilized, and could be developed in the future in accordance with zoning if it remained under private ownership. A second scenario would involve the site being acquired by the Town and/or other government entities as an open space parcel.

In summary, under these alternatives, the site would have the following environmental resource characteristics:

**Geology** – The existing topography, drainage patterns, soils and subsoils, as described in Section 2.1, 2.2, and 2.3 would remain unchanged. The site would retain the existing geologic resources.

**Water Resources** – The site has natural qualities in terms of evapotranspiration and recharge, and currently has a recharge volume of 19.59 MG/yr and a nitrogen concentration in recharge of 0.01 mg/l. These conditions would remain unchanged.

**Ecology** – The existing natural pitch pine-oak forest, freshwater wetlands, and successional field areas would remain on the subject site.

**Land Use, Zoning and Plans** – The project would retain its A-1 residential zoning and J-2 business zoning and would remain vacant. The project site would not be consistent with land use plans which recognize the site for multiple family development as per the Middle Country Road Land Use Plan and GEIS. The site would be compatible with surrounding uses.

**Community Character** – The existing visual character would remain unchanged; portions of the wooded frontage of the subject site would be visible, with little visual penetration into the site.

**Community Services** – The subject site would generate approximately \$15,328.89 in tax revenue, based on the assessed valuation for 39.38 acres of vacant land. The site would not generate school aged children, but could be subject to vandalism requiring police protection. Fire response may also be required, as the site has been subject to unauthorized activity. No additional energy resources would be required. If the parcel were acquired by the Town as open space, no tax benefit would result from the parcel.

**Transportation** – The site would not require driveway access, and no vehicle trips would be generated.

TABLE 5-1  
COMPARISON OF ALTERNATIVES

Coverages	Existing Conditions	Proposed Project	Alternative 1&5: No Action/Acquisition for Open Space	Alternative 2: As of Right Cluster Design	Alternative 3: Increase Commercial/Reduced Density	Alternative 4: Alternate Road Layout	Alternative 7: Alternate Impact Reduction Plan
Natural/Open Space	39.38 acres	±16.73 acres	±39.38 acres	±21.65 acres	±16.01 acres	±16.73 acres	±18.50 acres
Building/Paved	0.0 acres	±13.46 acres	0.0 acres	±3.57 acres	±12.17 acres	±13.46 acres	±13.41 acres
STP Parcel	0.0 acres	±3.96 acres	0.0 acres	0.0 acres	±3.96 acres	±3.96 acres	±2.66 acres
Recharge Basin	0.0 acres	0.0 acres	0.0 acres	±2.23 acres	0.0 acres	0.0 acres	0.0 acres
Fertilizer Dependent Vegetation	0.0 acres	±4.28 acres	0.0 acres	±5.78	±4.98 acres	±4.28 acres	±4.81 acres
Non-Fertilizer Dependent Vegetation	0.0 acres	±0.94 acres	0.0 acres	±6.14	±2.25 acres	±0.94 acres	±0 acres
<b>Trip Generation</b>							
AM Peak Hour	0	112	0	33 <sup>(1)</sup>	143 <sup>(2)</sup>	112	62
PM Peak Hour	0	240	0	41 <sup>(1)</sup>	345 <sup>(2)</sup>	240	72
Saturday Peak Hour	0	311	0	41 <sup>(1)</sup>	468 <sup>(2)</sup>	311	79
<b>Water Resources:</b>							
Domestic Use (gpd, design) <sup>(3)</sup>	0	±41,300	0	±10,200	±39,500	±41,300	±41,300
Commercial Use (gpd) <sup>(3)</sup>	0	±390 - ±8,700	0	0	±825 - ±10,500	±390 - ±8,700	±1,663
Irrigation (gpd, annual average) <sup>(4)</sup>	0	±5,230	0	±7,070	±6,190	±5,230	±3,096
Total Water Use (gpd)	0	±46,920 - ±55,230	0	±17,270	±46,515 - ±56,190	±46,920 - ±55,230	±46,059
Sanitary Wastewater <sup>(3)</sup>	0	±41,690 - 50,000	0	±10,200	±40,325 - 50,	±41,690 - 50,000	±41,690 - 50,000
Recharge Volume (MGY)	19.59	45.53	19.59	25.21 <sup>(1)</sup>	44.81 <sup>(2)</sup>	45.53	45.49
Nitrogen Concentration (mg/l)	0.01	4.58	0.01	6.45 <sup>(1)</sup>	4.68 <sup>(2)</sup>	4.58	4.60
<b>Miscellaneous:</b>							
Solid Waste (lbs/day) <sup>(5)</sup>	0	±3,575	0	±760	±3,165	±3,575	±2,342
Total Taxes (\$/year)	15,328.89	±549,032	15,328.89	±279,115	±549,803	±549,032	±\$566,665
School District Taxes (\$/year)	10,107.50	±362,032	10,107.50	±184,048	±362,540	±362,032	±\$373,659
Cost to Educate (\$/year)	0	±856,938	0	±541,224	±691,564	±856,938	±303 <sup>(10)</sup>
Total Residents	0	±377 <sup>(6)</sup>	0	±125 <sup>(8)</sup>	±301	±377 <sup>(6)</sup>	±25 <sup>(11)</sup>

Notes:

- (1) See Appendix J-1
- (2) See Appendix J-2.
- (3) Assuming SCDHS design flow rates of 300 gpd/residential unit + 0.3 gpd/SF community building and 5 gpd/pool bather assuming 1 pool bather per 20 SF in a 1,250 SF pool. Commercial uses not yet determined; depending on the nature of the future commercial uses, flows may range from 0.03 gpd/SF for dry retail uses to maximizing the commercial space with restaurants and/or other higher water demand uses (maximum combined residential and commercial flow not to exceed 50,000 gpd).
- (4) Irrigation rate of 5.5 inches/year, assuming four months of irrigation (mid May to mid September) on fertilizer dependent areas.
- (5) Assuming 5 lbs/day/capita and 1 lb/day/bedroom (US Census), 0.5 lbs/day/capita for community building, 90 lbs/day/100 SF of restaurant space, at 4,000 SF of restaurant space, and 1 lb/day/100 SF of office space, at 9,000 SF.
- (6) 2.83 capita/3 bedroom single family attached unit (83 units), 3.17 capita/3 bedroom single family attached unit affordable (5 units), 3.62 capita/2-4 attached units (19 units), 2.05 capita/5+ owned attached units (19 units), and 2.05 capita/5+ owned attached affordable units (9 units) (US Census).
- (7) Assuming 0.39/3 bedroom single family attached unit (83 units), 0.19/3 bedroom single family attached unit affordable (5 units), 0.83/2-4 attached units (19 units), 0.19/5+ owned attached units (19 units), and 0.19/5+ owned attached affordable units (9 units) (Burchell, et al., 2006).
- (8) Assuming 3.67 capita/4 bedroom single family detached units (US Census).
- (9) Assuming 1.05 SAC/4 bedroom single family detached units (Burchell, et al., 2006).
- (10) Assuming 2.09 capita/2 bedroom single family attached unit, and 2.10 capita/2 bedroom affordable single family attached unit (Burchell, et al., 2006).
- (11) Assuming 0.14 capita/2 bedroom single family attached unit which is not age restricted, and 0.19 capita/2 bedroom affordable single family attached unit which is not age restricted (Burchell, et al., 2006).

Cultural Resources – The site would retain its cultural resource characteristics, which include no historic use, and no significant archaeological site potential given the Phase I Cultural Resource Assessment.

The use of the site for a mixed housing community and commercial area is beneficial in that it provides for needed housing within the community as well as commercial development which will supply a source of jobs. A summary of the benefits which would not be realized should the property remain vacant and underutilized is provided below:

- During and following development, the site will be secured to ensure that illegal trespassing and/or dumping will not occur.
- The site would not provide a road interconnection between CR 21 and NYS Route 25, which would improve traffic circulation and provide a by-pass of the CR 21/Route 25 intersection.
- The site would not provide a location for a sewage treatment plant to assist in achieving other aspects of the MCR Land Use Plan toward beneficial redevelopment of the Middle Island hamlet center.
- The site would not fulfill a need for mixed use housing (ownership) within the Town.
- The site would not add a variety to housing opportunities that will allow citizens to downsize, seek smaller less-maintenance homes, and develop a sense of community.

In comparison to the proposed project, this alternative would not satisfy the goals of the Town, in that an appropriate land use in general conformance to zoning would not be provided. In this alternative, the fragmented land use surrounding Middle Country Road would continue.

With respect to potential acquisition, the subject site is not identified in the Middle Country Road Land Use Plan for acquisition, nor is it listed in any Town documents identifying potential open space acquisition parcels. Acquisition would require a willing buyer and a willing seller. The Town has not contacted the owner to request that the property be appraised for acquisition, nor has any offer been made to or discussed with the property owner. The property owner has not expressed interest in sale of the property to any governmental body, and is not a willing seller. Acquisition of the property is not in keeping with the goals of the project sponsor. As a result, acquisition is not a reasonable or feasible alternative.

## 5.2 Alternative 2: As of Right Cluster Development

This alternative assumes that a project utilizing the current zoning of the property, which includes A-1 Residential and J-2 Business, would be designed as a cluster using lots conforming to the B-Residence district. The density of this alternative is based on a yield plan included as **Plate 3**. The yield plan is designed to conform to Town zoning requirements. The overall site includes less than 25 percent J-2 zoned land, and as a result, reverts to A-1 zoning. Allowable development would include single family residential units and the maximum yield would be 34 homes. When including the Town's Wetland Overlay District regulations, the overall lot yield

remains at 34 lots, as the wetland area itself is only approximately 5,600 square feet, which does not remove enough area from the proposed lots to reduce the overall lot yield. Under this alternative, no development would occur within 150 feet of the wetland boundary.

A cluster map has been prepared to illustrate this alternative (**Plate 4**). This design would have access from NYS Route 25 and would include a single road running north south to provide access to lots on each side of the new subdivision road. An emergency access “tap” would be provided to the single family development to the east and a recharge basin would be provided in a lower elevation area of the property. The 34 individual home sites would be served by on-site sanitary systems conforming to Article 6 of the SCSC and would be served by public water. Contiguous open space would be provided in the wooded areas on the west and north sides of the property and would include a setback from the tiger salamander breeding pond and the small on-site wetlands, as a contiguous expanse of open space on the north part of the site. Natural open space would total 54 percent of the site and as a result would conform to Pine Barrens clearing restrictions which would permit as much as 53 percent clearing and 47 percent open space based on A-1 zoning. Lot sizes would range from 15,000 SF to 26,369 SF.

The information provided in **Tables 5-1** directly compares the proposed action with full utilization of the site under A-1 residential zoning. A discussion of impacts of an as-of-right cluster alternative with respect to environmental resources is provided below.

**Geology** – The design is dissimilar to the proposed project as it provides a more open space and consequently less impact on the geological resources of the site. Less soil disturbance and grading would be expected.

**Water Resources** – This alternative would provide on-site sanitary systems and would conform to Article 6 of the SCSC. The project would not provide sewage treatment, and as a result, would have a greater nitrogen load than the proposed project; however, groundwater impacts would be limited due to compliance with Article 6. The sanitary flow is expected to be in the range of 10,200 gpd, which would be less than the allowable flow. On-site sanitary discharge would result in a nitrogen concentration in recharge of 6.45 mg/l, and recharge volume would be 25.21 MGD (see **Appendix J-1**). The use would be served by public water similar to the proposed project. The project would have less stormwater recharge as a result of less impervious surface and greater evapotranspiration. Impacts are greater than those of the proposed project as there would be an increase in nitrogen discharge to groundwater.

**Ecology** – Natural vegetation would be retained on 54 percent of the site. Protected areas would occur on the west and north sides of the property. No Pine Barren’s Commission hardship application would be required as this alternative would not exceed clearing standards. The 535 foot radius from the tiger salamander breeding pond would be observed; however, the pond is located west of CR 21 and has not had recent documentation of this endangered species being present. As a result, this impact is of low significance. The alternative would protect the on-site wetlands and would provide more natural vegetation and wildlife habitat than the proposed project.

Land Use, Zoning and Plans – The project would conform to zoning; however, it is noted that the applicant first submitted a residential cluster plan and was requested/required by the Town to seek a mixed multiple family housing and commercial project to better conform with the Middle Country Road Land Use Plan. As a result, this alternative would not conform with the MCR Land Use Plan. As noted, the project would comply with the Pine Barrens Plan as at least 47 percent open space would be provided and other standards required in the Town of Brookhaven Central Pine Barrens District could be met. The plan would not redeem any Pine Barrens Credits and no such requirement would be expected since this is a voluntary program. The alternative would be consistent with residential housing to the west, but would involve a residential access road to Route 25, opposite a commercial center.

Community Character – Community character would change from existing open space to a residential use. The alternative would subdivide the property into individual home sites. The row of homes would back to the existing residential uses to the east, thus causing a change in the character of this area of the site. One or more homes and a road would be visible from NYS Route 25 depending on the observer's location, and these features would not be in stark contrast with other uses along this corridor. Generally, community character would not be significantly adversely affected due to the minor presence of the proposed development with respect to the overall community.

Community Services – This alternative would generate less tax revenue than the proposed project, or approximately \$279,115 per year as compared with \$549,032 for the proposed project. This alternative would generate less school age children (approximately 36) and a lower expected population (approximately 125) than the proposed project. Assuming all of the students were distributed to the Longwood Central School District and the same annual expenditures per student apply (\$15,034), this alternative would represent \$300,680 for the 34 single family alternative per year in expenditures for the estimated 20 students. Taxes generated for the school district would be less (approximately \$184,048 per year compared with \$362,032) which would leave a deficit of \$116,632 per year. The alternative would involve dedication of roads which would cause a greater burden on Town Highway personnel for maintenance. The alternative would also likely have a greater impact on park and recreation facilities as on-site amenities are not provided as they are with the proposed project. This project would not generate jobs, as would a retail use on the site. It is expected that the burden on fire, police, and ambulance service could potentially be less under this alternative due to a smaller population increase; however, the tax revenue to these taxing jurisdictions would also be less. On balance, this alternative would have slightly less school district impact and slightly greater impact on other community services as compared with the proposed project.

Transportation – This alternative would have a lower trip generation than the proposed project as the maximum number of PM peak hour trips generated would be 41 as compared with 240 for the proposed project. It should however be noted that the proposed project provides a transportation connection between CR 21 and Route 25 which will help to relieve congestion at the CR 21/Route 25 intersection consistent with the Towns MCRLUP. This connection would not be achieved under this alternative.

Cultural Resources – Impacts to archaeological impacts are not expected either from the proposed action or this alternative.

This alternative is not in keeping with the objectives of the MCRLUP which seeks to create a road interconnection and catalyze redevelopment in the hamlet by creating mixed multifamily/retail development as is proposed under the proposed project. The applicant first submitted a single family residential cluster and was requested/required by the Town to seek a mixed use development. This alternative would continue single family housing and would foreclose an opportunity for mixed use development consistent with the MCRLUP. At this time, this alternative is not in keeping with the objectives of the project sponsor, as there is a pending settlement to ongoing litigation over the Towns inaction in processing the single family subdivision. The settlement involves a time schedule and clear direction toward the efficient processing of a multifamily, main street business change of zone that would facilitate the proposed project.

In addition to a single family development under current zoning, the applicant has also considered alternative cluster plans which would involve clustering a multifamily development combined with main street business use in a manner that would retain 47 percent open space as required by the Pine Barrens Plan. Such an alternative would require such a significant decrease in multifamily units that it would render the project unreasonable and infeasible. The Towns own Middle Country Road Land Use Plan GEIS envisioned 144 multiple family units on the site and did not provide for protection of a setback from the tiger salamander breeding pond, protection of on-site wetlands or retention of 47 percent open space. The Towns Middle Country Road planning documents also did not consider a Sewage Treatment Plant on this site; however, it has been incorporated into the proposed project design to provide a benefit of serving off-site uses that might not otherwise have access to an STP. This helps to advance other aspects of the Towns MCR Land Use Plan. In addition, the project sponsor has included a J-6 zoning component to the project, which does not have the value to add financial benefit to the project sponsor. If this were not required, additional open space could also be provided. Finally, the applicant has been asked provide a 60 foot right-of-way and construct an interconnecting road for dedication to the Town. This further removes land which could be used for open space and increases project costs. Therefore, with regard to a tighter multifamily cluster that would conform to the Pine Barrens Plan, this could potentially be achieved by removing the J-6 development, removing the STP, reducing the size of the interconnecting road, and reducing the number of units. Such a project would not conform to the MCRLUP, would not provide the benefits outlined in that plan, would not be consistent with the goals of the project sponsor, and would not be economically feasible or reasonable. The applicant would not pursue such a project.

As a result, the use of the site for either a residential cluster or a tighter multifamily cluster which conforms to the Pine Barrens Plan would not provide substantial benefits that have been requested by the Town in response to the Sandy Hills subdivision application and through recent land use plans. A summary of the benefits which would not be realized should the property be used under this alternative is provided below:

- Would not provide a road interconnection or would not provide the requested design for the road connection between CR 21 and NYS Route 25, which would improve traffic circulation and provide a by-pass of the CR 21/Route 25 intersection.
- Would not provide a location for a sewage treatment plant to assist in achieving other aspects of the MCR Land Use Plan toward beneficial redevelopment of the Middle Island hamlet center.
- Would not fulfill a need for mixed use housing (ownership) within the Town.
- Would not provide retail live-work style units along Middle Country Road that will assist in catalyzing alternative forms of development more in keeping with “smart growth” principles in the hamlet of Middle Island.

### 5.3 Alternative 3: Increased Commercial/Reduced Density

This alternative assumes a project which would increase the commercial density by adding commercial/retail space along the proposed connector boulevard in the form of an additional 14,500 SF of retail, with 22 live-work residential units above. This alternative would also place 10 single family lots in the northeast part of the project site, instead of the townhouse units located there in the proposed project plan. The results would be a total of 27,500 SF of retail space and a total of 129 residential units, broken down as follows: 74 townhomes; 20 flats; 10 single family homes, 3 triplex and 22 live-work units. This would result in 14,500 SF more retail space and 6 less residential units.

This alternative is otherwise very similar to the proposed project, providing the interconnecting road between CR 21 and Route 25, the STP, village green and playfield, and townhouse units other than the single family homes noted above. The open space configuration is similar, and a similar approach to computing a Pine Barrens Credit purchase is provided, resulting in 1.72 PBCs. A plan illustrating this alternative is provided as **Plate 5**.

A discussion of impacts of an increased commercial/reduced density alternative with respect to environmental resources is provided below.

**Geology** – The design is similar to the proposed project with the exception of the single family units which would be located on the eastern boundary of the property. The overall area of clearing and grading would be similar due to the “swapping” of townhomes for single family units. As a result, it is expected that impacts to site geology would be similar to that of the proposed project.

**Water Resources** – The overall site use would require a sewage treatment plant due to the density which would exceed the Article 6 density limitation. The sanitary flow is expected to range from ±40,325 to a maximum of 50,000 gpd, depending on the ultimate mix of commercial uses (dry retail vs. restaurants or other high water demand uses). The project would require an STP, as does the proposed project. As a result, nitrogen load and concentration of nitrogen in recharge would be slightly less under this alternative and recharge volume would be slightly less as well due to a lower quantity of impervious surface.

Ecology – Natural vegetation would be retained on approximately 40 percent of the site. Protected areas would have a similar configuration and would include a north and west buffer, preservation of the freshwater wetlands, and preservation of a similar area within the 535' setback from the tiger salamander pond. This alternative would also require a Pine Barrens Hardship Application due to the need to clear greater than the ±20.92 acres permitted under the Pine Barrens Overlay and CPB regulations for sites within the Compatible Growth Area.

Land Use, Zoning and Plans – The project would not conform to the current zoning of the site, but would conform to the proposed zoning. The project would conform to the MCRLUP as it identifies the site as an area that should be used for multifamily housing and business uses in a manner that provides an interconnecting road. Due to its similarity to the proposed project, it would not conform to the Pine Barrens Plan. The project is not consistent with the recommended land use of the SGPA plan, but would comply with the 208 Study, or the Suffolk County Comprehensive Water Resources Management Plan by providing sanitary waste treatment. Also, this alternative would conform with the Town Comprehensive Plan, the NURP Study, and the Longwood Mini Master Plan, due to the similarity of this alternative to the proposed project.

Community Character – Visual character could be maintained by buffering and areas of open space. It is expected that buffer vegetation would border the subject property to provide aesthetic benefit, habitat value and value in reducing noise and light impacts for residents. This alternative would have a very similar impact on community character as that of the proposed project except that the single family units in the northeast part of the site would replace proposed townhomes. This is not a major change in community character as both are residential uses.

Community Services – This alternative would generate essentially the same tax revenue as that of the proposed project, or approximately \$549,803 per year as compared with \$549,032 for the proposed project. This alternative would generate less school aged children than the proposed project, and would have less tax deficit than the proposed project. This alternative would generate less school age children (approximately 46) and a lower expected population (approximately 301) than the proposed project. Assuming all of the students were distributed to the Longwood Central School District and the same annual expenditures per student apply (\$15,034), this alternative would represent \$691,594 for the 129 residential unit alternative per year in expenditures for the estimated 46 students. Taxes generated for the school district would be greater (approximately \$362,540 per year compared with \$362,032) which would leave a deficit of \$329,054 per year. The project would be similar in terms of road maintenance, and impact on recreational facilities, and would generate essentially the same or slightly greater less tax revenue to fire, police and ambulance tax jurisdictions.

Transportation – This alternative would have a similar impact on traffic, due to the similar configuration of this alternative to the proposed project. This would be expected to substantially increase traffic on the surrounding area as a result of an increase in trip generation; 345 PM peak hour cars as compared with 240 with the proposed project.

Cultural Resources – Impacts to archaeological impacts are not expected either from the proposed action or this alternative.

This alternative is of great concern to the applicant. There is a lack of demand for retail space and increasing the retail space in connection with this alternative jeopardizes the economic feasibility of the project. It is noted that there is existing retail space associated with the shopping center south of the site, and the proposed 4B's project would result in a significant influx of retail space to the market. A more than doubling of the commercial space for this alternative is objectionable to the applicant given these market conditions. A greater residential yield is greatly preferred by the applicant, more in keeping with the 144 residential units studied by the Town as part of the MCRLUP GEIS. The reduction in residential units to 129 further erodes the economic viability of the project, especially with the requirement to provide an STP and an interconnecting road with an enlarged right-of-way which add cost to the project. As a result, this alternative is not in keeping with the objectives of the project sponsor. In addition, there does not appear to be a compelling reason to pursue this alternative, given the higher residential density considered by the Town in the MCRLUP.

#### 5.4 Alternative 4: Alternate Road Layout

This alternative assumes that the proposed boulevard access along Rocky Point Road is shifted north so that no portion of it falls within the 535' setback from the tiger salamander pond. The residential building with 20 flats and associated parking would be reconfigured to maintain essentially the same yield as the proposed project. A boulevard access could not be provided and the location of the access point would be south of the STP parcel and north of the 535' setback.

The following summarizes impacts as a result of this alternative.

Geology – The design is similar to the proposed project with the exception of the proposed boulevard access along Rocky Point Road. The overall area of clearing and grading would be similar due to the similar elevation at the access area for this alternative. Overall, it is expected that impacts to site geology would be similar to that of the proposed project.

Water Resources – The overall site use would require a sewage treatment plant due to the density which would exceed the allowable density for the parcel. The sanitary flow is expected to be the same as the proposed project, ranging from  $\pm 41,690$  to a maximum of 50,000 gpd, depending on the ultimate mix of commercial uses (dry retail vs. restaurants or other high water demand uses). On-site sanitary discharge via an STP would result in a concentration in recharge of 4.58 mg/l, and recharge volume would be 45.53 MGD similar to the proposed project (see **Appendix B-3**). This alternative would not conform to the standards of the Pine Barrens Plan for clearing. Impacts are similar to those of the proposed project as there are no changes in coverages.

Ecology – Natural vegetation would be retained on approximately 37 percent of the site. Protected areas would have a similar configuration and would include a north and west buffer

including areas within 535' of the tiger salamander breeding pond and preservation of the freshwater wetlands. The largest difference between this alternative and the proposed project occurs with regard to the open space within the 535' setback. The entirety of natural vegetation on the subject property within the 535' setback from the tiger salamander pond would be preserved whereas in the proposed project a small portion of the proposed boulevard would be within the setback radius. It is noted that there are no recent surveys which report tiger salamander activity within this previously recorded breeding pond. The pond lies across a County highway from the proposed project site. Should individual amphibians risk mortality and traverse CR 21, there is significant area within 535' of the pond to permit burrowing and activity associated with the life cycle of the species. It is believed that given the flatter topography on the west side of CR 21, and the presence of the highway, there is more optimal habitat in closer proximity to the breeding pond which would serve to address the species needs in a more practical way than the proposed project site. As with the proposed project, this alternative would also require a Pine Barrens Hardship Application due to the need to clear 24.11 acres of the site, which exceeds the Pine Barrens Commission's maximum clearing allowance.

**Land Use, Zoning and Plans** – The project would not conform to the current zoning of the site, but would conform to the proposed zoning. The project would conform to the MCRLUP as it identifies the site as an area that should be used for multifamily housing and downtown commercial use. Due to its similarity to the proposed project, this alternative would not conform to the Pine Barrens Plan and would be inconsistent with the land use recommendations of the SGPA plan. The alternative would conform with the 208 Study and the Suffolk County Comprehensive Water Resources Management Plan by providing an STP. Also, this alternative would conform with the Town Comprehensive Plan, the NURP Study, and the Longwood Mini Master Plan, due to the similarity of this alternative to the proposed project.

**Community Character** – Visual character would be maintained by buffering and areas of open space along CR 21, similar to the proposed project. It is expected that buffer vegetation would border the subject property to reduce noise and light impacts for residents. The part of the site near Route 25 would be identical to the proposed project and would appear as a retail use fronting the road corridor. Community character impacts would be similar to the proposed project.

**Community Services** – This alternative would generate the same tax revenue as that of the proposed project, or approximately \$549,032 per year. School district revenue would also be the same or \$362,032 per year. The number of school children and burden on service providers such as Highway, police, fire and ambulance personnel would all be the same.

**Transportation** – This alternative has a similar impact on traffic generation, due to the similar number of units of this alternative as compared with the proposed project. The change in position of the access to the proposed boulevard along Rocky Point Road would change traffic patterns. There is a design basis to situate the boulevard on the subject site, opposite an interconnecting road on the Middle Island Townhomes site. This road would connect Old Middle Island Road with CR 21, and would connect CR 21 to NYS Route 25 through the

subject site. Under this alternative, the new boulevard would be offset approximately 250' from the road which will run through the Middle Island Townhomes site to the west. This offset is not optimal and it would not align the intersections to facilitate the movement of traffic in the area.

Cultural Resources – Impacts to archaeological impacts are not expected either from the proposed action or this alternative.

Despite that fact that this alternative yields similar results as the proposed project, this project does not meet the goals and objectives of the applicant. The proposed boulevard was placed on the site plan to create a connection to the Middle Island Townhomes development. The goal of this placement was to provide an alternative to the CR 21/Route 25 intersection and thus ease the volume at this crossroad location. This alternative would not achieve the positive benefits associated with the currently proposed location of the boulevard and would not be consistent with the MCRLUP which also shows alignment of intersections.

### **5.5 Alternative 6: Maximize Pine Barrens Development Credits**

This alternative considers the number of Pine Barrens Credits able to be redeemed as a result of the use of the subject site, to ensure that the overall intent of the Pine Barrens Plan and credit transfer program remains effective as various parcels are developed and/or contemplated for land use proposals. The proposed project involves the redemption of 1.72 Pine Barrens Credits as proposed. As a result, the proposed project does result in use of Pine Barrens Credits and this will be contrasted with existing zoning which in theory could result in greater use of PBCs'.

The subject site is currently zoned almost entirely A-Residence-1. The Town of Brookhaven has defined the A-Residence-1 district as a Residential Overlay District (ROD) that can potentially receive PBC's based on a formula which permits an increase in yield above the site's base yield, through the redemption of Pine Barrens Credits. However, the parcel is ineligible as an ROD by definition contained in Chapter 85 §85-450 D.(2)(b)[1] which states that: "A parcel or premises shall be ineligible for treatment . . ." if "The area of the parcel to be developed is located within: Five hundred feet of any streams, bluffs, surface waters or wetland regulated by the New York State Department of Environmental Conservation or the Town of Brookhaven". The parcel is within 500' of wetlands and contains wetlands and is therefore ineligible for this program. As a result, no Pine Barrens Credits could be redeemed under this program. Since the proposed project would redeem 1.72 credits, would result in greater redemption of Pine Barrens Credits than under current zoning, as illustrated by the as of right cluster development alternative in **Section 5.2**.

Under Chapter 85 §85-451. Incentive Zoning, the Town Board can permit redemption of Pine Barrens Credits in connection with ". . . all change of zoning district classification. . ." applications ". . . for all eligible lands located within the Town and outside the Core Preservation Area". Multiple Family residence and J-Business-6 districts are eligible. Under Chapter 85 §85-451 C.(2), "The Town Board may adjust the total number of Pine Barrens development credits permitted on a change of zone petition based upon inclusion of any other special public benefit

feature, as defined in Article XXXIIA of this chapter.” Article XXXIIA defines a Social Public Benefit as “A feature or amenity offered by a PDD applicant which exceeds the minimum requirements of this article and any other applicable regulations, and is intended to further the achievement of legislative intent, public facilities, services or utilities, the provision of special design amenities, and other such public benefits which exceed normally applicable requirements.”

The proposed action achieves this purpose; specifically, the proposed land use is consistent with the Town’s Middle Country Road Land Use Plan. The parcel is designated as a “primary zone” parcel, which if zoned to MF would permit up to six (6) units per acre as per Chapter 85 §85-87 A. The applicant sought to develop the parcel under A-1 zoning and was requested/required to pursue a change of zone to J-6 and MF. The applicant is therefore conforming to the MCRLUP and as a result, is furthering the achievement of the legislative intent of the Town. The project will provide a mixed-use development with six (6) different styles of residential housing including affordable units, and some commercial use, all goals of the Town’s MCRLUP. In addition, the applicant is constructing an STP that will facilitate the furthering of legislative intent by allowing other parcels to better conform to the MCRLUP. The applicant is providing an expanded right-of-way and is constructing a road beyond what would normally be required for a multifamily site plan use, and as a result is providing infrastructure benefit and direct expenditures to further the Town’s comprehensive planning goal of providing a public road interconnection between CR 21 and Middle Country Road. The applicant proposes a 2.10 acre J-6 portion of the property which was not his intent and is believed have limited value back to the developer, in order to further advance the Towns land use plan. Finally, the applicant proposes to purchase 1.72 Pine Barrens Credits, which will result in a greater use of Pine Barrens Credits than if the property remained under its current A-Residence-1 zoning, since the site is ineligible as an ROD.

In conclusion, the proposed project facilitates the use of Pine Barrens Credits and is believed to be the land use proposal which maximizes the redemption of PBC’s particularly in view of the fact that no credits could be redeemed under the current A-Residence-1 zoning as the parcel is ineligible as an ROD. This analysis would tend to support the proposed project as a means of providing a project that conforms to the Towns MCRLUP, provides public benefits, and redeems 1.72 Pine Barrens Credits.

## **5.6 Alternative 7: Alternate Impact Reduction Plan**

This alternative decreases the number of residential units, maintains the commercial uses on the site and increases the amount of open space on the site to comply with clearing standards within a Pine Barrens Compatible Growth Area as mitigation to the impacts identified by the proposed project. Access to the site is located in similar location to the proposed project, via Rocky Point Road and Middle Country Road and the STP is located in the same location as the proposed plan but is reduced in parcel size and access to the STP is located from the rear of a residential parking lot. The largest difference between this alternative and the proposed project occurs with regard to the amount of open space proposed and the proposed installation of culverts under C.R. 21 and the boulevard which would allow for tiger salamander passage in accordance with the

DEC policy described in Section 2.6.2. Additionally this alternative proposes to retain 18.5 acres as natural, thereby conforming to the Central Pine Barrens requirements.

The following summarizes impacts as a result of this alternative.

**Geology** – The design is similar to the residential portions of the proposed project, but with age restricted units proposed. The commercial component will be similar to that of the proposed project. The overall area of clearing and grading would be reduced due to increase in open space and location of development towards the eastern portion of the site which exhibits flatter topography. Overall, it is expected that impacts to site geology would be slightly less than that of the proposed project, as the overall amount of cut necessary during grading operations is expected to be less than the proposed project.

**Water Resources** – The overall site use would require a sewage treatment plant due to the density which would exceed the allowable density for the parcel. The sanitary flow is expected to be slightly lower than the proposed project with a total water usage of approximately 46,059 gpd. On-site sanitary discharge via an STP would result in a concentration in recharge of 4.14 mg/l, and recharge volume would be 42.47 MGY, slightly less recharge and nitrogen than the proposed project (see **Appendix B-3**). This alternative would conform to the standards of the Pine Barrens Plan for clearing. Impacts are slightly less than those of the proposed project as there is an increase in the amount of natural/open space in coverages.

**Ecology** – Natural vegetation would be retained on approximately 47.85 percent of the site. Protected areas are proposed similar to the proposed project with increased open space along the western property boundary. The open space areas serve as a buffer for the areas within 535' of the tiger salamander breeding pond and preservation of the freshwater wetlands. The largest difference between this alternative and the proposed project occurs with regard to the amount of open space proposed and the proposed installation of culverts under C.R. 21 and the boulevard which would allow for tiger salamander passage. It is noted that there are no recent surveys which report tiger salamander activity within this previously recorded breeding pond. The pond lies across a County highway from the proposed project site. Should individual amphibians utilize the proposed culverts and traverse CR 21, there is significant area within 535' of the pond to permit burrowing and activity associated with the life cycle of the species. It is believed that given the flatter topography on the west side of CR 21, and the presence of the highway, there is more optimal habitat in closer proximity to the breeding pond which would serve to address the species needs in a more practical way than the proposed project site. As opposed to the proposed project, this alternative would not require a Pine Barrens Hardship Application due to the proposed clearing of 20.109 acres of the site, which does not exceed the Pine Barrens Commission's maximum clearing allowance.

**Land Use, Zoning and Plans** – The project would not conform to the current zoning of the site, but would conform to the proposed zoning. The project would conform to the MCRLUP as it identifies the site as and area that should be used for multifamily housing and downtown commercial use. Due to it's similarity to the proposed project, this alternative would not

conform to the Pine Barrens Plan and would be inconsistent with the land use recommendations of the SGPA plan. The alternative would conform with the 208 Study and the Suffolk County Comprehensive Water Resources Management Plan by providing an STP. Also, this alternative would conform with the Town Comprehensive Plan, the NURP Study, and the Longwood Mini Master Plan, due to the similarity of this alternative to the proposed project.

Community Character – Visual character would be maintained by buffering and areas of open space along CR 21, similar to the proposed project. The area along Middle Country Road will become a commercial use which will be similar in character to the Middle Country Road corridor with appropriate architecture. It is expected that buffer vegetation would border the subject property to reduce noise and light impacts for residents. Community character impacts would be expected to be less than the proposed project, as the subject site will have increased buffering along the western property boundary.

Community Services – This alternative would generate slightly less tax revenue as that of the proposed project, or approximately \$566,665 per year. School district revenue would also be the slightly more, or \$373,659 per year. Due to the proposed age restricted units, the total number of school children generated would be significantly less, at approximately 25 children. Also, due to these units, this alternative would be tax neutral as the amount of taxes generated by the proposed project would equal the expenditure of the school to educate the generated children. The total number of residents, and burden on service providers such as Highway, police, fire and ambulance personnel would all be similar to that of what is projected in the proposed project.

Transportation – This alternative will have similar impacts as the proposed project as the roadway layout is similar and the number of units is the same as the proposed project. The access points to the site from both CR 21 and Middle Country Road, which would connect the two roadways through the subject site would also connect with the Middle Island Townhomes project which would reduce traffic congestion along CR 21.

Cultural Resources – Impacts to archaeological impacts are not expected either from the proposed action or this alternative.

This alternative has fewer impacts than that of the proposed project, and also meets the goals and objectives of the applicant, Town, and NYSDEC.

**SECTION 6.0**

**REFERENCES**

## 6.0 REFERENCES

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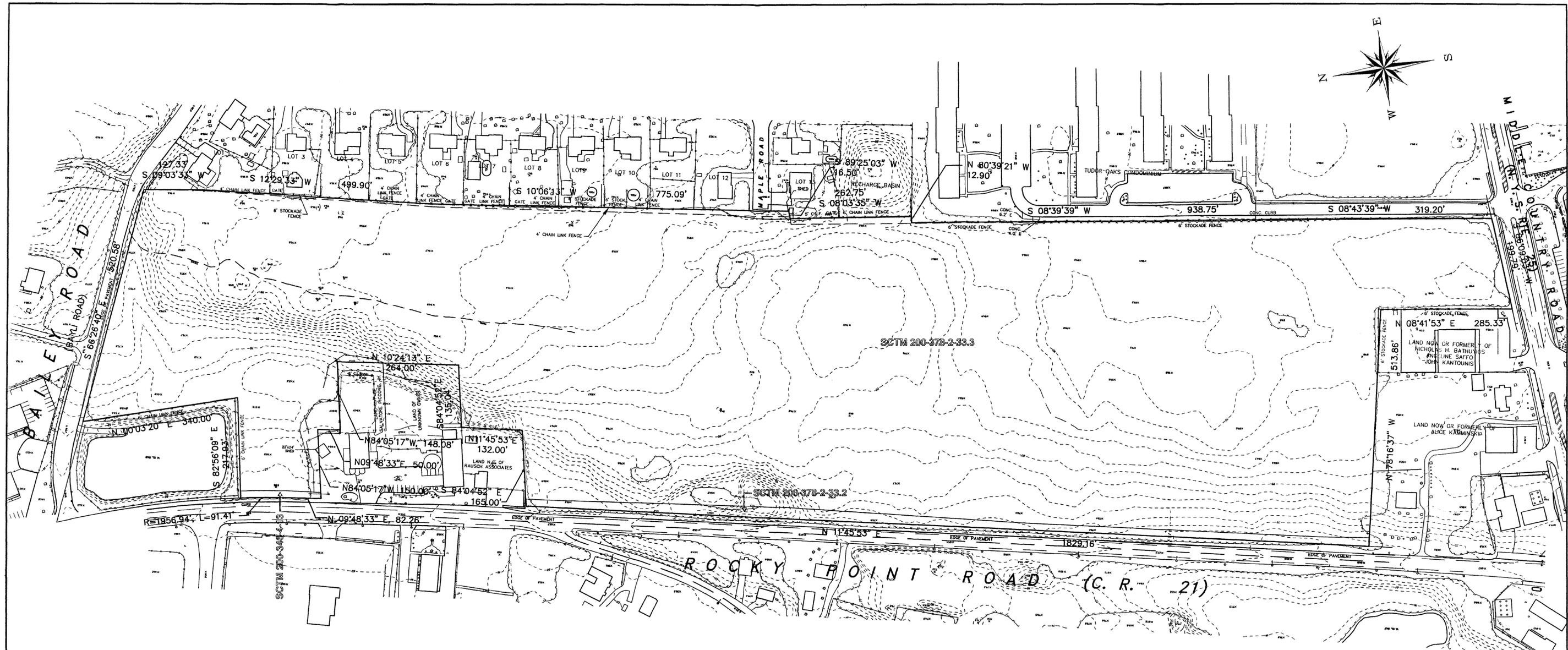
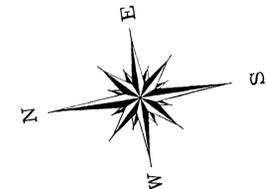
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## POCKETS

### PLATES (IN POUCHES AT THE END OF VOLUME I):

- Plate 1**      **Map of Property**, Nelson & Pope (last revised 7/11/07)
- Plate 2**      **Site Plans for Sandy Hills at Middle Island**, Nelson & Pope (16 sheets)  
(last revised 3/05/08)
- Cover Sheet** (Sheet 1 of 16)
  - Overall Site Plan** (Sheet 2 of 16)
  - South Alignment Plan** (Sheet 3 of 16)
  - North Alignment Plan** (Sheet 4 of 16)
  - South Grading & Drainage Plan** (Sheet 5 of 16)
  - North Grading & Drainage Plan** (Sheet 6 of 16)
  - South Utility Plan** (Sheet 7 of 16)
  - North Utility Plan** (Sheet 8 of 16)
  - South Erosion Control Plan** (Sheet 9 of 16)
  - North Erosion Control Plan** (Sheet 10 of 16)
  - South Lighting Plan** (Sheet 11 of 16)
  - North Lighting Plan** (Sheet 12 of 16)
  - South Landscape Plan** (Sheet 13 of 16)
  - North Landscape Plan** (Sheet 14 of 16)
  - Erosion Control Details** (Sheet 15 of 16)
  - Site Details** (Sheet 16 of 16)
- Plate 3**      **Yield Map**, Nelson & Pope (last revised 11/02/07)
- Plate 4**      **Alternative 2- As of Right Cluster Design (Site Layout for Alternative 2)**,  
Nelson & Pope (last revised 11/02/07)
- Plate 5**      **Sandy Hills Alternative #3, Increased Commercial/Reduced  
Residential with Single Family Homes**, Nelson & Pope (last revised 11/6/07)
- Plate 6**      **Alternate #7 Conceptual Plan**, Nelson & Pope (last revised 3/05/08)



**LEGEND**

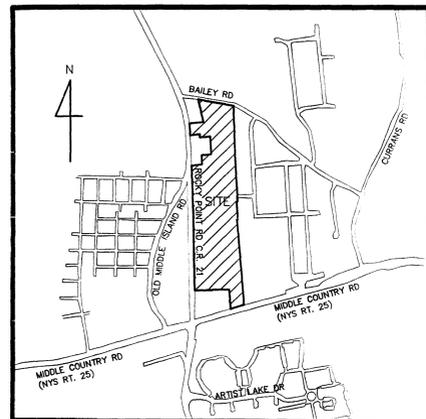
- ▼ STAKE
  - ⊠ MONUMENT
  - x—x— FENCE
  - ⊕ UTILITY POLE
  - ⊕ HYDRANT
- N 00°03'20" E 340.00' ACTUAL COURSE/DISTANCE

AREA OF PARCEL = 39.47 ACRES

**NOTES**  
 BOUNDARY LINES AS SHOWN ARE PER SURVEY PERFORMED BY NELSON & POPE.  
 IMPROVEMENTS SHOWN PER FIELD MEASUREMENTS AND AERIAL PHOTOGRAMMETRY PROVIDED BY GEOMAPS INTERNATIONAL.  
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No.	DATE	REVISION	BY:
		<b>MAP OF PROPERTY</b>	DWN. BY: pke
		SITUATED AT <b>MIDDLE ISLAND</b>	DATE: 7/11/07
		TOWN OF BROOKHAVEN, SUFFOLK COUNTY, NEW YORK	CHK'D BY:
		SCTM DISTRICT 200 SECTION 346 BLOCK 04 LOT 13 AND SCTM DISTRICT 200 SECTION 378 BLOCK 02 LOTS 33.2 AND 33.3	DATE:
		<b>NELSON &amp; POPE</b>	FILE No.: 00088
		ENGINEERS • DESIGNERS • SURVEYORS	CADD: 00088M
		572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747-2188	SCALE: 1" = 100'
		(631) 427-5665 FAX (631) 427-5620	SHEET: 1 of 1

# SITE PLANS FOR CONDOMINIUMS SANDY HILLS AT MIDDLE ISLAND SITUATED AT MIDDLE ISLAND TOWN OF BROOKHAVEN SUFFOLK COUNTY, NEW YORK



KEY MAP  
SCALE 1" = 1000'

NOTE:  
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF NELSON & POPE. UNAUTHORIZED ALTERATIONS OR ADDITIONS TO THESE DOCUMENTS ARE A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW. INFRINGEMENTS WILL BE PROSECUTED.

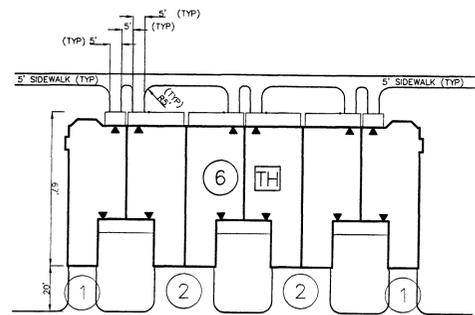
LEGEND		SHEET INDEX - SITE	
(---) EXIST CURB	(---) EXIST CONTOUR	(---) EXIST SPOT ELEVATION	(---) PROP INDEX CONTOUR
(---) EXIST SPOT ELEVATION	(---) PROP INTERMEDIATE CONTOUR	(---) PROP SPOT ELEVATION	(---) PROP HYDRANT
(---) PROP CHAIN LINK FENCE	(---) PROP CATCHBASIN	(---) EXIST CATCHBASIN	(---) EXIST UTILITY POLE
(---) PROP UTILITY POLE	(---) PROP PARKING COUNT	(---) PROP CURB	(---) PROP SANITARY SEWER
(---) PROP WATER MAIN	(---) PROP COMMON UTILITY TRENCH	(---) PROP DRAIN LINE	(---) PROP ROOF DRAIN LINE
(---) PROP HOUSE CONNECTION	(---) PROP WATER SERVICE	(---) PROP 100' BUFFER AREA AND/OR NATURAL VEGETATION	(---) WETLAND FLAG
(---) EXISTING TREE TO REMAIN	(---) PROP ELECTRIC SERVICE	(---) PROP TELEPHONE SERVICE	(---) PROP TRANSFORMER
(---) PROP SANITARY MANHOLE (SMH-A-X)	(---) PROP DRAIN MANHOLE (M-H-X)	(---) TOP OF CURB PAVEMENT	(---) PROP AREA DRAIN
(---) PROP HO RAMP	(---) EXIST OVERHEAD WRES	(---) EXIST VEGETATION / EXIST TREELINE	(---) PROP. TREELINE
(---) PROP. LIGHT POLE	(---) UTILITY CROSSING	(---) RETAINING WALL	(---) TEST HOLE
(---) PROP ADA ACCESSIBLE CONC. WALKWAYS	(---) PROP ADA ACCESSIBLE ASPHALT WALKWAYS	(---) PROP ADA ACCESSIBLE "STONE DUST" WALKWAYS	(---) PROPOSED WATER VALVE
(---) PROPOSED DOOR LOCATIONS			

GENERAL NOTES		UTILITY CONTACTS	
<p>1. NELSON &amp; POPE ENGINEERS SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION, MEANS, METHODS, TECHNIQUES, OR PROCEDURES UTILIZED BY THE CONTRACTOR, NOR FOR THE SAFETY OF PUBLIC OR CONTRACTOR'S EMPLOYEES, OR FOR THE FAILURE OF THE CONTRACTOR TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.</p> <p>2. ALL EXISTING STRUCTURES TO BE REMOVED, AND BACKFILLED, BACKFILL TO BE SELECT GRANULAR FILL AND COMPACTED TO 95% MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT, AS DETERMINED BY MODIFIED PROCTOR TEST.</p> <p>3. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY CONTRACTOR PRIOR TO EXCAVATION.</p> <p>4. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR CONSTRUCTION OF THIS PROJECT, FROM START TO FINISH, UNLESS OTHERWISE INSTRUCTED BY OWNER/ ENGINEER.</p> <p>5. ALL OTHER WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOWN OF BROOKHAVEN, SUFFOLK COUNTY OR AS SPECIFIED HEREIN, LATEST EDITIONS.</p> <p>6. INSTALLATION OF ELECTRIC AND GAS SERVICE IS THE RESPONSIBILITY OF THE CONTRACTOR, BY WHICH ALL WORK SHALL CONFORM, AS A MINIMUM TO THE REQUIREMENTS OF BROOKLYN UNION GAS/KEYSPAN.</p> <p>7. INSTALLATION OF TELEPHONE SERVICE IS THE RESPONSIBILITY OF THE CONTRACTOR, BY WHICH ALL WORK SHALL CONFORM, AS A MINIMUM, TO THE REQUIREMENTS OF VERIZON.</p> <p>8. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS NECESSARY FOR INSTALLATION OF ALL UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL REQUIREMENTS FOR PRE-CONSTRUCTION OF ANY SANITARY SYSTEM FROM ALL GOVERNING AGENCIES. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF ALL THE UTILITY OR MUNICIPAL AGENCY HAVING JURISDICTION. CONTRACTOR SHALL COORDINATE THE REQUIRED UTILITY AND MUNICIPAL INSPECTIONS.</p> <p>9. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS NECESSARY AND FOR THE INSTALLATION OF SIGNS.</p> <p>10. UNSUITABLE MATERIAL (AS DEFINED IN SECTION 203 OF N.Y.S.D.O.T. STANDARD SPECIFICATIONS EDITION UNDER PAVEMENT, WALKS AND CONCRETE SLABS, SHALL BE REMOVED AND RE PLACED WITH SELECT GRANULAR MATERIAL.</p> <p>11. SELECT GRANULAR MATERIAL SHALL BE AS DEFINED IN SECTION 203 OF THE N.Y.S.D.O.T. STANDARD SPECIFICATIONS.</p> <p>12. COMPACTION SHALL CONFORM TO N.Y.S.D.O.T. SECTION 203.</p> <p>13. DEBRIS SHALL NOT BE BURIED ON THE SUBJECT SITE. ALL UNSUITABLE MATERIAL AND DEBRIS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, TOWN, COUNTY, STATE AND FEDERAL, LAWS AND APPLICABLE CODES.</p> <p>14. KNOCKOUT PANELS FOR DRAINAGE PIPE(S) AND SHALL CONFORM TO THE TOWN OF BROOKHAVEN STANDARDS DETAILS AND SPECIFICATIONS.</p> <p>15. ALL PARKING LOT LIGHTING POLES, LIGHTING FIXTURE, CONFIGURATIONS, AND COLOR SHALL BE APPROVED BY OWNER OR THEIR REPRESENTATIVE, PRIOR TO INSTALLATION.</p> <p>16. CONTRACTOR TO BE RESPONSIBLE FOR OBTAINING ANY AND ALL PERMITS NECESSARY TO REMOVE ANY EXCAVATED AND DEMOLISHED MATERIALS.</p> <p>17. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS FOR SITE CLEARING AND GRUBBING.</p> <p>18. STOP LINE SITE DISTANCE SHALL BE MAINTAINED AT ALL INTERSECTIONS IN ACCORDANCE WITH AASHTO REQUIREMENTS.</p> <p>19. TEMPORARY FENCING IS TO BE INSPECTED PRIOR TO ANY CONSTRUCTION OR DISTURBANCE ON-SITE.</p> <p>20. ALL WALKWAYS TO BE IN CONFORMANCE WITH ADA STANDARDS.</p> <p>21. ANY RETAINING WALLS OVER 3' IN HEIGHT SHALL REQUIRE INSPECTION OF CONSTRUCTION BY A NYS LICENSED PROFESSIONAL ENGINEER. PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY SAID ENGINEER SHALL PROVIDE CERTIFICATION TO THE PLANNING BOARD, CERTIFYING THAT THE WALLS HAVE BEEN INSTALLED IN CONFORMANCE WITH THE APPROVED PLAN AND MANUFACTURERS SPECIFICATIONS.</p>		<p>SANITARY &amp; WATER: SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES 360 YAPHANK AVENUE, SUITE 2C YAPHANK NY, 11980</p> <p>SUFFOLK COUNTY DEPARTMENT OF PUBLIC WORKS 335 YAPHANK AVENUE YAPHANK NY, 11980</p> <p>WATER: SUFFOLK COUNTY WATER AUTHORITY 2045 ROUTE 112 CORAM, NEW YORK 11727</p> <p>GAS: KEYS PAN 1393 VETERANS HIGHWAY HAUPPAUGE, NEW YORK 11788</p> <p>ELECTRIC: LONG ISLAND POWER AUTHORITY 117 DOCTORS PATH ROAD RD2 RIVERHEAD, NEW YORK 11901</p> <p>TELEPHONE: VERIZON 501 N. OCEAN AVENUE PATCHOGUE, NEW YORK 11772</p> <p>ROADS: NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION 10 OFFICE, PERMITS DEPT. STATE OFFICE BUILDING HAUPPAUGE, NEW YORK 11788</p> <p>SITE PLAN/ TOWN OF BROOKHAVEN BUILDING: DEPT. OF PLANNING, ENVIRON., AND LAND MNGMT. ONE INDEPENDENCE HILL FARMINGVILLE, N.Y. 11738</p>	
<p><b>TOWN OF BROOKHAVEN NOTES:</b></p> <p>1. ALL CONCRETE CURB, SIDEWALK AND DRAINAGE STRUCTURES SHALL CONFORM TO THE TOWN OF BROOKHAVEN PLANNING BOARD STANDARD DETAILS AND SPECIFICATIONS.</p> <p>2. THE TOWN OF BROOKHAVEN PLANNING BOARD SHALL BE NOTIFIED 48 HRS. IN ADVANCE OF ALL CONSTRUCTION.</p> <p>3. LOCATION AND GRADES FOR CURBS AND WALKS TO BE VERIFIED WITH THE TOWN OF BROOKHAVEN HIGHWAY DEPARTMENT PRIOR TO CONSTRUCTION.</p> <p>4. ALL TRAFFIC CONTROL DEVICES, I.E. SIGNALS, SIGNS, AND PAVEMENT MARKINGS SHALL BE INSTALLED IN CONFORMANCE WITH THE GUIDELINES OF THE NEW YORK STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND AS DIRECTED BY THE TOWN OF BROOKHAVEN, DIVISION OF TRAFFIC SAFETY.</p> <p>5. THE CONTRACTOR PERFORMING ANY AND ALL TRAFFIC CONTROL DEVICES LAYOUT AND INSTALLATION WORK SHALL NOTIFY THE TOWN OF BROOKHAVEN DIVISION OF TRAFFIC SAFETY, 48 HOURS IN ADVANCE OF BEGINNING SUCH WORK ALONG A TOWN ROAD.</p> <p>6. ALL ROADWAY PAVEMENT MARKINGS REQUIRED SHALL BE THERMOPLASTIC (SUFFOLK COUNTY SPECIFICATIONS) UNLESS OTHERWISE NOTED ON PLAN.</p> <p>7. STOPLINE SIGHT DISTANCE SHALL BE MAINTAINED AT ALL INTERSECTIONS, IN ACCORDANCE WITH AASHTO REQUIREMENTS.</p>			

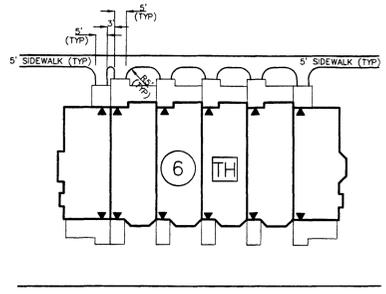
APPLICANT/OWNER:  
SANDY HILLS, LLC.  
P.O. BOX 334  
ST JAMES, NY 11780

No.	DATE	REVISION	BY
<p><b>COVER SHEET</b> FOR <b>SANDY HILLS AT MIDDLE ISLAND</b> SITUATED AT <b>MIDDLE ISLAND</b> TOWN OF BROOKHAVEN, SUFFOLK COUNTY, NEW YORK DISTRICT 0200, SECTION 97B, BLOCK 02, LOT 99.9</p> <p><b>N&amp;P NELSON &amp; POPE</b> ENGINEERS • SURVEYORS 572 WALT WHITMAN ROAD, MELVILLE, NY 11747-2988 (631) 427-5662 FAX (631) 427-5620 www.nelsonandpope.com</p>			
		DWN BY: JW	
		DSGN BY: JW	
		DATE: 03/05/08	
		CHK'D BY: GSI	
		DATE: 03/05/08	
		JOB No: 00088	
		FILE No:	
		CADD: 00088S1	
		SCALE: AS NOTED	
		SHEET: 1 OF 18	

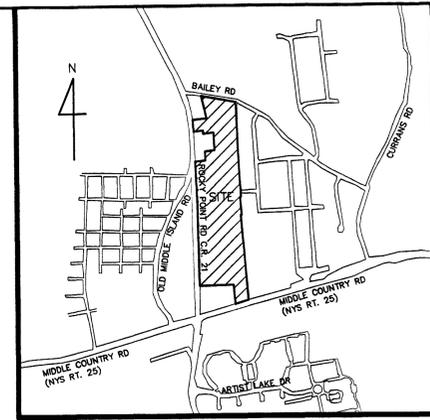
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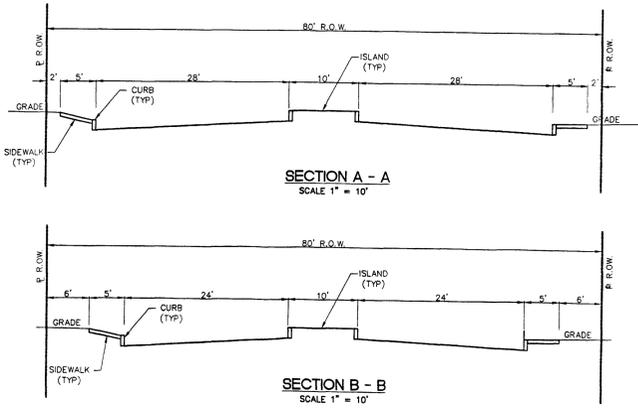
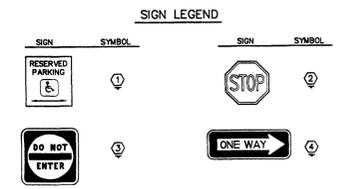
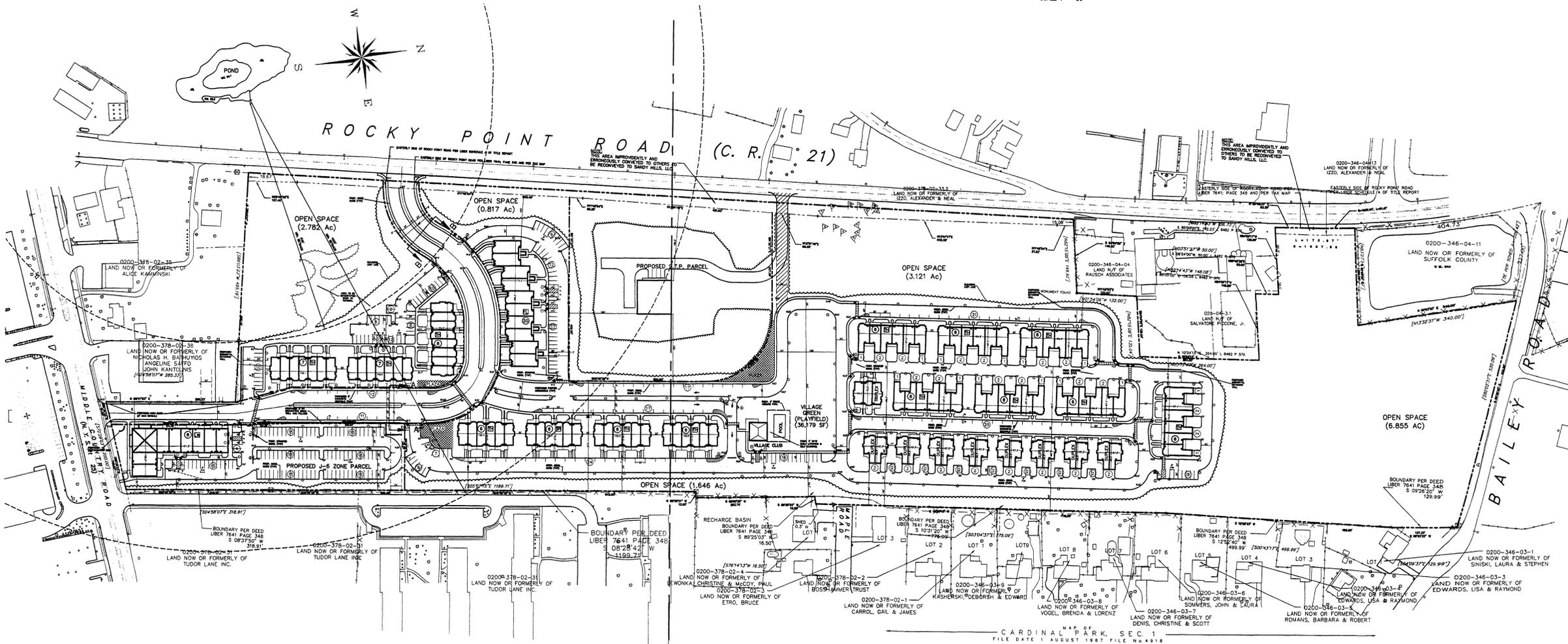
TYPICAL 25' TOWNHOUSE BUILDING  
SCALE 1" = 30'



TYPICAL 20' TOWNHOUSE BUILDING  
SCALE 1" = 30'



KEY MAP  
SCALE 1" = 1000'



**SITE DATA**

S.C.T.M. 0200-378-02-33.3, 33.3 & 0200-346-04-13  
 SITE AREA: 1,715,171 SF (39.375 AC)  
 EXISTING USE: VACANT  
 ZONE: J-2 BUSINESS (0.460 ACRES) AND A-1 RESIDENTIAL (38.915 ACRES)  
 (INCLUDES 3,969 AC STIP PARCELS)  
 PROPOSED ZONE: J-4 BUSINESS (2.100 ACRES) AND MF (CONDOMINIUM'S), 38.815 AC  
 135 UNITS/38.815 ACRES = 3.67 UNITS/ACRE  
 COMMERCIAL 13,000 SF  
 VILLAGE CLUB 8,000 SF  
 STIP SITE: 3,858 ACRES

**OPEN SPACE**

REQUIRED:  
 (Excl. A-1 ZONE): 38.915 x 0.47 = 18,280 AC  
 (Excl. J-2 ZONE): 0.460 x 0.35 = 0.161 AC  
 TOTAL = 18,441 AC

PROVIDED:  
 = 18,729 AC (GROSS)  
 = 14,468 AC (NET)  
 AREA TO BE REVEGETATED  
 BACK TO NATURAL: = 2,231 AC  
 TOTAL: = 18,729 AC  
 PINE BARRENS CREDIT REQUIRED = 1,723 AC  
 STIP SITE = 3,858 AC  
 BOULEVARD R.O.W. = 2,233 AC  
 6,192 AC

**SITE QUANTITIES**

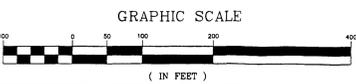
PAVEMENT (ROADS AND PARKING)	343,256 SF / 7.80 AC
SEWERAGE	58,208 SF / 1.30 AC
OPEN SPACE (VEGETATED BACK TO NATURAL)	87,186 SF / 1.97 AC
OPEN SPACE (NATURAL/LANDSTURBED)	631,528 SF / 14.42 AC
STIP AREA	172,431 SF / 3.90 AC
UNITS (INCL. DECKS & PATIOS)	178,318 SF / 3.96 AC
FERTILIZER DEP. VEGETATION	150,410 SF / 3.33 AC
NON FERTILIZER DEP. VEGETATION	41,054 SF / 0.90 AC
REC. AREA (BUILDING AND POOL)	8,485 SF / 0.19 AC
REC. AREA (PLAYFIELD)	38,179 SF / 0.85 AC
TOTAL	1,715,171 SF / 37.80 AC

**SITE REQUIREMENTS** (BASED UPON MF RESIDENCE DISTRICT)

F.A.R. 302,819 SF / 77.66%  
 UNITS 301,218 SF  
 CLUBHOUSE 1,400 SF  
 REQUIRED PARKING: 2 STALLS PER UNIT  
 2 STALLS x 135 UNITS = 270 STALLS  
 1 STALL / 150 SF x 13,000 SF = 87 STALLS  
 TOTAL STALLS REQUIRED = 357 STALLS  
 PARKING PROVIDED:  
 PAVED PARKING: 372 SPACES (INCLUDING 13 HANDICAP STALLS)  
 DUPLEX AND TOWNHOUSES W/DRIVEWAYS: 58 DRIVEWAYS = 58 SPACES  
 TOTAL PARKING PROVIDED: 488 STALLS (INCLUDING 13 HANDICAP STALLS)

**ZONING REQUIREMENTS** (MF RESIDENCE)

REQUIRED	REQUIRED	REQUIRED
MIN. FRONT YARD SETBACK:	25' (PRIMARY ZONE) / 75' (IF APPROPRIATE)	100'
MIN. REAR YARD SETBACK:	50' (PRIMARY ZONE) / 25' (IF APPROPRIATE)	88.5'
MIN. SIDE YARD SETBACK:	50' (PRIMARY ZONE) / 25' (IF APPROPRIATE)	57.7'
MAXIMUM HEIGHT (FEET / STORES):	35' OR 2 1/2 STORES (PRIMARY ZONE) / 50' OR 3 STORES (IF APPROPRIATE)	See Archt. Plans
MAXIMUM F.A.R.:	30%	17.65%
MINIMUM LOT AREA:	1 ACRE	38,375 Acres
MINIMUM LOT WIDTH:	100' (PRIMARY ZONE) / 6 UNITS/ACRE	25-40'
MAXIMUM UNITS PER BUILDING:	4	3.67 Units/Acre
MIN. DISTANCE BETWEEN BUILDINGS:	75' / -	4 (WITHIN PART OF BUILDING WITHIN FIRE WALLS) / 25'



**NOTE:**  
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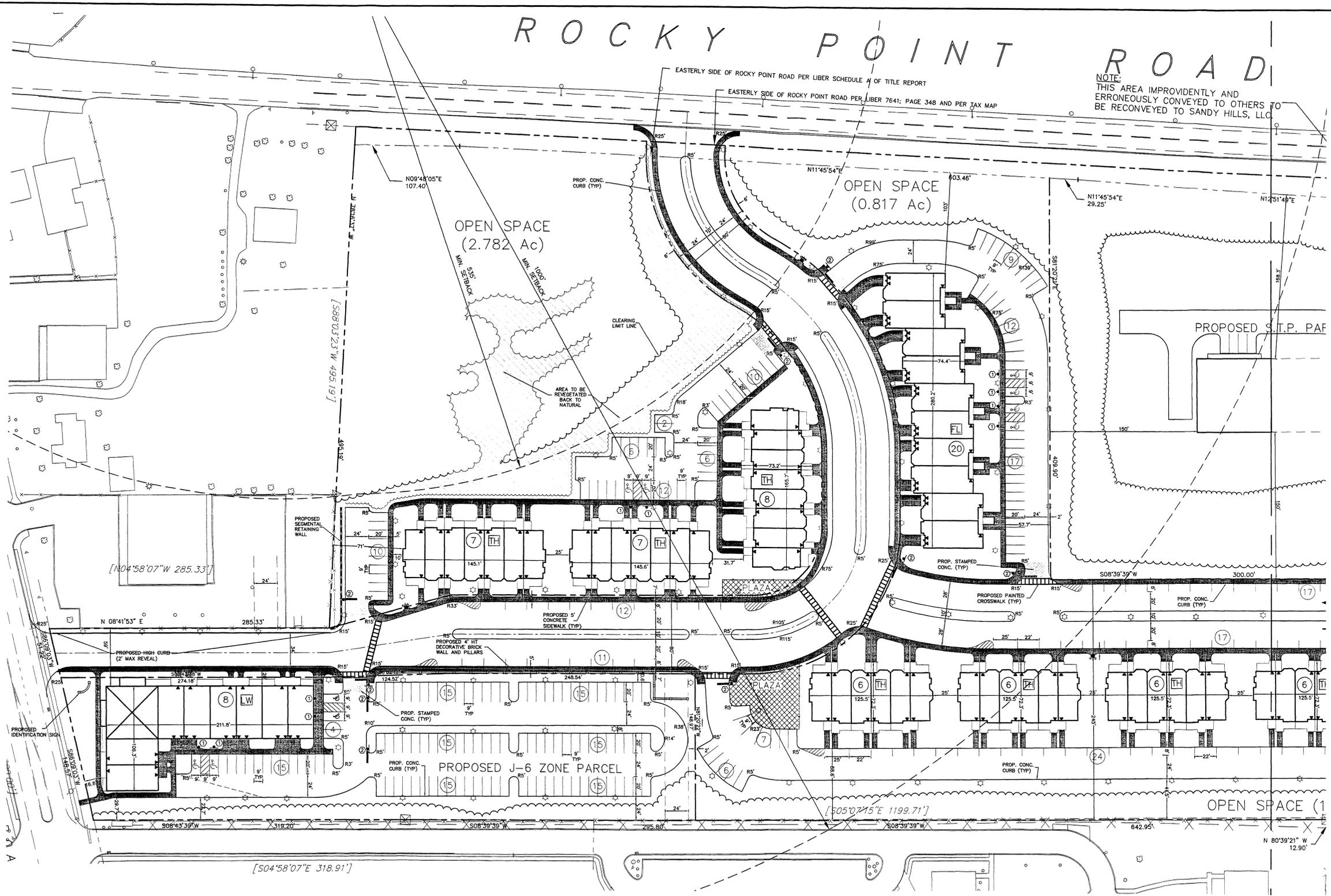
No.	DATE	REVISION	BY

**OVERALL PLAN**  
 FROM  
**SANDY HILLS AT MIDDLE ISLAND**  
 INITIATED AT  
**MIDDLE ISLAND**  
 TOWN OF BROCKHAVEN, SUFFOLK COUNTY, NEW YORK  
 DISTRICT 0200, SECTION 079, BLOCK 02, LOT 03.3

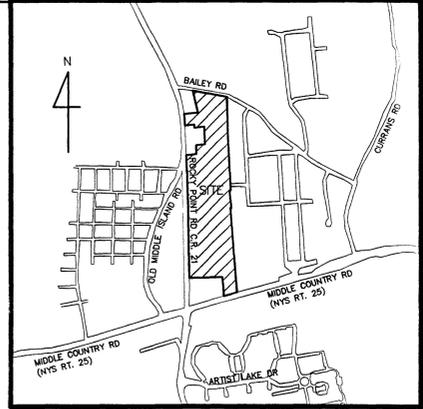
**NELSON & POPE**  
 ENGINEERS & SURVEYORS  
 872 WALT WHITMAN ROAD, MELVILLE, NY 11747-2988  
 (631) 427-9665 FAX (631) 427-9652 www.nelsonandpope.com

SCALE: AS NOTED  
 SHEET: 2 OF 10

# ROCKY POINT ROAD



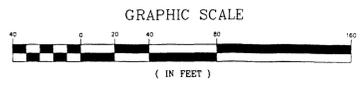
NOTE:  
THIS AREA IMPROVIDENTLY AND  
ERRONEOUSLY CONVEYED TO OTHERS  
BE RECONVEYED TO SANDY HILLS, LLC



KEY MAP  
SCALE 1" = 1000'

MATCH LINE: SHEET 4 OF 16

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WILL BE PROSECUTED.



NO.	DATE	REVISION	BY

<b>SOUTH ALIGNMENT PLAN</b>		DWN BY: JUM
SANDY HILLS AT MIDDLE ISLAND		DRGN BY: JUM
SITUATED AT		DATE: 03/05/08
MIDDLE ISLAND		CHK'D BY: GSK
TOWN OF BROOKHAVEN, SUFFOLK COUNTY, NEW YORK		DATE: 03/05/08
DISTRICT 0200, SECTION 978, BLOCK 02, LOT 93.9		JOB No: 000889
<b>N&amp;P NELSON &amp; POPE</b>		FILE No:
ENGINEERS & SURVEYORS		CADD: 000889P
572 WALT WHITMAN ROAD, MELVILLE, NY 11747-2888		SCALE: 1"=40'
(631) 427-5865 FAX (631) 427-9620 www.nelsonpopeng.com		SHEET: 3 OF 16

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D1 (C. R. 21)

THERS TO LS, LLC

SED S.T.P. PARCEL

0200-378-02-33.2  
LAND NOW OR FORMERLY OF  
IZZO, ALEXANDER & NEAL

THIS AREA IMPRO  
ERRONEOUSLY CO  
OTHERS TO BE RE  
TO SANDY HILLS,

EASTERLY SIDE OF ROCKY P  
4 BER 7641; PAGE 348 AND

OPEN SPACE  
(3.121 Ac)

0200-346-04-04  
LAND N/F OF  
RAUSCH ASSOCIATES

020-04-3.1  
LAND N/F OF  
SALVATORE PICCONE, Jr.

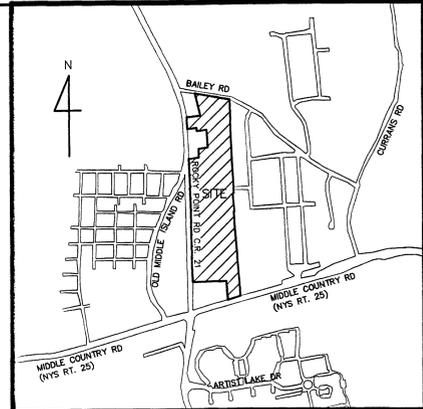
VILLAGE GREEN  
(PLAYFIELD)  
(36,179 SF)

VILLAGE CLUB

SPACE (1.646 Ac)

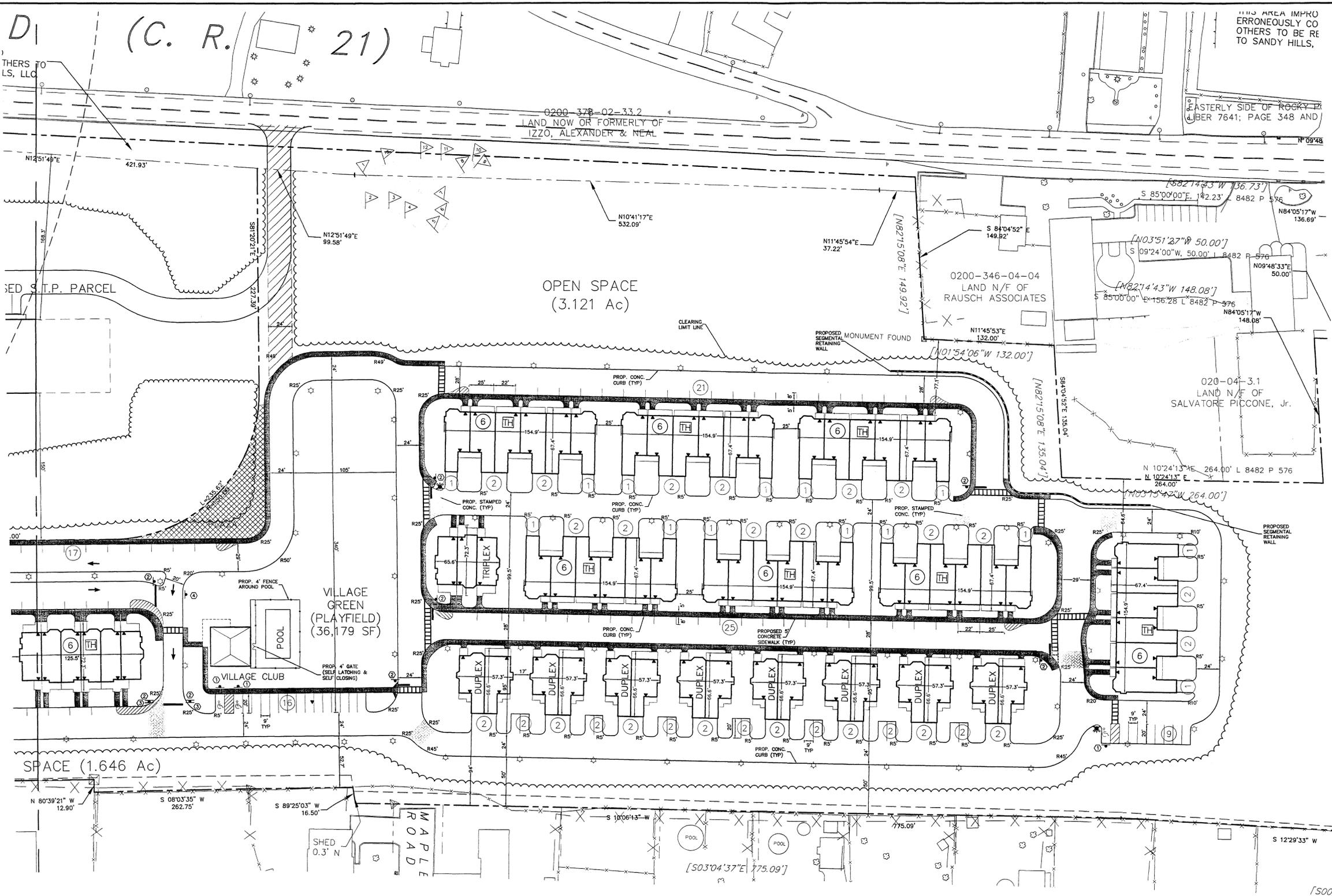
MAPLE  
ROAD

SHED  
0.3' N



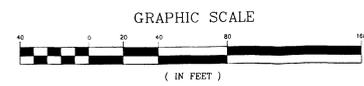
KEY MAP  
SCALE 1" = 1000'

MATCH LINE: SHEET 3 OF 16



1/500'

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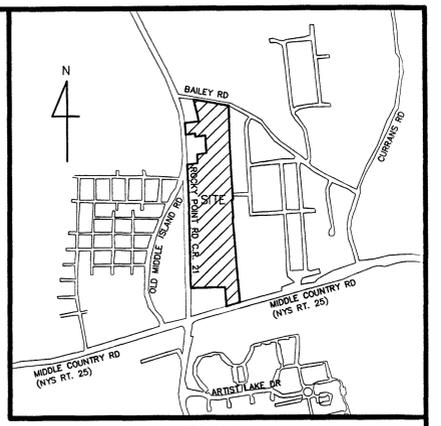
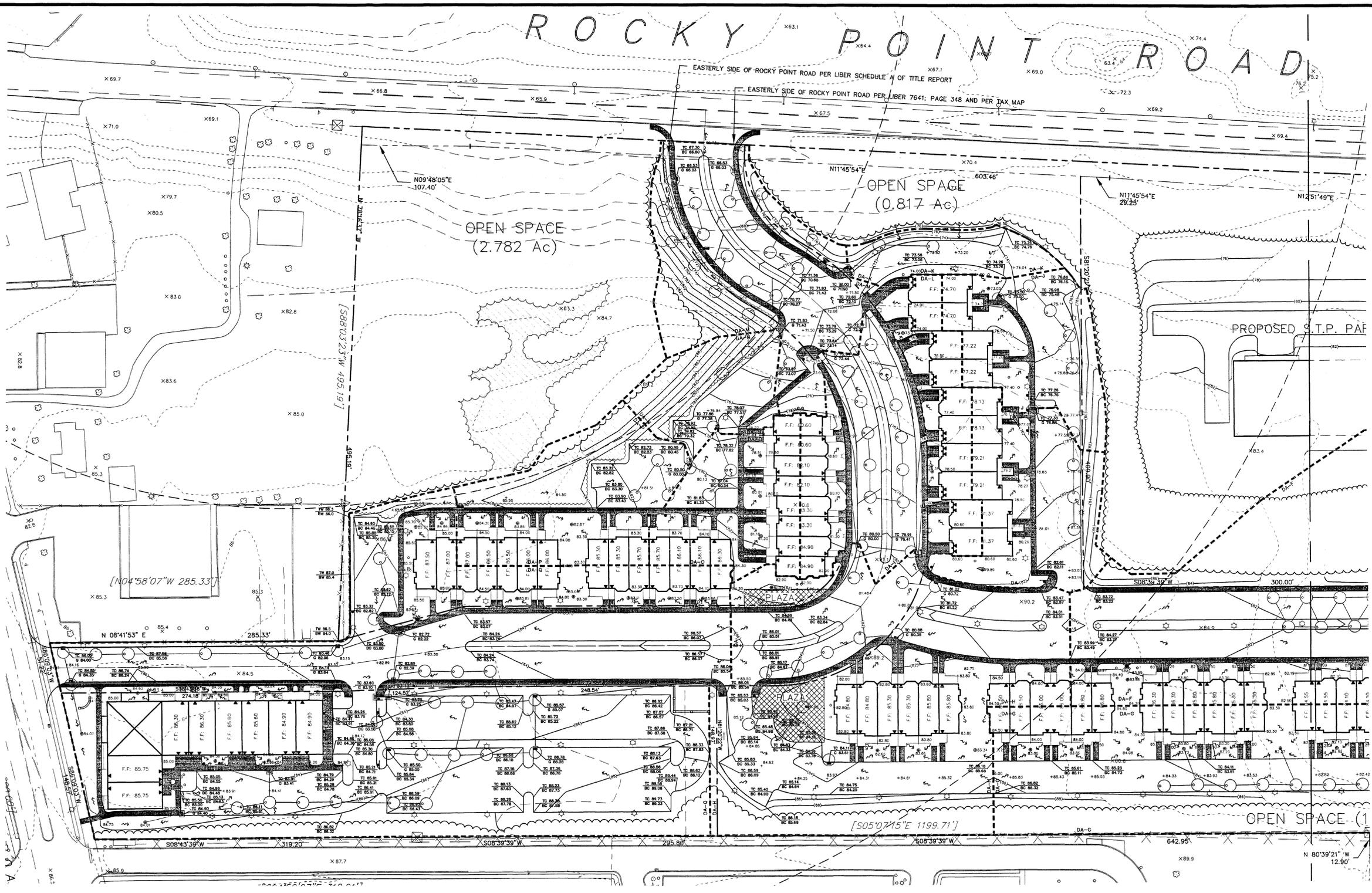


NO.	DATE	REVISION	BY
<b>NORTH ALIGNMENT PLAN</b> <b>SANDY HILLS AT MIDDLE ISLAND</b> SITUATED AT <b>MIDDLE ISLAND</b> TOWN OF BROOKHAVEN, SUFFOLK COUNTY, NEW YORK DISTRICT 0200, SECTION 378, BLOCK 02, LOT 93.3			
			DWN. BY: JLM
			DSGN. BY: JLM
			DATE: 03/05/08
			CHKD. BY: OSB
			DATE: 02/05/08
			JOB NO: 000868
			FILE NO:
			CADD: 000868P
			SCALE: 1"=40'
			SHEET: 4 OF 16

**N&P**  
NELSON & POPE  
ENGINEERS & SURVEYORS  
572 WALT WHITMAN ROAD, MELVILLE, NY 11747-2988  
(631) 427-9668 FAX (631) 427-9620 www.nelsonandpoppe.com

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# ROCKY POINT ROAD



KEY MAP  
SCALE 1" = 1000'

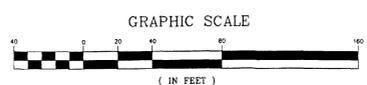
MATCH LINE: SHEET 6 OF 16

DRAINAGE SHED DA-A	DRAINAGE SHED DA-C	DRAINAGE SHED DA-E	DRAINAGE SHED DA-G	DRAINAGE SHED DA-I	DRAINAGE SHED DA-K	DRAINAGE SHED DA-M	DRAINAGE SHED DA-O	DRAINAGE SHED DA-Q
BLDG 7877 SF x 1.0 = 7877 SF PAVE 9665 SF x 1.0 = 9665 SF WALK 1085 SF x 1.0 = 1085 SF LAND 18610 SF x 0.1 = 1861 SF TOTAL AREA = 20508 SF 20508 SF x 5/12 = 8548 CF USE (6) 12" L.P. @ 15' E.D. = 9079 CF PROVIDED	BLDG 2904 SF x 1.0 = 2904 SF PAVE 2920 SF x 1.0 = 2920 SF WALK 8620 SF x 1.0 = 8620 SF LAND 34933 SF x 0.1 = 3493 SF TOTAL AREA = 70827 SF 70827 SF x 5/12 = 29511 CF USE (20) 12" L.P. @ 15' E.D. = 30294 CF PROVIDED	BLDG 16366 SF x 1.0 = 16366 SF PAVE 31245 SF x 1.0 = 31245 SF WALK 6145 SF x 1.0 = 6145 SF LAND 18211 SF x 0.1 = 1821 SF TOTAL AREA = 55786 SF 55786 SF x 5/12 = 23157 CF USE (18) 12" L.P. @ 15' E.D. = 23806 CF PROVIDED	BLDG 13340 SF x 1.0 = 13340 SF PAVE 24047 SF x 1.0 = 24047 SF WALK 4371 SF x 1.0 = 4371 SF LAND 47419 SF x 0.1 = 4742 SF TOTAL AREA = 46506 SF 46506 SF x 5/12 = 19377 CF USE (13) 12" L.P. @ 15' E.D. = 19672 CF PROVIDED	BLDG 5332 SF x 1.0 = 5332 SF PAVE 6366 SF x 1.0 = 6366 SF WALK 2037 SF x 1.0 = 2037 SF LAND 7328 SF x 0.1 = 733 SF TOTAL AREA = 14688 SF 14688 SF x 5/12 = 6028 CF USE (5) 12" L.P. @ 14' E.D. = 7062 CF PROVIDED	BLDG 0 SF x 1.0 = 0 SF PAVE 5375 SF x 1.0 = 5375 SF WALK 244 SF x 1.0 = 244 SF LAND 3314 SF x 0.1 = 331 SF TOTAL AREA = 5950 SF 5950 SF x 5/12 = 2479 CF USE (3) 12" L.P. @ 9' E.D. = 2724 CF PROVIDED	BLDG 0 SF x 1.0 = 0 SF PAVE 15376 SF x 1.0 = 15376 SF WALK 7828 SF x 1.0 = 7828 SF LAND 17358 SF x 0.1 = 1736 SF TOTAL AREA = 19940 SF 19940 SF x 5/12 = 8508 CF USE (21) 12" L.P. @ 4' E.D. = 8474 CF PROVIDED	BLDG 8036 SF x 1.0 = 8036 SF PAVE 3279 SF x 1.0 = 3279 SF WALK 2026 SF x 1.0 = 2026 SF LAND 4317 SF x 0.1 = 432 SF TOTAL AREA = 13773 SF 13773 SF x 5/12 = 5739 CF USE (4) 12" L.P. @ 15' E.D. = 6053 CF PROVIDED	BLDG 25279 SF x 1.0 = 25279 SF PAVE 78614 SF x 1.0 = 78614 SF WALK 9320 SF x 1.0 = 9320 SF LAND 45200 SF x 0.1 = 4520 SF TOTAL AREA = 117763 SF 117763 SF x 5/12 = 49068 CF USE (33) 12" L.P. @ 15' E.D. = 49396 CF PROVIDED

DRAINAGE SHED DA-B	DRAINAGE SHED DA-D	DRAINAGE SHED DA-F	DRAINAGE SHED DA-H	DRAINAGE SHED DA-J	DRAINAGE SHED DA-L	DRAINAGE SHED DA-N	DRAINAGE SHED DA-P
BLDG 12807 SF x 1.0 = 12807 SF PAVE 22485 SF x 1.0 = 22485 SF WALK 0 SF x 1.0 = 0 SF LAND 49322 SF x 0.1 = 4932 SF TOTAL AREA = 40124 SF 40124 SF x 5/12 = 16718 CF USE (12) 12" L.P. @ 15' E.D. = 18158 CF PROVIDED	BLDG 23123 SF x 1.0 = 23123 SF PAVE 26482 SF x 1.0 = 26482 SF WALK 7830 SF x 1.0 = 7830 SF LAND 33173 SF x 0.1 = 3317 SF TOTAL AREA = 53869 SF 53869 SF x 5/12 = 22382 CF USE (16) 12" L.P. @ 15' E.D. = 22597 CF PROVIDED	BLDG 8219 SF x 1.0 = 8219 SF PAVE 31287 SF x 1.0 = 31287 SF WALK 7830 SF x 1.0 = 7830 SF LAND 8036 SF x 0.1 = 804 SF TOTAL AREA = 5571 SF 5571 SF x 5/12 = 23071 CF USE (18) 12" L.P. @ 15' E.D. = 2421 CF PROVIDED	BLDG 10000 SF x 1.0 = 10000 SF PAVE 30546 SF x 1.0 = 30546 SF WALK 4827 SF x 1.0 = 4827 SF LAND 34749 SF x 0.1 = 3475 SF TOTAL AREA = 48848 SF 48848 SF x 5/12 = 20333 CF USE (14) 12" L.P. @ 15' E.D. = 2185 CF PROVIDED	BLDG 3555 SF x 1.0 = 3555 SF PAVE 7057 SF x 1.0 = 7057 SF WALK 829 SF x 1.0 = 829 SF LAND 787 SF x 0.1 = 787 SF TOTAL AREA = 12228 SF 12228 SF x 5/12 = 5095 CF USE (5) 12" L.P. @ 11' E.D. = 5548 CF PROVIDED	BLDG 14138 SF x 1.0 = 14138 SF PAVE 11111 SF x 1.0 = 11111 SF WALK 4270 SF x 1.0 = 4270 SF LAND 1154 SF x 0.1 = 1154 SF TOTAL AREA = 30670 SF 30670 SF x 5/12 = 12779 CF USE (13) 12" L.P. @ 10' E.D. = 13114 CF PROVIDED	BLDG 0 SF x 1.0 = 0 SF PAVE 4518 SF x 1.0 = 4518 SF WALK 352 SF x 1.0 = 352 SF LAND 7657 SF x 0.1 = 766 SF TOTAL AREA = 5636 SF 5636 SF x 5/12 = 2348 CF USE (3) 12" L.P. @ 9' E.D. = 2724 CF PROVIDED	BLDG 8628 SF x 1.0 = 8628 SF PAVE 4748 SF x 1.0 = 4748 SF WALK 1739 SF x 1.0 = 1739 SF LAND 12575 SF x 0.1 = 1258 SF TOTAL AREA = 13370 SF 13370 SF x 5/12 = 5571 CF USE (4) 12" L.P. @ 15' E.D. = 6053 CF PROVIDED

**NOTE:**  
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF NELSON & POPE. UNAUTHORIZED ALTERATIONS OR ADDITIONS TO THESE DOCUMENTS ARE A VIOLATION OF SECTION 2209 OF THE NEW YORK STATE EDUCATION LAW. INFRINGEMENTS WILL BE PROSECUTED.

- NOTE:**
1. ALL DRAINAGE PIPE TO BE 15" CIP @ 0.5% UNLESS OTHERWISE NOTED ON PLAN
  2. MAXIMUM SLOPE OF WALKWAYS TO BE 5.0%
  3. MAXIMUM CROSS-SLOPE OF WALKWAYS TO BE 2.0%

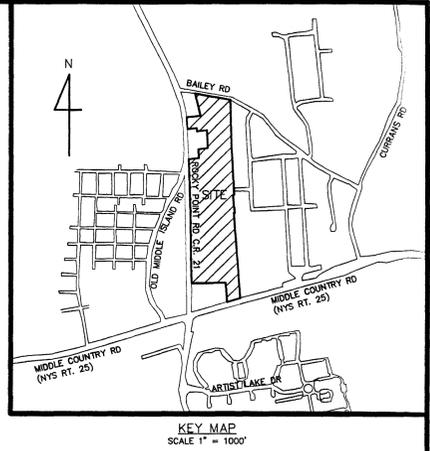
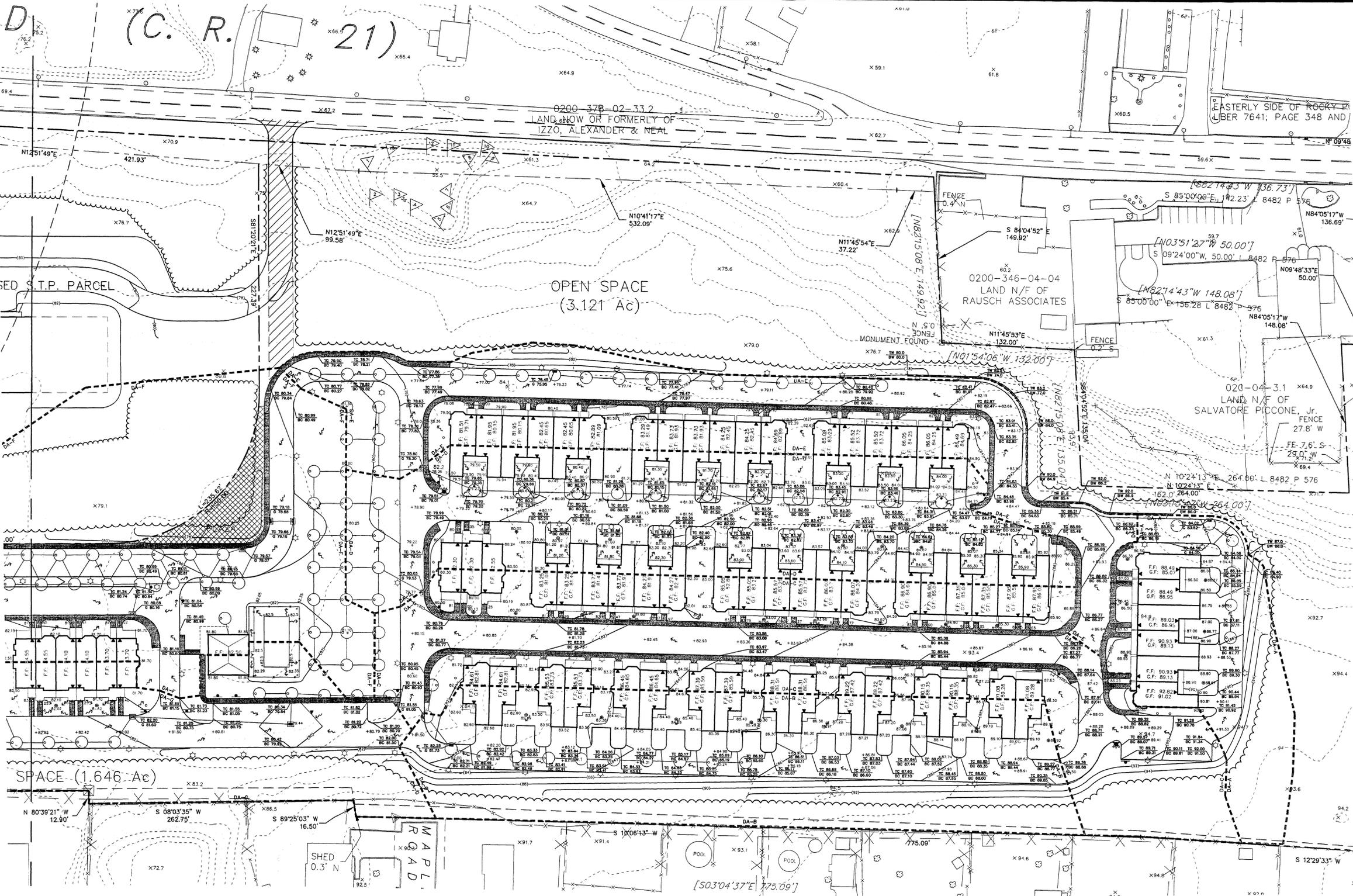


No.	DATE	REVISION	BY

**SOUTH GRADING and DRAINAGE PLAN**  
FOR  
**SANDY HILLS AT MIDDLE ISLAND**  
SITUATED AT  
**MIDDLE ISLAND**  
TOWN OF BROOKHAVEN, BUFFALO COUNTY, NEW YORK  
DISTRICT 0200, SECTION 978, BLOCK 02, LOT 30.3

**NELSON & POPE**  
ENGINEERS • SURVEYORS  
572 WALT WHITMAN ROAD, MELVILLE, NY 11747-2883  
(631) 427-9665 FAX (631) 427-9650 www.nelsonandpope.com

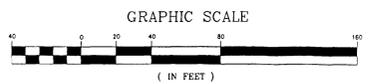
DWN BY: JLV  
DSGN BY: JLV  
DATE: 03/05/08  
CHKD BY: GSI  
DATE: 03/05/08  
JOB No.: 00088  
FILE No.:  
CADD: 00088P  
SCALE: 1"=40'  
SHEET: 6 OF 16



KEY MAP  
SCALE 1" = 1000'

MATCH LINE: SHEET 5 OF 16

**NOTE:**  
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF NELSON & POPE. UNAUTHORIZED ALTERATIONS OR ADDITIONS TO THESE DOCUMENTS ARE A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW. INFRINGEMENTS WILL BE PROSECUTED.



NO.	DATE	REVISION	BY:

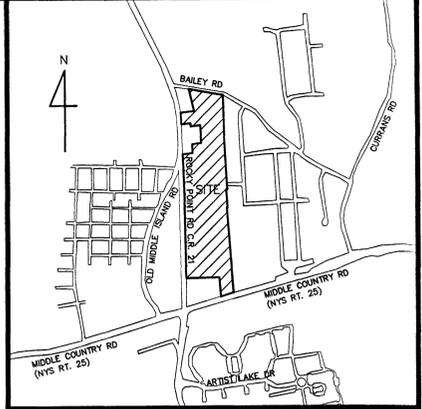
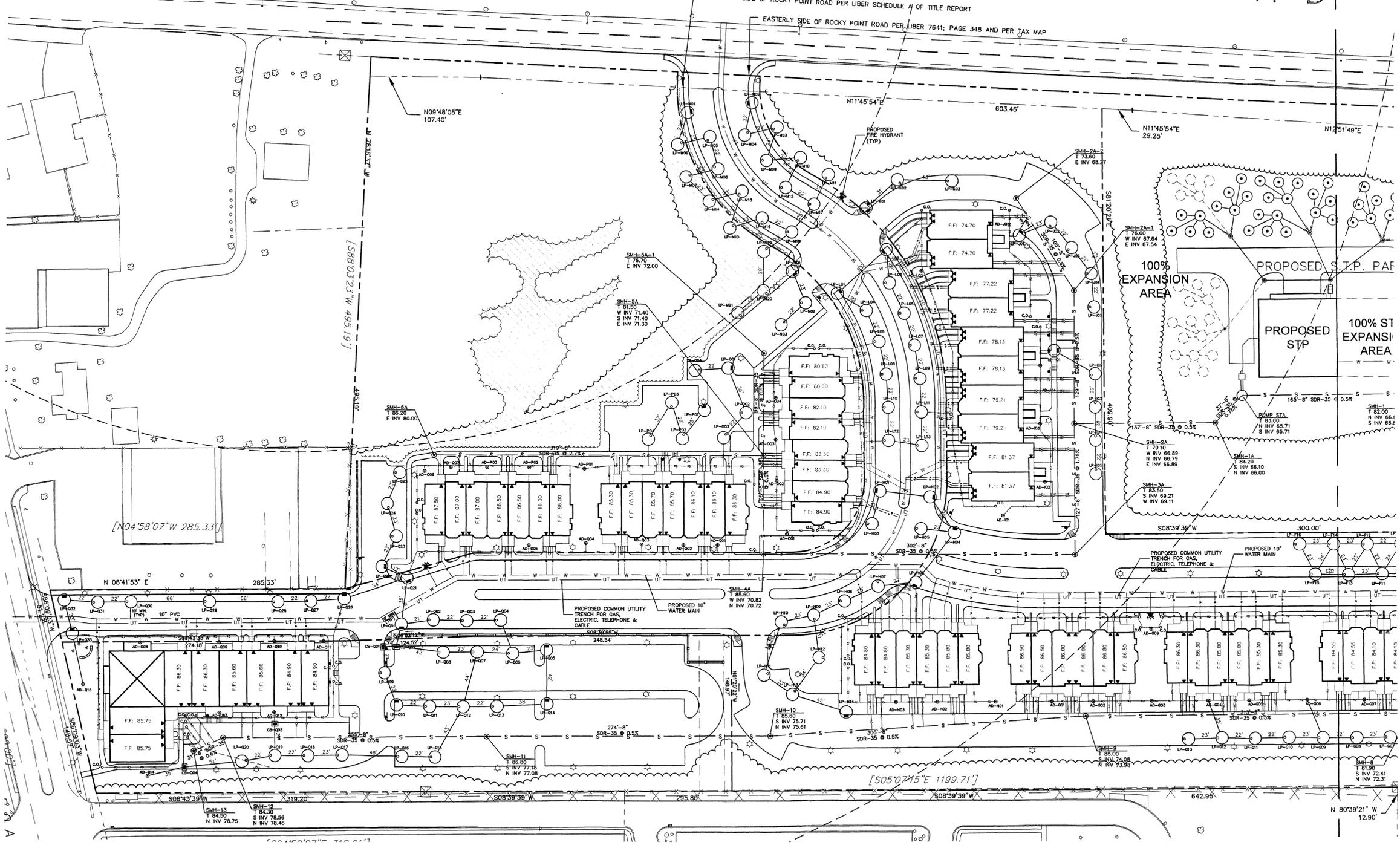
  

<b>NORTH GRADING and DRAINAGE PLAN</b>	
FOR <b>SANDY HILLS AT MIDDLE ISLAND</b>	
SITUATED AT <b>MIDDLE ISLAND</b>	
TOWN OF BROOKHAVEN, SUFFOLK COUNTY, NEW YORK DISTRICT 0200, SECTION 97B, BLOCK 02, LOT 33.3	
<b>NELSON &amp; POPE</b>	
ENGINEERS & SURVEYORS	
872 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747-2988 (631) 427-9665 FAX (631) 427-9620 www.nelsonandpope.com	

DWN BY: JMW	FILE NO: 000885P
DSGN BY: JMW	SCALE: 1"=40'
DATE: 03/05/09	SHEET: 6 OF 16
CHKD BY: GSI	
DATE: 03/05/09	
JOB NO: 000885	

# ROCKY POINT ROAD



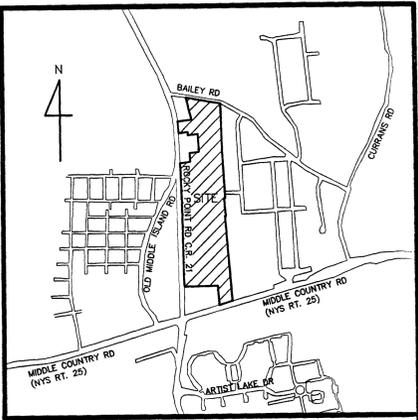
KEY MAP  
SCALE 1" = 1000'

LINE NO.	START	END	DEPTH	INVERT	REMARKS
LP-001	79.41	71.21	15.00	81.41	
LP-002	80.38	72.18	15.00	82.38	
LP-003	81.35	73.15	15.00	83.35	
LP-004	82.32	74.12	15.00	84.32	
LP-005	83.29	75.09	15.00	85.29	
LP-006	84.26	76.06	15.00	86.26	
LP-007	85.23	77.03	15.00	87.23	
LP-008	86.20	78.00	15.00	88.20	
LP-009	87.17	78.97	15.00	89.17	
LP-010	88.14	79.94	15.00	90.14	
LP-011	89.11	80.91	15.00	91.11	
LP-012	90.08	81.88	15.00	92.08	
LP-013	91.05	82.85	15.00	93.05	
LP-014	92.02	83.82	15.00	94.02	
LP-015	92.99	84.79	15.00	94.99	
LP-016	93.96	85.76	15.00	95.96	
LP-017	94.93	86.73	15.00	96.93	
LP-018	95.90	87.70	15.00	97.90	
LP-019	96.87	88.67	15.00	98.87	
LP-020	97.84	89.64	15.00	99.84	
LP-021	98.81	90.61	15.00	100.81	
LP-022	99.78	91.58	15.00	101.78	
LP-023	100.75	92.55	15.00	102.75	
LP-024	101.72	93.52	15.00	103.72	
LP-025	102.69	94.49	15.00	104.69	
LP-026	103.66	95.46	15.00	105.66	
LP-027	104.63	96.43	15.00	106.63	
LP-028	105.60	97.40	15.00	107.60	
LP-029	106.57	98.37	15.00	108.57	
LP-030	107.54	99.34	15.00	109.54	
LP-031	108.51	100.31	15.00	110.51	
LP-032	109.48	101.28	15.00	111.48	
LP-033	110.45	102.25	15.00	112.45	
LP-034	111.42	103.22	15.00	113.42	
LP-035	112.39	104.19	15.00	114.39	
LP-036	113.36	105.16	15.00	115.36	
LP-037	114.33	106.13	15.00	116.33	
LP-038	115.30	107.10	15.00	117.30	
LP-039	116.27	108.07	15.00	118.27	
LP-040	117.24	109.04	15.00	119.24	
LP-041	118.21	110.01	15.00	120.21	
LP-042	119.18	110.98	15.00	121.18	
LP-043	120.15	111.95	15.00	122.15	
LP-044	121.12	112.92	15.00	123.12	
LP-045	122.09	113.89	15.00	124.09	
LP-046	123.06	114.86	15.00	125.06	
LP-047	124.03	115.83	15.00	126.03	
LP-048	125.00	116.80	15.00	127.00	
LP-049	125.97	117.77	15.00	127.97	
LP-050	126.94	118.74	15.00	128.94	
LP-051	127.91	119.71	15.00	129.91	
LP-052	128.88	120.68	15.00	130.88	
LP-053	129.85	121.65	15.00	131.85	
LP-054	130.82	122.62	15.00	132.82	
LP-055	131.79	123.59	15.00	133.79	
LP-056	132.76	124.56	15.00	134.76	
LP-057	133.73	125.53	15.00	135.73	
LP-058	134.70	126.50	15.00	136.70	
LP-059	135.67	127.47	15.00	137.67	
LP-060	136.64	128.44	15.00	138.64	
LP-061	137.61	129.41	15.00	139.61	
LP-062	138.58	130.38	15.00	140.58	
LP-063	139.55	131.35	15.00	141.55	
LP-064	140.52	132.32	15.00	142.52	
LP-065	141.49	133.29	15.00	143.49	
LP-066	142.46	134.26	15.00	144.46	
LP-067	143.43	135.23	15.00	145.43	
LP-068	144.40	136.20	15.00	146.40	
LP-069	145.37	137.17	15.00	147.37	
LP-070	146.34	138.14	15.00	148.34	
LP-071	147.31	139.11	15.00	149.31	
LP-072	148.28	140.08	15.00	150.28	
LP-073	149.25	141.05	15.00	151.25	
LP-074	150.22	142.02	15.00	152.22	
LP-075	151.19	142.99	15.00	153.19	
LP-076	152.16	143.96	15.00	154.16	
LP-077	153.13	144.93	15.00	155.13	
LP-078	154.10	145.90	15.00	156.10	
LP-079	155.07	146.87	15.00	157.07	
LP-080	156.04	147.84	15.00	158.04	
LP-081	157.01	148.81	15.00	159.01	
LP-082	157.98	149.78	15.00	160.98	
LP-083	158.95	150.75	15.00	161.95	
LP-084	159.92	151.72	15.00	162.92	
LP-085	160.89	152.69	15.00	163.89	
LP-086	161.86	153.66	15.00	164.86	
LP-087	162.83	154.63	15.00	165.83	
LP-088	163.80	155.60	15.00	166.80	
LP-089	164.77	156.57	15.00	167.77	
LP-090	165.74	157.54	15.00	168.74	
LP-091	166.71	158.51	15.00	169.71	
LP-092	167.68	159.48	15.00	170.68	
LP-093	168.65	160.45	15.00	171.65	
LP-094	169.62	161.42	15.00	172.62	
LP-095	170.59	162.39	15.00	173.59	
LP-096	171.56	163.36	15.00	174.56	
LP-097	172.53	164.33	15.00	175.53	
LP-098	173.50	165.30	15.00	176.50	
LP-099	174.47	166.27	15.00	177.47	
LP-100	175.44	167.24	15.00	178.44	
LP-101	176.41	168.21	15.00	179.41	
LP-102	177.38	169.18	15.00	180.38	
LP-103	178.35	170.15	15.00	181.35	
LP-104	179.32	171.12	15.00	182.32	
LP-105	180.29	172.09	15.00	183.29	
LP-106	181.26	173.06	15.00	184.26	
LP-107	182.23	174.03	15.00	185.23	
LP-108	183.20	175.00	15.00	186.20	
LP-109	184.17	175.97	15.00	187.17	
LP-110	185.14	176.94	15.00	188.14	
LP-111	186.11	177.91	15.00	189.11	
LP-112	187.08	178.88	15.00	190.08	
LP-113	188.05	179.85	15.00	191.05	
LP-114	189.02	180.82	15.00	192.02	
LP-115	190.00	181.79	15.00	192.99	
LP-116	190.97	182.76	15.00	193.96	
LP-117	191.94	183.73	15.00	194.93	
LP-118	192.91	184.70	15.00	195.90	
LP-119	193.88	185.67	15.00	196.87	
LP-120	194.85	186.64	15.00	197.84	
LP-121	195.82	187.61	15.00	198.81	
LP-122	196.79	188.58	15.00	199.78	
LP-123	197.76	189.55	15.00	200.75	
LP-124	198.73	190.52	15.00	201.72	
LP-125	199.70	191.49	15.00	202.69	
LP-126	200.67	192.46	15.00	203.66	
LP-127	201.64	193.43	15.00	204.63	
LP-128	202.61	194.40	15.00	205.60	
LP-129	203.58	195.37	15.00	206.57	
LP-130	204.55	196.34	15.00	207.54	
LP-131	205.52	197.31	15.00	208.51	
LP-132	206.49	198.28	15.00	209.48	
LP-133	207.46	199.25	15.00	210.45	
LP-134	208.43	200.22	15.00	211.42	
LP-135	209.40	201.19	15.00	212.39	
LP-136	210.37	202.16	15.00	213.36	
LP-137	211.34	203.13	15.00	214.33	
LP-138	212.31	204.10	15.00	215.30	
LP-139	213.28	205.07	15.00	216.27	
LP-140	214.25	206.04	15.00	217.24	
LP-141	215.22	207.01	15.00	218.21	
LP-142	216.19	207.98	15.00	219.18	
LP-143	217.16	208.95	15.00	220.15	
LP-144	218.13	209.92	15.00	221.12	
LP-145	219.10	210.89	15.00	222.09	
LP-146	220.07	211.86	15.00	223.06	
LP-147	221.04	212.83	15.00	224.03	
LP-148	222.01	213.80	15.00	225.00	
LP-149	222.98	214.77	15.00	225.97	
LP-150	223.95	215.74	15.00	226.94	
LP-151	224.92	216.71	15.00	227.91	
LP-152	225.89	217.68	15.00	228.88	
LP-153	226.86	218.65	15.00	229.85	
LP-154	227.83	219.62	15.00	230.82	
LP-155	228.80	220.59	15.00	231.79	
LP-156	229.77	221.56	15.00	232.76	
LP-157	230.74	222.53	15.00	233.73	
LP-158	231.71	223.50	15.00	234.70	
LP-159	232.68	224.47	15.00	235.67	
LP-160	233.65	225.44	15.00	236.64	
LP-161	234.62	226.41	15.00	237.61	
LP-162	235.59	227.38	15.00	238.58	
LP-163	236.56	228.35	15.00	239.55	
LP-164	237.53	229.32	15.00	240.52	
LP-165	238.50	230.29	15.00	241.49	
LP-166	239.47	231.26	15.00	242.46	
LP-167	240.44	232.23	15.00	243.43	
LP-168	241.41	233.20	15.00	244.40	
LP-169	242.38	234.17	15.00	245.37	
LP-170	243.35	235.14	15.00	246.34	
LP-171	244.32	236.11	15.00	247.31	
LP-172	245.29	237.08	15.00	248.28	
LP-173	246.26	238.05	15.00	249.25	
LP-174	247.23	239.02	15.00	250.22	
LP-175	248.20	240.00	15.00	251.19	
LP-176	249.17	240.97	15.00	252.16	
LP-177	250.14	241.94	15.00	253.13	
LP-178	251.11	242.91	15.00	254.10	
LP-179	252.08	243.88	15.00	255.07	
LP-180	253.05	244.85	15.00	256.04	
LP-181	254.02	245.82	15.00	257.01	
LP-182	254.99	246.79	15.00	257.98	
LP-183	255.96	247.76	15.00	258.95	
LP-184	256.93	248.73	15.00	259.92	
LP-185	257.90	249.70	15.00	260.89	
LP-186	258.87	250.67	15.00	261.86	
LP-187	259.84	251.64	15.00	262.83	
LP-188	260.81	252.61	15.00	263.80	
LP-189	261.78	253.58	15.00	264.77	
LP-190	262.75	254.55	15.00	265.74	
LP-191	263.72	255.52	15.00	266.71	
LP-192	264.69	256.49	15.00	267.68	
LP-193	265.66	257.46	15.00	268.65	
LP-194	266.63	258.43	15.00	269.62	
LP-195	267.60	259.40	15.00	270.59	

D (C. R. 21)

0200-378-02-33.2  
LAND NOW OR FORMERLY OF  
IZZO, ALEXANDER & NEAL

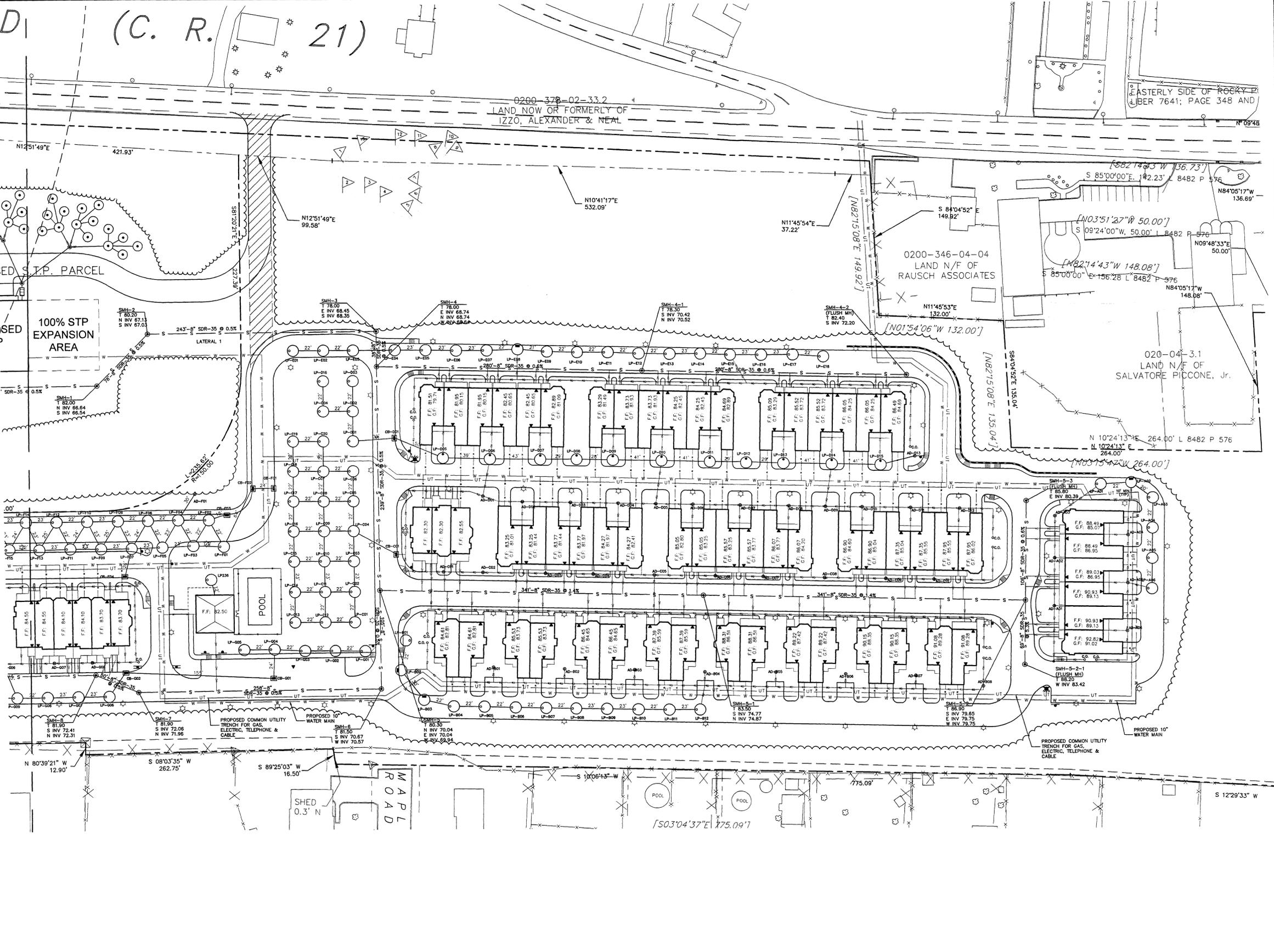
EASTERLY SIDE OF ROCKY P.  
DECEMBER 7641; PAGE 348 AND



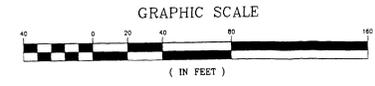
KEY MAP  
SCALE 1" = 1000'

SHEET	TOP/2000	MARK	ID	BOTTOM
LP-001	80.00	80.00	15.00	87.88
LP-002	83.29	83.29	13.00	85.29
LP-003	84.18	84.18	13.00	86.18
LP-004	85.29	85.29	13.00	87.29
LP-005	86.48	86.48	13.00	88.48
LP-006	87.88	87.88	13.00	89.88
LP-007	88.80	88.80	13.00	90.80
LP-008	89.45	89.45	13.00	91.45
LP-009	90.00	90.00	13.00	92.00
LP-010	90.55	90.55	13.00	92.55
LP-011	91.10	91.10	13.00	93.10
LP-012	91.65	91.65	13.00	93.65
LP-013	92.20	92.20	13.00	94.20
LP-014	92.75	92.75	13.00	94.75
LP-015	93.30	93.30	13.00	95.30
LP-016	93.85	93.85	13.00	95.85
LP-017	94.40	94.40	13.00	96.40
LP-018	94.95	94.95	13.00	96.95
LP-019	95.50	95.50	13.00	97.50
LP-020	96.05	96.05	13.00	98.05
LP-021	96.60	96.60	13.00	98.60
LP-022	97.15	97.15	13.00	99.15
LP-023	97.70	97.70	13.00	99.70
LP-024	98.25	98.25	13.00	100.25
LP-025	98.80	98.80	13.00	100.80
LP-026	99.35	99.35	13.00	101.35
LP-027	99.90	99.90	13.00	101.90
LP-028	100.45	100.45	13.00	102.45
LP-029	101.00	101.00	13.00	103.00
LP-030	101.55	101.55	13.00	103.55
LP-031	102.10	102.10	13.00	104.10
LP-032	102.65	102.65	13.00	104.65
LP-033	103.20	103.20	13.00	105.20
LP-034	103.75	103.75	13.00	105.75
LP-035	104.30	104.30	13.00	106.30
LP-036	104.85	104.85	13.00	106.85
LP-037	105.40	105.40	13.00	107.40
LP-038	105.95	105.95	13.00	107.95
LP-039	106.50	106.50	13.00	108.50
LP-040	107.05	107.05	13.00	109.05
LP-041	107.60	107.60	13.00	109.60
LP-042	108.15	108.15	13.00	110.15
LP-043	108.70	108.70	13.00	110.70
LP-044	109.25	109.25	13.00	111.25
LP-045	109.80	109.80	13.00	111.80
LP-046	110.35	110.35	13.00	112.35
LP-047	110.90	110.90	13.00	112.90
LP-048	111.45	111.45	13.00	113.45
LP-049	112.00	112.00	13.00	114.00
LP-050	112.55	112.55	13.00	114.55
LP-051	113.10	113.10	13.00	115.10
LP-052	113.65	113.65	13.00	115.65
LP-053	114.20	114.20	13.00	116.20
LP-054	114.75	114.75	13.00	116.75
LP-055	115.30	115.30	13.00	117.30
LP-056	115.85	115.85	13.00	117.85
LP-057	116.40	116.40	13.00	118.40
LP-058	116.95	116.95	13.00	118.95
LP-059	117.50	117.50	13.00	119.50
LP-060	118.05	118.05	13.00	120.05
LP-061	118.60	118.60	13.00	120.60
LP-062	119.15	119.15	13.00	121.15
LP-063	119.70	119.70	13.00	121.70
LP-064	120.25	120.25	13.00	122.25
LP-065	120.80	120.80	13.00	122.80
LP-066	121.35	121.35	13.00	123.35
LP-067	121.90	121.90	13.00	123.90
LP-068	122.45	122.45	13.00	124.45
LP-069	123.00	123.00	13.00	125.00
LP-070	123.55	123.55	13.00	125.55
LP-071	124.10	124.10	13.00	126.10
LP-072	124.65	124.65	13.00	126.65
LP-073	125.20	125.20	13.00	127.20
LP-074	125.75	125.75	13.00	127.75
LP-075	126.30	126.30	13.00	128.30
LP-076	126.85	126.85	13.00	128.85
LP-077	127.40	127.40	13.00	129.40
LP-078	127.95	127.95	13.00	129.95
LP-079	128.50	128.50	13.00	130.50
LP-080	129.05	129.05	13.00	131.05
LP-081	129.60	129.60	13.00	131.60
LP-082	130.15	130.15	13.00	132.15
LP-083	130.70	130.70	13.00	132.70
LP-084	131.25	131.25	13.00	133.25
LP-085	131.80	131.80	13.00	133.80
LP-086	132.35	132.35	13.00	134.35
LP-087	132.90	132.90	13.00	134.90
LP-088	133.45	133.45	13.00	135.45
LP-089	134.00	134.00	13.00	136.00
LP-090	134.55	134.55	13.00	136.55
LP-091	135.10	135.10	13.00	137.10
LP-092	135.65	135.65	13.00	137.65
LP-093	136.20	136.20	13.00	138.20
LP-094	136.75	136.75	13.00	138.75
LP-095	137.30	137.30	13.00	139.30
LP-096	137.85	137.85	13.00	139.85
LP-097	138.40	138.40	13.00	140.40
LP-098	138.95	138.95	13.00	140.95
LP-099	139.50	139.50	13.00	141.50
LP-100	140.05	140.05	13.00	142.05
LP-101	140.60	140.60	13.00	142.60
LP-102	141.15	141.15	13.00	143.15
LP-103	141.70	141.70	13.00	143.70
LP-104	142.25	142.25	13.00	144.25
LP-105	142.80	142.80	13.00	144.80
LP-106	143.35	143.35	13.00	145.35
LP-107	143.90	143.90	13.00	145.90
LP-108	144.45	144.45	13.00	146.45
LP-109	145.00	145.00	13.00	147.00
LP-110	145.55	145.55	13.00	147.55
LP-111	146.10	146.10	13.00	148.10
LP-112	146.65	146.65	13.00	148.65
LP-113	147.20	147.20	13.00	149.20
LP-114	147.75	147.75	13.00	149.75
LP-115	148.30	148.30	13.00	150.30
LP-116	148.85	148.85	13.00	150.85
LP-117	149.40	149.40	13.00	151.40
LP-118	149.95	149.95	13.00	151.95
LP-119	150.50	150.50	13.00	152.50
LP-120	151.05	151.05	13.00	153.05
LP-121	151.60	151.60	13.00	153.60
LP-122	152.15	152.15	13.00	154.15
LP-123	152.70	152.70	13.00	154.70
LP-124	153.25	153.25	13.00	155.25
LP-125	153.80	153.80	13.00	155.80
LP-126	154.35	154.35	13.00	156.35
LP-127	154.90	154.90	13.00	156.90
LP-128	155.45	155.45	13.00	157.45
LP-129	156.00	156.00	13.00	158.00
LP-130	156.55	156.55	13.00	158.55
LP-131	157.10	157.10	13.00	159.10
LP-132	157.65	157.65	13.00	159.65
LP-133	158.20	158.20	13.00	160.20
LP-134	158.75	158.75	13.00	160.75
LP-135	159.30	159.30	13.00	161.30
LP-136	159.85	159.85	13.00	161.85
LP-137	160.40	160.40	13.00	162.40
LP-138	160.95	160.95	13.00	162.95
LP-139	161.50	161.50	13.00	163.50
LP-140	162.05	162.05	13.00	164.05
LP-141	162.60	162.60	13.00	164.60
LP-142	163.15	163.15	13.00	165.15
LP-143	163.70	163.70	13.00	165.70
LP-144	164.25	164.25	13.00	166.25
LP-145	164.80	164.80	13.00	166.80
LP-146	165.35	165.35	13.00	167.35
LP-147	165.90	165.90	13.00	167.90
LP-148	166.45	166.45	13.00	168.45
LP-149	167.00	167.00	13.00	169.00
LP-150	167.55	167.55	13.00	169.55
LP-151	168.10	168.10	13.00	170.10
LP-152	168.65	168.65	13.00	170.65
LP-153	169.20	169.20	13.00	171.20
LP-154	169.75	169.75	13.00	171.75
LP-155	170.30	170.30	13.00	172.30
LP-156	170.85	170.85	13.00	172.85
LP-157	171.40	171.40	13.00	173.40
LP-158	171.95	171.95	13.00	173.95
LP-159	172.50	172.50	13.00	174.50
LP-160	173.05	173.05	13.00	175.05
LP-161	173.60	173.60	13.00	175.60
LP-162	174.15	174.15	13.00	176.15
LP-163	174.70	174.70	13.00	176.70
LP-164	175.25	175.25	13.00	177.25
LP-165	175.80	175.80	13.00	177.80
LP-166	176.35	176.35	13.00	178.35
LP-167	176.90	176.90	13.00	178.90
LP-168	177.45	177.45	13.00	179.45
LP-169	178.00	178.00	13.00	180.00
LP-170	178.55	178.55	13.00	180.55
LP-171	179.10	179.10	13.00	181.10
LP-172	179.65	179.65	13.00	181.65
LP-173	180.20	180.20	13.00	182.20
LP-174	180.75	180.75	13.00	182.75
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LP-176	181.85	181.85	13.00	183.85
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LP-179	183.50	183.50	13.00	185.50
LP-180	184.05	184.05	13.00	186.05
LP-181	184.60	184.60	13.00	186.60
LP-182	185.15	185.15	13.00	187.15
LP-183	185.70	185.70	13.00	187.70
LP-184	186.25	186.25	13.00	188.25
LP-185	186.80	186.80	13.00	188.80
LP-186	187.35	187.35	13.00	189.35
LP-187	187.90	187.90	13.00	189.90
LP-188	188.45	188.45	13.00	190.45
LP-189	189.00	189.00	13.00	191.00
LP-190	189.55	189.55	13.00	191.55
LP-191	190.10	190.10	13.00	192.10
LP-192	190.65	190.65	13.00	192.65
LP-193	191.20	191.20	13.00	193.20
LP-194	191.75	191.75	13.00	193.75
LP-195	192.30	192.30	13.00	194.30
LP-196	192.85	192.85	13.00	194.85
LP-197	193.40	193.40	13.00	195.40
LP-198	193.95	193.95	13.00	195.95
LP-199	194.50	194.50	13.00	196.50
LP-200	195.05	195.05	13.00	197.05

MATCH LINE: SHEET 7 OF 16

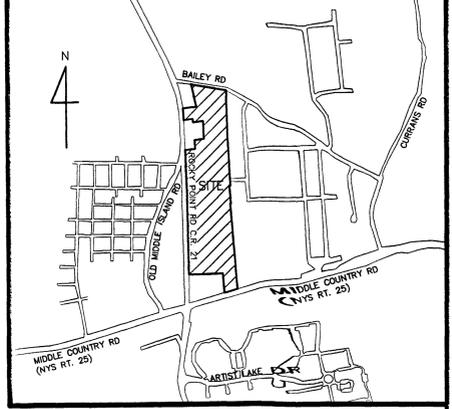
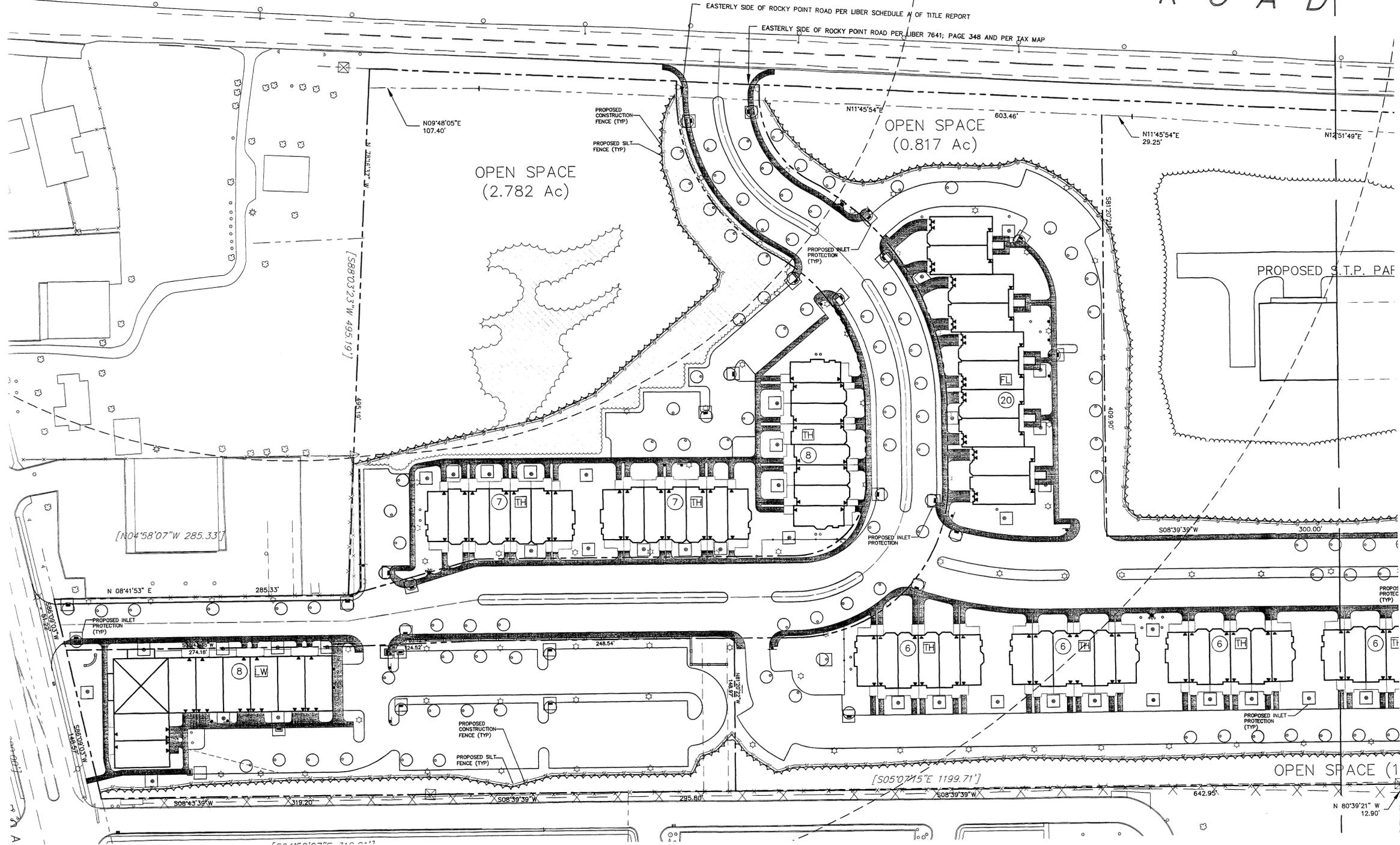


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DATE	REVISION	BY
<b>NORTH UTILITY PLAN</b>		
<b>SANDY HILLS AT</b>		

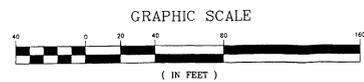
# ROCKY POINT ROAD



KEY MAP  
SCALE 1" = 1000'

MATCH LINE: SHEET 10 OF 16

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NO.	DATE	REVISION	BY

<b>SOUTH EROSION CONTROL PLAN</b>		OWN BY: JM
FOR <b>SANDY HILLS AT MIDDLE ISLAND</b>		DESIGN BY: JM
SITUATED AT <b>MIDDLE ISLAND</b>		DATE: 03/05/08
TOWN OF BROOKHAVEN, SUFFOLK COUNTY, NEW YORK		CHKD BY: GMB
DISTRICT 0200, SECTION 97B, BLOCK 02, LOT 99.9		DATE: 03/05/08
<b>NELSON &amp; POPE</b>		JOB No: 00088P
ENGINEERS & SURVEYORS		FILE No:
572 WALT WHITMAN ROAD, MELVILLE, NY 11747-2988		CADD: 00088P
(631) 427-5665 FAX (631) 427-9620 www.nelsonpope.com		SCALE: 1"=40'
<b>N&amp;P</b>		SHEET: 9 OF 16

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D (C. R. 21)

0200-378-02-33.2  
LAND NOW OR FORMERLY OF  
IZZO, ALEXANDER & NEAL

EASTERLY SIDE OF ROCKY LA  
LIBER 7641; PAGE 348 AND

OPEN SPACE  
(3.121 Ac)

0200-346-04-04  
LAND N/F OF  
RAUSCH ASSOCIATES

020-04-3.1  
LAND N/F OF  
SALVATORE PICCONE, Jr.

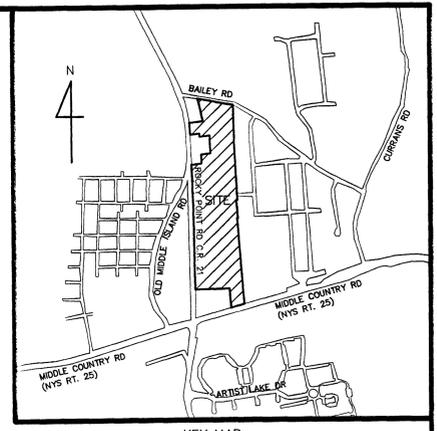
VILLAGE GREEN  
(PLAYFIELD)  
(36,179 S.F.)

VILLAGE CLUB

SPACE (1.646 Ac)

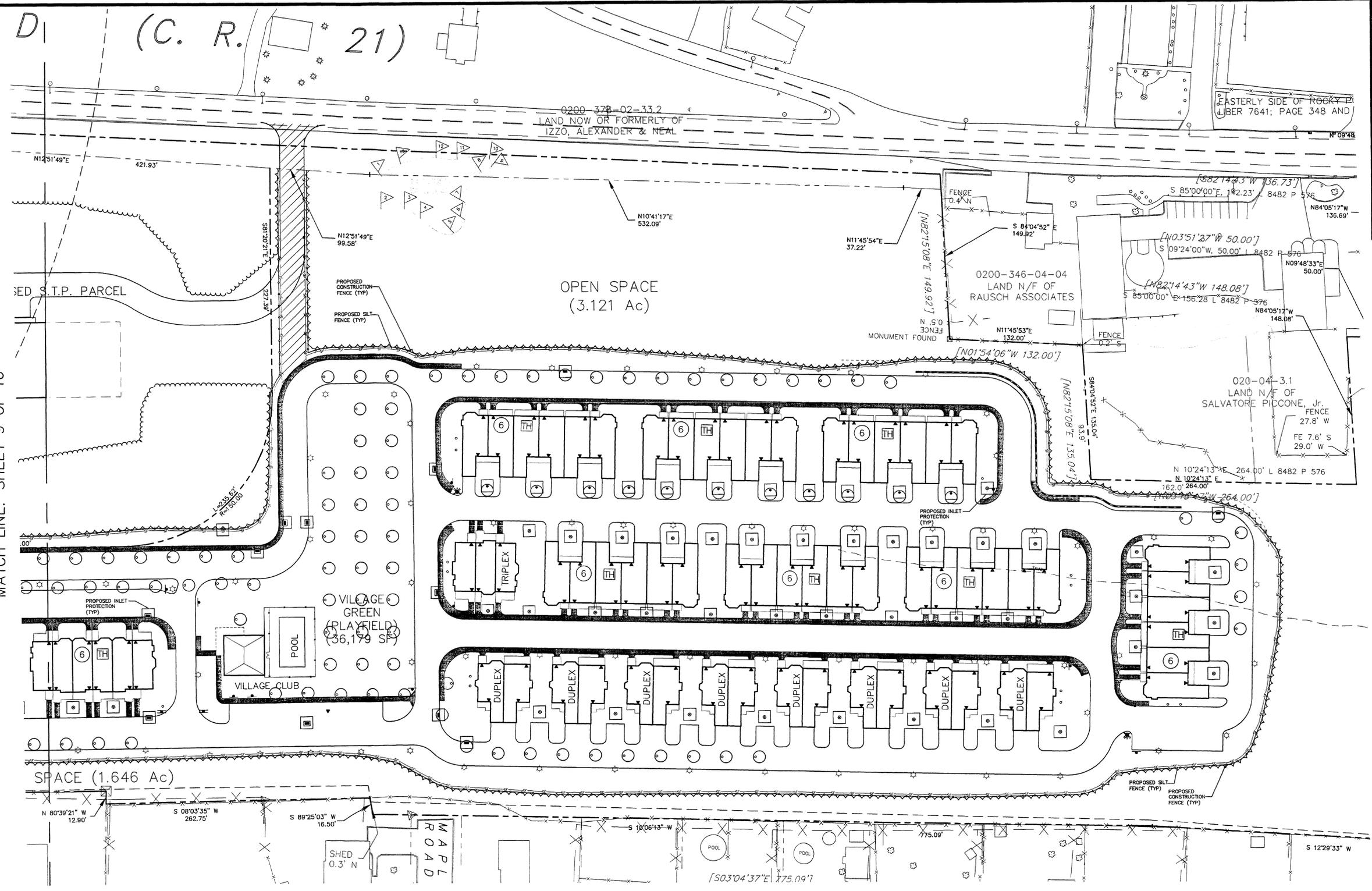
MAPLE  
ROAD

SHED  
0.3' N

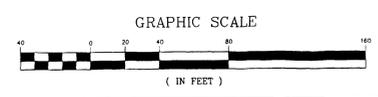


KEY MAP  
SCALE 1" = 1000'

MATCH LINE: SHEET 9 OF 16



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ADDITIONS TO THESE DOCUMENTS ARE A VIOLATION OF SECTION  
7209 OF THE NEW YORK STATE EDUCATION LAW. INFRINGEMENTS  
WILL BE PROSECUTED.

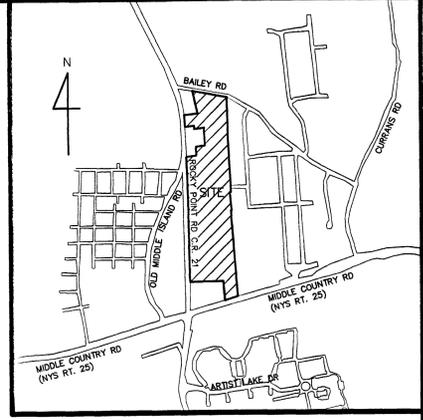
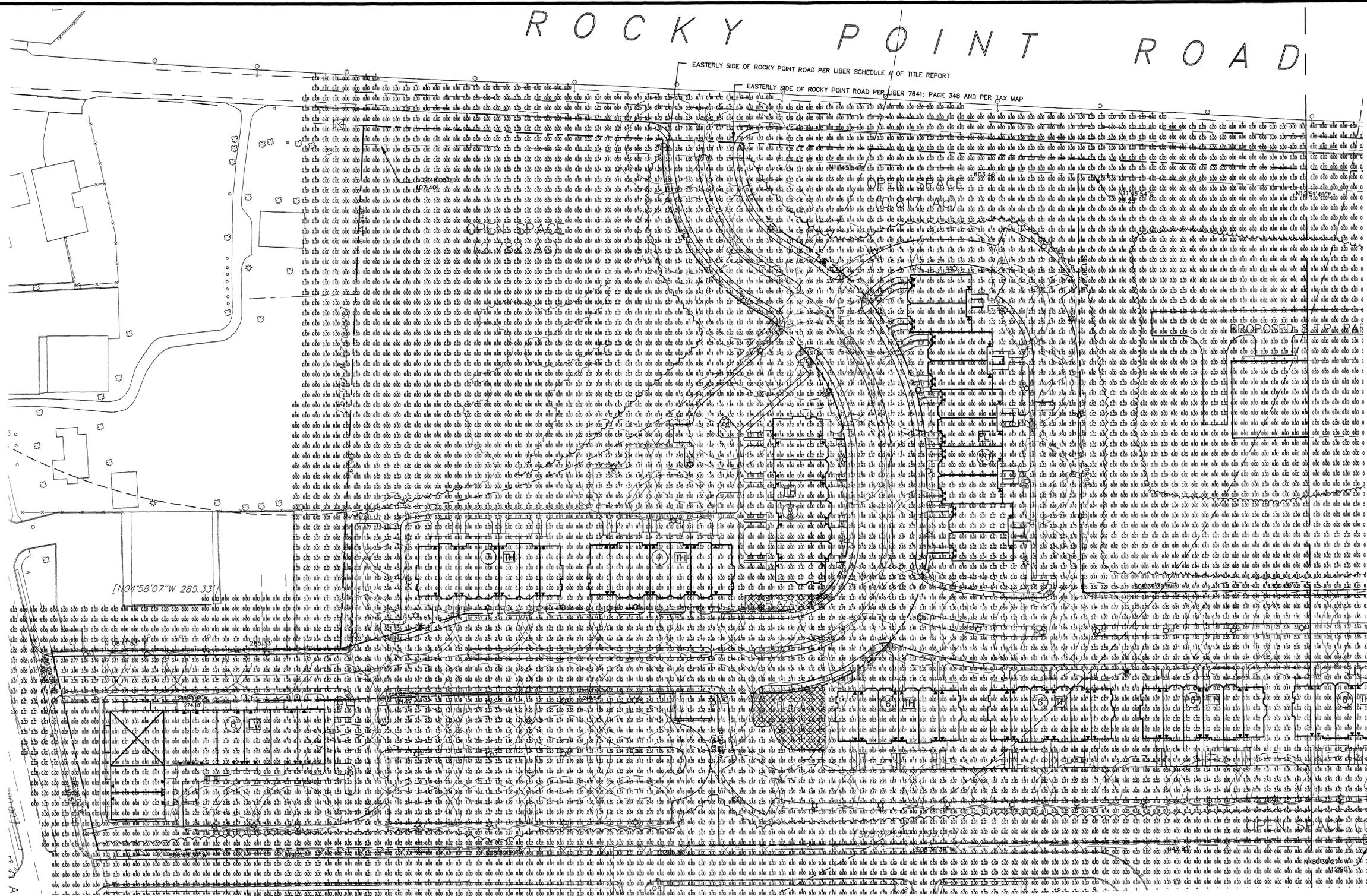


No.	DATE	REVISION	BY
<b>NORTH EROSION CONTROL PLAN</b> FOR <b>SANDY HILLS AT MIDDLE ISLAND</b> SITUATED AT <b>MIDDLE ISLAND</b> TOWN OF BROOKHAVEN, SUFFOLK COUNTY, NEW YORK DISTRICT 0200, SECTION 378, BLOCK 02, LOT 933			
DESIGN BY:	JM	DATE:	03/05/09
CHECKED BY:	CB	DATE:	03/05/09
FILE No.:	00088	JOB No.:	00088
CADD:	00088P	SCALE:	1"=40'
SHEET:	13 OF 13		

**N&P**  
NELSON & POPE  
ENGINEERS & SURVEYORS  
572 WALT WHITMAN ROAD, MELVILLE, NY 11747-2188  
(631) 427-5665 FAX (631) 427-5620 www.nelsonandpope.com

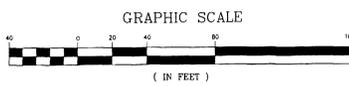
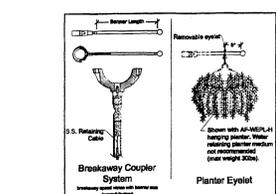
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# ROCKY POINT ROAD



MATCH LINE: SHEET 12 OF 16

TRE31	
10001 100' metal traffic	10001 100' metal traffic
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10100 100' metal traffic	10100 100' metal traffic



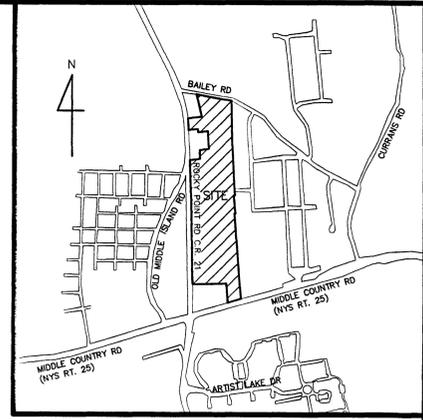
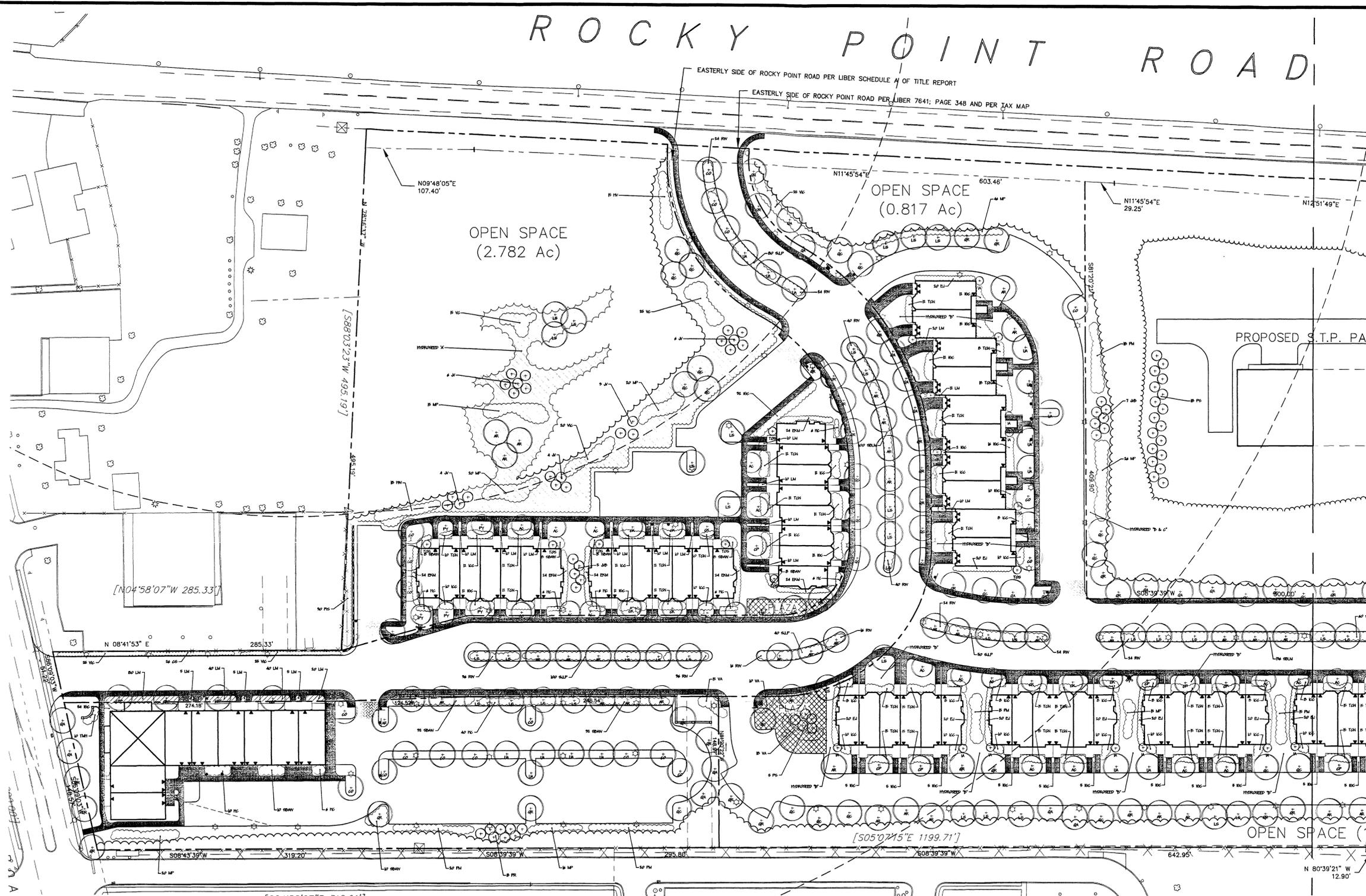
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NO.	DATE	REVISION	BY
<b>SOUTH LIGHTING PLAN</b>			
FOR <b>SANDY HILLS AT MIDDLE ISLAND</b>			
ERECTED AT <b>MIDDLE ISLAND</b>			
TOWN OF BROOKHAVEN, SUFFOLK COUNTY, NEW YORK DISTRICT 0200, SECTION 078, BLOCK 02, LOT 013			
OWN BY:	JM		
DSGN BY:	JM		
DATE:	02/05/08		
CHKD BY:	GCB		
DATE:	02/05/08		
FILE NO.:	00088		
CADD:	00088P		
SCALE:	1"=40'		
SHEET:	1 OF 9		

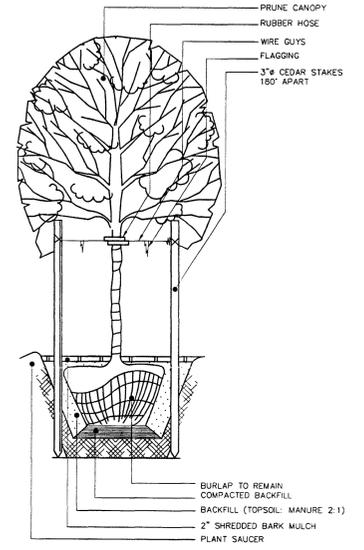
**NELSON & POPE**  
ENGINEERS & SURVEYORS  
872 WALTHAM ROAD, WELLESLEY, NY 11747-9988  
(833) 427-5665 FAX (609) 427-5620 www.nelsonpopeng.com



# ROCKY POINT ROAD



KEY MAP  
SCALE 1" = 1000'



TREE PLANTING DETAIL  
N.T.S.

MATCH LINE: SHEET 14 OF 16

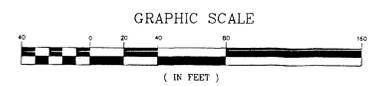
- NOTES:**
- All plant material guaranteed for a period of one year following acceptance by owner.
  - All planting beds to be mulched with 2" of shredded bark.
  - All planting beds to receive 4" of screened topsoil prior to plant installation.
  - No plant material, except lawn or groundcover, is to be located within 2' of any parking lot curbs.
- Hydroseed "A" @ 150#/ac.  
(Reclaim Conservation Mix-Dry Formula)
- 401 Rebel II Tall Fescue
  - 201 Weeping Lovegrass
  - 104 Reliant Hard Fescue
  - 104 Jamestown II Cheatings Fescue
  - 104 Palmer II Perennial Ryegrass
  - 54 White Clover
  - 54 Blackwell Switchgrass
- Hydroseed "B" @ 170#/ac.  
(Ecology Mix)
- 801 Reliant Hard Fescue
  - 201 Jamestown II Cheatings Fescue
- Hydroseed "C" @ 4#/ac.  
(Northern Wildflower Mix)
- Bachelor Button, Lance-leaved Coreopsis, Baby's Breath, Baby Snatchgrass, Scarlet Flax, Lewis Flax, Evening Primrose, Corn Noppy, Catchfly, Black Eyed Susan, Purple Coneflower, and Oxeye Daisy

SYM	QTY	BOTANICAL NAME	COMMON NAME	SIZE/SP
AR	57	ACER RUBRUM	RED MAPLE	2-2 1/2" CAL - 30' OC
CBP	8	CARPINUS BETULUS PASTINATA	PYRAMIDAL EUROPEAN HORNBEAM	2-1/2" CAL
CCP	55	CELTIS OCCIDENTALIS	HACKBERRY	2-2 1/2" CAL - 30' OC
LS	54	LIQUIDAMBAR STYRACIFLUA	SPICE TREE	2-2 1/2" CAL - 30' OC
QA	25	QUERCUS ALBA	WHITE OAK	2-2 1/2" CAL - 30' OC
QC	40	QUERCUS COCCINEA	SCARLET OAK	2-2 1/2" CAL - 30' OC
QR	50	QUERCUS RUBRA (SPRING PLANTING ONLY)	N. RED OAK	2-2 1/2" CAL - 30' OC
UX	43	ULMUS AMERICANA LIBERTY	LIBERTY ELM	2-2 1/2" CAL - 30' OC
AC	24	AMELANCHIER CANADENSIS	SHADBLOW SERVICEBERRY (TREE FORM)	6-8' HT
CP	11	GRATISOLUS PHENOPHYLLUM	WASHINGTON HANDBORN (TREE FORM)	6-8' HT
CK	12	CORNUS KUSNA	KOUSA DORONDO	6-8' HT
PT	5	PRUNUS YEDOVENSIS	YOSHINO CHERRY	2-2 1/2" CAL
JV	52	JUNIPERUS VIRGINIANA	E. RED CEDAR	5-6" HT - 4' OC
JVD	35	JUNIPERUS VIRG. BURGI	UPRIGHT JUNIPER	5-6" HT - 4' OC
PR	15	PINUS RIGIDA	PITCH PINE	6-8" HT - 7' OC
PS	52	PINUS STROBUS	E. WHITE PINE	5-6" HT - 7' OC

SYM	QTY	BOTANICAL NAME	COMMON NAME	SIZE/SP
RS	192	ROSTKIA SCHIMMIDTII	REDFLOW BUSHDOG	2-3" HT - 3' OC
FS	50	FORSYTHIA INTERMEDIA SPECIOSA	SHOWY BORDER FORSYTHIA	2-3" SP - 4' OC
IC	192	HYPERICUM CALYCANUM	ST. JOHNSWORT	18-24" SP - 1 1/2' OC
HW	55	HAMAMELIS VIRGINICA	WITCH HAZEL	2-3" SP - 4' OC
SC	111	LEX QUINCA COMPACTA	COMPACT HYDRANGEA	18-24" HT - 2 1/2' OC
LM	195	LIRIOPE MUSCARI	LILY TURF	1" CAL. CONT. - 1' SP
MP	130	MYRTICA PENNSYLVANICA	N. BAYBERRY	18-24" SP - 3' OC
PM	185	PRUNUS MARITIMA	BEACH PLUM	18-24" SP - 4' OC
RV	184	ROSA WICKERIANA	MEMORIAL ROSE	1" CAL. CONT. - 1' OC
SWAN	26	SPIRAEA DUMALDA ANTHONY WATERER	ANTHONY WATERER SPIREA	18-24" HT - 1 1/2' OC
SLM	320	SPIRAEA DUMALDA LIME MOUND	LIME MOUND SPIREA	18-24" SP - 1 1/2' OC
SLP	134	SPIRAEA JAPONICA LITTLE PRINCESS	LITTLE PRINCESS SPIREA	18-24" SP - 1 1/2' OC
SC	19	SYMPLOCARPOS CHEWALTI	CHEWALTI CORALBERRY	18-24" SP - 1 1/2' OC
THF	98	TAXIS MEDIA HUCKES	HUCKES YEW	18-24" HT - 1 1/2' OC
VB	180	VIBURNUM CARLESI	FRAGRANT VIBURNUM	2-3" SP - 4' OC
VA	45	VACCINIUM ANAETHIFOLIUM	LOWBUSH BLUEBERRY	1" CAL. CONT. - 3' OC
VG	55	VACCINIUM CORMORORUM	HIGHLAND BLUEBERRY	18-24" HT - 3' OC

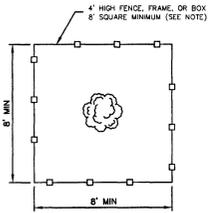
SYM	QTY	BOTANICAL NAME	COMMON NAME	SIZE/SP
CK	1	CORNUS KUSNA	KOUSA DORONDO	5-6" HT
CP	1	GRATISOLUS PHENOPHYLLUM	WASHINGTON HANDBORN	5-6" HT
IA	15	LEX AQUERFOLIA	SAN JOSE HOLLY	5-6" HT
TOB	11	THALIA OCCIDENTALIS SWARZD	EMERALD ARBUTIVE	5-6" HT
EL	140	ELIANTHUS JAPONICA	JAPANESE ELIANTHUS	18-24" SP - 3' OC
ELM	144	ELIANTHUS KATSCHOUKA MANHATTAN	MANHATTAN ELIANTHUS	18-24" SP - 3' OC
IC	159	HYPERICUM CALYCANUM	ST. JOHNSWORT	18-24" SP - 1 1/2' OC
RG	495	LEX GRENATA CONVEXA	CONVEXA JAPANESE HOLLY	18-24" SP - 1 1/2' OC
SC	307	LEX QUINCA COMPACTA	COMPACT HYDRANGEA	18-24" HT - 2 1/2' OC
LM	363	LIRIOPE MUSCARI	LILY TURF	1" CAL. CONT. - 1' SP
SWAN	136	SPIRAEA DUMALDA ANTHONY WATERER	ANTHONY WATERER SPIREA	18-24" HT - 1 1/2' OC
TGN	712	TAXIS CURPIDATA NANA	DWARF JAPANESE YEW	18-24" SP - 1 1/2' OC

**NOTE:**  
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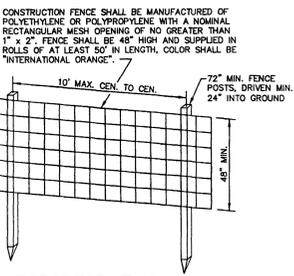
NO.	DATE	REVISION	BY
<b>SOUTH LANDSCAPE PLAN</b>			
<b>SANDY HILLS AT MIDDLE ISLAND</b>			
SITUATED AT			
<b>MIDDLE ISLAND</b>			
TOWN OF BROOKHAVEN, SUFFOLK COUNTY, NEW YORK			
DISTRICT 0200, SECTION 97B, BLOCK 02, LOT 93.9			
<b>N&amp;P NELSON &amp; POPE</b>		ENGINEERS & SURVEYORS	
572 WALT WHITMAN ROAD, MELVILLE, NY 11747-2888		SCALE 1" = 40'	
(631) 427-5665 FAX (631) 427-5620 www.nelsonpopo.com		SHEET 13 OF 16	



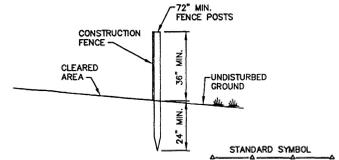


NOTE: ALL TREES ON PROPERTY TO BE GRADED OR NEAR ANY EXCAVATION OR CONSTRUCTION OF ANY BUILDING SHALL BE GUARDED WITH A SUBSTANTIAL FENCE, FRAME OR BOX NOT LESS THAN FOUR (4) FEET HIGH AND EIGHT (8) FEET SQUARE OR AT A DISTANCE IN FEET FROM THE TREE EQUAL TO THE DIAMETER OF THE TRUNK IN INCHES, MEASURED (12) TWELVE INCHES FROM GRADE, WHICHEVER IS GREATER. ALL BUILDING MATERIAL, DIRT AND DEBRIS SHALL BE KEPT OUTSIDE THE BARRIER.

**TREE PROTECTION DETAIL FOR PRESERVED TREES**  
N.T.S.



**PERSPECTIVE VIEW**



**CONSTRUCTION FENCE DETAIL**  
NOT TO SCALE

**CONSTRUCTION NOTES FOR PLASTIC FLORESCENT ORANGE FENCE**

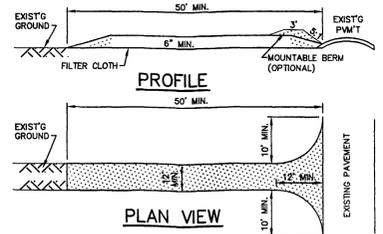
NOTES

- 1) THE CONTRACTOR SHALL INSTALL THE CONSTRUCTION FENCE IN LOCATIONS AS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS OR MUNICIPAL AUTHORITIES.
- 2) THE PRIMARY PURPOSE OF THE CONSTRUCTION FENCE IS TO CLEARLY DELINEATE A CONSTRUCTION AREA AND PROVIDE SOME MEASURE OF PROTECTION FOR THE SURROUNDING NATURAL AREAS. IT IS NOT DESIGNED OR INTENDED TO BE AN IMPENETRABLE BARRIER TO THOSE INTENT ON ENTERING THE CONSTRUCTION SITE.

INSTALLATION

CONSTRUCTION FENCE SHALL BE INSTALLED BY MEANING FENCE POSTS VERTICALLY THROUGH AT LEAST THREE (3) MESH OPENINGS (TOP, MIDDLE AND BOTTOM OF FENCE) AND DRIVING POSTS WITH A 3/8" HAND DRILLING HAMMER (OR EQUIVALENT) FLUSH WITH THE TOP OF FENCING. POSTS SHALL BE AT AN INTERVAL OF NO GREATER THAN 10X FEET. FENCING SHALL BE SECURED FIRMLY TO EACH POST AT THE TOP, BOTTOM AND MID-POINT WITH WIRE REBAR TIES. WHERE LENGTHS OF FENCING ARE JOINED, A POST SHALL BE WOVEN THROUGH BOTH FENCE SECTIONS AT THE JOINT, WITH TIES FASTENING BOTH FENCE SECTIONS TO THE POST. FENCING SHALL BE STRETCHED AS TAUT AS PRACTICAL BETWEEN FENCE POSTS WITHOUT INORDINATELY DEFLECTING POSTS. TEMPORARY OPENINGS IN CONSTRUCTION FENCE INSTALLATIONS SHALL BE PERMITTED FOR ENTRY OF WORKERS, MATERIALS AND EQUIPMENT. SUCH OPENINGS SHALL BE SECURED AT THE END OF EACH WORK DAY IN THE MANNER AFOREMENTIONED FOR JOINING FENCE SECTIONS.

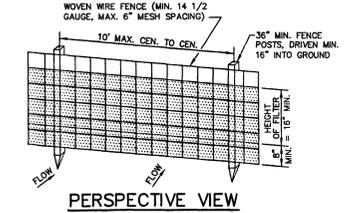
POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD



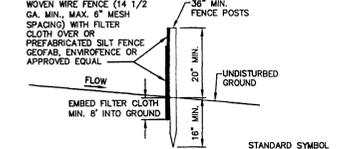
**STABILIZED CONSTRUCTION ENTRANCE**  
NOT TO SCALE

1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 2:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

**STABILIZED CONSTRUCTION ENTRANCE**  
NOT TO SCALE



**PERSPECTIVE VIEW**

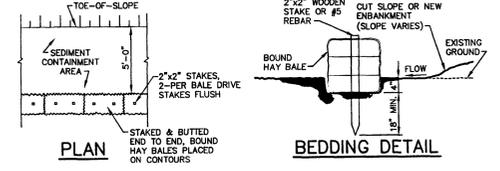


**SECTION**

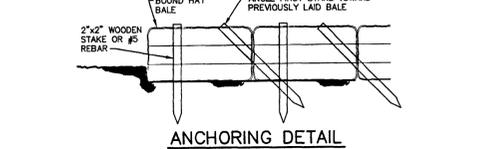
**CONSTRUCTION NOTES FOR FABRICATED SILT FENCE**

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
  2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
  3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
  4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
- POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD
- FENCE: WOVEN WIRE, 14 1/2 GA. 6" MAX. MESH OPENING
- FILTER CLOTH: FILTER X, MIRAFIX 100X, STABIL-LINEX 1740N OR APPROVED EQUAL.
- PREFABRICATED UNIT: GEOFAB, ENVROFENCE, OR APPROVED EQUAL.

**SILT FENCE DETAIL**  
NOT TO SCALE



**PLAN**



**BEDDING DETAIL**

**ANCHORING DETAIL**  
STAKED HAYBALE DETAIL  
NOT TO SCALE

**DUST CONTROL NOTES**  
NOT TO SCALE

**DEFINITION**

The control of dust resulting from land-disturbing activities.

**PURPOSE**

To prevent surface and air movement of dust from disturbed soil surfaces that may cause off-site damage, health hazards, and traffic safety problems.

**CONDITIONS WHERE PRACTICE APPLIES**

On construction roads, access points, and other disturbed areas subject to surface dust movement and dust blowing where off-site damage may occur if dust is not controlled.

**DESIGN CRITERIA**

Construction operations should be scheduled to minimize the amount of area disturbed at one time. Buffer areas of vegetation should be left where practical. Temporary or permanent stabilization measures should be installed. No specific design criteria is given; see construction specifications below for common methods of dust control.

**CONSTRUCTION SPECIFICATIONS**

**Vegetative Cover** - For disturbed areas not subject to traffic; vegetation provides the most practical method of dust control. Temporary seeding shall be as follows:

- a) Rye Grass (Annual or Perennial) at 30 lbs. per acre (0.7 lbs/1000 SF)
- b) Certified "Aroostook" Winter Rye (Cereal Rye) at 100 lbs. per acre (2.5 lbs/SF)

Use Winter Rye if seeding in October/November.

**Mulch** (including gravel mulch) - Mulch offers a fast effective means of controlling dust.

**Spray Adhesives** - Examples of spray adhesives for use on mineral soils are shown in the following table:

Material	Water Dilution	Type of Nozzle	Apply Gallons/Acre
Acrylic Polymer	9:1	Course Spray	500
Latex Emulsion	12.5:1	Fine Spray	235
Resin in Water	4:1	Fine Spray	300

Water quality should be considered when materials are selected for dust control.

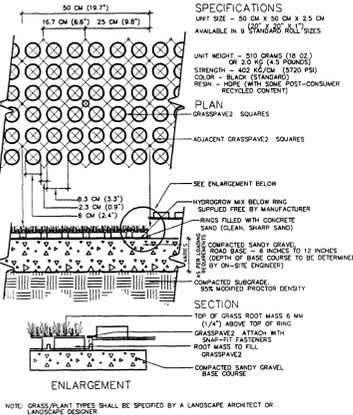
**Sprinkling** - The site may be sprayed until the surface is wet. This is especially effective on haul roads and access routes.

Stone used for construction roads is also effective for dust control.

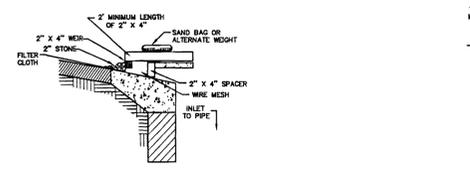
**Barriers** - A fence or similar barrier can control air currents at intervals equal to fifteen times the barrier height. Preserve existing wind barrier vegetation as much as practical.

**MAINTENANCE**

Maintain dust control measures through dry weather periods until all disturbed areas are stabilized.

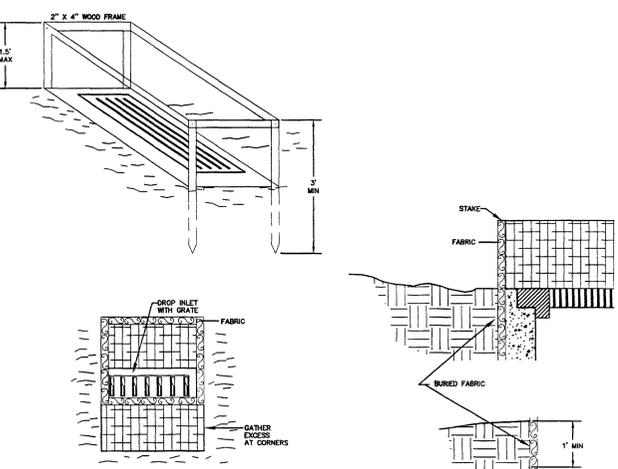


**TYPICAL GRASSPAVE DETAIL**  
NOT TO SCALE



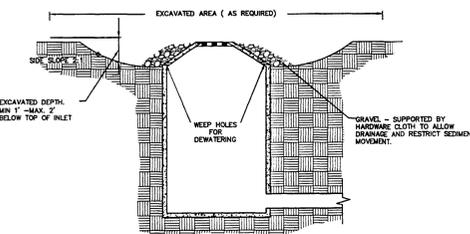
**CURB GUTTER INLET PROTECTION STRUCTURE**  
SCALE: NTS

- CONSTRUCTION SPECIFICATIONS**
1. FILTER FABRIC SHALL HAVE AN EDS OF 40-85.
  2. WOODEN FRAME SHALL BE CONSTRUCTED OF 2" x 4" CONSTRUCTION GRADE LUMBER.
  3. WIRE MESH ACROSS THROAT SHALL BE A CONTINUOUS PIECE 30 INCH MINIMUM WIDTH WITH A LENGTH 4 FEET LONGER THAN THE THROAT. IT SHALL BE SHAVED AND SECURELY NAILED TO A 2" x 4" WEIR.
  4. THE WEIR SHALL BE SECURELY NAILED TO 2" x 4" SPACERS 9 INCHES LONG SPACED NO MORE THAN 6 FEET APART.
  5. THE ASSEMBLY SHALL BE PLACED AGAINST THE INLET AND SECURED BY 2" x 4" ANCHORS 2 FEET LONG EXTENDING ACROSS THE TOP OF THE INLET AND HELD IN PLACE BY SANDBAGS OR ALTERNATE HEIGHTS.
- MAXIMUM DRAINAGE AREA 1 ACRE



**FILTER FABRIC DROP INLET PROTECTION**  
SCALE: NTS

- CONSTRUCTION SPECIFICATIONS**
1. FILTER FABRIC SHALL HAVE AN EDS OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
  2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE DEVELOPED TO THE NEXT STAKE.
  3. STAKE MATERIALS WILL BE STANDARD 2" x 4" WOOD OR METAL EQUIVALENT WITH A MINIMUM LENGTH OF 3 FEET AND EVENLY DISTRIBUTED.
  4. SPACER STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE A MINIMUM 18 INCHES DEEP. SPACES GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
  5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACK FILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
  6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.
- MAXIMUM DRAINAGE AREA 1 ACRE



**EXCAVATED DROP INLET PROTECTION**  
SCALE: NTS

- CONSTRUCTION SPECIFICATIONS**
1. CLEAR THE AREA OF ALL DEBRIS THAT WILL HINDER EXCAVATION.
  2. GRADE APPROACH TO THE INLET UNIFORMLY AROUND THE BASIN.
  3. WEIR HOLES SHALL BE PROTECTED BY GRAVEL.
  4. UPON STABILIZATION OF CONTRIBUTING DRAINAGE AREA, SEAL WEIR HOLES. FILL BASIN WITH STABLE SOIL TO FINAL GRADE. COMPACT IT PROPERLY AND STABILIZE WITH PERMANENT SEEDING.
- MAXIMUM DRAINAGE AREA 1 ACRE

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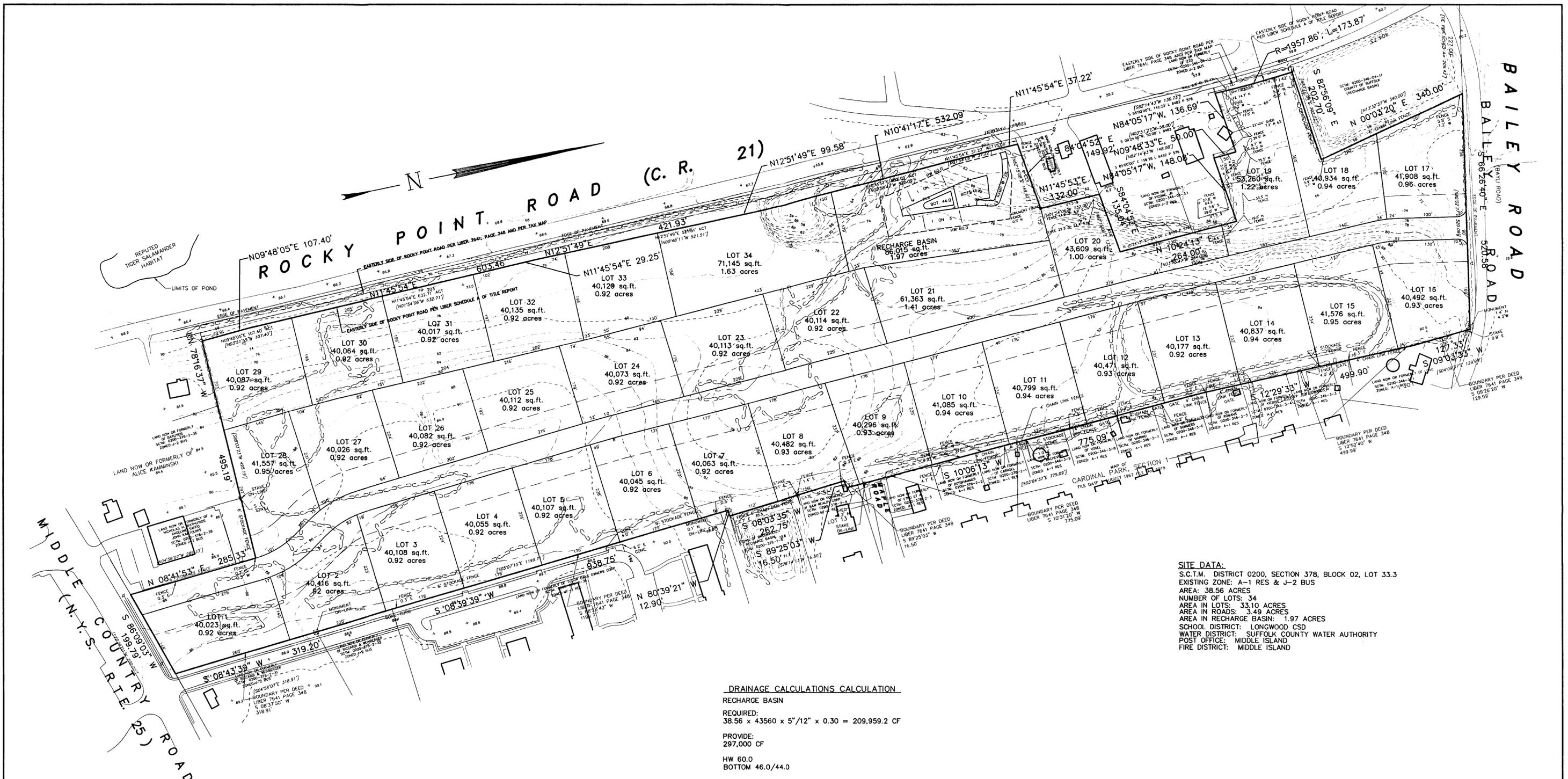
NO.	DATE	REVISION	BY

**EROSION CONTROL DETAILS**  
FOR  
**SANDY HILLS AT MIDDLE ISLAND**  
SITUATED AT  
**MIDDLE ISLAND**  
TOWN OF BROOKHAVEN, SUFFOLK COUNTY, NEW YORK  
DISTRICT 0200, SECTION 37B, BLOCK 02, LOT 33.3

**N&P**  
**NELSON & POPE**  
ENGINEERS & SURVEYORS  
872 WALT WHITMAN ROAD, MELVILLE, NY 11747-2988  
(631) 427-5665 FAX (631) 427-5600 www.nelsonandpope.com

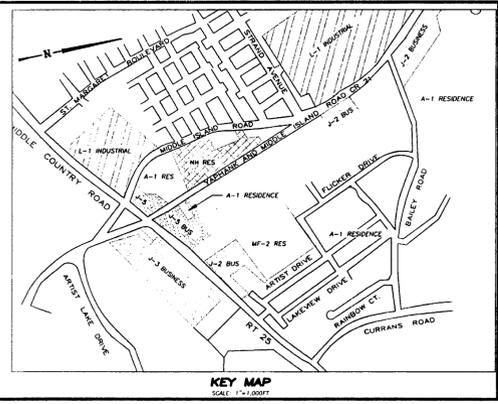
DWN BY: JM  
DSGN BY: JM  
DATE: 03/05/08  
CHKD BY: CMB  
DATE: 03/05/08  
JOB NO: 0008B  
FILE NO:  
CADD: 0008B  
SCALE: AS NOTED  
SHEET: 15 OF 16





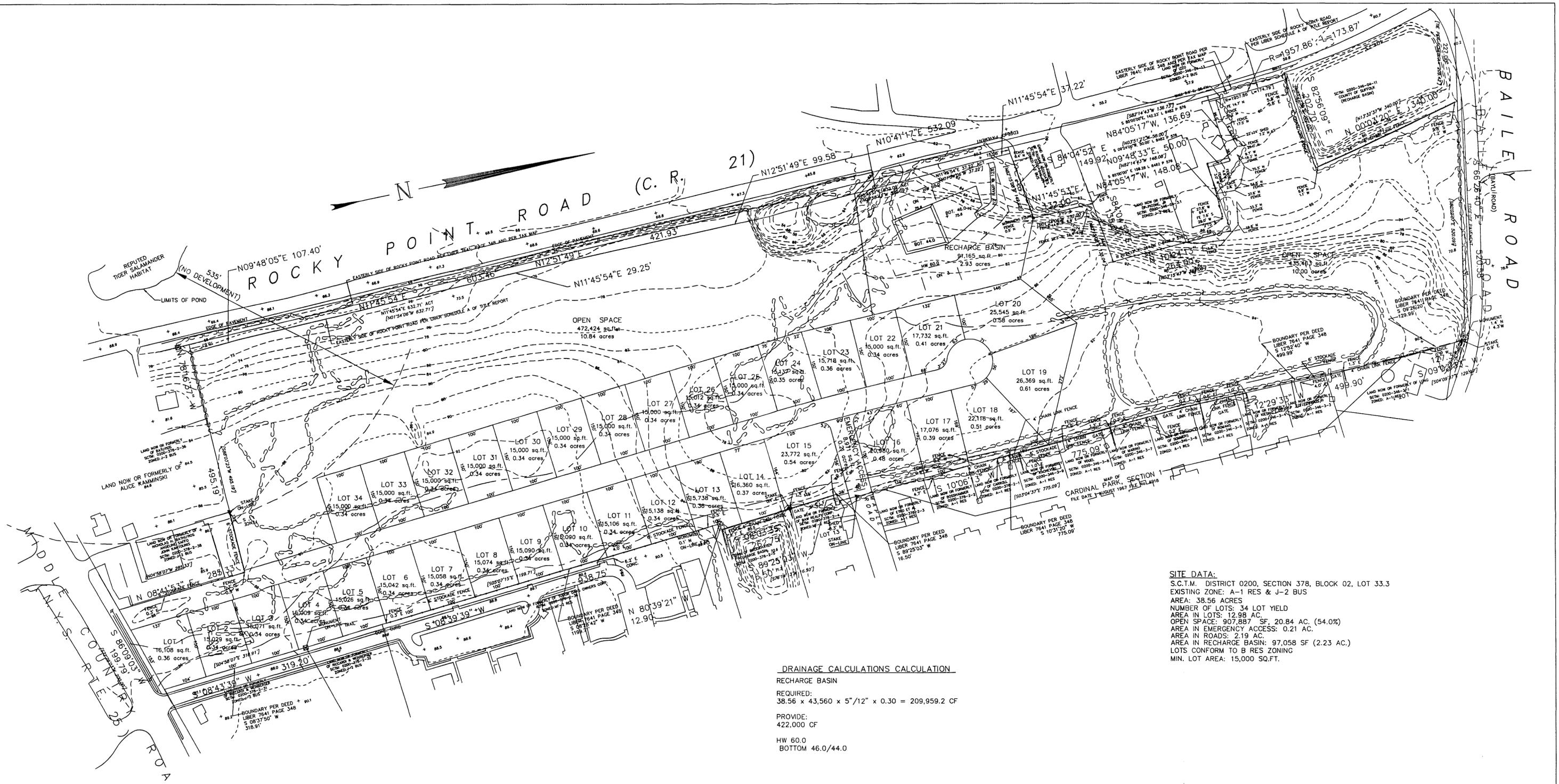
**SITE DATA:**  
 S.C.T.M. DISTRICT 0200, SECTION 378, BLOCK 02, LOT 33.3  
 EXISTING ZONE: A-1 RES & J-2 BUS  
 AREA: 38.56 ACRES  
 NUMBER OF LOTS: 34  
 AREA IN LOTS: 33.10 ACRES  
 AREA IN ROADS: 3.49 ACRES  
 AREA IN RECHARGE BASIN: 1.97 ACRES  
 SCHOOL DISTRICT: LONGWOOD CSD  
 WATER DISTRICT: SUFFOLK COUNTY WATER AUTHORITY  
 POST OFFICE: MIDDLE ISLAND  
 FIRE DISTRICT: MIDDLE ISLAND

**DRAINAGE CALCULATIONS CALCULATION**  
 RECHARGE BASIN  
 REQUIRED:  
 $38.56 \times 43560 \times 5 \frac{1}{12} \times 0.30 = 209,959.2 \text{ CF}$   
 PROVIDE:  
 297,000 CF  
 HW 60.0  
 BOTTOM 46.0/44.0



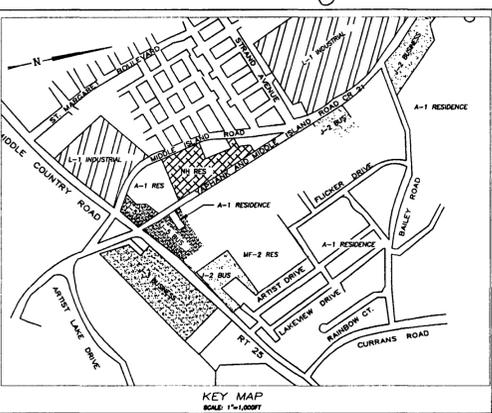
NOTES: - ALL IMPROVEMENTS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND DETAILS OF THE TOWN OF BROOKHAVEN PLANNING BOARD.  
 - ELEVATIONS SHOWN REFER TO N.G.V.D. DATUM

REVISIONS				TOWN OF BROOKHAVEN PLANNING BOARD	
ITEM	DATE	APP'D	DATE		
REVISED ALIGNMENT	11-02-07			<b>YIELD MAP</b> <b>SANDY HILLS AT MIDDLE ISLAND</b> S.C.T.M. DISTRICT 0200, SECTION 378, BLOCK 02, LOT 33.3 SITUATED AT <b>MIDDLE ISLAND</b> TOWN OF BROOKHAVEN, SUFFOLK COUNTY, NEW YORK <b>N&amp;P NELSON &amp; POPE, LLP</b> ENGINEERS • DESIGNERS • SURVEYORS 672 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747-2188 (516) 427-5665 FAX (516) 427-5620	
SUBMITTED: N.Y.S.		LIC. No.		APPROVED: TOWN ENGINEER	
DESIGNED: GEO	DATE: 3-20-02	SCALE: 1" = 100'	JOB# 00095	SHEET	
CHKD: GB	DATE: 3-20-02		FILE# 200-378-1	1 OF 1	



**SITE DATA:**  
 S.C.T.M. DISTRICT 0200, SECTION 378, BLOCK 02, LOT 33.3  
 EXISTING ZONE: A-1 RES & J-2 BUS  
 AREA: 38.56 ACRES  
 NUMBER OF LOTS: 34 LOT YIELD  
 AREA IN LOTS: 12.99 AC.  
 OPEN SPACE: 907,887 SF, 20.84 AC. (54.0%)  
 AREA IN EMERGENCY ACCESS: 0.21 AC.  
 AREA IN ROADS: 2.19 AC.  
 AREA IN RECHARGE BASIN: 97,058 SF (2.23 AC.)  
 LOTS CONFORM TO B RES ZONING  
 MIN. LOT AREA: 15,000 SQ.FT.

**DRAINAGE CALCULATIONS CALCULATION**  
 RECHARGE BASIN  
 REQUIRED:  
 $38.56 \times 43,560 \times 5''/12'' \times 0.30 = 209,959.2 \text{ CF}$   
 PROVIDE:  
 422,000 CF  
 HW 60.0  
 BOTTOM 46.0/44.0

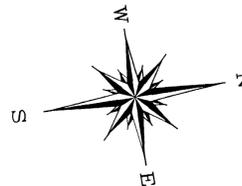


NOTES: - ALL IMPROVEMENTS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND DETAILS OF THE TOWN OF BROOKHAVEN PLANNING BOARD.  
 - ELEVATIONS SHOWN REFER TO N.G.V.D. DATUM

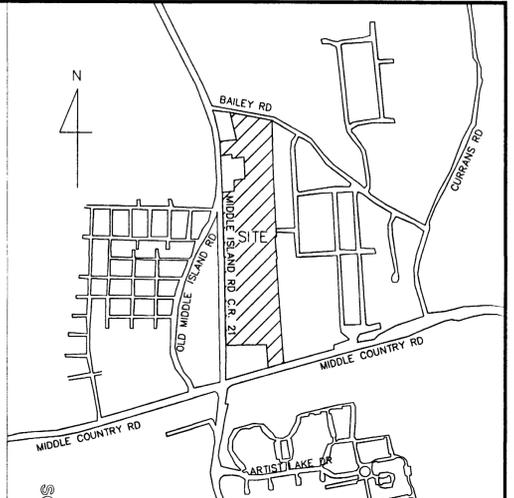
REVISIONS			
ITEM	DATE	APP'D	DATE
REVISED ALIGNMENT	11-02-07		

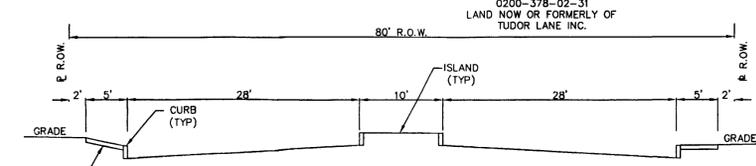
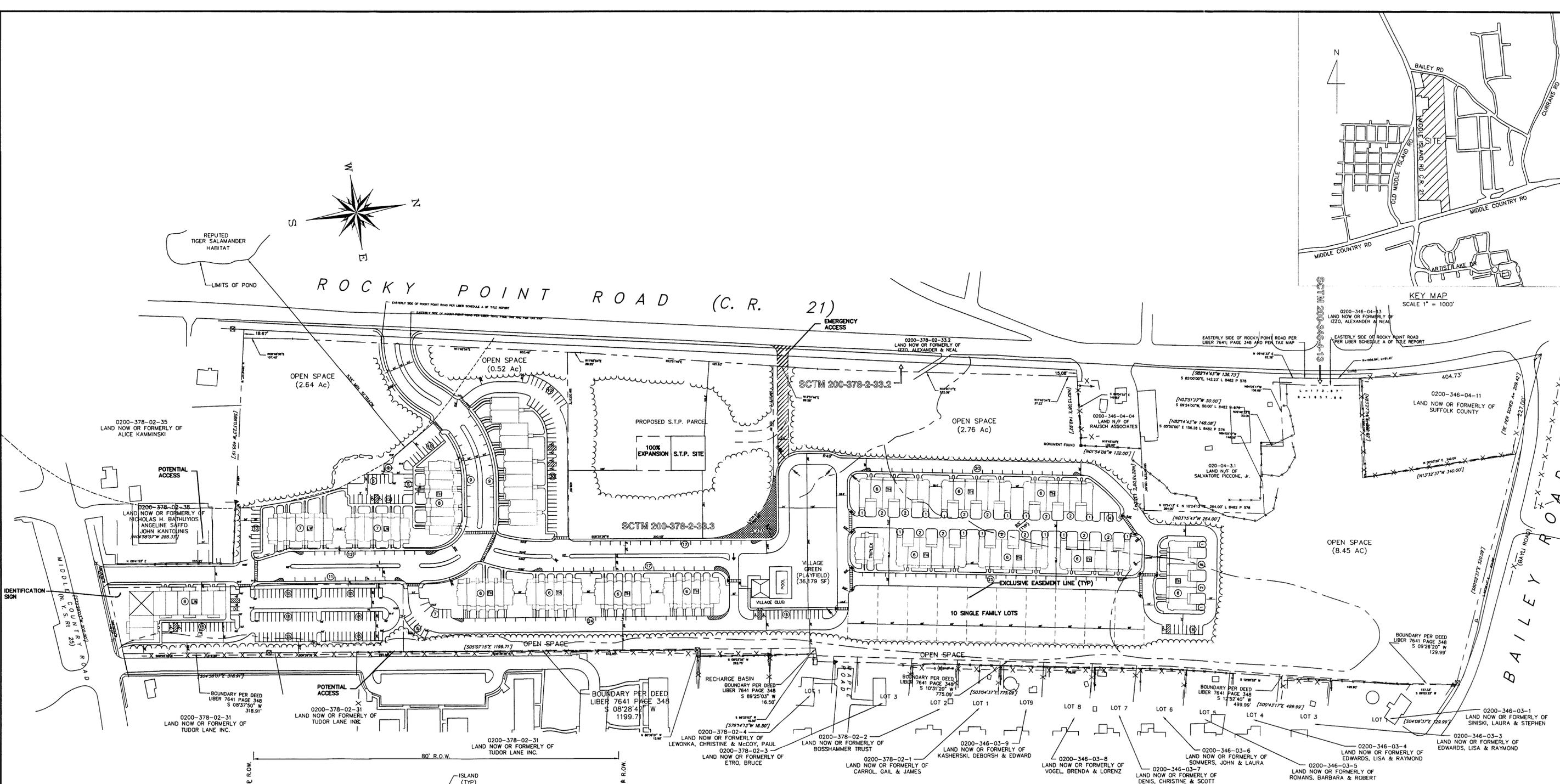
TOWN OF BROOKHAVEN PLANNING BOARD			
<b>ALTERNATIVE 2 - AS OF RIGHT CLUSTER DESIGN</b> <b>SANDY HILLS AT MIDDLE ISLAND</b> S.C.T.M. DISTRICT 0200, SECTION 378, BLOCK 02, LOT 33.3 SITUATED AT <b>MIDDLE ISLAND</b> TOWN OF BROOKHAVEN, SUFFOLK COUNTY, NEW YORK			
<b>N&amp;P</b> Nelson & Pope, LLP ENGINEERS • DESIGNERS • SURVEYORS 672 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747-2188 (616) 427-8665 FAX (616) 427-8620			
SUBMITTED: _____ N.Y.S.	LIC. No. _____	APPROVED: _____ TOWN ENGINEER	
DESIGNED: GEO	DATE: 3-20-02	SCALE: 1" = 100'	JOB# 00088 SHEET
CHKD: GB	DATE: 3-20-02	FILE# 200-378-1	1 OF 1



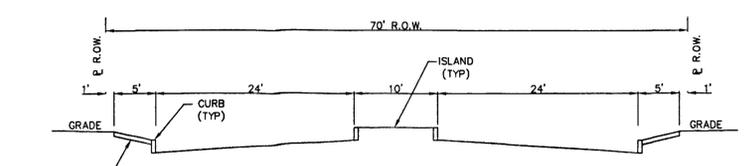
# ROCKY POINT ROAD (C.R. 21)



KEY MAP  
SCALE 1" = 1000'



SECTION A - A  
SCALE 1" = 10'



SECTION B - B  
SCALE 1" = 10'

**SITE DATA**

S.C.T.M. 0200-378-33.3  
 SITE AREA: 1,679,673 SF (38.56 Ac)  
 EXISTING USE: VACANT  
 ZONE: J-2 BUSINESS (0.46 ACRES) AND A-1 RESIDENTIAL (38.10 ACRES)  
 (INCLUDES 3.96 AC STP PARCEL)  
 PROPOSED ZONE: J-6 BUSINESS (2.10 ACRES) AND MF (CONDOMINIUMS); 36.46 Ac  
 129 UNITS/38.56 ACRES = 3.35 UNITS/ACRE

COMMERCIAL 27,500 SF  
 VILLAGE CLUB 1,800 SF  
 STP SITE: 3.96 ACRES

UNITS  
 23 TH 42  
 20' TH 32  
 FLATS 10  
 TRIPLEX 3  
 LIVE/WORK 22  
 TOTAL 109 UNITS

**OPEN SPACE**

REQUIRED: 38.56 x 0.47 = 18.12 Ac  
 PROVIDED: = 14.44 Ac

PINE BARRENS CREDIT REQUIRED = 3.68 Ac

STP SITE = 3.96 Ac  
 BOULEVARD R.O.W. = 2.04 Ac  
 6.00 Ac

**SITE QUANTITIES**

PAVEMENT (ROADS AND PARKING)	321,163	SF/19.12%
SIDEWALKS	49,034	SF/2.92%
OPEN SPACE (VEGETATED BACK TO NATURAL)	31,497	SF/1.88%
OPEN SPACE (NATURAL/UNDISTURBED)	597,882	SF/35.59%
STP AREA	172,431	SF/10.27%
UNITS (INCLUDING DECKS AND PATIOS)	148,563	SF/8.84%
FERTILIZER DEP. VEGETATION	180,910	SF/10.77%
NON FERTILIZER DEP. VEGETATION	136,329	SF/8.13%
REC AREA (BUILDING AND POOL)	5,485	SF/0.33%
REC AREA (PLAYFIELD)	36,179	SF/2.15%
TOTAL	1,679,673	SF/100%

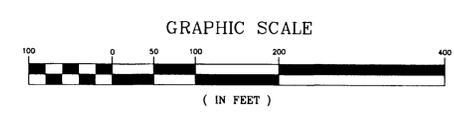
**SITE REQUIREMENTS (BASED UPON MF RESIDENCE DISTRICT)**

F.A.R. 326.771 SF/19.45%  
 UNITS 325,175 SF  
 CLUBHOUSE 1,596 SF

REQUIRED PARKING: 2 STALLS PER UNIT  
 2 STALLS x 129 UNITS = 258 STALLS  
 1 STALL/100 SF x 27,500 SF = 275 STALLS  
 TOTAL STALLS REQUIRED = 442 STALLS

PARKING PROVIDED:  
 PAVED PARKING 380 SPACES (INCLUDING 13 HANDICAP STALLS)  
 SINGLE FAMILY AND TOWNHOUSES 52 DRIVEWAYS  
 W/DRIVEWAYS 32 GARAGES

TOTAL PARKING PROVIDED: 484 STALLS (INCLUDING 13 HANDICAP STALLS)



BOUNDARY INFORMATION FROM SURVEY BY NELSON & POPE.  
 DATED: 08-07-04 REVISED: 11-28-06

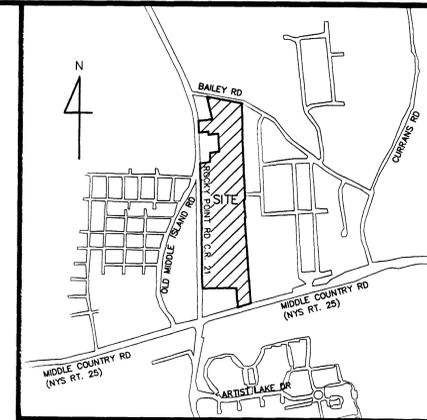
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NO.	DATE	REVISION	BY

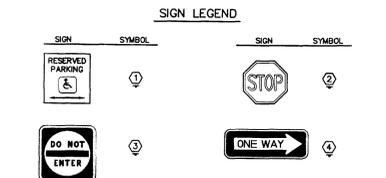
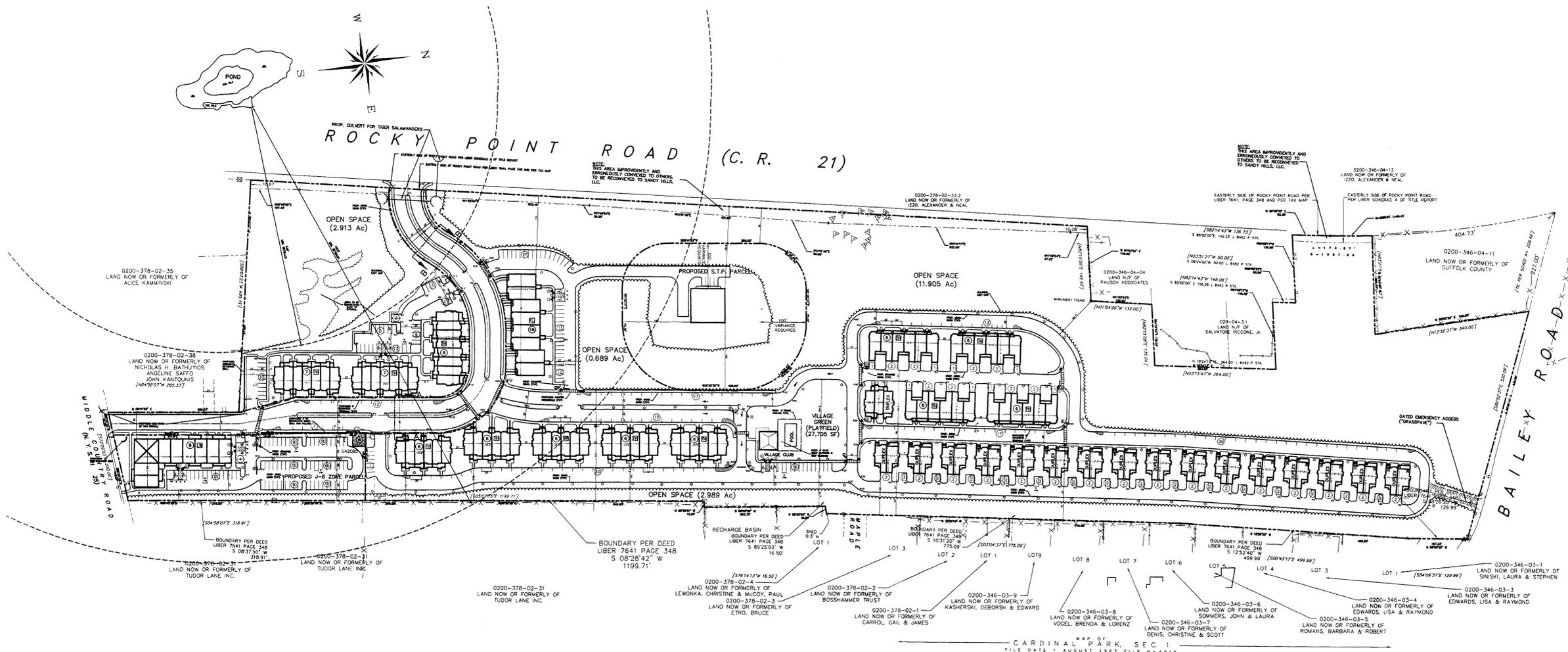
**SANDY HILLS ALTERNATIVE 3**  
**INCREASED COMMERCIAL / REDUCED**  
**RESIDENTIAL WITH SINGLE FAMILY HOMES**  
 SITUATED AT  
**MIDDLE ISLAND**  
 TOWN OF BROOKHAVEN, SUFFOLK COUNTY, NEW YORK  
 DISTRICT 0200, SECTION 079, BLOCK 02, LOT 09.9

**NELSON & POPE**  
 ENGINEERS • SURVEYORS  
 572 WALT WHITMAN ROAD, MELVILLE, NY 11747-2888  
 (631) 427-5665 FAX (631) 427-5620 www.nelsonpope.com

DWN BY:	JC
DSGN BY:	Q89
DATE:	11/06/07
CHKD BY:	HJ
DATE:	11/06/07
JOB NO:	00088
FILE NO:	
CADD:	00088CP
SCALE:	T=100
SHEET:	1 OF 1



KEY MAP  
SCALE 1" = 1000'



**SITE DATA**

S.C.T.M. 0200-378-02-33.2, 33.3 & 0200-346-04-13  
 SITE AREA: 1,715,151.1 SF (39.375 AC)  
 EXISTING USE: VACANT  
 ZONE: J-2 BUSINESS (0.460 ACRES) AND A-1 RESIDENTIAL (38.915 ACRES)  
 (INCLUDES 2.866 AC STP PARCEL)  
 PROPOSED ZONE: J-8 BUSINESS (1.796 ACRES) AND MF (CONDOMINIUMS); 37.579 AC  
 135 UNITS/37,579 ACRES = 3.59 UNITS/ACRE

COMMERCIAL 13,000 SF  
 VILLAGE CLUB 1,600 SF  
 STP SITE: 2,866 ACRES

UNITS  
 20' TH 24  
 20' TH 52  
 FLATS 12 (26 units are 55 yrs & over = R)  
 DUPLEX 3  
 TRIPLEX 3  
 LIVE/WORK 3  
 TOTAL 135 UNITS (31,200 SF)

**OPEN SPACE**

REQUIRED:  
 (FORM A-1 ZONE) 38.915 x 0.47 = 18,290 AC  
 (FORM J-2 ZONE) 0.460 x 0.35 = 0.161 AC  
 TOTAL = 18,451 AC

PROVIDED:  
 NET VEGETATED AREA = 16,085 AC  
 AREA TO BE REVEGETATED = 2,411 AC  
 TOTAL = 18,496 AC

AREA OF SITE WITHIN 1000 FT. OF POND = 14,258 AC  
 DEVELOPED AREA OF SITE WITHIN 1000 FT. OF POND = 8,602 AC (60.33%)  
 (INCLUDES P.O. STP SITE TO REMAIN WOODS)

STP SITE 2,866 AC  
 BOULEVARD R.O.W. = 2,233 AC  
 4,899 AC

**SITE QUANTITIES**

CONCRETE CURB: 41,135.25 LF  
 WALKS: 8,797.83 LF  
 PAVING: 344,171.70 SF  
 SEEDED/LAWN AREA: 108,845.16 SF

**LOT COVERAGE**  
 TOTAL BUILDING AREA: 155,484.78 SF  
 TOTAL PAVEMENT AREA: 1,600.00 SF  
 TOTAL CONCRETE WALK AREA: 344,171.70 SF  
 TOTAL SEEDED/LAWN AREA: 209,523.60 SF

**SITE REQUIREMENTS** (BASED UPON MF RESIDENCE DISTRICT)

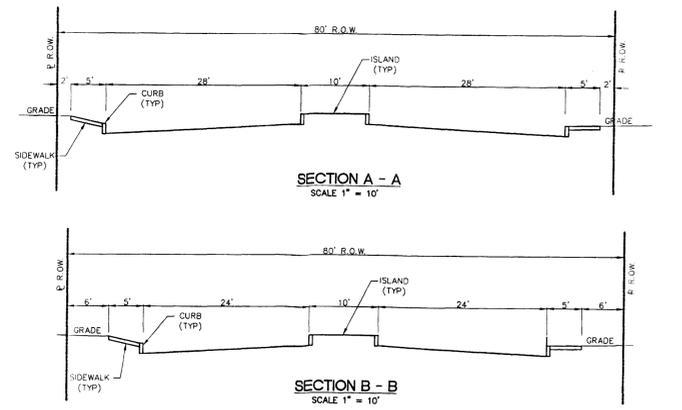
F.A.R. 300,589 SF/17,538 UNITS  
 CLUBHOUSE 1,600 SF

REQUIRED PARKING: 2 STALLS PER UNIT  
 2 STALLS x 135 UNITS = 270 STALLS  
 1 STALL/100 SF = 13,000 SF = 87 STALLS  
 TOTAL STALLS REQUIRED = 357 STALLS

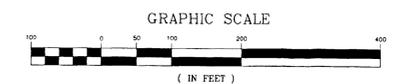
PARKING PROVIDED:  
 PAVED PARKING 356 SPACES (INCLUDING 10 HANDICAP STALLS)  
 DRIVEWAYS AND DRIVEWAYS 56 SPACES  
 TOTAL PARKING PROVIDED: 412 STALLS (INCLUDING 10 HANDICAP STALLS)  
 356 STALLS (W/O GARAGES)

**ZONING REQUIREMENTS** (MF RESIDENCE)

	REQUIRED	PROVIDED
MIN. FRONT YARD SETBACK:	25' (PRIMARY ZONE)/75' (IF APPROPRIATE)	151.5'
MIN. REAR YARD SETBACK:	50' (PRIMARY ZONE)/25' (IF APPROPRIATE)	75.4'
MIN. SIDE YARD SETBACK:	50' (PRIMARY ZONE)/25' (IF APPROPRIATE)	71'
MAXIMUM HEIGHT (FEET/STORIES):	35' OR 2 1/2 STORES (PRIMARY ZONE)/50' OR 3 STORES (IF APPROPRIATE)	See Arch Plans
MAXIMUM F.A.R.:	300	17,538
MINIMUM LOT AREA:	1 ACRE	38,375 AC
MINIMUM LOT WIDTH:	100' (PRIMARY ZONE)	243'
DENSITY:	6 UNITS/ACRE	3.59
MAXIMUM UNITS PER BUILDING:	4	4 (WITHIN PART OF BUILDING WITHIN FIRE WALLS)
MIN. DISTANCE BETWEEN PARALLEL ROWS OF BUILDINGS:	75'/-	25'



NOTE:  
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2 9-08-08 REVISION FILE TO ALTERNATE 7 CONCEPTUAL PLAN  
 1 6-08-08 GENERAL REVISIONS PER DEC AND TOWN COMMENTS  
 No DATE REVISION

**'ALTERNATE 7' CONCEPTUAL PLAN**  
 FOR  
**SANDY HILLS AT MIDDLE ISLAND**  
 SITUATED AT  
**MIDDLE ISLAND**  
 TOWN OF BROOKHAVEN, SUFFOLK COUNTY, NEW YORK  
 DISTRICT 0200, SECTION 378, BLOCK 02, LOT 93.3

DATE: 03/06/08  
 JOB No.: 000808  
 FILE No.:  
 CADD: 000808cp8  
 SCALE: 1" = 100'  
 SHEET: 1 OF 1

**N&P NELSON & POPE**  
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