DRAFT GENERIC ENVIRONMENTAL IMPACT STATEMENT

for

THE MEADOWS AT YAPHANK
Planned Development District Application
Town File #2010-011-CZ

Hamlet of Yaphank, Town of Brookhaven
Suffolk County, New York

Volume 1 of 2
Main Text, Tables, Figures & Plans

NP&V Project No. 09176

April 2011
DRAFT GENERIC ENVIRONMENTAL IMPACT STATEMENT

for

THE MEADOWS AT YAPHANK
Planned Development District (PDD) Application
Town File #2010-011-CZ

Hamlet of Yaphank, Town of Brookhaven
Suffolk County, New York

Prepared for: Rose-Breslin, LLC, and Dorade, LLC
One Executive Boulevard
Yonkers, New York 10701
Contact: Tom Perna, Senior Vice-President
(914) 965-3990

For Submission to: Brookhaven Town Board (as Lead Agency)
c/o Dept. of Planning, Environment & Land Management
One Independence Hill
Farmingville, New York 11738
Contact: Tullio Bertoli, PE; Commissioner
(631) 451-6400

Prepared by: Nelson, Pope & Voorhis, LLC
572 Walt Whitman Road
Melville, New York 11747
Contact: Charles Voorhis, CEP, AICP
(631) 427-5665
Phil Malicki, CEP, AICP, LEED® AP

Vollmuth & Brush
200 Blue Point Avenue
Blue Point, New York 11715
Contact: Jeffrey Vollmuth, AICP, PE
(631) 363-2683

Fay, Spofford & Thorndike
500 Bi-County Blvd., Suite 118
Farmingdale, New York 11735
Contact: Kevin Papasian, PE
(631) 756-5999

B. Laing Associates
225 Main Street, Suite 205
Northport, New York 11768
Contact: Mike Bontje, President
(631) 261-7170

Certilman Balin Adler & Hyman, LLP
1393 Suite 301S
Hauppauge, New York 11788
Contact: John Wagner, Esq.
(631) 979-3000

Simone Design Group
33 Main Street
South Salem, New York 10590
Contact: Dan Simone, PE
(914) 965-3990

Date of Acceptance by Lead Agency: ________________________________

Comments to the Lead Agency are to be Submitted By: ____________________________

April 2011

Copyright © 2011 by Nelson, Pope & Voorhis, LLC
## TABLE OF CONTENTS

Volume 1 of 2

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>COVERSHEET</td>
<td>i</td>
</tr>
<tr>
<td>TABLE OF CONTENTS</td>
<td>ii</td>
</tr>
<tr>
<td>SUMMARY</td>
<td></td>
</tr>
<tr>
<td>Introduction</td>
<td></td>
</tr>
<tr>
<td>Description of the Proposed Project</td>
<td></td>
</tr>
<tr>
<td>Potential Impacts and Mitigation</td>
<td></td>
</tr>
<tr>
<td>Cumulative Impacts</td>
<td></td>
</tr>
<tr>
<td>Public Benefits</td>
<td></td>
</tr>
<tr>
<td>Alternatives Considered</td>
<td></td>
</tr>
<tr>
<td>Permits and Approvals Required</td>
<td></td>
</tr>
<tr>
<td>1.0 DESCRIPTION OF THE PROPOSED PROJECT</td>
<td></td>
</tr>
<tr>
<td>1.1 Introduction</td>
<td></td>
</tr>
<tr>
<td>1.2 Project Background, Need, Objectives and Benefits</td>
<td></td>
</tr>
<tr>
<td>1.2.1 Background of PDD Application</td>
<td></td>
</tr>
<tr>
<td>1.2.2 As-of-Right Development</td>
<td></td>
</tr>
<tr>
<td>1.2.3 Public Need and Town Objectives</td>
<td></td>
</tr>
<tr>
<td>1.2.4 Applicant Objectives</td>
<td></td>
</tr>
<tr>
<td>1.2.5 Benefits of the Proposed Project</td>
<td></td>
</tr>
<tr>
<td>1.3 Project Location and Existing Site Conditions</td>
<td></td>
</tr>
<tr>
<td>1.3.1 Project Location</td>
<td></td>
</tr>
<tr>
<td>1.3.2 Existing Site Zoning and Conditions</td>
<td></td>
</tr>
<tr>
<td>1.4 Project Design and Layout</td>
<td></td>
</tr>
<tr>
<td>1.4.1 Project Yield</td>
<td></td>
</tr>
<tr>
<td>1.4.2 Site Layout and Structures</td>
<td></td>
</tr>
<tr>
<td>1.4.3 Open Space, Wetlands and Recreation</td>
<td></td>
</tr>
<tr>
<td>1.4.4 Parking, Vehicle Access and Traffic Mitigation</td>
<td></td>
</tr>
<tr>
<td>1.4.5 Clearing, Grading and Drainage System</td>
<td></td>
</tr>
<tr>
<td>1.4.6 Sanitary Wastewater Treatment and Water Supply Systems</td>
<td></td>
</tr>
<tr>
<td>1.4.7 Lighting, Landscaping and Amenities</td>
<td></td>
</tr>
<tr>
<td>1.4.8 Potential Use of Sustainable Features</td>
<td></td>
</tr>
<tr>
<td>1.5 Construction-Related Matters</td>
<td></td>
</tr>
<tr>
<td>1.5.1 Construction Schedule</td>
<td></td>
</tr>
<tr>
<td>1.5.2 Construction Process, Construction Operations &amp; Site Maintenance</td>
<td></td>
</tr>
<tr>
<td>1.6 Permits and Approvals Required</td>
<td></td>
</tr>
<tr>
<td>2.0 NATURAL ENVIRONMENT RESOURCES</td>
<td></td>
</tr>
<tr>
<td>2.1 Topography</td>
<td></td>
</tr>
<tr>
<td>2.1.1 Existing Conditions</td>
<td></td>
</tr>
<tr>
<td>2.1.2 Potential Impacts</td>
<td></td>
</tr>
<tr>
<td>2.1.3 Mitigation</td>
<td></td>
</tr>
<tr>
<td>2.2 Soils</td>
<td></td>
</tr>
<tr>
<td>2.2.1 Existing Conditions</td>
<td></td>
</tr>
<tr>
<td>2.2.2 Potential Impacts</td>
<td></td>
</tr>
</tbody>
</table>
2.2.3 Mitigation  2-10

2.3 Water
2.3.1 Existing Conditions  2-10
2.3.2 Potential Impacts  2-21
2.3.3 Mitigation  2-25

2.4 Ecology
2.4.1 Existing Conditions  2-26
2.4.2 Potential Impacts  2-43
2.4.3 Mitigation  2-48

3.0 Human Environmental Resources  3-1
3.1 Land Use, Zoning and Plans  3-1
3.1.1 Existing Conditions  3-1
3.1.2 Potential Impacts  3-5
3.1.3 Mitigation  3-24

3.2 Transportation
3.2.1 Existing Conditions  3-25
3.2.2 Potential Impacts  3-30
3.2.3 Mitigation  3-34

3.3 Air
3.3.1 Existing Conditions  3-34
3.3.2 Potential Impacts  3-38
3.3.3 Mitigation  3-41

3.4 Community Facilities and Services  3-41
3.4.1 Existing Conditions  3-42
3.4.2 Potential Impacts  3-46
3.4.3 Mitigation  3-61

3.5 Community Character
3.5.1 Existing Conditions  3-62
3.5.2 Potential Impacts  3-66
3.5.3 Mitigation  3-69

3.6 Cultural Resources  3-69
3.6.1 Existing Conditions  3-69
3.6.2 Potential Impacts  3-70
3.6.3 Mitigation  3-70

3.7 Economics  3-70
3.7.1 Existing Conditions  3-70
3.7.2 Potential Impacts  3-72
3.7.3 Mitigation  3-81

4.0 Other Required Sections  4-1
4.1 Cumulative Impacts  4-1
4.1.1 Other Pending Projects  4-1
4.1.2 Land Use Plans and Regulations  4-3
4.1.3 Resource Impact Assessment  4-5
4.1.4 Industrially-Zoned Land In the Town  4-12

4.2 Adverse Impacts That Cannot Be Avoided or Adequately Mitigated  4-14
4.3 Growth-Inducing Aspects  4-15
4.4 Irreversible and Irretrievable Commitment of Resources  4-16
4.5 Effects on the Use and Conservation of Energy Resources  4-17
4.5.1 Energy Consumption 4-17
4.5.2 Greenhouse Gases 4-18
4.6 General Construction Impacts 4-20

5.0 ALTERNATIVES CONSIDERED 5-1
5.1 Alternative 1: No Action 5-1
5.1.1 Description of Alternative 1 5-1
5.1.2 Anticipated Resource Impacts 5-6
5.2 Alternative 2: Development at Existing Zoning 5-7
5.2.1 Description of Alternative 2 5-7
5.2.2 Anticipated Resource Impacts 5-9
5.3 Alternative 3: Public Acquisition 5-11
5.3.1 Description of Alternative 3 5-11
5.3.2 Anticipated Resource Impacts 5-11
5.4 Alternative 4: Reuse of Wet Depressions as Town-Designated Wetlands 5-13
5.4.1 Description of Alternative 4 5-13
5.4.2 Anticipated Resource Impacts 5-13

6.0 REFERENCES 6-1

TABLES
1-1 Project Uses and Yields 1-3
1-2 Site and Project Characteristics - Existing Conditions, Proposed Project and Development per Existing Zoning 1-21
1-3 Parking 1-25
1-4 Anticipated Clearing 1-27
1-5 Domestic Water Use & Sanitary and Domestic Wastewater Flows 1-32
1-6 Anticipated Project Phasing 1-36
1-7 Permits and Approvals Required 1-40
2-1 Soil Limitations 2-6
2-2 Groundwater Quality Data, 2010 - SCWA Distribution Area 18 2-13
2-3 Stormwater Impacts from Land Use, NURP Study - Strip Commercial & Medium-Density Residential Sites 2-23
2-4 Coverage Quantities, Existing Conditions 2-27
2-5 Plant Species List 2-31
2-6 Bird Species List 2-36
2-7 Mammal Species List 2-38
2-8 Amphibian and Reptile Species List 2-40
2-9 Coverage Quantities, Existing Conditions vs. Proposed Project 2-47
3-1 Change in Use Data 3-9
3-2 Projected Quantification of Special Public Benefits 3-11
3-3 Conformance with Pine Barrens Plan Standards and Guidelines for Land Use 3-17
3-4 Accident Summary 3-27
3-5 LOS Summary, Existing Conditions, Signalized Intersections 3-28
3-6 LOS Summary, Existing Conditions, Unsignalized Intersections 3-29
3-7 Trip Generation, Proposed Project 3-30
3-8 LOS Summary, Proposed Project, Signalized Intersections 3-32
3-9 LOS Summary, Proposed Project, Unsignalized Intersections 3-33
3-10 Wind Direction 3-35
3-11a Wind Speed and Gustiness, Wind Speed (1979-1988) 3-36
3-11b Wind Speed and Gustiness, Gustiness (1979-1988) 3-36
3-12 New York State and Federal Ambient Air Quality Standards 3-39
3-13a Property Taxes, Racetrack/BW Site, Existing Conditions, 2009-10 Tax Year 3-43
3-13b Property Taxes, Dorade STP Site, Existing Conditions, 2009-10 Tax Year 3-43
3-14 Per-Pupil Cost in the LCSD, 2009-10 School Year 3-44
3-15 Property Taxes - Existing & Proposed Conditions, 2009-10 Tax Year 3-50
3-16 Annual Tax Impact on LCSD 3-52
3-17 Projected Fiscal Impact on SCPD 3-53
3-18 Projected Fiscal Impact on Ridge Fire District 3-56
3-19 Projected Fiscal Impact on Yaphank Fire District 3-57
3-20 Solid Waste Generation, Proposed Project 3-58
3-21 Perceived Changes in Noise Level 3-63
3-22 Common Noise Levels and Reactions 3-64
3-23 Noise Measurements, Existing Conditions 3-65
3-24 Noise Modeling Results, Existing Conditions & Proposed Project 3-65
3-25 Summary of Key Economic Findings, Construction Jobs 3-77
4-1 Cumulative Impact Management Matrix, Levels of Environmental and Resource Protection, Based on Regional Land Use and Development Controls 4-6
5-1 Comparison of Alternatives, Public Benefits 5-2
5-2a Comparison of Alternatives 1 & 3 to Proposed Project 5-3
5-2b Comparison of Alternative 2 to Proposed Project 5-4
5-2c Comparison of Alternative 4 to Proposed Project 5-5

FIGURES
(following Section 6.0)

1-1 Location Map
1-2a Existing Site Conditions - Eastern & Western Parcels
1-2b Existing Site Conditions - Dorade STP Parcel
2-1 Slope Analysis
2-2 Soil Map
2-3 Water Table Contour Map
2-4 BNL Plume Map, OU VI/EDB
2-5 BNL Plume Map, OU III
2-6 Central Suffolk SGPA Plan
2-7 Carmans River Surface Water & Groundwater Contributing Areas
2-8a Habitat Map
2-8b Natural Areas to be Preserved & Cleared
2-9 NYSDEC Freshwater Wetland Map
3-1 Land Use Map
3-2 Zoning Map
3-3a 1975 Town Master Plan Map
3-3b 1987 Town Land Use Plan Map
3-3c 1996 Town Comprehensive Land Use Plan Update Map
3-4 Central Pine Barrens Zone Map
3-5 Community Services - School Districts & Schools
3-6 Community Services - Emergency & Health Services
3-7 Proposed Emergency Access
In pouches at rear:

- Land Use and Development Plan, Simone Design Group, revised 4/4/11
- Yield Study, Simone Design Group, dated 5/17/10
- Brookhaven Walk Conceptual Site Plan, Vollmuth & Brush, revised 9/15/06
- Phasing Plan, Simone Design Group, dated 1/4/11
- Map of Site Located at Yaphank, Sheet 2 of 3, (Eastern Parcel), Vollmuth & Brush, 12/09/10
- Map of Site Located at Yaphank, Sheet 3 of 3, (Western Parcel), Vollmuth & Brush, 12/09/10
- Land Use and Development Plan - Alternate #4, Simone Design Group, revised 3/24/11
APPENDICES

A Miscellaneous Documents
A-1 Phase I PDD Application (Narrative), Nelson, Pope & Voorhis, LLC, Revised October 2010
A-2 Brookhaven Walk Findings Statement, Town Planning Board, June 20, 2007
A-3 PDD Pre-Application Conference Minutes, April 7, 2010
A-4 Environmental Assessment Form, Part 1, Nelson, Pope & Voorhis, LLC, May 19, 2010
A-5 Positive Declaration, Town Board, July 20, 2010
A-6 Final Scope for the Draft GEIS, Town Board, October 8, 2010
A-7 Economic Impact Analysis and Assessment of Project Benefits, NP&V, LLC, March 29, 2011
A-8 Commercial Market Analysis, NP&V, LLC, March 29, 2011
A-9 1973 Dorade STP Construction Agreement
A-10 Renderings
A-11 Master Plan & Guidelines, Simone Design Group, January 2011
A-12 Engineering Report for Water Pollution Control Plant and Collection System, Parr Village, Brookhaven, NY, February, 1973
A-13 LEED® Features that May be Considered
A-14 Photographs Depicting Building Heights Along the LIE
A-15 Revised Tax Impact/School District Analysis - As of Right Development versus The Meadows at Yaphank PDD, Pearl M. Kamer, Ph.D., January 2010

B Photographs of Site and Vicinity
B-1 Photographs Depicting Existing Site Aesthetic Conditions
B-2 Photographs Depicting Existing Site Ecological Conditions

C SONIR Computer Model Documents
C-1 Model User's Guide
C-2 Existing Conditions/Alternatives 1 & 3
C-3 Proposed Project
C-4 Alternatives 2 & 4


E Ecology-Related Documents
E-1 NYSDEC Breeding Bird Survey
E-2 Projection of Wildlife Ecological Response (POWER) Model Results
E-3 NYS Natural Heritage Program Correspondence
E-4 Resumes of On-Site Investigators

F Air Resources-Related Documents
F-1 Ambient Air Quality Documents
F-2 Mobile Source Air Pollution Modeling, B. Laing Associates, October 2010
F-3 Greenhouse Gas Emission & Carbon Footprint Analysis, B. Laing Assocs., November 2010

G Conformance to PDD Zoning Requirements

H Correspondence

I Noise Measurements and Modeling, B. Laing Associates, October 2010

J Cultural Resources-Related Documents
J-1 SHPO Correspondence for Brookhaven Walk, October 23, 2006
J-2 Applicant and SHPO Correspondence for Industrial Development on Racetrack Parcel
J-3 Applicant and SHPO Correspondence for The Meadows at Yaphank PDD, August & September 2010
The Meadows at Yaphank
PDD Application
Draft GEIS

J-4 Extended Phase IB Archaeological Survey, Tracker Archaeology Services, Inc., January 2011
J-5 SHPO Correspondence for The Meadows at Yaphank PDD, March 18, 2011
K Industrial Land Inventory
SUMMARY
SUMMARY

Introduction

This document is a Draft Generic Environmental Impact Statement (Draft GEIS) for a proposed change of zone application on 322.37 acres of an overall 333.46-acre combined project site located at the northwestern corner of the interchange of William Floyd Parkway and the Long Island Expressway (LIE), in Yaphank. The application also includes an 11±-acre site occupied by the existing Dorade Sewage Treatment Plant (STP), which is currently in operation and serving projects in the area including Suffolk County Sewer District (SCSD #8) and the Whispering Pines/Colonial Woods condominiums. A change of zone is not needed or requested for the STP parcel.

The proposed project will establish a Planned Development District (PDD) featuring a high quality mix of residential, retail, hotel/hospitality, office and office/flex uses on the property, while providing the community with numerous benefits that could not be realized absent the use of the overarching PDD concept. Flexibility in zoning is essential to achieve the design and combination of uses associated with this project, in order to achieve the specific benefits important to the community, as reflected in the proposed project and consistent with the Town Board’s legislative intent for the PDD. The project is in large part the result of community input to achieve these goals, as conducted by the project sponsor and their consultants since March 2009. While specific uses have been shown on the Land Use and Development Plan in specific locations, it should be remembered that the PDD concept is based on the flexibility to locate and develop uses within the site subject to market conditions, and thereby allow the organic development of the project. In consideration of this, the Land Use and Development Plan is not the Site Plan for the project; rather, such a plan will be prepared after the Town Board completes the review process and renders a decision on the requested change of zone, which establishes a PDD for the site. After this, detailed Site Plans will be prepared, in conformance with thresholds established when the PDD is established.

Description of the Proposed Project

The Meadows at Yaphank PDD will consist of retail, mixed-use commercial, office/flex spaces, and housing (see below). The commercial component includes approximately 1,032,500 square feet (SF) of space made up of hotel, retail, restaurant and office/flex uses. The residential component includes 850 units of various types and sizes, including 303 age-restricted units and 85 workforce units.

Potential Impacts and Mitigation

Topography

Potential Impacts

It is anticipated that up to 203.63 acres of the Racetrack/Brookhaven Walk (BW) site (or, 205.12 acres of the overall site) will be subject to grading operations. Development on the combined eastern/western parcels has intentionally been designed to occur on those areas that were previously used and/or cleared. This simultaneously reduces the amount of earthwork involved as well as removal of undisturbed natural vegetation, as regulated by the Central Pine Barrens Comprehensive Land Use Plan (Pine Barrens Plan).
The Meadows at Yaphank
PDD Application
Draft GEIS

<table>
<thead>
<tr>
<th>Commercial Component</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hotel (220 rooms):</strong></td>
<td>150,000 SF</td>
</tr>
<tr>
<td><strong>Retail (total):</strong></td>
<td>327,500 SF</td>
</tr>
<tr>
<td>Large Retail</td>
<td>150,000 SF</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>14,700 SF</td>
</tr>
<tr>
<td>Bank</td>
<td>3,500 SF</td>
</tr>
<tr>
<td>Neighborhood Retail (total):</td>
<td>159,300 SF</td>
</tr>
<tr>
<td>Supermarket</td>
<td>65,000 SF</td>
</tr>
<tr>
<td>Other Neighborhood Retail</td>
<td>94,300 SF</td>
</tr>
<tr>
<td><strong>Restaurant (200 seats):</strong></td>
<td>5,000 SF</td>
</tr>
<tr>
<td><strong>Class A Office &amp; Office/Flex (total):</strong></td>
<td>550,000 SF</td>
</tr>
<tr>
<td>Office/Flex (15% office, 85% warehouse &amp; distribution)</td>
<td>250,000 SF</td>
</tr>
<tr>
<td>Class A Office</td>
<td>300,000 SF</td>
</tr>
<tr>
<td><strong>TOTAL COMMERCIAL SPACE</strong></td>
<td>1,032,500 SF</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Residential Component</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rental Units</strong></td>
<td>144 units</td>
</tr>
<tr>
<td><strong>Condominium Units</strong></td>
<td>486 units</td>
</tr>
<tr>
<td><strong>Townhouse Units</strong></td>
<td>220 units</td>
</tr>
<tr>
<td><strong>TOTAL RESIDENTIAL UNITS</strong></td>
<td>850 units</td>
</tr>
</tbody>
</table>

**Mitigation**
- Construction accesses will be stabilized with stone and installed with rumble strips to remove dirt from truck tires before they enter adjoining roadways.
- A water truck will be available on-site when needed during construction to wet excessively dry soils.
- Grading of exposed soil will not occur during time periods when winds exceed 20 miles per hour.
- Measures incorporated in the Stormwater Pollution Prevention Plan (SWPPP) and anticipated to be taken during the construction period, which will minimize the potential for erosion, include, but are not limited to 1) use of groundcovers; 2) minimize the time span that denuded soil is exposed to erosive elements; 3) use of drainage diversions; 4) use of soil traps; and 5) drainage structure inlet protection.

**Soils**

**Potential Impacts**
Eight of the soils found on the subject site pose “moderate” to “severe” limitations due to slopes, and a sandy surface layer. These limitations relate to features such as sewage disposal fields, streets and parking areas as well as lawns and landscaping. The total area of the site underlain by these soils is approximately 80%. The developed portions of these areas will be initially graded or re-graded, followed by the installation of landscaping or soil stabilization controls (retaining walls, etc.). Construction and development methods will be employed to ensure that slope constraints and/or a sandy surface layer would not present an impediment to the safe and environmentally appropriate use of the site.

**Mitigation**
- Locates development in existing cleared areas, thus leaving natural, undisturbed land for retention.
- Prepare grading plans, erosion control plans and SWPPP to address slope limitations of some soils.
- Plantings will use drought-resistant species to mitigate limitations related to sandy soils.
- Convey sanitary waste to Dorade STP to mitigate sandy soil limitations to sewage disposal.
The Meadows at Yaphank  
PDD Application  
Draft GEIS  

- Conduct test borings to locate soils appropriate for stormwater recharge, detention, biofiltration and related leaching systems to mitigate potential impact with regard to sandy soils.

Water

Potential Impacts
A total of 351.29 million gallons per year (MGY) of water will be recharged on the subject site and the Dorade STP site. This represents a 60.57% increase in recharge generated on the property, as compared with the existing recharge volume. Of this volume, stormwater will account for 70.89%, irrigation for 0.46% and sanitary effluent for 28.65%. Stormwater will be handled by a drainage system that will recharge at point of generation as well as provide pickup systems to convey stormwater to recharge reserve areas. Sanitary effluent will be conveyed to the Dorade STP for treatment and recharge. It is anticipated that groundwater underlying the site will continue to flow in a southwesterly direction based on regional hydrology. The depth to groundwater below the recharge areas is no less than about 68 feet; therefore, any change in groundwater elevations as a result of recharge would not result in flooding. As a result, there are no significant hydrogeologic impacts expected as a result of the proposed project.

Mitigation
- Use of the existing Dorade STP, which will be upgraded in association with the proposed project (and subject to the review and approval of the Suffolk County Department of Health Services (SCDHS), Suffolk County Department of Public Works (SCDPW) and New York State Department of Environmental Conservation (NYSDEC)), will ensure that groundwater quality will be protected via treated sanitary effluent recharge; nitrogen in effluent from the STP will be limited to 8 milligrams per liter (mg/l) or less, which is more stringent than current effluent limitations.
- Innovative techniques will be used to promote surface detention and biological uptake of stormwater pollutants; these will be incorporated into the project during the site plan review process. Potential groundwater quality impacts from nitrogen in fertilizers will be minimized by limiting both the rate of fertilizer use and the acreage of fertilizer-dependent landscaping.
- The project conforms to the recommendations of the Nationwide Urban Runoff Program (NURP).
- Adherence to the SWPPP (to be prepared for the State Pollutant Discharge Elimination System [SPDES] permit) would ensure that stormwater generated during construction is controlled, and that erosion and its associated impacts are minimized.
- There are an estimated 49 to 89 feet of separation between the ground surface and water table. This distance is expected to be more than sufficient to ensure adequate levels of attenuation and decay of contaminants in stormwater runoff, which would protect groundwater quality.

Ecology

Potential Impacts
The overall ecological character of the subject site will change as a result of the development of the interior of the site, but this will be minimized through the preservation of existing relatively contiguous woodland around its perimeter. The woodland is currently bisected by the main access road that divides the two main parcels, as well as existing paths and former construction entrances to the parcel. Additional fragmentation would occur as a result of construction of the eastern entrance to the parcel from William Floyd Parkway along the eastern property boundary, but would situate two proposed pond and wetland systems adjacent to the preserved woodland areas. The proposed project seeks to dedicate a large, contiguous block of open space on the subject site, which will remain as natural woodland and
continue to provide ecological benefit to the site. Approximately 35% of the site will remain natural woodland vegetation, largely along the north, south and eastern property boundaries. Furthermore, the proposed pond/wetland systems and recharge areas will provide some diversity of habitat that may attract additional aquatic species.

In the short term, undisturbed portions of the property and lands adjacent to the subject property will experience an increase in the abundance of some wildlife populations due to displacement of individuals by the construction phase of the proposed project. Mobile species and particularly large mammals such as deer would be expected to relocate to the preserved portions of the property where large contiguous areas of open space will remain. Ultimately, there is expected to be a net decrease in population size for most species. The effect on the density and diversity of regional populations should be minimal.

Mitigation

- Loss of the existing wet depression in the center of the racetrack parcel will be mitigated through the creation of a pond/wetland stormwater recharge area at least double in size, to be located along the western perimeter of the site near the site’s wooded edge.
- The loss of existing vegetated habitat on the property will be mitigated by preservation of 120.79 acres of natural area (36.22% of the site) within the proposed open space, including 116.69 acres of existing woodland, the existing 0.76-acre forested wetland, and 3.34 acres of dense native shrubland.
- Establishment of recharge areas with meadow vegetation to promote habitat and biological uptake of stormwater contaminants.
- Native plant species that provide food and shelter to wildlife will be utilized in some of the landscaped areas within the development area.

Land Use, Zoning and Plans

Potential Impacts

Land Use - The project would introduce a mix of uses including retail, office space, office/flex space, hotel/hospitality and housing. The commercial component includes approximately 1,032,500 SF of space. The residential component is comprised of 850 units of various types and sizes, including 303 age-restricted units and 85 workforce units. The Dorade STP is an existing facility that is in the process of being upgraded and restored to its original permitted flow.

Zoning - The proposed action is for a change of zone from L-Industrial-1 and J-Business-2 to PDD. The proposed PDD represents an opportunity to develop a mixed-use community incorporating attractive design features, coordinated traditional architectural design, and public benefits in lieu of development of as-of-right industrial and commercial development. Overall, the Meadows at Yaphank PDD will be a community that provides many benefits for the people that will live and work in or near it, as well as for the residents of nearby hamlets and employees of nearby job centers such as Brookhaven National Lab, Clare Rose and the Tritec industrial park. No adverse zoning impacts have been identified, and it is the applicant’s belief that the conversion to PDD will provide benefit over the existing as-of-right zoning in terms of a mixed-use development that provides public benefits and serves greater public need.

Town Master Plan (1975) - The project conforms to several recommendations of the Plan, including development of a mixed-use center that includes residential, commercial and industrial uses, and incorporates both senior and workforce housing opportunities.
The project conforms to several recommendations of the Land Use Plan. The project envisions a sustainable community including Smart Growth elements such as a mix of residential, commercial (retail, office, office/flex), hospitality and public open spaces. As a result, the community will provide for itself as well as the greater community. With efficient building design and proper planning, more open space is preserved and the community becomes a vibrant and successful place combating the elements of sprawl. The project will feature attractive, coordinated architectural styling for the residential structures and commercial areas, as well as for all street furniture and amenities (e.g., lighting fixtures, signage, benches, trash receptacles, kiosks, fountains, etc.).

The proposed PDD conforms to the Plan Update recommendation of “Planned Development” for the site. It would provide lands for public open space and public utilities, with commercial and residential uses; it will generate significant public benefits to the school district and community. The PDD design specifically includes large amounts of preserved land for buffering and natural land preservation.

The project conforms to the recommended Planned Unit Development (PUD) land use for the subject parcel. In addition, the project conforms to many of the identified goals of the Plan, including: 1) encourage the creation of unique, identifiable community centers; 2) encourage diversity or intricacy of use within our downtowns; 3) encourage the development of people-friendly streets and downtowns; 4) enhance our tax base with properly sited industrial and commercial development; and 5) create corridors of open space throughout our community.

The Pine Barrens Commission recognizes the need for balanced growth and development within the Compatible Growth Area (CGA), provided that it is consistent with the water resource protection and habitat preservation goals of the Pine Barrens Protection Act. Projects in the CGA have to meet all of the standards in the Pine Barrens Plan, and a project designated as a Development of Regional Significance (DRS) must also conform to its guidelines. The project is considered a DRS, so all of the standards and guidelines of the Pine Barrens Plan will be met.

Mitigation
- Land use mitigation is provided by locating residential use on the north part of the property adjacent to residential communities to the north (i.e., Whispering Pines and Colonial Woods).
- Retention of perimeter buffers ensures that the project conforms to Pine Barrens Plan clearing restrictions, and that land use is compatible with surrounding land use.
- Providing a limited number of 3-bedroom units and senior units ensures a low number of school-aged children, but provides a diversity of housing types/sizes, and housing for an aging population.
- Providing 10% of its units for workforce housing.
- Providing tangible and fiscal public benefits, including active and passive public parks, public spaces within the commercial and residential components, a community building and private maintenance.

Transportation

Potential Impacts
The project is expected to generate 1,496 primary vehicle trips during the weekday morning, 2,274 vehicle trips during the evening peak hour and 2,257 vehicle trips during the Saturday midday peak hour. In addition, to reflect the interaction of the different land uses within the multi-use development, procedures from the ITE Trip Generation Handbook were followed to calculate the internal capture of the
trips. For this development scenario, an internal trip capture between 13% and 15% is expected based on the period calculated.

The overall intersections LOS at the intersection of William Floyd Parkway/Longwood Road will operate at LOS D during the morning peak hour, LOS C during the weekday evening peak hour, and LOS B during the Saturday midday peak hour. The adjacent intersection of William Floyd Parkway/BNL is projected to operate at LOS D during the weekday evening peak hour and LOS B during the weekday morning and Saturday midday peak hours.

The intersection of William Floyd Parkway/Yaphank-Woods Boulevard is projected to operate at LOS C during the weekday morning and evening peak hours. Improvements are planned at this intersection.

The intersection of William Floyd Parkway/SCPD 7th Precinct Driveway is projected to operate at LOS C during the evening peak hour and LOS A during the weekday morning and Saturday midday peak hours.

The intersection of William Floyd Parkway/Moriches-Middle Island Road is projected to operate at LOS D during the evening peak hour and LOS C during the weekday morning and Saturday midday peak hours.

Without coordination, the proposed intersection of William Floyd Parkway/ Site Driveway is projected to operate at LOS B during all three analyzed time periods.

The proponent is committed to working with the Suffolk County Transit to facilitate modifications to bus routes to provide service to the site. The proponent will also work with the Suffolk County Transit to identify locations on-site for dedicated bus stops.

In addition to working with Suffolk County Transit to establish public bus service to the site the proponent will provide a private shuttle bus from the site to the local train stations (Mastic/Shirley & Yaphank) and the Brookhaven National Lab. This service would be based on demand.

Mitigation

- Construct a new westbound on-ramp from the LIE North Service Road approximately 1,850 feet west of its existing location.
- Construct a new public roadway between Yaphank-Woods Boulevard and the LIE North Service Road.
- Widen the eastbound off-ramp onto the LIE South Service Road from one lane to two lanes to accommodate the off-ramp volume.
- Widen the loop ramp from William Floyd Parkway northbound to the LIE North Service Road westbound from one to two lanes.
- Construct a new signalized intersection at the proposed main site driveway. The intersection would be constructed to consist of a two northbound left turn lanes, and two through lanes. In addition, two southbound through lanes and a single southbound right turn lane would be provided. Left and right turn lanes will be provided from the site to William Floyd Parkway.
- Widen the Yaphank-Woods Boulevard eastbound approach to William Floyd Parkway to provide two left turn only lanes and a separate right turn lane. The northbound left turn lane will be widened slightly to accommodate a full 12-foot wide left turn lane.
- The traffic signal at the intersection of William Floyd Parkway Yaphank-Woods Boulevard will be coordinated with the new traffic signal at the proposed William Floyd Parkway Site Driveway.
- The locations with the most need for improvements will experience substantial improvement in traffic
operations with the implementation of the mitigation measures identified in this study. The analysis results also show that the proposed improvements offsets project impacts and also provides additional capacity to accommodate future traffic growth in the area.

Air

Potential Impacts
The results of the modeling program indicate that the peak CO result with the project constructed was 5.07 ppm in the one hour scenario and 3.59 ppm in the eight hour scenario for 2015 AM build along William Floyd Parkway and Yaphank Woods Drive at sidewalk receptor 19. Receptor 19 is located along the northwestern boundary of the project site along Yaphank Woods Boulevard. It is approximately 75 feet west of William Floyd Parkway. The peak CO result without the project constructed was 4.97 ppm in the one-hour scenario and 3.52 ppm in the eight-hour scenario in 2015 AM no build scenario also at sidewalk receptor 19. Thus, the CO result with the project constructed in the one-hour scenario was only 0.1 ppm higher than without the project constructed. The CO result with the project constructed in the eight-hour scenario was only 0.07 ppm higher than without the project constructed. As all results are also below their respective one hour standard of 35 ppm and eight hour standard of 9 ppm in the 2015 build condition, it was determined that the project will not significantly impact air quality. Based on this air quality analysis it is concluded that the proposed project will not result in a significant adverse impact to the local air quality and no further analysis is necessary.

Mitigation
- Best Management Practices will reduce erosion and fugitive dust during the construction phase.
- Based on the results of the air analysis, no additional mitigation is necessary or proposed.

Community Facilities and Services

Potential Impacts

Fiscal Considerations and Tax Revenue - The project could generate annual taxes of $4,994,086 from the commercial component and $4,548,059 from the residential component for a total of $9,542,145.

Educational Facilities - The 547 non age-restricted residences could generate as many as 110 school-age children. The added cost to the Longwood Central School District (LCSD) would therefore be $2,456,510 annually. This compares with additional annual tax revenues from the project of $6,402,779, resulting in surplus tax revenues to the school district of $3,946,269 yearly. However, state and federal aid would reduce school expenditures to only $116,596,661, or $12,789/student. This in turn reduces the cost for the 110 students to $1,406,790/year and results in surplus school revenues from the project of more than $4.9 million/year.

Police Protection - The project will incrementally increase the potential need for the protective services of the Suffolk County Police Department (SCPD). However, based on the size, experience level and staffing of SCPD facilities, this increase is not anticipated to be to a level that would cause a significant impact on the SCPD. It is expected that the project will result in an increase to $1,040,094 in annual tax revenue for the SCPD, which is expected to offset the costs to provide the increase in police services.

Fire Protection - It is expected that the project will result in an increase to $362,602 in annual tax revenue for the Ridge Fire District, which is expected to completely offset the costs associated with an increased
provision of fire protection services. The proposed project is projected to result in a net impact of $98,276 in revenues to the Ridge Fire District.

It is expected that the project will result in an increase to $362,602 in annual tax revenue for the Yaphank Fire District, which is expected to completely offset the costs associated with an increased provision of fire protection services. The proposed project is projected to result in a net impact of $134,245 in revenues to the Yaphank Fire District.

Construction will use current building materials and safety installations per the State Building Code, and will include installation of fire hydrants as directed through the site plan review process. A preliminary emergency access plan has been prepared that identifies a potential emergency access road to the west of the subject site, with access off the LIE North Service Road. It is presently a dirt access through the Town’s Greenbelt Trail; however, if feasible, this access would be stabilized for emergency vehicle use.

Solid Waste Removal and Disposal - It is anticipated that the residents, commercial spaces, hotel and restaurant space would generate a total of 16,079 lbs/day of solid waste. The Town does not provide any direct waste management services to facilities such as the proposed project. It is anticipated that a private hauler will be utilized for garbage pickup. Correspondence from the Town’s Department of Waste Management indicates that municipal solid wastes and recyclables could be accepted at the Town’s facility for processing for a fee, subject to the Town’s available capacity. Based on the uses proposed, the solid waste generated would not contain significant amounts of potentially toxic or hazardous materials.

Wastewater Treatment and Materials Storage - The project will be connected to the Dorade STP. The plant will be upgraded to treat the existing flow (140,000 gpd) and some additional project flow through phased improvements to the STP. Once the capacity of the existing STP is reached, a new plant will be constructed and eventually built to the original permitted flow of 450,000 gpd. This will be sufficient to accommodate the anticipated total flow from the proposed Meadows at Yaphank project, which is expected to be 275,050 gpd (of which the sanitary flow is 271,050 gpd). This provides a direct benefit of improving the quality of discharge associated with the existing 140,000 gpd that enters the STP from Whispering Pines/Colonial Woods and SCSD #8. Therefore, as a result of this project the Dorade STP will have the capacity to treat all wastewater generated on-site and from the existing developments, and its maintenance will continue to be subject to review and approval by the SCDHS and NYSDEC under the SPDES permit program.

Water Supply - Potable water would be supplied from Suffolk County Water Authority (SCWA) Distribution Area #18 (the William Floyd Parkway wellfield), via the existing 16-inch service beneath William Floyd Parkway and the 16-inch main beneath Yaphank-Woods Boulevard. A new internal distribution system will be installed, and will conform to the requirements of SCWA and SCDHS.

Energy Supply - The project will use Long Island Power Authority (LIPA) and National Grid to supply energy. Connections will be made to each utility through the creation of an internal distribution network. LIPA has confirmed that it will provide electric service to the project. National Grid requires load information to determine the feasibility of supplying the project with natural gas; however, the existing gas main network is proximate to the site and it is expected that National Grid will supply service in conformance with the applicable charter and tariffs that allow this utility to service gas use customers.

The applicant intends to incorporate substantial energy- and water-saving features into the proposed project, though the final roster of these features has not been determined at this early stage in the project planning process. It is possible that the number and extent of these sustainable features would justify the
The Meadows at Yaphank
PDD Application
Draft GEIS

applicant seeking certification under the US Green Building Council’s LEED® Program. However, since the project is in the Generic EIS stage, and the exact tenants, building materials, final site design, etc. are not known, it is not possible to commit to certification or a specific level of certification at this time.

Recreational Facilities - Amenities will include tennis courts, recreational buildings and pocket parks for residents, as well as several public areas including a great lawn, village green, reflection pool, civic space and civic building, ballfields, multi-purpose field, basketball court and walking trail. The property owner or future property owners associations will own and maintain most internal roadways, as well as parking areas for the residences as well as the drainage system. Yaphank-Woods Boulevard and the project’s internal LIE Access Road will be offered to the Town for dedication, as these roads will serve off-site residents and the greater community. Approximately seven acres of land will be dedicated to the Town for future development of athletic fields, basketball courts, access to the Greenbelt trail and parking area.

Mitigation

- The significant increase in tax revenues generated will mitigate the impacts of the increased costs to the pertinent community services to provide services.
- Conformance to the NYS Building and Fire Safety Codes will partially mitigate potential health and safety impacts from fire response providers.
- Impacts to energy suppliers will be mitigated by use of energy efficient design and construction; buildings will be constructed consistent with NYS Building Code requirements and Town “Energy Star” guidelines. In this way, the project’s consumption of energy would be reduced, with consequent reductions in the generation of greenhouse gasses associated with the project.
- The added cost of 110 school-age children would be $2,456,510 annually. This compares with additional annual tax revenues from The Meadows at Yaphank PDD of $6,402,779, resulting in surplus tax revenues to the school district of $3,946,269 annually, conservatively assuming that NYS does not provide any aid to local school districts. Any provision of NYS aid to the LCSD would increase surplus tax revenue accordingly.

Community Character

Potential Impacts

Aesthetics - In general, the impact of the project on visual resources will result from the overall change in land use character, which will be observed through the limited views of the site’s interior from William Floyd Parkway and Yaphank-Woods Boulevard. Viewers from the multifamily residential development to the north will be minimally visually impacted, due to the vegetative buffer proposed and the limited views from Yaphank-Woods Boulevard. These views may be positively affected by the removal of the racetrack remnants and the elimination of nuisance unauthorized recreational vehicle use on the site. The project will enhance the interior of the site by use of high-quality landscaping, architectural designs and building materials and will minimize impacts to the surrounding community character by providing significant vegetative buffer along the site’s perimeter which will continue to provide the vacant/wooded character of the area.

Noise - The noise regime of the project site will continue to be dominated by noise associated with traffic on the bordering regional roadways. In addition, the dominant noise associated with existing transportation corridors will tend to minimize the detectable effect of noise generated on the project site.

Construction noise is inevitable in the short term and will be audible for surrounding residents; however, this impact is unavoidable and will be mitigated by limiting construction during hours regulated by the
Brookhaven Town Code. It is also noted that construction will occur on the interior of the site and there are no nearby receptors since existing residential development is well to the north with intervening woods and the Yaphank-Woods Boulevard corridor. Consequently, construction noise is not anticipated to cause significant adverse impacts within the existing noise environment.

**Mitigation**

- Visibility of the site from William Floyd Parkway and Yaphank-Woods Boulevard will be partially mitigated by the retention of a wooded vegetative buffer along the majority of the site’s perimeter. Views of the interior of the property will be limited to views through the proposed access roadways.
- The proposed structures will utilize high-quality architecture and landscaping that will enhance the aesthetics of the site and project. Amenities such as benches, street lamps, sidewalks, a Village Green, a reflecting pool, rain gardens, and ballfields will serve to further enhance aesthetic quality.
- Use of dark-sky compliant lighting fixtures minimizes the potential for adverse impacts to the nighttime sky for site and area residents, as well as impacts to the neighboring residential properties. Retention of buffering perimeter vegetation, along with conformance to Town standards regarding mounting pole heights, would minimize the potential for fugitive lighting.

**Cultural Resources**

**Potential Impacts**

A supplemental Phase IB Archaeological Study was prepared for the site which included the proposed minor clearing along the interior border of the previously cleared areas of the site. The resulting report did not reveal the presence of any cultural resources on this area; the report recommended no further analysis.

**Mitigation**

- As SHPO has concluded that, “… the expanded project will continue to have No Impact upon cultural resources in or eligible for inclusion in the State and National Register of Historic Places.”, no mitigation is necessary or proposed.

**Economics**

**Potential Impacts**

- Construction is anticipated to occur over the course of ten years, and five phases.
- Construction is anticipated to commence during the spring of 2012.
- The total construction cost is estimated at $233.6 million.
- The $233.6 million in direct output would generate an indirect impact of about $57.7 million, and an induced impact of nearly $59.8 million, for a total economic impact on output of over $351.1 million over the construction period.
- Construction will generate a total of 82.2 full-time equivalent (FTE) employees during each year of the construction period. It is assumed that the same basic crew will be utilized during the construction period; as such the 82.2 FTE construction workers would be continuously employed during the entire construction period.
- Construction will have an indirect impact of 346.6 FTE employees and an induced impact of 382.5 FTE employees in other industry sectors, for a total impact of 811.3 FTE construction jobs.
- Income from construction jobs is projected to total $1,137,295/employee over the construction period. This represents about $1,137,295/employee, and about $93.45 million in collective earnings among
the 82.2 FTE employees over the construction period. This labor income is projected to have an indirect impact of over $23.5 million and an induced impact of over $19.7 million, bringing the total economic impact of construction to over $136.7 million in labor income over the construction period.

Mitigation

- Socio-economic impacts are not expected based on the demand for the project. Benefits will accrue in the form of tax revenue, job creation, and mortgage recording tax. No mitigation is warranted.

Cumulative Impacts

Land Use Plans and Regulations

The potential for cumulative impacts in the vicinity of the Meadows site is significantly reduced by the numerous regional land use plans and resulting development restrictions, standards and guidelines that must be followed for development of sites in the area. As required under SEQRA, the reasonably foreseeable cumulative impacts of these land use and development controls were analyzed prior to their approval and implementation. Therefore, the potential cumulative impacts of subsequent development of sites in the area, if it takes place in conformance with the standards and restrictions of these controls, have already been analyzed and would not result in significant adverse cumulative impacts. A case in point is the Pine Barrens Plan, a plan intended to protect the Central Pine Barrens wherein the subject site lies. This plan anticipated development of various sites in conformance with zoning, and analyzed the controls needed to ensure the integrity of the Pine Barrens. The Central Pine Barrens Comprehensive Land Use Plan was the subject of a Generic EIS and Findings were issued, thus allowing the plan to be implemented. Projects that conform to this plan are considered to provide the necessary protections to retain the integrity of the Central Pine Barrens. Similarly, the Town of Brookhaven adopted a Comprehensive Land Use Plan in 1996, which was the subject of a Generic EIS; again, conformance with the Comprehensive Plan would logically presume that a project is in line with Town guidance for land use and development.

Resource Impact Assessment

A detailed qualitative analysis of the individual impact categories in the context of the other planned projects in the area was prepared for this Draft GEIS. The results indicate that no significant cumulative adverse impacts would occur.

Industrially-Zoned Land in the Town

The Industrial Land Inventory prepared for this Draft GEIS may be useful to the Town in further addressing local and regional industrial needs. The discussion on the Inventory addresses potential cumulative impacts associated with the conversion of this industrial-zoned site to PDD zoning. The project would include 300,000 SF of office space and 250,000 SF of office/flex space, which can locate on business or industrial-zoned lands. As such, the project does not seek to eliminate all such land, and would still serve as a major employment center, providing growth opportunities for industries that would occupy the office and office/flex space. The proposed commercial use provides a lifestyle center through the provision of a high-quality, mixed-use development with a number of public benefits to meet specific local and regional needs. The project will provide workforce and age-restricted housing opportunities,
which are much needed throughout the community. In addition, the project will attract a variety of shopping opportunities, jobs, tax revenue and a vibrant use that is needed in Yaphank. The project would rehabilitate the property by replacing a partially cleared and previously used site that is now subject to unauthorized nuisance use and activity with a mixed-use and vibrant community having a sense of place that provides attractive architecture, gathering areas, synergy between businesses, and ultimate enjoyment for local residents, employees and consumers alike.

**Public Benefits**

- Meets a need for a lifestyle center in the hamlet of Yaphank, providing a location for community, culture and commerce.
- Meets the Town of Brookhaven Comprehensive Plan goal for providing Workforce and age-restricted housing opportunities.
- Addresses the objectives of Smart Growth principles by incorporating features and characteristics including: internal walkability; safe and convenient pedestrian access to public transit and consumer shopping needs; on-site recreational facilities; sufficient parking and convenient vehicle access and traffic flow.
- Will incorporate superior design elements including attractive coordinated architectural treatments, extensive site improvements and landscaping features in a mix of uses including housing, restaurant spaces, a commercial center and a public gathering place.
- Provides significant tax revenues to the Town of Brookhaven and other local taxing entities without significant increase in the need for additional services.
- Minimizes the number of school-age children by providing residential units with fewer bedrooms than other types of residential units and a senior citizen component to the project.
- Will attract a variety of retail and mixed-use commercial uses to meet the local community needs.
- Will generate full time professional office-related jobs and jobs in the retail and service-oriented businesses.
- Provides a public plaza space that will be constructed to encourage use for community events, including an area for a concert green.
- Provides a link to the Town greenbelt trail, fostering appreciation of natural resources in the area.
- Promotes healthy lifestyle through encouraging walking, bicycling, and activities in the passive recreation areas and athletic fields.
- Locates development on previously disturbed property. The racetrack parcel is identified as a blighted parcel by Town government and is scarred with the remains of the former use, including large tracts of asphalt and dirt trails used by off-road and all-terrain vehicle (ATV) vehicles.
- The proposed PDD would rehabilitate the property into a vibrant community, replacing nuisance activities with a sense of place and enjoyment for local residents.
- Locates development on major roadways, at a major interchange, thereby improving accessibility and reducing traffic impacts on existing neighborhoods.
- Will reduce trip generation as compared with possible development under the existing zoning.
- Will generate additional purchasing power in the area benefiting existing local retailers and businesses.
- The project will generate much-needed jobs in the area, including temporary construction jobs and permanent jobs.
- In addition to real property tax revenues, the proposed PDD will generate additional sales tax revenue and mortgage recording tax revenues.
- Improves off-site roadways.
• Improves wastewater treatment for existing communities of Colonial Woods/Whispering Pines condos and SCSD #8.

Alternatives Considered

• Alternative 1: No Action - assumes that the site remains in its current use and condition.
• Alternative 2: Development at Existing Zoning - this scenario assumes that the site is developed according to the current zonings of the project parcels, as follows:
  o Alternative 2a: Development of Property with Existing Approvals (BW/Eastern Parcel)
  o Alternative 2b: Development of Property Under L-Industry-1 Zone (Racetrack/Western Parcel)
• Alternative 3: Public Acquisition
• Alternative 4: Reuse of Wet Depressions as Town-Designated Wetlands - assumes the proposed project yield and layout, with the existing wet depressions in the former racing oval and along CR 46 are retained as a Town-designated wetlands and are incorporated in the site’s drainage system.

Permits and Approvals Required

Town Board - PDD Rezoning approval, PDD Master Plan approval
Town Planning Board - PDD Land Division approval, Site Plan approval
Town Building Department - Building Permit
Town Highway - Roadwork Permit
Town Assessor - Unit Designation Map
SCDHS - Suffolk County Sanitary Code Articles 4 (Water Supply System) & 6 (Sanitary System)
SCDPW/Suffolk County Sewer Agency - STP Review & Approval
Suffolk County Planning Commission General Municipal Law Section 239m Review
SCWA - Water Supply Connection
SCDPW - Roadwork Access Authorization
New York State Department of Transportation - Roadwork Access Authorization
NYSDEC Coverage under SPDES General Permit 0-10-001
SECTION 1.0

DESCRIPTION OF THE PROPOSED PROJECT
1.0 DESCRIPTION OF THE PROPOSED PROJECT

1.1 Introduction

This document is a Draft Generic Environmental Impact Statement (Draft GEIS) for a proposed change of zone application on 322.37 acres of an overall 333.46-acre combined project site located at the northwestern corner of the interchange of County Route (CR) 46 (William Floyd Parkway) and the Long Island Expressway (LIE), in Yaphank. The application also includes an 11±-acre site occupied by the existing Dorade Sewage Treatment Plant (STP), which is currently in operation and serving projects in the area including Suffolk County Sewer District (SCSD #8) and the Colonial Woods/Whispering Pines condominiums. A change of zone is not needed or requested for the STP parcel. This Draft GEIS describes the proposed project, catalogues site and area resources, discusses potential environmental impacts of the project, presents measures to mitigate adverse impacts, and examines alternatives to the proposed project. Figure 1-1 provides a location map of the subject site in relation to adjacent and local roadways. The Land Use and Development Plan (in a pouch at the end of this document) presents a generic plan for the proposed project.

The proposed project, known as “The Meadows at Yaphank” will establish a Planned Development District (PDD) featuring a high quality mix of residential, hotel/hospitality, retail, office and office/flex uses on the property, while providing the community with numerous benefits that could not be realized absent the use of the overarching PDD concept. The term “flex space” as defined for this project and as accepted by the Town is “...non-residential commercial space that may be office or industrial in nature or other uses permitted in the J-2 or L-1 districts.” Flexibility in zoning is essential to achieve the design and combination of uses associated with this project, in order to achieve the specific benefits important to the community, as reflected in the proposed project and consistent with the Town Board’s legislative intent for the PDD. The project is in large part the result of community input to achieve these goals, as conducted by the project sponsor and their consultants since March 2009 (see Section 1.2.1). The narrative portion of the Phase I PDD application is contained in Appendix A-1. While specific uses have been shown on the Land Use and Development Plan in specific locations, it should be remembered that the PDD concept is intended to retain the flexibility (under an overall Master Plan) to locate and develop uses within the site subject to market conditions, and thereby allow the organic development of the project to proceed. In consideration of this, the Land Use and Development Plan is not the Site Plan for the project; rather, such a plan will be prepared after the Town Board completes the current review process and renders a decision on the requested change of zone, which establishes a PDD for the site. After this event, detailed Site Plans will be prepared, in conformance with thresholds established when the PDD is established.

A PDD, as defined by Town Code Section 85-338 is “a floating zone specifically designed ... to allow the unified and coordinated development of parcels of land, including the transfer of density from the core area of the Central Pine Barrens, ... the granting of zoning incentives to achieve special public benefits, and other flexible design features, all intended to help achieve the implementation of the legislative intent, purposes and goals of this article...” The public benefits for the proposed project are discussed in Section 1.2.5.
The Meadows at Yaphank project site is an assemblage of three parcels, of which only one, the Dorade STP site, is presently developed. These parcels include the former Suffolk Meadows Racetrack (aka Suffolk Downs or Parr Meadows), the former Brookhaven Walk mall site, and the Dorade STP site. As discussed in Sections 1.3.2 and 1.4.6, the Dorade STP currently receives flow from the Colonial Woods/Whispering Pines condominiums and SCSD #8, and holds a State Pollutant Discharge Elimination System (SPDES) permit for 140,000 gallons per day (gpd). This facility was previously designed and permitted for a wastewater flow of 450,000 gpd, of which 190,000 gpd was allocated to the Racetrack site and the Mall site. The original permit was subsequently reduced to 140,000 gpd. The proposed project will upgrade the STP to the original permitted flow of 450,000 gpd in order to improve the treatment process for the existing flow and to accommodate the proposed project’s wastewater.

As noted above, the proposed project would change the zoning of 322.37 acres from L-1 and J-2 to PDD for development of a mixed-use project that includes retail, office space, office/flex space, hotel/hospitality and housing, as detailed in Table 1-1.

The project has been evaluated pursuant to Section 85-340 A. of the Town Zoning Code, and is submitted to conform to Section 85-340 A. (3) in support of this proposed change of zone. The project is also designed to include a number of public benefits to meet the specific needs of the local and regional community. In addition to significant tax ratables and job creation, the project will include the following local benefits:

- a Towne Green public gathering area,
- nature/hiking trails;
- a community center,
- public pavilion and restrooms and
- land for athletic fields.

The following regional benefits are also provided as a result of this plan:

- private roads featuring sidewalks and landscaping that will be open to the public but maintained privately;
- Yaphank-Woods Boulevard and the project’s internal LIE Access Road will be offered to the Town for dedication;
- the 140,000 gpd of flow from Colonial Woods/Whispering Pines and SCSD #8 will continue to be conveyed to the Dorade STP, which will be upgraded in terms of treatment process to reduce nitrogen load; and
- the project will involve redemption of five (5) Pine Barrens Credits (PBCs).

This document is part of the official record under the New York State Environmental Quality Review Act (SEQRA) process outlined in Title 6 of the New York Code of Rules and Regulations (6 NYCRR) Part 617, with statutory authority and enabling legislation under Article 8 of the New York State (NYS) Environmental Conservation Law (ECL). It was determined that the proposal would be appropriate for the preparation of a GEIS. SEQRA Part 617.10 (a) indicates the following with regard to GEIS’s:
Table 1-1
PROJECT USES AND YIELDS

<table>
<thead>
<tr>
<th>Commercial Component</th>
<th>Use</th>
<th>Gross Square Footage (SF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotel (220 rooms):</td>
<td></td>
<td>150,000</td>
</tr>
<tr>
<td>Retail (total):</td>
<td></td>
<td>327,500</td>
</tr>
<tr>
<td>Large Retail</td>
<td></td>
<td>150,000</td>
</tr>
<tr>
<td>Pharmacy</td>
<td></td>
<td>14,700</td>
</tr>
<tr>
<td>Bank</td>
<td></td>
<td>3,500</td>
</tr>
<tr>
<td>Neighborhood Retail</td>
<td></td>
<td>159,300</td>
</tr>
<tr>
<td>Supermarket</td>
<td></td>
<td>65,000</td>
</tr>
<tr>
<td>Other Neighborhood Retail</td>
<td></td>
<td>94,300</td>
</tr>
<tr>
<td>Restaurant (200 seats):</td>
<td></td>
<td>5,000</td>
</tr>
<tr>
<td>Class A Office &amp; Office/Flex (total):</td>
<td></td>
<td>550,000</td>
</tr>
<tr>
<td>Office/Flex (15% office, 85% warehouse &amp; distribution)</td>
<td></td>
<td>250,000</td>
</tr>
<tr>
<td>Class A Office</td>
<td></td>
<td>300,000</td>
</tr>
<tr>
<td>TOTAL COMMERCIAL SPACE</td>
<td></td>
<td>1,032,500</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Residential Component</th>
<th>Use</th>
<th>Bedrooms</th>
<th>SF/Unit</th>
<th>Number of Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rental Units (total):</td>
<td></td>
<td>192</td>
<td>---</td>
<td>144</td>
</tr>
<tr>
<td>Senior Rental</td>
<td></td>
<td>1</td>
<td>950</td>
<td>38</td>
</tr>
<tr>
<td>Senior Rental, Workforce</td>
<td></td>
<td>1</td>
<td>750</td>
<td>10</td>
</tr>
<tr>
<td>Rental</td>
<td></td>
<td>1</td>
<td>950</td>
<td>38</td>
</tr>
<tr>
<td>Rental, Workforce</td>
<td></td>
<td>1</td>
<td>750</td>
<td>10</td>
</tr>
<tr>
<td>Rental</td>
<td></td>
<td>2</td>
<td>1,190</td>
<td>38</td>
</tr>
<tr>
<td>Rental, Workforce</td>
<td></td>
<td>2</td>
<td>1,050</td>
<td>10</td>
</tr>
<tr>
<td>Condominium Units (total):</td>
<td></td>
<td>947</td>
<td>---</td>
<td>486</td>
</tr>
<tr>
<td>Senior Condominium</td>
<td></td>
<td>2</td>
<td>1,450</td>
<td>174</td>
</tr>
<tr>
<td>Senior Condominium, Workforce</td>
<td></td>
<td>2</td>
<td>1,050</td>
<td>30</td>
</tr>
<tr>
<td>Condominium</td>
<td></td>
<td>1</td>
<td>1,150</td>
<td>25</td>
</tr>
<tr>
<td>Condominium</td>
<td></td>
<td>2</td>
<td>1,450</td>
<td>232</td>
</tr>
<tr>
<td>Condominium, Workforce</td>
<td></td>
<td>2</td>
<td>1,050</td>
<td>25</td>
</tr>
<tr>
<td>Townhouse Units (total):</td>
<td></td>
<td>508</td>
<td>---</td>
<td>220</td>
</tr>
<tr>
<td>Senior Townhouse, Market-Rate</td>
<td></td>
<td>2</td>
<td>2,000</td>
<td>51</td>
</tr>
<tr>
<td>Townhouse, Market-Rate</td>
<td></td>
<td>2</td>
<td>1,750</td>
<td>101</td>
</tr>
<tr>
<td>Townhouse, Market-Rate</td>
<td></td>
<td>3</td>
<td>2,000</td>
<td>68</td>
</tr>
<tr>
<td>TOTAL RESIDENTIAL UNITS</td>
<td></td>
<td>1,647</td>
<td>1,232,870</td>
<td>850</td>
</tr>
</tbody>
</table>

(a) Generic EIS’s may be broader, and more general than site or project specific EIS’s and should discuss the logic and rationale for the choices advanced. They may also include an assessment of specific impacts if such details are available. They may be based on conceptual information in some cases. They may identify the important elements of the natural resource base as well as the existing and projected cultural features, patterns and character. They may discuss in general terms the constraints and consequences of any narrowing of future options. They may present and analyze in general terms a few hypothetical scenarios that could and are likely to occur.

A generic EIS may be used to assess the environmental impacts of:
(4) an entire program or plan having wide application or restricting the range of future alternative policies or projects, including new or significant changes to existing land use plans, development plans, zoning regulations or agency comprehensive resource management plans.

The above would suggest that a Draft GEIS is the correct method of evaluating the significance of the proposed PDD, which would be developed in conformance with a PDD Master Plan, to be reviewed and approved by the Town Board simultaneous with the Town Board’s review and approval of the change of zone to PDD necessary for the project. As noted in Part 617.10 (c),

Generic EIS’s and their findings should set forth specific conditions or criteria under which future actions will be undertaken or approved, including requirements for any subsequent SEQR compliance. They may include thresholds and criteria for supplemental EIS’s to reflect specific significant impacts, such as site-specific impacts, that were not adequately addressed or analyzed in the generic EIS.

With respect to subsequent SEQRA procedures, Part 617.10 (d) states:

(d) When a final generic EIS has been filed under this part:

1. No further SEQRA compliance is required if a subsequent proposed action will be carried out in conformance with the conditions and thresholds established for such actions in the generic EIS or its findings statement;
2. An amended findings statement must be prepared if the subsequent proposed action was adequately addressed in the generic EIS but was not addressed or was not adequately addressed in the findings statement of the generic EIS;
3. A negative declaration must be prepared if a subsequent proposed action was not addressed or was not adequately addressed in the generic EIS and the subsequent action will not result in any significant environmental impacts;
4. A supplement to the final generic EIS must be prepared if the subsequent proposed action was not addressed or was not adequately addressed in the generic EIS and the subsequent action may have one or more significant adverse environmental impacts.

Thus, this Draft GEIS will be subject to the full procedures of Part 617, providing a proper and complete forum for interagency review and public comment.

As noted above, this document assesses the potential environmental impacts and recommends mitigation measures for the proposed project, The Meadows at Yaphank, based on the Land Use and Development Plan. As intended by the Town Board, implementation of the PDD zoning classification provides for flexibility to locate and develop uses within the subject site. As such, actual development detailed in future, site-specific site plan applications may vary from that shown in the above-referenced plan, but will be consistent with the uses evaluated in this Draft GEIS, and will conform to the overall concept and intent established in the Land Use and Development Plan. The following thresholds shall be utilized to determine conformance with SEQRA procedures discussed above, and serve as a basis for the need for a Supplemental EIS.

- The number of residential units shall not exceed 850, and shall contain a mix of apartments, condominiums, townhomes, and senior housing (55+ years).
- The amount of commercial development, as defined in the PDD, shall not exceed 1,032,500 SF.
• The wastewater flow generated by the entire development shall be treated in an STP approved by the Suffolk County Department of Health Services (SCDHS) and the concentration of nitrate in recharge shall not exceed 2.5 milligrams per liter (mg/l) at the property line, as determined by mass balance modeling.
• No more than 65% of the overall site shall be cleared.

Any variation from these thresholds that results in a significant adverse environmental impact shall require the submittal of a Supplemental EIS.

1.2 Project Background, Need, Objectives and Benefits

1.2.1 Background of PDD Application

Site History and Prior SEQRA Reviews
The Meadows at Yaphank is an assemblage of three parcels: the former Suffolk Meadows Racetrack (aka Parr Meadows), the former Brookhaven Walk mall site, and the Dorade STP site. The western 172.20-acre parcel is currently undeveloped but was previously in use as a horseracing track and was later operated as a flea market site until approximately 1995; this site is presently zoned L-Industry-1). The eastern 150.17-acre parcel was previously cleared with partial foundations installed in connection with a 1997 site plan approval for a retail project known as Brookhaven Town Center. This project was not completed, but the site received site plan and Pine Barrens approval in 2007 for an 850,000 SF retail development known as Brookhaven Walk (BW). Appendix A-2 contains the Findings Statement for this project. This project was not constructed, thus providing an opportunity for planned development of the two adjoining parcels. The Dorade STP site is 11.09 acres in size and currently receives flow from the Colonial Woods/Whispering Pines condominiums and SCSD #8, and holds a SPDES permit for 140,000 gpd. This facility was previously designed for a wastewater flow of 450,000 gpd, of which 190,000 gpd was allocated to the Racetrack site (50,000 gpd) and the Mall site (140,000 gpd). Additional site history as related to current site conditions is provided in Section 1.3.2.

History of the Proposed PDD Application
Prior to developing a plan, the applicant conducted a community meeting with the residents of Colonial Woods/Whispering Pines condominiums and the Yaphank Taxpayers & Civic Association (June 10, 2009) to obtain community input on a potential mixed-use development proposal. After first conceiving the basic elements of the PDD, the applicant began reaching out to the Town of Brookhaven Department of Planning, Environment and Land Management and the local Town council representative to gain an understanding of critical environmental, design and community planning issues. The applicant participated in a design charrette process with Town planning staff and several architects toward achieving a balanced plan that addressed Town staff level input. Building on this groundwork, the applicant’s architect prepared several iterations of the plan that became a submission document through the Town PDD review process. The preliminary project planning and design phase occurred over a ten (10) month period, prior to an application being filed. Further information on project outreach to the local community and regional interests is documented in the next subsection.
A PDD Pre-Application document for the zone change was submitted to the Brookhaven Town Board on March 24, 2010, and the project conforms to the requirements for such a district as presented in Chapter 85, Article XXXIIA, Section 85-339.1 C of the Town Zoning Code. Subsequently, as required by the Town Zoning Code, the Town Board conducted a Pre-Application conference on April 7, 2010 (see Appendix A-3). In response to input provided by the Town at that time, the applicant prepared a more detailed Phase I PDD application to the Town Board, which was submitted on May 19, 2010 (and revised in November 2010).

6 NYCRR Part 617, which was adopted pursuant to SEQRA, regulates the review of environmental impacts of an action. The Brookhaven Town Board is the Lead Agency for the project, as the application that triggered the SEQRA process is under the jurisdiction of that Board. Appendix A-4 contains the Environmental Assessment Form (EAF) Part 1 that was prepared for the project. The Town Board determined that the proposed project is a Type I Action pursuant to Chapter 80 of the Brookhaven Town Zoning Code. The Brookhaven Town Board assumed lead agency status on the PDD application and issued a Positive Declaration on July 20, 2010, requiring the preparation of this Draft GEIS (see Appendix A-5). A Draft Scope was submitted to the Town on July 21, 2010, and was the basis on which a public scoping meeting was conducted on September 2, 2010. That Draft Scope was then revised based on the oral comments from the meeting and written public and agency comments received. Appendix A-6 contains the Final Scope document for the project. It was adopted by the Town Board in conformance with the SEQRA Scoping Guidelines in Part 617.8, and details the issues to be presented and analyzed in this Draft GEIS. Future stages of this review include: lead agency review and acceptance of this Draft GEIS with respect to content and adequacy; a public hearing on the Draft GEIS; preparation of a Final GEIS (Final GEIS), which responds to agency and public comments received during the Draft GEIS review period; preparation and acceptance of the Findings Statement by the Lead Agency, and the Town Board decision on the application, after their review of the Final GEIS and in consideration of the contents of the Findings Statement.

Applicant Outreach

The project sponsor has invested considerable resources in site reconnaissance, environmental investigations, fiscal/economic studies, conceptual project planning, design engineering and meetings with community representatives including civic leaders and school board members, to fully involve the stakeholders in the development of a PDD concept that meets the goals of the Yaphank community. A comprehensive list of the community outreach efforts conducted to-date is as follows:

The following community and business organizations, and government officials received presentations on The Meadows at Yaphank on the dates indicated. The presentations included:

- an overview of existing conditions and zoning
- permitted development under existing zoning
- goals of the proposed PDD development plan
- a detailed description of the proposed PDD development plan
- design features of the proposed PDD development plan
- trip generation assessment comparison between development under existing zoning and proposed PDD development plan
real property tax comparison between development under existing zoning, the proposed PDD development plan, and existing taxes paid on vacant land

- tax impact analysis on Longwood Central School District (LCSD)
- an explanation of the planning and review process

After each presentation there was a question and answer session.

**Government Officials/Agencies**

- NYS Assemblyman Marc Alessi (1/28/10)
- NYS Department of Environmental Conservation (NYSDEC), Region 1 (3/18/10)
- Legislator Kate Browning (3/10/10)
- Suffolk County Department of Public Works (SCDPW), Transportation (Bus) (2/2/10)
- SCDHS, Division of Wastewater Management (9/14/10)
- Brookhaven National Laboratory (11/2/09, 4/15/10, 6/11/10, 10/18/10 & 1/4/11)
- NYS Senator Kenneth LaValle (4/23/10)
- NYS Senator Brian Foley (4/15/10)
- NYS Assemblyman Dean Murray (3/29/10)
- SCDPW, Traffic (6/23/10)
- Chief Deputy County Executive Chris Kent (5/25/10 & 10/6/10)
- Suffolk County Director of Planning Tom Isles (5/25/10)

**Schools & Youth**

- LCSD (2/2/10, presentation to Board 6/3/10)
- Longwood Youth Sports Association (5/27/09; this meeting was conducted to obtain a better understanding of this organization and its needs prior to the actual design of the project, as such, the discussion did not include a detailed description of the proposed project.)

**Fire**

- Ridge Fire District (3/22/10)
- Yaphank Fire District (2/2/10)

**Environmental**

- Central Pine Barrens Joint Planning & Policy Commission (Pine Barrens Commission) Administration (3/3/10)
- Long Island Pine Barrens Society (12/14/09, 5/6/10)
- Brookhaven National Laboratory Biology Department (1/16/10)
- Syracuse Center of Excellence, Center for Sustainable Community Solutions (1/24/11)
- State University of New York/Syracuse, College of Environmental Science and Forestry (1/24/11)

**Utilities**

- Suffolk County Water Authority (SCWA; 11/13/09)
- Long Island Power Authority (LIPA; 11/23/09, 4/6/10)

**Community and Business Organizations**

- Colonial Woods/Whispering Pines Condo Board Presidents (2/22/10 & 1/6/11)
- Colonial Woods/Whispering Pines Community Concerns Comm. (1/7/10 & 8/24/10)
- Colonial Woods/Whispering Pines Homeowners Assoc. (6/10/09, 4/24/10)
The community outreach effort will continue through the review process and during construction.

1.2.2 As-of-Right Development

A PDD requires the base density of the property to be determined. This is then compared to the uses and yields of a proposed project to determine how the existing allowable use is changed or increased. The existing allowable use of the project site is based on L-Industrial-1 (light industry) for the former racetrack parcel, and J-Business-2 (general business) for the mall parcel.

Based on its existing L-1 zoning, the former racetrack parcel could yield 1,180,000 SF of light industrial space (see Yield Study, in a pouch at the end of this document). Many of the uses proposed in the PDD for the L-1 portion of the site are allowable uses in the L-1 district, as will be discussed in greater detail in a subsequent section.

The former Brookhaven Walk site has an approved Site Plan for 850,000 SF of retail space, under its current J-2 zoning (see approved Brookhaven Walk Conceptual Site Plan, in a pouch at the end of this document). This latter plan avoids impact to the NYSDEC-mapped freshwater wetland B-16. The Town Division of Environmental Protection also considers this feature to be a regulated wetland, and so development within 150 feet of its boundary would require a Town Wetlands permit. The plan shows that no such impact would occur, and the Town has previously issued a permit for this prior project. Similar to the racetrack parcel, many of the uses proposed in the PDD for the J-2 portion of the site are allowable uses in the J-2 district.

1.2.3 Public Need and Town Objectives

Public Need

The Meadows at Yaphank PDD will meet the need for a lifestyle center in the hamlet of Yaphank through the provision of a high-quality, mixed-use development with a number of public benefits to meet the specific local and regional needs. The proposed development will provide workforce and age-restricted housing opportunities, which are much needed throughout
the community. In addition, the proposed project will attract a variety of retail and mixed-use commercial uses (including a hotel) to meet the local community needs, as well as the needs of others residing in Brookhaven Town and throughout Suffolk County. The proposed project would rehabilitate the property by replacing a partially cleared and previously used site that is now subject to unauthorized use and activity, with a mixed-use and vibrant community having a sense of place that provides enjoyment for local residents, employees and consumers alike.

The mixed-use development will be constructed with smart growth principles, by incorporating features and characteristics including internal walkability, safe and convenient pedestrian access to public transit and consumer shopping needs, and on-site recreational facilities. Superior design elements will be utilized, with attractive and coordinated architectural treatments, extensive site improvements and landscaping features. The project will include a public plaza space to encourage use for community events, including an area for a concert green. Moreover, The Meadows at Yaphank PDD will include a community center, public pavilion, reflection pool, restrooms, land for athletic fields, and nature/hiking trails with a link to the Town’s greenbelt system.

The Meadows at Yaphank PDD will complement the surrounding land uses while providing an economic return to local taxing jurisdictions through increased tax revenues – including those stemming from the generation of mortgage recording tax revenues. Moreover, the proposed project will generate immediate construction jobs for the Town of Brookhaven and area residents, as well as long-term employment opportunities during project operations. Such economic benefits are most crucial during the current economic state throughout Long Island, New York State and the nation as a whole.

An Economic Impact Analysis has been prepared for the proposed project (see Appendix A-7). A Commercial Market Analysis has also been prepared for the proposed project (see Appendix A-8), which demonstrates a need for the proposed project. This analysis identified and quantifies the need for additional commercial/retail space that can be accommodated at The Meadows at Yaphank, and within the surrounding community. Key findings of the Commercial Market Analysis are presented as follows:

**Current Economic Conditions**

- Unemployment rates in the Town of Brookhaven have increased substantially over the past few years, nearly doubling between 2007 and 2009.
- As of November 2010, approximately 19,000 persons – 7.3% of the Town’s labor force – are unemployed.
- In addition to relatively high levels of unemployment, Long Island is facing an uncertain housing market and consumer spending has been conservative. Such trends are comparable to those of Suffolk County, Long Island and New York State, indicative of the ongoing fiscal and economic constraints facing the state and the nation.
- Despite job loss in other industry sectors including local government, manufacturing and financial services, the Long Island Association indicates that the private-sector job growth is accelerating, with a net growth of approximately 5,700 jobs created in Long Island between October 2009 and October 2010. The industry sectors with the largest growth include retail trade, education, health services and wholesale trade.
It is important to note that economic conditions facing the Town of Brookhaven and the Long Island region are temporary and the local economy is showing signs of recovery. It is projected that consumers may begin to spend more freely, reflective of private-sector employment growth, and the projected increase in year-end bonuses on Wall Street.

Target Market Area
- The Meadows at Yaphank PDD is deemed a “super community/community shopping center,” defined by the International Council of Shopping Centers and Urban Land Institute, as determined by the proposed size, type of tenants, amenities, and pedestrian-friendly landscape.
- Super community/community shopping centers are typically able to draw support from a 10-15 minute travel time radius. As such, and for the purpose of this analysis, an average 15-minute drive time radius was used to represent the target market area for additional commercial space at The Meadows at Yaphank PDD.

Market Demand
- The population within the target market area has increased considerably since 1990. The population grew by 12.5% between 1990 and 2000, and it is estimated that the population increased by an additional 10.9% since 2000. An additional 3.0% growth is projected to occur through 2015. ¹
- Population within the target market area is expected to grow by approximately 60,000 persons, growing by over 25% between 1990 and 2015.
- The number of households in the target market area has increased by 16.3% between 1990 and 2000, indicative of the residential housing boom that occurred in the target market area.
- The latest estimates suggest 87,861 households are located within a 15-minute drive time radius of the proposed project. This is projected to increase by more than 3,000 additional households over the next five years, with nearly 91,000 households projected to exist by 2015. This is 35.2% greater than the number of households recorded in 1990.
- The substantial growth within the target market area indicates that additional commercial development may be demanded within the community over the coming years.
- The median household incomes within the target market area increased slightly between 2000 and 2010. When adjusted for inflation, the median household income rose by 4.5% – to $80,166 among households in the target market area.
- The average household located within the target market area spent $61,858 on goods and services in 2009.

Market Supply
- Nineteen (19) super community/community shopping centers were identified within the target market area. All of these shopping centers are “open-air” centers with at least one (though most shopping centers had two or more anchor stores) major anchor store accompanied by numerous smaller retailers.
- Many of the shopping centers that were inventoried are in good condition, with few being newly constructed. Approximately half of the shopping centers were fully occupied, and of those that were not fully occupied, on the order of one vacant retailer was typically observed in these centers. This is typical of even the most successful shopping centers due to normal turnover.
- Several shopping centers were undergoing renovations to accommodate future tenants.
- Given the current economic situation facing Long Island, New York State and the nation as a whole, the minimal vacancies observed within super community/community shopping centers

¹ Population and other demographic projections are described in greater detail in Appendix A-8, Section 5.0.
within the target market area may be indicative of the demand for additional commercial opportunities within comparable shopping centers.

**Market Absorption**

- The Meadows at Yaphank PDD is proposed as a well-planned development that will create an attractive and desirable environment for its visitors and employees, while enhancing the community at large. The attractive mixed-use setting, prominent design features, and the “main street” experience will serve as a model for future developments in the Town of Brookhaven and throughout Long Island.

- Population centers in the community and the accessibility of the site from prominent roadways – including the William Floyd Parkway and the Long Island Expressway – make the proposed site even more attractive to new commercial development.

- The average household located within the target market area spent $61,858 on goods and services in 2009. Of this, 62.6% or $38,718 is estimated to be spent on items that could be purchased at retailers located within new commercial development at The Meadows at Yaphank PDD. This represents the current annual buying power among households located within the target market area.

- In 2015, annual household buying power within the target market area totals over $3.52 billion for goods and services that could be provided at The Meadows at Yaphank PDD. It is important to understand that this represents a conservative estimate, and does not include the buying power stemming from the 850 new residential units proposed for The Meadows at Yaphank PDD, nor does it include the buying power from visitors to, or employees of the proposed project. In addition, it is likely that others residing outside of the target market area will frequent The Meadows at Yaphank PDD if it is located in close proximity to places frequented on a routine basis. Moreover, increased patronage will likely occur since the location off of the Long Island Expressway and the William Floyd Parkway will make it easily accessible for passersby. This would result in significant additional buying power for goods and services that could be provided at The Meadows at Yaphank PDD.

- Existing businesses are currently able to capture 107.5% of the target market area’s retail potential. This indicates that the existing businesses are not only able to capture a large portion of consumer demand from those residing within the target market area, but also they are able to capture an abundance of demand from consumers residing outside of the target market area – including those employed within the target market area, in addition to visitors and others passing through the community.

- When the capture rate of 107.5% is applied to the target market area’s total buying power, this equates to a collective potential absorption of nearly $3.8 billion in buying power each year among households in the target market area.

- New commercial development is not predicted nor expected to capture all of the retail potential among residents of the target market area. The majority of household purchases are likely going to continue to be spent at existing local retailers, including “mom and pop” stores, stand-alone establishments, and a variety of retailers located within smaller convenience and neighborhood shopping centers, as well as retailers located within larger regional and super regional shopping centers and mail order/on-line sales.

- It is not likely that the proposed project will have a significant impact on existing retailers, given the differentiation in products and services offered, as well as the different type of market served by the various types of shopping centers and retail establishments. Smaller convenience and neighborhood shopping centers, and community-oriented “mom and pop” retailers tend to serve the needs of the local market, providing a mix of specialty items, convenience goods and personal services to those in the immediate vicinity. Many consumers will remain loyal to such retailers, and other consumers will continue to shop at the establishments closest to their place of residence.
or other places frequented on a regular basis, with convenience being a determining factor of such consumers. As such, these existing commercial businesses will likely continue to serve the needs of the local population, and the proposed project is not anticipated to pose a threat to such existing retailers with regard to increased vacancies.

- Assuming that new commercial development – including The Meadows at Yaphank PDD – could capture a mere five percent (5%) of the total retail potential in the target market area, this results in an annual absorption of approximately $189.2 million in buying power.
- According to the International Council of Shopping Centers and the Urban Land Institute, retailers within a given super community/community shopping center in the United States generate median sales of $284.30 per square foot of gross leasable area (GLA). Since The Meadows at Yaphank PDD is deemed to most closely resemble a super community/community-type shopping center, this figure was applied to the $189.2 million in potential absorption. This amounts to approximately 665,687 SF of commercial space that could be absorbed by The Meadows at Yaphank PDD and other new commercial development located within a super community/community-type shopping center-type setting.
- The size of the retail component of the project as proposed – at 332,500 SF (of retail space) – can therefore be absorbed in the local market. In addition, there remains an abundance of excess commercial space that could be absorbed in the surrounding community and throughout the target market area.

**Town Objectives**

In general, the objectives of both the public and Town are to provide for private development that:

- would address one or more needs in the area, particularly those needs that have been recognized by members of the community,
- is considered desirable and appropriate for the community (from the perspectives of both the Town and the community),
- is at a density and layout appropriate for the site and the surrounding community,
- minimizes the potential for adverse environmental impacts, and
- addresses other needs and/or concerns of the community.

The Town enacted its PDD ordinance in order to give applicants the ability to meet these general development needs, by establishing a zoning district wherein a degree of flexibility in site design, coupled with incentives for changes of use and/or increased yield, would enable developers to meet the goals of the PDD. The Town’s own Comprehensive Land Use Plan Map identifies the site for “Planned Development”, indicating conformance with this plan.

The proposed project will conform to the recommendations and guidelines identified in several land use documents applicable to the site, including the development of a mixed-use center that includes residential, commercial and industrial uses, and incorporates both senior and affordable (workforce) housing opportunities. With efficient building design and proper planning, more open space is preserved and the community becomes a vibrant and successful place combating the elements of sprawl. The project will provide lands for public open space and public utilities, with commercial and residential uses; it will generate significant public benefits to the school district and community. The PDD design specifically includes large amounts of preserved land for aesthetic buffering and environmental preservation, and retains much of the naturally-vegetated perimeter buffers. The project will feature attractive, coordinated architectural styling.
for the residential structures and commercial areas, as well as for all street furniture and amenities (e.g., lighting fixtures, signage, benches, trash receptacles, kiosks, fountains, etc.).

1.2.4 Applicant Objectives

The applicant’s objective is motivated in part by the desire to produce a profitable economic return on the land investment, which would result from a high-quality PDD development. The applicant is seeking to provide uses (e.g., senior and market-rate residential and needed high-quality commercial spaces, with the utility services required for such uses and yields) and benefits (e.g., senior workforce units and an upgrade of the Dorade STP) that will conform to the goals and intent of the PDD concept as implemented by the Town of Brookhaven, and would complement the surrounding land uses while providing an economic return to local taxing jurisdictions through increased tax revenues and job creation.

1.2.5 Benefits of the Proposed Project

The Meadows at Yaphank PDD will result in the following overall design and use benefits:

- Meets a need for a lifestyle center in the hamlet of Yaphank, providing a location for community, culture and commerce.
- Meets the Town of Brookhaven Comprehensive Plan goal for providing Workforce and age-restricted housing opportunities.
- Addresses the objectives of Smart Growth principles by incorporating features and characteristics including: internal walkability; safe and convenient pedestrian access to public transit and consumer shopping needs; on-site recreational facilities; sufficient parking and convenient vehicle access and traffic flow.
- Will incorporate superior design elements including attractive coordinated architectural treatments, extensive site improvements and landscaping features in a mix of uses including housing, restaurant spaces, a commercial center and a public gathering place.
- Provides significant tax revenues to the Town of Brookhaven and other local taxing entities without significant increase in the need for additional services.
- Minimizes the number of school-age children by providing residential units with fewer bedrooms than other types of residential units and a senior citizen component to the project.
- Will attract a variety of retail and mixed-use commercial uses to meet the local community needs.
- Will generate full time professional office-related jobs and jobs in the retail and service-oriented businesses.
- Provides a public plaza space that will be constructed to encourage use for community events, including an area for a concert green.
- Provides a link to the Town greenbelt trail, fostering appreciation of natural resources in the area.
- Promotes healthy lifestyle through encouraging walking, bicycling, and activities in the passive recreation areas and athletic fields.
- Locates development on previously disturbed property. The racetrack parcel is identified as a blighted parcel by Town government and is scarred with the remains of the former use, including large tracts of asphalt and dirt trails used by off-road and all-terrain vehicle (ATV) vehicles.
- The proposed PDD would rehabilitate the property into a vibrant community, replacing nuisance activities with a sense of place and enjoyment for local residents.
The Meadows at Yaphank
PDD Application
Draft GEIS

- Locates development on major roadways, at a major interchange, thereby improving accessibility and reducing traffic impacts on existing neighborhoods.
- Will reduce trip generation as compared with possible development under the existing zoning.
- Will generate additional purchasing power in the area benefiting existing local retailers and businesses.
- The project will generate much-needed jobs in the area, including temporary construction jobs and permanent jobs.
- In addition to real property tax revenues, the proposed PDD will generate additional sales tax revenue and mortgage recording tax revenues.
- Improves off-site roadways.
- Improves wastewater treatment for existing communities of Colonial Woods/Whispering Pines condos and SCSD #8.

In addition, the proposed project incorporates design elements that while required are noteworthy, specifically, the protection of the existing designated wetlands on-site, as well as protection of at least 35% of the site in existing/remaining Pine Barrens and natural vegetation.

The public benefits of the proposed project are based upon input from the community and the Town during the course of project design as outlined previously in Section 1.2.1. In summary, the proposed Meadows at Yaphank PDD meets the needs of the community, provides a beneficial and desirable land use on the property, and meets Town goals for diverse and affordable (workforce) housing opportunities. Additional information on the quantification of public benefits as related to Zoning Incentives and PDD Analysis is provided in Section 1.4.1.

1.3  Project Location and Existing Site Conditions

1.3.1  Project Location

The Meadows at Yaphank project involves 333.46 acres of land at the northwestern corner of the CR 46/LIE interchange, which acreage includes the following Suffolk County Tax Map numbers:

<table>
<thead>
<tr>
<th>Location</th>
<th>District</th>
<th>Section</th>
<th>Block</th>
<th>Lot</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brookhaven Walk (former)</td>
<td>District 0200</td>
<td>Section 552</td>
<td>Block 1</td>
<td>Lot 1.3</td>
<td>150.17 acres</td>
</tr>
<tr>
<td>Suffolk Meadows Racetrack (former)</td>
<td>District 0200</td>
<td>Section 584</td>
<td>Block 2</td>
<td>Lot 1.3</td>
<td>172.20 acres</td>
</tr>
<tr>
<td>Dorade STP</td>
<td>District 0200</td>
<td>Section 552</td>
<td>Block 1</td>
<td>Lot 3</td>
<td>11.09 acres</td>
</tr>
</tbody>
</table>

The eastern and western parcels are accessible by vehicle from Yaphank-Woods Boulevard, which runs east-west along the northern boundaries of both of these properties. The Dorade STP site is accessible through the Colonial Woods/Whispering Pines residential development.

Figure 1-1 is a Location Map of the subject property overlaid on an aerial photograph to show the existing conditions of the site and vicinity within the context of the area land uses, as well as the size of the subject parcels and existing zoning. As can be seen, the western parcel of the site was previously developed as a racetrack, and the eastern parcels are undeveloped but previously cleared. The site is located within/served by the following special planning and service districts:
1.3.2 Existing Site Zoning and Conditions

Aerial photographs illustrating existing site conditions in the spring of 2007 are provided as Figures 1-2a and 1-2b. Ground level photographs depicting the current condition of the site are included in Appendix B-1.

Former Racetrack/Western Parcel

This property is presently zoned L-1, which presumes light industrial development. The northern and central portions had previously been developed for the Suffolk Meadows horse racing track in the mid-1970s. The primary access was through the western end of Yaphank-Woods Boulevard, which entered the site at its northeastern corner, and accessed the asphalt-paved parking lot (in the northern quarter of this property). The access road then traversed southward along the site’s eastern boundary to meet the LIE North Service Road, which then gave access for exiting drivers westward to Main Street in Yaphank. The grandstands and clubhouse occupied the central part of this parcel; the racing oval was oriented roughly east-northeast to west-southwest in this area. South of this area were barns for horses, along with various small wooden structures for temporary housing of trainers, maintenance sheds and parking for trailers and vehicles for transporting trainers and horses. The southern third of this parcel was undisturbed, and features a steep slope downward toward the LIE North Service Road. This area was generally and remains wooded, though a portion of the central area along the southern property line was cleared for unknown reasons and is now slowly revegetating naturally.

The racing operation ceased prior to 1996 and some demolition appears to have occurred at that time. The site remained generally unused for a number of years, though it was occasionally used for flea markets and other temporary uses that required Special Permits from the Town. Demolition was completed by 2001 when the grandstands/clubhouse were demolished, and the...
site has generally been left to go fallow since that time. Unauthorized debris dumping and ATV use has occurred sporadically as well.

**Former Brookhaven Walk/Eastern Parcel**

As noted in **Section 1.2.1**, the eastern parcel, which is currently zoned J-2 and is undeveloped, was previously cleared subsequent to a 1997 site plan approval for a retail project known as Brookhaven Town Center. The central approximately 73 acres were cleared and portions of the building foundations were installed. However, this project was not completed, and this area is currently undergoing natural succession. The remainder of this site is naturally-wooded, and a small (0.76 acres) regulated freshwater wetland (designated B-16 by the NYSDEC) exists on the site’s northern boundary along the south side of Yaphank-Woods Boulevard. Subsequently, in 2007, another retail proposal (from the same entity associated with the prior Brookhaven Town Center project) of 850,000 SF received site plan approval. This was known as the Brookhaven Walk project. This project has not been constructed.

**Dorade STP**

This site is 11.09 acres in size and is zoned A-1. The subject property was the subject of a Construction Agreement signed in 1973, which anticipated the construction of the Dorade STP to treat 450,000 gpd of sanitary waste to be generated by the Mall and Racetrack parcels (allocated 190,000 gpd of flow) along with the Colonial Woods/Whispering Pines condominiums. This agreement also prohibited the use of on-site sanitary systems once the regional STP was built to serve the specified parcels. Since the Agreement was executed, the Dorade STP was constructed and the Colonial Woods/Whispering Pines condominiums connected to it. In 1998, a consent order entered into with the NYSDEC revised the SPDES permit, reducing the permitted flow from 450,000 gpd to 140,000 gpd. Thereafter, effective January 1, 1999, an amendment to the Construction Agreement was executed permitting the County to divert 50,000 gpd from SCSD #8 (Strathmore Ridge), which gallonage took up the remaining authorized flow allowed by the consent order/revised SPDES permit. When the Brookhaven Walk project was under review, the Suffolk County Sewer Agency (SCSA) adopted a resolution on May 15, 2006 temporarily waiving the prohibition of on-site systems, subject to filing covenants and restrictions on the land which state: “...that Brookhaven Town Center (Brookhaven Walk) be permitted to suspend the provision regarding the connection to a regional treatment plant until a regional treatment plant is available, as determined by the Suffolk County Sewer Agency.” As a result, the Racetrack and Mall parcels (The Meadows at Yaphank) must connect to the Dorade STP at such time as it provides regional sewage treatment, as provided for in the 1973 Construction Agreement. Copies of these agreements are included in **Appendix A-9**.

This Dorade STP was built in the early 1970’s to treat sanitary wastewater generated by the then-planned Colonial Woods/Whispering Pines condominiums along with anticipated development on the racetrack and Brookhaven Town Center site. This facility was designed, built and originally permitted for a flow of 450,000 gpd, of which 190,000 gpd was allocated to the racetrack and mall sites. However, as only the Colonial Woods/Whispering Pines residential project was built, the STP received only flow from this source. The SCDPW diverted additional sanitary flow to this facility in the mid-1990s from SCSD #8, as the Strathmore STP (which treated this flow) did not perform well. As a result, the Dorade STP currently treats an average of approximately 140,000 gpd, for which it holds a SPDES permit.
The plant was designed to provide denitrification to achieve an effluent concentration of 10 mg/l of Total Nitrogen. The following treatment processes are employed at the plant to achieve the required effluent quality:

- Influent communitor
- Extended Aeration (nitrification) caustic added to balance pH
- Clarification/Settlement
- Deep Sand Filter (denitrification) methanol added to improve efficiency
- Recharge Basin discharge of treated effluent.

The existing plant consists of two 71-foot diameter steel treatment tanks with a sidewall depth of 16 feet. The original design rated each tank at 225,000 gpd. The existing flow at the site has been relatively stable at 140,000 gpd.

In November 2009, Dorade LLC, the current owner of the STP, began an upgrade of the existing facilities at the site. The upgrade was required to create a facility that would consistently maintain the required discharge Total Nitrogen Concentration of 10 mg/l. In addition the upgrade was necessary to address steel structural concerns and replace/modernize mechanical equipment and controls at the site. The following upgrades have been/will be completed:

**North Tank** (to be completed October 2010 when tank is fully operational)
- Inspect existing steel, repair structure as necessary, epoxy coat steel tank
- Restore all original north tank mechanicals
- Restore deep sand filter process
- Install new control panel to improve operations

**South Tank** (upgrade currently underway)
- Drain existing tank
- Inspect existing steel, repair structure as necessary, epoxy coat steel tank
- Restore all original north tank mechanicals
- Restore deep sand filter process
- Install new control panel to improve operations

**Recharge Beds** (completed December 2009)
- Clean and restore all basins to full operation

**Influent Chamber** (completed November 2009)
- Install new communitor and flow monitoring system

**Chemical Feed System** (upgrade currently underway)
- Improve systems to Article 12 compliance

It is anticipated that the existing STP will be fully upgraded by October 2011. At the completion of the upgrade the original design capacity of the system (450,000 gpd) will be restored.

As noted above, the existing flow to the Dorade STP is 140,000 gpd. When both tanks are available for treatment, the 140,000 gpd influent will be split to the north and south tank systems. Each tank will be treating 75,000 gpd, which is 33% of their design flow. Based on discussions
with SCDHS, it is anticipated that the SPDES permit at the site, which was issued for a reduced flow of 140,000 gpd, will be reissued for a flow of 225,000 gpd when the two tanks have completed the upgrade process. At the 225,000-gpd level, each tank will be treating 50% of its design flow. The treatment flow safety factor will be employed by the SCDHS to comply with the current policy of providing full backup treatment capacity.

It is anticipated that the SCDHS will require a separate upgrade of the Dorade STP for the proposed project, in the form of the construction of a replacement plant and/or installation of updated treatment technology, to begin when flow at the existing STP begins to exceed the 225,000 gpd level. The Meadows at Yaphank PDD proposes that a level of 8 mg/l Total Nitrogen be applied as the design criteria. The reduction of the allowable Total Nitrogen discharge concentration from 10 mg/l to 8 mg/l will be achieved by construction of a replacement STP at the site and/or installation of newly developed treatment technologies to improve the existing plant. Dorade LLC is committed to providing the approved SCDHS facility necessary to treat the 450,000 gpd flow at the plant to the 8 mg/l total nitrogen discharge limit (see also Section 1.4.6).

The approximately 1.11 acres of NYSDEC freshwater wetland B-15 abut the Dorade STP property; this feature is located on lower elevations to the south of the treatment plant site.

1.4 Project Design and Layout

1.4.1 Project Yield

The Meadows at Yaphank PDD will consist of retail, mixed-use commercial space, office/flex space and housing. The commercial components of the proposed project include approximately 1,032,500 SF of space made up of hotel/hospitality, retail, restaurant and office/flex uses. The residential component includes 850 units of various types and sizes, including 303 age-restricted units and 85 Workforce housing units. The process and factors considered in determining the mix of uses and yields for the proposed project is presented in detail in the narrative portion of the Phase I PDD application document, which is contained herewith as Appendix A-1.

Town Zoning Code Section 85-340A(1) indicates that the uses permitted in a PDD shall be the same as those permitted in the underlying zoning districts. In response, an analysis has been completed to determine what uses in the proposed PDD are also permitted in the underlying zoning district. The proposed project includes the following uses, allowed within the respective underlying zoning districts

- **J-Business-2 (currently found on the Eastern/former BW parcel)**
  1. Bank without accessory drive-through facility
  2. Commercial center
  3. Pharmacy without accessory drive-through facility
  4. Major restaurant as an accessory use to a commercial center (Town Board special permit)
  5. Drive-through facility as an accessory use to a bank or pharmacy (Planning Board special permit)
The Meadows at Yaphank
PDD Application
Draft GEIS

L-Industrial-1 (currently found on the Western/former racetrack parcel)
1. Office
2. Warehouse
3. Office/Flex space

Within the eastern parcel (presently zoned J-2), the Meadows at Yaphank proposes a bank, commercial center, pharmacy and major restaurant, all of which are allowed as-of right. It should be noted that the proposed PDD includes drive-through for both the bank and pharmacy, which would require a Planning Board Special Permit for accessory use under the existing J-2 zoning. The proposed hotel is not allowed in the J-2 zone, but is a complementary commercial use that is proposed as part of the proposed PDD. Multi-family residences are not allowed as-of-right, and this is the basis for the proposed land use conversion on the northern portion of the eastern parcel.

For the western parcel (now zoned L-1), office or office/flex space are proposed, both of which are allowed as-of-right. Thus, the proposed office/flex space proposed for the southwestern portion of the site (within the Western parcel) would be allowed under the existing L-1 zoning, and would continue to be allowed on this parcel under the proposed PDD. Multi-family residences are not allowed as-of-right, but are proposed as part of the proposed mixed-use PDD through this change of use on the northern part of the western parcel. The areas of development allowed as-of-right and not allowed as-of-right within each of the parcels and zoning districts on the subject site are provided below. These areas do not include roadways, recharge, open space, parks, etc., which are accessory uses. Generally, the developed area is made up of roughly 50% as-of-right uses and 50% changes of use to facilitate the proposed mixed-use PDD.

<table>
<thead>
<tr>
<th>Zoning District</th>
<th>Allowed as-of-right</th>
<th>Not allowed as-of-right</th>
</tr>
</thead>
<tbody>
<tr>
<td>J-2</td>
<td>33± acres</td>
<td>28± acres</td>
</tr>
<tr>
<td>L-1</td>
<td>35± acres</td>
<td>36± acres</td>
</tr>
</tbody>
</table>

The proposed uses that are not allowed as-of-right in the underlying zoning, but are proposed in the PDD, include hotel and multi-family residential uses (including age-restricted units).

1.4.2 Site Layout and Structures

The Land Use and Development Plan prepared by Simone Design Group, envisions a sustainable community including Smart Growth elements such as a mix of residential, commercial (retail, office, office/flex), hospitality and public open spaces. As a result, the community will provide for itself as well as the greater community. With efficient building design and proper planning, more open space is preserved and the community becomes a vibrant and successful place combating the elements of sprawl. At The Meadows at Yaphank, residents will be able to step out their door to find shopping, entertainment and employment opportunities, providing freedom on-foot for all necessities as well as vibrant public spaces and parks.
Appendix A-10 presents colored renderings of the anticipated structures and street scenes illustrating the proposed design concepts. Appendix A-11 contains the project’s Master Plan and Guidelines, which establishes the overall goals of the project, which are to be achieved through the use of architecture, building materials, amenities and site layout. This document is the primary reference used in describing The Meadows at Yaphank PDD.

The project will feature attractive, coordinated architectural styling for the residential structures and commercial areas, as well as for all street furniture and amenities (e.g., lighting fixtures, signage, benches, trash receptacles, kiosks, fountains, etc.). It is intended and expected that the project’s architecture would, in coordination with landscaping, create a visually interesting and desirable environment for residents and visitors, and will enhance the community in general. Quality-of-life will be a focus of the project, and this emphasis will be evident in its use of thoughtful building design, appropriate landscaping, well-equipped private residential recreational spaces and installation of attractive site entrances. The use of an internal boulevard-style roadway linking the commercial and residential areas provides the needed vibrancy and unifying feature of this community.

Critical elements of design include retention of open space and energy efficient design to achieve conservation and energy reduction goals. Approximately 120.79 acres (36.22% of the overall site, or 115.24 acres/35.75% of the Racetrack/BW site) will be retained as natural open space in conformance with the Vegetation Clearance Limits outlined in the Central Pine Barrens Comprehensive Land Use Plan (hereafter, the “Pine Barrens Plan”). This document is a Generic EIS and the project is conceptual at this time, therefore, the final clearing numbers may differ slightly from these estimated values. Nevertheless, as required, the project will comply with the Standards and Guidelines for a Development of Regional Significance (DRS) under the Pine Barrens Plan, which includes a vegetation clearance limit of 65%, thus retaining at least 35% of the site as natural vegetation. In addition, the site design will ensure a maximum nitrogen concentration in site-generated recharge of 2.5 mg/l in conformance with the Pine Barrens Plan. Section 3.1.2 details these requirements. Open space will be permanently preserved through site plan approval and conservation easements, and will be publicly accessible for passive enjoyment (nature trails, hiking, etc.). Stormwater management will feature innovative handling methods to enhance surface treatment and quality recharge. The system will include rain gardens and surface detention areas, engineered stormwater ponds and wet meadow areas for bio-retention within the development and two recharge basins that will serve Yaphank-Woods Boulevard and Yaphank-Woods Boulevard Extension. The project includes construction of public buildings (a 3,000 SF community center at the proposed Multi-purpose Field and a 1,500 SF Pavilion and Restrooms at the Civic Space). The applicant may pursue certification for the project, or for individual components thereof, under the LEED® (Leadership in Energy and Environmental Design) Certification Program. However, regardless of whether such certification is sought or achieved, all construction will involve energy efficient design and water conserving measures.

Refer to Table 1-2 for a comprehensive listing of existing and anticipated site and project characteristics; the information is subdivided into each of the three project parcels, for ease of comparison. Also provided are the corresponding values for the parcels if each were developed under restrictions of their existing zoning districts.
### Table 1-2
SITE AND PROJECT CHARACTERISTICS
Existing Conditions and Proposed Project

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Existing Conditions</th>
<th>Proposed Project</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coverages (acres):</strong></td>
<td>Dorade STP</td>
<td>Racetrack/BW</td>
</tr>
<tr>
<td>Paved</td>
<td>0</td>
<td>40.05</td>
</tr>
<tr>
<td>Buildings</td>
<td>0.37</td>
<td>0</td>
</tr>
<tr>
<td>Lawn/Landscaped</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Recharge Areas (pond, basin, meadow)</td>
<td>1.09</td>
<td>0</td>
</tr>
<tr>
<td>Wetland</td>
<td>0</td>
<td>0.76</td>
</tr>
<tr>
<td>Unvegetated</td>
<td>2.58</td>
<td>23.03</td>
</tr>
<tr>
<td>Successional Vegetation</td>
<td>0</td>
<td>125.77</td>
</tr>
<tr>
<td>Natural Vegetation</td>
<td>7.05</td>
<td>132.76</td>
</tr>
<tr>
<td><strong>Characteristics:</strong></td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Zoning</td>
<td>A-1</td>
<td>L-1 &amp; J-2</td>
</tr>
<tr>
<td><strong>Use</strong></td>
<td>Utility</td>
<td>Vacant</td>
</tr>
<tr>
<td><strong>Yield</strong></td>
<td>STP</td>
<td>---</td>
</tr>
<tr>
<td><strong>Water Resources:</strong></td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Domestic Water Use (gpd)</td>
<td>0</td>
<td>275,050</td>
</tr>
<tr>
<td>Sanitary Flow (gpd)</td>
<td>0</td>
<td>271,050</td>
</tr>
<tr>
<td>Irrigation Demand (gpd)</td>
<td>0</td>
<td>13,093</td>
</tr>
<tr>
<td>Total Water Use (gpd)</td>
<td>0</td>
<td>288,143</td>
</tr>
<tr>
<td>Recharge Volume (MGY)</td>
<td>218.78 (3)</td>
<td>351.29 (4)</td>
</tr>
<tr>
<td>Recharge Nitrogen Conc. (mg/l)</td>
<td>0.08 (3)</td>
<td>2.20 (4)</td>
</tr>
<tr>
<td>Recharge Nitrogen Load. (lbs)</td>
<td>146.10 (3)</td>
<td>6,445.49 (4)</td>
</tr>
<tr>
<td><strong>Trip Generation (vph):</strong></td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Weekday AM Peak Hr</td>
<td>0</td>
<td>1,455</td>
</tr>
<tr>
<td>Weekday PM Peak Hr</td>
<td>0</td>
<td>2,233</td>
</tr>
<tr>
<td>Saturday Midday Peak Hr</td>
<td>0</td>
<td>2,208</td>
</tr>
<tr>
<td><strong>Miscellaneous:</strong></td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Age-Restricted Units</td>
<td>0</td>
<td>303</td>
</tr>
<tr>
<td>Workforce Units</td>
<td>0</td>
<td>85</td>
</tr>
<tr>
<td>Sanitary Treatment</td>
<td>n/a</td>
<td>Dorade STP</td>
</tr>
<tr>
<td>Residents (capita)</td>
<td>0</td>
<td>1,630</td>
</tr>
<tr>
<td>School-Age Children (capita)</td>
<td>0</td>
<td>110</td>
</tr>
<tr>
<td>Employees (capita)</td>
<td>0</td>
<td>2,648</td>
</tr>
<tr>
<td>Parking Required (spaces)</td>
<td>0</td>
<td>5,763</td>
</tr>
<tr>
<td>Parking Provided (spaces)</td>
<td>0</td>
<td>5,070</td>
</tr>
<tr>
<td>Total Taxes ($/year)</td>
<td>833,155</td>
<td>9,542,145</td>
</tr>
<tr>
<td>School Taxes ($/year)</td>
<td>559,403</td>
<td>6,402,779</td>
</tr>
<tr>
<td>School Costs ($/year)</td>
<td>0</td>
<td>1,406,790 (5)</td>
</tr>
<tr>
<td>Net School Tax Impact (+$/year)</td>
<td>+559,403</td>
<td>+4,995,989</td>
</tr>
</tbody>
</table>

* MGY - million gallons per year; vph - vehicles per hour.
(1) Of which 3.50 acres remain as paved portion of Yaphank-Woods Boulevard.
(2) Assuming 32.00 acres irrigated @ 5.5 inches/year & fertilized @ 2.3 lbs/1,000 SF/year.
(3) See Appendix C-2.
(4) See Appendix C-3; nitrogen load is project load based on SONIR, minus reduction in load from Dorade STP improved treatment of 140,000 gpd (see Section 1.4.6).
(5) Assuming 2009/2010 level of NYS aid to LCSD.
The Phase I PDD application narrative (Appendix A-1) contains a detailed discussion of the applicant’s rationale underlying the proposed PDD design and layout. In general, the proposed project incorporates Smart Growth elements, high quality architectural features and a mix of uses. The project is designed to promote walking between the residential portion of the development and the commercial and recreational portions of the site and to provide public spaces incorporated into the commercial nodes that will be available for residents of the community and visitors.

As discussed in Section 1.1, the Land Use and Development Plan is not intended to represent a finalized Site Plan for the project. As a result, the heights of the structures shown in the above-named plan may be greater than those allowed as-of-right in the J-2 and L-1 districts (35 feet/2-1/2 stories and 50 feet/3 stories, respectively) from which the site is to be rezoned. With respect to building heights, the Land Use and Development Plan notes:

Under the PDD Plan, hotel/office buildings up to 5 stories/75 feet; apartments/condominiums up to 4 stories/65 feet; townhouses up to 3 stories/35 feet; retail space up to 2 stories/45 feet.

Site Layout
Dorade STP Site - As described in Section 1.3.2, the current upgrade program of this facility is scheduled for completion in October 2011. Engineered plans for the separate replacement or upgrade of this facility are presently in the design phase; an Engineering Report must first be prepared, for review and approval of the appropriate agencies (see Section 1.4.6). The goal of this separate replacement or upgrade program is to utilize the Dorade STP’s capability to treat 450,000 gpd, which was the original capacity of this STP, as covered by its original SPDES Permit. In general, the separate replacement or upgrade will occur in two stages, by building on the improvements of the current upgrade program, wherein the existing tankage is upgraded to accommodate 225,000± gpd, and thereby accommodating the initial phases of the proposed project and the existing 140,000 gpd (from SCSD #8 and the Colonial Woods/Whispering Pines condominiums) now treated at the plant. Later, when subsequent construction of the proposed project causes the total flow to exceed this volume, the remaining 225,000 gpd of capacity will be constructed, to accommodate the full permitted flow. A maximum of 1.50 acres of vegetation would be cleared for the STP site; clearing would conform to the Pine Barrens Plan for site-specific vegetation removal/retention, and the overall site will comply with vegetation clearance limits.

It is expected that the proposed replacements/installations of new equipment will occur within the existing structure as well as near the existing outdoor tanks, recharge beds, etc. Any necessary replacements of these tanks will occur proximate to the existing facilities, in order to minimize any additional clearing of natural vegetation on this property. All construction plans and activities will be subject to the prior review and approval of the respective professional staffs of the SCDHS, SCDPW and NYSDEC, from which permits and approvals will also be obtained.

The proposed construction is a replacement or upgrade of an existing facility. The Pine Barrens Plan discourages location of new STPs in the Pine Barrens CGA where other options are available. There are no other practical alternatives to the use of the Dorade STP for sanitary waste treatment and the plant is an existing facility that was designed and permitted for a flow of
450,000 gpd (of which 190,000 gpd was allocated to the proposed project sites). Therefore, the policy that discourages new STPs within the Pine Barrens CGA (per the Pine Barrens Plan) would not be applicable.

It is expected that no impacts to the adjacent wetland (B-15) would occur during or subsequent to the construction program, so that the existing operation of and conditions at this natural feature would continue.

**Eastern and Western Parcels** - There are no remaining structures on either the eastern or western parcels, and so no building demolition is necessary; the areas of asphalt paved parking on the western parcel and the partial building foundations installed previously on the eastern parcel will be removed.

The two primary vehicle access points for the project are both from CR 46; the northerly access is via Yaphank-Woods Boulevard (at the northeastern corner of the site), and the southerly access is via Meadows Boulevard East, opposite the central portion of the eastern parcel. Secondary access will be provided to the site via the LIE North Service Road (rights-in and rights-out). Meadows Boulevard East traverses the center of the eastern parcel in an east-west direction; it ends in a traffic circle on the western side of this parcel, and continues westward into the western parcel as Meadows Boulevard West, where this roadway terminates in a second traffic circle. Parallel to the site’s northern border is Yaphank-Woods Boulevard, which will be improved with a landscaped center median. The existing north-south roadway along the border between these two parcels will be improved; it is designated LIE Access Road in the **Land Use and Development Plan**. It will connect Yaphank-Woods Boulevard to the north and the LIE North Service Road to the south, and will operate through the traffic circle at the center of the site, connecting Meadows Boulevard East and West. Numerous internal roadways in both the eastern and western parcels will intersect the boulevards and access road, and will lead to parking aisles (for the office, civic and retail areas), as well as the various residential uses.

Development in the eastern parcel is located in the previously-disturbed central portion, leaving natural vegetation in the northern, southern and eastern border areas, which prior clearing (for Brookhaven Town Center) had preserved. The northern half of this developed area will be used for condominiums and apartments, and the area south of Meadows Boulevard East will contain commercial uses such as hotel, restaurant, retail spaces, anchor store and supermarket.

For the western parcel, a similar design scheme is proposed; the central area, where the Suffolk Meadows Racetrack had been, will be reused for the office spaces (south of Meadows Boulevard West), and apartments and townhouses (north of Meadows Boulevard West). At the terminus of Meadows Boulevard West, the proposed Town park and civic area are planned, with separate parking. As noted on page 1-1, while specific uses have been shown on the **Land Use and Development Plan** at specific locations, it is represented that under the PDD rezoning, flexibility will be allowed to relocate uses within the proposed development areas based on tenant needs, market conditions and changing conditions.

Stormwater facilities are planned at the project entrance on the William Floyd Parkway, and along the western boundary and in the southwestern corner of the western parcel, the latter to
take advantage of the lower natural topography in these areas. In addition, recharge facilities are proposed along Yaphank-Woods Boulevard and the LIE North Service Road to accommodate Town facilities for the proposed Town roadways.

**Structures**
Refer to Table 1-1 for a detailed quantification of the square footages of the various uses and yields proposed. With respect to the workforce units and the households that occupy them as well as to the age-restricted units and households, the Town Board may require a covenant to ensure that these units will be and remain affordable to seniors, and are only to be occupied by qualified households, as defined by the Town.

1.4.3 **Open Space, Wetlands and Recreation**

The proposed project will result in significant preserved land, consisting of the wetland and Pine Barrens protection areas. Table 1-2 provides the acreage of the site’s land use types for the proposed PDD, including the Dorade STP parcel. The table indicates that approximately 120.79 acres or 36.22% of the overall site (115.24 acres, or 35.75% of the Racetrack/BW site) are proposed to remain in pine barrens and natural vegetation. As noted, the final plan will ensure that at least 35% remains in existing natural vegetation in conformance with the Pine Barrens Plan.

The applicant proposes to retain this acreage in private ownership and will use appropriate mechanisms through the Town Board change of zone and Planning Board site plan review process to ensure that this amount of natural land remains in this condition in perpetuity.

There is a 0.76-acre NYSDEC-designated freshwater wetland B-16 on the eastern parcel, located along its northern border on the southern side of Yaphank-Woods Boulevard. Similar to the prior Brookhaven Walk project, this feature will be retained in an undisturbed condition (a Town Freshwater Wetland permit had been issued and renewed for that prior application). As the Town jurisdiction over this feature encompasses a radius of 150 feet from its boundary, it is expected that a non-disturbance buffer of at least this distance will be maintained by the proposed project. The NYSDEC maintains a 100-foot jurisdictional buffer for this wetland; thus, the proposed project will not require an Article 24 Freshwater Wetlands permit from the NYSDEC. As such, no wetland permits will be required from either the Town or NYSDEC.

The project’s private recreational areas will include amenities such as outdoor pools/patios, tennis courts and extensive landscaped open areas crossed by pathways enhanced by benches and gazebos, and will be for the use of the community’s residents and their guests. An extensive trail system will wind through the retained natural areas on both parcels, and connect to the adjacent Town Greenbelt to the west.

Public areas will include a civic space, village green, great lawn, ball fields, and a Town park.
The Meadows at Yaphank
PDD Application
Draft GEIS

1.4.4 Parking, Vehicle Access and Traffic Mitigation

Parking

Enough parking to serve the related uses will be provided throughout the development. Separate parking areas for the ballfields as well as the multi-purpose field, basketball court and civic building will be provided, separate from the parking areas for residential and commercial uses.

Parking for the residential areas would be provided in on-street, parallel and head-in parking stalls, distributed along the abutting internal roadways. It is expected that some of the units may be provided with an attached one- or two-car garage. For review purposes, the Land Use and Development Plan provides for approximately 1,600 parking spaces for the residences, about 1,620 spaces for the retail area (consisting of the retail stores, supermarket and anchor store), an estimated 50 spaces for the restaurant, 18 spaces for the bank, about 220 spaces for the hotel, around 1,350 parking spaces for the office uses, and an estimated 213 spaces for the office/flex uses. The exact number of parking spaces will be identified during site plan review.

Based on the Town Code and absent the use of the PDD concept, development of the proposed project would require a minimum of 824 spaces for the residential component and 4,939 spaces for the commercial area (Table 1-3). However, parking standards for a PDD are flexible and are based on the particular uses, types and yields proposed, to be established based on a project-specific analysis (see below). Based upon this breakdown, it is expected that over 5,000 parking spaces proposed would provide sufficient parking for the residents, commercial patrons, employees and visitors. The Traffic Impact Study (TIS; see Appendix D) contains an analysis of the project’s anticipated parking needs, which supports the conclusion that the proposed number of spaces will be sufficient for the project’s parking needs.

<table>
<thead>
<tr>
<th>Use</th>
<th>Minimum Required Spaces (per Town Code &amp; Existing Zoning)</th>
<th>Provided (per Proposed PDD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential, age-restricted (303 units)</td>
<td>1 space/2 beds</td>
<td>279 spaces</td>
</tr>
<tr>
<td>Residential, other (547 units)</td>
<td>1 space/2 beds</td>
<td>545 spaces</td>
</tr>
<tr>
<td>Commercial Center (324,000 SF)</td>
<td>1 space/175 SF</td>
<td>1,852 spaces</td>
</tr>
<tr>
<td>Office (337,500 SF)</td>
<td>1 space/150 SF</td>
<td>2,250 spaces</td>
</tr>
<tr>
<td>Hotel (220 rooms)</td>
<td>1 space/room</td>
<td>220 spaces</td>
</tr>
<tr>
<td>Office/Flex Space (212,500 SF)</td>
<td>1 space/400 SF</td>
<td>532 spaces</td>
</tr>
<tr>
<td>Bank space (3,500 SF)</td>
<td>1 space/100 SF</td>
<td>35 spaces</td>
</tr>
<tr>
<td>Restaurant space (5,000 SF)</td>
<td>1 space/100 SF</td>
<td>50 spaces</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>---</strong></td>
<td><strong>5,763 spaces</strong></td>
</tr>
</tbody>
</table>

Vehicle Access

There will be two access points from CR 46; one directly into the eastern parcel (through Meadows Boulevard East for both northbound and southbound entering and southbound exiting traffic), and indirectly for both parcels from Yaphank-Woods Boulevard. There will be one access to the eastern parcel’s northern side from this roadway. Yaphank-Woods Boulevard will continue to terminate at the northeastern corner of the western parcel, from this point, an internal
link (on the existing roadway along the eastern parcel’s western border) will intersect the LIE North Service Road, which will also provide two accesses to the eastern parcel (on its western border) and the western parcel (at three widely-spaces locations, to the western parcel’s eastern side). The intersection of this internal access road at the LIE North Service Road will be configured for westbound entering and exiting traffic only. One of the eastern parcel’s western accesses and one of the western parcel’s eastern accesses will be aligned opposite each other, so that a common traffic circle will be formed along the internal roadway linking the two parcels.

Proposed Emergency Yaphank Fire Department Access

**Figure 3-7** depicts the proposed route for the creation of an emergency fire access to the project site, via Main Street. The fire access roadway is intended to provide a secondary means of access for the Yaphank Fire Department to access and reduce response times to the site. The access to the proposed 18-foot wide stabilized access roadway will be controlled via a fire access gate.

The route of the proposed access is specifically intended to utilize an existing cleared roadway. The clearing was reportedly utilized as a second means of access to the former Suffolk Meadows Racetrack through Main Street.

Inspection of the 1,600-foot route indicates that minor new clearing may be required to establish the new roadway. The cleared portion of the roadway varies from 20 feet to 37 feet in width from the paved section of the LIE North Service Road. Computations indicate that approximately 2,500 SF of new clearing may be necessary to establish the 18-foot wide road based on a 24-foot grading/disturbance area.

During the site plan design phase of the project, the alignment of the roadway will be finalized to minimize/eliminate new clearing based on actual survey data.

Traffic Mitigation

Refer to **Section 3.2.3** for a listing of the project’s roadway improvements, which have been determined as a result of the analyses contained in the TIS.

1.4.5 Clearing, Grading and Drainage System

Clearing and Grading

Development on the combined eastern/western parcels has intentionally been designed to occur primarily on those areas that were previously used and/or cleared (188.85 acres; see **Table 1-2**, “Existing Conditions, Racetrack/BW Parcels”). This simultaneously reduces the amount of earthwork involved as well as removal of undisturbed natural vegetation, as regulated by both Town Zoning Code and the Pine Barrens Plan. Based on the quantities given in **Table 1-2** (“Proposed Project, Racetrack/BW Parcels”, and considering that 3.50 acres of existing paved coverage in Yaphank-Woods Boulevard that will remain), an estimated 203.63 acres of land (63.16% within the Racetrack/BW site), or 205.12 acres (61.51% of the overall site) will be cleared and subject to grading operations, as shown in **Table 1-4**. It should be noted that only...
18.28 of these acres would occur on natural vegetation within the Racetrack/BW site, or 19.78 acres for the overall site.

Table 1-4
ANTICIPATED CLEARING

<table>
<thead>
<tr>
<th>Coverage Type</th>
<th>Existing Conditions</th>
<th>Remaining After Construction</th>
<th>Cleared</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Racetrack/BW Parcels Only</td>
<td></td>
</tr>
<tr>
<td>Paved</td>
<td>40.05 acres</td>
<td>3.50 acres</td>
<td>36.55 acres*</td>
</tr>
<tr>
<td>Unvegetated</td>
<td>23.03 acres</td>
<td>0</td>
<td>23.03 acres</td>
</tr>
<tr>
<td>Successional Vegetation</td>
<td>125.77 acres</td>
<td>0</td>
<td>125.77 acres</td>
</tr>
<tr>
<td>Natural Vegetation</td>
<td>132.76 acres</td>
<td>114.48 acres</td>
<td>18.28 acres</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>---</strong></td>
<td><strong>---</strong></td>
<td><strong>203.63 acres</strong>*</td>
</tr>
</tbody>
</table>

| Dorade STP Parcel Only              |                     |                              |             |
| Pitch Pine-Oak Forest               | 7.05 acres          | 5.55 acres                   | 1.50 acres  |

| **Total Cleared**                   | **---**             | **---**                      | **205.12 acres** |

* Another 3.50 acres of pavement in Yaphank-Woods Blvd. will be retained, or 207.13 developed acres overall.

Earthwork is necessary to establish suitable slopes for the proposed roads, parking areas and building locations, in consideration of the need for low grades required by the Americans with Disabilities Act. Grade transitions will be made using slopes not to exceed 1:3; retaining walls may be needed. All disturbed soil areas will be stabilized and all areas other than areas to be occupied by buildings or paved surfaces will be landscaped. It is expected that, since the areas to be developed were previously subject to grading, the depths of cutting and filling would not be extensive. Substantial excavations will be necessary for the drainage system, but extensive filling would also be necessary for the artificial depression associated with the former racetrack infield. The applicant has no intention of removing any material from the site. It is planned that any excess soil will be retained on-site and reused as fill.

A detailed Grading and Drainage Plan will be prepared as part of the Site Plan application, which will provide additional details of overall site grading, and will require Town Planning Division and Engineering Division reviews and Planning Board approval prior to implementation.

**Drainage System & Erosion Control**

**Drainage System** - In conformance with Town of Brookhaven requirements, all stormwater runoff generated on developed project surfaces will be retained on-site and recharged to groundwater in a drainage system designed in conformance with Town requirements. While the drainage system has not been fully designed at the present stage of the project, it is expected that this system will utilize rain garden and catch basin collection and a number of wet meadows (to be located in the site’s western and southwestern areas where ground elevations are lower), ponds (to be located at the site entrance and within developed areas) and recharge basins (along the south side of Yaphank-Woods Boulevard). Use of leaching pools and rain gardens within the developed sections serving the internal roadways and parking areas will be incorporated into the design. It is anticipated that the stormwater ponds would be lined with an impervious barrier and provided with a water feed, in order to maintain a minimum volume of water to support the
growth of appropriate wetland vegetation along their borders. This is a design concept that has been accepted by the Town in numerous other projects, as a method to address runoff control requirements, increase habitat availability and provide an attractive amenity that enhances the appearance and tranquility of development. As with any potential site development, it will be necessary to analyze the feasibility for installation of sufficient drainage infrastructure for the management of stormwater generated on site. The Town Planning Board will be responsible for the review and approval of the drainage system design as part of the site plan review and approval process.

The system will be designed to comply with SPDES requirements under the NYSDEC General Permit for Stormwater Discharges from Construction Activity (GP 0-10-001 or “General Permit”), as well as to Chapter 86 of the Town Code. Under these requirements, a site-specific Stormwater Pollution Prevention Plan (SWPPP) must be prepared and submitted to the Town for review and approval as a condition to final subdivision approval. The SWPPP evaluates the proposed drainage system to ensure that it meets the NYSDEC and Town requirements for treatment and retention of stormwater runoff. The SWPPP must demonstrate that the proposed stormwater management system is sized adequately to ensure that there is no net increase in peak stormwater discharges from a property once developed.

The drainage system and associated SWPPP will be fully designed for the Site Plan application (prepared subsequent to issuance of the change of zone), and will require the review and approval of Town engineering and the Planning Board. Evaluation of the drainage system through preparation of the SWPPP analysis required pursuant to Chapter 86 of the Town Code and the NYSDEC General Permit ensures there will be no net increase in stormwater runoff generated by the proposed project. Based on existing developments in the area, local geologic conditions, and adequate depth to groundwater, subsoils are expected to be of suitable quality to allow efficient recharge of stormwater, subject to further evaluation during subsequent project review.

The Town is currently in the process of amending its Wetlands ordinance, Chapter 81 of the Town Code. Discussions with the Town Division of Environmental Protection to date find that vegetated stormwater detention areas (e.g., rain gardens, vegetated swales, bio-filtration areas, etc.) are not expected to be regulated as wetlands through the revisions planned for Chapter 81. New York State stormwater design manuals encourage surface detention and biological uptake as part of stormwater systems, and these measures are consistent with LEED® design guidelines and best management practice as identified in the Nationwide Urban Runoff Program (NURP) report and intended in the Town’s Chapter 86 dealing with stormwater design. As a result, innovative methods of stormwater collection, detention and recharge will be explored during site design.

The SWPPP must include: a description of the existing site conditions including topography, soils, potential receiving water bodies and stormwater runoff characteristics, a description of the proposed construction project, construction schedule, the erosion and sediment controls planned during construction activities and the details of the post construction stormwater management system design and consistency of said system with the NYS Stormwater Design Manual, appropriate maintenance procedures for the erosion and sediment controls and each component of the post construction drainage system, pollution prevention measures during construction activities, a post-construction hydrologic and hydraulic analysis for all structural components of the post construction stormwater management system for a 1, 10 and 100 year storm event, and comparison of existing and post construction peak stormwater discharges.

2 The SWPPP must include: a description of the existing site conditions including topography, soils, potential receiving water bodies and stormwater runoff characteristics, a description of the proposed construction project, construction schedule, the erosion and sediment controls planned during construction activities and the details of the post construction stormwater management system design and consistency of said system with the NYS Stormwater Design Manual, appropriate maintenance procedures for the erosion and sediment controls and each component of the post construction drainage system, pollution prevention measures during construction activities, a post-construction hydrologic and hydraulic analysis for all structural components of the post construction stormwater management system for a 1, 10 and 100 year storm event, and comparison of existing and post construction peak stormwater discharges.
plan review, and would not be expected to result in regulated wetland areas which would restrict site use or future redevelopment.

**Erosion Control During Construction** - Erosion and sedimentation control measures will be implemented during construction activities. Conformance to Chapter 86 of the Town Code and to the requirements of SPDES review of stormwater control measures is necessary, to be consistent with Phase II stormwater permitting requirements for construction sites in excess of 1-acre (the General Permit). Under this program, the SWPPP includes details of erosion controls required during construction to contain stormwater runoff on site during construction and ensure that there is no transport of sediment off site. The Erosion Control Plan will be prepared in accordance with the recommendations of the *NYSDEC Standards and Specifications for Erosion and Sedimentation Control* and the NYSDEC Technical Guidance Manual. Use will be made of measures including:

- silt fencing and temporary diversion swales installed along the perimeter of the limits of clearing within the site to minimize/prevent sediment from washing into the natural buffer areas, adjacent streets and properties.
- inlet protection installed around all grated drainage inlets to trap sediments in stormwater runoff.
- dust control and watering plan and a stabilized construction entrance to minimize the tracking of dirt and debris from construction vehicles onto adjacent roadways.
- designation of material and topsoil stockpile areas as well as use of silt fencing and anchored tarps to prevent/reduce wind-blown dust and erosion from rainwater.
- establishment of a stabilized stone vehicle washing station that drains into an approved sediment-trapping device.

Additionally, the General Permit requires that inspections of the construction site be performed under the supervision of a qualified professional to ensure that erosion controls are properly maintained during the construction period.

The proposed locations, sizes, and lengths of each of the temporary erosion and sediment control practices planned during site construction activities, and the dimensions, material specifications, and installation details for all erosion and sediment control practices will also be provided on the Erosion Control Plan.

These precautions, in addition to the permit compliance measures described here, will ensure that sediment will not be transported off-site by stormwater runoff and, as a result, there would be no expected impact to local water quality.

### 1.4.6 Sanitary Wastewater Treatment and Water Supply Systems

**Sanitary Wastewater Treatment**

In order to meet SCDHS requirements, the project will be connected to the Dorade STP, an existing treatment facility located on 11.09 acres owned by the applicant and located north of the eastern parcel, at the northwestern corner of the Colonial Woods/Whispering Pines condominiums.
It is interesting to note that the Dorade STP does not receive wastewater flow from any developments associated with the owner of the plant. However, the Dorade STP was always anticipated to handle the wastewater flow from the Racetrack and BW Mall parcels. The original 1973 Engineering Report, provided the basis for the 450,000 gpd design flow and the allocation of sanitary waste at that time. The design allocated 50,000 gpd to the Parr Meadows (later named Suffolk Meadows) Racetrack, and 140,000 gpd to the Mall site, totaling 190,000 gpd of flow allocated for treatment at the Dorade STP (see Appendix A-12). Given the allocation of flow and the contract that requires connection to this regional STP, the applicant could reasonably expect to gain the benefit of this sanitary flow.

The plant will be upgraded to treat the existing flow (140,000 gpd) and the anticipated total flow of 275,050 gpd from the proposed project, of which the sanitary flow is 271,050 gpd. This provides a direct benefit of improving the quality of discharge associated with the existing 140,000 gpd that enters the STP from Colonial Woods/Whispering Pines and SCSD #8. Therefore, as a result of this project the Dorade STP will have the capacity to treat all wastewater generated on-site and from the existing developments, and its maintenance will continue to be subject to review and approval by the SCDHS and NYSDEC.

The Dorade STP is an existing facility that pre-dates the Pine Barrens Plan. The Pine Barrens Commission discourages location of new STPs in the Central Pine Barrens Zone; however, the Dorade STP exists and currently receives sanitary waste flow from existing developments. The Dorade STP previously treated the waste flow from the Suffolk Meadows racetrack, as well as the flea market that subsequently operated on that parcel. In addition to ensuring upgraded treatment of the existing flow to the Dorade STP, the increased flow of the proposed project has been evaluated and the total nitrogen load (i.e., pounds per year of nitrogen) will be reduced as compared to “as-of-right” industrial/commercial development with on-site discharge. Finally, the Meadows at Yaphank project has been subject to preliminary nitrogen budget modeling and will comply with the Pine Barrens Plan Guideline of no more than 2.5 mg/l of nitrogen in recharge for projects in proximity to wetlands and surface water.

The proposed treatment system will consist of a state-of-the-art Sequencing Batch Reactor (SBR) design, which has been accepted by the NYSDEC for similar applications and is well established on Long Island. 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 STP building will be at a distance well in excess of the 200-foot minimum from the nearest existing and proposed habitable structures.

The project will discharge sanitary waste into an on-site sanitary sewer network; preliminary grading and development plans indicate that two pump stations will be required. The eastern section of the property will rely on gravity sewers pitched toward the southeastern corner adjacent to the proposed commercial development area. The western portion of the property will rely on gravity sewers pitched toward the southwestern corner of the property. It is possible that a portion of the western property will be designed to gravity flow directly to the sewer beneath Yaphank-Woods Boulevard.
The new pump stations will discharge into an existing sanitary sewer manhole located at the western end of Yaphank-Woods Boulevard. This existing sanitary manhole was installed to accommodate the discharge from the subject property. It was formerly receiving the discharge from the Suffolk Meadows Racetrack pump station. The existing manhole is connected to the existing 10-inch diameter and 12-inch diameter sanitary sewers in Colonial Woods Drive West, which discharge into an existing 14-inch diameter sewer located in an easement that connects to the Dorade STP Property. The existing sewers are designed to accommodate the flow from Colonial Woods and the subject property (10-inch and 12-inch sewers) and Colonial Woods, Whispering Pines and the subject property (14-inch sewer). There are filed easements that allow for the discharge of the sanitary waste from the Meadows at Yaphank PDD property into the existing sewers.

It is not anticipated that the project will require the installation of new/replacement sewers within the Colonial Wood Drive West or Easement corridor. The existing sewers are sized to accommodate the estimated discharge flows from the proposed project and the existing flows from the Colonial Woods and Whispering Pine developments. In the event that the SCDHS determines that a portion of the existing sewer requires replacement, all work will be within paved roadways or existing cleared easements.

Suffolk County Sanitary Code (SCSC) Article 7 regulates sources of potential water pollution, including the type of sanitary wastewater treatment (determined by Article 6). As per Article 6, the site will provide a tertiary sewage treatment plant with subsurface leaching pools designed to treat all wastewater generated on-site. In consideration of the above discussion of STP siting and design, the proposed project will conform to Article 7 requirements for control of potential water pollution.

SCSC Article 12 regulates storage and handling of toxic and hazardous materials as a means to “...maintain its [Suffolk County’s] water resources as near to their natural condition of purity as reasonably possible for the safeguarding of the public health...”. The residential portion of the project would not utilize any toxic or hazardous materials (other than common household cleaners), and so would conform to this regulation. It is expected that the commercial and industrial portions of the project would be limited to the types of tenants that would not store, use, generate, or dispose of such substances. In this way, the proposed PDD would conform to SCSC Article 12 requirements.

As noted in Section 1.4.2, an Engineering Report will be prepared for the upgrade of the Dorade STP to the 450,000 gpd covered by the original SPDES Permit. This flow can then be restored, as the STP will have the capability to treat this volume. The upgrade will occur in two stages. First, the existing tankage will be upgraded to accommodate 225,000± gpd, including the proposed project and the existing 140,000 gpd now treated at the plant. Once the project causes the flow to exceed this volume, the remaining 225,000 gpd of capacity will be constructed to accommodate the full permitted flow. It is expected that approximately 1.50 acres of this parcels’s existing forest adjacent to the leaching beds will be cleared, to accommodate the leaching capacity.
The plant will meet an effluent limitation for total nitrogen of 8 mg/l, and will be monitored under its SPDES permit to ensure compliance. The STP design and construction will be subject to review and approval by the SCDPW and SCSA. SCDHS will act for the NYSDEC to modify the existing SPDES permit to permit the original design flow. The STP structure will be appropriately screened from view of outside observers. The total domestic influent to this plant will total approximately 275,050 gpd from the proposed project; the plant will be designed with a capacity appropriate to treat this volume. Table 1-5 presents a breakdown of the anticipated sanitary wastewater generations; the sanitary component is expected to be 271,050 gpd.

**Table 1-5**

**DOMESTIC WATER USE & SANITARY AND DOMESTIC WASTEWATER FLOWS**

<table>
<thead>
<tr>
<th>Type of Use</th>
<th>Size of Use</th>
<th>Units</th>
<th>Flow Rate (2)</th>
<th>Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Commercial Component</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hotel</td>
<td>150,000 SF</td>
<td>110 rooms</td>
<td>100 gpd/room</td>
<td>11,000 gpd</td>
</tr>
<tr>
<td></td>
<td></td>
<td>110 rooms</td>
<td>150 gpd/room</td>
<td>16,500 gpd</td>
</tr>
<tr>
<td>Large Retail</td>
<td>150,000 SF</td>
<td>---</td>
<td>0.03 gpd/SF</td>
<td>4,500 gpd</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>14,700 SF</td>
<td>---</td>
<td>0.03 gpd/SF</td>
<td>441 gpd</td>
</tr>
<tr>
<td>Bank</td>
<td>3,500 SF</td>
<td>---</td>
<td>0.03 gpd/SF</td>
<td>105 gpd</td>
</tr>
<tr>
<td>Supermarket</td>
<td>65,000 SF</td>
<td>---</td>
<td>0.05 gpd/SF</td>
<td>3,250 gpd</td>
</tr>
<tr>
<td>Nghbrhd. Retail</td>
<td>94,300 SF</td>
<td>---</td>
<td>0.03 gpd/SF</td>
<td>2,829 gpd</td>
</tr>
<tr>
<td>Restaurant</td>
<td>5,000 SF</td>
<td>200 seats (3)</td>
<td>30 gpd/seat (4)</td>
<td>6,000 gpd (3)</td>
</tr>
<tr>
<td>Office/Flex</td>
<td>250,000 SF</td>
<td>---</td>
<td>0.04 gpd/SF</td>
<td>10,000 gpd</td>
</tr>
<tr>
<td>Class A Office</td>
<td>300,000 SF</td>
<td>---</td>
<td>0.06 gpd/SF</td>
<td>18,000 gpd</td>
</tr>
<tr>
<td><strong>Total Commercial</strong></td>
<td>1,032,500 SF</td>
<td>---</td>
<td>---</td>
<td>72,625 gpd</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of Use</th>
<th>Size of Use</th>
<th>Units</th>
<th>Flow Rate (2)</th>
<th>Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Residential Component</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senior Rental</td>
<td>950 SF (1-bdrm)</td>
<td>38 units</td>
<td>150 gpd/unit</td>
<td>5,700 gpd</td>
</tr>
<tr>
<td>Senior Rental, Workforce</td>
<td>750 SF (1-bdrm)</td>
<td>10 units</td>
<td>150 gpd/unit</td>
<td>1,500 gpd</td>
</tr>
<tr>
<td>Rental</td>
<td>950 SF (1-bdrm)</td>
<td>38 units</td>
<td>225 gpd/unit</td>
<td>8,550 gpd</td>
</tr>
<tr>
<td>Rental, Workforce</td>
<td>750 SF (1-bdrm)</td>
<td>10 units</td>
<td>225 gpd/unit</td>
<td>2,250 gpd</td>
</tr>
<tr>
<td>Rental</td>
<td>1,190 SF (2-bdrm)</td>
<td>38 units</td>
<td>225 gpd/unit</td>
<td>8,550 gpd</td>
</tr>
<tr>
<td>Rental, Workforce</td>
<td>1,050 SF (2-bdrm)</td>
<td>10 units</td>
<td>225 gpd/unit</td>
<td>2,250 gpd</td>
</tr>
<tr>
<td>Senior Condo</td>
<td>1,450 SF (2-bdrm)</td>
<td>174 units</td>
<td>150 gpd/unit</td>
<td>26,100 gpd</td>
</tr>
<tr>
<td>Senior Condo, Workforce</td>
<td>1,050 SF (2-bdrm)</td>
<td>30 units</td>
<td>150 gpd/unit</td>
<td>4,500 gpd</td>
</tr>
<tr>
<td>Condo</td>
<td>1,150 SF (1-bdrm)</td>
<td>25 units</td>
<td>225 gpd/unit</td>
<td>5,625 gpd</td>
</tr>
<tr>
<td>Condo</td>
<td>1,450 SF (2-bdrm)</td>
<td>232 units</td>
<td>300 gpd/unit</td>
<td>69,600 gpd</td>
</tr>
<tr>
<td>Condo, Workforce</td>
<td>1,050 SF (2-bdrm)</td>
<td>25 units</td>
<td>225 gpd/unit</td>
<td>5,625 gpd</td>
</tr>
<tr>
<td>Senior Townhouse</td>
<td>2,000 SF (12-bdrm)</td>
<td>51 units</td>
<td>225 gpd/unit</td>
<td>11,475 gpd</td>
</tr>
<tr>
<td>Townhouse</td>
<td>1,750 SF (2-bdrm)</td>
<td>101 units</td>
<td>300 gpd/unit</td>
<td>30,300 gpd</td>
</tr>
<tr>
<td>Townhouse</td>
<td>2,000 SF (3-bdrm)</td>
<td>68 units</td>
<td>300 gpd/unit</td>
<td>20,400 gpd</td>
</tr>
<tr>
<td><strong>Total Residential</strong></td>
<td>1,232,870 SF</td>
<td>850 units</td>
<td>---</td>
<td>202,425 gpd</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>275,050 gpd</td>
</tr>
</tbody>
</table>

(1) Max. sanitary flow for septic system in Zone III is 300 gpd/acre, or 96,483 gpd for this site.
(2) Per SCDHS design criteria for wastewater system sizing.
(3) Assuming 25 Gross SF/seat.
(4) Includes 10 gpd/seat for sanitary flow only.
(5) As: 2,000 gpd of sanitary flow; 6,000 gpd total flow.
The proposed project involves replacement of the existing Dorade STP and restoration of the original permitted flow of 450,000 gpd, which will include the 140,000 gpd of flow that the plant is currently permitted for. The proposed project will take the 140,000 gpd, add it to the 275,050 gpd design flow, for a total design flow of 415,050 gpd (maximum permitted flow of 450,000 gpd) and include treatment of the existing 140,000 gpd and the project flow to a concentration of 8 mg/l. This results in a reduction of 767.66 pounds of nitrogen load as a result of the proposed project, derived using the SONIR computer model and summarized as follows:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>10 mg/l Effluent</th>
<th>8 mg/l Effluent</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial/STP Flow</td>
<td>140,000</td>
<td>140,000</td>
<td>gal/day</td>
</tr>
<tr>
<td>Commercial/STP Flow</td>
<td>193,413,500</td>
<td>193,413,500</td>
<td>liters/yr</td>
</tr>
<tr>
<td>Nitrogen in Effluent</td>
<td>10.00</td>
<td>8.00</td>
<td>mg/l</td>
</tr>
<tr>
<td>Leaching Rate</td>
<td>90%</td>
<td>90%</td>
<td>percent</td>
</tr>
<tr>
<td>N(S) = CF x N x LR</td>
<td>1,740,721,500</td>
<td>1,392,577,200</td>
<td>milligrams</td>
</tr>
<tr>
<td>N(S) = Sanitary Nitrogen</td>
<td>3,838.29</td>
<td>3,070.63</td>
<td>lbs</td>
</tr>
</tbody>
</table>

Therefore, the difference between the Dorade STP discharge without the proposed project of 3,838.29 pounds, and the existing flow of the Dorade STP with the proposed project of 3,070.63 pounds, results in a reduction in nitrogen load of 767.66 pounds.

**Water Supply System**

It is expected that the potable water consumed by the project would be supplied from SCWA Distribution Area #18 (the William Floyd Parkway wellfield), via the existing 16-inch service beneath CR 46 and the 16-inch main beneath Yaphank-Woods Boulevard. A new internal distribution system will be constructed to serve the various uses within the property; this system will be subject to the detailed review and approval of the Town Engineering Division as part of the site plan application process.

As detailed in Table 1-5, a total domestic consumption of 275,050 gpd of potable water is anticipated for the project, with another 13,093 gpd estimated for lawn irrigation (see Section 1.4.7). Thus, a total daily potable water consumption of 288,143 gpd is expected.

1.4.7 Lighting, Landscaping and Amenities

**Lighting**

The proposed project includes illumination of the internal roadways, and exteriors of the community and commercial buildings, along with smaller exterior lights for the residential structures and safety/security lights in common areas and along the walking trails. Lighting will be provided consistent with the locations, pole heights and specifications of the type and power of fixtures (“luminaires”) typical for a quality residential development as well as for the commercial area. Lighting for the project will conform to the applicable requirements of Town Zoning Code Article XXXIX (Exterior Lighting Standards) or, if considered appropriate and necessary, variances will be sought. The applicant will ensure that only dark sky compliant luminaires will be used; this type of fixture is equipped with a “full cut-off” shroud that directs
all illumination downward. By use of such fixtures and the lower pole heights to be used, the potential for adverse impacts to the visibility of the nighttime sky for site residents, as well as impacts to the neighboring residential properties, will be minimized.

The Lighting Plan (to be prepared as part of the Site Plan application) will show that the light cast by the fixtures that line the roadways would be directed inward and not onto adjacent properties. In addition, as dark-sky compliant luminaires will be used, light would not be cast upward, to otherwise contribute to skyglow.

**Landscaping**
A detailed Landscape Plan will be prepared for the site plan application, which will be submitted after approval of the PDD application. The project will conform to Town policy for fertilizer dependent vegetation, will improve site aesthetics, and increase vegetated buffering for the neighborhood, all of which will minimize the potential for significant adverse impacts.

A total of 98.13 acres of the site will be landscaped surfaces, though only an estimated 32.00 acres would be maintained (i.e., fertilized and irrigated). This amount of maintained landscaping would represent about 10% of the project site. This document is a Generic EIS and the project is conceptual at this time, therefore, the landscape area numbers may differ slightly from these estimated values. Nevertheless, the applicant recognizes the Pine Barrens Plan limit of no more than 15% fertilizer dependent vegetation. Management techniques will ensure that fertilizers would be applied at a rate of 1.00 pound of nitrogen per 1,000 SF, which can be achieved through proper lawn maintenance practice). Irrigation would be applied at a rate of about 5.5 inches annually, which corresponds to an annualized average of 13,093 gpd.

Shrub plantings will line the site access roadways, with street trees lining the internal roadways as well. Foundation plantings are planned along the buildings and clusters of trees and shrubs will be placed in side yards between the buildings. Turfed and landscaped areas will be created at the site entrance and in and around recreation areas and building sites.

Landscaping will be provided in the parking area in general conformance with Town site plan landscape requirements. With respect to the caliper of trees installed, the applicant proposes to install trees of less than 4-inch caliper (2 to 2-½ inches). The applicant’s experience and professional arborists find that 4-inch caliper trees experience greater transplant “shock” than smaller caliper trees. Consequently, there is greater mortality and much slower growth with 4-inch caliper trees. Conversely, 2 to 2-½ inch trees are less subject to shock, less subject to mortality, and grow more quickly, such that within several years, the size is equal, the tree health is superior and continued growth of the tree is more rapid. The PDD land use parameters are intended to provide for this flexibility in future site plan landscaping.

**Amenities**
Amenities on the site will include tennis courts, recreational buildings and pocket parks for residents, as well as several public areas including a great lawn, village green, reflection pool, civic space and civic building, ball fields, multi-purpose field, basketball court and walking trail. The property owner or future property owners associations will own and maintain most internal roadways, as well as parking areas for the residences and the on-site drainage system. Yaphank-
Woods Boulevard and the project’s internal LIE Access Road will be offered to the Town for dedication, as these roads will serve off-site residents and the greater community. Approximately seven acres of land will be dedicated to the Town for future development of athletic fields, basketball courts, access to the Greenbelt trail and parking area.

1.4.8 Potential Use of Sustainable Features

The applicant intends to incorporate substantial energy- and water-saving features into the proposed project, though the final roster of these features has not been determined at this early stage in the project planning process. It is possible that the number and extent of these sustainable features would justify the applicant seeking certification under the US Green Building Council’s LEED® Program. However, as the range and extent of these features has not been determined as yet, the applicant is not able at this time to confirm to the lead agency or community that such certification will be sought. Appendix A-13 provides a listing of those Credits of the LEED® for New Construction and Major Renovations, 2009 Program that may be considered for use in the proposed project. Also provided are the corresponding requirements for each credit that must be satisfied in order to receive that credit, as well as potential features of the project that would meet those requirements. It is expected that a final decision whether to seek certification will be made prior to the submission of the Site Plan application.

Regardless of whether LEED® Certification is sought, the applicant intends to incorporate sustainable features in the project. The following presents a generalized discussion and description of the types of such features that will be utilized in project design and construction.

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 [heating, ventilation and air conditioning] 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.

The applicant intends to install energy- and water-efficient/Energy Star rated appliances, low-flow plumbing fixtures and low-voltage lighting, windows with low-emissivity coated glass, spray foam insulation (R-21 installation rating) and use of tankless water heaters in residences, which significantly reduce energy requirements. The project’s Lighting Plan will be designed to be “dark sky” compliant and utilize energy-efficient lighting fixtures. Shade trees will also be used in proximity to many of the units to provide shade and reduce cooling needs in summer months.

1.5 Construction-Related Matters

1.5.1 Construction Schedule

The following is a general description of the overall phasing of the project, and has been adapted from the Phasing Plan (in a pouch at the end of this document; see also Table 1-6).
Table 1-6
ANTICIPATED PROJECT PHASING

<table>
<thead>
<tr>
<th>Type of Development</th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Phase 4</th>
<th>Phase 5</th>
<th>Total: All Phases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotel</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>150,000 SF</td>
<td>--</td>
<td>150,000 SF</td>
</tr>
<tr>
<td>Retail Space:</td>
<td>51,200 SF</td>
<td>--</td>
<td>276,300 SF</td>
<td>--</td>
<td>--</td>
<td>327,500 SF</td>
</tr>
<tr>
<td>Large Retailer</td>
<td>--</td>
<td>--</td>
<td>150,000 SF</td>
<td>--</td>
<td>--</td>
<td>150,000 SF</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>14,700 SF</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>14,700 SF</td>
</tr>
<tr>
<td>Bank</td>
<td>3,500 SF</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>3,500 SF</td>
</tr>
<tr>
<td>Supermarket</td>
<td>--</td>
<td>--</td>
<td>65,000 SF</td>
<td>--</td>
<td>--</td>
<td>65,000 SF</td>
</tr>
<tr>
<td>Other Neighborhood Retail</td>
<td>33,000 SF</td>
<td>--</td>
<td>61,300 SF</td>
<td>--</td>
<td>--</td>
<td>94,300 SF</td>
</tr>
<tr>
<td>Restaurant</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>5,000 SF</td>
<td>--</td>
<td>5,000 SF</td>
</tr>
<tr>
<td>Office/Flex Space</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>250,000 SF</td>
<td>250,000 SF</td>
</tr>
<tr>
<td>Class A Office Space</td>
<td>--</td>
<td>150,000 SF</td>
<td>--</td>
<td>150,000 SF</td>
<td>--</td>
<td>300,000 SF</td>
</tr>
<tr>
<td>Residences:</td>
<td>304 units</td>
<td>416 units</td>
<td>130 units</td>
<td>--</td>
<td>--</td>
<td>850 units</td>
</tr>
<tr>
<td>Rental Units</td>
<td>144 units</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>144 units</td>
</tr>
<tr>
<td>Condominiums</td>
<td>160 units</td>
<td>306 units*</td>
<td>20 units*</td>
<td>--</td>
<td>--</td>
<td>486 units</td>
</tr>
<tr>
<td>Townhouses</td>
<td>--</td>
<td>110 units*</td>
<td>110 units*</td>
<td>--</td>
<td>--</td>
<td>220 units</td>
</tr>
<tr>
<td>Time Frame for Development</td>
<td>3± years</td>
<td>4± years</td>
<td>3± years</td>
<td>2± years</td>
<td>2± years</td>
<td>10± years4</td>
</tr>
</tbody>
</table>

Source: Rose-Breslin Associates, LLC & Dorade, LLC; Analysis by Nelson Pope & Voorhis, LLC.

* It is important to note that specifics regarding the breakdown of residential units during Phase 2 and Phase 3 are unknown as of the date of publication of this analysis. The distribution of condominiums and townhouses are likely to be determined by market conditions at the time of construction of each phase. However, for the purpose of this analysis, it is assumed that the construction of townhouses will be split evenly between Phase 2 and Phase 3. As such, the number of condominiums reflects the difference between the total number of residential units and the townhouses assumed to be developed under each phase.

4 It is important to note that this analysis assumes a construction period of five (5) phases over a period of ten (10) years. There may be some overlap in phasing with various phases constructed simultaneously, depending on market conditions at the time of final approval.
Construction of The Meadows at Yaphank PDD is anticipated to occur over a series of five phases and 10 years of construction, assuming that there is some overlap in phasing. Conversely, if it is assumed that each phase will be completed before the next phase begins, the construction period would extend over approximately 10 years. It is important to note that market conditions at the time of final approval may modify phasing to some degree, and the immediate need for additional commercial development in the early stages of the proposed project may lead to an accelerated schedule and/or phasing shifts.

**Phase 1** - is anticipated to include the construction of 51,200 SF of retail space, which includes a 14,700 SF pharmacy, a 3,500 SF bank, and 33,000 SF of other neighborhood retail spaces. In addition, Phase 1 will include the construction of 304 residential units, including all 144 of the rental units, and 160 condominiums. The village green and great lawn will be constructed as part of the residential phase and the reflecting pool will be constructed as part of the retail development. Primary access will be through Yaphank-Woods Boulevard with phased access improvements from Meadows Boulevard to William Floyd Parkway as determined by SCDPW. Required improvements to Yaphank-Woods Boulevard shall also be made during this phase. It is anticipated that Phase 1 will commence during the spring of 2012, and will last three (3) years.

**Phase 2** - is anticipated to include the construction of 150,000 SF of Class A office space, and 416 residential units. It is assumed that 306 of these units would be condominiums, and the remaining 110 units would be townhouses. As part of this phase, a secondary access point will be constructed to Yaphank-Woods Boulevard on the LIE access road, which will eventually connect to the LIE North Service Road. The village green will be constructed and the ball field area prepared for dedication as part of the residential phase. It is anticipated that Phase 2 will commence during the spring of 2015, upon the culmination of Phase 1, and is projected to last four years.

**Phase 3** - is anticipated to include the construction of 276,300 SF of retail space, including a 150,000 SF retail anchor store, a 65,000 SF supermarket, and 61,300 SF of additional neighborhood retail space. In addition, it is anticipated that the last 130 residential units will be constructed, including 20 condominiums and 110 townhouses. The community (civic) building will be constructed and the multi-purpose field area prepared for dedication as part of this phase. In addition, connection shall be made through the project from Yaphank-Woods Boulevard to the LIE. Phased off-site traffic improvements will be constructed as required based upon NYSDOT [New York State Department of Transportation] and SCDPW recommendations. It is anticipated that Phase 3 will commence during the spring of 2019, upon the completion of Phase 2 construction. Phase 3 is expected to last three years.

**Phase 4** - would include the construction of a 150,000 SF hotel, a 5,000 SF restaurant, and 150,000 SF of Class A office space. It is anticipated that Phase 4 will commence during spring of 2022, upon the completion of Phase 3 construction, and would last two years.

**Phase 5** - is anticipated to include 250,000 SF of office/flex space. Phase 5 will commence upon the completion of Phase 4 construction during the spring of 2024, and is projected to occur over a period of two years.
1.5.2 Construction Process, Construction Operations & Site Maintenance

Construction Process

The construction process will begin with establishment of flagged clearing limits, followed by staking of hay bales and silt fencing as necessary along the downslope part of construction areas and abutting Wetland B-16. Then, site clearing and grading operations can begin; construction equipment and vehicles will be parked and loaded/unloaded within the site, in order to minimize disturbance to adjacent and nearby residences. “Rumble strips” will be placed at the truck washdown station at the construction entrance, to prevent soil on truck tires from being tracked onto adjacent roadways. Because of the area of proposed development, the project will be phased so that limited areas of the site will be disturbed at any one time. It is expected that CR 46 and/or the LIE North Service Road will be the only roadways used for construction access. These roadways will not be used for construction equipment and vehicle/material storage or construction worker parking, as all such parking and staging will be within the site.

In order to minimize the time span that denuded soil is exposed to erosive elements, excavations for the curbs, roads, building foundations, STP connections and drainage system, ponds and other utility connections will take place immediately after grading operations have been completed. Construction of the residences and commercial structures can then begin within the phased areas, concurrent with the utility connections and paving of the internal roads. Once heavy construction is complete, finish grading will occur, followed by soil preparation using topsoil and installation of the landscaping, which will be performed while the structures are completed.

Construction Operations

The construction entity established by the applicant will be responsible for all construction activities, site grading, and installation of the erosion and sediment controls. An Erosion Control Plan will be submitted to the Town of Brookhaven Division of Planning for review and approval. Conceptually, a variety of temporary erosion and sediment controls will be provided to ensure soil stabilization and protection of exposed areas for the duration of construction period to the maximum practicable. The Erosion Control Plan to be prepared for the project will provide silt fencing to be installed where necessary along the limits of disturbance to minimize/prevent sediment from being transported within the site or onto adjacent properties. A continuous row of staked hay bales will also be installed around all grated drainage inlets to trap sediments in stormwater runoff as they are installed and a dust control and watering plan will also be instituted. The proposed locations, sizes, and lengths of each of the temporary erosion and sediment control practices planned during site construction activities, and the dimensions, material specifications, and installation details for all erosion and sediment control practices are also provided on the erosion control plan which will be prepared specific to the proposed project.

Truck routes for construction equipment and material deliveries will be established in coordination with the Town, and will utilize major non-residential roadways (i.e., CR 46, and/or the LIE North Service Road to the new LIE Access Road). Access to the property for construction purposes shall be determined based upon the final phasing as may be adjusted during site plan review.
These trips may cause inconvenience for local drivers, but would not increase truck traffic on adjacent roadways; in addition, this impact will be temporary and short term. A water truck will be available to wet dry soils and maintain interior transport roads in a manner that will reduce fugitive dust. Excavation associated with grading operations will occur within the interior of the site, thereby reducing potential impacts to neighbors from noise or dust. Departing trucks will cross rumble strips and use the washdown area at the site construction access prior to leaving the site, to reduce potential fugitive dust. There will be no washing or processing of excavated material on-site.

All grading and construction will take place during daytime hours, 5 days a week. The total construction area of about 212.67 acres in size will be divided into logical phased construction areas, and construction will be sequenced to minimize the length of time that activity will occur near the site perimeter. The overall design of the construction process and schedule will be formulated to minimize potential impacts to the neighborhood by minimizing the time span that construction occurs, as well as by mitigating potential impacts from noise and dust during this process.

Conformance with State and Town runoff and erosion control requirements during the construction phase are discussed in Section 1.4.5.

Site Maintenance

Utilities and Infrastructure - The applicant will own and maintain the development site and Dorade, Inc. will own the STP site. The owner, who will be responsible for continuing operation, will perform the STP improvements. Infrastructure and utility connections will be constructed by the developer/owner/applicant. It is intended that most roads be privately owned and maintained; however, if the Town is interested, the main access boulevard(s) could be offered for dedication. It is expected that there will be an umbrella condominium association, with sub-condominium associations for various components of the development. This will ensure that common utilities and infrastructure are properly operated and maintained. For the commercial portion of the project, pads will be either purchased or leased, and the occupant will be responsible for maintenance of those portions of the site.

Public Space - The project proposes dedication of parkland for athletic fields, civic building, basketball court and associated parking to the Town, as well as the access area to the Greenbelt Trail. However, the community spaces, pavilion and restrooms at the civic space (public plaza, great lawn and reflecting pool) will remain in private ownership.

Proposed Covenants and Restrictions - The applicant intends to offer an appropriate Declaration of Covenants and Restrictions (C&Rs) for the PDD zoning district once these are formulated through the review process. Possible C&Rs and/or agreements could include: measures to ensure that the proposed workforce housing units remain affordable and are administered properly under the auspices of the Town and/or Long Island Housing Partnership (LIHP); retention of open space; cross-access within the facility; and related matters.
1.6 Permits and Approvals Required

Prior to the issuance of any permits or approvals, the applicant and Lead Agency must fulfill the requirements of SEQRA. This Draft GEIS provides the Brookhaven Town Board (as lead agency under SEQRA) and all involved agencies with information necessary to render informed decisions on the PDD application. Once accepted, this document will be subject to public review, a public hearing and written comments, followed by a Final GEIS for any substantive comments. Upon completion of the Final GEIS, the Town Board will be responsible for the adoption of a Statement of Findings. Each involved agency will prepare its own Findings Statement independently of the lead agency, pursuant to SEQRA, prior to rendering its own decision on the project. Simultaneously, the Town Planning Division will review the PDD application and determine whether it is complete for public and agency review. A public hearing will be held on the PDD application and associated Master Plan (which includes the Land Use and Development Plan), possibly concurrent with the hearing on the Draft GEIS. Following this, and in consideration of the Findings Statement, the Town Board shall approve, conditionally approve, or disapprove the PDD application and Master Plan. If the project is approved or conditionally approved, the applicant may proceed to a Phase 2 Subdivision/Site Plan application. Table 1-7 presents a list of permits and approvals required for this project.

Table 1-7
PERMITS AND APPROVALS REQUIRED

<table>
<thead>
<tr>
<th>Board/Agency</th>
<th>Type of Permit/Approval</th>
<th>Current Status of Permit/Approval (as of September 2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Town Board</td>
<td>PDD Rezoning approval</td>
<td>Pending, submitted 5/19/2010</td>
</tr>
<tr>
<td></td>
<td>PDD Master Plan approval</td>
<td>Pending, submitted 5/19/2010</td>
</tr>
<tr>
<td>Town Planning Board</td>
<td>PDD Land Division approval</td>
<td>Pending, waiting on rezone approval</td>
</tr>
<tr>
<td></td>
<td>Site Plan approval</td>
<td>Pending, waiting on rezone approval</td>
</tr>
<tr>
<td>Town Building Dept.</td>
<td>Building Permit</td>
<td>Pending, waiting on Site Plan approval</td>
</tr>
<tr>
<td>Town Highway Dept.</td>
<td>Roadwork Permit</td>
<td>Pending, waiting on rezone approval</td>
</tr>
<tr>
<td>Town Assessor</td>
<td>Unit Designation Map</td>
<td>Pending, waiting on rezone approval</td>
</tr>
<tr>
<td>SCDHS</td>
<td>SCSC, Article 4 (Water Supply System)</td>
<td>Pending, waiting on rezone approval</td>
</tr>
<tr>
<td>SCDHS</td>
<td>SCSC, Article 6 (Sanitary System)</td>
<td>Pending, waiting on rezone approval</td>
</tr>
<tr>
<td>SCDPW/SCSA</td>
<td>STP Review &amp; Approval (Dorade STP)</td>
<td>Pending, waiting on rezone approval</td>
</tr>
<tr>
<td>SCPC*</td>
<td>General Municipal Law Section 239m review</td>
<td>Pending</td>
</tr>
<tr>
<td>SCWA</td>
<td>Water Supply Connection</td>
<td>Pending</td>
</tr>
<tr>
<td>SCDPW</td>
<td>Roadwork Access Authorization</td>
<td>Pending, waiting on rezone approval</td>
</tr>
<tr>
<td>NYSDOT</td>
<td>Roadwork Access Authorization</td>
<td>Pending, waiting on rezone approval</td>
</tr>
<tr>
<td>NYSDEC</td>
<td>Coverage under SPDES GP 0-10-001 General Permit</td>
<td>Pending, waiting on rezone approval</td>
</tr>
</tbody>
</table>

* Suffolk County Planning Commission.
SECTION 2.0

NATURAL ENVIRONMENTAL RESOURCES
2.0  NATURAL ENVIRONMENTAL RESOURCES

2.1  Topography

2.1.1  Existing Conditions

Regionally the area surrounding the site is dominated by a glacial moraine, which extends from the northwest, traverses the southern portion of the site and proceeds toward the southeast. The subject site exhibits a maximum elevation of approximately 156 feet above sea level (asl) within the northwestern end of the property and a minimum elevation of 54 feet asl in the southern portion of the property. Generally the site slopes from the northeast to the southwest and exhibits an irregular, undulating topography that was created by natural geologic factors as well as past use of the western parcel as a race track and clearing and grading activities associated with the race track and the start of construction on the mall site in 1995. Topographic maps of the project site are contained in pouches at the end of this document, as Map of Land Located in Yaphank, Sheet 2 (Eastern Parcel) and Sheet 3 (Western Parcel).

A majority of the property contains slopes ranging from 0% to 10%, however there are areas located primarily in the central portion of the site extending from north to south as well as the western and eastern corners of the site that exhibit slopes ranging from 11% to greater than 15%. A map depicting the results of a slope analysis conducted for the site is presented as Figure 2-1.

Within the northeast buffer area the dominant topographic feature consists of a depression containing wetland vegetative species. The wooded areas that surround the subject property exhibit slopes generally ranging from 1 to 5%. However, there are regions particularly in the northern and southern property sections that exhibit slopes greater than 15%. The cleared portions of the property predominantly contain slopes of 1 to 2% primarily due to grading activities previously conducted at the site.

2.1.2  Potential Impacts

It is anticipated that up to 203.63 acres of the Racetrack/BW site (or, 205.12 acres of the overall site) will be subject to grading operations. Development on the combined eastern/western parcels has intentionally been designed to occur on those areas that were previously used and/or cleared. This simultaneously reduces the amount of earthwork involved as well as removal of undisturbed natural vegetation, as regulated by the Pine Barrens Plan.

Earthwork is necessary to establish suitable slopes for the proposed roads, parking areas and building locations, in consideration of proper engineering for safe use of the site and the design parameters to allow safe access in conformance with the Americans with Disabilities Act (ADA). Grade transitions between developed and undeveloped areas will be made using slopes not to exceed 1:3; if necessary retaining walls may be needed to make suitable slope transitions and ensure that natural vegetation is retained at the edges of the development areas. All disturbed
soil areas will be stabilized in conformance with detailed site plans that will follow the change of zone process. All areas not occupied by buildings or paved surfaces will be retained as natural, established as recharge areas, and/or landscaped with native and very limited turf and ornamental landscape species. It is expected that, since the areas to be developed were previously subject to grading, the depths of cutting and filling would not be extensive. Excavations will be necessary for the drainage system, but extensive filling would also be necessary for the artificial depression associated with the former racetrack infield. Earthwork will be balanced to the maximum extent possible, with a small export of material possible as a result of drainage system excavation, foundations and footings. The applicant does not intend to remove excavated material from the site; the objective of the grading plan will be that any excess soil will be retained on-site and reused as fill.

A detailed Grading and Drainage Plan will be prepared as part of the Site Plan application, which will provide additional details of overall site grading, and will require Town Planning Division and Engineering Division reviews and Planning Board approval prior to implementation.

The clearing and grading process is expected to take 6-8 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 1.5.2 will ensure that sedimentation and erosion control measures are implemented.

Erosion and sedimentation control measures will be implemented during construction of the proposed project to minimize impacts to topographic resources. Specific control measures are presented in Section 1.4.5. In accordance with the NYSDEC Phase II SPDES Program, coverage under the General Permit will be obtained prior to the initiation of construction activities. Prior to filing for coverage under the General Permit, the NYSDEC requires that an 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. Conformance to the SWPPP will ensure compliance with water quality and quantity requirements pursuant to Technical Guidance and Town of Brookhaven Chapter 86 requirements. Additionally, the General Permit requires that inspections of the construction site be performed under the supervision of a qualified professional to ensure that erosion controls are properly maintained during the construction period.

The applicant will complete grading and development of sections of the site in conformance with the approved SWPPP. The Town requires that defined areas of the site be subject to development activities and that soil surfaces in these areas be stabilized before proceeding to new areas of development. For most site developments, the area of development at a given time is 5 acres; however, the Town has allowed up to 10 acres to be developed through SWPPP review. The amount of clearing will be determined during SWPPP review, and will be based on phasing and site conditions subject to Town review and approval. The development areas would be specified in the SWPPP and would be managed on-site to ensure that no erosion or sedimentation would occur.

Significant adverse impacts to topography of the site are not expected given the following considerations:
• There are no excessive slope areas on site that are proposed to be developed;
• The site will be balanced or may involve a small export of materials dependent upon final site grading plans;
• Slopes will be maintained at less than 1:3 for grade transition areas and/or limited retaining walls will be used to make grade transitions and ensure retention of natural vegetation;
• The project will be subject to a Notice of Intent (NOI), SWPPP and NOT for construction areas;
• Construction areas under development at one time will be limited to a specified acreage and segment of the site, as per the SWPPP.

2.1.3 Mitigation

• Construction access areas will be stabilized with stone and installed with rumble strips to knock off dirt before trucks enter adjoining roadways.
• A water truck will be available on-site when needed during construction activities to wet excessively dry soils.
• Site grading of exposed soil surfaces will not occur during time periods when winds exceed 20 miles per hour.
• Measures to be incorporated into the SWPPP and anticipated to be taken during the construction period which will minimize the potential for erosion include, but are not limited to 1) use of groundcovers; 2) minimize the time span that denuded soil is exposed to erosive elements; 3) use of drainage diversions; 4) use of soil traps; and 5) drainage structure inlet protection.

2.2 Soils

2.2.1 Existing Conditions

The Soil Survey of Suffolk County, New York 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 Plymouth-Carver Association (rolling and hilly) soils, which are deep, excessively drained, coarse textured soils on moraines. A total of eleven (11) soils have been identified on site; the locations of these soils are depicted in Figure 2-2.

Specific descriptions of the soils found on-site follow:
Carver and Plymouth sands, 0-3% slopes (CpA) - These soils are mainly on outwash plains; however, they are also found on some flatter hilltops and intervening draws on moraines. This unit can be made up entirely of Carver sand, entirely of Plymouth sand or a combination of the two. The Carver series consists of deep, excessively drained coarse-textured soils. The hazard for erosion is slight and natural fertility is low. Many of these areas which were cleared for farming are now idle. Most areas in the western part of the county and near the shores of the eastern part of the county are used for housing development.

Carver and Plymouth Sands, 3-15% slopes (CpC) - These soils are mainly on rolling moraines; however, they are also on the side slopes of many drainage channels on the outwash plains. Individual areas of this mapping unit are large on the rolling topography of the Ronkonkoma moraine, and in these areas slopes are complex. On the outwash plain, this unit is in long, narrow strips parallel to drainageways. This unit can be made up entirely of Carver sand, entirely of Plymouth sand, or of a combination of the two soils. The hazard of erosion is slight to moderate on the soils in this unit. The soils are droughty, and natural fertility is low. In some places, slope is a limitation to use. These sandy soils severely limit installation and maintenance of lawns and landscaping shrubs. Almost all of these soils are in woodlands.

Carver and Plymouth sands, 15-35% slopes (CpE) - The Carver series consists of deep, excessively drained coarse-textured soils. This soil type is found almost exclusively on moraines except for a few steep areas on side slopes along some of the more deeply cut drainage channels on outwash plains. This unit can be made up entirely of Carver sand, entirely of Plymouth sand, or of a combination of the two soils. The hazard for erosion is moderate to severe. These soils are also droughty and natural fertility is low. The moderately steep to steep slopes are a limitation to use. Areas in the western part and north shore of the county are used for homesites.

Haven loam, 0-2% slopes (HaA) - This soil has the profile described as representative of the series. It is mostly nearly level and generally is on outwash plains. Some areas of this soil are on moraines and generally are on the top of low-lying hills. Some of these areas are slightly undulating. Most areas of this soil are large, but on moraines the areas are smaller and are irregular in shape. The hazard of erosion is slight on this soil. Because of the nearly level slope and ease of excavation, most areas of this soil in the western part of the County are being used for housing developments and industrial parks.

Haven loam, 2-6% slopes (HaB) - This soil is on outwash plains and moraines, commonly along shallow, intermittent drainage channels. Slopes are short. In larger areas this soil is mostly undulating. Most areas of this soil are smaller than the areas of haven loam 0-2% slopes. The hazard of erosion is moderate to slight on this Haven soil. Management concerns are controlling runoff and erosion and keeping the surface loose and free from crusting.

Muck (Mu) - Muck is made up of very poorly drained organic soils that formed in partly decomposed or almost completely decomposed woody or herbaceous plants. The areas generally are nearly level and occur in the bottom of closed depressions or kettle holes and along a few of the larger streams. Most areas are along the Peconic River and near Montauk in many depressions that are irregular in shape. A few areas, however, are between tidal marshes and areas of better drained upland soils. Almost all of this land type is in woodland or marsh grass. It is better suited to habitat for wetland wildlife than to other uses.

Plymouth loamy sand, 0-3% slopes (PlA) - These soils consists of deep, excessively drained, coarse-textured soils that form a mantle of loamy sand or sand over thick layers of stratified coarse sand and
gravel. These soils are mainly on outwash plains south of the Ronkonkoma moraine. The areas are generally level, but undulate in some areas. The hazard of erosion is slight. In the western portion of the county, this soil unit is used for housing developments and as industrial sites.

*Plymouth loamy sand, 3-8% slopes (PlB)* - This soil has the profile described as representative of the series. It is mainly on outwash plains south of the Ronkonkoma moraine. It is also on flat hilltops and in drainageways on morainic deposits. The areas generally are nearly level, but they are somewhat undulating in places. Areas on outwash plains are large and uniform, and areas on the moraine are small and irregular. The hazard of erosion is slight on this soil. Many areas were formerly cleared for farming, but most of these areas are idle or are in brush or trees. In the western part of the County, most of this soil is used for housing developments and as industrial sites.

*Plymouth loamy sand, 8-15% slopes (PlC)* - This moderately sloping soil is on moraines and outwash plains. Where it occurs on moraines, slopes are rolling in many places, and the surface is broken by close depressions. On outwash plains, this soil is on the short side slopes along intermittent drainageways. Areas on moraines are fairly large, but most other areas are small and long and narrow. The hazard of erosion is moderate to severe because of slope and the sandy texture of this soil. Most of this soil is wooded. Small acreages are cleared and are farmed with adjoining areas of level or gently sloping soils. Such areas are used mainly for growing grasses, but some areas are idle. Where extensive excavation is not needed, some areas are used for estate-type housing developments.

*Riverhead sandy loam, 0-3% slopes (RdA)* - This soil is generally on outwash plains where it has a slope characteristic of this landform and are in areas that are large and uniform. These soils consist of deep, well-drained, moderately coarse textured soils that are uniform in a mantle of sandy loam or fine sandy loam over thick layers of coarse sand and gravel. The hazard of erosion is slight on this soil. This soil is limited only by moderate droughtiness in moderately coarse textured solum.

*Riverhead sandy loam, 3-8% slopes (RdB)* - This soil is on moraines and outwash plains. It generally is in areas along shallow, intermittent drainageways. Slopes generally are moderately short, but large areas on moraines are undulating. The hazard of erosion is moderate to slight on this Riverhead soil. The main concerns of management are controlling runoff and erosion and providing adequate moisture.

The Soil Survey was also consulted for information on the potential limitations for development that the soils may present. Such constraints for the soils are summarized in Table 2-1. As noted in the table, eight of these soils pose “moderate” to “severe” limitations for development due specifically, to steep slopes and a sandy surface layer. In addition, one soils (Muck, Mu) also poses severe limitations to development due to prolonged high water table above depth of ½-foot with some ponding, but occurs in the central-northern portion of the site, which will not be developed. The implications of these constraints with respect to development will be discussed in Section 2.2.2.
Table 2-1
SOIL LIMITATIONS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Carver and Plymouth sands, 0-3% slopes (CpA)</th>
<th>Carver and Plymouth Sands, 3-15% slopes (CpC)</th>
<th>Carver and Plymouth sands, 15-35% slopes (CpE)</th>
<th>Haven loam, 0-2% slopes (HaA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highway location</td>
<td>Poor trafficability</td>
<td>Poor trafficability; extensive cuts and fills likely</td>
<td>Strength generally adequate for high embankments; slight settlement</td>
<td>Very shallow cuts have nonuniform subgrade in places</td>
</tr>
<tr>
<td>Embankment foundation</td>
<td>Strength generally adequate for high embankments; slight settlement</td>
<td>Strength generally adequate for high embankments; slight settlement; moderately steep to steep slopes on CpE soils.</td>
<td>Strength generally adequate for high embankments; slight settlement</td>
<td></td>
</tr>
<tr>
<td>Foundations for low buildings</td>
<td>Low compressibility; large settlement possible under vibratory load</td>
<td>Low compressibility</td>
<td>Low compressibility</td>
<td></td>
</tr>
<tr>
<td>Irrigation</td>
<td>Very low available moisture capacity; rapid water intake</td>
<td>Very low available moisture capacity; rapid water intake; moderate and moderately steep to steep slopes</td>
<td>No unfavorable features</td>
<td></td>
</tr>
<tr>
<td>Sewage disposal fields</td>
<td>Slight</td>
<td>Slight to moderate: slopes in places</td>
<td>Severe: slopes</td>
<td></td>
</tr>
<tr>
<td>Streets and parking lots</td>
<td>Slight</td>
<td>Slight to moderate: slopes in places</td>
<td>Severe: slopes</td>
<td></td>
</tr>
<tr>
<td>Lawns and landscaping</td>
<td>Moderate to severe: slopes</td>
<td>Severe: slopes</td>
<td>Severe: slopes</td>
<td></td>
</tr>
<tr>
<td>Paths and trails</td>
<td>Moderate to severe: slopes</td>
<td>Severe: slopes</td>
<td>Severe: slopes</td>
<td></td>
</tr>
<tr>
<td>Picnic/play areas</td>
<td>Severe: sandy surface layer</td>
<td>Severe: sandy surface layer</td>
<td>Severe: sandy surface layer</td>
<td></td>
</tr>
<tr>
<td>Athletic and intensive play areas</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Soil Features Affecting:

Highway location: Poor trafficability; extensive cuts and fills likely

Embankment foundation: Strength generally adequate for high embankments; slight settlement

Foundations for low buildings: Low compressibility; large settlement possible under vibratory load

Irrigation: Very low available moisture capacity; rapid water intake

Sewage disposal fields: Slight to moderate: slopes in places

Streets and parking lots: Severe: slopes

Lawns and landscaping: Severe: slopes

Paths and trails: Severe: slopes

Picnic/play areas: Severe: sandy surface layer

Athletic and intensive play areas: Severe: sandy surface layer

Irrigation: Very low available moisture capacity; rapid water intake; moderate and moderately steep to steep slopes

Foundations for low buildings: Low compressibility

Irrigation: No unfavorable features

Limitations for:

Highway location: Poor trafficability; extensive cuts and fills likely

Embankment foundation: Strength generally adequate for high embankments; slight settlement

Foundations for low buildings: Low compressibility; large settlement possible under vibratory load

Irrigation: Very low available moisture capacity; rapid water intake; moderate and moderately steep to steep slopes

Sewage disposal fields: Slight to moderate: slopes in places

Streets and parking lots: Severe: slopes

Lawns and landscaping: Severe: slopes

Paths and trails: Severe: slopes

Picnic/play areas: Severe: sandy surface layer

Athletic and intensive play areas: Severe: sandy surface layer

Irrigation: No unfavorable features

Limitations for:

Highway location: Poor trafficability; extensive cuts and fills likely

Embankment foundation: Strength generally adequate for high embankments; slight settlement

Foundations for low buildings: Low compressibility; large settlement possible under vibratory load

Irrigation: Very low available moisture capacity; rapid water intake; moderate and moderately steep to steep slopes

Sewage disposal fields: Slight to moderate: slopes in places

Streets and parking lots: Severe: slopes

Lawns and landscaping: Severe: slopes

Paths and trails: Severe: slopes

Picnic/play areas: Severe: sandy surface layer

Athletic and intensive play areas: Severe: sandy surface layer

Irrigation: No unfavorable features

Limitations for:

Highway location: Poor trafficability; extensive cuts and fills likely

Embankment foundation: Strength generally adequate for high embankments; slight settlement

Foundations for low buildings: Low compressibility; large settlement possible under vibratory load

Irrigation: Very low available moisture capacity; rapid water intake; moderate and moderately steep to steep slopes

Sewage disposal fields: Slight to moderate: slopes in places

Streets and parking lots: Severe: slopes

Lawns and landscaping: Severe: slopes

Paths and trails: Severe: slopes

Picnic/play areas: Severe: sandy surface layer

Athletic and intensive play areas: Severe: sandy surface layer

Irrigation: No unfavorable features

Limitations for:
### SOIL LIMITATIONS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Haven loam, 2-6% slopes (HaB)</th>
<th>Muck (Mu)</th>
<th>Plymouth loamy sand, 0-3% slopes (PIA)</th>
<th>Plymouth loamy sand, 3-8% slopes (PIB)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Soil Features Affecting:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highway location</td>
<td>Very shallow cuts have nonuniform subgrade in places</td>
<td>*</td>
<td>No unfavorable features</td>
<td>---</td>
</tr>
<tr>
<td>Embankment foundation</td>
<td>Strength generally adequate for high embankments; slight settlement</td>
<td>*</td>
<td>Strength generally adequate for high embankments; slight settlement</td>
<td></td>
</tr>
<tr>
<td>Foundations for low buildings</td>
<td>Low compressibility</td>
<td>*</td>
<td>Low compressibility</td>
<td></td>
</tr>
<tr>
<td>Irrigation</td>
<td>No unfavorable features</td>
<td>*</td>
<td>No unfavorable features</td>
<td>Very low available moisture capacity; rapid water intake</td>
</tr>
<tr>
<td><strong>Limitations for:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sewage disposal fields</td>
<td>Slight</td>
<td>Severe; prolonged high water table above depth of ½-foot¹</td>
<td>Slight</td>
<td>Slight</td>
</tr>
<tr>
<td>Streets and parking lots</td>
<td>Moderate: slopes</td>
<td>Severe; prolonged high water table above depth of ½-foot with some ponding¹</td>
<td>Severe; prolonged high water table above depth of ½-foot; slopes</td>
<td>Moderate: slopes</td>
</tr>
<tr>
<td>Lawns and landscaping</td>
<td>Slight</td>
<td>Severe; prolonged high water table above depth of ½-foot with some ponding¹</td>
<td>Severe: sandy surface layer</td>
<td></td>
</tr>
<tr>
<td>Paths and trails</td>
<td></td>
<td>Severe; prolonged high water table above depth of ½-foot¹</td>
<td>Moderate: sandy surface layer</td>
<td>Moderate: sandy surface layer; slopes</td>
</tr>
<tr>
<td>Picnic/play areas</td>
<td></td>
<td>Moderate: slopes</td>
<td>Moderate: sandy surface layer</td>
<td></td>
</tr>
<tr>
<td>Athletic and intensive play areas</td>
<td></td>
<td>Moderate: slopes</td>
<td>Moderate: sandy surface layer</td>
<td>Severe: sandy surface layer; slopes</td>
</tr>
</tbody>
</table>
### Table 2-1 (cont’d)
#### SOIL LIMITATIONS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Plymouth loamy sand, 8-15% slopes (PIC)</th>
<th>Riverhead sandy loam, 0-3% slopes (RdA)</th>
<th>Riverhead sandy loam, 3-8% slopes (RdB)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Soil Features Affecting:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highway location</td>
<td>Extensive cuts and fills likely</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Embankment foundation</td>
<td>Strength generally adequate for high embankments; slight settlement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foundations for low buildings</td>
<td>Low compressibility; moderate slopes</td>
<td>Low compressibility</td>
<td></td>
</tr>
<tr>
<td>Irrigation</td>
<td>Very low available moisture capacity; rapid water intake; moderate slopes</td>
<td>Moderate to rapid water intake; moderate available moisture capacity</td>
<td></td>
</tr>
<tr>
<td><strong>Limitations for:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sewage disposal fields</td>
<td>Moderate: slopes</td>
<td></td>
<td>Slight</td>
</tr>
<tr>
<td>Streets and parking lots</td>
<td>Severe: slopes</td>
<td></td>
<td>Moderate: slopes</td>
</tr>
<tr>
<td>Lawns and landscaping</td>
<td>Severe: sandy surface layer</td>
<td></td>
<td>Slight</td>
</tr>
<tr>
<td>Paths and trails</td>
<td>Moderate: sandy surface layer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Picnic/play areas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Athletic and intensive play areas</td>
<td>Severe: slopes</td>
<td></td>
<td>Moderate: slopes</td>
</tr>
</tbody>
</table>

* Per Soil Survey, not included because characteristics are too variable to estimate

1 The depth to water in vicinity of the site is approximately 49 to 89 feet below ground surface. Therefore these limitations are not expected to be present at the site due to a shallow water table.
2.2.2 Potential Impacts

Developed surfaces are considered to be the sum of building coverage (“footprint”), paved areas (sidewalks, parking areas, etc.) and lawn/landscaped areas (both fertilized and revegetated); it is anticipated that these are the areas that would be graded for the project. Table 1-4 indicates that 203.63 acres within the Racetrack/BW site would be cleared (or, 205.12 acres of the overall site), it is anticipated that this is the acreage to be graded.

Eight of the soils found on the subject site pose “moderate” to “severe” limitations due to slopes, and a sandy surface layer. These limitations relate to several project features, which include sewage disposal fields, streets and parking areas as well as lawns and landscaping. Six of these soils (CpE, RdB, PIA, PIB, PIC, and HaB) comprise a majority of the site that will underlie the buildings, paved areas and landscaping. Site-specific conditions must however be considered, in order to design a compatible project. The total area of the site underlain by these soils is approximately 80%. The developed portions of these areas will be initially graded or re-graded (to provide an acceptable surface on which development can occur), followed by the installation of landscaping or soil stabilization controls (retaining walls, etc.). Methods of site construction and development will be employed to ensure that slope constraints and/or a sandy surface layer to not present an impediment to the safe and environmentally appropriate use of the site.

On-site topographic mapping and previous grading activities indicate that the area of the site proposed for development has been significantly disturbed and generally maintains a relatively flat topographic relief which does not contain any significant natural slopes. As a result limitations due to slopes will mostly be mitigated through careful design of a final grading plan at the time of site plan review. In addition, an estimated 36.22% of the overall site (120.79 acres) will remain in natural vegetation; within only the Racetrack/BW site, 115.24 acres, or 35.75%, will remain natural. As a result, disturbance will occur in already disturbed areas, and site plan engineering will be used to ensure suitable grade transitions and protection of natural soils on site.

Plantings in landscaped areas will require some soil amendment to ensure that species will survive, as well as use of drought resistant vegetative landscaping species to mitigate limitations related to sandy surface layers. Soil limitations related to sewage disposal systems will not be applicable since all sanitary effluent will be directed off-site to the Dorade STP for disposal. It is noted that stormwater runoff will be contained on site and will use a combination of stormwater recharge reserve areas, leaching pools and rain gardens within the developed sections serving the internal roadways and parking areas. These systems will be designed for the specific site conditions based on test holes which will ensure suitable soil recharge locations, as well as surface detention areas biological filtration systems. The sandy surface layer conditions are not expected to cause an impediment to drainage systems on the site.

Measures anticipated to be taken during the construction period which will minimize the potential for erosion include, but are not limited to 1) use of groundcovers; 2) minimize the time span that denuded soil is exposed to erosive elements; 3) use of drainage diversions; 4) use of soil traps; and 5) use of retaining walls which reduce the area required for grading. As a result of these measures, it is not anticipated that soil erosion will constitute a significant impact.
2.2.3 Mitigation

- Mitigation measures identified in Section 2.1.3 are applicable here with respect to soils.
- Location of development in primarily existing cleared areas thus leaving natural, undisturbed
  Ensure proper grading plans, erosion control plans and SWPPPs to address identified slope
  limitations associated with some on-site soils.
- Plantings in unpaved areas will consist of drought resistant vegetative landscaping species to
  mitigate limitations related to sandy surface layers.
- Convey sanitary waste to Dorade STP to mitigate sandy surface layer limitation with respect to
  sewage disposal.
- Conduct test borings to locate appropriate soils for stormwater recharge, detention, biofiltration
  and related leaching systems to mitigate potential impact with regard to sandy surface layer with
  respect to stormwater handling.

2.3 Water

2.3.1 Existing Conditions

Groundwater Hydrology
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. 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 farther inland generally flows vertically to deeper aquifers before flowing
toward the shores.

The major water-bearing units beneath the subject site include the Upper Glacial aquifer, the
Magothy aquifer, and the Lloyd aquifer. The top altitude of the Upper Glacial aquifer is equal to
the topographic elevation of the property, which ranges from 54 to 156 feet asl and ranges in
thickness from 179 to 281 feet. The top of the Magothy aquifer is approximately 125 feet below
sea level (bsl) and exhibits an approximate thickness of 825 feet. The Lloyd aquifer is 1,100 feet
bsl and exhibits a thickness of 325 feet. Bedrock is present at a depth of about 1,425 feet bsl.
Groundwater is encountered at an elevation of approximately 35 feet asl. The topographic
elevation ranges from 86 feet to the south and 124 feet on the north side of the site. Therefore
the depth to water ranges from 49 feet to 89 feet below ground surface (bgs). Regionally
groundwater is observed to flow in a southerly direction. However groundwater at the site may
exhibit a slight southwesterly component due to the presence of the Carmans River to the
southwest of the site. The regional groundwater flow direction can be found in Figure 2-3.
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. 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.

**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 SCWA for the nearest public supply well field in the area of the site and from Brookhaven National Laboratory related to several contaminant plumes associated with the facility. The following paragraphs summarize water quality information available from these sources.

The Brookhaven National Laboratory (BNL) located in Upton, east of the subject site was contacted regarding several contaminant plumes emanating from the research facility. Groundwater contamination of the underlying aquifers in the vicinity of the subject site is related to past disposal practices, equipment failures and experiments which occurred at BNL. Contamination detected in groundwater on the BNL site consists of several volatile and semi volatile organic compound plumes as well as radiological isotopes used in research experiments conducted at the laboratory. Only volatile and semi volatile organic compounds have been detected beyond the boundaries of the BNL property. All radiological isotope contamination, consisting of tritium and strontium 90 are confined within the south central portion of the BNL property. Presently, groundwater treatment systems are being utilized to remediate groundwaters contaminated with radiological isotopes to prevent further migration and restore the impacted aquifers. Correspondence with the SCWA in regard to current water quality at the William Floyd Parkway wellfield, the facility nearest the site and from which the proposed project will be supplied, (see Appendix H) states:

Lastly, there are no known or anticipated impacts to the William Floyd Parkway wellfield from the operations at the Brookhaven National Laboratory.

Groundwater contamination found to be migrating off-site from BNL is associated with two administratively identified Operable Units (OU) currently being monitored and remediated by BNL. The first, identified as OU VI consists of a 340-acre area in the south/southeast portion of BNL. This area has historically been used for agricultural experiments and biological treatment of sewage treatment plant solids (U.S. Dept. of Energy website, July, 2001, www.bnl.gov/ead/water/descript.html). Associated with this area is an ethylene dibromide (EDB) plume that has been detected migrating south beyond BNLS southern property line. **Figure 2-4** presents the location and flow direction of the plume in relation to the property to be utilized for the proposed project. As illustrated in this figure, the flow path of this plume will not
cause it to flow beneath the subject site; the plume has traveled south and away from the site. EDB is a pesticide that was used at BNL during agricultural experiments during the 1960s and 1970s. Concentrations within the plume have been observed above the New York State and federal drinking water standard of 0.05 parts per billion (ppb; or micrograms per liter, μg/l) established for EDB at levels as high as 3.5 ppb. BNL is currently devising a remediation strategy to remove EDB from groundwater underlying BNL and off-site areas. Based on the location of the plume, the direction of groundwater flow and the remedial measures to be undertaken by BNL, the EDB plume will not impact groundwater resources underlying the subject property.

The second operable unit, identified as OU III, consists of several volatile organic contaminant and radiological isotope plumes in the central and southern portions of the BNL property (U.S. Dept. of Energy website, July, 2001, www.bnl.gov/ead/water/descript.html). Figure 2-5 presents the location and extent of the contaminant plumes associated with OU III. As mentioned previously, none of the radiological isotope plumes associated with this operable unit are migrating off of the BNL property and remedial measures are planned or have been initiated to address these plumes. Based on the proposed or active remediation activities, the location of the plumes within the BNL property and the direction of groundwater flow, these plumes will not impact the proposed project site.

Three volatile organic plumes have been identified that extend beyond the southern boundary of BNL. According to information posted on the BNL website (http://www.bnl.gov/community/cleanup/Groundwater.asp) between 1996 and 2005, a total of 16 groundwater treatment systems were constructed to treat volatile organic compound (VOC) contamination in the groundwater aquifer. Seven treatment systems were constructed on BNL property, with three of these positioned along the BNL’s southern boundary to prevent additional contaminants from moving beyond its boundaries. In addition, six other systems were built south of BNL to address VOC contamination that had moved off-site. As of 2008, the treatment systems had remediated more than 12.8 billion gallons of water and removed approximately 5,900 pounds of VOCs from the groundwater.

Based on the remedial measures initiated, the location and flow direction of the plume and the regional of groundwater flow it is not anticipated that these volatile organic plumes will impact the proposed project site.

The SCCWRMP provides historic information on water quality from 0 to 100 feet below the water table based on observation wells as well as public and private water supply and well monitoring conducted prior to 1987. With respect to nitrate-nitrogen at a depth into the aquifer of between 0 and 100 feet, the Plan shows the subject site as lying within a “good” area in terms of water quality (1 to 6 mg/l of nitrogen). Insufficient nitrate-nitrogen concentration information is available for depths of 100 to 400 feet beneath the site to draw conclusions regarding water quality beneath the site. The Plan also provides information regarding concentrations of VOCs in groundwater. Groundwater quality in the vicinity of the site is also “good” (less than 60% of applicable guidelines), although there are detectable levels of some compounds at a depth of 0 to 100 feet. Insufficient water quality information is available from the area of the site for water at a depth of 100 to 400 feet. VOCs are synthetic organic compounds such as degreasers, oil
additives, solvents and pesticides. They are typically introduced to groundwater through chemical manufacturing, dry cleaning, fuel spills, agricultural practices and improper disposal of both household and industrial wastes.

The SCWA provided groundwater quality information from the wellfield located in the vicinity of the site (see Table 2-2). The William Floyd Parkway wellfield is found on CR 46 approximately 1,900 feet to the northeast of the site. The wellfield is comprised of a network consisting of three wells identified as S47436, S47437 and S47438. Two of the wells (S47436 and S47437) are screened in the Upper Glacial aquifer at depths of 196 feet bgs and 179 feet bgs, respectively. The third well (S47438) is screened in the Magothy aquifer to a depth of 269 feet bgs. Analytical results from each of these wells provide data representative of groundwater quality within the portions of the Upper Glacial and Magothy aquifers underlying the well field that is the nearest SCWA facility to the site. Analytical results did not indicate the presence of any pesticides, volatile or semi volatile organic compounds in the samples tested. None of the substances were detected above their respective NYSDEC Ambient Water Quality Standards with the exception of pH, which is naturally low on Long Island. As a result, water quality from this source is considered to be excellent.

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

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Average Value</th>
<th>Maximum Contaminant Limit (MCL)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inorganic Compounds</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alkalinity, total mg/l</td>
<td>40.8</td>
<td>[n]</td>
</tr>
<tr>
<td>Aluminum, mg/l</td>
<td>0.05</td>
<td>[n]</td>
</tr>
<tr>
<td>Ammonia, free mg/l</td>
<td>ND</td>
<td>[n]</td>
</tr>
<tr>
<td>Antimony, μg/l</td>
<td>ND</td>
<td>6</td>
</tr>
<tr>
<td>Arsenic, μg/l</td>
<td>1.1</td>
<td>10</td>
</tr>
<tr>
<td>Barium, mg/l</td>
<td>ND</td>
<td>2</td>
</tr>
<tr>
<td>Boron, mg/l</td>
<td>ND</td>
<td>[n]</td>
</tr>
<tr>
<td>Parameter</td>
<td>Unit</td>
<td>Value</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>------</td>
<td>-------</td>
</tr>
<tr>
<td>Bromide, mg/l</td>
<td>ND</td>
<td>[n]</td>
</tr>
<tr>
<td>Calcium, mg/l</td>
<td>16.2</td>
<td>[n]</td>
</tr>
<tr>
<td>CO₂, calculated mg/l</td>
<td>3.3</td>
<td>[n]</td>
</tr>
<tr>
<td>Chloride, mg/l</td>
<td>13.0</td>
<td>250</td>
</tr>
<tr>
<td>Chromium, total, µg/l</td>
<td>ND</td>
<td>100</td>
</tr>
<tr>
<td>Cobalt-59, µg/l</td>
<td>0.7</td>
<td>[n]</td>
</tr>
<tr>
<td>Color, color units</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>Copper, mg/l</td>
<td>ND</td>
<td>AL=1.3</td>
</tr>
<tr>
<td>Dissolved solids, total mg/l</td>
<td>86</td>
<td>[n]</td>
</tr>
<tr>
<td>Flouride, mg/l</td>
<td>ND</td>
<td>2.2</td>
</tr>
<tr>
<td>Hardness, total mg/l</td>
<td>54.9</td>
<td>[n]</td>
</tr>
<tr>
<td>Iron, µg/l</td>
<td>49</td>
<td>300</td>
</tr>
<tr>
<td>Lead, µg/l</td>
<td>ND</td>
<td>AL=15</td>
</tr>
<tr>
<td>Lithium, µg/l</td>
<td>ND</td>
<td>[n]</td>
</tr>
<tr>
<td>Magnesium, mg/l</td>
<td>3.51</td>
<td>[n]</td>
</tr>
<tr>
<td>Manganese, µg/l</td>
<td>ND</td>
<td>300</td>
</tr>
<tr>
<td>Molybdenum, µg/l</td>
<td>ND</td>
<td>[n]</td>
</tr>
<tr>
<td>Nickel, µg/l</td>
<td>0.9</td>
<td>100</td>
</tr>
<tr>
<td>Nitrate, mg/l</td>
<td>1.16</td>
<td>10</td>
</tr>
<tr>
<td>Perchlorate, µg/l</td>
<td>0.24</td>
<td>15</td>
</tr>
<tr>
<td>Phosphate, total mg/l</td>
<td>ND</td>
<td>[n]</td>
</tr>
<tr>
<td>pH</td>
<td>7.4</td>
<td>[n]</td>
</tr>
<tr>
<td>pH, field pH units</td>
<td>7.3</td>
<td>[n]</td>
</tr>
<tr>
<td>Potassium, mg/l</td>
<td>0.87</td>
<td>[n]</td>
</tr>
<tr>
<td>Selenium, µg/l</td>
<td>ND</td>
<td>50</td>
</tr>
<tr>
<td>Silicon, mg/l</td>
<td>7.9</td>
<td>[n]</td>
</tr>
<tr>
<td>Sodium,</td>
<td>8.7</td>
<td>[n]</td>
</tr>
<tr>
<td>Specific conductance, µmho/cm</td>
<td>165</td>
<td>[n]</td>
</tr>
<tr>
<td>Strontium-88, mg/l</td>
<td>0.05</td>
<td>[n]</td>
</tr>
<tr>
<td>Sulfate, mg/l</td>
<td>12.4</td>
<td>250</td>
</tr>
<tr>
<td>Temperature, field °Centigrade</td>
<td>12</td>
<td>[n]</td>
</tr>
<tr>
<td>Tin, µg/l</td>
<td>ND</td>
<td>[n]</td>
</tr>
<tr>
<td>Titanium, µg/l</td>
<td>ND</td>
<td>[n]</td>
</tr>
<tr>
<td>Total Organic Carbon (TOC), mg/l</td>
<td>0.32</td>
<td>[n]</td>
</tr>
<tr>
<td>Turbidity, NT units</td>
<td>0.62</td>
<td>5</td>
</tr>
<tr>
<td>Vanadium, µg/l</td>
<td>1.1</td>
<td>[n]</td>
</tr>
<tr>
<td>Zinc, mg/l</td>
<td>ND</td>
<td>5</td>
</tr>
</tbody>
</table>

**Synthetic Organic Compounds, Pesticides and Herbicides**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Unit</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alachlor, ESA µg/l</td>
<td>ND</td>
<td>50</td>
</tr>
<tr>
<td>Aldicarb sulfone, µg/l</td>
<td>ND</td>
<td>*7</td>
</tr>
<tr>
<td>Aldicarb sulfoxide, µg/l</td>
<td>ND</td>
<td>*7</td>
</tr>
<tr>
<td>1,4-Dioxane, µg/l</td>
<td>N/A</td>
<td>50</td>
</tr>
<tr>
<td>Metalaxyl, µg/l</td>
<td>ND</td>
<td>50</td>
</tr>
<tr>
<td>Metolachlor, µg/l</td>
<td>ND</td>
<td>50</td>
</tr>
<tr>
<td>Metolachlor ESA, µg/l</td>
<td>ND</td>
<td>50</td>
</tr>
<tr>
<td>Metolachlor OA, µg/l</td>
<td>ND</td>
<td>50</td>
</tr>
<tr>
<td>Tetrachloroterephthalic Acid (TCPA), µg/l</td>
<td>1.4</td>
<td>50</td>
</tr>
</tbody>
</table>
Volatile Organic Compounds

<table>
<thead>
<tr>
<th>Compound</th>
<th>ND</th>
<th>**80</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorodifluoromethane</td>
<td>ND</td>
<td></td>
</tr>
<tr>
<td>Cis-1,2-Dichloroethene, µg/l</td>
<td>ND</td>
<td>5</td>
</tr>
<tr>
<td>Dichlorodifluoromethane, µg/l</td>
<td>ND</td>
<td>5</td>
</tr>
<tr>
<td>1,1-Dichloroethane, µg/l</td>
<td>ND</td>
<td>5</td>
</tr>
<tr>
<td>1,1-Dichloroethene, µg/l</td>
<td>ND</td>
<td>5</td>
</tr>
<tr>
<td>1,2-Dichloroethane, µg/l</td>
<td>ND</td>
<td>5</td>
</tr>
<tr>
<td>1,2-Dichloropropane, µg/l</td>
<td>ND</td>
<td>5</td>
</tr>
<tr>
<td>1,4-Dichlorobenzene, µg/l</td>
<td>ND</td>
<td>5</td>
</tr>
<tr>
<td>Methyl-Tert-Butyl Ether (MTBE), µg/l</td>
<td>ND</td>
<td>10</td>
</tr>
<tr>
<td>Tetrachloroethene, µg/l</td>
<td>0.8</td>
<td>5</td>
</tr>
<tr>
<td>1,1,1-Trichloroethane, µg/l</td>
<td>0.5</td>
<td>5</td>
</tr>
<tr>
<td>Trichloroethene, µg/l</td>
<td>ND</td>
<td>5</td>
</tr>
<tr>
<td>Trichlorofluoromethane, µg/l</td>
<td>ND</td>
<td>5</td>
</tr>
<tr>
<td>1,2,3-Trichloropropane, µg/l</td>
<td>ND</td>
<td>5</td>
</tr>
<tr>
<td>1,1,2-Trichlorotrifluoroethane, µg/l</td>
<td>ND</td>
<td>5</td>
</tr>
</tbody>
</table>

Disinfection By-Products

<table>
<thead>
<tr>
<th>Compound</th>
<th>µg/l</th>
<th>[n]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bromochloroacetic-Acid, µg/l</td>
<td>0.9</td>
<td>[n]</td>
</tr>
<tr>
<td>Bromodichloroacetic-Acid, µg/l</td>
<td>ND</td>
<td>[n]</td>
</tr>
<tr>
<td>Bromodichloromethane, µg/l</td>
<td>ND</td>
<td>80**</td>
</tr>
<tr>
<td>Bromoform, µg/l</td>
<td>ND</td>
<td>80**</td>
</tr>
<tr>
<td>Chlorate, µg/l</td>
<td>ND</td>
<td>[n]</td>
</tr>
<tr>
<td>Chlorine, residual, mg/l</td>
<td>0.9</td>
<td>4</td>
</tr>
<tr>
<td>Chloroform, µg/l</td>
<td>0.7</td>
<td>80**</td>
</tr>
<tr>
<td>Dibromochloromethane, µg/l</td>
<td>ND</td>
<td>80**</td>
</tr>
<tr>
<td>Haloacetic Acids, total, µg/l</td>
<td>2.2</td>
<td>60</td>
</tr>
<tr>
<td>N-nitroso-di-n-butylamine (NDBA), µg/l</td>
<td>ND</td>
<td>50</td>
</tr>
<tr>
<td>N-nitroso-dimethylamine (NDMA), µg/l</td>
<td>ND</td>
<td>50</td>
</tr>
<tr>
<td>Trihalomethanes, total, µg/l</td>
<td>3.5</td>
<td>80</td>
</tr>
</tbody>
</table>

ND - Not detected.
[n] - No standards for parameter
AL - Action Level.
** The MCL is the sum of the four ** compounds.

In 1982, the Long Island Regional Planning Board 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 US Geological Survey (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:

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

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 later in this subsection.

Special Groundwater Protection Area Plan (SGPA; 1992) - The Long Island SGPA Plan was prepared by the Long Island Regional Planning Board to study land use and groundwater quality within the several SGPAs 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. Where restrictions of the Pine Barrens Plan, as promulgated under the Long Island Pine Barrens Protection Act, duplicate those of the SGPA Plan, the former
supersedes those of the latter. The following presents the applicable recommendations of the SGPA Plan.

The 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).

Recommendations provided in the report include general groundwater management recommendations, as well as mapping of recommendations for specific geographic locations within the study area. The plan recommends Planned Unit Development (PUD) mixed use for the subject site, included as Figure 2-6.

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.”

Specific recommendations for the western sector of the Central Suffolk SGPA include the following:

1. Suffolk County should continue its efforts to upgrade, consolidate and expand sewage collection and treatment within the northwest portion of this sector.
2. The County, alone or in conjunction with New York State and the Town of Brookhaven, should acquire and preserve the watershed lands described under “Opportunities”. The proposed acquisitions include but are not limited to the Warbler Woods tract in Yaphank, the Coram wetlands, Camp Olympia, a parcel at the headwaters of the Peconic River and various smaller properties adjacent to or linking existing public lands.
3. The Town of Brookhaven should concentrate commercial and industrial activities to the maximum extent permitted by existing land uses. The Town should consider further rezonings as necessary to limit the expansion strip commercial and other non-residential development beyond the periphery of already committed areas. The Town has already rezoned a portion of land abutting Route 25; some of the commercial properties along Route 25A and 112. It has already rezoned a major commercial site on Canal Road, which could be used for some type of multi-family units that would be tied into the sewer systems that exist in the general area.
4. Brookhaven should utilize its zoning powers to contain the two pockets of industrial activity in Port Jefferson Station and Coram and to change the classification of the large land locked parcel northwest of the clear zone of Brookhaven Airport. Rezoning of the property for residential use would permit clustered development of this pine barrens tract, with housing next to existing homes and open space between the housing and the clear zone.
5. The Brookhaven National Laboratory should continue its ongoing efforts to remediate the groundwater contamination caused by some past waste disposal practices and accidental spills.
The plan is useful for historical context but it is recognized that groundwater protection can be achieved through development that conforms to current sanitary and stormwater management standards as well as recommendations of the SGPA plan.

As mentioned in earlier, the subject site is located in Groundwater Management Zone III. In this zone, much of the area is in low density, 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 area surrounding the subject property has been designated as a CGA within the Central Pine Barren Zone. This designation allows development of the subject property in accordance with applicable regulations. The 208 Study recommended 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. 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 site lies in an area that will be serviced by the existing Dorade STP located 1,200 feet west-northwest of the project site. Conformance of the proposed project with land use plans and best management practices for ground and surface water protection will be evaluated later in this subsection.

**Water Balance**

Groundwater flows generally perpendicular to the lines of equal water table elevation as a result of hydraulic gradient or the difference in water table elevation over a distance. Therefore, as the project site is located to the south of a regional groundwater mound, water recharged on the project site will generally flow toward the south. However, the site lies in an area in which groundwater flow is influenced by the Carmans River. As a result, the direction of flow from the project site has a southwesterly component of flow.

The project site currently is vacant woodlands, successional field and barren soils, and cleared surfaces, and does not withdraw water from the underlying aquifer. In addition, recharge that occurs on the site is derived from regional precipitation.

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 that 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 C-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. The site currently has a total site recharge of 218.78 MGY. Since the site is undeveloped with no sanitary discharge or fertilized areas, there is no site-generated nitrogen in recharge; in consideration of precipitation nitrogen the ambient concentration of nitrogen in recharge is 0.08 mg/l. The results of this analysis are presented in Appendix C-2.

Surface Water and Drainage

The site does not contain any major drainage features such as intermittent streambeds or gullies, which would, if present, indicate that significant volumes of movements of surface runoff were occurring, traversing long distances. Rather, stormwater generated on the undulating topography in the vegetated perimeter buffer areas of the site is prevented from forming large volumes of runoff due to the presence of the large area of relatively flat terrain in the center of the site (cleared for the prior Site Plan approval). As a result, the large volumes of runoff necessary to create erosion features do not occur.

There is a 0.76-acre wetland on-site, located along the property’s northern boundary, along Yaphank-Woods Boulevard. This is a NYSDEC-mapped freshwater wetland, identified as B-16. There is a small wet depression located within the south-central portion of the eastern wooded buffer. This depression is not regulated but retains surface water periodically during extreme rain events and excessively wet periods. An additional wet depression is within the racetrack area. These wetlands and wet depressions are discussed in more detail in Section 2.4.
balance of the site consists of upland areas that shed water from high elevations to low elevations where it will be recharged to the water table and/or evapotranspire to the atmosphere.

Additionally, there is a smaller surface water body (NYSDEC-mapped freshwater wetland, identified as B-15) located approximately 112 feet southwest of the Dorade STP property. This pond has been documented by NYSDEC as a breeding pond for an endangered amphibian species (tiger salamander).

Carmans River
The nearest significant surface water bodies to the main part of the site consist of the Carmans River and its associated wetlands. Weeks Pond is located approximately 2,200 feet southwest of the subject site, and the river is located approximately 2,100 feet downgradient and southwest of the former racetrack site (and 2,500 feet southwest of the southwestern corner of the cleared area on this site). This river system flows towards the south and discharges to Bellport Bay, which is a part of Great South Bay via the South Shore Estuary Reserve and is contained between the Fire Island barrier beach and the south shore of Long Island (New York State Secretary of State, 2001).

The Carmans River is an important resource in central Brookhaven Town. This surface water feature is a recreational, aesthetic and natural resource of social, environmental and economic value to community residents, the Town of Brookhaven and the region.

The groundwater contributing areas to the Carmans River have been mapped by the consulting firm CDM for the SCDHS as part of Task 15 of the SCCWRMP update (CDM/SCDHS, 2009). The proposed project is located within several zones of time of travel as mapped by CDM. A figure illustrating the expected groundwater contributing area to the Carmans River is provided as Figure 2-7. From southwest to northeast, the subject site is located within “bands” of travel time ranging from the 0-2 year contributing area (southwest tip of site), the 2-5 year contributing area (southwest central part of the west parcel and the southwest tip of the of the east parcel), the 5-10 year contributing area (northeast part of west parcel and central southwest part of east parcel), and the 10-25 year contributing area (northeast part of east parcel).

Regionally, surface runoff and drainage flow along the surface topography of the area, which slopes generally from northwest to the southeast. Historically, the streamflow in the vicinity of gauging station 01305000 (located 50 feet upstream of the Long Island Rail Road, LIRR) averages approximately 24 cubic feet per second and receives groundwater discharge in the immediate vicinity of the river (USGS, 1999). As a result, recharge from the subject site will flow with a horizontal component through the aquifer to a point where the local dewatering influence of the river causes groundwater outflow to the surface waters of the river. The distance along this flow path indicates that the Carmans River would not receive direct discharges from groundwater underlying the subject property due to the significant distance between potential source areas and this surface water receptor. In addition, it should also be noted that there are no direct surface water connections between the site and the Carmans River.

Based on an average groundwater velocity of 2 feet/day, groundwater could potentially discharge to Weeks Pond after an estimated 3.01 years, and to the Carmans River after a travel time of
nearly 2.88 years. Any elevated levels of constituents in this discharge (nitrogen being the most significant concern) would be transformed and decrease in concentration with distance from the site, as noted above. These factors indicate that subsurface flow from the subject site would not contain elevated nitrogen concentrations, and would attenuate biological contaminants through travel distance to the aquifer before potentially reaching either of these surface water bodies.

It should be noted that the largest source of nitrogen in recharge attributable to the project is sanitary wastewater. However, this effluent will be conveyed to the Dorade STP for treatment, and this facility is located substantially farther from the Carmans River (8,000 feet) than the subject site (2,100 feet). As a result, there is a longer residence time for this recharge (10.96 years) than for the subject site (3.88 years), so that there is more time for natural attenuation to occur, with consequent reduced potential for impact to the river’s water quality.

2.3.2 Potential Impacts

Groundwater Hydrology
Based on the site quantities presented for the proposed project it is anticipated that a total of 351.29 MGY of water will be recharged on the subject site and the Dorade STP site. This represents a 60.57% increase in recharge generated on the property, as compared with the existing recharge volume. Of this anticipated recharge volume, stormwater will account for 70.89%, irrigation for 0.46% and sanitary effluent for 28.65%. Stormwater will be handled by a drainage system that will recharge at point of generation as well as provide pickup systems to convey stormwater to several stormwater recharge reserve areas on the site. All wastewater effluent will be conveyed to the Dorade STP for treatment and recharge at that location. Recharge of stormwater through a combination of point of generation recharge locations, rain gardens, leaching pools, bio-retention areas and stormwater recharge reserve areas will ensure distribution of recharge systems across the site and as a result will prevent mounding of groundwater underlying the site. It is anticipated that groundwater flow underlying the subject site will continue to flow in a southwesterly direction based on regional hydrology. Furthermore, Long Island subsoils are highly permeable with a greater hydraulic conductivity in a horizontal direction, allowing recharge water to rapidly be assimilated into the upper aquifer (SCCWRMP, 1987). The depth to groundwater below the recharge areas is no less than approximately 68 feet; therefore any change in groundwater elevations as a result of recharge would not result in flooding consequences. As a result, there are no significant hydrogeologic impacts expected as a result of the proposed project.

As the contaminant plumes originating within BNL are oriented in a northwest-southeast direction well to the east of the proposed project site, these plumes will continue to have no impact on groundwater beneath the project site. Conversely, the recharge originating on the project site will not impact the orientation of these plumes.

Groundwater Quality
Degradation of groundwater quality is typically a result of sanitary discharge and recharge of stormwater on a site using improper treatment or design. An increase in the amount of water that is recharged is also expected as a result of the increase in impervious surfaces on site, although
this is not expected to result in a significant change in the regional hydrologic regime. The following analyzes changes in water quality that may result from implementation of the proposed project.

In general, the primary groundwater concern associated with development on Long Island is nitrate/nitrogen loading, due to disposal of sanitary waste effluent and lawn fertilization. Nitrogen (as nitrate), which is introduced to a site from these sources, may impair the viability of groundwater for water supply. Wastewater will be generated as a result of the proposed use of the site. However, all sanitary wastewater effluent is proposed to be disposed of via an off-site sewage treatment plant, the Dorade STP. This form of treatment and disposal is permitted subject to engineering review in cases where wastewater design flow exceeds standards established by the SCDHS under SCSC Article 6. Nitrogen, the primary contaminant of concern, is to be reduced to a concentration of less than 10 mg/l, the NYS effluent limitation, in accordance with the SPDES permit in place for the Dorade STP. The proposed project will result in the upgrade of the Dorade STP to receive wastewater from the Meadows project and produce effluent below discharge limitations, specifically treating to 8 mg/l.

The proposed project is anticipated to require 275,050 gpd of potable water. Of this usage, 72,625 gpd will be generated by the proposed commercial development and 202,425 gpd will be generated by the proposed residential component.

The results of the SONIR Model for the project are presented in Table 1-2. The printout (see Appendix C-3) indicates that the concentration of nitrogen in recharge would be 2.20 mg/l. This concentration is substantially less than the drinking water standard of 10 mg/l and complies with the more stringent Pine Barrens guideline of 2.5 mg/l that applies to DRS’s that are in proximity to surface water or wetlands.

Due to the construction of impervious surface areas resulting from paved parking surfaces and buildings, the amount of stormwater recharge generated by the proposed project will dramatically increase at the subject site. To assess the impact that this increase may have on groundwater quality underlying the site a review of the NURP study results was conducted. The land uses included in the NURP report that is most like the proposed use would be strip commercial (Centereach) and medium density residential (Syosset). The NURP study results for these land use types are shown in Table 2-3.

None of the parameters examined within the NURP study exceeded standards for the reported constituents at the site, with the exception of pH for the medium density residential and turbidity for both the strip commercial center and medium residential. However, the levels of both these parameters are not expected to have a significant impact on the subject property or surrounding resources. As expected, slightly elevated levels of heavy metals were detected; however, their concentrations were significantly reduced through attenuation and did not exceed standards.

The NURP Study found that chloride concentrations in stormwater generally increase by two orders of magnitude during the winter months. Chloride is not attenuated in soils like lead and chromium (Koppelman, 1982, p. 115), and thus it is anticipated that the amount of chloride
contributed to groundwater will be correlated with the amount of salt applied to roadways and parking areas within the stormwater drainage area, during winter months. Additional discussion regarding the handling of stormwater for the proposed use and its potential impact on groundwater is contained later in this subsection.

SGPA Plan - The proposed project will conform to the Planned Unit Development (PUD) mixed use recommended for the subject property. Furthermore, the proposed project will upgrade the Dorade STP to the original permitted flow of 450,000 gpd in order to improve the treatment process for the existing flow and to accommodate the proposed project’s wastewater.

Water Balance
While values for impervious surfaces and irrigated areas for the proposed project have been added to the calculation for recharge volume, the SONIR model results indicate an increase in overall recharge volume, in comparison to the existing condition. The reason for this increase is due to the addition of impermeable surface area. Because impermeable surfaces do not experience evapotranspiration to nearly the same degree as vegetated or unvegetated surfaces, these impermeable surfaces recharge runoff faster than the other surfaces, and as a result, do not lose as much to the atmosphere.

The volume of water recharged by the proposed project is calculated at 351.29 MGY, a 60.57% increase from the existing condition.

Table 2-3
STORMWATER IMPACTS FROM LAND USE, NURP Study
Strip Commercial & Medium-Density Residential Sites

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Strip Commercial</th>
<th>Medium Density Residential</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spec. Cond (umhos)</td>
<td>104</td>
<td>104</td>
<td>[n]</td>
</tr>
<tr>
<td>pH</td>
<td>Data Not Available</td>
<td>5.1</td>
<td>6.5-8.5</td>
</tr>
<tr>
<td>Turbidity (NTU)</td>
<td>5.45</td>
<td>26</td>
<td>5</td>
</tr>
<tr>
<td>Hardness (mg/l)</td>
<td>33</td>
<td>16.5</td>
<td>[n]</td>
</tr>
<tr>
<td>Calcium (mg/l)</td>
<td>7.5</td>
<td>4.85</td>
<td>[n]</td>
</tr>
<tr>
<td>Magnesium (mg/l)</td>
<td>1.4</td>
<td>1.2</td>
<td>[n]</td>
</tr>
<tr>
<td>Sodium (mg/l)</td>
<td>9.5</td>
<td>4.25</td>
<td>[n]</td>
</tr>
<tr>
<td>Potassium (mg/l)</td>
<td>1.65</td>
<td>1.0</td>
<td>[n]</td>
</tr>
<tr>
<td>Sulfate (mg/l)</td>
<td>11</td>
<td>7.05</td>
<td>250</td>
</tr>
<tr>
<td>Fluoride (mg/l)</td>
<td>0.1</td>
<td>0.1</td>
<td>1.5</td>
</tr>
<tr>
<td>Chloride (mg/l)</td>
<td>8.1</td>
<td>7.3</td>
<td>250</td>
</tr>
<tr>
<td>Nitrogen-Total (mg/l)</td>
<td>0.1</td>
<td>0.395</td>
<td>10</td>
</tr>
<tr>
<td>Phosphorus (mg/l)</td>
<td>0.1</td>
<td>0.01</td>
<td>[n]</td>
</tr>
<tr>
<td>Cadmium (ug/l)</td>
<td>1.0</td>
<td>2.5</td>
<td>10</td>
</tr>
<tr>
<td>Chromium (ug/l)</td>
<td>1.0</td>
<td>1.0</td>
<td>50</td>
</tr>
<tr>
<td>Lead (ug/l)</td>
<td>4.5</td>
<td>6</td>
<td>50</td>
</tr>
<tr>
<td>Arsenic (ug/l)</td>
<td>1.0</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td>Coliform (MPN)</td>
<td>3.0</td>
<td>13</td>
<td>[n]</td>
</tr>
<tr>
<td>Coliform, fecal</td>
<td>3.0</td>
<td>3</td>
<td>[n]</td>
</tr>
</tbody>
</table>

Source: Koppelman, 1982, p. 26-29
[n] - no standard for parameter
Surface Water and Drainage

The proposed project will utilize an on-site drainage system that has been designed to collect all stormwater runoff originating on developed surfaces, recharge some stormwater at point of origin and retain some in bio-filtration swales (rain gardens) and convey excess recharge to stormwater detention/recharge areas in the west and southwest portions of the property. This overall system will ensure that overland flow of runoff from newly developed areas to on-site wetlands located within the northern buffer area or off-site, will not occur. In addition, the extensive buffer areas around this wetland will allow it to continue to receive runoff from natural lands within its contributing area maintaining the current hydrologic properties of this system. As a result, impacts to the quantity or quality of water in this wetland are not anticipated. As this wetland does not reflect the elevation of the regional water table, but a local impervious layer beneath this wetland, the recharge on the remainder of the site will percolate vertically downward, to the regional groundwater table. Specifically, the remaining natural areas of the overall site, comprising a total of 120.79 acres (or 36.22%) will continue to act as natural drainage areas recharging and evapotranspiring precipitation. As a result the proposed project is not expected to adversely impact surface water or drainage resources associated with the project site.

Provision of and conformance to the erosion and sedimentation control measures as outlined in Section 1.4.5 will minimize impacts to water resources. Per the NYSDEC Phase II SPDES Program, coverage under the General Permit will be obtained prior to the onset of construction. In turn, the General Permit requires that an SWPPP be prepared, to include a detailed erosion and sediment control plan to manage stormwater generated during construction and for post-construction stormwater management. Preparation and approval of the SWPPP will ensure compliance with water-quality and -quantity requirements pursuant to NYSDEC Technical Guidance and Town of Brookhaven Chapter 86 requirements. Additionally, the General Permit requires that inspections of the construction site be performed under the supervision of a qualified professional to ensure that erosion controls are properly maintained during the construction period.

Carmans River

The proposed project has been designed to ensure protection of groundwater underlying the site, and conforms to more stringent guidelines applied by the Pine Barrens Commission for large projects proximate to surface waters, ponds and wetlands. The project has incorporated measures to ensure conformance with this concentration. These measures include:

- Conveyance of sanitary wastewater to the existing Dorade STP, which will be upgraded to achieve its prior permitted flow.
- The Dorade STP is located at the edge of the 25-50 year contributing area; as a result, conveyance of wastewater to this area has a significant benefit with respect to ensuring protection of the Carmans River. The distance of the Dorade STP from the Carmans River is 8,000 feet and thus discharge at this location is subject to longer residence time and natural attenuation in the aquifer than discharges nearer to the river.
- The Dorade STP will be designed to meet a more stringent nitrogen limitation of 8 mg/l.
- The proposed project will be designed with innovative stormwater measures to promote surface retention and biological uptake. The project will achieve less than 15% fertilizer dependent vegetation.
It is important to note that conformance with the Pine Barrens guideline of 2.5 mg/l is an important achievement. This guideline was based on research, documentation in the Pine Barrens Plan and was the subject of a GEIS. Conformance with this standard provides a level of protection that is appropriate particularly due to the separation distance between the subject site and the Carmans River.

The separation between a subject site and the Carmans River provides additional protection as a result of transformation of nitrogen in the aquifer and as subsurface outflow from the aquifer to the baseflow of the river through the bottom sediments of the stream. References indicate that aquifer attenuation can be in the range of 35% (Valiela, 2000), and stream bottom attenuation can be in the range of 30-40% (Woods Hole Group and Teal Partners, 2007).

As noted earlier, there is a 2,100-foot separation between the subject site and the Carmans River, and an 8,000-foot separation between the Dorade STP and the Carmans River in the downgradient direction. This distance is sufficient to indicate that the Carmans River would not receive direct subsurface discharges from groundwater underlying the subject property due to the significant distance between potential source areas and this surface water receptor. In addition, it should also be noted that there are no direct surface water connections between the site and the Carmans River and that the significant distance would prohibit the direct infiltration of overland flow. The proposed project would not result in a change in these conditions, so that the proposed project would not be anticipated to impact the Carmans River or the downstream South Shore Estuary Reserve.

In summary, the proposed project has a number of features that will ensure protection of the Carmans River. First, the only site-related recharge on the developed portion of the subject site (i.e., the 322.37-acre site) would be from stormwater. The proposed development will limit fertilized areas to less than 15% of the project site, and therefore this source of nitrogen in recharge represents only 3.5% of the project related nitrogen in recharge at the subject site. The remaining project-generated nitrogen source will be conveyed to the Dorade STP for treatment and recharge at that site. The Dorade STP is north of the Meadows site, thus increasing the distance along the expected groundwater flow path from the Dorade STP to the Carmans River.

2.3.3 Mitigation

- Use of the existing Dorade STP, which will be expanded and upgraded in association with the proposed project (and subject to the review and approval of the SCDHS, SCDPW and NYSDEC), will ensure that groundwater quality will be protected from impact via treated sanitary effluent recharge; nitrogen in effluent from the STP will be limited to 8 mg/l or less, which is more stringent than current effluent limitations.
- Innovative stormwater management techniques will be used to promote surface detention and biological uptake of stormwater pollutants; these will be incorporated into the project during the site plan review process. Potential groundwater quality impacts from nitrogen-bearing fertilizers will be minimized by limiting both the rate of fertilizer use and the acreage of fertilizer-dependent landscaping.
- The proposed project conforms to the recommendations of the NURP Study with respect to stormwater handling.
• Adherence to the proposed SWPPP (to be prepared for the SPDES GP-0-10-001 permit, and would include an erosion control plan) would ensure that stormwater generated during the construction period is controlled, and that erosion and its associated impacts is minimized.
• There are an estimated 49 to 89 feet of vertical separation between the surface and water table. This distance is expected to be more than sufficient to ensure adequate levels of attenuation and decay of contaminants in stormwater runoff, which would protect groundwater quality.

2.4 Ecology

2.4.1 Existing Conditions

The property has been subject to field inspection and review of its ecological character during field visits by NP&V on five separate occasions between December 2007 and March 2011. These recent visits are in addition to the delineated wetland boundary as previously approved by both the Town of Brookhaven and the NYSDEC. The qualifications of the recent investigators are provided in Appendix E-4. The specific dates on which the site was visited are listed below.

<table>
<thead>
<tr>
<th>Date</th>
<th>Duration</th>
<th>Time of Day</th>
<th>Investigator(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/28/2007</td>
<td>3.5 hrs</td>
<td>Early/Mid-Morning</td>
<td>S. da Silva Quintal</td>
</tr>
<tr>
<td>5/11/2009</td>
<td>3 hrs</td>
<td>Early/Mid-Morning</td>
<td>S. da Silva Quintal; M. Da Breo</td>
</tr>
<tr>
<td>9/8/2009</td>
<td>2 hrs</td>
<td>Early Afternoon</td>
<td>S. da Silva Quintal; M. Da Breo</td>
</tr>
<tr>
<td>7/13/2010</td>
<td>2 hrs</td>
<td>Early Morning</td>
<td>S. da Silva Quintal; L. Pomi-Urbat</td>
</tr>
<tr>
<td>3/22/2011</td>
<td>1 hr</td>
<td>Late Afternoon</td>
<td>S. da Silva Quintal</td>
</tr>
</tbody>
</table>

The property predominantly consists of successional old field and shrubland habitats, pine-oak forest, and unvegetated soil areas, as well as one wooded swamp wetland and three unregulated wet depressions, as well as former use areas and abandoned improvements associated with the former race track. No endangered species have been identified in association with the subject property, though the tiger salamander has been documented in close proximity to the Dorade STP parcel and is within one-quarter mile of the parcels proposed to be developed. It is also noted that the site is subject to unauthorized use including motorized vehicle use and associated noise, dust, erosion and related impacts. More detailed discussion of the habitats associated with each of the parcels that are subject to the proposal.

Vegetation and Habitats

The overall subject property is 333.46 acres in size, and consists of successional old field habitat, successional shrubland, unvegetated/barren soil areas, pitch pine-oak forest, and red maple hardwood swamp as determined by observation and defined by the NYSDEC habitat classification system (Edinger et al., 2002). The following text outlines the existing conditions of the subject property with regard to ecological resources. The existing site habitat quantities listed in Table 2-4 were determined by aerial photography and field inspections by NP&V, in addition to the delineated wetland boundary as previously approved by both the Town of Brookhaven and the NYSDEC. Figure 2-7a presents a map of the vegetation community types found at the site.
### Table 2-4
**COVERAGE QUANTITIES, Existing Conditions**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Dorade STP (acres)</th>
<th>Racetrack Parcel (acres)</th>
<th>Brookhaven Walk Parcel (acres)</th>
<th>Total Site (acres)</th>
<th>Percent of Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buildings/Paved/Impervious</td>
<td>0.37</td>
<td>40.05</td>
<td>0</td>
<td>40.42</td>
<td>12.12%</td>
</tr>
<tr>
<td>Recharge Area (STP)</td>
<td>1.09</td>
<td>0</td>
<td>0</td>
<td>1.09</td>
<td>0.33%</td>
</tr>
<tr>
<td>Wetland</td>
<td>0</td>
<td>0</td>
<td>0.76</td>
<td>0.76</td>
<td>0.23%</td>
</tr>
<tr>
<td>Unvegetated</td>
<td>2.58</td>
<td>18.77</td>
<td>4.26</td>
<td>25.61</td>
<td>7.68%</td>
</tr>
<tr>
<td>Successional Old Field</td>
<td>0</td>
<td>46.56</td>
<td>0</td>
<td>46.56</td>
<td>13.96%</td>
</tr>
<tr>
<td>Successional Shrubland</td>
<td>0</td>
<td>13.05</td>
<td>66.16</td>
<td>79.21</td>
<td>23.75%</td>
</tr>
<tr>
<td>Dense Native Shrubland</td>
<td>0</td>
<td>4.48</td>
<td>0</td>
<td>4.48</td>
<td>1.34%</td>
</tr>
<tr>
<td>Pitch Pine-Oak Forest</td>
<td>7.05</td>
<td>49.29</td>
<td>78.99</td>
<td>135.33</td>
<td>40.58%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>11.09</strong></td>
<td><strong>172.20</strong></td>
<td><strong>150.17</strong></td>
<td><strong>333.46</strong></td>
<td><strong>100.00%</strong></td>
</tr>
</tbody>
</table>

**Brookhaven Walk Parcel** - The majority of the parcel’s interior was cleared with partial foundations installed in connection with a 1997 site plan approval for the retail project known as Brookhaven Town Center. However, this project was not completed, and this area is currently undergoing natural succession. The cleared areas are currently either still barren sandy soil, or have become colonized by early and mid-successional vegetation. The periphery and the majority of the southern portion of the parcel contain mature woodland. A 0.76-acre red maple swamp wetland, identified as NYSDEC-mapped wetland B-16, occurs at the northern perimeter of the site adjacent to Yaphank-Woods Boulevard. In addition to the red maple swamp wetland, the site contains a small wet depression approximately 0.02 acres in size located within the forested area along the eastern property boundary adjacent to the William Floyd Parkway. Both of these features exist within wooded portions of the site that have not been recently disturbed. The site contains several dirt roadways to allow for construction access, all of which have been temporarily abandoned by use of soil berms. A paved roadway is located adjacent to the western property boundary, a small portion of which extends through the southern portion of the site. Several unvegetated roadways and trails are located throughout the central portion of the property, which are actively used by off-road vehicles.

**Racetrack Parcel** - Immediately west of the Brookhaven Walk Parcel, this parcel was the former Suffolk Meadows Race Track, which operated until 1996. The parcel’s interior was utilized for the horse racing operation and demolition of the grandstands and clubhouse was completed by 2001. However, the parcel’s former use is still highly evident through the remaining paved parking areas, lighting fixtures, a lookout tower, guard rails, remnants of the racing oval and roadways which still remain. Piles of unauthorized dumped debris are scattered throughout the site. Much of the unpaved areas are either still exposed sandy soils or have become colonized by early and mid-successional vegetation. Despite the berms, unauthorized off-road vehicles still enter the property and actively utilize these dirt paths. The site contains two small wet depressions; one is heavily disturbed and in the central portion of the property, near the western end of the former racetrack oval, and the other is in the southwest corner of the site surrounded by pine-oak woodland. The remaining northern, southern and southeast portions of the parcel are largely undisturbed and contain mature pine-oak woodland. The southern site boundary features a steep slope downward toward the LIE North Service Road. This southern area was
and remained wooded, though a portion of the central area along the southern property line was cleared for unknown reasons, though most likely for signage, and is now slowly revegetating naturally.

**Dorade STP Parcel** - This STP was built in the early 1970’s to treat waste from the then-planned Colonial Woods/Whispering Pines condominiums along with the anticipated development on the racetrack and Brookhaven Town Center site. The existing STP has its two tanks, building and recharge beds located in the central and northwest corner of the parcel. The plant is accessed via an access road from the adjacent Colonial Woods/Whispering Pines development. The rest of the parcel including its periphery contains mature pine-oak woodland. The entire triangular-shaped parcel is further buffered from the adjacent development via the heavily wooded Town Greenbelt. NYSDEC-mapped freshwater wetland B-15 is located approximately 112 feet southwest of this parcel. The wetland is a shallow kettlehole pond that is a documented breeding habitat for the state-listed endangered tiger salamander. A heavily used off-road vehicle trail is situated between the pond and the STP parcel.

**Surrounding Area** - The majority of the surrounding area is dominated by undeveloped woodland and a mix of land uses and vegetative cover types. The Colonial Woods/Whispering Pines condominiums are located north of the subject property, and a horse track and an unauthorized sand mine are located to the west. The site is bound to the east by the William Floyd Parkway and to the south by the LIE, both of which are major transportation corridors in the area. East of William Floyd Parkway opposite the site is vacant woodland within the BNL property. Southeast of William Floyd Parkway and the LIE is the Brookhaven R&D Industrial development park which is partially developed. South of the LIE opposite the site is a recently-approved industrial subdivision that contains the Clare Rose beverage warehouse. There are several large contiguous blocks of woodland in the immediate vicinity, including the Town Greenbelt, which traverses along the western boundary of the racetrack parcel, with which the site forms a contiguous habitat.

Successional old field is the initial stage in the process of succession, which is the reversion of disturbed habitats to climax forest. The habitat generally supports a wide variety of weedy species that colonize readily, such as goldenrods, grasses, timothy, ragweed and asters. Edinger *et al.* (2002) define an old field as "a meadow dominated by forbs and grasses that occurs on sites that have been cleared or plowed, and then abandoned". Woody species may be present, but coverage by trees and shrubs is less than 50 percent as defined by Edinger *et al.* (2002).

Successional old field vegetation occurs in the previously disturbed areas of the racetrack parcel and dominates the majority of this parcel’s interior. This area occupies approximately 46.56 acres, or 13.96% of the site, and consists of species such as mugwort, fox tail, spotted knapweed, bracted plantain, bushy aster, sheep sorrel, Pennsylvania sedge, round-headed lespedeza, Chinese bushclover, goldenrod, orangegrass, hyssop-leaved boneset, buttonweed, rough hawkweed, birdsfoot trefoil, rabbit foot clover, Greene’s sedge and brome grass. Scattered pitch pine saplings and autumn olive shrubs also occur throughout this habitat but are not dominant.

Successional shrubland follows old field vegetation in the process of succession. The two habitats are similar in species composition; however, within the shrubland, woody species
successional shrubland is "a shrubland that occurs on sites that have been cleared or otherwise disturbed. This community has at least 50% cover of shrubs." Trees may be present, but occupy less than 40 percent of the canopy. The typical woody species in early successional habitats on Long Island are poison ivy, dogwood, red cedar, brambles, cherry, sumac and multiflora rose.

Successional shrubland occurs in portions of the previously disturbed areas on the Racetrack parcel, as well as dominates the previously disturbed areas on the Brookhaven Walk parcel. Though previously characterized as successional old field, the Brookhaven Walk parcel’s interior has been undergoing natural succession for approximately 13 years and can currently be characterized as a successional shrubland. This habitat occupies approximately 79.21 acres, or 23.75% of the overall site, and is largely dominated by pitch pine saplings. Red cedar saplings, Autumn olive, low bush blueberry, sassafras, scrub oak, huckleberry and sweetfern are common associates, and groundcover species include many of the successional field species noted above. Young trees (black oak, scarlet oak, scrub oak, pignut, sassafras) are also scattered throughout this habitat, particularly on the Brookhaven Walk parcel.

Additionally, there exist a few stands of dense native shrubland around the central perimeter of the Racetrack parcel which appear to be more mature than the other successional shrubland on the property. These more mature shrubland areas are dominated by dense stands of native pitch pine up to approximately 20 feet in height and total approximately 4.48 acres (1.34%) of the site.

The relatively undisturbed, forested habitat on site is best characterized as Pitch Pine-Oak Forest. As defined by Edinger et al. (2002), Pitch Pine-Oak Forest is “a mixed forest that typically occurs on well drained, sandy soils of glacial outwash plains or moraines. The dominant trees are pitch pine, mixed with one or more of the following oaks: scarlet oak, white oak, red oak or black oak. The relative proportions of pines and oaks are quite variable within this community type.” Edinger et al. (2002) includes a range of assemblages within this habitat type, including oak dominated forests with only scattered emergent pines as well as nearly pure stands of pitch pine. This reference further describes the shrub layer of the Pine-Oak Forest as a well-developed heath layer, with scattered clusters of dense scrub oak. In more mature, oak dominated stands, the understory may be sparse due to interception of light by oaks in the canopy. Other typical understory species include oak seedlings, black huckleberry and blueberry, while bracken fern, wintergreen, trailing arbutus, bearberry, Pennsylvania sedge and mosses are typical of the sparse herbaceous layer. This habitat occupies 135.33 acres, or approximately 40.58% of the total parcel and contains typical Pine-Oak Forest species. A relatively closed canopy is present over the majority of the forested areas on site, and the forest represents a number of age classes throughout.

Freshwater Wetland Habitats
The site contains one freshwater wetland along the northern property boundary of the Brookhaven Walk Parcel along Yaphank-Woods Boulevard. This 0.76-acre wetland is a NYSDEC-mapped freshwater wetland, identified as B-16 (see Figure 2-8).

According to the NYSDEC classification, Wooded Red Maple-Hardwood Swamp habitat is "a hardwood swamp that occurs in poorly drained depressions, usually on inorganic soils. This is a
broadly defined community with many regional and edaphic variants. In any one stand, red maple is either the only canopy dominant or is codominant with one or more hardwoods including black ash, swamp white oak, butternut, and bitternut hickory" (Edinger et al., 2002). There is typically a well-developed shrub layer, with spicebush, winterberry, black chokeberry, red osier dogwood, arrowwood, wild raisin and highbush blueberry. Black gum, sweet pepperbush and swamp azalea are common in swamps in southeastern New York. The ground layer is generally dominated by ferns, with skunk cabbage, sedges, jewelweed, and skull cap. This description is applicable to red maple swamps throughout Long Island, although in disturbed areas early successional shrubs such as multiflora rose, grape and greenbriar may also be common.

The canopy of the NYSDEC-mapped wetland on site is dominated by red maple and black gum, with oak species present along the perimeter. The shrub layer is relatively dense and contains species such as sweet pepperbush, highbush blueberry and spicebush, while the herbaceous layer within the wetland is somewhat sparse. This habitat occupies 0.76 acres, or 0.23%, of the total site area. The wetland contained surface water at the time of several site inspections by NP&V during May and June of 2001, but did not contain any water during the July 2010 site inspection; water levels are expected to be quite variable depending on the amount of rainfall and average temperatures.

Additionally, there are three small wet depressions on the subject property that receive runoff. One depression is very small in size and located adjacent to the eastern property boundary within the wooded area along William Floyd Parkway. The second is slightly larger but heavily disturbed in the central portion of the racetrack parcel within the remnant racetrack oval. The third is in the southwest corner of the site in the wooded perimeter of the racetrack parcel. Upland vegetation intermixed with wetland indicator species occur in the two Racetrack parcel wet depressions on the property due to intermittent moist soil conditions. It is expected that these depressions contain surface water for short durations following heavy storm events.

On the Brookhaven Walk parcel, the small wet depression on the eastern property boundary is approximately 0.02 acres in size and set within the Pine-Oak woodland. The feature is comprised of an approximately 0.01 acre round, shallow and non-vegetated topographic depression adjacent to a small 0.01 acre area of seasonally saturated wooded area at its southern end. Red maples and white oak surround the perimeter of the depression. It does not appear to have been subject to prior disturbance, but is expected that the wet depression area receives overland runoff from the adjacent roadway, as well as overland runoff from the wooded slopes to the south, and formerly cleared areas within the site that were established as forest prior to clearing in 1997. The interior of this depression did not contain surface water and/or vegetation during a May 2001 NP&V site inspection, although it contained an abundance of stained leaf litter, with the underlying soils fairly well saturated. Limited surface water was present during a June 2001 NP&V inspection of the depression. On March 22, 2011, which was also the day after a rainstorm, NP&V re-inspected the depression and found it to contain approximately 2 to 6 inches of standing water. No vegetation was observed growing within the depression in 2011. The feature contains organic, poorly draining soils that appear to prolong standing water conditions within the depression. Additionally, on the depression’s south side is a small approximately 0.01 acre area dominated by wetland vegetation, including red maple, high bush
blueberry and two small clumps of rush. A small amount of common greenbrier was also observed and there was evidence of stormwater flowing through this area toward the depression. This vegetated area is the next lowest topographic point, possibly making it an overflow area for standing water from the shallow depression following significant rain events. The Town will determine if this 0.02 acre feature meets the definition of a freshwater wetland as per Chapter 81 of the Town Code. White oak, common greenbrier and huckleberry dominate the upland wooded area surrounding the feature.

The depression on the central part of the racetrack parcel is highly disturbed and of poor quality. It is approximately 0.22 acres in size resulting from a recharge area for the former racetrack, and is entirely surrounded by previously disturbed land. The sporadic occurrence of water following intense rain events combined with regular disturbance through the center of the depression by off-road vehicles leaves the central portion of the depression unvegetated and limits the ability of wetland vegetation to thrive. The edges of the depression do support some wetland vegetation, particularly a small area of Phragmites along the east side, as well as a smaller area containing the following sparse wetland vegetation: pussy willow (mostly dead specimens), wool grass, toad rush and narrowleaf cattail. The depression is heavily filled with sandy silts from eroded surroundings and can quickly dry out after periods of precipitation. Though water was observed in the depression during December 2007 and May 2009, it was very dry during later site visits in September 2009 and July 2010. Despite the poor condition of this wetland, Town of Brookhaven staff have indicated this feature meets the definition of a freshwater wetland as per Chapter 81 of the Town Code.

At the southwest corner of the racetrack parcel, there is another small wet depression that contains common reed intermixed with upland vegetation, including poison ivy, cinquefoil, multiflora rose, pitch pine, barberry and black cherry. During the May 2009 site visit, there was no direct evidence of wetland hydrology present. This depression is located adjacent to the western property boundary and is surrounded by woodland vegetation. However, the terrain is very uneven and this depression also likely results from prior grading or other site disturbance activities.

Table 2-5 presents a list of plant species found on site or expected to be found within the upland and freshwater wetland habitats given the habitats present and based upon field investigations conducted by NP&V from 2007 through 2010. 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 2-5
PLANT SPECIES LIST

<table>
<thead>
<tr>
<th>Tree species</th>
<th>* red maple</th>
<th>Acer rubrum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>* tree-of-heaven</td>
<td>Ailanthus altissima [i]</td>
</tr>
<tr>
<td></td>
<td>* birch</td>
<td>Betula sp.</td>
</tr>
<tr>
<td></td>
<td>* pignut hickory</td>
<td>Carya glabra</td>
</tr>
<tr>
<td></td>
<td>* honey locust</td>
<td>Gleditsia triacanthos</td>
</tr>
<tr>
<td></td>
<td>* eastern red cedar</td>
<td>Juniperus virginiana</td>
</tr>
</tbody>
</table>
* sour gum
* pitch pine
* white pine
* bigtooth aspen
* black cherry
* white oak
* swamp white oak
* scarlet oak
* scrub (bear) oak
  mossycup (bur) oak
  blackjack oak
* pin oak
* chestnut oak
* northern red oak
  post oak
* black oak
* pussy willow
* sassafras

**Shrub & Vine species**

chokeberry
meadowsweet
* Oriental bittersweet
* sweetfern
* sweet pepperbush
* autumn olive
* black huckleberry
  golden heather
  beach heather
  mountain laurel
* fetterbush
* spicebush
* Japanese honeysuckle
  Morrow’s honeysuckle
  stagger-bush
* northern bayberry
  Virginia creeper
  buckthorn
* winged sumac
* smooth sumac
* multiflora rose
  blackberry
* bristly dewberry
* wineberry
* common greenbrier
* poison-ivy
* low bush blueberry
* highbush blueberry
* arrowwood
* grape

Nyssa sylvatica
* Pinus rigida
* Pinus strobes
Populus grandidentata.
Prunus serotina
Quercus alba
Quercus bicolor
Quercus coccinea
Quercus ilicifolia
Quercus macrocarpa
Quercus marilandia
Quercus palustris
Quercus prinus
Quercus rubra
Quercus stellata
Quercus velutina
Salix discolor
Sassafras albidum

Aronia sp.
*Spiraea corymbosa
Celastrus orbiculatus* [i]
Comptonia peregrine
Clethra alnifolia
Elaeagnus umbellata* [i]
Gaylussica baccata
Hudsonia ericoides
Hudsonia tomentosa
Kalina latifolia* [p]
Leucothoe racemosa
Lindera benzoin
Lonicera japonica* [i]
Lonicera morrowii* [i]
Lyonia mariana
Myrica pensylvanica* [p]
Parthenocissus quinqufolia
Rhamnus spp.
Rhus copallina
Rhus glabra
*Rosa multiflora* [i]
Rubus allegheniensis
Rubus hispidus
Rubus phoenicolasius* [i]
Smilax rotundifolia
Toxicodendron radicans
Vaccinium angustifolium
Vaccinium corynosum
*Viburnum dentatum
Vitis spp.*
Herbs and Groundcover Species

* yarrow
* redtop
* ragweed
  big bluestem
* pussytoes
* spreading dogbane
* mugwort
  bearberry
* milkweed
* butterfly weed
* bushy aster
* smooth aster
  stiff-leaved aster
* wild indigo
* beggar ticks
* brome grass
* sedges
* Pennsylvania sedge
* spotted knapweed
  chicory
* spotted wintergreen
  striped sedge
* sickle-leaved goldenrod
* British soldiers
* buttonweed
* pipewort
* fleabane
  trailing arbutus
* lovegrass
* hyssop-leaved boneset
* ground ivy
  wintergreen
* sweet everlasting
* rough hawkweed
* orange grass
* common St. Johnswort
* toad rush
* Canada rush
* soft rush
* Greene’s rush
  pinweed
* round-headed bushclover
* Chinese bushclover
* blue toadflax
* birdsfoot trefoil
  club moss
* loosestrife
  wild lupine
* mayflower

Achillia millefolium
Agrostis gigantea
Ambrosia artemisiifolia
Andropogon gerardii
Antennaria neodioica
Apocynum androsaemifolium
Artemisia vulgaris
Arctostaphylos uva-ursi
Asclepias sp.
Asclepias tuberosa
Aster dawsonii
Aster laevis
Aster linariifolius
Baptisia tinctoria
Bidens frondosa
Bromus tectorum
Carex spp.
Carex pensylvanica
Centaurea stoebe
Cichorium intybus
Chimaphila maculata
Chimaphila umbellata
Chrysopsis galacta
Cladonia cristatella
Diodia teres
Eriocaulon aquaticum
Erigeron sp.
Epigaea repens
Eragrostis sp.
Eupatorium hyssopifolium
Glechoma hederacea
Gaultheria procumbens
Gnaphalium obtusifolium
Hieracium scabrum
Hypericum gentianoides
Hypericum perforatum
Juncus bufonius
Juncus Canadensis
Juncus effusus
Juncus greenei
Lechea villosa
Lespedeza capitata
Lespedeza cuneata
Linaria Canadensis
Lotus corniculatus
Lycopodium spp.
Lysimachia sp.
Lupinus perennis
Maianthemum canadense
* yellow sweet clover \textit{Melilotus officinalis}
* Indian pipe \textit{Monotropa uniflora}
* sensitive fern \textit{Onoclea sensibilis}
* panic grass \textit{Panicum sp.}
* common reed \textit{Phragmites australis [i]}
* poke weed \textit{Phytolacca americana}
* bracted plantain \textit{Plantago aristata}
* bluegrass \textit{Poa sp.}
* Japanese knotweed \textit{Polygonum cuspidatum [i]}
* Christmas fern \textit{Polystichum acrostichoides [p]}
* jointweed \textit{Polygonella articulata}
* Soloman’s seal \textit{Polygonatum biflorum}
* smartweed \textit{Polygonum sp.}
* bracken fern \textit{Pteridium aquilinum}
* milkwort \textit{Polygala nuttallii}
* hair cap moss \textit{Polytrichium sp.}
* sheep sorrel \textit{Rumex acetosella [i]}
* dock \textit{Rumex crispus}
* little bluestem \textit{Schizachyrium scoparius}
* wool grass \textit{Scirpus cyperinus.}
* green foxtail \textit{Setaria viridis}
* slender-leaved goldenrod \textit{Solidago tenuifolia}
* early goldenrod \textit{Solidago juncea}
* Indian grass \textit{Sorghastrum nutans}
* sphagnum moss \textit{Sphagnum sp.}
* common dandelion \textit{Taraxacum officinale}
* goat’s-rue \textit{Tephrosia virginiana}
* poison ivy \textit{Toxicodendron radicans}
* rabbit-foot clover \textit{Trifolium arvense}
* narrow-leaved cattail \textit{Typha angustifolia}
* common mullien \textit{Verbascum Thapsus}
* vetch \textit{Vicea sp.}
* cocklebur \textit{Xanthium chinense}

* Species identified on site during field visits by NP&V Staff.
 [e] NYS endangered species
 [p] NYS Exploitably Vulnerable Protected Plant
 [i] NYS invasive species (no legal status); Suffolk County Banned Plant List (Local Law 22-2007)
 [p] NYS exploitably vulnerable protected plant

**Wildlife**

The successional habitats, pine-oak forest, and freshwater wetland on the property should support a number of wildlife species common to suburban habitats, particularly small mammals and birds that are tolerant of human activity. 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, swalows, 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. A variety of birds were observed in the upland portions of the property, including turkey, woodpeckers, cardinals, robins, Eastern towhees, black-capped chickadees, crows, sparrows, barn swallows, mockingbirds and red-winged blackbirds. A pair of mallards and kingbirds were encountered utilizing the wet depression in the former racetrack oval when it contained water during the May 2009 site visit; note that such birds were not observed during any of the previous visits.

Data from the 2000-2005 Breeding Bird Survey for the census block that contains the site was obtained from the NYSDEC (NYSDEC, 2010; Appendix E-1). This study surveyed the entire State by 25 km² census blocks over a five-year period (2000 to 2005) to determine the bird species that breed within the State. Most of the species listed by the survey are likely to be found on-site, with the exception of species common to habitats not found on-site. Of the special concern species listed as being identified within the Breeding Bird Survey Blocks, the Cooper’s Hawk, Horned Lark and Osprey may occasionally utilize the site. However, none of these three special concern species were encountered during site visits. Descriptions of each threatened and special concern species identified within the Breeding Bird Survey Blocks and their habitat requirements are provided below.

The Cooper’s Hawk (Accipiter cooperii) utilizes forested areas, particularly near edges and rivers (Birdweb, 2008). This species prefers mature hardwood forests, but will utilize conifers if no hardwoods are available (Birdweb, 2008). As the site contains Pitch Pine-Oak forest areas with large amounts of edges and is in proximity to larger freshwater wetland areas of the Carmans River, it is possible that this species may utilize the subject site.

The Horned Lark (Eremophila alpestris) is a songbird that typically breeds in open areas with bare ground, short grass or scattered bushes and thus may be present and utilize portions of the site.

The Osprey (Pandion haliaetus) requires rivers, estuaries, salt marshes, lakes, reservoirs and other large bodies of water which contain dead trees or narrow artificial structures which they utilize for nesting (Birdweb, 2008). Within the past several years, an osprey platform had been retrofitted onto light poles within the existing paved parking area. Evidence of two platforms was observed in December 2007; however, there was no sign of nest material or ospreys themselves. No platform was still observed standing in subsequent field visits. Although a wetland area exists on the subject site, it is too small, canopied, and only temporarily flooded, thereby not sufficient for hunting by osprey or Cooper’s Hawks. However, adequate bodies of water occur in the general vicinity. As such, it is not anticipated that this species would utilize the subject site for hunting, but may transiently utilize the site. No nests were observed.

Further details regarding individual avian species are provided in Appendix E-2.

The site is suitable for use by raptor and owl species for hunting, and a limited number of these species may breed within the general vicinity of the property. Owls and raptors prey primarily on small mammals, which are likely to be abundant in the area. Most raptors prefer to nest in high, forested areas near open areas that are suitable for hunting, but most avoid humans. The red-tailed hawk is known to utilize pine-oak forests for nesting (CEQ, undated). This species is
relatively tolerant of humans, may be found in suburban areas and city parks (Bent, 1961; Andrle and Carroll, 1988), is fairly common on Long Island and is likely to utilize the site.

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 December 2007, May and September 2009, and July 2010. Observations were conducted according to typical NYSDEC protocol survey methods, which entail conducting observations on foot at equidistance points along transects that allow nearly complete coverage of the area. Along each transect, surveyors are to stand quietly and visually scan the area to document birds heard or seen, using binoculars as necessary to positively identify birds seen. Incidental observations should also be recorded as surveyors move between survey points. Individuals conducting surveys must be able to rapidly and positively identify all potential breeding bird species in the field by call and by site. During each site visit, qualified NP&V staff utilized existing trails and parking lot perimeters as transect lines. NP&V staff also conducted incidental observations when inspecting parts of the property where no formal trails existed.

<table>
<thead>
<tr>
<th>BIRD SPECIES LIST</th>
</tr>
</thead>
<tbody>
<tr>
<td>* red-winged blackbird</td>
</tr>
<tr>
<td>* mallard</td>
</tr>
<tr>
<td>Cooper’s Hawk</td>
</tr>
<tr>
<td>cedar waxwing</td>
</tr>
<tr>
<td>great horned owl</td>
</tr>
<tr>
<td>red-tailed hawk</td>
</tr>
<tr>
<td>whip-poor-will</td>
</tr>
<tr>
<td>* northern cardinal</td>
</tr>
<tr>
<td>American goldfinch</td>
</tr>
<tr>
<td>house finch</td>
</tr>
<tr>
<td>* killdeer</td>
</tr>
<tr>
<td>yellow-billed cuckoo</td>
</tr>
<tr>
<td>northern flicker</td>
</tr>
<tr>
<td>rock pigeon</td>
</tr>
<tr>
<td>Eastern wood-pewee</td>
</tr>
<tr>
<td>* American crow</td>
</tr>
<tr>
<td>* blue jay</td>
</tr>
<tr>
<td>chestnut-sided warbler</td>
</tr>
<tr>
<td>yellow warbler</td>
</tr>
<tr>
<td>* gray catbird</td>
</tr>
<tr>
<td>willow flycatcher</td>
</tr>
<tr>
<td>common yellowthroat</td>
</tr>
<tr>
<td>* barn swallow</td>
</tr>
<tr>
<td>wood thrush</td>
</tr>
<tr>
<td>Baltimore oriole</td>
</tr>
<tr>
<td>orchard oriole</td>
</tr>
<tr>
<td>Eastern screech owl</td>
</tr>
<tr>
<td>red-bellied woodpecker</td>
</tr>
<tr>
<td>* wild turkey</td>
</tr>
<tr>
<td>song sparrow</td>
</tr>
</tbody>
</table>
Species identified on site during field visit by NP&V Staff.

[s] NYS special concern species.

Mammals - The project site should also support a number of mammal species. Small rodents and insectivores such as mice, shrews and voles are expected to be the most abundant mammals on site, but a small number of larger mammals may be present.

Of the larger mammals, the raccoon, fox and white-tailed deer may be present on-site. The raccoon is relatively common throughout Long Island and is tolerant of humans. This species may become a pest, foraging in trashcans, gardens and agricultural fields. Raccoons will occasionally cause damage by denning in attics and other structures. Fox prefer to build dens in wood areas with loose, sandy soil, and there is some potential for them to utilize the property. Deer and eastern cottontail were observed on the property during the December 2007 and May 2009 site visits. Additional information regarding these species and others can be found within Appendix E-2.

Table 2-7 is a list of the mammal species that are expected to occur in the study area 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 LIST

<table>
<thead>
<tr>
<th>Species</th>
<th>Scientific Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>short-tailed shrew</td>
<td>Blarina breuicauda</td>
</tr>
<tr>
<td>Virginia Opossum</td>
<td>Didelphis virginiana</td>
</tr>
<tr>
<td>hoary bat</td>
<td>Lasiurus cinereus</td>
</tr>
<tr>
<td>house mouse</td>
<td>Mus musculus</td>
</tr>
<tr>
<td>pine vole</td>
<td>Microtus pinetorum</td>
</tr>
<tr>
<td>Keen's Bat</td>
<td>Myotis septentrionalis</td>
</tr>
<tr>
<td>* white-tailed deer</td>
<td>Odocoileus virginianus</td>
</tr>
<tr>
<td>white-footed mouse</td>
<td>Peromyscus leucopus</td>
</tr>
<tr>
<td>raccoon</td>
<td>Procyon lotor</td>
</tr>
<tr>
<td>Norway rat</td>
<td>Rattus norvegicus</td>
</tr>
<tr>
<td>* eastern cottontail</td>
<td>Sylvilagus floridanus</td>
</tr>
<tr>
<td>eastern mole</td>
<td>Scalopus aquaticus</td>
</tr>
<tr>
<td>eastern gray squirrel</td>
<td>Sciurus carolinensis</td>
</tr>
<tr>
<td>masked shrew</td>
<td>Sorex cinereus</td>
</tr>
<tr>
<td>Eastern chipmunk</td>
<td>Tamis striatus</td>
</tr>
<tr>
<td>red fox</td>
<td>Vulpes vulpes</td>
</tr>
</tbody>
</table>

* Species identified on site during field visits by NP&V Staff.

Reptiles and Amphibians - The site exhibits a mix of terrestrial and limited wetland habitats, and it is therefore expected that the site will support some terrestrial and aquatic herptile species. Aquatic species would be expected to be more diverse as compared to the terrestrial species that may be present. Many species of amphibians prefer moist woodlands and require areas of ponded water for breeding. With exception of the woodland swamp wetland and three wet depressions, the terrestrial areas of the subject property are largely very dry and therefore contain suitable habitat for a limited number of reptiles. The woodland swamp on the property would support a number of individuals. The wet depressions do not offer optimal aquatic habitat due to their brief hydroperiod. The depression in the central portion of the Racetrack parcel particularly becomes very dry and is surrounded by extensive areas of similar very dry, sandy soil with limited cover.

Two toads are common on Long Island in the upland habitats. The spadefoot toad occurs in woods, shrublands and fields with dry, sandy loam soils, breeds in temporary pools (Behler and King, 1979). The Fowler's toad prefers sandy areas near marshes, irrigation ditches and temporary pools. These two species are the most likely anuran species to be present in upland habitats on Long Island.

Aquatic amphibian species that also may be present include the green frog, wood frog, common gray tree frog and the spring peeper. The gray tree frog is seldom seen on the ground and chiefly stays in shrubs that are near or standing in shallow water (Conant, 1958). The green frog is characteristically a frog of brooks and small streams (Conant, 1958) and although the site does not contain optimal habitat, this species may be present. The wood frog is usually found in moist wooded areas and may wander considerable distances from water (Conant, 1958), and is also expected on site. Tadpoles of what appeared to be American toad were encountered within the wet depression in the central part of the racetrack parcel during the May 2009 site visit.
However, these frogs were not expected to have survived. Two desiccated, dead frogs were observed on trails surrounding the wet depression during the September 2009 site visit. Subsequent field visits encountered no water in this depression.

Most salamander species require both undisturbed moist woods for foraging and standing water for breeding. The red-backed salamander is the most common salamander on Long Island, and is highly terrestrial. It prefers a dry woodland habitat with plenty of leaf litter and fallen logs to forage for insects (Bishop, 1943), and generally lays its eggs in clumps on damp logs or moss (Conant and Collins, 1991). Several individuals were observed under logs throughout the wooded portion of the site during earlier site investigations by NP&V in 2001. The site continues to offer suitable habitat in terms of surface litter and rotten logs of varying sizes and stages of decomposition and these species are still expected.

The Eastern tiger salamander, which is listed as endangered by the NYSDEC, is a mole salamander which spends most of its adult life underground within moist woodlands, except during the breeding season in late winter and early spring. It has been documented as breeding in the kettle hole pond located approximately 2,800 feet from the proposed development portion of the project site at the southwest corner of the Dorade parcel. Migrations to the breeding pond are prompted by the first warm rains, and adults remain in the ponds for only a few weeks before returning underground (Cryan, 1984). The eggs hatch after three to four weeks, and the larvae remain in the pond until early summer before metamorphosis to the adult stage. Although most adults remain in close proximity to the breeding pond, some individuals may migrate a significant distance following metamorphosis from the larval stage. The NYSDEC typically requires that 50 percent of woodland vegetation be retained within 1,000 feet of a tiger salamander breeding pond.

Ideal breeding and larval habitat for this species includes semi-permanent ponds that dry every few years. The wetland habitat on the north portion of the Brookhaven Walk parcel would be expected to provide only marginally suitable habitat, as tiger salamanders are more often found in deeper ponds (over 3 feet deep) and pools that contain areas with more open water. Otherwise, the abundance of structure consisting of persistent emergent vegetation and leaf debris is present within this wetland, which is suitable for attaching egg masses. It is expected that the wetland has a sufficient hydroperiod in which to support successful egg laying and larval development, but is small, very shallow and therefore not a size typically utilized by tiger salamanders. The upland habitat on site is expected to be suitable for this species outside of the breeding season.

Several field inspections were performed in 1990 by Charles Voorhis & Associates (CVA), the Town of Brookhaven, and by Dru Associates to determine the potential presence of this species. No evidence of this species was documented during this time period and no evidence was observed during the spring field investigations in 2001. Further, the migration distance between Brookhaven Walk parcel and documented breeding areas is significant, and this in itself would be expected to limit successful migration and limit potential colonization of the on-site wetland.

Of the several other mole salamanders that are present on Long Island, the spotted salamander and marbled salamander may be present on site. The spotted salamander breeds in mid-spring
and is found primarily in rich soils of the moraine deposits (Cryan, 1984). This species requires temporary pools to support larval development. The marbled salamander lays its eggs during the fall within dried vernal pools or marsh edges, which are then inundated by winter rains. The species is most common in deciduous oak woodlands with rich soils, although individuals are occasionally found in pine-oak habitat (Cryan, 1984).

Several species of reptiles are found on Long Island in a variety of upland habitats, including the eastern garter snake, eastern hognose snake, brown snake, worm snake, black racer, and eastern milk snake (Wright, 1957). The smooth green snake and ring-neck snake are also present in some habitats. The garter snake, brown snake, and worm snake prefer moist soils and are most common near wetlands and in mesic woodlands (Behler and King, 1979), but will utilize a variety of habitats. The garter snake and brown snake are both tolerant of humans and may be common in suburban areas (Conant and Collins, 1991). The black racer and hognose snake prefer dryer soils, while the milk snake is found in soils of varying moisture content. The ring-neck snake is more restricted to woodland habitats, and prefers areas with logs, rocks or other hiding places. The green snake is most common in upland habitats within the eastern U.S. (Conant and Collins, 1991).

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, while the small worm snake feeds predominantly on worms and the smooth green snake feeds on spiders and insects (Conant and Collins, 1991). No snakes or evidence of snake presence was observed onsite, although the site offers suitable habitat and an abundance of prey for a wide variety of these species.

The only turtle species common to terrestrial habitats on Long Island is the eastern box turtle, which requires very little water (Obst, undated). The species is found in a variety of habitats, but prefers moist woodlands. The species feeds primarily on slugs, earthworms, wild strawberries and mushrooms (Behler and King, 1979). Several other turtle species are common to Long Island, however the aquatic habitats found on site are considered only sub-optimal.

Table 2-8 presents a list of amphibian and reptile species that might occur on site given the existing habitat(s). 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 E-2.

**Table 2-8**

### AMPHIBIAN AND REPTILE SPECIES LIST

<table>
<thead>
<tr>
<th><strong>Amphibians</strong></th>
<th><strong>Reptiles</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>spotted salamander</td>
<td>Ambystoma maculatum</td>
</tr>
<tr>
<td>marbled salamander</td>
<td>Ambystoma laterale [s]</td>
</tr>
<tr>
<td>* American toad</td>
<td>Bufo americanus</td>
</tr>
<tr>
<td>Fowler's Toad</td>
<td>Bufo woodhousei fowleri</td>
</tr>
<tr>
<td>spring peeper</td>
<td>Hyla crucifer</td>
</tr>
<tr>
<td>common gray treefrog</td>
<td>Hyla versicolor</td>
</tr>
<tr>
<td>red-backed salamander</td>
<td>Plethodon cinereus cinereus</td>
</tr>
</tbody>
</table>

The Meadows at Yaphank  
PDD Application  
Draft GEIS
green frog
wood frog
eastern spadefoot toad

Rana clamitans melanota
Rana sylvatica
Scaphiopus holbrooki [s]

Reptiles

worm snake
northern ringneck
eastern hognose snake
eastern milk snake
brown snake
eastern box turtle
common garter snake

Carphophis amoenus [s]
Diadophis punctatus edwardsii
Heterodon platyrhinos [s]
Lampropeltis triangulum
Storeria dekayi victa
Terrapene Carolina [s]
Thamnophis sirtalis

[s] NYSDEC special concern species
[t] NYSDEC threatened species
[e] NYSDEC endangered species

Rare and Endangered Species Potential
No rare, threatened or endangered plants were observed on site. The NY Natural Heritage Program (NHP; ECL 9-1503) was contacted to determine if there is any record of rare plants, habitats or wildlife in the vicinity. The NHP indicates that there is one (1) endangered amphibian (the tiger salamander), six (6) endangered or threatened vascular plants in the near vicinity (all plants are associated with Weeks Pond, located east of Lower Lake), one significant community (the coastal plain pond known as Weeks Pond), and four vascular plants with historical records in the general vicinity of the subject site. Additionally, an endangered butterfly/skipper and an endangered dragonfly are also listed as having historical records in the vicinity. The NHP has no records of sensitive species, known occurrences of significant natural communities or other significant habitats on or in the immediate vicinity of the subject site. Each of the species listed will be discussed below and evaluated for potential occurrence on the property. Correspondence with the NHP is located in Appendix E-3.

The endangered Eastern Tiger Salamander has been previously documented as breeding in the wetland located southwest of the Dorade parcel (Cryan, 1984). However, as noted in above, several field inspections were performed in 1990 by CVA, the Town of Brookhaven, and by Dru Associates to determine the potential presence of this species in the wetland on the Brookhaven Walk parcel. No evidence of this species was documented during this time period and no evidence was observed during the spring field investigations in 2001. Further, the migration distance between Brookhaven Walk parcel and documented breeding areas is significant, and this in itself would be expected to limit successful migration and limit potential colonization of the on-site wetland. Furthermore, no clearing of pine-oak woodland on the north side of the project site is proposed and therefore, no impacts to this species are anticipated.

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

The six (6) endangered or threatened vascular plants in the near vicinity of the site are all associated with the wetland habitats of Weeks Pond, located east of Lower Lake. Weeks Pond itself is a Coastal Plain Pond considered significant from a statewide perspective because of this occurrence’s high ecological and conservation value. Screw stem (*Bartonia paniculata* ssp. *paniculata*) is known to occur in seepy, sphagnaceous, fen-like area along the Carmans River. Button sedge (*Carex bullata*) is a sedge that occurs along the wet banks of the Carmans River in a small sedge meadow dominated by *Carex stricta*. Purple everlasting (*Gamochaeta purpurea*) was last known to occur in wet disturbed pine barrens habitat along the LIE and Carmans River. Few-flowered nutrush (*Scleria pauciflora var. caroliniana*) and Whip nutrush (*Scleria triglomerata*) were last observed at the upper edge of the pond in successional pine barrens habitat along with grasses and shrubs. Lastly, fibrous bladderwort (*Utricularia striata*) was last observed along the muddy edge of the coastal plain pond along the shore. The site only contains marginally suitable habitat for these wetland species, as they generally prefer more open areas along pond shores. The wetland on site has a variable hydroperiod and is heavily enclosed with wooded canopy vegetation that would limit the potential for these plants to occur on the property.

The four vascular plants with historical records in the general vicinity of the site include Dwarf hawthorn, Northern dwarf huckleberry, Slender pinweed, and Silvery aster. Slender pinweed (*Lechea tenuifolia*) is a threatened forb/herb plant that is generally found in dry, sandy and rocky woods, slopes, fields and barrens. This species is listed as imperiled in New York, but demonstrably secure on a global scale. It was last reported in the general vicinity of Yaphank in 1912. Dwarf hawthorn, Northern dwarf huckleberry and Silvery aster are all state-listed endangered species ranked as critically imperiled in New York, but either demonstrably secure or apparently secure on a global scale. Dwarf hawthorn (*Crataegus uniflora*) is a small tree generally found in dry woodlands, rocky uplands and open fields. It was last observed in the general vicinity of Yaphank in 1907. Northern dwarf huckleberry (*Gaylussacia bigeloviana*) is a small shrub generally found in dry, coastal plain barrens. It was last reported on the BNL property, at Camp Upton west of the hospital, in 1919. Silvery aster (*Symphyotrichum concolor var. concolor*) is a forb/herb that prefers dry, sandy soil and open woods, such as those found in Pine Barrens habitat. It was last observed in 1911 in the general vicinity of Yaphank, Longwood and Moriches fork. The site contains suitable habitat for all four of these historic species, however, these species are only historically known to occur in the area. There have been no recent records of observation for this species in the general vicinity. Furthermore, several extensive site investigations over the past few years have not encountered any of these species on the property. Therefore, these species are not believed to presently occur on the property.

Bayberry and striped wintergreen were the only “exploitably vulnerable” species directly observed on the property, although many others are listed as potentially present based on the existing habitat types. "Exploitably vulnerable" plants are species which are not currently threatened or endangered, but which are commonly collected for flower arrangements or other uses. Regardless, 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 Applicant (i.e. owner) would not be restricted in utilizing the site for the intended purpose. Therefore, the presence of any protected plants would not restrict use of the site under the NYS ECL.

The Persius duskywing (Erynnis persius persius) is listed as being historically reported in Yaphank, but has not been seen within recent years. This skipper is an uncommon, sparsely distributed butterfly in the eastern portion of its range, and its habitats include pine barrens, oak savanna, and other open, sunny locations where its host plants may be found (Shepherd, 2005). Host plants include a wide range of legumes, mainly wild (sundial) lupine (Lupinus perennis) and wild indigo (horseflyweed) (Baptisia tinctoria) (Shepherd, 2005). Persius duskywing is listed as critically imperiled on a global scale, as these insects have suffered from pesticide spraying while their habitats have either been destroyed or fragmented by development. There is suitable habitat for this skipper on site, including its wild indigo host plant. However, the historical record for this species makes it unlikely that it is still in the vicinity or on site.

The Comet darner (Anax longipes) also is only historically known to occur in the vicinity. It was last reported in 1908 in the general vicinity of Yaphank. This very large dragonfly is only historically known to occur in New York, though it is more commonly found in nearby states (e.g. New Jersey, Massachusetts). Its habitats include coastal plain ponds with floating and emergent vegetation where eggs are laid and the nymph stage occurs, while the adults inhabit a wide range of uplands (Massachusetts Division of Fisheries & Wildlife, 2008). There is no suitable habitat for this species on site, as the only areas which contain very limited suitable emergent vegetation are within the disturbed wet depression which does not maintain a consistent hydropodridal period to allow for egg and nymph development, which can take as long as 3-4 years to reach maturity. Additionally, the historical record for this species makes it unlikely that it is still in the vicinity or on site.

2.4.2 Potential Impacts

Freshwater Wetlands
No significant wetlands would be impacted by the proposed development. The existing NYSDEC-designated wooded swamp on the north side of the Brookhaven Walk parcel and the woodlands surrounding this wetland will remain undisturbed by the proposed project. A minimum buffer of 150-feet buffer will be provided surrounding this feature. Letters of non-jurisdiction had been secured for the Brookhaven Walk project in the past from NYSDEC and the Town of Brookhaven, as all proposed disturbance had previously been sited greater than 100 feet and 150 feet from the wetland, respectively. The area of disturbance associated with the Brookhaven Walk project remains the same on The Meadows plan, retaining the 150 foot setback from the south side of the wetland area; it is also noted that all structures will be situated greater than 175 feet from the wetland and no natural woodland will be cleared. As a result, the proposed project will not require a Chapter 81 Wetlands and Waterways Permit from the Town of Brookhaven for disturbance within 150 feet of a wetland and similarly, the proposed project will not require an Article 24 Freshwater Wetlands permit from the NYSDEC.
NYSDEC Wetland B-15 is situated approximately 112 feet southwest of the Dorade STP parcel and approximately 390 feet southwest of existing disturbed cleared areas on the parcel. The upgrade to the STP which is currently underway will not cause further increase in cleared areas on the parcel and would only have a positive benefit by improving the effectiveness of the plant, enabling it to consistently meet required effluent nitrogen levels. Future expansion of the STP is proposed in conjunction with the proposed action. The expansion is anticipated to require only approximately 1.50 acres of additional clearing above existing conditions, but this disturbance is anticipated to occur east of the existing recharge areas and would not result in any clearing closer to the wetland. No Article 24 NYSDEC Permit or Chapter 81 Permit would be needed.

None of the three wet depressions are NYSDEC-regulated wetland features. These features experience periodic wet conditions as a result of stormwater runoff and subsequently support varying degrees of wetland vegetation. The small wet depression with sparse *Phragmites* vegetation and the associated surrounding Pine-Oak woodland at the southwest corner of the site will remain undisturbed.

The eastern-most depression is very small in size (approximately 0.02 acres) and would be eliminated under the proposed plan, but would be mitigated through its incorporation into a much larger proposed pond and wetland system feature at its current location. Under Alternative 4 (see Section 5.4), this wooded wetland feature would be preserved with a 25-foot buffer adjacent to preserved existing woodland and the proposed stormwater pond and wetland system. Any disturbance, either the elimination of the feature as proposed, or its retention with a 25-foot buffer under Alternative 4, would be subject to review by the Town and permitting by the local agency as appropriate.

The larger and highly disturbed approximately 0.22-acre wet depression within the former racetrack oval was formerly a recharge basin serving that facility. It would be relocated as part of the proposed project for construction to provide parking for the office/flex component, the civic building, and the multi-purpose field. The proposed drainage system would include recharge areas as well as pond and wetland systems along the perimeter of the site. The nearest proposed pond and wetland systems will be situated approximately 400 to 500 feet southwest and northwest of the existing wet depression, respectively. Despite the poor condition of this silted, disturbed, wet depression which experiences drastic hydrologic changes (inundated to very dry), the Town of Brookhaven staff have indicated this feature meets the definition of a freshwater wetland as per Chapter 81 of the Town Code. At the request of the Town, efforts were made to incorporate this area, with minimal disturbance, into the design plan for use in stormwater containment and natural recharge (see Section 5.4). However, the excessively drained soils, lack of cover, lack of connectivity to natural areas, and presence of invasive *Phragmites* vegetation within the depression make it a wetland with low ecological value. The proposed project seeks to create a larger and significantly more valuable pond and wetland complex proposed within 400 feet of the existing depression under the project plan. The proposed wetland complex would relocate this feature a short distance away, allow it to be contiguous with preserved woodlands, and provide much greater than 3 to 1 mitigation for the loss of this minor and currently impacted wetland feature.
In summary, the racetrack wet depression is heavily impacted with invasive plants and is subject to traversing by ATV’s as evidenced by the trail that bisects the feature. The wet depression near CR 46 is in a narrow buffer area between the proposed clearing and development areas approved for Brookhaven Walk, and proximate to CR 46. Any features that may be disturbed will be mitigated through creation of a great area of restored wetlands, subject to review by the Town and permitting by the local agency as appropriate.

As discussed in Section 2.3.1, the Carmans River and its associated wetlands, including Weeks Pond, are in the general vicinity of the subject property, but there is no direct surface water connection between the site and this river system. Weeks Pond is located approximately 2,200 feet southwest of the subject site, and the river is located approximately 2,100 feet to the southwest. The river system flows towards the south and discharges to Bellport Bay and the larger Great South Bay. The river in this location is a gaining system where groundwater provides the large majority of the flow. However, based upon the site’s distance and the groundwater model prepared by CDM for SCDHS (2009), any recharge from the site would experience residence time in the aquifer before reaching the river system. Potential impacts to the Carmans River are discussed in Section 2.3.2.

Vegetation and Habitats
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 (192.89 acres; 57.85%) was previously cleared for development. Among these previously cleared areas, approximately 67.12 acres are currently either paved, building, recharge area or unvegetated, with the remaining areas having become established with successional field and shrubland vegetation. The rest of the site is largely undisturbed pine-oak forest (135.33 acres, 40.58%) and wetland (0.76 acres, 0.23%). The proposed development will primarily occur within these prior cleared areas, resulting in a total proposed developed area of 212.67 acres (63.78% of the site). This is less than the total allowable Pine Barren clearing area of 216.75 acres (65% of the overall site). With respect to only the Racetrack/BW site, 207.13 acres will be developed, or 64.25% of this area.

Within the development area on the racetrack parcel, essentially all pine-oak woodland will be preserved with exception of approximately two acres of trees that would have to be cleared largely for the proposed recharge area at the southwest corner of the site, the proposed site entrance at the southeast corner of the parcel, and the proposed main roadway along the eastern parcel boundary (see Figure 2-7b). None of the successional old field/shrubland will be preserved. However, approximately 3.34 acres of existing dense native shrubland that has nearly become pine-oak forest will be preserved in the southeast corner of the parcel (adjacent to pine-oak woodland to be preserved) and at the northwest corner of the development area in what is to be the proposed Village Green. On the Brookhaven Walk parcel, the majority of the pine-oak woodland will be preserved, with the exception of approximately 15 acres of woodland distributed among the entrance road that traverses the western parcel boundary, the central perimeter of the development area, and the two proposed recharge areas along the northern site boundary.
On the Dorade parcel, replacement of the STP is proposed in conjunction with the proposed action and would require the clearing of approximately 1.50 acres of woodland. This additional clearing is anticipated to occur east of the existing recharge areas on the parcel.

Ultimately, the site will continue to offer contiguity of existing woodland vegetation to be preserved along its perimeter with the adjacent woodlands in the surrounding area. In the central portion of the property, there will be a significant increase in landscaped habitats (29.42% of the site), and buildings and impervious areas (29.72% of the site). An additional 3.85% of the site will be established in recharge areas with the potential for large areas to be seeded with native and non-invasive herbaceous vegetation.

Regarding the proposed emergency fire access to the site from Main Street (see Figure 3-7), the roadway is proposed to be 18 feet wide and controlled via a fire access gate. The route of the proposed access is specifically intended to utilize an existing cleared roadway. The clearing was reportedly utilized as a second means of access to the former Suffolk Meadows Racetrack. Inspection of the 1,600-foot route indicates that minor new clearing may be required to establish the new roadway. The cleared portion of the roadway varies from 20 feet to 37 feet in width from the paved section of the LIE North Service Road. Computations indicate that approximately 2,500 SF of new clearing may be necessary to establish the 18-foot wide road based on a 24-foot grading/disturbance area. During the site plan design phase of the project, the alignment of the roadway will be finalized to minimize/eliminate new clearing based on actual survey data. Given the minimal clearing that is anticipated, the emergency access road will not result in significant ecological changes to the site.

The overall ecological character of the subject site will change as a result of the development of the interior of the site, but this will be minimized through the preservation of existing relatively contiguous woodland around its perimeter. The woodland is currently bisected by the main access road that divides the two main parcels, as well as existing paths and former construction entrances to the parcel. Additional fragmentation would occur as a result of construction of the eastern entrance to the parcel from William Floyd Parkway along the eastern property boundary, but would situate two proposed pond and wetland systems adjacent to the preserved woodland areas. The proposed project seeks to dedicate a large, contiguous block of open space on the subject site, which will remain as natural woodland and continue to provide ecological benefit to the site. Approximately 35% of the site will remain natural woodland vegetation, largely along the north, south and eastern property boundaries (see Appendix A-11: Clearing Plan on Sheet 7). Furthermore, the proposed pond/wetland systems and recharge areas will provide some diversity of habitat that may attract additional aquatic species.

As shown in Table 2-9, the project would ultimately increase buildings, impervious and landscaped areas on the property from an existing 12.12% to approximately 59.15% largely within previously cleared areas. No more than approximately 50 acres (15% of the site) would be allowed to be established in fertilizer-dependent vegetation, but the project proposes that only 32 acres (10% of the site) would be used for this purpose. The remaining 66.13 landscaped acres will be planted with native species that do not require fertilization. As a result of these substantial changes from successional to landscaped vegetation, edge species more characteristic of suburban habitats are expected to become more common. However, natural habitat for
existing woodland species will undergo little change. Nonetheless, localized impacts to vegetation and wildlife are anticipated as a result.

Table 2-9

COVERAGE QUANTITIES

Existing Conditions vs. Proposed Project

<table>
<thead>
<tr>
<th>Coverages</th>
<th>Existing Conditions</th>
<th>Proposed Project</th>
<th>Change in Acreage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total (ac)</td>
<td>Percent</td>
<td>Total (ac)</td>
</tr>
<tr>
<td>Developed Area</td>
<td>192.89</td>
<td>57.85%</td>
<td>212.67</td>
</tr>
<tr>
<td>Paved/Buildings/Impervious</td>
<td>40.42</td>
<td>12.12%</td>
<td>99.12</td>
</tr>
<tr>
<td>Lawn/Landscaped</td>
<td>---</td>
<td>---</td>
<td>98.12</td>
</tr>
<tr>
<td>Recharge Area &amp; Basins</td>
<td>1.09</td>
<td>0.33%</td>
<td>12.84</td>
</tr>
<tr>
<td>Unvegetated</td>
<td>25.61</td>
<td>7.68%</td>
<td>2.58</td>
</tr>
<tr>
<td>Successional Old Field</td>
<td>46.56</td>
<td>13.96%</td>
<td>---</td>
</tr>
<tr>
<td>Successional Shrubland</td>
<td>79.21</td>
<td>23.75%</td>
<td>---</td>
</tr>
<tr>
<td>Natural Area</td>
<td>140.57</td>
<td>42.15%</td>
<td>120.79</td>
</tr>
<tr>
<td>Wetland (Mapped)</td>
<td>0.76</td>
<td>0.23%</td>
<td>0.76</td>
</tr>
<tr>
<td>Pitch Pine-Oak Forest</td>
<td>135.33</td>
<td>40.58%</td>
<td>116.69</td>
</tr>
<tr>
<td>Dense Native Shrubland</td>
<td>4.48</td>
<td>1.34%</td>
<td>3.34</td>
</tr>
<tr>
<td>TOTAL</td>
<td>333.46</td>
<td>100.00%</td>
<td>333.46</td>
</tr>
</tbody>
</table>

The proposed project is consistent with the recommendations of the Brookhaven Open Space Study (1985) and the Draft Town Comprehensive Land Use Plan Update (1996), as it would retain approximately 120.79 acres (36.22% of the site) as preserved open space in the form of woodland and forested wetland vegetation and provide pedestrian connectivity of these areas to the adjacent Town Greenbelt via proposed trails. An additional 3.85% of the site would be established as recharge areas with the potential for large areas to be established with meadow or successional field vegetation.

It is noted that the removal of a portion of the natural woodland on site may remove some of the plants identified as “exploitably vulnerable.” Exploitably vulnerable plants are defined as those plants which are “...likely to become threatened in the near future throughout all or a significant portion of their ranges within the state if causal factors continue unchecked.” As the exploitably vulnerable species identified are located within woodland that will largely be preserved on the subject property, no significant regional impacts to exploitably vulnerable species are anticipated and those species will have the opportunity to persist.

A detailed Landscape Plan will be prepared for the site plan application, which will be submitted after approval of the PDD application. Native plant species will be incorporated where feasible. Invasive plant species, specifically those listed in Local Law 22-2007 enacted by the Suffolk County Legislature, will not be utilized. The project will conform to Town policy for fertilizer dependent vegetation, and as a result will provide vegetated buffering within the development to minimize the potential for significant adverse impacts to the amount of habitat area.
Wildlife
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 significant loss of successional habitats and some wooded area 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 is helpful in determining the net impact of habitat loss and reclamation under post-development conditions.

The property is not expected to now act as a refuge for rare fauna, but does contain a small population of local birds and mammals. The project will reduce habitat resources for those species that prefer vast expanses, open fields and shrublands, but will have significantly less impact on species that rely on woodlands. The species currently expected on-site are relatively tolerant of human activity, but there is potential for less tolerant species to utilize the site and they will be less likely to do so following development. It is expected that on-site wildlife (particularly avian species) will move to the preserved and undisturbed areas on the property and adjacent lands during construction activities. As the on-site wetland and surrounding woodland will not be disturbed, no impacts are anticipated with regards to wetland fauna.

In the short term, undisturbed portions of the property and lands adjacent to the subject property will experience an increase in the abundance of some wildlife populations due to displacement of individuals by the construction phase of the proposed project. Mobile species and particularly large mammals such as deer would be expected to relocate to the preserved portions of the property where large contiguous areas of open space will remain. Ultimately, there is expected to be a net decrease in population size for most species. The effect on the density and diversity of regional populations should be minimal.

Rare and Endangered Species/Unique Habitat Potential
No rare or endangered species are expected on the site given the habitats present and extensive field surveys. The Cooper’s Hawk, Horned lark, osprey, Eastern spadefoot toad, Eastern hognose snake and Eastern box turtle are species potentially expected on site which are listed as special concern species. Although there is documented concern about their welfare in New York State, these species receive no additional legal protection under ECL Section 11-0535. This category is presented primarily to enhance public awareness of these species that bear additional attention (NYSDEC, Endangered Species Unit). The pine-oak forest which may potentially be utilized by the Eastern tiger salamander population previously documented in the kettle pond wetland near the Dorade parcel is approximately 2,800 feet from the breeding pond and will not be disturbed as part of the project. Therefore, no impacts to this species are anticipated.

2.4.3 Mitigation

- Loss of the existing wet depression in the center of the racetrack parcel will be mitigated through the creation of a pond/wetland stormwater recharge area at least double in size, to be located along the western perimeter of the site near the site’s wooded edge.
- The loss of existing vegetated habitat on the property will be mitigated by preservation of 120.79 acres of natural area (36.22% of the site) within the proposed open space, including 116.69 acres of existing woodland, the existing 0.76-acre forested wetland, and 3.34 acres of dense native shrubland.
- Establishment of recharge areas with meadow vegetation to promote habitat and biological uptake of stormwater contaminants.
- Native plant species that provide food and shelter to wildlife will be utilized in some of the landscaped areas within the development area.
SECTION 3.0

HUMAN ENVIRONMENTAL RESOURCES
3.0 HUMAN ENVIRONMENTAL RESOURCES

3.1 Land Use, Zoning and Plans

3.1.1 Existing Conditions

Land Use
Current land use at the subject property and surrounding area is described based on aerial photographs and visual observations. The site is currently vacant, with the western parcel the former Suffolk Downs Racetrack (aka Parr Meadows). The eastern parcel was previously cleared with partial foundations installed in connection with a 1997 site plan approval for a retail project known as Brookhaven Town Center. This project was not completed, but the site received site plan and Pine Barrens approval in 2007 for an 850,000 SF retail development known as Brookhaven Walk. The site is not subject to any authorized use; however, the site is accessed for use by dirt bikes, and ATVs and there is evidence of extensive trails through the site in use by these unauthorized recreational activities. Surrounding land uses in the vicinity of the project site include residential (specifically, attached multi-family homes), industrial (industrial park, sand mine), racetrack, transportation corridors and vacant land.

Specific land uses abutting and in the vicinity of the property are summarized as follows:

North: Multi-family residential (Whispering Pines/Colonial Woods condominiums), vacant land
East: William Floyd Parkway, vacant land associated with Brookhaven National Laboratory
South: LIE, Clare Rose (within an industrial subdivision), single family residential, industrial park
West: Town of Brookhaven Greenway Trail, racetrack, sand mine, downtown Yaphank

Figure 3-1 illustrates the land uses surrounding the subject property.

Zoning
The subject site is zoned L-Industrial-1 (western parcel) and J-Business-2 (eastern parcel). The Dorade STP parcel is zoned A-Residence-1. Allowable uses in the L-1 District include:

1. Agricultural or nursery use including the retail sale of products raised on the premises
2. Bank
3. Church or similar place of worship
4. Commercial laundry establishment
5. Day-care facility
6. Health club
7. Historical or memorial monument
8. Lodge
9. Manufacturing
10. Office
11. Printing plants
12. Research and development uses including laboratories for scientific or industrial research, testing and development
13. Veterinarian, provided that all activities take place within the building
14. Warehouse
Allowable uses in the J-Business-2 District include the following:

1. Bank without accessory drive-through facility
2. Bowling alley
3. Church or similar place of worship
4. Commercial center
5. Day-care facility
6. Delicatessen
7. Dry cleaners
8. Health club
9. Laundromats
10. Non-degree-granting schools, including self-defense, dance, swimming, gymnastics and similar instruction/programs, except those associated with manufacturing or truck driving
11. Office
12. Personal service shops, such as barbershops, beauty parlors, shoe repair shops, tailor shops and like services
13. Pharmacy without accessory drive-through facility
14. Shops and stores for the sale at retail of consumer merchandise and services
15. Shops for custom work and for making articles to be sold at retail on the premises
16. Take-out restaurant
17. Undertaking establishments
18. Veterinarian, provided that all activities take place within the building

Allowable uses in the A-Residence-1 District include the following:

1. One-family dwelling, except that mobile homes shall not be a permitted principal use
2. Churches or similar places of worship and parish houses
3. Convents and monasteries
4. Open farming; provided, however, that no storage of manure or odor- or dust-producing substances shall be permitted within 150 feet of any street line. The sale at retail or wholesale of farm, garden or nursery products produced on the premises shall be permitted.
5. Public and parochial schools and private schools having a curriculum similar to that ordinarily given in public schools, but not including day-care facilities.

The zoning pattern in the vicinity includes the subject L-1 and J-2 lands, A-Residence-1, A-Residence-10, L-Industrial-1 in the vicinity of the subject property. Specific zoning categories of lands abutting the site and in the vicinity are summarized as follows:

- **North**: MF and A-Residence-1
- **East**: A-Residence-10 (BNL land)
- **South**: L-Industrial-1
- **West**: A-Residence-1

The zoning districts surrounding the subject site are provided in Figure 3-2.

A **Yield Study** (in a pouch at the end of this document) for the racetrack parcel was prepared in accordance with standard Planning Division procedures, and indicates the potential development of the property under its existing zoning, with a breakdown of the acreages. A copy of the **Conceptual Plan for Brookhaven Walk** is also included (in a pouch at the end of this
document); it provides the yield for the eastern parcel for the subject site. The eastern parcel of approximately 150.17 acres is zoned J-2 and has been approved for an 850,000 SF retail center. The western parcel, approximately 172.20 acres, is zoned L-1 and approximately 1,180,000 SF of industrial space can be built as-of-right for a total of 2,030,000 SF, or a Floor Area Ratio (FAR) of 0.145.

The subject site is located in an area defined by the Town’s L-Industrial-1 district as a Sensitive Hydrogeologic Zone, pursuant to Town Zoning Code Chapter 85, Section 85-316. If the western parcel were to be developed under the existing L-1 zoning, limitations pertaining to the site’s location within a Hydrogeological Sensitive Zone would apply, including minimum lot area, minimum required width of lot throughout and maximum permitted FAR. The minimum lot area is 120,000 SF [Section 85-313 A.(3)], minimum lot width is 200 feet [Section 85-313 B.(3)], and maximum FAR is 30% [Section 85-313 F.(2)].

Land Use Plans
The site is subject to planning history and development guidelines under several land use plans. These plans are reviewed and described below.

_Town Master Plan (1975)_ - The Town of Brookhaven adopted a Master Plan in 1975 that presented the intended blueprint for development of the Town. This plan was based upon five objectives “…in that they represent areas where Master Plan policies can exert a significant impact on the future of the Town of Brookhaven.” These objectives included:

1) preservation of significant and unique environmental features;
2) preservation of sufficient open space in its natural state to maintain the town’s present high standard of environmental quality;
3) structuring of development patterns to enable the eventual establishment of public transportation systems;
4) structuring of development patterns to enable their being supplied economically and effectively with all needed public facilities and services; and
5) achievement of a variety of housing of an acceptable quality. The subject site was designated for development as a regional mall site, due to its central location and convenient roadway access.

The 1975 Town Master Plan designated the subject site for development with commercial recreation for the western portion of the site and general commercial for the eastern portion of the site (see **Figure 3-3a**).

_Town Land Use Plan (1987)_ - In 1987, the Town adopted a Land Use Plan, which was a major update of the 1975 Master Plan. The intent of the Land Use Plan was to redirect the objectives of the prior plan, as a result of development since implementation of the prior plan, and to refine the mechanisms whereby these objectives were to be achieved. This plan designated the subject site for commercial recreation in the western portion of the site and medium-high density residential and commercial for the eastern portion of the site (see **Figure 3-3b**).

_Draft Town Comprehensive Land Use Plan Update (1996)_ - The Town of Brookhaven completed a draft revision of the Town Comprehensive Land Use Plan in 1996 (hereafter, the “Plan Update”; _Town of Brookhaven, 1996_). The Plan Update is intended as a broad blueprint
upon which future land use decisions within the Town are to be based. The Plan Update relies heavily on the hamlet studies prepared for individual communities noted above and includes a land use map that reflects recommended land uses throughout the Town. This map depicts “Planned Development” use on the project site (see Figure 3-3c).

The Plan Update identifies problems and needs with respect to mixed-use land use and zoning and states that “planned development, enables a mixing of land uses, appropriately located, thereby maximizing existing infrastructure while protecting the environment. Many hamlets have expressed a desire to create a “sense of place” within their community which a PDD could provide by linking neighborhoods with community services such as libraries and post offices. No sites in the Town are currently zoned as PDDs, however, the Environmental Impact Statements and Town Board Findings Statement for North Shore Properties [and Laurel Hills Associates] both encourage a preference for development pursuant to the PDD Ordinance... The PDD could also be utilized to create better site designs for large commercially and industrially zoned lands and lands which are encumbered by old filed maps.”

The Plan Update discusses the existing land use and environmental resources of the Town, and sets several overall goals for planning within the Town. Goals that are particularly relevant to the project area include developing a greater sense of place in communities, developing development techniques that maintain open space, and protecting and enhancing the environmental heritage of the Town.

The Plan Update recognizes the need to provide diverse housing opportunities for seniors, particularly with regard to affordability. The need for diversity of housing types such as smaller homes, and rental homes was also recognized. Both the 1975 Town Master Plan and the Plan Update recognize it is important to provide a mix of housing, not just single-family housing. The Plan Update also recognizes problems and needs with regard to different land use categories, such as residential land use. Recommendations of the Plan Update that may be applicable include the following:

- Continued use of clustered subdivision design to create permanent open space areas.
- The Town’s new Planned Development District should be utilized to bring opportunities for both open space preservation as well as innovative and unique development that can foster a sense of place and allow for the siting of work places near employee residences.
- The Town should strongly support and promote senior housing. Diversity, affordability and flexibility in the senior housing supply need to be promoted.
- In regard to land and subdivisions adjacent to limited access roadways, clustering should be utilized to reduce sound and visual impacts coupled with other innovative techniques including landscaped berms.
- PDDs should be actively promoted and encouraged by the Town to maximize existing infrastructure while protecting the environment, create a “sense of place” within a community and link neighborhoods with community services and activity centers.
- The Town should continue to use clustering and PDDs to preserve open space.

The Longwood Mini-Master Plan (January 1993) - 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 was to provide planning
goals, recognize then-existing problems, within the Longwood area, which includes 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 identified 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 subject property is recognized on this plan as appropriate for PUD mixed use development.

Central Pine Barrens Comprehensive Land Use Plan (1995) - The Long Island Pine Barrens Act of 1993 delineated the island’s 100,000± acre pine barrens, and subdivided it into two geographic areas: the 52,500 acre CPA and the CGA, which comprises approximately 47,500 acres. The CPA was identified as ecologically and hydrogeologically sensitive, and therefore is intended for preservation, while development in the CGA is permitted, though under strict regulations. These standards and guidelines are contained in the Pine Barrens Plan, which regulates all development within the Central Pine Barrens Zone. The subject site is within the CGA (see Figure 3-4).

Since the subject property is located within the CGA, it is subject to the Town of Brookhaven Code “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. In the case of the proposed project, it is defined as a “Development of Regional Significance”, and therefore must receive approval of the Pine Barrens Commission, and must conform to the all of the standards and guidelines in the Pine Barrens Plan.

Central Pine Barrens Critical Environmental Area - The subject site is located within the Central Pine Barrens CEA, as defined in Chapter 80, Attachment 1 of the Town Code. A CEA is a “... specific geographic area designated by a state or local agency, having exceptional or unique environmental characteristics. The Town has designated this CEA to recognize the environmental importance of the Pine Barrens. Designation as a CEA requires that potential impairment of the environmental characteristics of the CEA must be considered in determining significance (6 NYCRR Part 617; Section 617.7(c)(iii). This has been considered for the proposed Meadows at Yaphank project as in part the basis for a Positive Declaration thus requiring this environmental impact statement.

3.1.2 Potential Impacts

Land Use
The proposed project would introduce a mixed-use project that includes retail, office space, office/flex space, hotel/hospitality and housing. The commercial components of the proposed project include approximately 1,032,500 SF of space made up of hotel, retail, restaurant and office/flex uses. The residential component is comprised of 850 units of various types and sizes, including 303 age-restricted units and 85 work force housing units. As describer in Section
1.3.2, the Dorade STP is an existing facility that would be upgraded as part of the proposed project (see Section 1.4.2), and would later be replaced and restored to its original permitted flow; no change to the land use of this site is proposed, as it is an existing facility that would not be expected to be abandoned or developed.

The guiding principle of this proposed PDD is to locate a mix of residential, commercial and office land uses on the property, while providing the community with benefits that could not be realized absent the use of the overarching PDD concept. The project sponsor has invested considerable resources in site reconnaissance, conceptual planning and meetings with community representatives including civic leaders and school board members, to fully involve the stakeholders in the development of a PDD concept that meets the goals of the Yaphank community. It is noted that based on this input, the proposed project plan situates residential use on the north side of the site, adjacent to the existing multi-family uses (i.e., Whispering Pines and Colonial Woods). This provides for a more appropriate land use transition and improved compatibility as compared with the existing industrial and commercial zoned land in these areas of the site.

A more detailed breakdown of proposed uses is as follows:

<table>
<thead>
<tr>
<th>Commercial</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotel</td>
<td>150,000 SF</td>
</tr>
<tr>
<td>Restaurant</td>
<td>5,000 SF</td>
</tr>
<tr>
<td>Retail</td>
<td>327,500 SF</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Industrial</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Class A Office Space</td>
<td>250,000 SF</td>
</tr>
<tr>
<td>Office/Flex Space</td>
<td>300,000 SF</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Residential</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 and 2 Bedroom Rentals</td>
<td>144 units</td>
</tr>
<tr>
<td>1 and 2 Bedroom Condominiums</td>
<td>486 units</td>
</tr>
<tr>
<td>2 and 3-Bedroom Townhouses</td>
<td>220 units</td>
</tr>
</tbody>
</table>

Notes:
- Of the 220 townhouse units; 68 are 3-bedroom; the remaining 782 units are 1 and 2-bedroom
- The 303 senior units are dispersed among the rental, condos and townhouses
- The 85 work force housing units are dispersed among the rental units and condos

The Land Use and Development Plan envisions a sustainable community including Smart Growth elements such as a mix of residential, commercial (retail, office, office/flex), hospitality and public open spaces. As a result, the community will provide for itself as well as the greater community. The project concept incorporates efficient building design and proper planning to retain on-site open space. Residents of the Meadows at Yaphank community have the ability to enjoy shopping, entertainment and employment opportunities within walking distance, as well as vibrant public spaces and parks.

The project will feature coordinated architectural styling for the residential structures and commercial areas, as well as for all street furniture and amenities (e.g., lighting fixtures, signage, benches, trash receptacles, kiosks, fountains, etc.). It is intended and expected that the project’s
architecture would, in coordination with landscaping, create a visually interesting and desirable environment for residents and visitors, and will enhance the community in general. Quality-of-life will be a focus of the project, and this emphasis will be evident in its use of thoughtful building design, appropriate landscaping, well-equipped private residential recreational spaces and installation of attractive site entrances. The use of an internal boulevard-style roadway linking the commercial and residential areas combine with a walkable environment to provide vibrancy and some of the unifying features of this community.

Critical elements of design include retention of open space and energy efficient design to achieve conservation and energy reduction goals. Approximately 35 percent of the overall site will be retained as natural open space in conformance with the Vegetation Clearance Limits outlined in the Pine Barrens Plan. The project will comply with the Standards and Guidelines for a DRS. Open space will be permanently preserved through site plan approval and conservation easements, and will be publicly accessible for passive enjoyment (nature trails, hiking, etc.). Stormwater handling will feature innovative management methods to enhance surface treatment and quality recharge. The project includes construction of public buildings (a 3,000 SF community center at the proposed Multi-purpose Field and a 1,500 SF Pavilion and Restrooms at the Civic Square) which will be LEED® (Leadership in Energy and Environmental Design) certified, and all construction on site will involve energy efficient design and water conserving measures.

The current zoning of the site allows for industrial and commercial uses. The proposed PDD would involve a change in use for the parcel that is currently a commercial and vacant site to a mix of residential and commercial uses. Town Code Section 85-340A(1) indicates that the uses permitted within a PDD shall be the same as that permitted in the underlying zoning districts. The proposed project includes the following uses, allowed within the respective underlying zoning districts

**J Business 2**
1. Bank without accessory drive-through facility
2. Commercial center
3. Pharmacy without accessory drive-through facility
4. Manor restaurant as an accessory use to a commercial center (Town Board special permit for accessory use)
5. Drive-through facility as an accessory use to a bank or pharmacy (Planning Board special permit for accessory use)

**L Industrial 1**
1. Office
2. Warehouse
3. Trucking terminal (Planning Board special permit)

Within the eastern parcel (now zoned J-2), the Meadows at Yaphank proposes a bank, commercial center, pharmacy and major restaurant, all of which are allowed as-of right. It should be noted that the proposed PDD includes a drive-through for both the bank and pharmacy, which would require a Planning Board Special Permit for an accessory use under the existing J-2 zoning. The proposed hotel is not allowed in J-2 but is a complementary commercial use that is
proposed as part of the PDD. Multi-family residences are not allowed as-of-right and this is the basis for the proposed land use conversion on the north part of the J-2 parcel.

For the western parcel (now zoned L-1), office or office/flex space are proposed, both of which are allowed as-of-right. Thus, the proposed office/flex space proposed for the southwestern portion of the site (within the Western parcel) would be allowed under the existing L-1 zoning, and would continue to be allowed on this parcel under the proposed PDD. Multi-family residences are not allowed as-of-right but are proposed as part of the mixed-use PDD through the change of use on the north part of the L-1 parcel. The areas of development allowed as-of-right and not allowed as-of-right within each of the parcels and zoning districts on the subject site are provided below. These areas do not include roadways, recharge, open space, parks, etc. which are accessory uses. Generally, the developed area is made up of roughly 50% as-of-right uses and 50% changes of use to facilitate the proposed mixed-use PDD.

<table>
<thead>
<tr>
<th>J-2</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Allowed as-of-right:</td>
<td>33 acres +/-</td>
<td></td>
</tr>
<tr>
<td>Not Allowed as-of-right:</td>
<td>28 acres +/-</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>L-1</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Allowed as-of-right:</td>
<td>35 acres +/-</td>
<td></td>
</tr>
<tr>
<td>Not Allowed as-of-right:</td>
<td>36 acres +/-</td>
<td></td>
</tr>
</tbody>
</table>

Section 85-340A(3) indicates that the Town Board may approve a change of use, as presented in a calculation of the estimated daily sewage generation and daily traffic generation for the proposed use and for the permitted use which it is intended to replace. The as-of-right versus proposed PDD would generate 96,711 to 150,000 gpd (allocated flow into Dorade STP for racetrack and mall parcel) versus 275,050 gpd of daily sewage generation as estimated for the proposed project. In terms of trip generation, the weekday daily trips decrease from 35,430 to 21,940 trips when comparing as-of-right use to the proposed PDD.

In summary, the applicant believes that the proposed project is an appropriate development in an area of the Town that can accommodate and thrive with such development. No adverse impact on existing land use has been identified, and the project provides tax revenue, jobs, permanent use of land, conversion of zoning that allows many of the underlying allowable uses and introduces workforce, senior and diversity of housing unit sizes, in a mixed-use development that incorporates sense-of-place, walkability and public amenities through design.

**Zoning**

The proposed action is for a change of zone from L-Industrial-1 and J-Business-2 to PDD. The proposed PDD represents an opportunity to develop a mixed-use community incorporating attractive design features, coordinated traditional architectural design, and public benefits in lieu of development of as-of-right industrial and commercial development.

The proposed Meadows at Yaphank PDD is a change of use from the existing approved 850,000 SF Brookhaven Walk mall project, and the existing L-1 zoned former Suffolk Downs Race Track site, to a mixed-use development project. Chapter 85, Section 339.1 C. outlines the procedural submissions for a Phase I PDD application (see Appendix A-1), wherein, under
subsection (c), the application shall include: “a description of any proposed changes of use, including the required analysis of the basis for such change as set forth in Section 85-340 A. Pursuant to Section 85-340 A (3), “…the applicant shall present a calculation of the estimated daily sewage generation and daily traffic generation for the proposed use and for the permitted use which it is intended to replace.” The following information is submitted in fulfillment of the required information:

**Table 3-1**

**CHANGE IN USE DATA**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>L-1 Zone</th>
<th>J-2 Zone</th>
<th>Total L-1 and J-2</th>
<th>PDD</th>
<th>Change in Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Use/Yield (SF)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum building area (SF)</td>
<td>Industrial/ 1,180,000 SF</td>
<td>Retail/ 850,000 SF</td>
<td>2,030,000 of commercial &amp; industrial space</td>
<td>1,032,500 SF commercial &amp; 850 unit (1,149,620 SF) residential</td>
<td>+152,120</td>
</tr>
<tr>
<td><strong>Sanitary Flow (gpd)</strong></td>
<td>--</td>
<td>--</td>
<td>77,193</td>
<td>271,050</td>
<td>+193,857</td>
</tr>
<tr>
<td><strong>Size of Property (acres)</strong></td>
<td>172.20</td>
<td>150.17</td>
<td>322.37</td>
<td>322.37</td>
<td>=</td>
</tr>
<tr>
<td><strong>Maximum Article 6 Flow (gpd)</strong></td>
<td>51,660</td>
<td>45,051</td>
<td>96,711</td>
<td>275,050</td>
<td>+178,339</td>
</tr>
<tr>
<td><strong>Dorade STP Wastewater Flow (gpd)</strong></td>
<td>50,000</td>
<td>140,000</td>
<td>190,000</td>
<td>275,050</td>
<td>+85,050</td>
</tr>
<tr>
<td><strong>Weekday Daily Vehicle Trips</strong></td>
<td>--</td>
<td>--</td>
<td>35,430</td>
<td>21,940</td>
<td>-13,490</td>
</tr>
<tr>
<td><strong>Saturday Daily Vehicle Trips</strong></td>
<td>--</td>
<td>--</td>
<td>37,930</td>
<td>23,430</td>
<td>-14,500</td>
</tr>
<tr>
<td><strong>Total AM Peak Hour Vehicle Trips</strong></td>
<td>--</td>
<td>--</td>
<td>1,754</td>
<td>1,455</td>
<td>-299</td>
</tr>
<tr>
<td><strong>Total PM Peak Hour Vehicle Trips</strong></td>
<td>--</td>
<td>--</td>
<td>3,773</td>
<td>2,233</td>
<td>-1,540</td>
</tr>
<tr>
<td><strong>Total Saturday Peak Hour Trips</strong></td>
<td>--</td>
<td>--</td>
<td>3,820</td>
<td>2,208</td>
<td>-1,612</td>
</tr>
</tbody>
</table>

Notes:
1. Based on 300 gpd/acre; Zone III Article 6 requirement; however, property is sewered pursuant to Appendix A-11.
2. Based on Engineering Report (see Appendix A-12).

**Table 3-1** indicates that the change in square footage of development is 3.39%, or 68,870 SF. While sanitary flow increases, the number of daily and peak hour vehicle trips decreases. Both factors must be considered in connection with a PDD pursuant to: Section 85-340A.(3), specifically: “The Town Board, subject to its determination that the change of use is appropriate in helping to implement the legislative intent of PDD zoning, may permit such change, provided that the resultant final impacts in terms of sewage and traffic generation are not adverse.”

With respect to potential impacts, the following can be stated with respect to sanitary flow and vehicle trips:

- The proposed project will discharge to an existing STP that will be upgraded and restored to its original design capacity to accommodate the proposed sanitary flow. These upgrades are a cost that will be borne by the applicant.
- The proposed project will result in the upgraded treatment of 140,000 gpd of existing flow, not related to the project, specifically originating from Whispering Pines/Colonial Woods and SCSD #8.
• The proposed project will conform with the Pine Barrens Plan Guideline of no more than 2.5 mg/l of nitrogen in recharge for projects in proximity to wetlands and surface water.

• In addition to ensuring upgraded treatment of the existing flow to the Dorade STP, the increased flow of the proposed project has been evaluated and the total nitrogen load (pounds per year of nitrogen) will be reduced as compared with “as-of-right” industrial/commercial development with on-site discharge. Finally, the Meadows at Yaphank project has been subject to preliminary nitrogen budget modeling and will comply

• The proposed project will offer mitigation for any decrease in level of service identified in the TIS. Off-site traffic mitigation is a cost that will be borne by the applicant commensurate with the impacts and shared-costs identified in the Traffic Impact Study.

• The proposed project will reduce the vehicle trips as compared with the as-of-right zoning.

Chapter 85, Section 85-340A.(5) goes on to state: “In lieu of some PBC’s, applicant may request, and the Town Board may grant, zoning incentives in the form of increased density or change of use in return for the provision of special public benefits as defined in this article.” Chapter 85, Section 85-340 B.(1) further reinforces the concept that PBC’s combined with special public benefits may be used to allow requested changes of use, and Section 85-340 B.(2) outlines the relevant economic analyses that should be provided to assist the Town Board in making a determination.

Public benefits associated with the project are proposed in several forms; those special public benefits that can be quantified are presented in Table 3-2, these provide a value-based justification for the proposed PDD.

Based on the above analysis, the public would receive approximately $12,117,006 in benefits as a result of this PDD. This would be a substantial fiscal benefit to the community, and is a primary aspect of the PDD concept. The applicant will expend additional construction dollars and other costs in order to provide these public benefits. Therefore, when considering the existing potential use of the site, there is a quantitative basis to support the proposed change of land use in combination with the special public benefits associated with the proposed project.

Chapter 85, Section 85-340B.(2) requires consideration of economic factors. The following information is provided to address this requirement:
### Table 3-2
**PROJECTED QUANTIFICATION OF SPECIAL PUBLIC BENEFITS**

<table>
<thead>
<tr>
<th>Special Public Benefit</th>
<th>Unit Cost/Factor</th>
<th>Per (Unit)</th>
<th>Quantity</th>
<th>Unit</th>
<th>Economic Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Local Benefits</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Towne Square improvements (reflecting pool, concert gazebo, landscaping &amp; seating)</td>
<td>$450,000</td>
<td>lump sum</td>
<td>1.00</td>
<td>each</td>
<td>$450,000</td>
</tr>
<tr>
<td>Energy Efficient Shuttle Linkage (not including operation)</td>
<td>$250,000</td>
<td>lump sum</td>
<td>1</td>
<td>unit</td>
<td>$250,000</td>
</tr>
<tr>
<td>Construction of public buildings (3,000 SF community center @ MPF &amp; 1,500 SF pavilion &amp; restrooms @ Civic Square - LEED Certified)</td>
<td>$225</td>
<td>SF</td>
<td>4,500</td>
<td>SF</td>
<td>$1,012,500</td>
</tr>
<tr>
<td>Multi-use path through open space for public use if acceptable to the Pine Barrens Commission (no removal of trees, underbrush removed); based on 4-foot wide by 2.5 miles long loop</td>
<td>$5</td>
<td>SF</td>
<td>52,800</td>
<td>SF</td>
<td>$264,000</td>
</tr>
<tr>
<td>Dedication of parkland for athletic fields, civic building, basketball and parking to Town, - including access to Greenbelt</td>
<td>$250,000</td>
<td>acre</td>
<td>7</td>
<td>estimated acres</td>
<td>$1,750,000</td>
</tr>
<tr>
<td>Towne Square (public plaza, great lawn, reflecting pool, and civic square)</td>
<td>$250,000</td>
<td>acre</td>
<td>5</td>
<td>estimated acres</td>
<td>$1,250,000</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$4,976,500</td>
</tr>
<tr>
<td><strong>Regional Benefits</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Road maintenance in residential portion (if not dedicating roads) (plowing, sanding, sweeping, emptying catch basins, repair and repave) - 20 years at 9% annually.</td>
<td>$50,000</td>
<td>year</td>
<td>9%</td>
<td>rate</td>
<td>$2,558,006</td>
</tr>
<tr>
<td>Improvements to Dorade STP</td>
<td>$30</td>
<td>gallon</td>
<td>140,000</td>
<td>gpd</td>
<td>$4,200,000</td>
</tr>
<tr>
<td>Purchase of PBCs</td>
<td>$76,500</td>
<td>credit</td>
<td>5</td>
<td>credits</td>
<td>$382,500</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$7,140,506</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$12,117,006</td>
</tr>
</tbody>
</table>
• **Estimated cost to applicant** - The cost to the applicant is based on the value of benefits for which cost will be incurred by the applicant; as outlined in Table 3-2 above, this cost is: $12,117,006.

• **Estimated economic gain to applicant** - The change in land use will increase the potential square footage that can be placed on the property by approximately 68,870 SF. The change of use also provides diversity of product that can be offered for sale or rent; specifically, the mixed-use of various types of rental and “for-sale” housing, office, industrial, retail, hotel and restaurants, provides the applicant with the ability to construct in phases, and offer various land use types thus providing an economic gain over the existing zoning. Based on proprietary pro-forma analysis, the project is more economically viable than the existing use potential and is worth pursuing. Conversely, in the current market, the existing zoning for the 850,000 SF shopping center and 1.18 million SF of office/industrial is not worth pursuing.

• **Estimated changes in land value and development cost** - The value of the property will be enhanced by the change in use. This is balanced with substantial risk as related to cost of improvements, market factors over time and potential revenues and timing of revenues. The applicant is the only party that is at financial risk, yet proposes to make a beneficial investment in the community that will establish a vibrant mixed-use community on the site which will generate tax revenue and substantial employment. Once approved, construction requires capital investment, which is only recouped through occupancy of a successful project. A mixed-use development with parks, extensive road systems, sidewalks, quality architecture, landscaping and infrastructure improvements is much more costly to construct than a shopping center or industrial facility. The applicant must also incur substantial costs with the STP upgrade as well as off-site transportation improvements. Based on a proprietary pro-forma analysis, the project is more financially feasible as a result of the mixed-uses that can be offered as noted in item 2 above.

• **Estimated assessed value for proposed PDD versus as-of-right development** - Applying the 2009-2010 equalization rate of 0.0073, the total assessed value of the proposed PDD is $3,142,013 compared to $2,120,701 for the as-of-right development of 850,000 SF of retail and 1,180,000 SF of industrial development.

The intent of a PDD is clearly to provide a more suitable development proposal that gives back to the community by providing special public benefits that meet the individual needs of the surrounding community as well as the inherent benefits of creating a village center for the entire community to enjoy. The more “qualitative” benefits are discussed in the next section.

Overall, the Meadows at Yaphank PDD will be a community that provides many benefits for the people that will live and work in or near it, as well as for the residents of nearby hamlets and employees of nearby job centers such as Brookhaven National Lab, Clare Rose and the Tri-Tec industrial park. No adverse zoning impacts have been identified, and it is the applicants believe that the conversion of zoning from L-1/J-2 to PDD will provide benefit over the existing as-of-right zoning in terms of a mixed-use development that provides public benefits and serves greater public need.

As noted in Section 3.1.1, the L-1 code includes a defined “Sensitive Hydrogeologic Zone” which applies to L-1 zoned sites within a geographic area that includes the subject site. The only provisions of this zone pertain to industrial lot size (120,000 SF), minimum industrial lot width (200 feet) and maximum FAR (30%). The proposed project calls for rezoning the property to PDD. Once rezoned, the provisions of the Sensitive Hydrogeologic Zone would not apply the parcel, as it would no longer be zoned for industrial use.
Potential Impact of Building Heights in Excess of Heights Allowed in Underlying Zones - The existing allowable heights within the J-2 or L-1 zones are 35 feet/2-1/2 stories and 50 feet/3 stories, respectively. However, through the PDD, the applicant does not wish to preclude the ability to construct buildings that would exceed these heights. As a result, the plan was designed with the intent that taller buildings could be constructed within strategic areas within the development where the height would not be evident. From a land use, energy and use of materials perspective, multiple story buildings are more efficient in conserving materials, operations and land management. Therefore, as shown in the Land Use and Development Plan, the proposed PDD regulations would allow the following maximum building heights:

- hotel/office buildings - up to 5 stories/75 feet
- apartment/condominium buildings - up to 4 stories/65 feet
- townhouse buildings - up to 3 stories/35 feet
- retail buildings - up to 2 stories/45 feet

A Building Height Analysis was conducted which surveyed any buildings located along the Long Island Expressway within the Town of Brookhaven greater than two stories to determine compliance to the requirements of the underlying zoning district as well as any potential impacts associated with aesthetic resources (see Section 3.5.2). Appendix A-14 provides the results of the survey, which identified six structures in excess of two stories.

1. Site 1- Courtyard Marriott, Ronkonkoma - 7 stories, ±71 feet
2. Site 2- Residence Inn Marriott, Holtsville - 4 stories, ±42 feet
3. Site 3- Island Nursing and Rehab Center, Holtsville - 3 stories, ±34 feet
4. Site 4- Hampton Inn, Farmingville - 6 stories, ±65 feet
5. Site 5- Crowne Plaza, Holtsville - 3 stories, ±35 feet
6. Site 6- Clare Rose, Yaphank - 3 stories, ±41 feet

Sites 1-5 (all hotels) are zoned J Business 8 District (Hotel-Motel District), which has a minimum height requirement of two stories and a maximum height of four stories/50-feet. However, pursuant to Section 85-279C, the Town Board may, upon its enactment to include any lands within the J-Business-8 (Hotel-Motel) zoning classification district, condition such enactment upon the applicant receiving a variance from the Board of Appeals waiving or varying any of the dimensional requirements upon the Zoning Board's finding and determination that an area variance would not impact the surrounding area or result in substantial adverse impacts to the natural environment and/or physical conditions of the surrounding area. Sites 1 and 4, which are seven stories and six stories, respectively, both exceed the dimensional requirements for the J Business 8 district. It is assumed that these buildings were analyzed under SEQRA and found to have no adverse impacts and received an area variance for building height.

Site 6 is zoned L-1, which as previously mentioned, has a maximum building height of 50 feet/3 stories. The existing building conforms to the dimensional requirements of the underlying zoning district.

Building heights will be determined during the site plan review process. Per the PDD dimensional requirements identified in Section 85-340C, in order to allow maximum flexibility
in the achievement of the legislative intent, purposes and goals, the Town Board and the Planning Board, in connection with their respective review and approval authorities, may modify the dimensional standards that would otherwise be applicable to development within the underlying zoning districts, including maximum building height.

**Land Use Plans**

*Town Master Plan (1975)* - The Town Master Plan identifies the subject parcel as being appropriate for commercial recreation (western portion of the site) and general commercial (eastern portion of the site). In addition, the area was identified as an existing center to be expanded.

The Master Plan states that multi-family development should be limited to existing centers or to the developing centers and that small retirement communities are appropriate in centers where shopping and amusements can be within walking distance. The Plan states that there is a significant amount of vacant commercially zoned land and that the amount of commercially zoned land greatly exceeds the foreseeable demand and in selected cases, the Town might consider a change from commercially-zoned land to planned unit development, office space or apartments. This should be done where such development is appropriate and needed and where vacant land that has been commercially zoned over a long period of time cannot be developed due to transportation issues, should not be developed if a rational land use pattern is desired, or is located in an area where sufficient commercial facilities already exist or where population growth is limited. Offices were identified as being appropriate within commercial zones, in the new and expanded centers, and as part of the planned unit developments.

Yaphank was recommended as a transportation center along the central transportation corridor, based on the proposed development at the time, including a quarter horse racetrack under construction and a regional shopping center with two million square feet of leasable space. Suggested transportation improvements included direct access to the race track-shopping center via “flyovers” crossing the LIE and the William Floyd Parkway as well as extra lanes on both of the highways and the service roads for the LIE.

The proposed project will conform to several recommendations of the Plan, including the development of mixed-use center that includes residential, commercial and industrial uses, and incorporates both senior and affordable (workforce) housing opportunities.

*Town Land Use Plan (1987)* - The Town Land Use Plan identifies the subject parcel as being appropriate for a mix of commercial, medium-high density residential and commercial recreation.

In hamlet centers, the Land Use Plan encourages a mix of uses, with residential and commercial (office and retail) development in relatively close proximity. Carefully designed zoning and site plan controls can permit a reasonable intermix of such uses while providing the attributes of a center that includes a sense of place, convenience, reduced travelling for errands, possibilities for walking, and local employment opportunities.
The Land Use Plan states that as the eastern half of Long Island grows, there will be an increasing need for a regional shopping center in eastern Brookhaven, and that a location at the intersection of the LIE and William Floyd Parkway would be suitable, as would several other locations on major highways.

First identified in the 1975 Master Plan, the 1987 Land Use Plan updates the status of Yaphank as a transportation center and the improvements identified in the plan remain appropriate.

The proposed project will conform to several recommendations of the Land Use Plan. The proposed project envisions a sustainable community including Smart Growth elements such as a mix of residential, commercial (retail, office, office/flex), hospitality and public open spaces. As a result, the community will provide for itself as well as the greater community. With efficient building design and proper planning, more open space is preserved and the community becomes a vibrant and successful place combating the elements of sprawl. The project will feature attractive, coordinated architectural styling for the residential structures and commercial areas, as well as for all street furniture and amenities (e.g., lighting fixtures, signage, benches, trash receptacles, kiosks, fountains, etc.).

Draft Town Comprehensive Land Use Plan Update (1996) - The proposed PDD conforms to the Plan Update recommendation of “Planned Development” for the subject site. It would provide lands for public open space and public utilities, with commercial and residential uses; it will generate significant public benefits to the school district and community. The PDD design specifically includes large amounts of preserved land for aesthetic buffering and environmental preservation, and retains much of the naturally-vegetated perimeter buffers. The project conforms to the spirit and other recommendations of the Plan Update, as follows:

- The project will provide high-quality senior housing in a setting that respects the existing land use context of the site and area.
- The Plan Update identifies the need for attractive, affordable housing with low maintenance and recreationally-oriented facilities for the Town’s seniors, which would be achieved by the proposed PDD.
- The Meadows at Yaphank proposes a mixed land use that is appropriate in the vicinity.
- The project will help develop a greater sense of place in the local community by use of the PDD technique, which provides for recreation and open space.
- The project’s residential units will be provided in the form of differing types of units, which diversity is in accordance with Plan Update recommendations and adds variety to housing patterns by adding diversification to the surrounding community.
- The project will provide for a significant number of workforce units, as recommended by the Plan Update.
- The proposed project will dedicate a substantial acreage of land to the Town for public recreational purposes.

The Longwood Mini-Master Plan (January 1993) - The project does conform to the recommended PUD mixed-use land use for the subject parcel. In addition, the proposed project will conform to many of the identified goals of the plan, including the following:
The Meadows at Yaphank
PDD Application
Draft GEIS

1. To encourage the creation of unique, identifiable community centers.
2. To encourage diversity or intricacy of use within our downtowns.
3. Encourage the development of people friendly streets and downtowns.
4. To enhance our tax base with properly sited industrial and commercial development.
5. Create corridors of open space throughout our community.

A portion of the subject property was identified in the plan as a potential center of activity. The plan states: “The North Shore Properties at William Floyd Parkway and the Long Island Expressway have the potential to be a regional commercial services center.” The plan further states “A high priority goal is to encourage the creation of unique identifiable community centers. These community centers in which people are encouraged to interact should be in Coram, Middle Island, Ridge and Yaphank, with community enhancement occurring in East Yaphank and Gordon Heights. The development of people friendly streets and downtowns is an important goal. Designated community centers should allow for higher building densities, setback relief and an integrated pattern of land use. Interaction should be encouraged by planning for a diversity of uses within the downtown areas. Amenities, such as pocket parks, and public buildings such as libraries and post offices which encourage people to be on the streets, and thus enhance their safety, should be planned within the center of communities... The aesthetic appeal of the downtowns must also be addressed. Street trees are of particular importance and should be required in site plan review. Trees can serve to separate the pedestrian from the automobile and add to the attractiveness of the downtown area... Finally, an architectural review board with input from the community should be established.”

The Meadows at Yaphank development envisions a sustainable community including Smart Growth elements such as a mix of residential, commercial (retail, office, office/flex), hospitality and public open spaces. As a result, the community will provide for itself as well as the greater community. With efficient building design and proper planning, more open space is preserved and the community becomes a vibrant place, combating sprawl. Residents can find local shopping, entertainment and employment, providing freedom on-foot for all necessities as well as vibrant public spaces and parks. As a result, the proposed project will conform to the goals, objectives and recommendations identified in the Longwood Mini-Master Plan.

Central Pine Barrens Comprehensive Land Use Plan - The Pine Barrens 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 the standards presented in the Pine Barrens Plan, and projects designated as DRS’s must also conform to the guidelines. Table 3-3 provides an evaluation of the project’s conformance with the Pine Barrens Plan. Development in the CGA is permitted under strict guidelines. These standards and guidelines were adopted in the Pine Barrens Plan and the SEQRA Findings Statement of June 1995. Based on the size of the proposed project, and review of Section 4.5.5 of the Pine Barrens Plan, the project is considered a DRS, and so all of the standards and guidelines of the Pine Barrens Plan must be met.
<table>
<thead>
<tr>
<th>Standard (S)/Guideline (G)</th>
<th>Explanation and Document Page Reference (Attach additional sheets if necessary)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>S 5.3.3.1.2</strong> STP discharge</td>
<td>Where deemed practical by the County or State, STP discharge shall be outside and downgradient of the Central Pine Barrens. Denitrification systems that are approved by the NYSDEC or the SCDHS may be used in lieu of an STP. The proposed project will utilize the existing Dorade STP to treat and dispose of all wastewater generated. In 1973, this facility was designed to treat all such wastes generated by the subject site as well as the nearby Colonial Woods/Whispering Pines condominiums, and has also been used to treat wastewater generated by SCSD #8. Treated effluent is recharged within the CGA, as the STP was approved and constructed prior to the adoption of the Pine Barrens Plan. The facility will be upgraded and restored to its original design capacity as part of the proposed project, and will continue to operate under the jurisdiction of the SCDPW, SCDHS and NYSDEC, thereby assuring that no impact to underlying groundwater quality will occur.</td>
</tr>
<tr>
<td><strong>S 5.3.3.1.3</strong> Nitrate-nitrogen goal</td>
<td>A more protective goal of 2.5 ppm may be achieved for new projects through an average residential density of one (1) unit per two (2) acres (or its commercial or industrial equivalent), through clustering, or through other mechanisms to protect surface water quality for projects in the vicinity of ponds and wetlands. As the proposed project is a DRS, it must meet the more stringent standard of 2.5 mg/l of nitrogen in overall recharge. Based on the SONIR computer model, the project is expected to generate an overall nitrogen concentration in recharge of less than 2.5 mg/l.</td>
</tr>
<tr>
<td><strong>S 5.3.3.3.1</strong> Significant discharges and public supply well locations</td>
<td>The location of nearby public supply wells shall be considered in all applications involving significant discharges to groundwater, as required under the NYS ECL Article 17. N/A; this standard concerns wellhead protection and restricts activities which could degrade public water supply within a 200-foot radius of a public supply well. However, the SCWA’s William Floyd Parkway Well Field (the nearest such facility to the subject site) is a minimum of 1,900 feet from any part of the three parcels comprising the subject site.</td>
</tr>
<tr>
<td><strong>G 5.3.3.3.2</strong> Private well protection</td>
<td>The SCDHS’s guidelines for private wells should be used for wellhead protection. The development of the proposed project is in accordance with SCSC Articles 6 and 7, and all sanitary waste disposal (all of which are associated with the Dorade STP), will be an estimated 1,900 feet from the William Floyd Parkway Well Field. In addition, the site will be supplied with potable water through a public water supply system and will not use a private well for water supply.</td>
</tr>
</tbody>
</table>
There is a 0.76-acre freshwater wetland mapped by the NYSDEC along the northern boundary of the Eastern Parcel, designated B-16. This feature is also a regulated freshwater wetland under the jurisdiction of the Town. Another freshwater wetland, designated B-15, is located a minimum of about 125 feet from the southwestern corner of the Dorade STP parcel, and the STP recharge beds are a minimum of about 500 feet from this wetland. Thus, there is sufficient area available within the STP parcel to enable the STP upgrade program to avoid encroaching into this 150-foot nondisturbance buffer, when this program is initiated.

Several additional wet depressions have been identified on the property. There is a wet depression on the Race Track property (0.22 acres), and site analysis has identified a small wet depression near CR 46 (0.02 acres) and within the proposed southwest wooded buffer on the north side of the Brookhaven Walk parcel and the woodlands surrounding this wetland will remain undisturbed. The racetrack wet depression is heavily impacted with invasive plants and is subject to traversing by ATV’s as evidenced by the trail that bisects the feature. The wet depression near CR 46 is in a narrow buffer area between the proposed clearing and development areas approved for Brookhaven Walk, and proximate to CR 46. Any features which may be disturbed will be mitigated through creation of a greater area of restored wetlands, subject to review by the Town and permitting by the local agency as appropriate.

Overall, no significant wetlands would be impacted by the proposed development. The existing NYSDEC-designated wooded swamp on the north side of the Brookhaven Walk parcel and the woodlands surrounding this wetland will remain undisturbed by the proposed project. A minimum 150-foot buffer will be provided surrounding this feature. Letters of non-jurisdiction had been secured for the Brookhaven Walk project in the past from NYSDEC and the Town of Brookhaven, as all proposed disturbance had previously been sited greater than 100 feet and 150 feet from the wetland, respectively. The area of disturbance associated with the Brookhaven Walk project remains the same on The Meadows plan, retaining the 150-foot setback from the south side of the wetland area; it is also noted that all structures will be situated greater than 75 feet from the wetland and no natural woodland will need to be cleared. Similarly, the proposed project will not require an Article 24 Freshwater Wetlands permit from the NYSDEC for this feature.

The proposed project will retain 150 foot undisturbed setbacks from wetland B-16 and therefore will not require a Chapter 81 Wetlands and Waterways Permit from the Town of Brookhaven. The proposed project will not require an Article 24 Freshwater Wetlands Permit from the NYSDEC for wetland B-16; and no wetland permits are expected to be necessary for wetland B-15. Substantial non-disturbance buffers will be maintained around both of the freshwater wetlands, to be protected by a covenant or conservation easements, to be determined by the Town and/or NYSDEC and depicted on the Site Plan, when prepared. The applicant will provide the appropriate conservation easements and the approved Site Plan will be binding.

The proposed project will retain 150 foot undisturbed setbacks from wetland B-16 and therefore will not require a Chapter 81 Wetlands and Waterways Permit from the Town of Brookhaven. The proposed project will not require an Article 24 Freshwater Wetlands Permit from the NYSDEC for wetland B-16; and no wetland permits are expected to be necessary for wetland B-15. Substantial non-disturbance buffers will be maintained around both of the freshwater wetlands, to be protected by a covenant or conservation easements, to be determined by the Town and/or NYSDEC and depicted on the Site Plan, when prepared. The applicant will provide the appropriate conservation easements and the approved Site Plan will be binding.

Additional nondisturbance buffer areas may be established for wetlands as appropriate

Development projects must provide that all stormwater runoff originating from development on the property recharged on site unless surplus capacity exists in an off site drainage system.

This standard requires that adequate drainage capacity be provided for retention and recharge of stormwater runoff generated on-site. All stormwater runoff generated on developed project surfaces will be retained on-site and recharged to groundwater in a drainage system designed in conformance with Town requirements. While the drainage system has not been fully designed at the present stage of the project, it is expected that this system will utilize rain garden and catch basin collection, and a number of wet meadows, ponds, and recharge basins. No runoff from developed surfaces will be allowed to exit the site, based on the stringent retention and design requirements of the Town. 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 0-10-001 for stormwater project notification and preparation of a Stormwater Pollution Prevention Plan. The proposed stormwater design conforms to the intent of this standard.
The Meadows at Yaphank
PDD Application
Draft GEIS

G 5.3.3.5.2 Natural recharge and drainage
Natural recharge areas and/or drainage system designs that cause minimal disturbance of native vegetation should be employed, where practical, in lieu of recharge basins or ponds that would require removal of significant areas of native vegetation.

The proposed project has been designed to minimize clearing of previously-undisturbed natural vegetation, including clearing for the wet meadows, ponds and recharge basins that will comprise the project’s drainage system. As a result, only approximately 18.28 acres of natural vegetation will be cleared, of which only a portion would be occupied by components of the project’s drainage system.

G 5.3.3.5.3 Ponds
Ponds should only be created if they are to accommodate stormwater runoff, not solely for aesthetic purposes.

As described in S 5.3.3.5.1 above, wet meadows, ponds and recharge basins are anticipated as components of the project’s drainage system, to provide stormwater retention and aesthetic enhancement. The ponds are located in hardscape areas, and will be lined, to serve drainage, aesthetic and habitat functions. The proposed project conforms to the intent of this standard.

G 5.3.3.5.4 Natural topography in lieu of recharge basins
The use of natural swales and depressions should be permitted and encouraged instead of excavated recharge basins, whenever feasible.

The areas proposed for the majority of development on the site are already disturbed. No natural topographic low points or swales are available to be utilized for stormwater runoff detention or recharge. As a result, the proposed stormwater design conforms to the intent of this standard.

G 5.3.3.5.5 Soil erosion and stormwater runoff control during construction
During construction, the standards and guidelines promulgated by the NYSDEC pursuant to state law, which are designed to prevent soil erosion and control stormwater runoff, should be adhered to.

An Erosion & Sediment Control Plan will be prepared as part of the Site Plan for the project. Erosion prevention measures to be taken during construction may include: groundcovers (vegetative or artificial), drainage diversions, soil traps, minimizing the area of soil exposed to erosive elements at one time, and minimizing the time span that soil is exposed to erosive elements. Soil removed during grading and excavation will be used as backfill (if it displays acceptable bearing capacity and leaching characteristics) to produce acceptable slopes for construction. The proposed stormwater design conforms to the intent of this standard.

S 5.3.3.6.1 Vegetation Clearance Limits
The clearance of natural vegetation shall be strictly limited. Site plans, surveys and subdivision maps shall delineate the existing naturally vegetated areas and calculate those portions of the site that are already cleared due to previous activities.

Areas of the site proposed to be cleared combined with previously cleared areas shall not exceed the percentages in Figure 5-1. These percentages shall be taken over the total site and shall include, but not be limited to, roads, building sites and drainage structures. The clearance standard that would be applied to a project site if developed under the existing residential zoning category may be applied if the proposal involves multi-family units, attached housing, clustering or modified lot designs. Site plans, surveys and subdivision maps shall be delineated with a clearing limit line and calculations for clearing to demonstrate compliance with this standard.

To the extent that a portion of a site includes Core property, and for the purpose of calculating the clearance limits, the site shall be construed to be the combined Core and CGA portions. However, the Core portion may not be cleared except in accordance with Section 5.2 of the Plan.

The subject parcels were zoned in a mix of L-1, J-3 (proposed Meadows development area) and A-1 (Dorade STP site) districts in 1995, when the Pine Barrens Plan was adopted. Figure 5-2 of the Pine Barrens Plan indicates that the overall maximum allowed site clearance established by the L-1 and J-3 districts is 65% (conversely, a minimum of 35% of the site would have to be preserved as natural). For the 322.37 acres of the combined Racetrack/BW site, this would require that, at most, 209.54 acres could be cleared and that at least 112.83 acres would have to be retained in a natural state. However, on this area, 188.85 acres were previously cleared, and 133.52 acres are presently in a natural state. The proposed project will occupy the previously cleared acres and, as a result, the majority of the development would occur on previously-cleared and developed surfaces, so that only 18.28 acres of natural vegetation would be removed during construction. As a result, 115.24 acres of natural vegetation would remain on this parcel, and the project will conform to this standard (see Land Use and Development Plan). The analysis is based on a conceptual plan; final site plans will ensure that >35% natural vegetation will be retained on the 322.37-acre development parcel, and 47% natural vegetation area will remain on the Dorade STP parcel.

S 5.3.3.6.2 Unfragmented open space
Subdivision and site design shall support preservation of natural vegetation in large unbroken blocks that allow contiguous open spaces to be established when adjacent parcels are developed. Subdivision and site designs should also be configured in such a way so as to prioritize the preservation of native pine barrens vegetation to the maximum extent practicable.

For the purpose of this paragraph, native pine barrens vegetation will be considered to be native vegetation in natural contiguous habitats. Under the Pine Barrens Plan, the Pine Barrens area is divided into Core, unfragmented open space, and unconnected fragments. Core areas are designated as Critical Greatest Area (CGA) areas, and Core and CGA portions are combined to make the Core. For the purpose of calculating unfragmented open space, the site shall be construed to be the combined Core and CGA portions. The expansion and contraction of Core, unfragmented open space, and unconnected fragments would be considered part of the same Core. Core property would be the Core and CGA portions.

This standard concerns preservation of natural vegetation in large unbroken blocks to establish open spaces contiguous to on-site and, if possible, off-site property. As the existing natural vegetation that remains on the subject site is primarily found along the perimeters of the Eastern and Western parcels, it will be these areas that comprise the natural vegetation of the proposed project. As a result, substantial areas of natural contiguous habitat will be retained; these areas will be contiguous to naturally-vegetated spaces adjacent to the north and west, thus forming an open space continuum as intended by this standard.
vegetation shall include pitch pines and various species of oak trees, understory and ground cover plants such as blueberry, wintergreen, bearberry and bracken fern, grasses and sedges such as little bluestem, Pennsylvania sedge and indian grass as well as those ecological communities listed in sections 5.6 and 5.7 in Chapter 5, Volume 2 of the Plan. It is recognized that the preservation of nonnative but ecologically important habitats may be consistent with the intent and goals of the plan when such action would result in the creation of large contiguous natural open space areas and or the protection of rare, threatened or endangered species or their habitat.

<table>
<thead>
<tr>
<th><strong>5.3.3.6.3</strong></th>
<th><strong>Fertilizer dependent vegetation limit</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>No more than 15% of an entire development project site shall be established in fertilizer-dependent vegetation including formalized turf areas. Generally, nonnative species require fertilization therefore, planting of such nonnative species shall be limited to the maximum extent practicable. The use of the nonnative plants in Figure 5-2 is specifically not recommended. No more than 15% of a project site shall be established in fertilizer-dependent vegetation. For the subject site, this would be a maximum of about 50 acres. However, based on the Land Use and Development Plan, a total of only about 32 acres of landscaped areas will be subject to fertilizer usage, as private park space, parking lot islands in the retail/office areas, and residential landscape areas. This represents about 10% of the site, which ensures compliance with this standard. For modeling purposes, it is assumed that these areas will be fertilized at a rate of 1.00 pounds of nitrogen-containing fertilizer per 1,000 SF annually. Final site plans will ensure that &lt;15% of the site is established in fertilizer-dependant vegetation.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>5.3.3.6.4</strong></th>
<th><strong>Native Plantings</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Development designs shall consider the native planting suggestions contained in Figure 5-2.</td>
<td>Landscape species consistent with the species list in Figure 5-2 (Planting Recommendations) of the Pine Barrens Plan will be used as part of the final site plan landscape design plans. Typical landscape trees that are native to the area will be used for streetscapes and natural vegetation will be retained wherever possible as per the Land Use and Development Plan.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>5.3.3.7.1</strong></th>
<th><strong>Special Species and Ecological Communities</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Where a significant negative impact upon a habitat essential to those species identified on the New York State maintained lists as rare, threatened, endangered or of special concern, or upon natural communities classified by the New York State Natural Heritage Program as G1, G2, G3 or S1, S2 or S3, or on any federally listed endangered or threatened species is proposed, appropriate mitigation measures as determined by the appropriate state, county or local government agency shall be taken to protect these species. Based on correspondence with the NYS NHP, there are no rare plant or animal species on the Eastern parcel (the former Brookhaven Walk site). In regard to the Western parcel, correspondence received from the NHP indicates the possible presence of a number of rare or state-listed plant and animal species, as well as significant habitats. However, prior field inspections and investigations conducted subsequent to receipt of this letter (dated December 28, 2007, May 11, 2009, September 8, 2009 and July 13, 2010) did not reveal the presence of any of these resources. Therefore, no endangered or threatened species are expected to be present in areas that would be disturbed on the subject site. As a result, no impacts are expected with respect to special species and/or ecological communities and the project conforms to this standard.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>G 5.3.3.8.1</strong></th>
<th><strong>Clearing envelopes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Clearing envelopes should be placed upon lots within a subdivision so as to maximize the placement of those envelopes on slopes less than ten percent (10%). This Guideline refers to establishment of clearing envelopes for individual lots within a subdivision; as the proposed project does not include a subdivision, this guideline does not strictly apply. However, the proposed project involves a Land Division. As such, the project will avoid grading of natural slopes that are in excess of 10%. As discussed in S 5.3.3.6.1 above, the majority of the development site was previously cleared and developed, so that the project will be developed on these surfaces, allowing the remaining natural steep slopes to be preserved.</td>
<td></td>
</tr>
</tbody>
</table>
Stabilization and erosion control

Construction of homes, roadways and private driveways on slopes greater than ten percent (10%) may be approved if technical review shows that sufficient care has been taken in the design of stabilization measures, erosion control practices and structures so as to mitigate negative environmental impacts.

Erosion control measures such as staked hay bales, silt fences, groundcovers (vegetative or artificial), drainage diversions, minimizing the area of soil exposed to erosive elements at one time, and minimizing the time span that soil is exposed to erosive elements, will be utilized to minimize loss of soil during construction, particularly in locations where erosion and sedimentation could adversely impact adjoining properties and streets. Applicable Town of Brookhaven standards and construction practices specified by the appropriate Town agencies will be followed. Conformance to Chapter 86 of the Town Code and to the requirements of NYSDEC SPDES review of stormwater control measures is necessary, to be consistent with Phase II stormwater permitting requirements for construction sites in excess of 1-acre (the SPDES GP-0-10-001 permit, hereafter, the General Permit). Under this program, a site-specific SWPPP must be prepared and submitted to the Town for review and approval prior to final site plan approval. Once the SWPPP has been prepared and approved by the Town, the applicant will need to file a Notice of Intent with the NYSDEC to obtain coverage under the General Permit. Additionally, the General Permit requires that inspections of the construction site be performed under the supervision of a qualified professional to ensure that erosion controls are properly maintained during the construction period. As long as erosion is controlled during grading and construction, the potential for sediment transport will be minimal, and no significant loss of soils is expected and the project conforms to this standard.

Slope analysis

The Project review is facilitated if submissions contain a slope analysis showing slopes in the ranges 0-10%, 11-15% and 15% and greater. In areas with steep slopes, slope analysis maps should be required. This can be satisfied with cross hatching or shading on the site plan for the appropriate areas.

A map has been prepared depicting slope intervals of 0-10%, 10-15% and greater than 15%. As shown in the Slope Analysis (see Figure 2-1), there are limited areas of steep slopes (defined as >15%) on the subject site. It should be noted that 93% of the site has slopes of less than 15%. Natural steep slopes are found in the southern portion of the Western parcel (which will not be disturbed); the steep slopes in the central portion of this parcel are not natural, but were excavated as part of the Suffolk Downs Racetrack operation. For the proposed project, regrading of this area is not expected to produce slopes in excess of 1:3.

Erosion and sediment control plans

Erosion and sediment control plans should be required in areas of fifteen percent (15%) or greater slopes.

The potential for erosion to occur during construction or after construction is completed will be controlled by implementing a SWPPP, which will include engineered Erosion Control Plans within the Site Plan review (see also G 5.3.3.8.2 and G 5.3.3.8.3 above).

Placement of roadways

Roads and driveways should be designed to minimize the traversing of slopes greater than ten percent (10%) and to minimize cuts and fills.

The central portion of the Western parcel was previously developed for the Suffolk Downs Racetrack, and the central part of the Eastern parcel was preliminarily cleared for the Brookhaven Walk retail project. As such, slopes on the central portions of the site, where the majority of the proposed project will be built, are generally well below 10%. The proposed project has been designed such that the majority of new and replaced development will occupy previously graded areas, so that no naturally-steep slopes will be impacted and little if any need for cut or fill for roadways is expected.

Retaining walls and control structures

Details of retaining walls and erosion control structures should be provided for roads and driveways which traverse slopes greater than ten percent (10%).

In consideration of the preliminary nature of the Land Use and Development Plan, the need for retaining walls can not be determined at this time. Short sections of retaining walls may be needed along the internal access roadways leading to the LIE North Service Road.
<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>S 5.3.3.9.1</strong></td>
<td>Receiving entity for open space dedications</td>
</tr>
<tr>
<td><strong>G 5.3.3.9.2</strong></td>
<td>Clustering</td>
</tr>
<tr>
<td><strong>G 5.3.3.9.3</strong></td>
<td>Protection of dedicated open space</td>
</tr>
<tr>
<td><strong>G 5.3.3.10.1</strong></td>
<td>BMPs</td>
</tr>
<tr>
<td><strong>G 5.3.3.11.1</strong></td>
<td>Cultural resource consideration</td>
</tr>
<tr>
<td>G 5.3.3.11.2</td>
<td>Inclusion of cultural resources in application</td>
</tr>
<tr>
<td>-------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Development proposals should note established recreation and educational trails and trail corridors; active recreation sites; scenic corridors, roads, vistas and viewpoints located in Critical Resource Areas and undisturbed portions of the roadsides of the LIE, Sunrise Highway, CR 111 and William Floyd Parkway; sites on the State or National Register of Historic Places, and historic structures and landmarks recognized by municipal law or statute, or listed on the State or National Registers of Historic Places; and sensitive archaeological areas as identified by the New York State Historic Preservation Office or the New York State Museum within a five hundred (500) foot radius of the outside perimeter of the project site, including any project parcels which are physically separate from the bulk of the proposed development area. A development proposal may be disapproved or altered if the local municipality determines that the development proposal, in its current form, may have a significant negative impact on any of the above resources.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>G 5.3.3.11.3</th>
<th>Protection of scenic and recreational resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection measures for scenic and recreational resources should include, but not be limited to, retention of visually shielding natural buffers, replacement of degraded or removed natural visual buffers using native species, use of signs which are in keeping in both style and scale with the community character, and similar measures.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>G 5.3.3.11.4</th>
<th>Roadside design and management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undisturbed portions of the roadside should be maintained in a manner that protects the scenic features of these areas. Clearing (including that for aisles, driveways, access and parking) is not precluded within these roadside areas, provided that appropriate buffers are maintained, and that manmade structures meet standards consistent with the character of the area.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S 5.3.3.12.1</th>
<th>Commercial and industrial compliance with SCSC</th>
</tr>
</thead>
<tbody>
<tr>
<td>All commercial and industrial development applications shall comply with the provisions of the SCSC as applied by the SCDHS, and all other applicable federal, state or local laws. Projects which require variances from the provisions of the SCSC shall meet all requirements of the SCDHS Board of Review in order to be deemed to have met the requirements of this standard. The commercial property will comply with applicable Articles of the SCSC. No businesses that use hazardous and/or toxic chemicals are expected.</td>
<td></td>
</tr>
</tbody>
</table>

The central portions of the eastern and western parcels were previously cleared. As a result, any cultural resources that may have existed in those areas would have been removed, so that no impacts to such resources would be expected. Based on the results of an Archaeological Investigation prepared for the Eastern parcel (for the previous Brookhaven Walk proposal), SHPO determined in October 2006 that no impacts to cultural resources would occur on that site as a result of that project (see Appendix J-1). For the Western parcel, SHPO determined in June 2009 that clearing for the Suffolk Downs Racetrack would have removed any cultural resources that may have been present in those portions of the parcel, so that redevelopment that would not encroach into previously-uncleared areas would likewise not impact cultural resources (see Appendix J-2).

The Meadows at Yaphank PDD was initially designed to occupy only the same areas cleared for the prior development proposals, thereby continuing to minimize the potential for impact to previously-undiscovered cultural resources that may be present. Accordingly, SHPO was contacted in August 2010 to determine if further study of the subject site would be warranted for that design of the proposed project. The resulting letter (see Appendix J-3) confirmed that No Impact on Historic Resources would occur. However, SHPO noted "This finding takes into account the plan to leave the northern and southern portions of the parcels in their current wooded state. Should the project be modified in a way which would impinge on those wooded areas, or should any future proposals call for work in those areas, OPRHP [Office of Parks, Recreation and Historic Preservation] would recommend additional archaeological investigation as those areas were not included in the currently reviewed studies."

Subsequently, the proposed project design was revised to include minor clearing along the interior border of the previously cleared areas of the site. Therefore, in anticipation of a request for additional analysis, the applicant engaged a qualified archaeologist to prepare a supplemental Phase III Archaeological Study for this additional acreage. The resulting report (see Appendix J-4) did not reveal the presence of any cultural resources on this area; the report recommended no further analysis. This report has been reviewed by SHPO, and a renewed letter confirming this conclusion has been obtained (see Appendix J-5).
Central Pine Barrens Critical Environmental Area - Due to the subject site’s location within the CEA, the Town Board is designated as lead agency under Article 8 of the SEQRA and 6 NYCRR 617.6. As previously stated, this Draft GEIS is intended to provide the Brookhaven Town Board (as lead agency under SEQRA) and all involved agencies with the information necessary to render informed decisions on the PDD application. Once accepted, this document will be the subject of public review, a public hearing and written comments, followed by the preparation of a Final GEIS for any substantive comments. Upon completion of the Final GEIS, the Town Board will be responsible for the adoption of a Statement of Findings. Simultaneously, the Town Planning Division will review the PDD application and determine whether it is complete for public and agency review. A public hearing will be held on the PDD application and associated Master Plan (which includes the Land Use and Development Plan), possibly concurrent with the hearing on the DGEIS. Following this, and in consideration of the Findings Statement, the Town Board shall approve, conditionally approve, or disapprove the proposed PDD rezone application and Master Plan. If the proposed project is approved or conditionally approved, the applicant may proceed to a Phase 2 Subdivision/Site Plan application to the Planning Board.

This document is part of the official record under the SEQRA process outlined in 6 NYCRR Part 617, with statutory authority and enabling legislation under Article 8 of the ECL. It was determined that the proposal would be appropriate for the preparation of a GEIS. Thus, this Draft GEIS will be subject to the full procedures of Part 617, providing a proper and complete forum for interagency review and public comment. Because of this extensive environmental review, any potential impacts associated with the site’s location within the Central Pine Barrens CEA will be addressed and mitigation provided, if necessary.

3.1.3 Mitigation

- Land use mitigation is provided by locating residential use on the north part of the property adjacent to residential communities to the north (i.e., Whispering Pines and Colonial Woods).
- Retention of perimeter buffers coincident with existing naturally vegetated areas ensures that the project conforms to Pine Barrens clearing restrictions and land use is compatible with surrounding land use.
- Providing a limited number of 3-bedroom units (i.e., 68 of a total of 850 units), and providing senior units (303 units) ensures a low number of school aged children, diversity of housing types/sizes, and housing for an aging population.
- Providing 10% work force housing.
- Providing tangible and fiscal public benefits in the form of public active and passive parks, public space within the commercial and residential development, a community building, private maintenance and other public benefits specified in Section 3.1.2. is a form of mitigation that benefits the community.
3.2 Transportation

Appendix D contains the TIS prepared for the project. The following descriptions and discussions of the existing and anticipated future traffic conditions in the area have been adapted from that document.

3.2.1 Existing Conditions

Study Area
The Study Area includes the LIE/William Floyd Parkway interchange, in addition to the following five signalized intersections and one unsignalized intersection:

- William Floyd Parkway northbound/Brookhaven National Lab
- William Floyd Parkway southbound/Longwood Road
- William Floyd Parkway/Suffolk County Police Headquarters Driveway
- William Floyd Parkway/Moriches Middle Island Road
- William Floyd Parkway/Yaphank-Woods Boulevard
- Yaphank-Woods Boulevard/Colonial Woods Drive (unsignalized)

Currently the LIE is under NYSDOT jurisdiction, while William Floyd Parkway is under Suffolk County jurisdiction.

Roadways
William Floyd Parkway is a median divided arterial with two lanes running in each direction in a north/south direction across Long Island. William Floyd Parkway extends from the southern terminus at Smith Point to the northern terminus at NYS Route 25. The posted speed limit in the study area is 55 mph.

The LIE is a median divided interstate, providing access to Long Island from New York City to the eastern terminus at NYS Route 25 in Calverton. Within the vicinity of the project, there are three lanes in each direction. At many interchanges a collector/distributor roadway ramp system is utilized to minimize disruption to the main line. The posted speed limit in the study area is 55 mph.

Intersections Studied
William Floyd Parkway/ Longwood Road/ Princeton Avenue
- William Floyd Parkway runs north/south and is median separated (160 feet wide).
- Location consists of two adjacent signalized intersections. Traffic signal operates on a single controller.
- Western intersection consists of William Floyd Parkway southbound with Longwood Road; eastern intersection consists of William Floyd Parkway northbound with Princeton Avenue.

Western Intersection
- William Floyd Parkway southbound approach consists of one left turn lane, two through lanes and a channelized right turn lane.
- Longwood Road eastbound approach consists of one through lane and one channelized right turn lane.
- Longwood Road westbound consists of one left turn lane and one through lane.
Eastern Intersection
- William Floyd Parkway northbound approach consists of one left turn lane, two through lanes and a channelized right turn.
- Princeton Road westbound approach consists of one through lane and one channelized right turn lane.
- Longwood Road eastbound approach consists of one left turn lane and one through lane.

William Floyd Parkway/ Yaphank-Woods Boulevard
- Signalized three-legged intersection.
- William Floyd Parkway runs north/south and is median separated (30 feet wide).
- Yaphank-Woods Boulevard approaches from the west.
- William Floyd Parkway northbound approach consists of one left turn lane and two through lanes.
- William Floyd Parkway southbound approach consists of two through lanes and one right turn lane.
- Yaphank-Woods Boulevard is not striped, but the eastbound approach is wide enough to accommodate one left turn lane and one right turn lane.

Yaphank-Woods Boulevard/ Colonial Woods Drive
- Unsignalized three-legged intersection.
- Yaphank-Woods Boulevard runs east/west and is median separated.
- Colonial Woods Drive is stop controlled and approaches from the north.
- Yaphank-Woods Boulevard is not striped, but the eastbound approach is wide enough to accommodate one left turn lane and two through lanes.
- Yaphank-Woods Boulevard is not striped, but the westbound approach is wide enough to accommodate two lanes.
- The Colonial Woods Drive southbound approach consists of a single lane.

William Floyd Parkway/ Suffolk County Police Headquarters Driveway
- Signalized three-legged intersection.
- William Floyd Parkway runs north/south and is median separated.
- Suffolk County Police Headquarters Driveway approaches from the west.
- William Floyd Parkway northbound approach consists of one left turn lane and two through lanes. A free channelized right turn is located just prior to the intersection.
- William Floyd Parkway southbound approach consists of two through lanes and one right turn lane.
- Suffolk County Police Headquarters Driveway approach consists of one left turn lane and one right turn lane.

William Floyd Parkway/ Moriches Middle Island Road
- Signalized four-legged intersection.
- William Floyd Parkway runs north/south and is median separated.
- Moriches Middle Island Road runs east/west.
- William Floyd Parkway northbound approach consists of one left turn lane, two through lanes and a channelized right turn lane.
- William Floyd Parkway southbound approach consists of a double left turn lane, two through lanes and one channelized right turn lane.
Longwood Road eastbound approach consists of one left turn lane and a through/right turn lane.

Longwood Road westbound approach consists of one left turn lane, one through lane and one right turn lane.

Sidewalks are located on both sides of William Floyd Parkway south of Moriches Middle Island Road. A sidewalk is also present on the southern side of Moriches Middle Island Road.

Safety Analysis
NYSDOT crash history data for the William Floyd Parkway corridor was reviewed for the 3-year period from March 2007 through March 2010, the most recent years for which data is available. This data is summarized in Table 3-4. The supporting data, as well as the worksheets used to develop the crash rates contained in the table, can be found in Appendix D.

Table 3-4
ACCIDENT SUMMARY

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Longwood Rd/Princeton Rd</th>
<th>Yaphank-Woods Boulevard</th>
<th>LIE</th>
<th>SCPD 7th Pct. Driveway</th>
<th>Moriches Middle Island Road</th>
<th>William Floyd Parkway</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>6</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>2008</td>
<td>6</td>
<td>2</td>
<td>16</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>2009</td>
<td>15</td>
<td>2</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>2010</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>27</td>
<td>5</td>
<td>33</td>
<td>1</td>
<td>1</td>
<td>31</td>
</tr>
</tbody>
</table>

Severity of Accident

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Longwood Rd/Princeton Rd</th>
<th>Yaphank-Woods Boulevard</th>
<th>LIE</th>
<th>SCPD 7th Pct. Driveway</th>
<th>Moriches Middle Island Road</th>
<th>William Floyd Parkway</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property damage</td>
<td>9</td>
<td>3</td>
<td>20</td>
<td>0</td>
<td>9</td>
<td>24</td>
</tr>
<tr>
<td>Non-Fatal Injury</td>
<td>18</td>
<td>2</td>
<td>13</td>
<td>1</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Fatal Injury</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>27</td>
<td>5</td>
<td>33</td>
<td>0</td>
<td>1</td>
<td>31</td>
</tr>
</tbody>
</table>

Type of Accident

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Longwood Rd/Princeton Rd</th>
<th>Yaphank-Woods Boulevard</th>
<th>LIE</th>
<th>SCPD 7th Pct. Driveway</th>
<th>Moriches Middle Island Road</th>
<th>William Floyd Parkway</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single vehicle</td>
<td>3</td>
<td>1</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Head-on</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Angle</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Rear-end</td>
<td>9</td>
<td>2</td>
<td>9</td>
<td>1</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Sideswipe</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Overtaking</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Deer</td>
<td>1</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Not reported</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>27</td>
<td>5</td>
<td>33</td>
<td>1</td>
<td>1</td>
<td>31</td>
</tr>
</tbody>
</table>

* Source: NYSDOT
This review of the recent accident history shows that the two adjacent intersections of William Floyd Parkway/Longwood Road intersections experienced the highest number of accidents within the study area with a total of 27 accidents during the three-year period. During the same period, the intersection of William Floyd Parkway/Yaphank-Woods Boulevard experienced 5 accidents, while 33 accidents occurred at the LIE/William Floyd Parkway interchange, which includes the service roads. A large number of accidents reported occurred on William Floyd Parkway, but could not be located to a specific location.

With a total of 18 reported accidents involving deer in the study area, mostly on William Floyd Parkway, it appears collisions with deer are an existing hazard in the area. Although high-tech methods to warn deer are being tested in a number of locations, remedies to reduce these collisions typically involve wildlife management and not engineering solutions.

**Signalized Intersection Capacity Analysis**

**Table 3-5** presents a summary of the existing capacity analyses for the signalized intersections in the study area. The capacity analyses worksheets are included in Appendix D. As can be seen, the overall intersections level of service (LOS) at all of the existing signalized intersections operate at LOS C or better during the AM, PM and Saturday midday peak hours.

### Table 3-5

**LOS SUMMARY - Existing Conditions**

<table>
<thead>
<tr>
<th>Signalized Intersections</th>
<th>AM Peak Hour</th>
<th>PM Peak Hour</th>
<th>Saturday Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>v/c</td>
<td>Delay</td>
<td>LOS</td>
</tr>
<tr>
<td><strong>William Floyd Parkway/Longwood Road</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing</td>
<td>0.77</td>
<td>20.4</td>
<td>C</td>
</tr>
<tr>
<td><strong>William Floyd Parkway/BNL</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing</td>
<td>0.60</td>
<td>10.2</td>
<td>B</td>
</tr>
<tr>
<td><strong>William Floyd Parkway/Yaphank-Woods Boulevard</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing</td>
<td>0.83</td>
<td>11.0</td>
<td>B</td>
</tr>
<tr>
<td><strong>William Floyd Parkway/SCPD 7th Precinct Driveway</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing</td>
<td>0.63</td>
<td>4.6</td>
<td>A</td>
</tr>
<tr>
<td><strong>William Floyd Parkway/Moriches-Middle Island Road</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing</td>
<td>0.70</td>
<td>19.8</td>
<td>B</td>
</tr>
</tbody>
</table>

* Delay measured in seconds.

**Unsignalized Intersection Capacity Analysis**

**Table 3-6** presents a summary of the capacity analyses for the unsignalized intersections in the study area. Currently, there is only one unsignalized intersection. The capacity analyses worksheets are included in Appendix D. The intersection of Yaphank-Woods Boulevard/Colonial Woods Drive operates at LOS A during all three time periods analyzed.
Table 3-6  
LOS SUMMARY - Existing Conditions 
Unsignalized Intersections

<table>
<thead>
<tr>
<th>Movement</th>
<th>AM Peak Hour</th>
<th>PM Peak Hour</th>
<th>Saturday Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>v/c</td>
<td>Delay*</td>
<td>LOS</td>
</tr>
<tr>
<td>Yaphank-Woods Boulevard/Colonial Woods Drive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SB LR</td>
<td>0.14</td>
<td>9.6</td>
<td>A</td>
</tr>
</tbody>
</table>

* Delay measured in seconds.

Public Transit
There are at present no Suffolk County Transit bus routes that serve the site or the immediate vicinity. The nearest bus routes are found south of the LIE: these include SC Route #71 (which operates along Long Island Avenue, between Yaphank Avenue and CR 101), and SC Route #7D (which operates along Moriches-Middle Island Road and turns south parallel to CR 46). The nearest LIRR station is at Yaphank Avenue and Park Street, approximately 1.4 road-miles to the south.

Emergency Access/Evacuation
The following discussion of emergency access and evacuation routes has been taken from the TIS.

The project site is located in Yaphank within the Ridge and Yaphank Fire Districts and is approximately 4 miles from the Ridge Fire Department Headquarters, 3.5 miles from the Yaphank Fire Department Headquarters and 2 miles from Ridge Fire Department substation #3.

The subject site will have three (3) access points for vehicular access including emergency service vehicles that will be both for ingress and egress. These access points are two (2) from William Floyd Parkway at Yaphank Wood Boulevard and Main site entrance and one (1) access along the LIE North Service Road. There is also a planned fourth access point limited to emergency vehicles only that will be a gated access to Moriches-Middle Island Road to the west.

In regard to emergency evacuation routes, the subject site is adjacent to William Floyd Parkway (a north/south divided highway) and the LIE (the main east/west limited access highway). The subject site’s residents and patrons will have easy access to both options on direction depending upon the emergency evacuation required. Both are highways and have sufficient capacity to accommodate the proposed traffic generation upon future build-out.

Overall the traffic generation that is projected for this site under the proposed PDD is substantially less than development per the existing zoning and should have minimal impact if any, upon emergency vehicular access to and from the subject site or to the evacuation routes. The site is well positioned between two (2) major highways that will serve as the evacuation route(s) and has direct access to both William Floyd Parkway and the LIE totaling three (3) direct access options, and one (1) additional access point is proposed for emergency access only to Moriches-Middle Island Road.
3.2.2 Potential Impacts

**Trip Generation**

Project-related trip generation projections were calculated for the proposed mixed-use development based on data compiled by the Institute of Transportation Engineers (ITE) and published in *Trip Generation*. Rates published in *Trip Generation* represent observed trip generation rates of typical land uses throughout the United States. In addition, to reflect the interaction of the different land uses within the multi-use development, procedures from the ITE Trip Generation Handbook were followed to calculate the internal capture of the trips. For this development scenario, an internal trip capture between 13% and 15% is expected based on the period calculated. Application of ITE trip rates to the proposed mixed-use development yields the resulting trip generation shown in Table 3-7.

**Future Conditions**

Traffic volumes in the study area were projected to the year 2015, which reflects a five-year traffic-planning horizon. Independent of the proposed project, volumes on the roadway network under year 2015 No-Build conditions were assumed to include existing traffic and new traffic resulting from background traffic growth. Anticipated site-generated traffic volumes were added to the No-Build traffic volume networks to reflect the year Build conditions within the project study area.

Applying the background growth rate and development projects to the 2010 traffic volumes resulted in the projected No Build peak hour traffic volumes, which are shown in Figures 6, 7, and 8 [see Appendix D].

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Distribution</th>
<th>Office/Flex Space (vph)</th>
<th>Residences (vph)</th>
<th>Retail Space (vph)</th>
<th>Hotel (vph)</th>
<th>Total (vph)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekday Daily</td>
<td>Enter</td>
<td>2,255</td>
<td>1,465</td>
<td>6,450</td>
<td>800</td>
<td>10,970</td>
</tr>
<tr>
<td></td>
<td>Exit</td>
<td>2,135</td>
<td>1,590</td>
<td>6,445</td>
<td>800</td>
<td>10,970</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>4,390</td>
<td>3,055</td>
<td>12,895</td>
<td>1,600</td>
<td>21,940</td>
</tr>
<tr>
<td>Weekday AM Peak</td>
<td>Enter</td>
<td>646</td>
<td>57</td>
<td>203</td>
<td>66</td>
<td>972</td>
</tr>
<tr>
<td>Hour</td>
<td>Exit</td>
<td>88</td>
<td>264</td>
<td>130</td>
<td>42</td>
<td>524</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>734</td>
<td>321</td>
<td>333</td>
<td>108</td>
<td>1,496</td>
</tr>
<tr>
<td>Weekday PM Peak</td>
<td>Enter</td>
<td>96</td>
<td>176</td>
<td>621</td>
<td>69</td>
<td>962</td>
</tr>
<tr>
<td>Hour</td>
<td>Exit</td>
<td>558</td>
<td>70</td>
<td>623</td>
<td>61</td>
<td>1,312</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>654</td>
<td>246</td>
<td>1,237</td>
<td>130</td>
<td>2,274</td>
</tr>
<tr>
<td>Saturday Daily</td>
<td>Enter</td>
<td>555</td>
<td>1,279</td>
<td>8,970</td>
<td>910</td>
<td>11,715</td>
</tr>
<tr>
<td></td>
<td>Exit</td>
<td>495</td>
<td>1,196</td>
<td>.115</td>
<td>910</td>
<td>11,715</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>1,050</td>
<td>2,475</td>
<td>18,085</td>
<td>1,820</td>
<td>23,430</td>
</tr>
<tr>
<td>Saturday Midday</td>
<td>Enter</td>
<td>95</td>
<td>108</td>
<td>904</td>
<td>87</td>
<td>1,194</td>
</tr>
<tr>
<td>Peak Hour</td>
<td>Exit</td>
<td>83</td>
<td>103</td>
<td>808</td>
<td>69</td>
<td>1,063</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>178</td>
<td>211</td>
<td>1,712</td>
<td>156</td>
<td>2,257</td>
</tr>
</tbody>
</table>

Source: *Trip Generation, 8th Edition*, published by ITE
Signalized Intersection Capacity Analysis
Table 3-8 presents a summary of the capacity analyses for the No Build condition at all of the signalized intersections in the study area. The capacity analyses worksheets are included in Appendix D.

As can be seen in Table 3-8, with the anticipated background growth and specific background projects, the overall intersections LOS at all of the signalized intersections will continue to operate at an overall LOS C or better during the AM, PM and Saturday midday peak hours.

Table 3-8 presents a summary of the capacity analyses for the Build condition at all of the signalized intersections in the study area. This analysis accounts for the anticipated diversions due to the proposed roadway and ramps. This analysis also accounts for a traffic signal at the proposed site driveways. The capacity analyses worksheets are included in Appendix D.

As can be seen in Table 3-8, the overall intersections LOS at the intersection of William Floyd Parkway/Longwood Road will operate at LOS D during the morning peak hour, LOS C during the weekday evening peak hour, and LOS B during the Saturday midday peak hour. The adjacent intersection of William Floyd Parkway/BNL is projected to operate at LOS D during the weekday evening peak hour and LOS B during the weekday morning and Saturday midday peak hours.

The intersection of William Floyd Parkway/Yaphank-Woods Boulevard is projected to operate at LOS C during the weekday morning and evening peak hours. Improvements are planned at this intersection.

The intersection of William Floyd Parkway/SCPD 7th Precinct Driveway is projected to operate at LOS C during the evening peak hour and LOS A during the weekday morning and Saturday midday peak hours.

The intersection of William Floyd Parkway/Moriches-Middle Island Road is projected to operate at LOS D during the evening peak hour and LOS C during the weekday morning and Saturday midday peak hours.

Without coordination, the proposed intersection of William Floyd Parkway/ Site Driveway is projected to operate at LOS B during all three analyzed time periods.

Unsignalized Intersection Capacity Analysis
Table 3-9 presents a summary of the capacity analyses for the unsignalized intersections in the study area. The analysis was conducted for the No Build and Build conditions. Under the Build condition, a new unsignalized site drive intersection is proposed on Yaphank-Woods Boulevard. The capacity analyses worksheets are included in Appendix D.

For the Build condition, the analysis accounts for the anticipated diversions due to the proposed new roadway and ramps.

As shown in Table 3-9, for the No Build Conditions, the intersection of Yaphank-Woods Boulevard/Colonial Woods Drive will operate at LOS A during all three time periods. For the Build condition, the intersection will operate at LOS B during the morning and evening peak hours and LOS A during the Saturday peak hour.
### Table 3-8
#### LOS SUMMARY - Proposed Project
##### Signalized Intersections

<table>
<thead>
<tr>
<th>Condition</th>
<th>AM Peak Hour</th>
<th>PM Peak Hour</th>
<th>Saturday Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>v/c</td>
<td>Delay*</td>
<td>LOS</td>
</tr>
<tr>
<td><strong>William Floyd Parkway/ Longwood Road</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Build</td>
<td>0.87</td>
<td>28.5</td>
<td>C</td>
</tr>
<tr>
<td>Build</td>
<td>0.95</td>
<td>39.1</td>
<td>D</td>
</tr>
<tr>
<td>Build w/o other projects</td>
<td>0.91</td>
<td>32.5</td>
<td>C</td>
</tr>
<tr>
<td><strong>William Floyd Parkway/BNL</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Build</td>
<td>0.66</td>
<td>11.5</td>
<td>B</td>
</tr>
<tr>
<td>Build</td>
<td>0.66</td>
<td>12.0</td>
<td>B</td>
</tr>
<tr>
<td>Build w/o other projects</td>
<td>0.66</td>
<td>11.7</td>
<td>B</td>
</tr>
<tr>
<td><strong>William Floyd Parkway/Yaphank-Woods Boulevard</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Build</td>
<td>0.92</td>
<td>14.0</td>
<td>B</td>
</tr>
<tr>
<td>Build w/o improvements</td>
<td>0.98</td>
<td>20.7</td>
<td>C</td>
</tr>
<tr>
<td>Build w/o other projects</td>
<td>0.92</td>
<td>15.8</td>
<td>B</td>
</tr>
<tr>
<td>Build w/improvements &amp; other projects</td>
<td>0.91</td>
<td>17.8</td>
<td>B</td>
</tr>
<tr>
<td>Build w/improvements but w/o other projects</td>
<td>0.85</td>
<td>14.6</td>
<td>B</td>
</tr>
<tr>
<td><strong>William Floyd Parkway/SCPD 7th Precinct Driveway</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Build</td>
<td>0.72</td>
<td>5.8</td>
<td>A</td>
</tr>
<tr>
<td>Build</td>
<td>0.81</td>
<td>7.3</td>
<td>A</td>
</tr>
<tr>
<td>Build w/o other projects</td>
<td>0.80</td>
<td>6.9</td>
<td>A</td>
</tr>
<tr>
<td><strong>William Floyd Parkway/Moriches-Middle Island Road</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Build</td>
<td>0.82</td>
<td>24.0</td>
<td>C</td>
</tr>
<tr>
<td>Build</td>
<td>0.90</td>
<td>29.2</td>
<td>C</td>
</tr>
<tr>
<td>Build w/o other projects</td>
<td>0.85</td>
<td>24.5</td>
<td>C</td>
</tr>
<tr>
<td><strong>William Floyd Parkway/Site Driveway</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Build</td>
<td>0.77</td>
<td>10.1</td>
<td>B</td>
</tr>
<tr>
<td>Build w/o other projects</td>
<td>0.74</td>
<td>9.3</td>
<td>A</td>
</tr>
<tr>
<td>Build w/improvements &amp; other projects</td>
<td>0.79</td>
<td>5.1</td>
<td>A</td>
</tr>
<tr>
<td>Build w/improvements but w/o other projects</td>
<td>0.74</td>
<td>4.9</td>
<td>A</td>
</tr>
</tbody>
</table>

* Delay measured in seconds.
The proposed site driveway on Yaphank-Woods Boulevard will operate at LOS A during the weekday AM peak hour volume and LOS B during the weekday PM and Saturday midday peak hours.

Supplemental Analysis – Without Other Developments
The No Build and Build analysis included a significant amount of background development as requested by the Town Planning Division. A number of these developments have not yet received their required permits, and project related mitigation has not been identified. Therefore, potential future roadway improvements associated with these other projects could not be incorporated into the analysis. The analysis is very conservative in that it included traffic associated with the other developments, but did not include potential improvements associated with other projects.

To provide an additional indication of the impact to operations at the signalized intersection, FST also conducted a supplemental year 2015 analysis at the signalized intersections which included the proposed Meadows at Yaphank project in additional to a 2% per year annual growth rate, but does not include the other potential developments. The traffic volume figures are shown in Appendix D along with the analysis worksheets. This supplemental analysis was performed for two conditions. Table 3-8 shows the Build and Build with Mitigation conditions.

As can be seen in Table 3-8, the overall intersection of William Floyd Parkway/Moriches-Middle Island Road operates at LOS D during the evening peak hour. The rest of the study area locations all operate at an overall LOS C or better during the peak hours.

The supplemental analysis was also conducted at the two signalized intersections where improvements are proposed as part of the proposed development. As shown in Table 3-8, with the proposed improvements at the intersection of William Floyd Parkway/Site Driveway, the intersection would operate at LOS A during the weekday morning and LOS B during the weekday evening and Saturday Midday peak hours. This would be true for both conditions, with the other developments and without the other developments. As shown in Table 3-8, with the proposed improvements at William Floyd Parkway/Yaphank-Woods Boulevard, the intersection would operate at LOS B during the weekday morning, weekday evening peak hours and Saturday midday peak hours. This would be true for both conditions, with the other developments and without the other developments.
Public Transit
As there are no public bus routes that currently serve the site, the proposed project would not impact these resources. The project may represent a significant justification for Suffolk County Transit to revise one or more of its existing bus routes to serve the site, or cause it to institute an entirely new route for that purpose. As noted in the TIS:

The proponent is committed to working with the Suffolk County Transit to facilitate modifications to bus routes to provide service to the site. The proponent will also work with the Suffolk County Transit to identify locations on-site for dedicated bus stops.

In addition to working with Suffolk County Transit to establish public bus service to the site the proponent will provide a private shuttle bus from the site to the local train stations (Mastic/Shirley & Yaphank) and the Brookhaven National Lab. This service would be based on demand.

3.2.3 Mitigation

- Construct a new westbound on-ramp from the LIE North Service Road approximately 1,850 feet west of its existing location.
- Construct a new public roadway between Yaphank-Woods Boulevard and the LIE North Service Road.
- Widen the eastbound off-ramp onto the LIE South Service Road from one lane to two lanes to accommodate the off-ramp volume.
- Widen the loop ramp from William Floyd Parkway northbound to the LIE North Service Road westbound from one to two lanes.
- Construct a new signalized intersection at the proposed main site driveway. The intersection would be constructed to consist of a two northbound left turn lanes, and two through lanes. In addition, two southbound through lanes and a single southbound right turn lane would be provided. Left and right turn lanes will be provided from the site to William Floyd Parkway.
- Widen the Yaphank-Woods Boulevard eastbound approach to William Floyd Parkway to provide two left turn only lanes and a separate right turn lane. The northbound left turn lane will be widened slightly to accommodate a full 12-foot wide left turn lane.
- The traffic signal at the intersection of William Floyd Parkway Yaphank-Woods Boulevard will be coordinated with the new traffic signal at the proposed William Floyd Parkway Site Driveway.
- The locations with the most need for improvements will experience substantial improvement in traffic operations with the implementation of the mitigation measures identified in this study. The analysis results also show that the proposed improvements offsets project impacts and also provides additional capacity to accommodate future traffic growth in the area.

3.3 Air
This section includes descriptions of the existing meteorological and climatological characteristics of the vicinity, the air quality in the area, the applicable air quality standards and regulations, as well as the current conformance to each, and provides results from an air quality screening analysis conducted per the NYSDOT Environmental Procedures Manual (EPM), which determined that a more detailed microscale analysis is not necessary for the proposed project.
3.3.1 Existing Conditions

Meteorology and Climate
This section describes the meteorological setting for eastern Long Island, which includes the subject site, and existing air quality based on published air quality monitoring data. These conditions are important in terms of analyzing project-related impacts to air resources.

Temperature - Long Island lies within a 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 (°F) or below. Summer tends to be long and hot with temperatures above 72° F. Winters on Long Island tend to be warmer than on the surrounding mainland, 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 sea breezes and the presence of the ocean (Navarra, 1979).

Wind - 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 3-10 provides the frequency of wind from various directions on an annual basis for the years 1979 to 1988.

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

Wind speed and gustiness are effective indicators of Long Island meteorological conditions and are monitored at BNL in Upton. Table 3-11a 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% of the time, with peak wind speeds of 1-12 mph 96.47% of the time and 3-9 mph 77.26% of the time (Nagle, 1975; Brown, 1992). It is important to note the rare occurrences of wind speeds less than 1 mph (1.17%). Table 3-11b provides a record of wind stability for the period 1979-1988 as recorded at BNL. Unstable wind conditions were recorded 54.22% of the time indicating a high potential for atmospheric mixing.
Table 3-11
WIND SPEED AND GUSTINESS

<table>
<thead>
<tr>
<th>Wind Speed (mph)</th>
<th>Frequency (%)</th>
<th>Gustiness</th>
<th>Frequency (in %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1</td>
<td>1.17</td>
<td>Very Unstable (BNL GC: A &amp; B2)</td>
<td>11.16</td>
</tr>
<tr>
<td>1-3</td>
<td>10.20</td>
<td>Unstable (BNL GC: B1)</td>
<td>43.06</td>
</tr>
<tr>
<td>3-5</td>
<td>24.44</td>
<td>Neutral Instability (BNL GC: C)</td>
<td>13.04</td>
</tr>
<tr>
<td>5-7</td>
<td>31.86</td>
<td>Stable (BNL GC: D)</td>
<td>32.72</td>
</tr>
<tr>
<td>7-9</td>
<td>20.96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9-12</td>
<td>9.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-16</td>
<td>2.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;16</td>
<td>0.23</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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. GC is “Gustiness Classification (A and B2 represent the very unstable case; B1 is the typical daytime unstable case; C is the strong wind-speed neutral stability case; D is the night-time stable case.

Regulatory Framework
The 1970 Clean Air Act required the Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) for six principal pollutants; carbon monoxide (CO), nitrogen dioxide, ozone, lead, particulate matter (PM), and sulfur dioxide. Under the requirements of the Clean Air Act, states are required to ensure that air quality levels do not exceed the NAAQS provided in Table 3-12. The Clean Air Act established two types of national air quality standards. According to the EPA, primary standards set limits to protect public health, including the health of “sensitive” populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings.1

Areas that exceed the NAAQS for any of the six (6) criteria pollutants are designated nonattainment areas. Currently, Nassau and Suffolk Counties are considered non-attainment areas for ozone and fine particulate matter (PM2.5) and moderate maintenance attainment areas for CO. A CO maintenance area is an area where the CO levels formerly exceeded the NAAQS, but which currently meets the standard. Nassau and Suffolk Counties will continue to be designated as maintenance areas for CO for 20 years, and as long as the NAAQS for CO are maintained during this time period, the areas will be designated as attainment areas for CO. The EPA requires the preparation of State Implementation Plans (SIPs), which establish strategies to reduce air pollution for nonattainment areas towards achieving NAAQS for all criteria pollutants. States are required to prepare and adopt SIP’s for all nonattainment areas and periodically review and evaluate the effectiveness of the plans.

1 http://www.epa.gov/air/criteria.html
NYSDEC has made recommendations to the EPA that portions of the State be designated as nonattainment areas for ozone (under the revised 2008 NAAQS of 0.075 ppm) and fine particle (PM$_{2.5}$) and New York is currently under mandate to implement a SIP to address ozone and PM$_{2.5}$.

The NYSDEC continually monitors air pollution levels at more than 80 locations around the State. The closest NYSDEC air quality monitoring stations to the project site are located in Holtsville and Riverhead where ozone levels are monitored between April and November. Additional pollutants are monitored at stations in Babylon and Eisenhower Park (Nassau County). The 2009 data for Region 1 is provided in Appendix F-1 of this document. The data indicates generally excellent air quality in the region where monitoring is conducted. Ozone levels have 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 in the presence of elevated temperatures and ultraviolet light. The sources of 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). 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. 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. The closest station that monitors PM$_{2.5}$ is located in Babylon, where the average of the last 3 years’ annual mean is 9.7 micrograms per cubic meter (µg/m$^3$), as compared to the standard of 15 µg/m$^3$, and the average of the 98th percentile for the last 3 years is 26 µg/m$^3$, as compared to the standard of 35 µg/m$^3$.

Indirect sources of air contamination are subject to review under general SEQRA requirements. Any development that may attract mobile source activity is considered an indirect source of air contamination, as it may result in a net increase in emissions.

The EPM provides New York State policy for determining the level of analysis necessary for NYSDOT sponsored projects and technical information for completing air quality analyses. This air quality analysis will reference the EPM since it is the most appropriate guide presently available for projects involving indirect sources. For this project, a subconsultant with experience in preparation of indirect source analysis was retained to perform mobile source air pollution modeling. A copy of the results is provided in Appendix F-2. The report discusses the EPM criteria and standards utilized in performing the analysis, which are summarized and explained in the following sections.

The EPM provides criteria for determining the appropriate level of air quality review, including screening tools to determine the need for microscale analysis utilizing CAL3QHC\(^2\). The tests determine if a project will result in exceedances of thresholds that could possibly result in a

---

\(^2\) CAL3QHC is a line source air dispersion model that predicts CO and PM concentrations based on meteorological, traffic volume and intersection information
degradation of local air quality. If the screening levels are not exceeded, there is no need to perform detailed project-specific air analysis. The tests include LOS screening, capture criteria screening and volume threshold screening.

The CO Microscale Analysis Screening Program may be utilized to determine the need for further analysis. If the threshold of one screening test is exceeded, the next test is applied. If all three are exceeded, microscale analysis is necessary to evaluate the project’s impact with respect to air quality.

3.3.2 Potential Impacts

Level of Service Screening
Level of Service is a term utilized to describe vehicular delays at intersections. Intersections impacted by a project with a LOS of A, B or C are excluded from microscale analysis unless there are potentially sensitive receptors, in which case, microscale analysis may be warranted.

Based upon the TIS prepared by FST Engineers, Inc. the area intersections will operate at a LOS of C or better with mitigation. However, the intersection of William Floyd Parkway at Yaphank-Woods Drive has the potential to operate at a LOS of C under the Build (PM) condition if none of the recommended mitigation is employed. Thus, it was determined that a conservative approach would include completing microscale analysis for this intersection. If the results of the analysis were to indicate no degradation in air quality for the intersection, it could be concluded that pollutants from mobile sources generated by the project would not result in a significant impact to local air quality. As the LOS screening triggered microscale analysis for an area intersection, the other two screening tools were not required.

Microscale analysis was performed by B. Laing Associates and the modeling results are contained in Appendix F-2. The input values were selected based on the NYSDOT EPM, the capacity analysis and delay information from the TIS and specific roadway geometry. The input data was extremely conservative for emission rates, wind speed and stability as well as for traffic related input (see Section 3.4 of the report found in Appendix F-2). In addition, the assumptions related to dispersion calculations were based upon worst-case conditions for meteorological conditions (which impacts mixing).

There are no identified sensitive receptors in the study area\(^3\). The receptor locations were therefore chosen to represent locations where people would congregate or walk, as well as a receptor location on the project site, and the nearest residence.

\(^3\) Sensitive receptors include locations such as schools, hospitals, and retirement communities.
## Table 3-12

### NEW YORK STATE AND FEDERAL AMBIENT AIR QUALITY STANDARDS

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Avg. Period</th>
<th>Federal Air Quality Standard</th>
<th>NYS Standard (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Primary Standard</td>
<td>Secondary Standard</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Level (3)</td>
<td>Statistic (2)</td>
</tr>
<tr>
<td>Carbon Monoxide</td>
<td>8-hour</td>
<td>9 ppm</td>
<td>maximum</td>
</tr>
<tr>
<td>Carbon Monoxide</td>
<td>1-hour</td>
<td>35 ppm</td>
<td>maximum</td>
</tr>
<tr>
<td>Lead (4)</td>
<td>Rolling 3-month avg.</td>
<td>0.15 µg/m³</td>
<td>maximum</td>
</tr>
<tr>
<td>Nitrogen Dioxide</td>
<td>annual</td>
<td>0.053 ppm</td>
<td>arithmetic mean</td>
</tr>
<tr>
<td>Nitrogen Dioxide</td>
<td>1-hour</td>
<td>0.100 ppm (3)</td>
<td>3-year average</td>
</tr>
<tr>
<td>Total Suspended Particulates (TSP) (6)</td>
<td>12 consecutive mos.</td>
<td>None</td>
<td>none</td>
</tr>
<tr>
<td>Particulate matter (PM₁₀) (7)</td>
<td>24 hours</td>
<td>150 µg/m³</td>
<td>maximum</td>
</tr>
<tr>
<td>Particulate matter (PM₂.₅)</td>
<td>annual</td>
<td>15 µg/m³</td>
<td>arithmetic mean</td>
</tr>
<tr>
<td>Ozone (9)</td>
<td>8-hour (2008 std.)</td>
<td>0.075 ppm</td>
<td>3-year avg.</td>
</tr>
<tr>
<td>Ozone (9)</td>
<td>8-hour (1997 std.)</td>
<td>0.08 ppm</td>
<td>3-year avg.</td>
</tr>
<tr>
<td>Sulfur Dioxide</td>
<td>annual</td>
<td>0.03 ppm</td>
<td>arithmetic mean</td>
</tr>
<tr>
<td>Sulfur Dioxide</td>
<td>24-hour</td>
<td>0.14 ppm</td>
<td>maximum</td>
</tr>
<tr>
<td>Sulfur Dioxide</td>
<td>3-hour</td>
<td>75 ppb</td>
<td>None</td>
</tr>
<tr>
<td>Hydrocarbons (non-methane)</td>
<td>3-hour (6-9 AM)</td>
<td>None</td>
<td>none</td>
</tr>
</tbody>
</table>

1. NYS also has standards for beryllium, fluorides, hydrogen sulfide, and settleable particulates (dustfall). Ambient monitoring for these pollutants is not currently conducted.
2. All maximum values are concentrations not to be exceeded more than once per calendar year. (Federal 1 hour Ozone Standard not to be exceeded more than three days in three calendar years).
3. Gaseous concentrations for Federal standards are corrected to a reference temperature of 25°C and to a reference pressure of 760 millimeters of mercury.
4. Federal standard for lead not yet officially adopted by NYS, but is currently being applied to determine compliance status. The 0.15 µg/m³ standard is effective 1/12/2009 and replaces the previous level of 1.5 µg/m³.
5. The 0.100-ppm standard is effective 1/22/2010. To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average within an area must not exceed 0.100 ppm.
New York State also has 30, 60, and 90-day standards as well as geometric mean standards of 45, 55, and 65 \( \mu g/m^3 \) in Part 257 of NYCRR. While these TSP standards have been superseded by the above PM\(_{10}\) standards, TSP measurements may still serve as surrogates to PM\(_{10}\) measurements in the determination of compliance status.

Federal standard for PM\(_{10}\) not yet officially adopted by NYS, but is currently being applied to determine compliance status.

Federal standard was changed from 65 to 35 \( \mu g/m^3 \) on December 17, 2006. Compliance with the Federal standard is determined by using the average of 98th percentile 24-hour value during the past three years, which can not exceed 35 \( \mu g/m^3 \).

Former NYS Standard for ozone of 0.08 PPM was not officially revised via regulatory process to coincide with the Federal standard of 0.12 PPM, which is currently being applied by NYS to determine compliance status. Compliance with the Federal 8 hour standards is determined by using the average of the 4th highest daily value during the past three years - which can not exceed 0.084 PPM or 0.075 PPM, effective May 27, 2008).

(a) EPA revoked the 1-hour ozone standard in all areas, although some areas have continuing obligations under that standard ("anti-backsliding").

(b) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is \( \leq 1 \).

Final rule signed June 2, 2010. To attain this standard, the 3-year average of the 99th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 75 ppb.

The results of the model indicate that the peak CO result with the project constructed was 5.07 ppm in the one hour scenario and 3.59 ppm in the eight hour scenario for 2015 AM build along William Floyd Parkway and Yaphank Woods Drive at sidewalk receptor 19. Receptor 19 is located along the northwestern boundary of the project site along Yaphank Woods Boulevard. It is approximately 75 feet west of William Floyd Parkway. The peak CO result without the project constructed was 4.97 ppm in the one-hour scenario and 3.52 ppm in the eight-hour scenario in 2015 AM no build scenario also at sidewalk receptor 19. Thus, the CO result with the project constructed in the one-hour scenario was only 0.1 ppm higher than without the project constructed. The CO result with the project constructed in the eight-hour scenario was only 0.07 ppm higher than without the project constructed. As all results are also below their respective one hour standard of 35 ppm and eight hour standard of 9 ppm in the 2015 build condition, it was determined that the project will not significantly impact air quality.

With respect to short-term construction related air quality impacts, it is noted that the activities on site will result in a temporary, although minor, increase in airborne pollutants from the various equipment used in the construction process for a several year phased duration. The major source of these pollutants is related to site clearing, whereas exposed soil is susceptible to wind erosion prior to stabilization through planting. All construction related air quality impacts will be of relatively short duration and generally not in proximity to public receptors. The phasing of the project will reduce the intensity of any impacts. In addition, best construction management practices will be employed to reduce soil erosion and possible sources of fugitive dust. This generally includes the daily use of water/spray trucks in dry periods, anti-tracking pads at construction entrances and adherence to a SWPPP. It is noted that clearing and grading activities will occur primarily within the interior of the site, and the site does not directly adjoin any receptors. The two multi-family communities to the north are setback from the main development areas as a result of intervening vegetated buffers, and the width of Yaphank-Woods Boulevard.

Based on this air quality analysis it is concluded that the proposed project will not result in a significant adverse impact to the local air quality and no further analysis is necessary.

3.3.3 Mitigation

- Best management practices will be employed to reduce soil erosion and sources of fugitive dust during the construction phase of the project.
- Based on the results of the EPM microscale analysis, no significant air quality analysis is indicated, so that no mitigation specific to protection of air resources is necessary or proposed.

3.4 Community Facilities and Services

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

- LCSD
- Longwood Library District
Information regarding these community resources as well as the related fiscal considerations is discussed in this section.

Appendix H contains correspondence with the various community service providers regarding facilities, services and conditions; information provided in the service providers’ responses is included in the following subsections.

3.4.1 Existing Conditions

Fiscal Considerations and Tax Revenue
The Racetrack/BW property is 322.37 acres in size and is comprised of two Suffolk County Tax lots (SCTM No. 0200-552-1-1.3; 0200-584-2-1.3). Table 3-13a provides a summary of the distribution of tax revenues and total taxes paid to each taxing jurisdiction based on the 2009-10 tax bills for this property. Based on the Town Statement of Taxes, the total taxes paid on the overall land for the tax year 2009-10 was approximately $833,155. The Dorade STP occupies tax lot 3 (SCTM No. 0200-552-1-3). Table 3-13b indicates that this property generates $19,031 in annual property taxes. Additional information regarding tax generation is contained in the Revised Tax Impact/School District Analysis completed for the proposed project (see Appendix A-15).

Educational Facilities
The subject site does not currently generate schoolchildren. The subject property is located in the LCSD. Figure 3-5 shows the location of the schools in reference to the project site; the Charles E. Walters Elementary School, Coram Elementary School, Ridge Elementary School, West Middle Island Elementary School, Longwood Middle School, Longwood Junior High School and Longwood High School.
Table 3-13a
PROPERTY TAXES, Racetrack/BW Site
Existing Conditions, 2009-10 Tax Year

<table>
<thead>
<tr>
<th>Tax District</th>
<th>Tax Rates ($/$100 assessed)</th>
<th>% of Total Taxes</th>
<th>Current Taxes ($/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>School District - LCSD</td>
<td>203.896</td>
<td>67.1%</td>
<td>$559,403</td>
</tr>
<tr>
<td>Library District - LCSD</td>
<td>10.319</td>
<td>3.4%</td>
<td>$28,311</td>
</tr>
<tr>
<td>County of Suffolk</td>
<td>2.861</td>
<td>0.9%</td>
<td>$7,849</td>
</tr>
<tr>
<td>County of Suffolk - Police</td>
<td>33.06</td>
<td>10.9%</td>
<td>$90,702</td>
</tr>
<tr>
<td>New York State MTA Tax</td>
<td>0.168</td>
<td>0.1%</td>
<td>$461</td>
</tr>
<tr>
<td>Town General - Town Wide Fund</td>
<td>4.464</td>
<td>1.5%</td>
<td>$12,247</td>
</tr>
<tr>
<td>Highway - Town Wide Fund</td>
<td>2.59</td>
<td>0.9%</td>
<td>$7,106</td>
</tr>
<tr>
<td>Town General - Part Town Fund</td>
<td>1.39</td>
<td>0.5%</td>
<td>$3,814</td>
</tr>
<tr>
<td>Highway - Part Town Fund</td>
<td>11.436</td>
<td>3.8%</td>
<td>$31,375</td>
</tr>
<tr>
<td>$100M Bond Act of 2004</td>
<td>1.588</td>
<td>0.5%</td>
<td>$4,357</td>
</tr>
<tr>
<td>Fire District - Yaphank + Ridge*</td>
<td>23.1445</td>
<td>7.6%</td>
<td>$63,499</td>
</tr>
<tr>
<td>Lighting District</td>
<td>1.703</td>
<td>0.6%</td>
<td>$4,672</td>
</tr>
<tr>
<td>Real Property Tax Law - Article 7</td>
<td>0.935</td>
<td>0.3%</td>
<td>$2,565</td>
</tr>
<tr>
<td>Real Property Tax Law</td>
<td>6.121</td>
<td>1.9%</td>
<td>$16,793</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>303,675</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>$833,155</strong></td>
</tr>
</tbody>
</table>

*The PDD will be served both by the Yaphank & Ridge Fire Departments; Source: Consultant’s estimates based on latest tax bill for subject property

Table 3-13b
PROPERTY TAXES, Dorade STP Site
Existing Conditions, 2010-11 Tax Year

<table>
<thead>
<tr>
<th>Tax District</th>
<th>Tax Rates ($/$100 assessed)</th>
<th>% of Total Taxes</th>
<th>Current Taxes ($/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>School District - LCSD</td>
<td>211.516</td>
<td>67.8%</td>
<td>$12,902</td>
</tr>
<tr>
<td>Library District - LCSD</td>
<td>10.780</td>
<td>3.5%</td>
<td>$658</td>
</tr>
<tr>
<td>County of Suffolk</td>
<td>2.827</td>
<td>0.9%</td>
<td>$172</td>
</tr>
<tr>
<td>County of Suffolk - Police</td>
<td>33.003</td>
<td>10.6%</td>
<td>$2,013</td>
</tr>
<tr>
<td>Town General - Town Wide Fund</td>
<td>4.462</td>
<td>1.4%</td>
<td>$272</td>
</tr>
<tr>
<td>Highway - Town Wide Fund</td>
<td>2.589</td>
<td>0.8%</td>
<td>$158</td>
</tr>
<tr>
<td>Town General - Part Town Fund</td>
<td>1.390</td>
<td>0.4%</td>
<td>$85</td>
</tr>
<tr>
<td>Highway - Part Town Fund</td>
<td>11.395</td>
<td>3.7%</td>
<td>$695</td>
</tr>
<tr>
<td>Blizzard Note Repayment</td>
<td>0.499</td>
<td>0.2%</td>
<td>$30</td>
</tr>
<tr>
<td>New York State MTA Tax</td>
<td>0.155</td>
<td>0.0%</td>
<td>$9</td>
</tr>
<tr>
<td>$100M Bond Act of 2004</td>
<td>1.573</td>
<td>0.5%</td>
<td>$96</td>
</tr>
<tr>
<td>Fire District - Yaphank</td>
<td>22.343</td>
<td>7.2%</td>
<td>$1,363</td>
</tr>
<tr>
<td>Brookhaven Lighting District</td>
<td>1.364</td>
<td>0.4%</td>
<td>$83</td>
</tr>
<tr>
<td>Real Property Tax Law - Article 7</td>
<td>0.896</td>
<td>0.3%</td>
<td>$55</td>
</tr>
<tr>
<td>Real Property Tax Law</td>
<td>7.192</td>
<td>2.3%</td>
<td>$439</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>311,9840</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>$19,031</strong></td>
</tr>
</tbody>
</table>
Based on the 2009-10 tax bill, the subject site generates a total of about $559,403 per year in property tax revenue for the school district. The estimated cost per pupil in the Longwood Central School District as of the current 2009-10 school year is $22,332. This figure was computed in Table 3-14, as follows:

<table>
<thead>
<tr>
<th>2009-10 Budgeted Spending</th>
<th>$203,600,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Enrollment</td>
<td>9,117</td>
</tr>
<tr>
<td>Per Pupil Cost</td>
<td>$22,332</td>
</tr>
</tbody>
</table>

Source: New York State Education Department

**Table 3-14**  
**PER-PUPIL COST IN THE LCSD, 2009-10 School Year**

Police Protection  
Figure 3-6 shows the location of the public safety services in reference to the project. The subject site lies within the SCPD Seventh Precinct, Sector 704. The 7th Precinct headquarters is located on William Floyd Parkway just south of the LIE, in Shirley. The precinct is staffed by 205 sworn members and 12 civilian members.

Funding for police protection is received through property taxes placed on lands within Suffolk County. Based on the 2009-10 tax rates, the subject site generates approximately $90,702 in annual property tax allocations to the SCPD. In 2009, the SCPD’s actual budget was $423,387,896.4

Fire Protection  
The Ridge and Yaphank Fire Districts provide fire protective services to the subject site. Funding for fire protection is received through property taxes placed on lands within that fire district. During the 2009-10 tax year, the subject property generated $63,499 for both fire districts. The Ridge Fire District expended $3,301,202 and levied revenues totaling $3,043,532 in 2009.5

The Yaphank Fire District has one building, located at 31 Main Street, Yaphank. Equipment available to the district includes four Class A pumpers, a 95-foot aerial truck, a rescue vehicle, a tanker and two brush trucks. The district is manned by approximately 100 volunteers and has an annual operating budget of approximately $1.6 million. In 2009, the Yaphank Fire District expended $1,627,747 and levied revenues totaling $1,701,226.6 The Yaphank Fire District includes an ambulance company that is equipped with two ALS certified ambulances. In addition to their volunteer ambulance members, they provide 24/7 paid emergency first responders.

---

4 “Responsible Budgeting to Benefit the Taxpayers of Suffolk County,” 2011 Recommended Operating Budget: Narrative and Appropriations, County of Suffolk, NY.
During the SEQRA process for Brookhaven Walk discussions regarding emergency access identified potential problems. The Yaphank Fire District previously had access to the site on a road leading from Main Street in Yaphank into the southwesterly corner of the site; however, this access was blocked with a gate several years ago, preventing access by the Yaphank Fire Department. Site access was reviewed with both fire districts including highway modifications to permit improved access to the site pursuant to the pending site plan point of access turning lanes, signal locations, William Floyd Parkway median break, Yaphank-Woods Boulevard and related proposed traffic improvements reflected on the plans, traffic impact studies and agency reviews. Travel times were also determined from the various main stations sub-stations. At the time of Brookhaven Walk, no additional emergency access was identified or designed other than the site access points from the existing road network.

**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.

**Water Supply**

The subject property and surrounding region are located within the service area of the SCWA, specifically SCWA Distribution Area #18 (the William Floyd Parkway wellfield). Existing water mains in the vicinity include a 16-inch service beneath CR 46 and a 16-inch main beneath Yaphank-Woods Boulevard.

**Wastewater Treatment**

The subject property was the subject of a Construction Agreement signed in 1973, which anticipated the construction of the Dorade STP to treat 450,000 gpd of sanitary waste to be generated by the BW and Racetrack parcels (allocated 190,000 gpd of flow) along with the Whispering Pines/Colonial Woods condominiums. This agreement also prohibited the use of on-
site sanitary systems once the regional sewage treatment plant was built to serve the specified parcels. Since the Agreement was executed, the Dorade STP was constructed and the Whispering Pines/Colonial Woods condominiums connected to it. In 1998, a consent order entered into with the NYSDEC revised the SPDES permit, reducing the permitted flow from 450,000 gpd to 140,000 gpd. Thereafter, effective January 1, 1999, an amendment to the Construction Agreement was executed permitting the County to divert 50,000 gpd from SCSD #8 (Strathmore Ridge), which gallonage took up the remaining authorized flow allowed by the consent order/revised SPDES permit. When the Brookhaven Walk project was under review, the SCSA adopted a resolution on May 15, 2006 temporarily waiving the prohibition of on-site systems, subject to filing covenants and restrictions on the land which state: “...that Brookhaven Town Center (Brookhaven Walk) be permitted to suspend the provision regarding the connection to a regional treatment plant until a regional treatment plant is available, as determined by the Suffolk County Sewer Agency.” As a result, the Racetrack and Mall parcels (The Meadows at Yaphank) must connect to the Dorade STP at such time as it provides regional sewage treatment, as provided for in the 1973 Construction Agreement. Copies of these agreements are included in Appendix A-11.

The Dorade STP is an existing facility that pre-dates the Pine Barrens Plan. The Pine Barrens Commission discourages location of new STPs in the Central Pine Barrens Zone; however, the Dorade STP exists and currently receives sanitary waste flow from existing developments. The Dorade STP previously treated the waste flow from the Suffolk Meadows racetrack, as well as the flea market that subsequently operated on that parcel. The project applicant owns the Dorade STP (through a separate LLC), yet no sanitary waste generated by the applicants holdings are currently treated by the Dorade STP. The STP only receives waste from Suffolk County Sewer District #8 and Whispering Pines/Colonial Woods. The STP is undergoing renovation to ensure that the existing facility meets discharge limitations and recently monthly monitoring finds that the total nitrogen effluent concentration has been well under the 10-mg/l limitation.

Energy Supply
LIPA is the public electric company in the area. National Grid serves as the natural gas supplier for the area. An existing gas main is located at the corner of Ramsey Road and William Floyd Parkway south of the site and just south of the LIE.

Recreational Facilities
The site consists of privately owned vacant woodland and is not used for any authorized recreational purpose. The Town Greenbelt is located directly west of the subject property.

3.4.2 Potential Impacts

All community service providers were contacted by mail. As a result, all recipients have been made aware of plans to utilize the subject property for The Meadows at Yaphank. Responses received from service providers are included in Appendix H. Further impact analysis and discussion regarding community services are included herein.
Fiscal Considerations and Tax Revenue
The following is taken from the Revised Tax Impact/School District Analysis completed for the proposed project (see Appendix A-15).

**The Retail Component.** The retail component will consist primarily of neighborhood and large retailers. The neighborhood retail component will encompass a 65,000 square foot supermarket designed to serve the needs of residents of The Meadows at Yaphank as well as the communities of Colonial Woods/Whispering Pines. Other retail elements will include a pharmacy, a bank and a restaurant. In the analysis, large retailers are presumed to pay an average annual rent of $22 per square foot; the supermarket is presumed to pay an annual rent of $23 per square foot; the pharmacy and bank are presumed to pay an annual rent of $39 per square foot; and, other neighborhood retailers are projected to pay annual rents averaging $32 per square foot. These are relatively conservative figures and reflect today’s depressed retail market. These assumptions result in a weighted average rent of $26.

With an average annual rent of $26 per square foot, the proposed retail space would generate a gross income of more than $8.5 million. With expenses and losses from vacancies of about 25% of gross income, net income would be about $6,386,250. With a capitalization rate of 0.09, the market value of the retail space would be almost $71 million. Applying the 2009-10 equalization rate results in an assessed value of $517,996. Applying the 2009-10 school and town tax rate for properties in the Longwood CSD results in estimated annual property taxes of almost $1.6 million.

**The Restaurant.** Assuming that the 5,000 square foot restaurant would generate annual rents of $40 per square foot (Source: Consultant’s estimates based on 2009-10 equalization and tax rates), gross income from the restaurant would be about $200,000 annually. With an expense ratio of 20%, net income would be about $160,000. With a capitalization rate of 9%, the market value of the restaurant would be about $1,777,778. Applying 2009-10 equalization and school and town tax rates results in estimated annual property taxes of $39,511.

**The Hotel.** A 150,000 square foot limited-service hotel similar to a Hampton Inn is proposed. Assuming an annual gross income of $85 per square foot (Source: Consultant’s estimates based on 2009-10 equalization and tax rates), the gross income of the proposed hotel would be about $12,750,000. With an expense ratio of 50%, the net income of the hotel would be about $6,375,000. With a capitalization rate of 0.09, the estimated market value of the hotel would be about $70.8 million. Applying 2009-10 equalization and tax rates results in estimated annual property taxes of $1,574,260.

**The Office/Flex Component.** The proposed PDD will contain 250,000 square feet of office/flex space. Approximately 15% or 37,500 square feet will consist of office space and the remaining 212,500 square feet will be warehouse and distribution space. There will also be 300,000 square feet of Class A office space. According to Grubb & Ellis Research, the asking rent for wholesale and distribution space in the Town of Brookhaven during the third quarter of 2009 was $7.55 per square foot. The third quarter 2009 asking rent for Class A office space in the Town of Brookhaven was $20.83 per square foot. This asking rate was applied to the 300,000 square feet of office space and to the 37,500 square feet of office space associated with the proposed office/flex use. These asking rents are full service rents incorporating all costs of operation paid for by the landlord. Application of these rents to proposed uses at The Meadows at Yaphank results in an annual average rent per square foot of about $15.70 for the proposed office space.
Assuming average rents of $15.70 per square foot, estimated gross income for the 550,000 square feet of office/flex space would be about $8,635,000. With a 15% expense ratio, net income would be about $7,339,750. With a 9% capitalization rate, the estimated market value is about $81.6 million. Applying current equalization rates results in estimated annual property taxes of slightly more than $1.8 million.

Summary: Estimated Taxes From the Commercial Component of The Meadows at Yaphank PDD. Aggregating the foregoing tax estimates shows that the commercial component of The Meadows at Yaphank PDD could generate annual real property taxes of almost $5.0 million.

The Rental Units. The proposal calls for 144 rental units to be built as part of the residential component of the project. Of these, 20% or 30 units will be rental workforce units and the remaining 80% will be market rate units. Ten of the 30 workforce one-bedroom units will be reserved for seniors. This 80-20 ratio is in accordance with guidelines promulgated by the Suffolk County Department of Economic Development and Workforce Housing.

Of the 144 rental units, 96 would be one-bedroom apartments, including 38 market-rate senior units, and the remaining 48 would be two-bedroom units. The market-rate one-bedroom units would rent for $1,600 monthly. The market-rate two-bedroom units would rent for $2,000 monthly. Rents for the workforce units have been pegged at 80% of the market-rate rents. This means that the one-bedroom workforce units would rent for $1,280 monthly and the two-bedroom workforce units would rent for $1,600 monthly.

US Department of Housing and Urban Development (HUD) guidelines state that rental units are affordable if they consume no more than 30% of household income. This means that the one-bedroom market-rate units would be affordable to those with an annual income of at least $64,000 and the two-bedroom market-rate units would be affordable to those with an annual income of at least $80,000. The workforce one-bedroom units would be affordable for those with annual incomes of at least $51,200. The workforce two-bedroom units would be affordable for those with annual incomes of at least $64,000. The majority of households in the Town of Brookhaven meet these income requirements. The findings indicate a gross annual rent of $2,870,400 for the proposed rental units at The Meadows at Yaphank.

Assuming a loss from vacancies of 5% and an expense ratio of 20%, net income from these apartments would be about $2,152,800. With a capitalization rate of 10%, the market value of the rental units would be about $21.5 million. Applying current equalization and town and school tax rates results in projected annual property taxes of $478,457 from the rental units.

The Townhouses. The Plan also includes up to 220 townhouse units. Of the 220 proposed townhouses, 152 will be two-bedroom units and the remaining 68 will be three-bedroom units. Of the 152 two-bedroom townhouses, 51 will be reserved for seniors. All of the townhouses will sell at market rates. The 51 senior two-bedroom townhouses will sell for $385,000. The 101 non age-restricted two-bedroom townhouses would sell for $360,000. The 68 three-bedroom non age-restricted units will sell for $385,000.

The estimated market value of the 220 proposed townhouses would be about $82,175,000.

Applying current equalization and town and school district tax rates to this amount results in projected annual property tax revenues of $1,817,575 from the proposed townhouses.
The Condominiums. The 486 condominiums will be dispersed throughout the proposed PDD. Of the proposed condominiums, 25 will be one-bedroom units and the remaining 461 will be two-bedroom units. Fifty-five of the proposed condos would be affordable. In the analysis, the imputed monthly rent for each of these units was used to estimate the total market value of the condominiums. Based on these imputed rents, the imputed gross income for the condominium units would be $13,545,000.

In the analysis, a loss of 5% for vacancies and unrecovered debt and a loss of 20% for expenses were assumed. This results in a net income of $10,158,750. With a capitalization rate of 10%, the estimated market value would be $101,587,500.

Applying the 2009-10 equalization rate results in an assessed value of $741,589. The proposed condominiums would be dispersed throughout the proposed PDD. Current tax rates for the mall parcel and the racetrack parcel are slightly different: $302.901 per $100 of assessed value for the racetrack parcel and $304.450 per $100 of assessed value for the mall parcel. Therefore, an average of these tax rates, $303.676 per $100 of assessed value, was used to estimate potential real property taxes from the proposed condominiums. Applying this rate results in estimated real property taxes for the condominiums of $2,252,027.

Summary: Estimated Taxes From the Residential Component of The Meadows at Yaphank PDD. Aggregating projected tax revenues from the proposed rental units, townhouses and condominiums results in projected annual tax revenues of $5,370,040 from the residential component of the proposed PDD.

Grand Total: Projected Annual Property Taxes Generated by The Meadows at Yaphank PDD. At full development, The Meadows at Yaphank PDD could generate taxes of $4,994,086 from the commercial component and $4,548,059 from the residential component for a total of $9,542,145 (see Table 3-15).

Educational Facilities
The following is taken from the Revised Tax Impact/School District Analysis completed for the proposed project (see Appendix A-15).

In estimating the number of school-age children likely to be generated by the residential component of The Meadows at Yaphank at full development, coefficients from a special study by the Rutgers University Center for Urban Policy Research were used (Rutgers University, Residential Demographic Multipliers, June 2006). This study contains multipliers, based on US Census data, that indicate the number of school age children likely to be generated by different types of residential units, single-family homes, condominiums, townhouses and/or rental units at various rent levels and price points. In the following analysis, it is assumed that the 303 senior age-restricted units will not contain any school-age children. In reality, some units may contain school-age children, principally at the high school level. However, this would be a relatively rare occurrence and would be the exception rather than the rule.
Table 3-15
PROPERTY TAXES, Racetrack/BW Site
Existing & Proposed Conditions, 2009-10 Tax Year

<table>
<thead>
<tr>
<th>Tax District</th>
<th>Tax Rates ($/100 assessed)</th>
<th>Current Taxes ($/year)</th>
<th>Proposed PDD ($/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>School District - LCSD</td>
<td>203.896</td>
<td>$559,403</td>
<td>$6,402,779</td>
</tr>
<tr>
<td>Library District - LCSD</td>
<td>10.319</td>
<td>$28,311</td>
<td>$324,433</td>
</tr>
<tr>
<td>County of Suffolk</td>
<td>2.861</td>
<td>$7,849</td>
<td>$85,879</td>
</tr>
<tr>
<td>County of Suffolk - Police</td>
<td>33.06</td>
<td>$90,702</td>
<td>$1,040,094</td>
</tr>
<tr>
<td>New York State MTA Tax</td>
<td>0.168</td>
<td>$461</td>
<td>$9,542</td>
</tr>
<tr>
<td>Town General - Town Wide Fund</td>
<td>4.464</td>
<td>$12,247</td>
<td>$143,132</td>
</tr>
<tr>
<td>Highway - Town Wide Fund</td>
<td>2.59</td>
<td>$7,106</td>
<td>$85,879</td>
</tr>
<tr>
<td>Town General - Part Town Fund</td>
<td>1.39</td>
<td>$3,814</td>
<td>$47,711</td>
</tr>
<tr>
<td>Highway - Part Town Fund</td>
<td>11.436</td>
<td>$31,375</td>
<td>$362,602</td>
</tr>
<tr>
<td>$100M Bond Act of 2004</td>
<td>1.588</td>
<td>$4,357</td>
<td>$47,711</td>
</tr>
<tr>
<td>Fire District - Yaphank + Ridge*</td>
<td>23.1445</td>
<td>$63,499</td>
<td>$725,203</td>
</tr>
<tr>
<td>Lighting District</td>
<td>1.703</td>
<td>$4,672</td>
<td>$57,253</td>
</tr>
<tr>
<td>Real Property Tax Law - Article 7</td>
<td>0.935</td>
<td>$2,565</td>
<td>$28,626</td>
</tr>
<tr>
<td>Real Property Tax Law</td>
<td>6.121</td>
<td>$16,793</td>
<td>$181,301</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>303.6755</strong></td>
<td><strong>$833,155</strong></td>
<td><strong>$9,542,145</strong></td>
</tr>
</tbody>
</table>

Estimated School-Age Children From the 96 Non Age-Restricted Rental Units. The Rutgers coefficients for one and two-bedroom rental units in structures containing five or more rental units are shown below. These coefficients were applied to the market rate and workforce rental units proposed for The Meadows at Yaphank. The findings show that the 96 non age-restricted rental units could generate as many as 15 school-age children.

Estimated School-Age Children, 96 Rental Units

<table>
<thead>
<tr>
<th>Size of Unit</th>
<th>No. Of Units</th>
<th>School-Age Children/Unit</th>
<th>Total School-Age Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Bedroom Market Rate</td>
<td>38</td>
<td>0.08</td>
<td>3</td>
</tr>
<tr>
<td>1-Bedroom Affordable</td>
<td>10</td>
<td>0.08</td>
<td>1</td>
</tr>
<tr>
<td>2-Bedroom Market Rate</td>
<td>38</td>
<td>0.23</td>
<td>9</td>
</tr>
<tr>
<td>2-Bedroom Affordable</td>
<td>10</td>
<td>0.23</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>96</strong></td>
<td></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

Source: Consultant’s estimates based on Rutgers coefficients

Estimated School-Age Children From 169 Non Age-Restricted Townhouses. The Rutgers coefficients also cover two and three-bedroom owner-occupied, single-family attached residential structures such as the townhouses proposed for The Meadows at Yaphank PDD. When applied to the 169 non-age-restricted townhouses, they suggest that as many as 41 school-age children could be generated.
School-Age Children From 169 Market-Rate Townhouses

<table>
<thead>
<tr>
<th>Size of Unit</th>
<th>No. of Units</th>
<th>School-Age Children/Unit</th>
<th>Total School Age Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Bedroom</td>
<td>101</td>
<td>0.14</td>
<td>14</td>
</tr>
<tr>
<td>3-Bedroom</td>
<td>68</td>
<td>0.39</td>
<td>27</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>169</strong></td>
<td></td>
<td><strong>41</strong></td>
</tr>
</tbody>
</table>

Source: Consultant’s estimates based on Rutgers coefficients

School-Age Children From the 282 Non Age-Restricted Condominiums. The Rutgers coefficients are also available for owner-occupied one and two-bedroom condominium units in structures containing five or more units. These coefficients were applied to the 282 proposed condominiums at The Meadows at Yaphank. The results show that as many as 54 school-age children could be generated by the 282 non age-restricted condominiums.

School-Age Children From 282 Non-Age Restricted Condominiums

<table>
<thead>
<tr>
<th>Size of Unit</th>
<th>No. Of Units</th>
<th>School-Age Children/Unit</th>
<th>Total School Age Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Bedroom Condos</td>
<td>25</td>
<td>0.19</td>
<td>5</td>
</tr>
<tr>
<td>2-Bedroom Market Rate</td>
<td>232</td>
<td>0.19</td>
<td>44</td>
</tr>
<tr>
<td>2-Bedroom Affordable</td>
<td>25</td>
<td>0.19</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>282</strong></td>
<td></td>
<td><strong>54</strong></td>
</tr>
</tbody>
</table>

Source: Consultant’s estimates based on Rutgers coefficients

Total Number of School Age-Children Generated. Aggregating the foregoing findings suggests that the 547 non age-restricted residential units proposed for The Meadows at Yaphank could generate as many as 110 school-age children.

Estimated School-Age Children Generated by Residential Component of PDD

<table>
<thead>
<tr>
<th>Type of Unit</th>
<th>Est. Number of School-Age Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>96 Rental Units</td>
<td>15</td>
</tr>
<tr>
<td>169 Townhouses</td>
<td>41</td>
</tr>
<tr>
<td>282 Condominiums</td>
<td>54</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>110</strong></td>
</tr>
</tbody>
</table>

Source: Consultant’s estimates based on Rutgers coefficients

Costs vs. Benefits to Longwood Central School District. The estimated cost per pupil in the LCSD as of the 2009-10 school year is $22,332.

The added cost of 110 school-age children would therefore be $2,456,510 annually. This compares with additional annual tax revenues from The Meadows at Yaphank PDD of $6,402,779, resulting in surplus tax revenues to the school district of $3,946,269. However, the LCSD received or will receive $87,003,339 in state and federal aid during the 2009-10 school year. This reduces school expenditures attributable to the local tax base to only $116,596,661. When divided by 9,117 students, the cost per student is only $12,789. This in turn reduces the cost for 110 students to $1,406,790 and results in surplus revenues from The Meadows at Yaphank PDD of more than $4.9 million annually (see Table 3-16).
### Table 3-16
ANNUAL TAX IMPACT ON LCSD

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Amount Without State Aid</th>
<th>Amount With State Aid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost Per Student</td>
<td>$22,332</td>
<td>$12,789</td>
</tr>
<tr>
<td>Cost for 110 Students</td>
<td>$2,456,510</td>
<td>$1,406,790</td>
</tr>
<tr>
<td>Additional Tax Revenue From PDD</td>
<td>$6,402,779</td>
<td>$6,402,779</td>
</tr>
<tr>
<td>Surplus Revenue to School District</td>
<td>$3,946,269</td>
<td>$4,995,989</td>
</tr>
</tbody>
</table>

Source: Consultant’s estimates based on latest school statistics

**Police Protection**

The proposed project will incrementally increase the potential need for the protective services of the SCPD for the subject site. However, based on the size, experience level and staffing of its facilities, this increase in the potential need for services is not anticipated to be to a level which would cause a significant impact on the ability of the SCPD to provide such services.

In an effort to quantify the fiscal impact that the proposed project will have on the SCPD, it was necessary to apportion costs between residential and non-residential uses and estimate a per-capita and per-employee cost associated with the provision of police protection services. The residential share of costs was estimated by dividing the residential property values and number of residential parcels by the total property value and number of parcels within the boundaries of the SCPD (Towns of Babylon, Brookhaven, Huntington, Islip and Smithtown). Likewise, the non-residential share of costs was estimated by dividing the non-residential property values and number of non-residential parcels by the total property value and number of parcels within the boundaries of the SCPD. The residential and non-residential percentages of the total property value and total number of parcels were averaged, and the combined value was applied to the total SCPD expenditures\(^7\) of $423.3 million.\(^8\) As seen in Table 3-17, the estimated share of residential-associated expenditures attributed to the provision of police protection total 70.6%, or $298.7 million; the estimated share of non-residential-associated expenditures attributed to the provision of police protection total 29.4%, or $124.65 million.

The estimated share of residential police protection-associated expenditures of $298.7 million was divided by the estimated total population located within the SCPD boundaries, including the towns of Babylon, Brookhaven, Huntington, Islip and Smithtown. As of 2009, this included an estimated 1.3 million residents.\(^9\) Given these assumptions, this results in a per-capita expenditure of approximately $228. Likewise, the estimated share of non-residential police protection-associated expenditures of $124.65 million was divided by the estimated total number

---


\(^8\) "Responsible Budgeting to Benefit the Taxpayers of Suffolk County," 2011 Recommended Operating Budget: Narrative and Appropriations, County of Suffolk, NY.

\(^9\) According to Nielsen Claritas, the 2009 population estimate for the Town of Babylon is 209,381 residents; the 2009 population estimate for the Town of Brookhaven is 471,523 residents; the 2009 population estimate for the Town of Huntington is 192,803 residents; the 2009 population estimate for the Town of Islip is 322,349 residents; and the 2009 population estimate for the Town of Smithtown is 116,260 residents. In total, this equals an estimated 1,312,316 residents within the boundary of the SCPD.
of employees located within the SCPD boundaries, including the towns of Babylon, Brookhaven, Huntington, Islip and Smithtown. As of 2009, this included 676,740 employees. Given these assumptions, this results in a per-employee expenditure of approximately $184.

The per-capita expenditure of $228 that is associated with the provision of police protection services was applied to the 1,630 persons projected to reside at the proposed development. Given these assumptions, this results in a total fiscal impact of $371,056 for the residential portion of the proposed development. The per-employee expenditure of $184 that is associated with the provision of police protection services was applied to the 898 persons projected to reside at the proposed development. This results in a total fiscal impact of $165,404 for the non-residential portion of development. Combined, the fiscal impact on the SCPD is projected to total $536,460 per year. It is important to note that this analysis presents a conservative estimate, and the actual impact is anticipated to be lower since the proposed project will be a development of modern construction with new wiring and building materials, sprinklers and fire/smoke detectors that conform to the NYS Building and Fire Safety Codes.

As seen in Table 3-15, it is expected that the project will result in an increase to $1,040,094 in annual tax revenue for the SCPD, which is expected to completely offset the costs associated with an increased provision of police protection services. The proposed project is projected to result in a net impact of $503,634 in revenues to the SCPD.

Table 3-17
PROJECTED FISCAL IMPACT ON SCPD

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Residential</th>
<th>Non-Residential</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Expenditures (2009)</td>
<td>--</td>
<td>--</td>
<td>$423,387,896</td>
</tr>
<tr>
<td>Number of Parcels: in SCPD (2009)</td>
<td>373,167</td>
<td>95,254</td>
<td>468,421</td>
</tr>
<tr>
<td>Percentage of Parcels</td>
<td>79.7%</td>
<td>20.3%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Total Assessed Value: Parcels in SCPD (2009)</td>
<td>$4,554,708,248</td>
<td>$2,856,993,654</td>
<td>$7,411,701,902</td>
</tr>
<tr>
<td>Percentage of Assessed Valuation</td>
<td>61.5%</td>
<td>38.5%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Estimated Percentage of Associated Expenditures: SCPD (2009)</td>
<td>70.6%</td>
<td>29.4%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Estimated Apportioned Expenditures (2009)</td>
<td>$298,737,858</td>
<td>$124,650,038</td>
<td>$423,387,896</td>
</tr>
<tr>
<td>Number of Persons Serviced in SCPD (2009)</td>
<td>1,312,316</td>
<td>676,740</td>
<td>--</td>
</tr>
<tr>
<td>Per-Capita/Per-Employee Expenditure (2009)</td>
<td>$227.64</td>
<td>$184.19</td>
<td>--</td>
</tr>
<tr>
<td>Number of Persons Serviced: Proposed Project</td>
<td>1,630 residents</td>
<td>898 employees</td>
<td>2,528</td>
</tr>
<tr>
<td>Total Fiscal Impact on SCPD: Proposed Project</td>
<td>$371,056</td>
<td>$165,404</td>
<td>$536,460</td>
</tr>
</tbody>
</table>


10 According to Nielsen Claritas, 107,150 persons were employed within the Town of Babylon in 2009; 188,559 persons were employed within the Town of Brookhaven in 2009; 130,261 persons were employed within the Town of Huntington in 2009; 179,514 persons were employed with the Town of Islip in 2009; and 71,256 persons were employed within the Town of Smithtown in 2009. In total, this equals an estimated 676,740 persons employed within the boundary of the SCPD.
Fire Protection
The development will include current building materials and safety installations per the NYS Building Code. A preliminary emergency access plan has been prepared (see Figure 3-7), which identifies a potential emergency access road to the west of the subject site, with access off the LIE north service road. It is presently a dirt access through the Town’s Greenbelt Trail; however, if feasible, this access would be stabilized to accommodate emergency service vehicles. The proposed development will include installation of fire hydrants as directed through the site plan review process.

In an effort to quantify the fiscal impact that the proposed project will have on the Ridge and Yaphank Fire Districts, it was necessary to apportion costs between residential and non-residential uses and estimate a per-capita and per-employee cost associated with the provision of fire protection services. The residential share of costs was estimated by dividing the residential property values and number of residential parcels by the total property value and number of parcels within the boundaries of the Town of Brookhaven.\(^{11}\) Likewise, the non-residential share of costs was estimated by dividing the non-residential property values and number of non-residential parcels by the total property value and number of parcels within the boundaries of the Town of Brookhaven. The residential and non-residential percentages of the total property value and total number of parcels were averaged, and the combined value was applied to the total expenditures\(^{12}\) of each fire district; in 2009, the Ridge Fire District expended approximately $3.3 million, and the Yaphank Fire District expended approximately $1.6 million.\(^{13}\)

As seen in Table 3-18, the estimated share of residential-associated expenditures attributed to the provision of fire protection by the Ridge Fire District total 60.9%, or $2.0 million; the estimated share of non-residential-associated expenditures attributed to the provision of fire protection by the Ridge Fire District total 39.1%, or $1.29 million.

The estimated share of residential fire protection-associated expenditures from the Ridge Fire District of $2.0 million was divided by the estimated total population located within the fire district boundary. As of 2009, this included an estimated 13,826 residents.\(^{14}\) Given these assumptions, this results in a per-capita expenditure of approximately $145.44. Likewise, the estimated share of non-residential fire protection-associated expenditures from the Ridge Fire District of $1.29 million was divided by the estimated total number of employees located within the fire district boundary. As of 2009, this included an estimated 3,974 employees.\(^{15}\) Given these assumptions, this results in a per-employee expenditure of approximately $324.71.

---

\(^{11}\) Such data is not available at the Fire District level. As such, data specific to the number of parcels and property values within the Town of Brookhaven was used for the purpose of this analysis.


\(^{13}\) New York State Office of the State Comptroller, 2009.

\(^{14}\) According to Nielsen Claritas, the 2009 population estimate for the seventeen (17) block groups that are located within the Ridge Fire District was 25,252 persons. However, since the Fire District boundary does not align with the boundaries of the block groups, this figure was reduced to 13,826 persons, based upon the portions of the block groups that were located within the confines of the Fire District, as well as the location of residences within the boundary.

\(^{15}\) According to Nielsen Claritas, the 2009 employment estimate for the seventeen (17) block groups that are located within the Ridge Fire District was 14,897 employees. However, since the Fire District boundary does not align with
In the Ridge Fire District, the per-capita expenditure of $145 associated with the provision of fire protection services was applied to the 815 persons\(^{16}\) projected to reside at the proposed development. Given these assumptions, this resulted in a total fiscal impact of $118,531 for the residential portion of the development. The per-employee expenditure of $325 associated with the provision of fire protection services was applied to the 449 persons\(^{17}\) projected to reside at the proposed development. This resulted in a total fiscal impact of $145,795 for the non-residential portion of development. Combined, the fiscal impact on the Ridge Fire District is projected to total $264,326 per year. It is important to note that this analysis presents a conservative estimate, and the actual impact is anticipated to be lower since the proposed project will be a development of modern construction with new wiring and building materials, sprinklers and fire/smoke detectors that conform to the NYS Building and Fire Safety Codes.

As seen in Table 3-15, it is expected that the project will result in an increase to $362,602\(^{18}\) in annual tax revenue for the Ridge Fire District, which is expected to completely offset the costs associated with an increased provision of fire protection services. The proposed project is projected to result in a net impact of $98,276 in revenues to the Ridge Fire District.

As seen in Table 3-19, the estimated share of residential-associated expenditures attributed to the provision of fire protection by the Yaphank Fire District total 60.9%, or $991,481; the estimated share of non-residential-associated expenditures attributed to the provision of fire protection by the Yaphank Fire District total 39.1%, or $636,266.

The estimated share of residential fire protection-associated expenditures from the Yaphank Fire District of $991,481 was divided by the estimated total population located within the fire district boundary. As of 2009, this included an estimated 4,642 residents\(^{19}\). Given these assumptions, this results in a per-capita expenditure of approximately $214. Likewise, the estimated share of non-residential fire protection-associated expenditures from the Yaphank Fire District of $636,266 was divided by the estimated total number of employees located within the fire district boundary of the block groups, this figure was reduced to 3,974 employees, based upon the portions of the block groups that were located within the confines of the Fire District, as well as the location of businesses and industry within the boundary.

\(^{16}\) It is projected that 1,630 persons will reside within the proposed project. Since the subject site is serviced by both Ridge Fire District and Yaphank Fire District, this figure conservatively assumes that half of the residents will be serviced by the Ridge Fire District and half of the residents will be serviced by the Yaphank Fire District.

\(^{17}\) It is projected that 898 persons will be employed within the proposed project. Since the subject site is serviced by both Ridge Fire District and Yaphank Fire District, this figure conservatively assumes that half of the employees will be serviced by the Ridge Fire District and half of the employees will be serviced by the Yaphank Fire District.

\(^{18}\) It is projected that the proposed project will generate a combined $725,203 to the two fire districts that service the subject site. This figure assumes that half of the property tax revenues will be levied to the Ridge Fire District and half of the property tax revenue will be levied to the Yaphank Fire District.

\(^{19}\) According to Nielsen Claritas, the 2009 population estimate for the seven (7) block groups that are located within the Yaphank Fire District was 23,542 persons. However, since the Fire District boundary does not align with the boundaries of the block groups, this figure was reduced to 4,642 persons, based upon the portions of the block groups that were located within the confines of the Fire District, as well as the location of residences within the boundary of the Fire District.
boundary. As of 2009, this included an estimated 5,263 employees. Given these assumptions, this results in a per-employee expenditure of approximately $121.

**Table 3-18**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Residential</th>
<th>Non-Residential</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Expenditures: Ridge FD (2009)</td>
<td>--</td>
<td>--</td>
<td>$3,301,202</td>
</tr>
<tr>
<td>Number of Parcels: Town of Brookhaven (2009)</td>
<td>135,297</td>
<td>48,597</td>
<td>183,894</td>
</tr>
<tr>
<td>Percentage of Parcels</td>
<td>73.6%</td>
<td>26.4%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Total Assessed Value: Parcels in Town (2009)</td>
<td>$379,201,849</td>
<td>$406,721,931</td>
<td>$785,923,780</td>
</tr>
<tr>
<td>Percentage of Assessed Valuation</td>
<td>48.2%</td>
<td>51.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Estimated Percentage of Associated Expenditures:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Town (2009)</td>
<td>60.9%</td>
<td>39.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Estimated Apportioned Expenditures: Ridge FD (2009)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$2,010,804</td>
<td>$1,290,398</td>
<td>$3,301,202</td>
<td></td>
</tr>
<tr>
<td>Number of Persons Serviced: Ridge FD (2009)</td>
<td>13,826</td>
<td>3,974</td>
<td>--</td>
</tr>
<tr>
<td>Per-Capita/Per-Employee Expenditure: Ridge FD (2009)</td>
<td>$145.44</td>
<td>$324.71</td>
<td>--</td>
</tr>
<tr>
<td>Number of Persons Serviced: Proposed Project</td>
<td>815 residents</td>
<td>449 employees</td>
<td>1,264</td>
</tr>
<tr>
<td><strong>Total Fiscal Impact on Ridge Fire District:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Proposed Project</strong></td>
<td>$118,531</td>
<td>$145,795</td>
<td>$264,326</td>
</tr>
</tbody>
</table>


In Yaphank Fire District, the per-capita expenditure of $214 associated with the provision of fire protection services was applied to the 815 persons projected to reside at the proposed development. Given these assumptions, this resulted in a total fiscal impact of $174,075 for the residential portion of the development. The per-employee expenditure of $121 associated with the provision of fire protection services was applied to the 449 persons projected to reside at the proposed development. This resulted in a total fiscal impact of $54,281 for the non-residential portion of development. Combined, the fiscal impact on the Yaphank Fire District is projected to total $228,357 per year. It is important to note that this analysis presents a conservative estimate, and the actual impact is anticipated to be lower since the proposed project

---

20 According to Nielsen Claritas, the 2009 employment estimate for the seven (7) block groups that are located within the Yaphank Fire District was 19,218 employees. However, since the Fire District boundary does not align with the boundaries of the block groups, this figure was reduced to 5,263 employees, based upon the portions of the block groups that were located within the confines of the Fire District, as well as the location of businesses and industry within the boundary.

21 It is projected that 1,630 persons will reside within the proposed project. Since the subject site is serviced by both Ridge Fire District and Yaphank Fire District, this figure assumes that half of the residents will be serviced by the Ridge Fire District and half of the residents will be serviced by the Yaphank Fire District.

22 It is projected that 898 persons will be employed within the proposed project. Since the subject site is serviced by both Ridge Fire District and Yaphank Fire District, this figure assumes that half of the employees will be serviced by the Ridge Fire District and half of the employees will be serviced by the Yaphank Fire District.
will be a development of modern construction with new wiring and building materials, sprinklers and fire/smoke detectors that conform to the NYS Building and Fire Safety Codes.

As seen in Table 3-15, it is expected that the project will result in an increase to $362,602 in annual tax revenue for the Yaphank Fire District, which is expected to completely offset the costs associated with an increased provision of fire protection services. The proposed project is projected to result in a net impact of $134,245 in revenues to the Yaphank Fire District.

### Table 3-19
**PROJECTED FISCAL IMPACT ON YAPHANK FIRE DISTRICT**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Residential</th>
<th>Non-Residential</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Expenditures: Yaphank FD (2009)</td>
<td>--</td>
<td>--</td>
<td>$1,627,747</td>
</tr>
<tr>
<td>Number of Parcels: Town (2009)</td>
<td>135,297</td>
<td>48,597</td>
<td>183,894</td>
</tr>
<tr>
<td>Percentage of Parcels</td>
<td>73.6%</td>
<td>26.4%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Total Assessed Value: Parcels in Town (2009)</td>
<td>$379,201,849</td>
<td>$406,721,931</td>
<td>$785,923,780</td>
</tr>
<tr>
<td>Percentage of Assessed Valuation</td>
<td>48.2%</td>
<td>51.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Estimated Percentage of Associated Expenditures: Town (2009)</td>
<td>60.9%</td>
<td>39.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Estimated Apportioned Expenditures: Yaphank FD (2009)</td>
<td>$991,481</td>
<td>$636,266</td>
<td>$1,627,747</td>
</tr>
<tr>
<td>Number of Persons Serviced: Yaphank FD (2009)</td>
<td>4,642 residents</td>
<td>5,263 employees</td>
<td>--</td>
</tr>
<tr>
<td>Per-Capita/Per-Employee Expenditure: Yaphank FD (2009)</td>
<td>$213.59</td>
<td>$120.89</td>
<td>--</td>
</tr>
<tr>
<td>Number of Persons Serviced: Proposed Project</td>
<td>815 residents</td>
<td>449 employees</td>
<td>1,264</td>
</tr>
<tr>
<td><strong>Total Fiscal Impact on Yaphank Fire District: Proposed Project</strong></td>
<td>$174,075</td>
<td>$54,281</td>
<td>$228,357</td>
</tr>
</tbody>
</table>


**Solid Waste Removal and Disposal**

It is anticipated that the 1,649 residents, commercial spaces, hotel and restaurant space would generate a total of 16,079 lbs/day of solid waste. The anticipated solid waste generations are presented in Table 3-20.

The Town of Brookhaven does not provide any direct waste management services to facilities such as the proposed Meadows at Yaphank. As a result, it is anticipated that a private hauler will be utilized for garbage pickup on the site. Correspondence received from the Town’s Department of Waste Management indicates that municipal solid wastes and recyclables from the proposed project could be accepted at the Town’s facility for processing for a fee, subject to the Town’s available capacity at any given time.

---

23 It is projected that the proposed project will generate a combined $725,203 to the two fire districts that service the subject site. This figure assumes that half of the property tax revenues will be levied to the Ridge Fire District and half of the property tax revenue will be levied to the Yaphank Fire District.
Table 3-20
SOLID WASTE GENERATION
Proposed Project

<table>
<thead>
<tr>
<th>Generator</th>
<th>Quantity</th>
<th>Rate*</th>
<th>Solid Waste Generated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residents</td>
<td>1,649 capita</td>
<td>3.5 lbs/capita/day</td>
<td>5,771.5 lbs/day</td>
</tr>
<tr>
<td>Hotel</td>
<td>100 rooms</td>
<td>1.5 lbs/room</td>
<td>150 lbs/day</td>
</tr>
<tr>
<td>Retail</td>
<td>327,500 SF</td>
<td>13 lb/day/1,000 SF</td>
<td>4,257.5 lbs/day</td>
</tr>
<tr>
<td>Office space</td>
<td>550,000 SF</td>
<td>1 lbs/100 SF/day</td>
<td>5,500 lbs/day</td>
</tr>
<tr>
<td>Restaurant space</td>
<td>100 meals</td>
<td>2 lb/meal</td>
<td>400 lbs/day</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>---</td>
<td>---</td>
<td><strong>16,079 lbs/day</strong></td>
</tr>
</tbody>
</table>

Per Salvato, 2009

Based on the use proposed, the solid waste generated at the residential, office and commercial uses on-site is not anticipated to contain significant amounts of potentially toxic or hazardous materials.

**Wastewater Treatment and Materials Storage**

In order to meet SCDHS requirements, the proposed development will be connected to the Dorade STP. The plant will be upgraded to treat the existing flow (140,000 gpd) and some additional project flow through phased improvements to the STP. Once the capacity of the existing STP is reached, a new plant will be constructed and eventually built to the original permitted flow of 450,000 gpd. This will be sufficient to accommodate the anticipated total flow from the proposed Meadows at Yaphank project, which is expected to be 275,050 gpd (of which the sanitary flow is 271,050 gpd). This provides a direct benefit of improving the quality of discharge associated with the existing 140,000 gpd that enters the STP from Whispering Pines/Colonial Woods and SCSD #8. Therefore, as a result of this project the Dorade STP will have the capacity to treat all wastewater generated on-site and from the existing developments, and its maintenance will continue to be subject to review and approval by the SCDHS and NYSDEC under the SPDES permit program.

The proposed treatment system will consist of a state-of-the-art SBR design, which has been accepted by the NYSDEC for similar applications and is well established on Long Island. Positive features of this system include, but are not limited to: 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 STP building will be at a distance well in excess of the 200-foot minimum from the nearest existing and proposed habitable structures.

An Engineering Report will be prepared for the upgrade of the Dorade STP to the 450,000 gpd covered by the original SPDES Permit. This flow can then be restored, as the STP will have the capability to treat this volume. The upgrade will occur in two stages. First, the existing tankage will be upgraded to accommodate 225,000± gpd, including the proposed project and the existing 140,000 gpd now treated at the plant. Once the project causes the flow to exceed this volume, a new 450,000 gpd STP will be constructed to accommodate the full permitted flow.
The new plant will be designed and operated to meet an effluent limitation for total nitrogen of 8 mg/l. The plant will be monitored under the terms of the SPDES permit to ensure compliance. The STP design and construction will be subject to review and approval by the SCDPW and the SCSA. SCDHS will act as an arm of the NYSDEC for modification of the existing SPDES permit to permit the original design flow. The STP structure will be appropriately screened from view from outside observers. The total domestic influent to this plant will total approximately 275,050 gpd from the proposed project; the plant will be designed with a capacity appropriate to treat this volume.

SCSC Article 6 regulates the volume of sanitary waste discharged on a given site; for the area that includes the subject site, untreated sanitary effluent discharge is limited to 300 gpd/acre. The proposed project exceeds this volume, and therefore requires sewage treatment. The Dorade STP will provide necessary treatment and as a result, the proposed project conforms to Article 6 of the SCSC.

Article 7 of the SCSC regulates sources of potential water pollution, including restricted toxic or hazardous materials. Storage of such materials is limited to 250 gallons and/or 2,000 pounds dry weight for sites located in water supply sensitive areas including Groundwater Management Zone III and/or proximity to well fields. Since the site lies with Zone III, the quantity of storage of restricted toxic or hazardous materials applies. The proposed project involves residential, commercial, office/flex, hotel, and recreational uses, none of which are expected to use or store large quantities of toxic or hazardous materials. Should “flex” space be used for industrial purposes, the use would have to fall under the allowable storage quantities and/or applicable exemptions per Article 7. In consideration of the above, the proposed project will conform to Article 7 requirements for control of potential water pollution.

SCSC Article 12 regulates storage and handling of toxic and hazardous materials as a means to “…maintain its [Suffolk County’s] water resources as near to their natural condition of purity as reasonably possible for the safeguarding of the public health...”. Article 12 provides landmark legislation on the proper way to store regulated materials in tanks and/or drums, in order to ensure that release does not occur. The residential portion of the project would not utilize any toxic or hazardous materials (other than common household cleaners), and so would conform to this regulation. Any uses that require tank or drum storage of materials will be required to store such materials in conformance with Article 12. In this way, the proposed PDD would conform to SCSC Article 12 requirements.

**Water Supply**
It is expected that the potable water consumed by the project would be supplied from SCWA Distribution Area #18 (the William Floyd Parkway wellfield), via the existing 16-inch service beneath CR 46 and the 16-inch main beneath Yaphank-Woods Boulevard. A new internal distribution system will be installed to convey water supply to the various uses within the property. Installation will conform to the requirements of SCWA and SCDHS as appropriate.

**Energy Supply**
It is anticipated that the proposed project will use LIPA and National Grid to supply energy resources to the Property. Connections will be made to each utility through the creation of an
internal distribution network within the proposed development. LIPA has confirmed that it will provide electric service to the project (see Appendix H). National Grid requires gas load information to determine the feasibility of supplying the project with natural gas; however, the existing gas main network is proximate to the site and it is expected that National Grid will supply service in conformance with the applicable charter and tariffs that allow this utility to service gas use customers.

The applicant intends to incorporate substantial energy- and water-saving features into the proposed project, though the final roster of these features has not been determined at this early stage in the project planning process. It is possible that the number and extent of these sustainable features would justify the applicant seeking certification under the US Green Building Council’s LEED® Program. However, since the project is in the Generic EIS stage, and the exact tenants, building materials, final site design, etc. are not known, it is not possible to commit to certification or what level. The applicant is intent on ensuring that the project is constructed using LEED recognized features, and will seek to achieve the maximum energy efficiency that is economically possible. Appendix A-13 provides a listing of those Credits of the LEED® for New Construction and Major Renovations, 2009 Program that may be considered for use in the proposed project. Also provided are the corresponding requirements for each credit that must be satisfied in order to receive that credit, as well as potential features of the project that would meet those requirements. It is expected that a final decision whether to seek certification and at what level, will be made after final site design and tenants are known. It is noted that the proposed community center on the subject site will be designed and constructed to obtain LEED® certification.

The following presents a generalized discussion and description of the types of such construction features that will be utilized in project design and construction.

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 [heating, ventilation and air conditioning] 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.

The applicant intends to install energy- and water-efficient/Energy Star rated appliances, low-flow plumbing fixtures and low-voltage lighting, windows with low-emissivity coated glass, spray foam insulation (R-21 installation rating) and use of tankless water heaters in residences, which significantly reduce energy requirements. The project’s Lighting Plan will be designed to be “dark sky” compliant and utilize energy-efficient lighting fixtures. Shade trees will also be used in proximity to many of the units to provide shade and reduce cooling needs in summer months.

Site design will also feature retention of natural vegetation (at least 35%), use of innovative stormwater handling methods to provide surface detention and biological filtration, hiking and educational trails within the site, landscaping of parking areas to reduce “heat island” effect associated with paved areas, design to encourage walkability, installation of bike racks and related features to integrate LEED® recognized design parameters into site development.
Recreational Facilities
Amenities on the site will include tennis courts, recreational buildings and pocket parks for residents, as well as several public areas including a great lawn, village green, reflection pool, civic space and civic building, ball fields, multi-purpose field, basketball court and walking trail. The property owner or future property owners associations will own and maintain most internal roadways, as well as parking areas for the residences as well as the on-site drainage system. Yaphank-Woods Boulevard and the project’s internal LIE Access Road will be offered to the Town for dedication, as these roads will serve off-site residents and the greater community. Approximately seven acres of land will be dedicated to the Town for future development of athletic fields, basketball courts, access to the Greenbelt trail and parking area.

The project is designed to promote walking between the residential portion of the development and the commercial and recreational portions of the site and to provide public spaces incorporated into the commercial nodes that will be available for residents of the community and visitors.

The project’s private recreational areas will include amenities such as outdoor pools/patios, tennis courts and extensive landscaped open areas crossed by pathways enhanced by benches and gazebos, and will be for the use of the community’s residents and their guests. An extensive trail system will wind through the retained natural areas on both parcels, and connect to the adjacent Town Greenbelt to the west.

Public areas will include a civic space, village green, great lawn, ball fields, a Town park and civic space.

3.4.3 Mitigation

- The significant increase in tax revenues generated will mitigate the impacts of the increased costs to the pertinent community services to provide services.
- Conformance to the NYS Building and Fire Safety Codes will partially mitigate potential health and safety impacts from fire response providers.
- Impacts to energy suppliers will be mitigated by use of energy efficient design and construction; buildings will be constructed consistent with NYS Building Code requirements and Town “Energy Star” guidelines. In this way, the project’s consumption of energy would be reduced, with consequent reductions in the generation of greenhouse gases associated with the project (see Section 4.5.2).
- The added cost of 110 school-age children would be $2,456,510 annually. This compares with additional annual tax revenues from The Meadows At Yaphank PDD of $6,402,779, resulting in surplus tax revenues to the school district of $3,946,269 annually, conservatively assuming that NYS does not provide any aid to local school districts. Any provision of NYS aid to the LCSD would increase surplus tax revenue accordingly.
3.5 Community Character

3.5.1 Existing Conditions

**Aesthetics**

The property currently consists of vacant land located on the eastern portion of the site, with wooded land along the perimeter of the eastern parcel and successional vegetation in the central portion of the eastern parcel, while the western parcel consists of vacant land which is characterized by the former racetrack located on the parcel. The western parcel contains wooded land, successional vegetation, the remains of the former racetrack and an asphalt parking lot that is in disrepair. Multi-family residences and vacant land dominate land uses to the north, while vacant land and intervening roadways dominate land uses to the east, west and south, as described in Section 3.1.1. The following discussion presents the existing visual character of the site and vicinity; the photographs in Appendix B-1 represent typical views of the site and its environs, and depict community character.

Photographs 1-4 illustrate the views along William Floyd Parkway in the vicinity of the project site. As illustrated in these photographs, the William Floyd Parkway corridor is lined with vacant wooded land in the vicinity of the proposed project.

Photograph 5 illustrates the current entrance to the subject property, which consists of a two-lane roadway separated by a landscaped median. Photographs 6 and 7 illustrate the current unpaved north entrance to the eastern parcel, which depicts wooded land and successional vegetation on the periphery of the trailway. Photograph 8 illustrates the view towards the east parcel from the southern terminus of Colonial Woods Drive East, which depicts a densely wooded area from this vantage point.

Photograph 9 illustrates the view from the former entrance to the west parcel, which depicts the paved driveway that is currently in disrepair and the surrounding woodland. Photograph 10 illustrates the view into the access roadway for the water tower that is located on the subject site from the western terminus of Yaphank-Woods Boulevard. The view of the roadway from this vantage point is limited in nature as a result of the intervening vegetation. In addition, the water tower is not visible from this vantage point. Photograph 11 illustrates the view into the western parcel from the southern terminus of Colonial Woods Drive West, which depicts densely wooded area with a trail head evident from this vantage point.

As with Photographs 6, 8 and 11, Photographs 12-14 are views of the subject property from the surrounding area. Similar to other views of the property from the vicinity, Photographs 12-14 illustrate the densely vegetated nature of the perimeter of the property that limits views of the interior of the site. Overall, views of the interior of the subject property (both the east and west parcel) are limited due to the existing wooded perimeter vegetation.

The visual character of the area in the vicinity of the proposed project is dominated first by transportation corridors (the LIE to the south and William Floyd Parkway to the east), and second by vacant wooded land, particularly to the east across William Floyd Parkway. Although a multifamily residential development exists adjacent to the north of the subject site (across
Yaphank-Woods Boulevard), this development is surrounded by pockets of wooded vegetation that limit views of the development from William Floyd Parkway and from the access roadway for the subject site. The Greenbelt trail land to the west is wooded beyond which are homes on Main Street, Yaphank, along with cleared and vacant land north and south of Main Street. The LIE to the south is a dominant factor in the community visual character.

Noise
This subsection provides background information regarding noise and noise measurement, and describes the existing noise environment of the project site. Analyses of the site’s existing and anticipated future noise conditions were determined in a noise study (see Appendix I).

Noise is defined as sound that is generally unwanted by a receptor. 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 (Rau and Wooten, 1980). Various noise characterization 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. The weighted scale thus provides a measure of noise that is meaningful for assessing ambient noise environments and potential noise impacts as heard by human beings.

Because noise fluctuates, it is common to calculate a logarithmic average of noise levels over a period of time to describe the “equivalent” continuous noise level (L_{eq}). For the purpose of this report, sound levels are reported in L_{eq} and range (minimum/maximum).

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. Table 3-21 relates changes in dBA to the perception of a receiver, and Table 3-22 provides typical noise levels as compared to a base reference of 60 dBA.

### Table 3-21
PERCEIVED CHANGES IN NOISE LEVEL

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


The decibel scale is logarithmic; therefore sound levels vary with the source and with the listener's distance from the source. Sound level decreases with distance as a result of dispersion and is predicted by the "inverse square law", which predicts a reduction of 4.5 dBA for each
doubling of distance from a line source (such as a highway) and 6 dBA 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 (USDOT, 1973).

Appendix I contains the noise measurement and modeling study that was prepared for the proposed project. This study was based upon measurements of the existing noise regime at the site, taken at three points along the site’s perimeter: on Yaphank-Woods Boulevard, on CR 46 and on the LIE North Service Road. Measurements were taken during weekday, daytime peak hour traffic conditions. Table 3-23 presents the results.

As stated in the study for existing conditions: “The average measurement for both the William Floyd Parkway and Long Island Expressway was typical for an intense transportation use.”

Table 3-23
COMMON NOISE LEVELS AND REACTIONS

<table>
<thead>
<tr>
<th>Sound Source</th>
<th>Noise Level (dBA)</th>
<th>Apparent Loudness</th>
<th>Typical Human Reaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Military jet; air raid siren</td>
<td>130</td>
<td>128X as loud</td>
<td>Limit of amplified speech</td>
</tr>
<tr>
<td>Amplified rock music</td>
<td>110</td>
<td>32X as loud</td>
<td>Maximum vocal effort</td>
</tr>
<tr>
<td>Jet takeoff at 500 meters; train horn at 30 meters</td>
<td>100</td>
<td>16X as loud</td>
<td></td>
</tr>
<tr>
<td>Freight train at 15 meters</td>
<td>95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy truck at 15 meters; busy city street; Loud shout</td>
<td>90</td>
<td>8X as loud</td>
<td>Very annoying; Hearing damage (8+ hours)</td>
</tr>
<tr>
<td>Busy traffic intersection</td>
<td>80</td>
<td>4X as loud</td>
<td>Annoying</td>
</tr>
<tr>
<td>Highway traffic at 15 meters; train horn at 500 meters; noisy restaurant</td>
<td>70</td>
<td>2X as loud</td>
<td>Telephone use difficult</td>
</tr>
<tr>
<td>Predominantly industrial areas; light car traffic at 15 meters; city or commercial areas; residential areas close to industry; noisy office</td>
<td>60</td>
<td>Base reference</td>
<td>Intrusive</td>
</tr>
<tr>
<td>Quiet office; suburban areas with medium-density transportation</td>
<td>50</td>
<td>1/2 as loud</td>
<td>Speech interference</td>
</tr>
<tr>
<td>Public library</td>
<td>40</td>
<td>1/4 as loud</td>
<td>Quiet</td>
</tr>
<tr>
<td>Soft whisper at 5 meters</td>
<td>30</td>
<td>1/8 as loud</td>
<td>Very quiet</td>
</tr>
<tr>
<td>10</td>
<td>1/32 as loud</td>
<td>Just audible</td>
<td></td>
</tr>
<tr>
<td>Threshold of hearing</td>
<td>0</td>
<td>1/64 as loud</td>
<td></td>
</tr>
</tbody>
</table>

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: (NYSDOT, 1980 and White, 1975)
The site was then modeled using the Sound Transportation Noise Model (TNM)-Look-Up 2.5. The TNM uses traffic volumes and speeds for five classes of vehicles to determine the anticipated decibel level (A-weighed) for a receptor adjacent to a roadway. The modeling is conducted to determine an $L_{eq}$ for the existing condition. This process is then repeated for the proposed project to determine the anticipated increase in noise levels due to the increase in vehicle trips associated with the proposed project (see Table 3-24). The TNM is intended to be environmentally conservative; it usually over-estimates sound levels at a particular location.

<table>
<thead>
<tr>
<th>Receptor Location</th>
<th>Existing Condition</th>
<th>Proposed Project</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>One-Hour $L_{eq}$</td>
<td>One-Hour $L_{eq}$</td>
</tr>
<tr>
<td>Colonial Woods Condos</td>
<td>83.9</td>
<td>83.9</td>
</tr>
<tr>
<td>LIE North Service Rd.</td>
<td>79.6</td>
<td>79.7</td>
</tr>
</tbody>
</table>

The noise study concludes as follows with respect to existing noise conditions:

In the existing sound/noise condition, all locations on the project site are and will be dominated by transportation sources. The corridor is defined by the William Floyd Parkway and the Long Island Expressway. These two roadways carry tens of thousands of vehicles per day and are well-used routes for commercial travel. As such, they are linear sources of noise/sounds produced by motor vehicles ranging from light duty, gas vehicles to heavy duty, diesel trucks.

**Lighting**

There are presently no lights on the subject site; a number of pole-mounted parking lot lights had been installed at the former Suffolk Downs racetrack site, but these have been removed. The transportation corridors adjoining the property contain typical road safety lighting, and headlights from cars are present in line with travel lanes and ramps that provide access to and from these highways/parkways throughout the area.
3.5.2 Potential Impacts

Aesthetics

As discussed and analyzed in Section 3.1.2, the land use classification of the site would be changed by the proposed project, and the intensity of the site’s land use will be increased as compared to current conditions. However, as described in Section 3.1.2, the site is believed to be an appropriate location for a mixed-use development, and the proposed use is intended to enhance the use of the site and land use in the area. As significant natural vegetation will be retained along the perimeter of the site (see Land Use and Development Plan), it is expected that views of the interior of the site will be limited only to views from the proposed access driveways along William Floyd Parkway and Yaphank-Woods Boulevard.

Appendix A-9 provides conceptual views of three areas of the proposed project, which include the Towne Center, the Office Park, and the Residential Village Green. Observers travelling along William Floyd Parkway may see portions of the residential and commercial areas located in the eastern portion of the site, and portions of the Towne Center further in the distance. The main entrance will be enhanced with decorative (as well as functional) water features and landscaping to define the entrance and provide a corridor of limited views into the site. As illustrated on the Conceptual Plan for the Towne Center, high quality commercial and residential architecture will be utilized, along with attractive landscaping, sidewalks and crosswalks for pedestrian use, and street trees, and attractive light fixtures in order to create an aesthetically pleasing environment. As a result of the design features described above, and the retention of natural vegetation along the site’s perimeter, viewers travelling along William Floyd Parkway are not anticipated to experience negative visual impacts due to result of the proposed development.

Viewers travelling along Yaphank-Woods Boulevard will have less direct views of the interior of the site as a result of the retention of natural vegetation which will serve as a visual buffer and the limited size of the proposed access roadways. Viewers travelling along this roadway may see portions of the residential area proposed along the northern property boundary. As illustrated on the Conceptual Plan for the Residential Village Green, the residential area will utilize high quality architecture in addition to attractive landscaping and features such as the Village Green that will serve as active recreational areas for residents. It is anticipated that the limited views of the residential areas from Yaphank-Woods Boulevard would be similar to the existing views of the multifamily residential development located to the north of the subject site, and therefore would not create adverse visual impacts for viewers travelling along this roadway.

Viewers travelling along the LIE will experience little change in the visual character of the site, and any views noted will be consistent with other existing development along the corridor. The development is set back well to the north within the site and large areas of existing woods will be retained in the viewshed between observers on the LIE and the area of development. Nevertheless, the tops of buildings may be evident in the distance from the top of the William Floyd Parkway overpass. The tree height from most areas along the LIE will interrupt views to the interior of the site. Transportation access points including the southward extension of Yaphank-Woods Boulevard and the new ramp to the LIE will be observed; however, these are consistent with other improvements throughout the LIE corridor. It is noted that as one travels
the LIE in the area of the subject site, the new Clare Rose building south of the LIE and west of William Floyd Parkway is partially visible through trees (particularly during winter months), and buildings within the former Brookhaven R&D/Tritec industrial park south of the LIE and east of William Floyd Parkway are similarly screened but partially visible from certain vantage points. The change in visual character from the LIE is not expected to be significantly altered as a result of the retained natural vegetation described herein.

The Office Park, located in the southwestern corner of the subject site, is not anticipated to be visible to viewers travelling along transportation corridors outside of the proposed development. The Conceptual Plan for the Office Park provides a depiction of a typical view of the Office Park area from the interior of the site. Viewers traveling within the site would observe high quality architecture and landscaping, in addition to rain gardens interspersed through the Office Park. As this portion of the proposed project will only be visible to viewers travelling within the site, it is not anticipated to impact the community character of the surrounding area.

Although the proposed mixed use is different than the existing vacant/wooded character surrounding the subject site, a significant amount of buffer vegetation or setbacks will be retained around the outer portions of the property. These buffers (which currently exist and must be maintained in conformance with Pine Barrens clearing limits) will provide visual relief for the development within the interior of the site. As such, the overall vacant/wooded character of the surrounding area will be maintained.

In general, the impact of the project on the visual resources of the site will result from the overall change in land use character, which will be observed as a result of limited views of the interior of the site from William Floyd Parkway and Yaphank-Woods Boulevard. Viewers from the multifamily residential development to the north will be minimally visually impacted as a result of the proposed development due to the vegetative buffer proposed and the limited views of the proposed development from Yaphank-Woods Boulevard. In addition, these visual impacts may be positively affected by the removal of the racetrack remnants and the elimination of nuisance unauthorized recreational vehicle on the site. The project will enhance the interior of the site by use of high quality landscaping, architectural designs and building materials and will minimize impacts to the surrounding community character by providing significant vegetative buffer along the site’s perimeter which will continue to provide the vacant/wooded character of the area.

**Potential Impact of Building Heights in Excess of Heights Allowed in Underlying Zones** - The existing allowable heights within the J-2 or L-1 zones are 35 feet/2-1/2 stories and 50 feet/3 stories, respectively. However, through the PDD, the applicant does not wish to preclude the ability to construct buildings that would exceed these heights. From a land use, energy and use of materials perspective, multiple store buildings are more efficient in conserving materials, operations and land management. Therefore, as shown in the **Land Use and Development Plan**, the proposed PDD regulations would allow the following maximum building heights:

- hotel/office buildings - up to 5 stories/65 feet
- apartment/condominium buildings - up to 4 stories/50 feet
- townhouse buildings - up to 3 stories/40 feet
- retail buildings - up to 2 stories/35 feet
Analysis indicates that there would be no significant increase in the potential for adverse visual impact as a result of these design considerations. These structures would be developed on a large site designated for mixed-uses, where such structures of these types would be appropriate. In addition, there are already a number of commercial and/or residential structures of similar heights along the LIE in the Town (see Appendix A-14), which indicates that buildings with increased height (particularly evident in hotel uses) can be constructed along existing Town transportation corridors without causing significant visual impacts. The distances of these existing buildings from the LIE (between 225 and 750 feet) are similar to or significantly less than those of the buildings that would be constructed on the subject site, which would tend to further decrease impacts. Additionally, the proposed PDD would retain the setbacks of the J-2 and L-1 zones, which have proven to be appropriate for buildings with increased height. Factors associated with the proposed PDD that would tend to minimize the potential for significant adverse visual impacts are the locations of these structures preferentially in interior portions of the subject site, and the retention of deep natural buffers along the site’s periphery.

Noise
The following discussion of the anticipated noise impacts of the project has been taken from the noise study (Appendix I).

The modeling result of importance in most cases (and this case) is whether or not the TNM results for the proposed project will vary from those for the existing condition and, if so, by how much. With the proposed action, all locations in the project will still be dominated by sound/noise resulting from transportation sources. The project will add several hundred vehicles per day to the traffic on [CR 46 and the LIE North Service Road]. The question in this case is whether or not the increased traffic from the project will materially (significantly) affect the sound/noise levels emanating from these sources and so, whether or not project can or will materially (significantly) affect the sound/noise levels in the area.

The modeled future condition (with the proposed project; see Table 3-24) demonstrates:
(a) no measurable increase (or modeled increase) in sound levels along William Floyd Parkway; and
(b) an increase of less than 1.0 decibels (0.1 decibel, A-weighted) along the northern service road of the LIE.

Neither of these levels could be differentiated from the existing condition by any human ear. To do so, would require a differential of at least 3.0 dB(A). Therefore, it can be concluded that the project will have no significant impact upon the sound/noise environment of the project area.

Construction noise is inevitable in the short term and will be audible for surrounding residents; however, this impact is unavoidable and will be mitigated by limiting construction during hours regulated by the Brookhaven Town Code. In addition, the dominant noise associated with existing transportation corridors will tend to minimize the detectable effect of noise generated on the project site. It is also noted that construction will occur on the interior of the site and there are no nearby receptors since existing residential development is well to the north with intervening woods and the Yaphank-Woods Boulevard corridor. Consequently, construction noise is not anticipated to cause significant adverse impacts within the existing noise environment.
Lighting
As indicated in Section 1.4.7, a Lighting Plan will be prepared for the site plan application, and will detail the locations, fixture specifications and pole/mounting heights of all lighting fixtures proposed. In general, it is expected that the internal roadways and exteriors of the community and commercial buildings will be illuminated. Smaller exterior lights are anticipated for the residential structures as well, along with safety/security lights in common areas and walking trails. The project’s lighting system will conform to the requirements of the Town Code Article XXXIX (Exterior Lighting Standards). The applicant will ensure that only dark-sky compliant luminaires are used; this type of fixture is equipped with a full cut-off shroud that directs all illumination downward, thereby minimizing the potential for impact to adjacent properties from Fugitive light “spill-over”.

3.5.3 Mitigation

- Visibility of the site from William Floyd Parkway and Yaphank-Woods Boulevard will be partially mitigated through the retention of a wooded vegetative buffer along the majority of the site’s perimeter. Views of the interior of the property will be limited to views through the proposed access roadways.
- The proposed structures will utilize high quality architecture and landscaping which will enhance the aesthetics of the interior of the site. Site amenities such as benches, high quality street lamps, attractive landscaping, sidewalks, a Village Green, a reflecting pool, rain gardens, and ball fields will serve to further enhance the interior aesthetic quality of the site.
- Use of dark-sky compliant lighting fixtures minimizes the potential for adverse impacts to the visibility of the nighttime sky for site residents, as well as impacts to the neighboring residential properties. In addition, the retention of buffering vegetation along the site’s perimeter, in combination with conformance to Town standards regarding mounting pole heights, would minimize the potential for fugitive lighting to escape the site to impact the residential neighbors.

3.6 Cultural Resources

3.6.1 Existing Conditions

As described in Section 1.2.1, the central portions of the eastern and western parcels were previously cleared. As a result, any cultural resources that may have existed in those areas would have been removed, so that no impacts to such resources would be expected.

Based on the results of an Archaeological Investigation prepared for the Eastern parcel (for the previous Brookhaven Walk proposal), SHPO determined in October 2006 that no impacts to cultural resources would occur on that site as a result of that project (see Appendix J-1).

For the Western parcel, SHPO determined in June 2009 that clearing for the Suffolk Downs Racetrack would have removed any cultural resources that may have been present in those portions of the parcel, so that redevelopment that would not encroach into previously-uncleared areas would likewise not impact cultural resources (see Appendix J-2).
3.6.2 Potential Impacts

The Meadows at Yaphank PDD was initially designed to occupy only the same areas cleared for the prior development proposals, thereby continuing to minimize the potential for impact to previously-undiscovered cultural resources that may be present. Accordingly, SHPO was contacted in August 2010 to determine if further study of the subject site would be warranted for that design of the proposed project. The response letter (see Appendix J-3), states:

Our staff has reviewed the documentation provided, including a recent submission from Nelson, Pope & Voorhis, LLC which refers to investigation of the project area. Based on our review of all the submitted information it is the opinion of the OPRHP [Office of Parks, Recreation and Historic Preservation] that the Meadows at Yaphank project as currently designed, will have No Impact on Historic Resources. This finding takes into account the plan to leave the northern and southern portions of the parcels in their current wooded state. Should the project be modified in a way which would impinge on those wooded areas, or should any future proposals call for work in those areas, OPRHP would recommend additional archaeological investigation as those areas were not included in the currently reviewed studies.

Subsequently, the proposed project design was revised to include minor clearing along the interior border of the previously cleared areas of the site. Therefore, in anticipation of a request for additional analysis, the applicant engaged a qualified archaeologist to prepare a supplemental Phase IB Archaeological Study for this additional acreage. The resulting report (see Appendix J-4) did not reveal the presence of any cultural resources on this area; the report recommended no further analysis. This report has been reviewed by SHPO, and a renewed letter confirming this conclusion has been obtained (see Appendix J-5).

3.6.3 Mitigation

- As SHPO has concluded that, “… the expanded project will continue to have No Impact upon cultural resources in or eligible for inclusion in the State and National Register of Historic Places.”, no mitigation is necessary or proposed.

3.7 Economics

3.7.1 Existing Conditions

Economic Conditions
The following is taken from the Economic Impact Analysis completed for the proposed project (see Appendix A-7).

Unemployment data for the Town of Brookhaven, Suffolk County and Long Island were compared to that of New York State to illustrate the current economic state of the region. Unemployment rates in the Town of Brookhaven increased substantially over the past few years. According to New York State Department of Labor, the Town’s unemployment rate nearly doubled between 2007 and 2009. As of November 2010, approximately 19,000 persons – 7.3% of the Town’s labor force – were unemployed.
In addition to relatively high levels of unemployment, Long Island is facing an uncertain housing market and consumer spending has been conservative. Such trends are comparable to those of Suffolk County, Long Island and New York State, indicative of the ongoing fiscal and economic constraints facing the state and the nation.

Despite job loss in other industry sectors including local government, manufacturing and financial services, the Long Island Association indicates that the private-sector job growth is accelerating, with a net growth of approximately 5,700 jobs created in Long Island between October 2009 and October 2010. The industry sectors with the largest growth include retail trade, education, health services and wholesale trade.24

It is important to note that economic conditions facing the Town of Brookhaven and the Long Island region are temporary and the local economy is showing signs of recovery. It is projected that consumers may begin to spend more freely, reflective of private-sector employment growth, and the projected increase in year-end bonuses on Wall Street.25

**Vacancies Analysis**

A Commercial Market Analysis was prepared for the proposed project (see Appendix A-8), which sought to identify and quantify the need for additional commercial space that can be accommodated at both the proposed project and within the surrounding community. As part of this analysis, an examination of existing commercial establishments located within a comparable shopping center-type setting was conducted.

This analysis included observed vacancies within existing and comparable shopping centers were examined as part of this analysis. However, vacancies within those uses not similar to the proposed project were not examined since the types of centers, tenants, market area and patrons are not comparable. As a result, stand-alone retail establishments, or other types of smaller convenience shopping centers, outlet centers, or retail clustered within a downtown or a village center were not examined. Such smaller retailers and shopping centers tend to serve the needs of those residing within the immediate neighborhood and/or offer a different type of product as compared with larger super community/community shopping centers such as the proposed project.

The vacancy analysis indicated that a majority of the existing and comparable shopping centers are in good condition, with few being newly constructed. Approximately half of the shopping centers were fully occupied, and of those that were not fully occupied, on the order of one vacant retailer was typically observed in these centers. Only a handful of shopping centers have a greater percentage of vacant retailers, based on observations made during an inventory conducted in October, November and December of 2010. It was noted that several of the shopping centers were undergoing renovations, and/or were being remodeled to accommodate future tenants. It is important to note that vacancies will inevitably occur as a result of business turnover, specific and local market considerations with respect to certain tenants, and specific and local factors with respect to a given shopping center, including business mix, signage, synergy of store types, parking, and accessibility, and related factors. As concluded in the Commercial Market Analysis, given the current economic situation facing Long Island, New York State and the nation as a whole, the minimal vacancies observed within super community/community shopping centers within the target market area may be

indicative of the demand for additional commercial opportunities within comparable shopping centers.

3.7.2 Potential Impacts

The economic impact of the proposed project was evaluated through four (4) types of studies, noted as follows:

- Tax Impact Analysis
- Creation of construction jobs and mortgage recording tax impacts
- Creation of jobs from operation of the project
- Commercial market analysis to determine demand for the project and market absorption (including potential impact on other centers, downtown areas and smaller retailers)

These analyses are presented herein in order to establish the economic impacts of the proposed project. The analyses quantify the significant economic benefit (both direct and indirect) associated with construction jobs, mortgage recording taxes and permanent operational jobs. The Commercial Market Analysis finds that there is sufficient retail demand to support the project and that the project can be absorbed within the local retail market.

The following is taken from the Economic Impact Analysis completed for the proposed project (see Appendix A-7).

Statement of Need
The Meadows at Yaphank PDD will meet the need for a lifestyle center in the hamlet of Yaphank through the provision of a high-quality, mixed-use development with a number of public benefits to meet the specific local and regional needs. The proposed development will provide workforce and age-restricted housing opportunities, which are much needed throughout the community. In addition, the proposed project will attract a variety of retail and mixed-use commercial uses to meet the local community needs. The proposed project would rehabilitate the property by replacing a partially cleared and previously used site that is now subject to unauthorized use and activity, with a mixed-use and vibrant community having a sense of place that provides enjoyment for local residents, employees and consumers alike.

The Meadows at Yaphank PDD will complement the surrounding land uses while providing an economic return to local taxing jurisdictions through increased tax revenues – including those stemming from the generation of mortgage recording tax revenues. Moreover, the proposed project will generate immediate construction jobs for the Town of Brookhaven and area residents, as well as long-term employment opportunities during project operations. Such economic benefits are most crucial during the current economic state throughout Long Island, New York State and the nation as a whole.

Definition of Economic Impacts
A direct impact arises from the first round of buying and selling. These direct impacts can be used to identify additional rounds of buying and selling for other sectors of the economy and to identify the impact of spending by local households. An indirect impact refers to the increase in sales of other industry sectors, which include further round-by-round sales. An induced impact accounts for the
changes in output and labor income by those employed within the region, resulting from direct and indirect impacts. The total impact is the sum of the direct, indirect and induced impacts.

Key Findings
Anticipated Economic Impacts: Cumulative
- Construction of The Meadows at Yaphank is anticipated to occur over the course of ten (10) years, and five (5) phases.\(^{26}\)
- Construction is anticipated to commence during the spring of 2012.
- The total construction cost is estimated at $233.6 million.
- The $233.6 million in direct output is projected to generate an indirect impact of approximately $57.7 million, and an induced impact of nearly $59.8 million, bringing the total economic impact on output to over $351.1 million during the entire ten (10)-year long construction period.
- It is projected that the construction period will generate a total of 82.2 full time equivalent (FTE) employees during each of the ten (10) years of the construction period. It is assumed that the same basic construction crew will be utilized from the commencement until the culmination of the construction period; as such the 82.2 FTE construction workers are anticipated to be continuously employed during the entire ten (10)-year long construction period.
- The majority of these employees will be hired from the Long Island labor force, with many from within the Town of Brookhaven. This job creation is most crucial during Long Island’s present economic state, and presents an abundance of opportunities for the thousands of persons who are currently unemployed throughout the region.
- The 82.2 FTE jobs created during the cumulative ten (10)-year long construction period will have an indirect impact of 346.6 FTE employees and an induced impact of 382.5 FTE employees in other industry sectors, bringing the total impact of construction to 811.3 FTE jobs during the ten (10)-year long construction period.
- Labor income from the construction jobs is projected to amount to a total of $1,137,295 per employee over the ten (10)-year long construction period. In total, this represents approximately $1,137,295 per employee, and approximately $93.45 million in collective earnings among the 82.2 FTE employees over the cumulative ten (10)-year long construction period. This labor income is projected to have an indirect impact of over $23.5 million and an induced impact of over $19.7 million, bringing the total economic impact of the construction to over $136.7 million in labor income over the ten (10)-year long construction period.

Anticipated Economic Impacts: Phase 1
- Phase 1 of the construction period is anticipated to include the construction of 51,200 SF of retail, which includes a 14,700 SF pharmacy, 3,500 SF bank, and 33,000 SF of other neighborhood retail. In addition, Phase 1 will include the construction of 304 residential units, including all 144 of the rental units and 160 condominiums.
- It is anticipated that Phase 1 will commence during the spring of 2012, and will have a duration of three (3) years.
- Costs associated with the construction of Phase 1 are anticipated to total $43,341,688.
- The $43.34 million in direct output is projected to generate an indirect impact of approximately $11.3 million, and an induced impact of nearly $11.2 million, bringing the total economic impact

\(^{26}\) It is important to note that this analysis assumes a construction period of five (5) phases over a period of ten (10) years. There may be some overlap in phasing with various phases constructed simultaneously, depending on market conditions at the time of final approval. However, and for the purpose of this analysis and to conservatively project the economic impacts to occur during each phase, the economic impacts are based on the fourteen (14) year phasing plan.
on output to over $65.8 million during Phase 1 of the construction period.

- It is projected that Phase 1 of the construction period will generate a total of 84.3 FTE employees during each of the three (3) years of the Phase 1 construction period. The 84.3 FTE construction workers are anticipated to be continuously employed during the entire three-year long Phase 1 construction period.
- The 84.3 FTE jobs created during Phase 1 will have an indirect impact of 70.4 FTE employees and an induced impact of 71.5 FTE employees in other industry sectors, bringing the total impact of construction to 226.1 FTE jobs during Phase 1 of the construction period.
- Labor income from the construction jobs is projected to amount to $205,736 per employee over the three-year long Phase 1. This represents more than $17.3 million in collective earnings among the 84.3 FTE employees during the three-year long construction period of Phase 1.
- The $17.3 million in labor income is projected to have an indirect impact of over $4.5 million and an induced impact of nearly $3.7 million, bringing the total economic impact of Phase 1 construction to over $25.5 million in labor income.

Anticipated Economic Impacts: Phase 2

- Phase 2 of the construction period is anticipated to include the construction of 150,000 SF of Class A office space, and 416 residential units.
- It is anticipated that Phase 2 will commence during the spring of 2015, and will last four (4) years in duration.
- Costs associated with the construction of Phase 2 are anticipated to total $82,766,250.
- The $82.7 million in direct output is projected to generate an indirect impact of approximately $20.38 million, and an induced impact of nearly $21.1 million, bringing the total economic impact on output to over $124.2 million during Phase 2 of the construction period.
- It is projected that Phase 2 of the construction period will generate a total of 108.8 FTE employees during each of the four (4) years of the Phase 2 construction period. Each of these jobs is anticipated to last a duration of four (4) years, through the completion of Phase 2 construction.
- The 108.8 FTE construction workers are anticipated to be continuously employed during the entire four-year long Phase 2 construction period.
- The 108.8 FTE jobs created during Phase 2 will have an indirect impact of 119.4 FTE employees and an induced impact of 126.9 FTE employees in other industry sectors, bringing the total impact of construction to 355.1 FTE jobs during Phase 2 of the construction period.
- Labor income from the construction jobs is projected to amount to $304,291 per employee over the four-year long Phase 2. This represents more than $33.1 million in collective earnings among the 108.8 FTE employees during the four-year long construction period of Phase 2.
- The $33.1 million in labor income is projected to have an indirect impact of over $8.3 million and an induced impact of nearly $7.0 million, bringing the total economic impact of Phase 2 construction to nearly $48.4 million in labor income.

Anticipated Economic Impacts: Phase 3

- Phase 3 of the construction period is anticipated to include the construction of 276,300 SF of retail space, including a 150,000 SF retail anchor store, a 65,000 SF supermarket, and 61,300 SF of additional neighborhood retail space. In addition, it is anticipated that the final 130 residential units will be constructed.
- It is anticipated that Phase 3 will commence during the spring of 2019. Phase 3 is expected to last a duration of three (3) years.
- Costs associated with the construction of Phase 3 are anticipated to total $53,304,150.
- The $53.3 million in direct output is projected to generate an indirect impact of approximately
$11.7 million, and an induced impact of nearly $13.4 million, bringing the total economic impact on output to over $78.4 million during Phase 3 of the construction period.

- It is projected that Phase 3 of the construction period will generate a total of 84.3 FTE employees during each of the three (3) years of the Phase 3 construction period. Each of these jobs is anticipated to last a duration of three (3) years, through the completion of Phase 3 construction.
- The 84.3 FTE construction workers are anticipated to be continuously employed during the entire three-year long Phase 3 construction period.
- The 84.3 FTE jobs created during Phase 3 will have an indirect impact of 62.3 FTE employees and an induced impact of 74.2 FTE employees in other industry sectors, bringing the total impact of construction to 220.8 FTE jobs during Phase 3 of the construction period.
- Labor income from the construction jobs is projected to amount to $253,029 per employee, and more than $21.3 million in collective earnings among the 84.3 FTE employees during the three-year long construction period of Phase 3.
- The $21.3 million in labor income is projected to have an indirect impact of over $4.9 million and an induced impact of over $4.4 million, bringing the total economic impact of Phase 3 construction to over $30.65 million in labor income.

**Anticipated Economic Impacts: Phase 4**

- Phase 4 of the construction period is anticipated to include the construction of a 150,000 SF hotel, a 5,000 SF restaurant, and 150,000 SF of Class A office space.
- It is anticipated that Phase 4 will commence during spring of 2022. Phase 4 is anticipated to last a duration of two years.
- Costs associated with the construction of Phase 4 are anticipated to total $39,542,287.
- The $39.5 million in direct output is projected to generate an indirect impact of approximately $7.4 million, and an induced impact of over $9.7 million, bringing the total economic impact on output to over $56.7 million during Phase 4 of the construction period.
- It is projected that Phase 4 of the construction period will generate a total of 87.1 FTE employees during each of the two (2) years of the Phase 4 construction period. Each of these jobs is anticipated to last a duration of two (2) years, through the completion of Phase 4 construction.
- The 87.1 FTE construction workers are anticipated to be continuously employed during the entire two-year long Phase 4 construction period.
- The 87.1 FTE jobs created during Phase 4 will have an indirect impact of 34.0 FTE employees and an induced impact of 49.9 FTE employees in other industry sectors, bringing the total impact of construction to 171.0 FTE jobs during Phase 4 of the construction period.
- Labor income from the construction jobs is projected to amount to $181,590 per employee, and approximately $15.8 million in collective earnings among the 87.1 FTE employees during the two-year long construction period of Phase 4.
- The $15.8 million in labor income is projected to have an indirect impact of over $3.2 million and an induced impact of over $3.2 million, bringing the total economic impact of Phase 4 construction to over $22.3 million in labor income.

**Anticipated Economic Impacts: Phase 5**

- Phase 5 of the construction period is anticipated to include the construction of 250,000 SF of office/flex space.
- It is anticipated that Phase 5 will commence during the spring of 2024, and will last a duration of two years.
- Costs associated with the construction of Phase 5 are anticipated to total $14,675,000.
- The $14.675 million in direct output is projected to generate an indirect impact of approximately $2.7 million, and an induced impact of over $3.6 million, bringing the total economic impact on
output to over $21.0 million during Phase 5 of the construction period.

- It is projected that Phase 5 of the construction period will generate a total of 30.5 FTE employees during each of the two (2) years of the Phase 5 construction period. Each of these jobs is anticipated to last a duration of two (2) years, through the completion of Phase 5 construction.
- The 30.5 FTE construction workers are anticipated to be continuously employed during the entire two-year long Phase 5 construction period.
- The 30.5 FTE jobs created during Phase 5 will have an indirect impact of 11.9 FTE employees and an induced impact of 17.5 FTE employees in other industry sectors, bringing the total impact of construction to 59.9 FTE jobs during Phase 5 of the construction period.
- Labor income from the construction jobs is projected to amount to $181,590 per employee, and approximately $5.87 million in collective earnings among the 30.5 FTE employees during the two-year long construction period of Phase 5.
- The $5.87 million in labor income is projected to have an indirect impact of over $1.2 million and an induced impact of nearly $1.2 million, bringing the total economic impact of Phase 5 construction to nearly $8.3 million in labor income.

Mortgage Recording Tax Revenues

- Mortgage recording tax is a one-time tax paid when a mortgage is recorded.
- Suffolk County properties are subject to a 1.05% mortgage recording tax rate.
- The commercial component of the proposed project is anticipated to amount to $118.2 million in construction costs.
- According to Rose-Breslin Associates, LLC & Dorade, LLC, approximately 65% of the cost to construct the commercial component of the project will need to be financed. Assuming that the mortgage recording tax rate remains constant at 1.05%, and when applied to the $76.83 million to be financed, it is anticipated that $806,715 will be generated by mortgage recording tax revenue.
- It is estimated that $384,150 of the mortgage recording tax revenues would be allocated to the Town of Brookhaven, $230,490 would be retained by the Metropolitan Commuter Transportation District, and the State would levy the remaining $192,075 in mortgage recording tax revenues.

A summary of key economic findings is provided in Table 3-25.

A report was completed by PMK Associates (see Appendix A-15) that determined the economic impacts associated with operation of the proposed project, specifically involving permanent job creation. The following findings are relevant:

- At full development, The Meadows At Yaphank PDD could generate taxes of $4,994,086 from the commercial component and $4,548,059 from the residential component, for a total of $9,542,145. In comparison, the subject property could generate $6,444,449 in annual real property taxes under current zoning.
- The Meadows at Yaphank is estimated to generate an FTE employment of 2,648 jobs at full development and full occupancy.
- The potential annual payrolls associated with these jobs is almost $111 million in current dollars. This is equivalent to average annual wages of approximately $41,777 in current dollars. The actual dollar impact will be much greater because wages are expected to rise between now and full buildout of the Meadows at Yaphank. Therefore, this payroll estimate is conservative.
- Direct jobs and payrolls will support secondary payroll spending throughout the local economy. The findings show that the direct jobs at The Meadows at Yaphank could result in total employment growth of almost 5,500 jobs in the immediate vicinity when the multiplier effect is factored in. This is equivalent to a net gain of more than 2,800 secondary jobs. The $111 million
in direct on-site payrolls could boost area payrolls by almost $208 million, including the multiplier effect. This is equivalent to secondary earnings growth of more than $97 million. Much of this growth will occur in the immediate vicinity of The Meadows at Yaphank.

### Table 3-25
SUMMARY OF KEY ECONOMIC FINDINGS, Construction Jobs

<table>
<thead>
<tr>
<th>Economic Impact Parameter</th>
<th>Output (Total Revenue)</th>
<th>Employment (Number of Jobs)</th>
<th>Labor Income (Total Wages)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Economic Impact of Construction: Cumulative</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct Impact</td>
<td>$233,629,375</td>
<td>82.2</td>
<td>$93,451,750</td>
</tr>
<tr>
<td>Indirect Impact</td>
<td>$57,704,588</td>
<td>346.6</td>
<td>$23,540,064</td>
</tr>
<tr>
<td>Induced Impact</td>
<td>$59,790,104</td>
<td>382.5</td>
<td>$19,739,270</td>
</tr>
<tr>
<td><strong>Total Economic Impact of Construction:</strong></td>
<td>$351,124,064</td>
<td>811.3</td>
<td>$136,731,088</td>
</tr>
<tr>
<td><strong>Economic Impact of Construction: Phase 1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct Impact</td>
<td>$43,341,688</td>
<td>84.3</td>
<td>$17,336,675</td>
</tr>
<tr>
<td>Indirect Impact</td>
<td>$11,289,349</td>
<td>70.4</td>
<td>$4,530,827</td>
</tr>
<tr>
<td>Induced Impact</td>
<td>$11,175,495</td>
<td>71.5</td>
<td>$3,689,515</td>
</tr>
<tr>
<td><strong>Total Economic Impact of Construction:</strong></td>
<td>$65,806,532</td>
<td>226.1</td>
<td>$25,557,018</td>
</tr>
<tr>
<td><strong>Economic Impact of Construction: Phase 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct Impact</td>
<td>$82,766,250</td>
<td>108.8</td>
<td>$33,106,500</td>
</tr>
<tr>
<td>Indirect Impact</td>
<td>$20,380,820</td>
<td>119.4</td>
<td>$8,301,785</td>
</tr>
<tr>
<td>Induced Impact</td>
<td>$21,082,746</td>
<td>126.9</td>
<td>$6,986,127</td>
</tr>
<tr>
<td><strong>Total Economic Impact of Construction:</strong></td>
<td>$124,229,816</td>
<td>355.1</td>
<td>$48,394,412</td>
</tr>
<tr>
<td><strong>Economic Impact of Construction: Phase 3</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct Impact</td>
<td>$53,304,150</td>
<td>84.3</td>
<td>$21,321,660</td>
</tr>
<tr>
<td>Indirect Impact</td>
<td>$11,744,470</td>
<td>62.3</td>
<td>$4,904,352</td>
</tr>
<tr>
<td>Induced Impact</td>
<td>$13,392,255</td>
<td>74.2</td>
<td>$4,424,319</td>
</tr>
<tr>
<td><strong>Total Economic Impact of Construction:</strong></td>
<td>$78,440,880</td>
<td>220.8</td>
<td>$30,650,330</td>
</tr>
<tr>
<td><strong>Economic Impact of Construction: Phase 4</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct Impact</td>
<td>$39,542,287</td>
<td>87.1</td>
<td>$15,816,915</td>
</tr>
<tr>
<td>Indirect Impact</td>
<td>$7,426,110</td>
<td>34.0</td>
<td>$3,266,572</td>
</tr>
<tr>
<td>Induced Impact</td>
<td>$9,756,555</td>
<td>49.9</td>
<td>$3,219,258</td>
</tr>
<tr>
<td><strong>Total Economic Impact of Construction:</strong></td>
<td>$56,724,952</td>
<td>171.0</td>
<td>$22,302,744</td>
</tr>
<tr>
<td><strong>Economic Impact of Construction: Phase 5</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct Impact</td>
<td>$14,675,000</td>
<td>30.5</td>
<td>$5,870,000</td>
</tr>
<tr>
<td>Indirect Impact</td>
<td>$2,753,789</td>
<td>11.9</td>
<td>$1,212,297</td>
</tr>
<tr>
<td>Induced Impact</td>
<td>$3,617,932</td>
<td>17.5</td>
<td>$1,194,736</td>
</tr>
<tr>
<td><strong>Total Economic Impact of Construction:</strong></td>
<td>$21,046,720</td>
<td>59.9</td>
<td>$8,277,033</td>
</tr>
</tbody>
</table>

27 It is important to note that the direct, indirect, and induced impacts generated within each phase of construction may not exactly add up to the respective cumulative impacts of construction. This is attributed to the phasing schedule and assumptions made within the IMPLAN software that are associated with inflation and reporting the dollar value of each impact with respect to the year in which the phase is anticipated to commence.
• The annual purchasing power of residents of The Meadows at Yaphank could be almost $12.6 million in current dollars.

• Those employed on-site at the Meadows at Yaphank would be another source of purchasing power. For purposes of analysis, it was assumed that 10% of the gross on-site payroll of $110,625,088 would be spent on-site or within the nearby community. This is equivalent to about $11 million. Aggregating the purchasing power brought to the community by residents of The Meadows with that brought by employees at The Meadows results in estimated annual purchasing power of almost $24 million in current dollars.

• Direct spending of almost $24 million would have an even greater positive impact on the local economy through the multiplier process. That is, this amount would be spent and respent so that the ultimate impact would be a multiple of the original expenditure. This spending could cause Long Island’s output of goods and services, its gross metropolitan product, to increase by more than $29.4 million. This is equivalent to a net output increase of almost $5.8 million. Long Island earnings could increase by almost $7.9 million and as many as 221 jobs could be created in a broad array of industries. Most of this impact would occur in the immediate vicinity of The Meadows at Yaphank.

The following is taken from the Commercial Market Analysis completed for the proposed project (see Appendix A-8).

**Key Findings**

**Current Economic Conditions**

• Unemployment rates in the Town of Brookhaven have increased substantially over the past few years, nearly doubling between 2007 and 2009.

• As of November 2010, approximately 19,000 persons – 7.3% of the Town’s labor force – are unemployed.

• In addition to relatively high levels of unemployment, Long Island is facing an uncertain housing market and consumer spending has been conservative. Such trends are comparable to those of Suffolk County, Long Island and New York State, indicative of the ongoing fiscal and economic constraints facing the state and the nation.

• Despite job loss in other industry sectors including local government, manufacturing and financial services, the Long Island Association indicates that the private-sector job growth is accelerating, with a net growth of approximately 5,700 jobs created in Long Island between October 2009 and October 2010. The industry sectors with the largest growth include retail trade, education, health services and wholesale trade.  

• It is important to note that economic conditions facing the Town of Brookhaven and the Long Island region are temporary and the local economy is showing signs of recovery. It is projected that consumers may begin to spend more freely, reflective of private-sector employment growth, and the projected increase in year-end bonuses on Wall Street.

**Target Market Area**

• The Meadows at Yaphank PDD is deemed a “super community/community shopping center,” defined by the International Council of Shopping Centers and Urban Land Institute, as determined by the proposed size, type of tenants, amenities, and pedestrian-friendly landscape.

• Super community/community shopping centers are typically able to draw support from a 10-15

---

minute travel time radius. As such, and for the purpose of this analysis, an average 15-minute drive time radius was used to represent the target market area for additional commercial space at The Meadows at Yaphank PDD. This represents a significant portion of central Suffolk County, with the boundary of the target market area extending as little as four (4) miles to the north and south along local roads, and as far as 14 miles to the east and west along the LIE where consumers are able to travel at faster speeds. The exact boundary of the target market area is illustrated in greater detail in Appendix A-8, Figure 1.30

Market Demand
- The population within the target market area has increased considerably since 1990. The population grew by 12.5% between 1990 and 2000, and it is estimated that the population increased by an additional 10.9% since 2000. An additional 3.0% growth is projected to occur through 2015.31
- Population within the target market area is expected to grow by approximately 60,000 persons, growing by over 25% between 1990 and 2015.
- The number of households in the target market area has increased by 16.3% between 1990 and 2000, indicative of the residential housing boom that occurred in the target market area.
- The latest estimates suggest 87,861 households are located within a 15-minute drive time radius of the proposed project. This is projected to increase by more than 3,000 additional households over the next five years, with nearly 91,000 households projected to exist by 2015. This is 35.2% greater than the number of households recorded in 1990.
- The substantial growth within the target market area indicates that additional commercial development may be demanded within the community over the coming years.
- The median household incomes within the target market area increased slightly between 2000 and 2010. When adjusted for inflation, the median household income rose by 4.5% – to $80,166 among households in the target market area.
- The average household located within the target market area spent $61,858 on goods and services in 2009.

Market Supply
- Nineteen (19) super community/community shopping centers were identified within the target market area. All of these shopping centers are “open-air” centers with at least one (though most shopping centers had two or more anchor stores) major anchor store accompanied by numerous smaller retailers.
- Many of the shopping centers that were inventoried are in good condition, with few being newly constructed. Approximately half of the shopping centers were fully occupied, and of those that were not fully occupied, on the order of one vacant retailer was typically observed in these centers. This is typical of even the most successful shopping centers due to normal turnover.
- Several shopping centers were undergoing renovations to accommodate future tenants.
- Given the current economic situation facing Long Island, New York State and the nation as a whole, the minimal vacancies observed within super community/community shopping centers within the target market area may be indicative of the demand for additional commercial

30 It is important to note that the Commercial Market Analysis does not identify specific geographies located within the boundary of the 15-minute drive time radius. Rather, Nielsen Claritas (the commercial data provider utilized by NP&V) aggregated all demographic data at the census block group level prior to generating the requested on-demand reports that were utilized in the Commercial Market Analysis.

31 Population and other demographic projections are described in greater detail in Appendix A-8, Section 5.0.
opportunities within comparable shopping centers.

Market Absorption

• The Meadows at Yaphank PDD is proposed as a well-planned development that will create an attractive and desirable environment for its visitors and employees, while enhancing the community at large. The attractive mixed-use setting, prominent design features, and the “main street” experience will serve as a model for future developments in the Town of Brookhaven and throughout Long Island.

• Population centers in the community and the accessibility of the site from prominent roadways – including the William Floyd Parkway and the Long Island Expressway – make the proposed site even more attractive to new commercial development.

• The average household located within the target market area spent $61,858 on goods and services in 2009. Of this, 62.6% or $38,718 is estimated to be spent on items that could be purchased at retailers located within new commercial development at The Meadows at Yaphank PDD. This represents the current annual buying power among households located within the target market area.

• In 2015, annual household buying power within the target market area totals over $3.52 billion for goods and services that could be provided at The Meadows at Yaphank PDD. It is important to understand that this represents a conservative estimate, and does not include the buying power stemming from the 850 new residential units proposed for The Meadows at Yaphank PDD, nor does it include the buying power from visitors to, or employees of the proposed project. In addition, it is likely that others residing outside of the target market area will frequent The Meadows at Yaphank PDD if it is located in close proximity to places frequented on a routine basis. Moreover, increased patronage will likely occur since the location off of the Long Island Expressway and the William Floyd Parkway will make it easily accessible for passersby. This would result in significant additional buying power for goods and services that could be provided at The Meadows at Yaphank PDD.

• Existing businesses are currently able to capture 107.5% of the target market area’s retail potential. This indicates that the existing businesses are not only able to capture a large portion of consumer demand from those residing within the target market area, but also they are able to capture an abundance of demand from consumers residing outside of the target market area – including those employed within the target market area, in addition to visitors and others passing through the community.

• When the capture rate of 107.5% is applied to the target market area’s total buying power, this equates to a collective potential absorption of nearly $3.8 billion in buying power each year among households in the target market area.

• New commercial development is not predicted nor expected to capture all of the retail potential among residents of the target market area. The majority of household purchases are likely going to continue to be spent at existing local retailers, including “mom and pop” stores, stand-alone establishments, and a variety of retailers located within smaller convenience and neighborhood shopping centers, as well as retailers located within larger regional and super regional shopping centers and mail order/on-line sales.

• It is not likely that the proposed project will have a significant impact on existing retailers, given the differentiation in products and services offered, as well as the different type of market served by the various types of shopping centers and retail establishments. Smaller convenience and neighborhood shopping centers, and community-oriented “mom and pop” retailers tend to serve the needs of the local market, providing a mix of specialty items, convenience goods and personal services to those in the immediate vicinity. Many consumers will remain loyal to such retailers, and other consumers will continue to shop at the establishments closest to their place of residence or other places frequented on a regular basis, with convenience being a determining factor of such
consumers. As such, these commercial businesses will likely continue to serve the needs of the local population, and increased vacancies are not anticipated to pose a threat to such retailers.

- Assuming that new commercial development – including The Meadows at Yaphank PDD – could capture a mere five percent (5%) of the total retail potential in the target market area, this results in an annual absorption of approximately $189.2 million in buying power.

- According to the International Council of Shopping Centers and the Urban Land Institute, retailers within a given super community/community shopping center in the United States generate median sales of $284.30 per square foot of GLA. Since The Meadows at Yaphank PDD is deemed to most closely resemble a super community/community-type shopping center, this figure was applied to the $189.2 million in potential absorption. This amounts to approximately 665,687 SF of commercial space that could be absorbed by The Meadows at Yaphank PDD and other new commercial development located within a super community/community-type shopping center-type setting.

- The size of the retail component of the project as proposed – at 332,500 SF (of retail space) – can therefore be absorbed in the local market. In addition, there remains an abundance of excess commercial space that could be absorbed in the surrounding community and throughout the target market area.

The Commercial Market Analysis concludes that there remains significant unmet demand within various industry sectors within the community.

3.7.3 Mitigation

- Socio-economic impacts are not expected based on the demand for the project. Benefits will accrue in the form of tax revenue, job creation, and mortgage recording tax. No mitigation is warranted.
SECTION 4.0

OTHER REQUIRED SECTIONS
4.0 OTHER REQUIRED SECTIONS

4.1 Cumulative Impacts

Cumulative impacts are the potential impacts of a proposed action taken in conjunction with other active or anticipated nearby development projects, where the sum may potentially result in cumulative impacts that are greater than the individual impacts from each project. An analysis of cumulative impacts is generally required within a Draft GEIS when it is expected that multiple projects within the same area may result in a greater cumulative impact than is suggested by impact analyses of the individual actions.

As described in The SEQR Handbook (NYSDEC, 2010), cumulative impacts are:

Cumulative impacts occur when multiple actions affect the same resource(s). These impacts can occur when the incremental or increased impacts of an action, or actions, added to other past, present and reasonably foreseeable future actions. Cumulative impacts can result from a single action or from a number of individually minor but collectively significant actions taking place over a period of time. Cumulative impacts do not have to all be associated with one project sponsor or applicant. They may include indirect or secondary impacts, long term impacts and synergistic effects.

Cumulative impacts are analyzed in this section, in fulfillment of SEQRA requirements. The analysis includes the following components. First, reasonably foreseeable pending projects are identified that could collectively result in cumulative impacts. Second, the various land use plans and studies that pertain to these projects are outlined in order to determine what land use controls would be expected in connection with planned development. Third, each impact category is discussed with respect to potential impacts and how these impacts could potentially be escalated as a result of some combined set of actions, or if no such cumulative impact is expected, this is so noted. The combination of these analyses provides a complete cumulative impact assessment in fulfillment of SEQRA.

The Town was contacted with respect to other reasonably foreseeable future actions resulting in a list of various projects in various stages of application or review (and some with no pending applications). Section 4.1.1 below describes each of these pending projects and their status.

4.1.1 Other Pending Projects

Eight specific projects or development sites were identified in the surrounding area for inclusion in this analysis. These are identified as follows:

- Pinnacle Hotel - This project consists of a 200-room hotel to be located at the intersection of Natcon Road/Roned Road in Brookhaven. The proposed 7-story hotel will include a 1,850 SF (120 seats) restaurant, a 1,000 SF bar and a 13,000 SF convention center.
- Silver Corporate Park - This site on the northwest corner of Exit 66 of the LIE is currently zoned industrial. Although there is no current proposal to develop the site, it is currently zoned for
industrial use, and is anticipated to be developed as such. Therefore, a yield of 2.50 million SF of industrial/warehouse space is assumed here, for analysis purposes. A portion of the site had been rezoned to PRCHC and subsequently the approval was revoked. The matter is in litigation and though there have been discussions of some PRCHC use on the site, no settlement or court decision is currently available. Consequently, the existing zoning is assumed for this analysis.

- **TRC (Tritec) Parcel** - This site on the William Floyd Parkway is an existing office park with some vacant parcels. At the request of the Town, full build out and occupancy of the site based on its current zoning are to be assumed, for a yield of 1.154 million SF of industrial/warehouse space, in addition to a 59,000 SF health club.

- **Legacy Village** - This potential future smart growth development is in the very preliminary stages, and details of this development are not known at this time. Therefore, volumes from this potential development site were not included herein, as the future volumes associated with the Meadows at Yaphank project would be accounted for in the future Legacy Village analysis.

- **Arrow Parcel** - This parcel is located on William Floyd Parkway south of the LIE (southwestern corner). Currently the site is zoned for industrial use and is occupied by the Clare Rose Distributors; there are two additional industrial-zoned parcels available on this property; these three parcels are assumed to contain a total of 650,000 SF of industrial space.

- **The Artist Lake Plaza** - The property is located at the northeast corner of the intersection of NYS Route 25 and Currans Road in Middle Island. The application is to rezone 32.89 acres of A-1 zoned land to J-2 so that a total of 49.08 acres of contiguous J-2 zoned land would be established along Middle Country Road. The 379,411 SF proposed project involves the removal of the existing former K-Mart structure and development of two large anchor stores and seven smaller retail buildings, along with dedication of 25.16 acres to the Town for public active recreational space. At the present time, a Draft SEIS has been accepted, a combined SEQRA/rezone hearing has been conducted, and the Final SEIS has been submitted.

- **The Condominiums at Sandy Hills** - The property is located south of Bailey Road, north of Middle Country Road, and east of Rocky Point Road in Middle Island. The proposed plan includes a 135-unit residential development, 13,000 SF commercial building adjacent to Middle Country Road, an approximately 1,600 SF clubhouse, a village green/playfield, a pool, and an STP proposed to serve both the subject property and an adjacent proposed multifamily development on the west side of Rocky Point Road. The southerly portion of the project site has received a change of zone from the Town Board of the Town of Brookhaven, from A-1 and J-2, to MF (multi-family) and J-6 based on the Middle Country Road Land Use Plan (MCRLUP). The project was the subject of a Supplemental EIS and the Town has issued a Statement of Findings. The conceptual site plan was reviewed for conformance with the Pine Barrens Plan as implemented through the Town of Brookhaven Central Pine Barrens District and involves retention of open space as well as other conforming design features. The project is in the preliminary stages of site plan review and at the time of preparation of this Draft GEIS, there is litigation pending between the Long Island Pine Barrens Society and the Town Board over the approval of the change of zone.

- **Competition Toyota** - The subject site is located on the north side of NYS Route 25 and on the east side of Tudor Lane in Middle Island. The proposal involves a change of zone on a 5.27-acre parcel from A-1 Residential and J-2 Business to J-5 for the construction of a 29,735 SF automobile service facility. The service center and associated parking will be located on the southern portion of the site and 1.98 acres of open space are provided in the northern portion of the property in conformance with the requisite natural vegetation to be retained in conformance with the Town Central Pine Barrens District. The project was the subject of a Draft SEIS to address the original designation of the site as a “transition” area in the MCRLUP. The Town has approved the change of zone; however, a site plan has not been filed as of yet.
4.1.2 Land Use Plans and Regulations

The potential for cumulative impacts in the vicinity of the Meadows site is significantly reduced by the numerous regional land use plans and resulting development restrictions, standards and guidelines that must be followed for development of sites in the area. As required under SEQRA, the reasonably foreseeable cumulative impacts of these land use and development controls were analyzed prior to their approval and implementation. Therefore, the potential cumulative impacts of subsequent development of sites in the area, if it takes place in conformance with the standards and restrictions of these controls, have already been analyzed and would not result in significant adverse cumulative impacts. A case in point is the Pine Barrens Plan, a plan intended to protect the Central Pine Barrens wherein the subject site lies. This plan anticipated development of various sites in conformance with zoning, and analyzed the controls needed to ensure the integrity of the Pine Barrens. The Central Pine Barrens Comprehensive Land Use Plan was the subject of a Generic EIS and Findings were issued, thus allowing the plan to be implemented. Projects that conform to this plan are considered to provide the necessary protections to retain the integrity of the Central Pine Barrens. Similarly, the Town of Brookhaven adopted a Comprehensive Land Use Plan in 1996, which was the subject of a Generic EIS; again, conformance with the Comprehensive Plan would logically presume that a project is in line with Town guidance for land use and development.

The regional plans and studies that provide parameters for land use and determine the pattern of development establish thresholds and limitations to ensure appropriate and environmentally-sensitive land use. The various plans and studies and regulatory review processes that would apply to the projects listed as pending projects are identified as follows:

**Town Jurisdiction**

- 1975 Master Plan - The Town prepared this Master Plan to document its intended blueprint for development. This plan presented five objectives that represent areas where a Town policy could significantly impact the future conditions of the Town.
- 1987 Land Use Plan - The Town prepared this land use plan as a major update of its previous Master Plan. The intent was to redirect the objectives of the Master Plan in consideration of development within the Town, and to refine the mechanisms whereby these objectives were to be achieved.
- The Longwood Mini-Master Plan - was prepared in 1993 by a committee including the Longwood Alliance in association with the Town’s 1996 Plan Update. It recognizes existing problems pertinent to the area and provides planning goals to address these issues. This planning effort includes a survey of existing land uses, demographics, transportation networks, community facilities, environmental and natural resources, community assets and historical and cultural features. The plan also identifies needed community facilities and provides guidance for future development within the specific needs and concerns of the Longwood community.
- 1996 Plan Update - The Town Plan Update was prepared to be a broad blueprint on which future land use decisions within the Town would be based. It relies heavily on the hamlet studies prepared for individual communities and, like the previous planning efforts, includes recommended land uses throughout the Town.
- Site Plan Review - is conducted by the Town under its regulations in order to provide for development that is safe, efficient and conducive to the public health and welfare.
• Town Code Chapter 80 (CEA) - The Town has delineated CEAs and established land use regulations applicable within those areas in order to protect the unique resources for the benefit and enjoyment of Town residents.
• Town Code Chapter 81 (wetlands) - defines regulated freshwater wetlands, regulates development within a defined distance adjacent to them, and establishes procedures for that review process.
• Town Code Chapter 85 (zoning) - regulates all development in the Town by establishing geographic limits within which specific land uses are allowed as-of-right, are allowed under specific conditions, and are prohibited altogether. Additionally, the Zoning Code provides specific regulations for development within each zoning district.
• Town Code Chapter 86 (stormwater) - concerns the measures to be taken at sites under construction in order to reduce the occurrence of erosion and its associated adverse effects on those sites as well as on adjacent and downstream sites; it also provides detailed procedures and documentation requirements for the necessary erosion control plan and study.

Pine Barrens Commission Jurisdiction
• Pine Barrens Plan - the Pine Barrens Plan requires conformance with Standards (and in addition, Guidelines for DRS projects), for pine barrens and environmental resource protection. Vegetation clearing limits, continuous open space, groundwater protection, protection of wetlands and endangered species, erosion control and other environmental parameters related to the overall protection of pine barrens are included in the requirements under this plan. Towns have approved Pine Barrens Districts that require conformance to the same Standards as the Pine Barrens Plan, for smaller projects.

Suffolk County Jurisdiction
• SCSC Article 4 - regulates the supply of potable water in order to protect public health and to insure that county residents have a healthful and plentiful supply of water.
• SCSC Article 6 - regulates sanitary waste discharge with respect to density of development by limiting sanitary wastewater based on lot size. Ensures groundwater protection with respect to nitrogen in deep flow recharge areas for protection of long-term water supply aquifers. Requires sewage treatment where development densities exceed allowable flow on a parcel of land. Article 6 was an outgrowth of the 208 Study, which was a regional wastewater management plan, and as a result this legislation considers aquifer protection throughout Suffolk County.
• SCSC Article 7 - provides water pollution control by limiting the quantity of storage of regulated toxic and hazardous materials in deep flow recharge and water supply sensitive areas (which includes the Yaphank area).
• SCSC Article 12 - regulates the design, installation and operation of any systems that store toxic or hazardous materials to ensure proper containment of stored fluids and solids.
• SCDHS Sanitary System Review - regulates the design and construction of sanitary systems for development in the county.
• SCDPW STP & Roadwork Reviews - regulates the design and construction (and, for STPs required under Article 6, the operation) of these systems for development in the county.
• SCPC 239m Review - Under Section 239m of the NYS Town Law, this county planning entity is empowered to review certain types of development applications, to ensure conformance to engineering, health, safety and planning standards and requirements.

New York State Jurisdiction
• Wild, Scenic and Recreational Rivers Act; Carmans River – establishes stringent land use restrictions for parcels within the WSR boundary, which restricts development to low density, low impact residential land use with maximum open space and buffers.
The Meadows at Yaphank
PDD Application
Draft GEIS

- ECL Article 11 (endangered species) - regulates procedures and review requirements associated with development where potential impacts to wildlife, including designated protected species, may occur.
- ECL Article 24 (freshwater wetlands) - provides review procedures and reporting/analysis requirements in cases where development or planning proposals would occur in relation to designated freshwater wetlands.
- SPDES Permit Review - The NYSDEC has jurisdiction over the preparation, installation, operation and maintenance of erosion-control measures taken on qualified construction sites, as well as the contents and review of the accompanying erosion control plans and documents, and permitting.
- NYSDOT Roadwork Review - is conducted by this agency for state-maintained roadways where circumstances necessitate.

These existing land use controls and review processes form a comprehensive means of ensuring regional environmental protection by ensuring that individual projects conform to recommendations designed with regional resource protection in mind. A matrix that further indicates how various cumulative impacts are managed on a regional basis is provided in Table 4-1.

4.1.3 Resource Impact Assessment

Further consideration of specific potential cumulative impacts related to the Meadows at Yaphank project in the context of other planned projects in the area is provided below. Specifically, resource categories are analyzed in the context of potential cumulative impacts.

Soils
Soils are a site-specific limitation that would be dealt with on a site-specific basis. Each individual site should be subject to evaluation of on-site soils, both surficial and subsurface, to ensure that soil constraints are addressed in design. The combination of pending projects do not represent a combined loss of unique agricultural soils; most are morainal sand and glacial till (with localized pockets of low permeability soils), and therefore can be evaluated and protected as needed based on specific projects.

Topography
Topography is a site-specific limitation that would be dealt with on a site-specific basis. Each individual site should be subject to evaluation of slopes to ensure that topographic constraints are addressed in design. The Pine Barrens Plan seeks to avoid slopes in excess of 15%, and Town engineering review will ensure stabilization of erodible soils through SWPPP’s and erosion control plans. The combination of pending projects does not represent a combined loss of a unique topographic feature, resource or combination of features; therefore, topographic constraints can be evaluated and protected as needed based on specific projects.
### Table 4-1

**CUMULATIVE IMPACT MANAGEMENT MATRIX**

Levels of Environmental and Resource Protection, Based on Regional Land Use and Development Controls

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Impact- or Resource Control-Regulation</th>
<th>Impact/Resource Category of Concern</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Topography</td>
<td>Soils</td>
</tr>
<tr>
<td>1975 Master Plan</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>1987 Land Use Plan</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Longwood Mini-Master Plan</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>1996 Plan Update</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Site Plan Review</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Town Code Chapter 80</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Town Code Chapter 81</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Town Code Chapter 85</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Town Code Chapter 86</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SEQRA Review</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Pine Barrens Plan</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Pine Barrens Commission</td>
<td>Pine Barrens Plan</td>
<td>X</td>
</tr>
<tr>
<td>SCSC Article 4</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>SCSC Article 6</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>SCSC Article 7</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>SCSC Article 12</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>SCDWS Sanitary System Review</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SCDPW STP &amp; Roadwork Reviews</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SCPC 239m Review</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>New York State</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>New York State</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>ECL Article 11</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>ECL Article 24</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>SPDES Permit Review</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>NYS DOT Roadwork Review</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
Groundwater
Several pending projects require existing STP’s including the proposed project (Dorade STP), and Legacy Village (proposed to connect to the existing SCSD Yaphank STP). The Tritec project involves a new Town Sewer District that will provide sewage treatment to serve an existing approved industrial subdivision. The Sandy Hills project requires an on-site STP. Any new STP’s would be constructed in conformance with County and State requirements for such installations which include: engineering report, plans and specifications, proper construction, operation, maintenance, monitoring and adherence to discharge limitations. The remaining development proposals are anticipated to utilize individual conventional on-site sanitary systems in conformance with SCSC Article 6 density requirements.

All of the pending projects are located in Groundwater Management Zone III except Legacy Village, which would connect to an existing STP. Projects that connect to STP’s would discharge effluent at a point source in conformance with the 10 mg/l effluent discharge limitation. DRS projects in the Central Pine Barrens that are proximate to surface water must ensure a concentration of nitrogen in recharge of no more than 2.5 mg/l. Other projects would conform to SCSC Article 6.

The Carmans River Watershed is under study by the Town for adoption of a Management Plan. The Carmans River Watershed includes large areas of the CPA of the Central Pine Barrens, public protected land (Southaven Park, Wertheim Refuge, Post Morrow Foundation), public land unlikely to be developed (Brookhaven National Laboratory, Town landfill buffer, Brookhaven Calabro Airport), and lands that can only be developed at very low densities (Wild, Scenic and Recreational River areas). The total of these lands comprises in the range of 40% of the Carmans River Watershed and provides a level of protection, provided other projects are managed in terms of groundwater protection in conformance with best management practice through existing requirements (see Section 4.1.2). The Carmans River management plan which evolves from the ongoing efforts of the Town of Brookhaven will provide even greater protection of the groundwater contributing area to the Carmans River. Additional information is provided in the discussion of surface water below.

Surface Water
Surface water impacts of significance relate to contaminant discharge to groundwater that could flow toward surface water, and/or stormwater runoff that is improperly controlled and could impact surface water. All pending projects are located in Groundwater Management Zone III except Legacy Village; as a result, discharge from these sites would flow toward deeper aquifers with less potential for surface water impact. Localized surface waters may be present and must be considered in the context of each project and the combination of projects. The Meadows project has small on-site wetlands or surface water detention areas, as does Artist Lake Plaza and Sandy Hills; wetlands will be protected through retention of setbacks and protection of these features as well as linkages to other features if required for endangered species protection as in the case of Sandy Hills. Consequently, localized surface water features will not be impacted either site specifically or cumulatively.

A more regional surface water feature is the Carmans River. All pending projects must retain stormwater on site, and will be subject to SWPPP’s and erosion control plans. Therefore, surface
water impacts from overland flow would not be expected on a cumulative basis, either to the Carmans River or any surface waters. All pending projects except for Sandy Hills, Competition Toyota and Artist Lake Plaza lie in the ground watershed contributing area to the Carmans River. Consequently, Sandy Hills, Competition Toyota and Artist Lake Plaza would not impact groundwater or surface waters associated with the Carmans River.

As noted in Section 2.3, there are a number of factors inherent in the proposed project and/or its location relative to the Carmans River that minimize its potential to impact that resource. Specifically, these include: a substantial separation between the project site and the Carmans River (in the downgradient direction); the absence of direct surface water connections between the site and the river; project features that minimize the generation of recharge bearing pollutants, including limited fertilized areas, and use of an off-site STP whose separation from the river is a substantial 8,000 feet.

As noted in Section 4.1.2, the existing regulatory framework provides for significant measures that, when applied to all pending projects, reduces potential for impact to surface water including the Carmans River. With respect to cumulative surface water impacts from other land use proposals, those within the Pine Barrens (of which are near the Carmans River) would be required to conform with Pine Barrens Standards and Guidelines, depending on the size and type of development. The Pine Barrens Act requires that a DRS proximate to surface water must ensure that the overall water quality leaving a given site would not exceed 2.5 mg/l nitrogen in site recharge. This has been found to be adequate to protect surface water resources in a watershed. These same or similar factors would apply to the locations of the other eight project sites in this analysis, so that minimal potential for cumulative impacts to the Carmans River would be expected.

It should be noted that there are significant existing public lands, lands in the Core Preservation Area, and areas that will not be subject to development within the Carmans River groundwater watershed. These locations will not increase nitrogen release, and therefore provide a level of protection within the watershed. Those areas that may be developed should conform to all applicable requirements including SCSC Article 6 density limitations and the Pine Barrens guideline of 2.5 mg/l for DRSs (large projects) proximate to surface water.

In summary, of the eight (8) pending projects, only five (5) lie within the Carmans River groundwater contributing area. Two (2) of these would be considered DRS’s (Silver Corporate Park and Legacy Village) and would have to conform to DRS Standards and Guidelines which offer maximum protection. Of the remaining projects, Pinnacle Hotel and Tri-Tec are part of an existing approved industrial subdivision (former Brookhaven R&D) that was subject to an Environmental Impact Statement. The industrial subdivision is predominantly occupied with infill projects occurring. The Town has formed a new sewer district and an STP will be constructed to handle sanitary waste. The only remaining project is the Arrow parcel, which is also part of an approved industrial subdivision that includes the Clare Rose site (now developed), and several undeveloped industrial lots, and a large portion of this site (approximately 30%), was donated to the Town of Brookhaven. The dedication area is nearest the Carmans River and provides protection, mitigation, and contiguity of public open space in proximity to the Carmans River. The industrial subdivision on the Arrow parcel was the subject of an extensive
environmental review process, and was approved based on the environmental record, an Expanded Environmental Assessment Form, a Negative Declaration and approval with conditions by the Planning Board. As a result, the combination of projects is not expected to adversely impact surface waters or the Carmans River.

Ecology
On a site-specific basis, each site must be subject to review of ecological resources, which would include field inspection, identification of sensitive species or habitats, contact with the Natural Heritage Program and other evaluations. Protection of these resources would therefore be ensured for each site.

Consideration is given to the geographic area designated as the Central Pine Barrens. The Pinnacle Hotel, Silver Corporate Park, Tritec, Artist Lake Plaza, Sandy Hills and Competition Toyota projects, all lie within the Central Pine Barrens. The Pine Barrens Plan is applicable to the proposed project and would apply to these six (6) 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 Pine Barrens Commission 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 Pine Barrens Commission. Retention of pine barrens vegetation and alignment of contiguous open space are central requirements of the Pine Barrens Plan, thus ensuring protection of habitat. As noted previously, the Pine Barrens Plan was adopted after completion of a Generic EIS to ensure pine barrens habitat protection.

The central portions of the two parcels to comprise the subject site were subject to prior clearing and/or development, but the project has been designed specifically to utilize these previously disturbed areas and thereby to minimize the need to clear additional natural vegetation. Nevertheless, the project is considered a DRS under the Pine Barrens Plan, and will thus be reviewed not only by the Pine Barrens Commission, but also by the Town for conformance to the Pine Barrens Plan. However, the proposed project conforms to the Pine Barrens Plan, and no impacts with respect to the Pine Barrens Plan are expected.

Other regional factors include the Carmans River watershed area, which provides significant existing open space and will involve additional safeguards to ensure protection of the watershed, which will benefit ecological resources. As noted, all projects other than Sandy Hills, Competition Toyota and Artist Lake Plaza are located in the Carmans River study area.

No other regionally significant ecology-based resources are known. Responsible development that occurs in conformance with the Pine Barrens Plan and the final recommendations for the Carmans River would not be expected to result in cumulative ecological impacts, particularly in view of the site-specific evaluation and protection of any identified resources.

Land Use, Zoning & Plans
All sites are subject to zoning and applicable land use plans. Specific sites that are subject to the Pine Barrens Plan or the Carmans River study area are noted above. The guiding plan of the Town is the 1996 Comprehensive Plan, which was the subject of a Generic EIS. Projects are
compared to the various local and regional land use plans to ensure conformance, and if there is a change in planning circumstances, these are evaluated. It is noted that the Pinnacle Hotel and Tritec sites, Artist Lake Plaza, Sandy Hills and Competition Toyota have all been subject to EIS’s that examined land use plans and conformity. The Artist Lake Plaza, Sandy Hills and Competition Toyota sites all involved modifications of the Middle Country Road Land Use Plan, and will be evaluated for appropriateness in modifying this plan based on changes in circumstances as required by SEQRA. Other projects will be subject to review of conformance to land use, zoning and plans to ensure that they are consistent with the Town’s overall comprehensive plan, such that no cumulative impacts would be expected.

Transportation
The proposed project provides an example of how a site-specific environmental review shapes a project through the review process. Traffic associated with the Meadows at Yaphank is addressed through a full TIS that considers the other identified projects, thus ensuring that potential traffic impacts are addressed through mitigation and improvements to transportation systems. Similarly, each of the other eight pending projects considered in this analysis will be reviewed with respect to its potential traffic impacts, and so will build on the analysis provided herein with respect to regional and cumulative impacts. In fact, Sandy Hills, Artist Lake Plaza, and Competition Toyota have each been subject to EIS’s with traffic impact studies, and the Arrow parcel was subject to a Traffic Impact Study through the Expanded EAF review. Site plan review and curb cut permits from SCDPW and the Town will provide forums for further consideration of traffic and appropriate mitigation. As a result, there is a framework for consideration of actions established under existing land use plans, and site-specific review provides a means of further refining projects to ensure that environmental impacts will not occur. The cumulative impact analysis and cumulative Traffic Impact Study included herein provides further information to evaluate the proposed project in consideration of other planned projects in the area.

Air
None of the proposed projects involve an air emission point source. None of the sites are subject to unique conditions such as a topographic depression that would harbor air contaminants. Each project is considered as appropriate through a TIS to ensure that congestion and idling of vehicles is minimized. Given Long Island’s climate and prevailing winds, it is not expected that cumulative air resource impacts would occur as a result of the combination of projects.

Community Facilities & Services
While these pending commercial and residential applications would combine to increase the demand upon local community services (e.g., schools, fire and police protection, utilities, and solid waste handling, energy consumption, etc.), these services will also each benefit from an increase in funds from the tax revenues generated from these developments, which would enable these services to continue to provide services.

With respect to potential impacts specifically due to the increased population of these other pending projects, it should be noted that only one, The Condominiums at Sandy Hills, is residential in nature. Thus, the only increase in population to be analyzed in this cumulative impact analysis would arise from this development. As discussed in the DEIS for Sandy Hills, a
total of 57 school-age residents are expected; the corresponding value for the proposed project is 110. An increase of 57 students would increase enrollments and costs for educational services for the LCSD but, as noted above, Sandy Hills would also increase school taxes allocated to the LCSD, which would offset at least a portion of these increased costs. Thus, it can be seen that the cumulative effects of this population increase on community services would be smaller than that of the proposed project alone (see Section 3.4.2), and the mitigation measures listed in the EIS for Sandy Hills would be sufficient to adequately address its potential community services impacts.

Community Character
Each of these nine projects (including the subject project) will change the use and appearance of their respective sites. Consequently, there will be a cumulative impact on the visual resources and character of the community. The context of these sites in the areas regulated under the Pine Barrens Plan and subject to review under the Carmans River study indicates that there are significant existing public lands. These lands are transected by transportation corridors, and existing development is prevalent along these corridors. Pinnacle Hotel, Tritec and the Arrow parcel are all existing industrial subdivisions. Legacy Village lies west of Yaphank Avenue where existing County facilities are located. Sandy Hills, Competition Toyota and Artist Lake Plaza all lie along NYS Route 25, which is an existing commercial corridor interspersed with existing development. As a result, adverse changes in community character are not expected.

The proposed project will conform to recommendations of the 1996 Plan Update that encourage development based on a mix of uses, on a site that is well-designed, aesthetically attractive and appropriate to the neighborhood. As a result, the cumulative change in visual resources and community character will be consistent with this Plan and with overall Town planning goals. Overall, cumulative impacts are not expected based on the location of projects on existing transportation corridors, existing surrounding development and site-specific review, mitigation and buffering that will contribute beneficially to the combined retention of community character.

Cultural Resources
Cultural resources are a site-specific resource that would be dealt with as part of individual project review. Projects in culturally sensitive areas would be subject to Cultural Resource Assessments that would identify and protect any identified resources. The combination of pending projects do not represent a combined loss of unique cultural resources as there are no extant historic structures, historic district issues or known archaeological issues that the sites share in common.

Construction Impacts
Construction impacts will cause 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. These impacts are temporary and unavoidable; however, proper construction management will limit impacts to the maximum extent.
Economic Impacts

The various pending projects are very different in character and potential economic effect. Tax revenue, job creation, mortgage recording tax and ripple effects on the economy are all beneficial economic impacts that would result from the combined projects. Silver Corporate Park, Tritec, Arrow and parts of the proposed project are all based on industrial and/or office-related land use and provide jobs and tax revenue without competing with each other or other uses in the areas. Legacy Village would be a mixed-use project with workforce housing, though the exact nature of the project is not clearly defined at this time. Sandy Hills is primarily residential with a small commercial component. Competition Toyota is a small project involving expansion of an existing automobile dealership, and Artist Lake Plaza is the only retail project. The Meadows project is a mixed-use project that provides housing, jobs, recreation and entertainment opportunities. It is noted that not all projects are constructed at one time, but are phased-in over time in response to market demand. The variety of projects indicates minimal potential for competition between projects or with the existing land uses, and significant economic benefits would be expected on a cumulative basis, with no identified adverse economic conditions.

4.1.4 Industrially-Zoned Land in the Town

Consideration has been given to the rezoning of the subject site from L-1 and J-2 to PDD, as related to reduction in the availability of lands zoned for light industry in favor of commercial development. This cumulative impact analysis includes a description of an inventory of industrial zoning in proximity to the site, an analysis of the information derived from the inventory, and a discussion of findings, as a basis for cumulative analysis in consideration of the need for industrial zoned land.

The inventory involved a review of industrial zoned lands appearing on the Zoning Map that includes the subject site (Map 8), as well as the three adjoining zoning maps to the west (Maps 5, 6 and 7), and the three diagonally adjacent maps to the north (Maps 1, 2 and 3). This includes industrial zoned lands within relatively close proximity, but also inventories industrial lands on a more regional basis corresponding to the northwest-central parts of Brookhaven Town.

The inventory includes an individual sheet for each designated area. Areas include a conglomeration of individual parcels that are identified with a key number that corresponds to the Zoning Map, and the area number within that zoning map (i.e., 1-1 = Zoning Map 1, Area 1 within Zoning Map 1). Each sheet includes an excerpt of the Zoning Map that depicts the designated area, as well as an aerial photograph illustrating the location of the parcel and its condition as of the date of the air photo (source: Google earth/maps; 2007 orthoimagery). Also included is a tally of the “Approximate Acres” determined by measurement off of the $1"=1,000’$ Town Zoning Maps; “Approximate Percent of Use” determined by observation of “in-use” areas as depicted in the aerial photography as a function of the total area; and “Comments” which includes information about the observed uses, conditions, potential for growth, tenant opportunities and other observed information relevant to the inventory. The inventory is useful for identification of industrial-zoned land within the general area of the site, and northwest-central region of Brookhaven Town. The Industrial Land Inventory is provided in Appendix K.
Appendix K also includes a Summary Table that identifies each designated area, its acreage, the potential areas for growth, and percentages of each potential growth area, as well as various total values. The inventory is at a sufficient level of detail to be useful in identifying available industrial land and areas for potential growth that will remain should the Town Board act favorably on the requested change of zone. It is beyond the scope of this study to go beyond the basic inventory and analysis provided herein; sufficient information is available to conclude that there is industrial land scattered within the map areas studied with potential for turnover, tenancy, or limited growth, and a large concentration of available industrial growth potential in other parts of Yaphank.

The following summarizes some of the information gained from this inventory:

- There are a total of 59 areas of industrial zoning in the seven (7) Zoning Maps inventoried.
- The total acreage of all parcels inventoried is 5,827.3 acres.
- Of the total 5,827.3 acres, 51%, or 2,975.7 acres of the industrial land may have potential for further development.
- The breakdown is as follows:
  - Map 1 – 7 Areas; 466.7 acres total; 209.6 (45%) may have growth potential.
  - Map 2 – 6 Areas; 283.4 acres total; 127.6 (45%) may have growth potential.
  - Map 3 – 3 Areas; 201.8 acres total; 4.2 acres (2%) may have growth potential.
  - Map 5 – 2 Areas; 12.9 acres total; 2.4 acres (19%) may have growth potential.
  - Map 6 – 8 Areas; 566.9 acres total; 173.1 acres (31%) may have growth potential.
  - Map 7 – 18 Areas (19 are designated, but one is a repeat of Area 6-7); 2,890.8 acres; 1,407.6 acres (49%) may have growth potential.
  - Map 8 – 14 Areas; 1,404.8 acres total; 1,051.4 acres (75%) may have growth potential; subject parcel appears in this area; without subject parcel 69% may have growth potential.
- Industrial land is scattered around the northwest-central part of the Town except for the Yaphank area where there is a large concentration of industrial zoning and land potentially available for development.

The following discussion relates to the information gained from the inventory:

- There is some growth potential in each of the map areas studied, thus providing some opportunities to meet local industrial site needs.
- Sites that may not be available for further growth can still serve local industrial land needs through turnover of businesses, tenant opportunities within existing buildings, and conversion of more temporary uses to more permanent uses over time.
- Office is allowed in L-1, J-4 and J-2 districts; therefore, the office component of industrial use has flexibility to locate in a number of zoning districts, and therefore has a greater potential to locate sites to serve needs when such needs occur.
- There is a wide variety of uses on L-1 zoned parcels, including non-conforming outdoor storage, lumber yards, corporate parks, industrial parks, contractor yards, light manufacture, offices, junkyards, automotive uses, etc.

There are several considerations with respect to the subject site and the proposed zoning change from L-1 and J-2 to PDD:
• It may be unwise to situate industrial use on land that presents opportunities for other uses that would benefit the community.
• Retail use typically provides greater tax revenue than industrial use; this benefit would be realized by the proposed project (see Section 5.0).
• Retail use provides comparable or greater job creation benefits as compared with industrial.
• The proposed project includes 300,000 SF of office space and 250,000 SF of office/flex space, uses that can occur within the L-1 district; this indicates that this L-1 use will be retained on the site, thereby reducing the magnitude of the land use conversion.

The Town and County Industrial Development Agency (IDA) and business initiatives have achieved success in locating industrial use in Economic Development areas designated by the Town, in close proximity to the subject parcel in Yaphank. There exist over 2,100 acres of existing industrially-zoned land in close proximity to the proposed project, at the Economic Development zone, which has been targeted for industrial development by the Town and County (Zoning Map 7-1). This land, combined with the abundance of other industrially-zoned land in the surrounding areas, will be available to serve the industrial needs of the community and this part of Brookhaven Town. The nature of industrial use is such that regional centers can serve the needs of the Town. There are existing scattered industrial-zoned lands with existing uses and some growth potential. Based on this potential further growth in the existing smaller areas of industrial-zoned land within and near Yaphank (other than the subject site), coupled with the existing occupied industrial land that may provide tenancy opportunities or business locations due to turnover, it would appear that neither Yaphank, nor the region would suffer from the land use conversion of the subject site to PDD zoning.

The proposed project would include 300,000 SF of office space and 250,000 SF of office/flex space, which can locate on business or industrial-zoned lands. As such, the proposed project does not seek to eliminate all such land, and would still serve as a major employment center, providing growth opportunities for industries that would occupy the office and office/flex space. The proposed commercial use provides a lifestyle center in the hamlet of Yaphank through the provision of a high-quality, mixed-use development with a number of public benefits to meet specific local and regional needs. The project will provide workforce and age-restricted housing opportunities, which are much needed throughout the community. In addition, the proposed project will attract a variety of shopping opportunities, jobs, tax revenue and a vibrant use that is needed within the hamlet. The proposed project would rehabilitate the property by replacing a partially cleared and previously used site that is now subject to unauthorized use and activity, with a mixed-use and vibrant community having a sense of place that provides attractive architecture, gathering areas, synergy between businesses, and ultimate enjoyment for local residents, employees and consumers alike. This Industrial Land Inventory and the discussion and findings may be useful to the Town in further addressing local and regional industrial needs. For the purpose of this Draft GEIS, this discussion addresses potential cumulative impacts associated with the conversion of this industrial-zoned site to PDD zoning.

4.2 Adverse Impacts That Cannot Be Avoided or Adequately Mitigated

The site and project have been characterized, the potential adverse impacts to the existing site and vicinity have been assessed, and mitigation measures have been described. Some adverse
impacts may still exist for which no mitigation is available. Adverse impacts have been quantified and discussed; for those adverse impacts that cannot be quantified, qualitative discussions have been provided in previous sections of this document. The adverse impacts of the proposed project will be minimized where possible, but this section acknowledges those adverse impacts that may still occur, as follows:

- Grading will permanently alter the site’s topography.
- Despite the planned mitigation measures (such as soil wetting, etc.), temporary increases in the potential for fugitive dust during the construction period may still occur.
- Temporary increases in construction traffic and noise during the construction period.
- Increase in the concentration of nitrate/nitrogen in water recharged on-site, from 0.08 mg/l at present, to 2.20 mg/l after construction.
- Removal of a total of 19.78 acres of natural vegetation on the overall site (18.28 acres on the combined Racetrack/BW parcel and 1.50 acres on the Dorade STP parcel).
- Increase in vehicle trips generated on the site and on area roadways over existing conditions (proposed mitigation to avoid decreased LOS). Decrease in trip generation compared to uses permitted under existing zoning.
- Increased total anticipated water consumption on the site, from zero at present to 275,050 gpd (of which sanitary wastewater generation is 271,050 gpd) associated with the project.
- Increased intensity of land use on the site (over current site conditions).
- Increased potential need for emergency services of SCPD and Ridge and Yaphank Fire Departments (offset by concomitant increase in tax revenues).
- Increased demand on energy services of LIPA and National Grid (to be paid for according to rate tariffs).

4.3 Growth-Inducing Aspects

Growth-inducing aspects of a proposed development are those project characteristics which would cause or promote further development in the vicinity, either due directly to the project, or indirectly as a result of a change in the population, markets or potential for development in that community. Direct impacts might include, for example, the creation of a major employment center or institutional facility, installation or extension of infrastructure improvements or the development of a large residential project, particularly if that project were designed for a specific age group. An indirect impact would cause an increase in the potential for further development in an area, which in turn would result in direct impacts.

In consideration of the above description of growth inducement, The Meadows at Yaphank PDD would increase the potential for growth in the vicinity. However, the proposed project also reflects an on-going trend in the Town for residential growth, for growth in workforce housing, for growth in senior housing, and for growth in quality mixed-use development. In this sense, therefore, the proposed project does not in itself represent a trigger for such growth.

It is anticipated that the proposed project would contribute to an increase in activity for local businesses. The project will increase the number of residents in an area where commercial and service-oriented businesses are available by relatively short auto trips. These businesses,
especially those serving the needs of family-oriented and/or senior customers, would tend to experience incrementally increased activity due to the increase in their customer bases.

The construction of the site will create both short-term and long-term job opportunities. In the short-term, development will create an estimated 83 construction jobs (to last multiple years), and indirectly jobs may be created based on increased patronage of material suppliers. In the long-term, the proposed project will create a number of maintenance-related permanent jobs as well as an estimated 2,648 jobs in the commercial component of the project. These jobs may be filled first from within the local labor pool. These job opportunities would not require relocation of specialized labor forces or influx of large businesses from outside the area to provide construction support. As a result, job-related growth-inducing aspects of the proposed project are expected to be significant.

Development of the site will result in an incrementally increased usage of utilities. Electrical and natural gas services are generally available throughout Long Island (and are presently available in the immediate vicinity of the subject site), and water mains are adjacent; therefore, significant expansions of these utilities are not expected. Because these facilities and services already exist and have the capacity to service the proposed project, no significant change in potential growth is expected to result solely from this availability. As the project will be developed at a density in excess of that allowable under Article 6 of the SCSC, on-site septic systems are not allowed, so use of an existing off-site STP is proposed. As this facility would only serve the subject site and other previously designated properties, it would not represent a growth-inducing aspect with respect to potential off-site development, as it would not be available for off-site growth.

Use of the existing Dorade STP and its upgrade back to its original capacity of 450,000 gpd would preclude the necessity to establish a public sewer district to serve its users.

The proposed project may lead to the improvement of community services in the area as stimulated by the increased need for services offset by the increased taxes generated by the project. In addition, the project proposes the dedication of land for Town recreation/open space amenities. This aspect of the project constitutes a major benefit for the community. These features of the project and their effects will add to the fabric of the community and support existing programs and special districts without adding significantly to growth potential.

4.4 Irreversible and Irretrievable Commitment of Resources

This subsection is intended to identify those natural and human resources discussed in Sections 2.0 and 3.0 that will be consumed, converted or made unavailable for future use as a result of the proposed project. The proposed project will result in irreversible and irretrievable commitment of resources, as follows:

- Material used for construction on the site, including but not limited to: wood, asphalt, concrete, fiberglass, steel, aluminum, etc.
- 19.78 acres of natural vegetation on the overall site.
• Energy used in the construction, operation and maintenance of this project, including fossil fuels (i.e., oil and natural gas).
• Potable water to be consumed on a daily basis, for the operation of the project, totaling an estimated 288,143 gpd, of which 275,050 gpd represents domestic consumption.

However, the impact of this commitment of resources is not anticipated to be significant, as the magnitude of these losses is not substantial.

4.5 Effects on the Use and Conservation of Energy Resources

4.5.1 Energy Consumption

An increase in the consumption of energy resources would typically be expected from the intensification of land use on a site. In general, 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. The proposed project will utilize energy efficient design standards to minimize energy consumption at the site. In addition, 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. 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.

As discussed in Section 1.4.8, the applicant intends to incorporate substantial energy-saving features into the proposed project, which may include building materials, site and project layout and design characteristics, mechanical systems and use procedures. However, as the project is only in a preliminary design stage (and this document represents a generic design), a roster of these features is not available. It is possible that the number and extent of these sustainable features would justify the applicant seeking certification under the US Green Building Council’s LEED® Program. It is expected that a final decision whether to seek certification will be made prior to the submission of the Site Plan application.

It is expected that existing public utilities available in the area will be 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.

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

Related to energy generation and usage is the generation of gaseous emissions from power sources and from the project’s buildings (the impacts from vehicle emissions associated with the proposed project are assessed in Section 3.3). These emissions are a scientifically well-established contributor to global climate change through a mechanism known as “the greenhouse effect”, and so are termed “greenhouse gases”. The following general description and discussion of greenhouse gases (GHG) is taken from the document, “Guide to Assessing Energy Use and Greenhouse Gas Emissions in Environmental Impact Statements” (NYSDEC, July 15, 2009).

Global climate change is emerging as one of the most important environmental challenges of our time. There is scientific consensus that human activity is increasing the concentration of GHGs in the atmosphere and that this, in turn, is leading to serious climate changes. Climate change will continue to adversely affect the environment and natural resources of New York State, the nation, and the world.

There are six main GHGs: carbon dioxide (CO$_2$), nitrous oxide (N$_2$O), methane (CH$_4$), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF$_6$). Evaluation of the emissions of each of these GHGs could potentially be included in the scope of an EIS.

Emissions of CO$_2$ account for an estimated 89% of the total annual GHG emissions in New York State. The overwhelming majority of these emissions – estimated at 250 million tons of CO$_2$ equivalent per year – result from fuel combustion. Overall, fuel combustion accounts for approximately 89% of total GHG emissions. (Nitrous oxide and methane also result from fuel combustion.) Additional GHG sources include electricity distribution (SF$_6$); refrigerant substitutes (HFCs); the management of municipal waste, municipal wastewater, and agriculture (CH$_4$ & N$_2$O); natural gas leakage (CH$_4$); and others.

SEQR requires that lead agencies identify and assess adverse environmental impacts, and then mitigate or reduce such impacts to the extent they are found to be significant. Consistent with this requirement, SEQR can be used to identify and assess climate change impacts, as well as the steps to minimize the emissions of GHGs that cause climate change. Many measures that will minimize emissions of GHGs will also advance other long-established State policy goals, such as energy efficiency and conservation; the use of renewable energy technologies; waste reduction and recycling; and smart and sustainable economic growth. This policy is not the only state policy or initiative to promote these goals; instead, it furthers these goals by providing for consideration of energy conservation and GHG emissions within EIS reviews.

Appendix F-3 contains the Greenhouse Gas Emission and Carbon Footprint Analysis prepared for The Meadows at Yaphank PDD, as contemplated by the above-discussed Guidance. The following summarizes the results of this analysis.

**USEPA Tools**

The CO$_2$ “emission” modeling provided herein was based upon U.S. Environmental Protection Agency’s (USEPA) most recent “Individual Household Calculation Tool” and “Office Carbon Footprint Tool.” The model blanks (and the supporting data tables which are used in the calculation of the results) may be found on the USEPA web site. Embedded within these “tools” are data and algorithms from the above cited studies and organizations.
The USEPA models are based upon detailed information which has been accumulated by the various departments of the Federal government for several decades. These data include intensive information regarding energy consumption for a wide variety of human endeavors; they have been accumulated and compiled since the mid-1970’s (as spurred on by the first energy crisis of 1973-74). Data include home or commercial heating (oil, natural gas, etc.) in various regions of the country, the consumption of various goods, the transportation of both goods and people, etc. plus the energy required to accomplish these ends.

The modeling of virtual emissions in the form of CO$_2$ requires the translation of various forms of energy (e.g., natural gas, gasoline, diesel fuel, etc.) to useful energy or “work” units and the carbon oxidized from the fuel in the process. Industry-wide energy equivalent conversions from gallons, kilowatts or cubic feet (therms) of energy consumed were/are applied in the calculations. For example, one kilowatt hour (kw-hr) of electricity translates to 3,412 British Thermal Units (btu’s), one horsepower (transportation) to 2,545 btu and one therm (natural gas) to 100,000 btu. Combustion was assumed to be 100 percent of the fuel at issue and carbon content was based on the type of fuel “utilized”. For example, one gallon of gasoline contains 18.9 kilograms (kg) of carbon per giga-joule (GJ equivalent to a little less than one million btu’s) and propane has 17.2 kg of carbon per GJ. CO$_2$ emissions were/are determined in this analysis. The carbon equivalents can be derived from the data by using the appropriate molecular weights of carbon and oxygen.

The CO$_2$ modeling was calculated on a per 10,000 square foot basis. Since the project anticipates varied uses within the commercial development, the “per 10,000 square foot basis” was calculated to allow direct and easier comparison between the scenarios.

**CO$_2$ Emissions-Operation**

The proposed action’s residential component, with mass transit, has a projected carbon loading of 17,070 tons per year. This includes both the per capita/per square foot operational elements and transportation projected to result from these uses. As a subset of these results, the proposed action residential component has a projected carbon consumption intensity of 16 to 30 tons per year per 1,200 or 2,400 square foot unit, respectively.

The commercial project components have been broken into four categories. On a per square foot basis, commercial uses are more “intense” than residential uses. The office carbon emissions are projected at 573 tons per year and the food service/retail carbon consumption intensity is projected at 1,236 tons per year (both per 10,000 square feet). Thus, the food service/retail carbon consumption is twice that of the office space. The results are 4.5 to 1.8 times the residential results on a per square foot basis.

The existing condition is partially an abandoned public venue. To provide a comparison of the existing condition (which is a property largely subjected to prior development) to the proposed action (i.e., the proposed action is, in part, a property re-development), its emission level as a functional facility was calculated and it had a carbon loading of 712 tons per year. This includes both the per capita/per square foot operational elements and employee transportation projected to result from these uses. This past use of the site had a carbon load equivalent to the commercial scenarios considered.

**CO$_2$ Footprint**

Transitioning from a carbon “emissions” calculation to a carbon footprint raises the concept of carbon sequestration. Carbon sequestration is largely the result of the photosynthetic activity of plant life on this planet, which converts gaseous CO$_2$ to carbon-based tissues. This sequestration begins at the level of single cell algae and continues up to the largest tree. To the extent that the algae, and
especially the larger plant species concentrate this biomass (and so, carbon) within themselves and then more “slowly” release it back to the environment upon their death, carbon accumulates within natural ecosystems.¹

The Proposed Action has a projected carbon footprint of 18,996 acres. This includes both the per capita/per square foot operational elements and transportation projected to result from the combined residential and commercial uses. With this result, the Proposed Action, with limited mass transit, has a projected carbon footprint ratio of 59.

The build out of an alternative project as commercial and commercial light industrial [i.e., per the existing L-1 and J-2 zonings] would have a projected carbon footprint of 39,801 acres. This result is slightly more than twice that of the proposed action and includes the much higher use of the site by truck traffic and the more “intensive” site use that results from industrial activities. With this result, this alternative has a projected carbon footprint ratio of 123.6.

The above analysis indicates that the proposed project would have a significantly lower (by over half) carbon footprint than development under the site’s existing L-1 and J-2 zonings. Specifically, the proposed would have a carbon footprint of 18,996 acres, or a carbon footprint ratio of 59, while development of the project site with retail and light industrial uses would yield a carbon footprint of 39,801 acres, for a carbon footprint ratio of 123.6. This would indicate that the proposed PDD is significantly more sensitive to the environment than development that conforms to the existing zoning of this site, and represents a significant mitigation measure with respect to greenhouse gas emissions.

4.6 General Construction Impacts

Construction activities are anticipated to result in short-term transportation, noise, dust, aesthetic and (potentially) erosion impacts. The phasing description presented in Section 1.5.1 represents the most information in regard to a construction schedule that can be provided at the current stage of the application process. Construction activities would be subject to Town regulations.

The 213± acres in the central parts of the site will be subject to clearing and grading; this figure includes areas for the internal roadways, parking areas, buildings, stormwater system and landscaping. These areas will be subject to erosion during the construction phase, and would be the areas from which dust could arise, due to truck and equipment movement and winds. Erosion control measures including, but not limited to, use of groundcovers, drainage diversions, soil traps, water sprays and minimization of the time span that bare soil is exposed to erosive elements, will be taken, to minimize the potential for impacts to sensitive on- or off-site natural or developed areas.

As construction equipment loading/unloading, materials storage, and construction staging areas and construction worker parking will be located within the site, no significant or long-term construction impacts to the surrounding properties are anticipated. Installation of construction

¹ Other sequestration mechanisms occur which are man-made but only the dominant, natural mechanism is relied upon in this analysis.
accesses/exits on the LIE North Service road and/or CR 46 will minimize potential adverse impacts on the neighborhood.

The use of “rumble strips” (which cause truck tires to shed any mud trapped within the tire treads) at the construction entrance will reduce soil on truck tires from being tracked onto adjacent roadways, thereby minimizing the potential for dust to be raised.

As noted in Section 1.4.5, an undetermined volume of surface and subsurface soil will be disturbed during grading operations. It is proposed to re-use as much of this material on-site as practicable, as fill. This would also reduce the need for (and impacts on the area from) truck trips to remove this material.
SECTION 5.0

ALTERNATIVES CONSIDERED
5.0 ALTERNATIVES CONSIDERED

SEQRA and its implementing regulations at 6 NYCRR Part 617.9(b)(s)(i) require the consideration of reasonable alternatives to a proposed action that are feasible, considering the objectives and capabilities of the project sponsor. The purpose of this analysis is to determine the merits and relative impacts of a proposed project as compared to those of other possible uses, sites and technologies that would reduce environmental impacts while also achieving the applicant’s objectives. The discussions and analyses of the alternatives should be conducted at a level of detail sufficient to allow for this informed comparison, to be conducted by the decision-making agencies. Alternative 1 is the “No Action” alternative, which is required by SEQRA and is intended to represent site conditions if it were maintained in its current status and condition. For the subject application, the lead agency has determined that the following alternatives shall be analyzed:

- Alternative 1: No Action - assumes that the site remains in its current use and condition.
- Alternative 2: Development at Existing Zoning - this scenario assumes that the site is developed according to the current zonings of the project parcels, as follows:
  - Alternative 2a: Development of Property with Existing Approvals (BW/Eastern Parcel)
  - Alternative 2b: Development of Property Under L-Industry-1 Zone (Racetrack/Western Parcel)
- Alternative 3: Public Acquisition
- Alternative 4: Reuse of Wet Depressions as Town-Designated Wetlands - assumes the proposed project yield and layout, with the existing wet depressions in the former racing oval and along CR 46 are retained as a Town-designated wetlands and are incorporated in the site’s drainage system.

The yields and layouts of these alternatives are described at a level of detail sufficient for a quantified comparison of impacts necessary to satisfy SEQRA requirements. Sections 5.1 to 5.4 describe each alternative; Table 5-1 lists the Public Benefits that would be provided by the proposed project (see also Appendix A-1), and indicates which of those benefits would also be provided by each alternative. Tables 5-2a to 5-2c list the estimated uses, yields and characteristics of each alternative, along with those of the proposed project, to enable comparisons of the alternatives against the values of the proposed project as well as against each other.

5.1 Alternative 1: No Action

5.1.1 Description of Alternative 1

If the proposed project were not implemented, the subject site would not be further disturbed; the western parcel would remain vacant, partially-vegetated and impacted, while the eastern parcel would remain partially cleared with foundations, vacant, naturally-vegetated. Both sites would continue to be subject to unauthorized trespassing activities such as dirt bike, ATV and 4-wheel drive vehicle use, loitering, littering and uses not condoned or easily controlled by the site owner.
### Table 5-1
**COMPARISON OF ALTERNATIVES, Public Benefits**

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Proposed Project</th>
<th>Alt. 1</th>
<th>Alt. 2</th>
<th>Alt. 3</th>
<th>Alt. 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Meets a need for a lifestyle center in the hamlet of Yaphank, providing a location for community, culture and commerce.</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>2. Meets the Town of Brookhaven Comprehensive Plan goal for providing Workforce and age-restricted housing opportunities.</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>3. Addresses Smart Growth principles by incorporating features including: internal walkability; safe and convenient pedestrian access to public transit and consumer shopping; on-site recreational facilities; sufficient parking, convenient vehicle access and traffic flow.</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>4. Incorporates superior design elements including attractive coordinated architectural treatments, extensive site improvements and landscaping features in a mix of uses including housing, restaurant spaces, a commercial center and a public gathering place.</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>5. Provides significant taxes to the Town and other local taxing entities without significant increase in the need for additional services.</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>6. Minimizes the increase of school-age children in the LCSD.</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>7. Will attract a variety of retail and mixed commercial uses to meet local community needs.</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>8. Will generate full time office and retail jobs and service-oriented businesses.</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>9. Provides a public plaza space that will encourage use for community events, including an area for a concert green.</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>10. Provides a link to the Town Greenbelt Trail, fostering appreciation for the natural resources in the area.</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>11. Promotes healthy lifestyle through encouraging walking, bicycling, and activities in the passive recreation areas and athletic fields.</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>12. Locates development on previously disturbed racetrack property.</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>13. Would rehabilitate the site to a vibrant community, replacing nuisance activities with a sense of place &amp; enjoyment for local residents.</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>14. Locates development on major roadways, at a major interchange, thereby improving accessibility and reducing traffic impacts on existing neighborhoods.</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>15. Will reduce trip generation vs. development per existing zoning.</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>16. Will generate additional purchasing power in the area benefiting existing local retailers and businesses.</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>17. Will generate much-needed jobs in the area, including temporary construction jobs and permanent jobs.</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>18. In addition to real property tax revenues, will generate additional sales tax revenue and mortgage-recording tax revenues.</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>19. Incorporates protection of the existing designated wetlands on site.</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>20. Incorporates protection of at least 35% of the site in existing/remaining Pine Barrens vegetation.</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>21. Improves off-site roadways.</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>22. Improves wastewater treatment for existing communities of Colonial Woods/Whispering Pines condos and SCSD #8.</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
</tr>
</tbody>
</table>

*Plus (+) sign indicates that this Benefit would be provided; minus (-) sign indicates that this Benefit would not be provided.*
Table 5-2a
COMPARISON OF ALTERNATIVES 1 & 3 TO PROPOSED PROJECT

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Existing Conditions/Alts. 1 &amp; 3</th>
<th>Proposed Project</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dorade STP</td>
<td>Racetrack &amp; BW</td>
</tr>
<tr>
<td>Coverages (acres):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paved</td>
<td>0</td>
<td>40.05</td>
</tr>
<tr>
<td>Buildings</td>
<td>0.37</td>
<td>0.37</td>
</tr>
<tr>
<td>Lawn/Landscaped</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Recharge Areas (pond, basin, meadow)</td>
<td>1.09</td>
<td>1.09</td>
</tr>
<tr>
<td>Wetland</td>
<td>0</td>
<td>0.76</td>
</tr>
<tr>
<td>Unvegetated</td>
<td>2.58</td>
<td>23.03</td>
</tr>
<tr>
<td>Successional Vegetation</td>
<td>0</td>
<td>125.77</td>
</tr>
<tr>
<td>Natural Vegetation</td>
<td>7.05</td>
<td>132.76</td>
</tr>
<tr>
<td>Characteristics:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zoning</td>
<td>A-1</td>
<td>L-1</td>
</tr>
<tr>
<td>Use</td>
<td>Utility</td>
<td>Vacant</td>
</tr>
<tr>
<td>Yield</td>
<td>STP</td>
<td>---</td>
</tr>
<tr>
<td>Water Resources:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic Water Use (gpd)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Sanitary Flow (gpd)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Irrigation Demand (gpd)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total Water Use (gpd)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Recharge Volume (MGY)</td>
<td>218.78</td>
<td></td>
</tr>
<tr>
<td>Recharge Nitrogen Conc. (mg/l)</td>
<td>0.08</td>
<td></td>
</tr>
<tr>
<td>Recharge Nitrogen Conc. (lbs)</td>
<td>146.10</td>
<td></td>
</tr>
<tr>
<td>Trip Generation (vph):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weekday AM Peak Hr</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Weekday PM Peak Hr</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Saturday Midday Peak Hr</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Miscellaneous:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age-Restricted Units</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Workforce Units</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Sanitary Treatment</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>Residents (capita)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>School-Age Children (capita)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Employees (capita)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Parking Required (spaces)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Parking Provided (spaces)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total Taxes ($/year)</td>
<td>833,155</td>
<td></td>
</tr>
<tr>
<td>School Taxes ($/year)</td>
<td>559,403</td>
<td></td>
</tr>
<tr>
<td>School Costs ($/year)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Net School Tax Impact ($/year)</td>
<td>+559,403</td>
<td></td>
</tr>
</tbody>
</table>

(1) See Appendix C-2.
(2) See Appendix C-3 & Section 1.4.6.
(3) For Alternative 3, this value would be zero.
(4) Assuming 2009/2010 level of NYS aid to LCSD.
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Development per Existing Zoning/ Alt. 2</th>
<th>Proposed Project</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dorade STP</td>
<td>Racetrack &amp; BW</td>
</tr>
<tr>
<td>Coverages (acres):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paved</td>
<td>0</td>
<td>105.77</td>
</tr>
<tr>
<td>Buildings</td>
<td>0.37</td>
<td>38.79</td>
</tr>
<tr>
<td>Lawn/Landscaped</td>
<td>0</td>
<td>35.04</td>
</tr>
<tr>
<td>Recharge Areas (pond, basin, meadow)</td>
<td>1.09</td>
<td>6.60</td>
</tr>
<tr>
<td>Wetland</td>
<td>0</td>
<td>0.76</td>
</tr>
<tr>
<td>Unvegetated</td>
<td>2.58</td>
<td>15.18</td>
</tr>
<tr>
<td>Successional Vegetation</td>
<td>0</td>
<td>11.50</td>
</tr>
<tr>
<td>Natural Vegetation</td>
<td>7.05</td>
<td>108.73</td>
</tr>
<tr>
<td>Characteristics:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zoning</td>
<td>A-1</td>
<td>L-1</td>
</tr>
<tr>
<td>Use</td>
<td>Utility</td>
<td>Industrial</td>
</tr>
<tr>
<td>Yield</td>
<td>STP</td>
<td>1.18 million SF</td>
</tr>
<tr>
<td>Water Resources:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic Water Use (gpd)</td>
<td>87,353/200,160 (1)</td>
<td>275,050</td>
</tr>
<tr>
<td>Sanitary Flow (gpd)</td>
<td>77,193/190,000 (1)</td>
<td>271,050</td>
</tr>
<tr>
<td>Irrigation Demand (gpd)</td>
<td>9,435</td>
<td></td>
</tr>
<tr>
<td>Total Water Use (gpd)</td>
<td>96,788</td>
<td></td>
</tr>
<tr>
<td>Recharge Volume (MGY)</td>
<td>298.88 (2)</td>
<td>351.29 (3)</td>
</tr>
<tr>
<td>Recharge Nitrogen Conc. (mg/l)</td>
<td>2.50 (2)</td>
<td>2.20 (3)</td>
</tr>
<tr>
<td>Recharge Nitrogen Conc. (lbs)</td>
<td>6,219.00 (2)</td>
<td>6,445.49 (3)</td>
</tr>
<tr>
<td>Trip Generation (vph):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weekday AM Peak Hr</td>
<td>1,754</td>
<td></td>
</tr>
<tr>
<td>Weekday PM Peak Hr</td>
<td>3,773</td>
<td></td>
</tr>
<tr>
<td>Saturday Midday Peak Hr</td>
<td>3,820</td>
<td></td>
</tr>
<tr>
<td>Miscellaneous:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age-Restricted Units</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Workforce Units</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Sanitary Treatment</td>
<td>Septic</td>
<td>Dorade STP</td>
</tr>
<tr>
<td>Residents (capita)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>School-Age Children (capita)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Employees (capita)</td>
<td>3,329</td>
<td></td>
</tr>
<tr>
<td>Parking Required (spaces)</td>
<td>8,932</td>
<td></td>
</tr>
<tr>
<td>Parking Provided (spaces)</td>
<td>7,477</td>
<td></td>
</tr>
<tr>
<td>Total Taxes ($/year)</td>
<td>6,444,449</td>
<td>9,542,145</td>
</tr>
<tr>
<td>School Taxes ($/year)</td>
<td>4,326,979</td>
<td>6,402,779</td>
</tr>
<tr>
<td>School Costs ($/year)</td>
<td>0</td>
<td>1,406,790 (4)</td>
</tr>
<tr>
<td>Net School Tax Impact (±$/year)</td>
<td>+4,326,979</td>
<td>+4,995,989</td>
</tr>
</tbody>
</table>

(1) 1<sup>st</sup> value assumes Alt. 2 as described above; 2<sup>nd</sup> value reflects adjustment in flow to meet 2.5 mg/l Standard.
(2) See Appendix C-4.
(3) See Appendix C-3 & Sec. 1.4.6.
(4) Assuming 2009/2010 level of NYS aid to LCSD.
Table 5-2c
COMPARISON OF ALTERNATIVE 4 TO PROPOSED PROJECT

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Wet Depression Reuse/Alt. 4</th>
<th>Proposed Project</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dorade STP</td>
<td>Racetrack &amp; BW</td>
</tr>
<tr>
<td><strong>Coverages (acres):</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paved</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Buildings</td>
<td>0.37</td>
<td>27.20</td>
</tr>
<tr>
<td>Lawn/Landscaped</td>
<td>0.37</td>
<td>98.59</td>
</tr>
<tr>
<td>Recharge Areas (pond, basin, meadow)</td>
<td>2.59</td>
<td>10.25</td>
</tr>
<tr>
<td>Wetland</td>
<td>0.99</td>
<td>0.99</td>
</tr>
<tr>
<td>Unvegetated</td>
<td>2.58</td>
<td>0</td>
</tr>
<tr>
<td>Successional Vegetation</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Natural Vegetation</td>
<td>5.55</td>
<td>114.70</td>
</tr>
<tr>
<td><strong>Characteristics:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zoning</td>
<td>A-1</td>
<td>PDD</td>
</tr>
<tr>
<td>Use</td>
<td>Utility</td>
<td>Resid. &amp; Comm.</td>
</tr>
<tr>
<td>Yield</td>
<td>STP</td>
<td>850 units &amp; 1,032,500 SF</td>
</tr>
<tr>
<td><strong>Water Resources:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic Water Use (gpd)</td>
<td>275,050</td>
<td>275,050</td>
</tr>
<tr>
<td>Sanitary Flow (gpd)</td>
<td>271,050</td>
<td>271,050</td>
</tr>
<tr>
<td>Irrigation Demand (gpd)</td>
<td>13,093</td>
<td>13,093</td>
</tr>
<tr>
<td>Total Water Use (gpd)</td>
<td>288,143</td>
<td>288,143</td>
</tr>
<tr>
<td>Recharge Volume (MGY)</td>
<td>350.02</td>
<td>(1)</td>
</tr>
<tr>
<td>Recharge Nitrogen Conc. (mg/l)</td>
<td>2.21</td>
<td>(1)</td>
</tr>
<tr>
<td>Recharge Nitrogen Conc. (lbs)</td>
<td>6,444.65</td>
<td>(1)</td>
</tr>
<tr>
<td><strong>Trip Generation (vph):</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weekday AM Peak Hr</td>
<td>1,455</td>
<td>1,455</td>
</tr>
<tr>
<td>Weekday PM Peak Hr</td>
<td>2,233</td>
<td>2,233</td>
</tr>
<tr>
<td>Saturday Midday Peak Hr</td>
<td>2,208</td>
<td>2,208</td>
</tr>
<tr>
<td><strong>Miscellaneous:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age-Restricted Units</td>
<td>303</td>
<td>303</td>
</tr>
<tr>
<td>Workforce Units</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td>Sanitary Treatment</td>
<td>Dorade STP</td>
<td>Dorade STP</td>
</tr>
<tr>
<td>Residents (capita)</td>
<td>1,630</td>
<td>1,630</td>
</tr>
<tr>
<td>School-Age Children (capita)</td>
<td>110</td>
<td>110</td>
</tr>
<tr>
<td>Employees (capita)</td>
<td>2,648</td>
<td>2,648</td>
</tr>
<tr>
<td>Parking Required (spaces)</td>
<td>5,763</td>
<td>5,763</td>
</tr>
<tr>
<td>Parking Provided (spaces)</td>
<td>5,070</td>
<td>5,070</td>
</tr>
<tr>
<td>Total Taxes ($/year)</td>
<td>9,542,145</td>
<td>9,542,145</td>
</tr>
<tr>
<td>School Taxes ($/year)</td>
<td>6,402,779</td>
<td>6,402,779</td>
</tr>
<tr>
<td>School Costs ($/year)</td>
<td>1,406,790</td>
<td>(3)</td>
</tr>
<tr>
<td>Net School Tax Impact ($/year)</td>
<td>+4,995,989</td>
<td></td>
</tr>
</tbody>
</table>

(1) See Appendix C-4.
(2) See Appendix C-3 & Section 1.4.6.
(3) Assuming 2009/2010 level of NYS aid to LCSD.
In addition, the Dorade STP would not be upgraded to provide effluent at a nitrogen level of 8 mg/l, though the current construction program would be completed. As such, this scenario also describes the site’s existing conditions, which are described and analyzed in Sections 2.0 and 3.0.

The site would retain the potential for redevelopment in accordance with its existing zonings (see Section 5.2). It should be noted that the eastern parcel has a valid Preliminary Site Plan approval for 850,000 SF of retail development, known as Brookhaven Walk. The current zoning of the western parcel is for industrial development. Approximately 50% of the uses in the proposed project are permitted uses under the existing zoning. Thus, in this scenario, the potential for reuse under the sites existing zonings would continue.

The public benefits associated with this scenario would be much reduced compared to those of the proposed project. Public benefits of the proposed project stem from both the proposed use of the site as well as from the retention of natural spaces within it, while all of the benefits of the No Action alternative are associated with only its undeveloped condition. That is, the design of the proposed project enables a full range of direct and indirect public benefits to be achieved, while maintaining 35% of the site in existing natural vegetation and thus achieving the benefits associated with retained natural land and the low impact design criteria for a DRS in the CGA. This reflects a prime feature of the PDD concept, which is flexibility of site design to allow for attractive features and characteristics to be provided.

In general, the Town seeks beneficial redevelopment of the site in conformance with the Town Comprehensive Plan Update and the Pine Barrens Plan. This alternative would not achieve this municipal goal. This alternative is also not in keeping with the goals and objectives of the applicant.

5.1.2 Anticipated Resource Impacts

*Topography and Soils* - As no development would occur in this alternative, the existing topographic features of the site, both natural and artificial (associated with prior development and/or clearing) would not be disturbed. As no clearing would occur, no excavations for roadways, foundations, utility connections, particularly the drainage system, or general grading would be necessary, and no impacts to soil resources would occur.

*Water* - In general, the site’s natural surfaces would sustain the site’s recharge function for aquifer replenishment, with minimal potential for adverse impacts to either groundwater or surface water quality. This is due to the absence of pollutants on the site’s surfaces. Because no development would occur, the site’s existing recharge volume of 218.78 MGY would continue, with a nitrogen concentration of 0.08 mg/l.

*Ecology* - This scenario would continue the natural functions associated with the site’s naturally-vegetated surfaces (i.e., 0.76 acres of freshwater wetlands, 139.81 acres of natural vegetation and 125.77 acres of successional vegetation). These areas would continue to provide habitats for wildlife.
Land Use, Zoning and Plans - Here, the site’s land use type and zoning categories would not change, and the parcels would continue to not meet the recommended land uses of the Town Comprehensive Plan Update, the Longwood Mini-Master Plan, or the Pine Barrens Plan.

Transportation - As no development would exist on the site, no vehicle trips would be generated, so no impacts to local roadways or intersections would occur.

Air - As no development would occur on these properties in this alternative, no emissions would occur, so that no impacts to air quality (other than dust raised from the former racetrack site) would occur.

Community Facilities and Services & Economics - As no development would take place in this scenario, no use of schools or public utilities such as energy, solid waste removal or sanitary wastewater treatment would be necessary. The potential need for the public protective services of the SCPD and Ridge and Yaphank Fire Departments would continue, however. For these service providers, the continued generation of property taxes would continue to offset at least a portion of the taxes allocated to these services.

Community Character - Since this scenario would not involve any changes (such as clearing, grading or construction) to the subject site, its appearance would not be changed, and so no impacts to the community’s character would be expected.

5.2 Alternative 2: Development at Existing Zoning

5.2.1 Description of Alternative 2

The overall Alternative 2 scenario assumes that the former racetrack/western parcel is redeveloped in accordance with its existing L-1 zoning (Alternative 2b; see Yield Study) and that the Brookhaven Walk/eastern parcel is developed per the site plan, which received Preliminary Approval from the Town Planning Board in May 2007 (Alternative 2a; see Brookhaven Walk Conceptual Site Plan). Brookhaven Walk had received a SEQRA Findings Statement to Approve from the Town Planning Board (September 25, 2006), and the Pine Barrens Commission issued its SEQRA Findings Statement to Approve on June 26, 2007.

The two projects assumed for this scenario would produce a 1.18 million SF light industrial development and an 850,000 SF retail development on these parcels, respectively. Each of these parcels could be developed at yields that would conform to SCSC Article 6, so that use of on-site septic systems on the eastern parcel would be permitted until a regional STP becomes available. This was demonstrated by approval of the Brookhaven Walk project, which conformed to Article 6 density.

It is also recognized that the Dorade STP is owned by an affiliated LLC of the project applicant, yet is not used by the applicant for any projects under his control (only Colonial Woods/Whispering Pines and SCSD #8 are connected to this STP). There exists a contract requiring the racetrack parcel and the Brookhaven Walk site to connect to an STP; this
requirement was waived by the Suffolk County Board of Review for the Brookhaven Walk approvals, but the waiver retains the requirement that, should treatment become available, development on the subject site would connect to it. If it is not necessary to connect to the Dorade STP, or it is not economically feasible to upgrade the Dorade plant based on use of the racetrack parcel under its existing zoning, it is unlikely that the Dorade STP would be upgraded, and waiver of the contract for the racetrack parcel would also be sought.

This alternative assumes that the Dorade STP is upgraded and maintained to meet the required nitrogen effluent limitation of 10 mg/l, per the current SPDES permit for the 140,000 gpd of flow. The owner, Dorade, LLC will meet its responsibility in maintaining the plant and ensuring compliance, and measures have been taken to date which include reconstruction and treatment improvements. The proposed project involves replacement of the existing Dorade STP and restoration of the original permitted flow of 450,000, which will include the 140,000 gpd of flow that the plant is currently permitted for. Therefore, the contrast between the proposed project and this alternative, is that Alternative 2 will maintain the current flow of 140,000 gpd, at an effluent discharge concentration of 10 mg/l, while the proposed project will take the 140,000 gpd, add it to the 275,050 gpd design flow for the proposed project, for a total design flow of 415,050 gpd (maximum permitted flow of 450,000 gpd) and include treatment of the existing 140,000 and the project flow to a concentration of 8 mg/l. This results in a reduction of 767.66 pounds of nitrogen load as a result of the proposed project as compared with Alternative 2 (see Section 1.4.6).

It is noted that this scenario would be a DRS under the Pine Barrens Plan, and so would have to conform to the 2.5 mg/l nitrogen Standard. Unlike the proposed project, there would be no dedications for Town open or public spaces, and no community center would be provided.

In general, the two parcels would be developed separately and would operate separately; there would be no pedestrian or roadway interconnections between these two sites. This alternative assumes that the same LIE Access Road (featured in the proposed project) would be constructed, connecting Yaphank-Woods Boulevard and the LIE North Service Road; the two parcels would have driveways onto this roadway. The existing wetland area would be retained and integrated into the site layout. The drainage systems would be designed to accommodate the volume of runoff required by Town standards, and would be subject to Town review and approval. Unlike the proposed project, the drainage system on the eastern parcel would be based on subsurface leaching pools and not surface recharge areas; the western parcel would, similar to the proposed project, utilize such open recharge areas, in the southern portions of the developed area.

An internal LIE Access Road similar to that of the proposed project would connect Yaphank-Woods Boulevard and the LIE North Service Road, and both the eastern and western parcels would access this roadway. The western parcel would have two entrances on this internal access road, and the eastern parcel have one, to be placed in the inside curve on this internal access road. Brookhaven Walk, on the eastern parcel, would also have an access on its northern border, off Yaphank-Woods Boulevard. Finally, Brookhaven Walk would feature two access points directly onto CR 46; the northerly access would be configured for rights-in/rights-out, and the southerly access (the main site access for Brookhaven Walk), would be signal-controlled and configured for lefts-in/rights-out.
The site’s open spaces, roadways and drainage systems would remain in private ownership and be maintained by the entities that own the parcels.

Though the overall public benefits associated with this scenario would be greater than those of Alternative 1, they would remain fewer than those of the proposed project. Because Alternative 2 is based on redevelopment of the site, public benefits based upon this redevelopment exist for Alternative 2. However, the nature of the redevelopment, as reflected in the site design of this scenario, restricts the capability of providing the suite of public benefits that would be achieved by the proposed project.

Town comprehensive planning efforts seek beneficial redevelopment of appropriate sites in conformance with the Town Land Use Plan Update and the Pine Barrens Plan. While Alternative 2 would provide acceptable land uses on the site and would conform to the Pine Barrens Plan, it would not achieve this municipal goal as well, as would be the case for the proposed project. As such, this alternative is also not in keeping with the goals and objectives of the applicant.

5.2.2 Anticipated Resource Impacts

*Topography and Soils* - Similar to the proposed project, a grading program would be required, to provide for proper surfaces for development and drainage system operations; this program would range over the central portions of the parcels, and avoid the wetland, associated setback, and the same areas in the north and south, as were to be preserved in the proposed project (in order to meet Town and Pine Barrens Plan requirements). Based on the values in Table 5-2b, this alternative would clear less land within the Racetrack/BW site than would occur in the proposed project (182.63 acres vs. 203.63 acres); however, it is recognized that up to 65% of the overall site could be cleared in conformance with the Pine Barrens Plan, and the final design and clearing would be determined at the time of site plan review of detailed grading, drainage and development plans. This reduction would potentially occur on the presently unvegetated land on the racetrack parcel, and so does not represent a reduced acreage of natural vegetation clearing.

*Water* - The concentration of nitrogen in overall recharge generated would potentially be greater than for the proposed project, due to the use of septic systems. Because the project would be a DRS and would therefore have to conform to the 2.5 mg/l limit of nitrogen in recharge, an additional scenario was examined, based on a reduction in septic system flow sufficient to conform to the nitrate-nitrogen Standard. In this case, the septic flow would be substantially less than the corresponding value of Alternative 2 (47,500 gpd), but the values for recharge volume and nitrogen concentration would be similar (283.49 MGY and 2.49 mg/l, respectively).

*Ecology* - As noted above, an estimated 182.63 acres would be cleared for this alternative of which 138.23 acres would occur on successional vegetation and naturally vegetated surfaces. This represents a clearing of 57.7% of the Racetrack/BW site, which complies with Town and Pine Barrens Plan standards.
Land Use, Zoning and Plans - In terms of overall project feasibility, it is noted that the location of this site is well-suited to commercial development, as two major regional roadways offering safe and efficient access abut the site. In addition, the Town Land Use Plan Update had recommended mixed-use development of the site. However, the Plan Update intended that a mixed-use development including residential use, would be achieved via a PDD, and by use of a comprehensive design. Thus, while the industrial use in this alternative would be appropriate in this location based on land use and accessibility considerations, this use would not be in conformance with the mix of residential, office, office flex, retail and public open spaces represented by the PDD for the proposed project and recommended for the site in the Town Land Use Plan Update.

Transportation - With respect to vehicle trips, the anticipated weekday AM peak hour would see more trips than the proposed project, and the overall peak-hour trip generations would be significantly greater in this alternative than the proposed project for the weekday AM, the weekday PM and the Saturday midday peak hours (by 20.5%, 69% and 73.0%, respectively).

Air - Based on the above-noted increases in peak hour vehicle trips as compared to those of the proposed project, it would be expected that the relative air quality impacts of this alternative would likewise be greater than those for the proposed project.

Community Facilities and Services & Economics - In regard to taxes, this scenario would generate a substantial amount of revenues available for all jurisdictions, though less than would be generated by the proposed project. As this alternative has no residential component, it would not generate any school-age children, so there would be no potential enrollment impact for the LCSD. With respect to school district economics, this alternative would not necessitate an increase in expenditures, so that all school taxes generated in this scenario would be available to the LCSD for use at its discretion. However, due to the inclusion of a substantial number of age-restricted units in the proposed project, the net beneficial fiscal impact to the LCSD would be less for this alternative than that of the proposed project.

Community Character - The impacts of this alternative on the character of the community would be at least comparable to those of the proposed project, as development and use of the sites would be different in nature and appearance, but would be comparable in terms of intensity. The structures would be similar in height as the proposed project, and the overall yields would be similar, but would be provided in fewer, but larger, structures. This would have the visual effect of more mass on the site than for the proposed project. In addition, substantially less landscaping would be provided in this alternative, which would render the buildings more visible to passing motorists and its residential neighbors. Finally, the nature of the industrial development on the racetrack parcel would not tend to include the high level of architectural treatment as would be used for either the Brookhaven Walk parcel or the proposed project, which would further tend to increase visual impacts on community character.

In comparison to the proposed project, there would be much more impervious surfaces in this scenario, and there would be substantially less landscaped area (though there would be more fertilized and irrigated area). There would be similar acreages of natural area preserved. Under the untreated sanitary waste scenario, this scenario would consume less water for domestic
purposes (due to conformance with Article 6), and so would generate less sanitary wastewater, and the amount of water used for landscape irrigation would be less, so that the total amount of potable water used would be significantly less than for the proposed project (96,778 gpd vs. 288,143 gpd).

This scenario would not generate any residents (including school-age children), which are demographic groups represented in the proposed project. There would, however, be a substantial number of new employees under this alternative, which would be greater than the number of employees generated in the proposed project.

5.3 Public Acquisition

5.3.1 Description of Alternative 3

This scenario assumes that the eastern and western parcels are purchased by one or more public entities, for preservation in an undeveloped state; as the Dorade STP parcel is developed as a public utility, it is assumed that this parcel would not be purchased but would remain in utility use.

Overall, this alternative would result in a public amenity (open space), would not involve private investment in the land for development or maintenance, and would not impact traffic or groundwater conditions, but would significantly reduce tax revenues for community services, would significantly reduce property tax allocations to the LCSD, would increase costs to government for property maintenance, would not provide the potential for the repair/upgrade of the Dorade STP, and would likely result in the continuation of nuisance activities, such as motorbike use, on the property. This alternative anticipates a willing buyer, a willing seller and an agreed purchase price. The applicant has not been contacted with respect to any negotiations to purchase the land for public purpose, has not been advised of any appraisals being conducted, and has received no offers to purchase as of the date of this document.

5.3.2 Anticipated Resource Impacts

*Topography and Soils* - If the subject properties were obtained for public open space purposes, no development would occur on them, other than possibly some accommodations for visitor parking and walking trails. The existing topographic features of the site, both natural and artificial (associated with prior development and/or clearing) would not be significantly disturbed. As no clearing would occur, no excavations for roadways, foundations, utility connections, particularly the drainage system, or general grading would be necessary, and no impacts to soil resources would occur.

*Water* - In this scenario, the site’s natural surfaces would continue the site’s existing recharge functions for aquifer replenishment, with minimal potential for adverse impacts to either groundwater or surface water quality. No potable water would be consumed on these properties, and natural recharge would be the same 218.78 MGY as currently exists. This volume would
have a nitrogen concentration of 0.08 mg/l; there would be no artificial sources of nitrogen on-site.

Ecology - If the site were to be preserved as a public open space, the natural habitat functions associated with its vegetated surfaces (i.e., 139.81 acres of natural vegetation and 125.77 acres of successional vegetation) and freshwater wetland would continue to provide habitats for wildlife. These parcels would also continue to undergo natural succession, culminating in a forested condition. Wetland B-16 would be protected to the maximum extent, as it and contiguous lands would remain permanently undisturbed.

Land Use, Zoning and Plans - If the two parcels were purchased for public open space purposes, they would remain in their current uses and physical conditions permanently, and the parcels would not meet the recommended land uses of the Town Comprehensive Plan Update, the Longwood Mini-Master Plan, or the Pine Barrens Plan.

Transportation - Assuming that some level of accommodation would be made for visitors, a small number of vehicle trips would be generated by public open space purchase of this property. However, it is expected that this level of trip generation would not be sufficient to result in a significant impact to the operations of local roadways or intersections.

Air - As no significant level of development would occur on these properties in this alternative, no significant amounts of emissions would occur, so that no impacts to air quality (other than dust raised from the former racetrack site) would occur.

Community Facilities and Services & Economics - As no development would take place in this scenario, no use of schools or public utilities such as energy, solid waste removal or sanitary wastewater treatment would be necessary. The potential need for the public protective services of the SCPD and Ridge and Yaphank Fire Departments would continue, however. For these service providers, the continued generation of property taxes would continue to offset at least a portion of the taxes allocated to these services. It is noteworthy however, that as the two parcels would be publicly-owned in this scenario, they would no longer generate property taxes. In such a case, the significant amount (in excess of $833,000) of annual property taxes presently generated would cease. This would have the adverse effect of reducing the amounts of monies available for local and Town-wide services, particularly to the LCSD. Along with the loss in tax revenues, local government would assume the cost and responsibility for maintaining and policing this property. In addition, as there would be no development of two large properties, there would be no increase in sanitary flow to the Dorade STP, and so no upgrade of this facility would be necessary. In contrast, this alternative would significantly increase the amount and contiguity of natural open space in the area and, in connection with other open spaces nearby and on abutting properties (e.g., Warbler Woods, Southaven County Park, and Wertheim National Wildlife Refuge).

Community Character - Since this scenario would not involve any significant changes (such as clearing, grading or construction) to the subject site, its appearance would not be changed, and so no impacts to the community’s character would be expected.
5.4 Alternative 4: Reuse of Wet Depressions as Town-Designated Wetlands

5.4.1 Description of Alternative 4

This alternative assumes a development that is identical in regard to uses and yields as the proposed project and nearly identical in terms of layout, but retains the wet depressions located in the former racetrack parcel (0.22± acres within the former racing oval), and along the William Floyd Parkway (0.02± acres) to be incorporated into the project’s on-site drainage system. This alternative was suggested by the Town, as the Town considers these features to be regulated freshwater wetlands, so that conformance with Standards 5.3.3.5.2 through 5.3.3.5.5_ of the Pine Barrens Plan would be possible. The **Land Use and Development Plan – Alternate 4 (in a pouch at the rear of this document)** depicts this alternative. In order to accommodate the wet depression within the former racing oval, one of the seven office structures in this area was eliminated (its yield was added to four of the remaining six buildings, which required slight changes in their footprints but no height increases), and internal adjustments in the associated parking areas. For the small wet depression along CR 46, a slight realignment of the proposed stormwater pond/wetland system here was necessary. In general, the physical parameters and characteristics of this scenario are nearly the same as those of the proposed project; the only differences are related to coverages for buildings, paving, lawn/landscaping, pitch pine-oak forest and wetlands, and in the SONIR model recharge calculations.

The overall public benefits associated with this scenario would be substantial and generally identical to those of the proposed project.

5.4.2 Anticipated Resource Impacts

**Topography and Soils -** A site clearing/grading program nearly identical to that of the proposed project would be necessary for this scenario; the only difference is that the estimated 0.22 acre wet depression in the former racing oval would not be disturbed, and modified design south of the CR 46 entrance road so that the 203.63 acres to be cleared in the proposed project would be reduced by that value, to 203.41 acres. No adjustment is necessary for the smaller wet depression area, as it is not in an area that would have been cleared in the proposed project.

<table>
<thead>
<tr>
<th>Type</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paved</td>
<td>36.55</td>
</tr>
<tr>
<td>Unvegetated</td>
<td>22.81 acres (23.03 acres less 0.22 acres of wet depression)</td>
</tr>
<tr>
<td>Successional Vegetation</td>
<td>125.77 acres</td>
</tr>
<tr>
<td>Natural Vegetation</td>
<td>18.28 acres</td>
</tr>
<tr>
<td><strong>Total Cleared</strong></td>
<td><strong>203.41 acres</strong></td>
</tr>
</tbody>
</table>

This program would range over the central portions of the parcels, and avoid the currently-mapped 0.76-acre wetland and its associated setback, and the same areas in the north and south, as were to be preserved in the proposed project (in order to meet Town and Pine Barrens Plan requirements).
**Water** - As this alternative assumes the same uses and yields as the proposed project, and would irrigate the same amount of landscaping (32.00 acres assumed), the same amount of potable water would be used and the same volumes of domestic and sanitary wastewater would be generated. It is assumed that this alternative would utilize the Dorade STP for treatment and disposal of its wastewater. The slight differences on physical coverages would result in slight differences in stormwater recharge, so that this scenario would recharge 350.02 MGY, where the proposed project would recharge 351.29 MGY. The amounts of fertilized landscaping and wastewater would be unchanged from the proposed project, but the amount of nitrogen in stormwater recharge would vary from the proposed project (as total impervious surface area is slightly less in this scenario), so that the total amount of nitrogen in recharge would be slightly less than the proposed project. In combination with the decreased recharge volume in this scenario, the overall nitrogen concentration in recharge would be only slightly greater than that of the proposed project (2.21 mg/l vs. 2.20 mg/l).

**Ecology** - As shown above, an estimated 203.40 acres would be cleared for this alternative, of which 144.04 acres would occur on now-vegetated surfaces (successional vegetation and natural vegetation). This represents a clearing of 63.10% of the BW/Racetrack site, which complies with Town and Pine Barrens Plan standards. The isolation of this wet depression within a large parking area, as well as the proximity of six large office buildings, would severely limit the ecological and/or habitat value of this area for wildlife. In addition, the phragmites vegetation in this area is unwanted by the Town, as this is classified by the Town as an invasive species. A small wet depression near CR 46 would also be retained; however, this area is in a narrow buffer area between the proposed clearing and development areas approved for Brookhaven Walk, and proximate to CR 46.

**Land Use, Zoning and Plans** - This scenario matches the proposed project with respect to potential impacts to the local land use pattern, conformance to zoning regulations, and conformance to recommendations of the applicable land use plans to the same degree as the proposed project. However, based on the applicant’s experience, the presence of the wet depression in close proximity to the office uses would severely limit the marketability of these spaces for prospective tenants.

**Transportation** - The uses and yields of this alternative would be identical to those of the proposed project; the locations of vehicle access points, trip generation, and roadway improvements would also be unchanged. As a result, it is expected that the traffic-related impacts of this scenario would be the same as those of the proposed project as well.

**Air** - As the number and pattern of vehicle trips would be the same for this alternative as those for the proposed project, it is expected that the potential for impacts on air quality from vehicle emissions would be the same as well.

**Community Facilities and Services & Economics** - As the characteristics relevant to community services of this alternative would be unchanged from those of the proposed project (e.g., uses, yields, demography, assessed values, etc.), it is expected that its impacts related to community services would be the same as those of the proposed project as well. This scenario would generate the same substantial increase in taxes for all jurisdictions as the proposed project. As
this alternative has a residential component, it would generate the same 2,648 employees, 1,630 residents and 110 school-age children as the proposed project, so there would be a potential enrollment impact for the LCSD, along with an increased level of school district expenditures. Offsetting this increase however, the increased school district tax allocation would compensate for a substantial portion of these expenditures. It is expected that this scenario would utilize the Dorade STP for wastewater treatment and disposal, necessitating the same upgrade program as the proposed project. Increased consumptions of energy and increased generations of solid wastes would match those of the proposed project.

Community Character - Because this alternative is nearly identical to the proposed project in terms of uses, yields and physical layout (and building design, architecture, use of materials and landscaping), it is anticipated that this scenario would result in the same level of visual impact as the proposed project. The only differences between this scenario and the proposed project that are relevant to community character are the retention of the two wet depressions, elimination of one office building, rearrangement of the adjacent parking areas, and minor shifting of two other office structures. This supports a conclusion that the impacts of this alternative on the character of the community would be comparable to those of the proposed project.
SECTION 6.0
REFERENCES
6.0 REFERENCES


Grubb & Ellis, Office Trends Report - Third Quarter, 2009, Long Island, NY


New York State, 1987, (revised January 1996) *State Environmental Quality Review*, 6 NYCRR Part 617, Environmental Conservation Law Sections 3-0301(1)(b), 3-0301(2)(m) and 8-0113, Albany, NY


NYSDEC, 1987, *Well Permit Data Base*, list of Suffolk County Well permits, NYSDEC, SUNY @ Stony Brook, New York.

NYSDEC, 2001, Threatened and Special Concern Species of New York State, NYS DEC Endangered Species Unit, Delmar, N.Y.


NYSDEC, 2003, SPDES General Permit For Stormwater Discharges from Construction Activities, Permit No. GP-02-01, New York.


NYSDEC, Undated, Water Quality Regulations -Surface Water and Groundwater Classifications and Standards, New York State Codes, Rules, and Regulations, Title 6, Chapter X, Parts 700-705, Section 703.5 Classes and Quality Standards for Groundwater, NYSDEC, Albany, New York.


NYSDOT, Section 1.A; NYSDOT Environmental Procedures Manual, October 1995. NYSDOT Environmental Analysis Bureau, Air Quality Section.


Real Property Tax Service Agency, Subscriber Map Album, County of Suffolk, 1997.


Rutgers University, Center for Urban Policy Research, Residential Demographic Multipliers, Estimates of the Occupants of New Housing, New York, Robert W. Burchell, Ph.D., David
Listokin, Ph.D., William Dolphin, MA, Edward J. Bloustein School of Planning and Public Policy, June 2006


SCDHS, 1997, *Contour Map of the Water Table and Location of Observation Wells in Suffolk County, New York, 1997*, Division of Environmental Health Services, Hauppauge, New York.


