SECTION 4

Mitigation

4.0 MITIGATION

This section of the DGEIS addresses the various ways in which the potential environmental impacts of the proposed action are, can be, or will be mitigated through detailed site plan design, permit and approval conditions, and the implementation of various safeguards and impact reduction strategies. All construction projects have environmental impacts. The severity of these impacts, however, depend on the exact scale, nature, and design of the development or action, its location, the types of existing physical features and environmental resources that will be affected, site conditions (e.g., level of previous disturbance), and other factors.

Many identified impacts are or will be avoided or mitigated through careful planning and thoughtful site design. Mitigation strategies for significant environmental impacts must be sufficient to reduce the level of harm to acceptable levels and to ensure that cumulative impacts are not such as to result in a major unmitigated impact. Section 617.2(x) of the State Environmental Quality Review Act (SEQR) defines "mitigation" as "a way to avoid or minimize adverse environmental impacts". SEQR specifically requires all lead agencies to incorporate appropriate measures to achieve State mitigation objectives as part of any Type I or Unlisted action that is undertaken, thereby, making the substantive requirement for mitigation one of the most important aspects of the SEQR process.

In order to issue Positive Findings[1] during the final stage of the SEQR review, thereby certifying satisfactory completion of the SEQR process and allowing for the possible approval of an action that has been the subject of a Final Environmental Impact Statement, each involved agency must:

> *certify that consistent with social, economic and other essential considerations from among the reasonable alternatives available, the action is one that avoids or minimizes adverse environmental impacts to the maximum extent practicable, and*

> *that adverse environmental effects will be avoided or minimized to the maximum extent practicable by incorporating as conditions to the decision those mitigative measures that were identified as practicable*.

Conversely, when the findings of an EIS do not support the preceding determination, the agency is compelled to issue "Negative Findings", which indicate that the subject action is one that does not avoid or minimize adverse environmental impacts to the maximum extent practicable. Actions that are not supported by Positive Findings are not approvable.

Analysis of the information provided in this DGEIS demonstrate that adoption of the proposed zoning revisions, with its many attendant safeguards, guidance borne from the SEQR review, and in balance with various socioeconomic considerations, will not result in any significant adverse environmental impacts. Moreover, further mitigation may be available at the development stage as a result of the institution of minor adjustments and safeguards that may arise during refined final site plan, architectural, SCDHS, and other reviews.

4.1 GEOLOGY

The property is located on a glacial outwash plain associated with the Peconic River drainage system. Topography is flat-to-gently sloping. Minor grading may occur on the site to ensure suitable building locations, roadways, and site drainage. No significant geologic or geomorphic features occur on-site and no impacts to site geology or surface landforms are anticipated from the property. Two small wetlands or drainage depressions will remain undisturbed and be protected from direct developmental encroachment through the establishment of a mandatory wetlands buffer and various protective restrictions that will be documented through a Town-issued wetlands permit and the filing of a conservation easement and/or covenants and

[1] A positive findings statement demonstrates that "consistent with social, economic and other essential considerations, from among the reasonable alternatives, that the proposed action: a. minimizes or avoids adverse environmental effects to the maximum extent practicable, and b. incorporates into the decision those mitigation measures identified as practicable in the SEQR process" (NYSDEC, 1982). Negative findings would suggest a failure to meet the above standards.

restrictions with the final site plan. The site will be served by a community water supply rather than private wells.

4.1.1 TOPOGRAPHY

The topography of the site is flat-to-gently sloping with no steep slopes. The nature of the site's topography reveals that no steep slopes will be disturbed, no topographic constraints to development are present, and no extraordinary slope stabilization requirements need to be employed. Elevation change across the property ranges between 8 and 25 feet amsl and some minimal grading may be necessary to allow for building and road construction. Although slopes are relatively insignificant on site, there will be a tendency for stormwater on some impervious surfaces (e.g., paved roadway) in certain areas to flow toward low-lying areas such as the two small wet depressions or wetlands on the site, depending on final finished grade. Adequate grading and the use of structural and non-structural drainage infrastructure to capture and recharge surface and roof runoff will help to eliminate this concern. Development must be directed as far away from the wetlands as possible in order to maximize non-disturbance buffers but in no case should the minimum wetland buffer be less than 10 feet and should in all instances be the maximum distance possible. Use of catch basins, leaching pools, and nonstructural vegetated swales and filter strips or recharge areas that can accommodate a 2-inch 24-hour storm must be installed. Future development must also comply with a NYSDEC approved Stormwater Pollution Prevention Plan (SWPPP) and NYSDEC issued Stormwater Pollution Elimination Systems (SPDES) permit for the disturbance of more than one acre of land.

A Town wetlands permit must be issued to allow for development and other related actions within 200 feet of the two identified wetlands. Silt fencing backed by staked hay bales, requirements for paving, building construction, seeding, revegetating, and other means of soil stabilization immediately after disturbance are necessary to prevent soil erosion and deposition of sediment into the wetlands. The project will also require a NYSDEC approved Stormwater Pollution Prevention Plan (SWPPP) and NYSDEC-issued Stormwater Pollution Discharge Elimination Systems (SPDES) permit for the disturbance of more than one acre of land.

4.1.2 SOILS

Three soil types were identified on-site: Carver and Plymouth soils, 0 to 3 percent slopes (CpA), Deerfield sand (De), and cut and fill soils (CuB) (USDA, 1975). Carver and Plymouth soils are the primary native soil type identified on-site. These soils are described as deep, excessively drained, coarse-textured sands (USDA, 1975). The cut and fill soils are variable in their characteristics, but encompass a large portion of the former drive-in site. The Deerfield sands are located in the areas containing wetlands and are thus considered unsuitable for development and generally supportive, although in this case, somewhat limited in size, of important environmental resources (i.e., wetlands). The small areas of moderately- to poorly- drained soils that contain wetlands (i.e., Deerfield sand) will not be directly affected or built upon. All soils in areas outside of wetlands, where construction or installation of sewage or stormwater is to occur, and that are not ideally suited for use should be replaced with suitable materials to ensure suitable percolation rates and disposal capacity. Although slopes are gentle and limited in extent, and erosion potential is slight, soil erosion and sedimentation controls should be instituted during site preparation and construction in order to appropriately mitigate erosion, sediment transport, and siltation of wetlands. Methods to mitigate potential soil impacts include:

- Installation of silt fencing backed with staked hay bales;
- Replacement of silt and sediment accumulated behind silt fences;
- Avoidance of soil disturbance where possible, including the erection of project limiting fences to avoid unnecessary encroachment into areas to remain natural;
- Limits on clearing to only what is necessary to implement the plan;
- Limits on the time spans and areas that are cleared and exposed to the elements at any particular time;
- Reseeding, construction or paving of disturbed areas as soon as possible after disturbance to ensure soil stabilization;
- Use of stormwater control systems that meet the Town Code's minimum engineering specifications, as well as the approval of the Town Engineer and Planning Board of all drainage systems. Drainage designs should be sufficient to accommodate a minimum 2-

inch, 24-hour storm. Utilize natural areas where possible to slow the velocity of urban runoff and recharge collected roof and surface runoff into the ground via catch basins and leaching pools or leaching catch basins, and drywells or via an approved advanced stormwater collection and treatment device;

- Full compliance with all requirements of NYSDEC SPDES permits for site soil disturbance and implementation of an approved SWPPP; and
- Full compliance with all Town wetlands permit standards and conditions.

4.2 WATER RESOURCES

4.2.1 GROUNDWATER

The project site is located within an area identified as a Central Pine Barrens Compatible Growth Area (CGA), Suffolk County Special Groundwater Protection Area (SGPA), and the Town's Aquifer Protection Overlay (APOD) and Central Pine Barrens Overlay Districts (CPBOD).[2] These special area designations and their associated standards and restrictions were established to ensure the protection of the underlying sole source aquifer and its deep recharge areas. Although these special resource management areas were created to address groundwater (and ecological) resources in this area, the two large vacant tracts of land comprising the currently developable portion of the site (i.e., Sites "A" and "B" as described and delineated by Hutton Associates, 2005) have also been designated as TDR receiving areas that would allow for additional development densities and perhaps meet other Town goals such as advancing community development and revitalization efforts so as to enhance social and economic conditions.

The site is situated within SCDHS Groundwater Management Zone III as delineated by SCDHS (1987). Developments within Groundwater Management Zone III that utilize conventional on-site sewage disposal systems (i.e., septic systems) are restricted to 300 gallons per day (gpd) per

[2] The CPBOD consists of the Town's standards and regulations for implementing the Central Pine Barrens Comprehensive Land Use Plan.

40,000 square feet of land area. Site A (SCTM 900-141-1-9.2) and undeveloped portions of Site B (900-139-3-10.2) as described by Hutton Associates (2005), and the remaining portion of the proposed MUPDD total 53.3 acres (35 acres, 13.4 acres, and 4.9 acres, respectively).[3] Subtracting the portions of the property that contain wetlands (approximately 0.3-acre) as required by SCDHS (1988) yields an adjusted gross land area of approximately 53 acres. The SCDHS calculation method for estimating the site's population density equivalent also requires that just 75 percent of the adjusted gross land area that is to be devoted to multiple residential units be used for the calculation. Using this standard reveals a total adjusted gross land area of 13.4 x 0.75 = 10.05 acres for an adjusted total of 49.65 acres. Taking this land area and multiplying it by the maximum permissible sewage flow allowed by the SCDHS in Groundwater Management Zone III of 300 gpd per 40,000 square feet reveals a maximum permissible conventional sewage flow of 16,221 gpd over the MUPDD.[4] However, the estimated combined maximum wastewater flow on Sites A and B would be 38,107 gpd or more than twice the maximum allowable for conventional systems.

Zoning and projected sewage flow are primary controlling factors in determining the maximum development density of a site, not to mention the potential health and environmental effects of a development. However, use of a municipal or district sewage treatment facility or approved alternative waste disposal systems, PDD zoning flexibility based on specific project designs and the implementation of performance standards, and the transfer of development rights or wastewater credits can result in or allow for increased development density and sewage flow on a site. Such densities may be acceptable if socioeconomic goals are being sought, SCDHS approvals are obtained and public health is clearly protected, and overall environmental impacts are suitably mitigated. In regard to district yield, the Town Code, § 330-246 B., *Development standards for specific PDD classifications: Mixed Use Planned Development Districts (MUPDD)* allows for or limits maximum yield as follows:

[3] Other (smaller) portions of the MUPDD are currently developed (e.g., Southampton head Start) and already contribute wastewater flow to their respective lots in accordance with SCDHS requirements.
[4] This does not include future development or redevelopment in the proposed overlay districts which are assumed to be self-sufficient.

The resultant yield of an MUPDD shall be the sum of the receiving parcel yield plus the density obtained from the transfer of development rights or PBCs from any sending parcels as set forth in this chapter. Each development right or Pine Barrens credit shall be equivalent to a sewage flow rate of 300 gallons per acre per day as described in the Suffolk County Department of Health Services standards and/or up to a two-percent increase in building coverage, floor area, height or building mass. However, there shall not be an overall increase in building coverage, floor area, height or building mass greater than 10% over the requirements of the underlying zone (i.e., where 30% is the maximum coverage in the underlying zone, a maximum of 40% may be permitted).

Notwithstanding the provisions of the aforementioned subsections, the yield of the building coverage, floor area, height, or building mass may be increased, at the discretion of the Town Board, to achieve any of the goals set forth in this chapter, or to provide for community benefits or public facility that satisfies an identified public need as recommended by the Comprehensive Plan or as established by the Town Board, excluding common and/or requisite public improvements. New York State Law permits the Town to utilize incentive zoning for the purpose of obtaining community benefits. New York State law § 261-b of the State of New York defines "community benefits or amenities" as "open space, housing for persons of low or moderate income, parks, elder care, day care, or other specific physical, social or cultural amenities, or cash in lieu thereof, of benefit to the residents of the community authorized by the Town Board." The Town's Master Plan recommends that the use of a planned development district (PDD) zoning for large senior housing or multi-family housing developments, whereby additional density can be achieved through the transfer of development rights (TDRs) or Pine Barrens Credits (PBCs), such that there is no substantial increase in the number of dwelling units or population within the Town because development has been redirected in order to channel growth and preserve more ecologically sensitive lands.

The *Riverside Hamlet Center Plan* would allow dense development with the potential for some relatively intensive commercial, industrial, and multi-family land uses including moderate- and middle-income dwellings. The development strives to meet various community objectives that are social, cultural, and economic in nature.

One of the primary concerns associated with the proposed development and groundwater quality is the management of wastewater. Since no municipal sewage treatment plants are available in the area to accept the site's wastewater flow, sewage must be handled and disposed of on-site. The Hamlet Center Plan recommends that future development in the MUPDD be supported by two sequencing batch reactor (SBR) sewage treatment facilities (or *Chromaglass* systems) to manage the sewage generated on-site. This flow is proposed to be handled by two alternative underground wastewater treatment facilities (one each for Block I and Block II) and individual conventional septic systems on Block III, the industrial area. SBRs provide advanced sewage treatment over typical septic systems. They reduce biological oxygen demand (BOD) and total suspended solids (TSS), and are particularly noted for their removal of nitrogen through the process of denitrification when the systems employ a denitrification phase.

CA obtained general system specifications from the manufacturer of the Chromaglass system. A review of the literature indicates five steps in the typical cycling of wastewater including: fill/aeration, aeration, denitrification, transfer/settling, and discharge. However, the manufactures specifications indicate that the denitrification phase is optional. Due to the importance of decreasing nitrogen loads to the sole source aquifer and Peconic Estuary, it is considered imperative that the denitrification phase be included as an essential part of the treatment process.[5]

[5] High levels of nitrates and nitrites in drinking water can have adverse health effects. This is particularly true of infants who can develop a condition known as methemoglobinemia. Nitrate in coastal waters such as the Peconic Estuary can cause eutrophication and reduction in the water's dissolved oxygen levels. Low levels of dissolved oxygen can cause hypoxia (lowered levels of oxygen) or anoxia (no oxygen) in the water. Hypoxia and anoxia can and do adversely affect aquatic and marine life.

The Chromaglass system is a SCDHS approved alternative disposal system. However, it does require the issuance of a variance. General descriptive information regarding the Chromaglass system is as follows:

- It is a modular fiberglass system that is completely underground with the exception of manhole covers that show at the surface and an approximately 12-foot by 12-foot above ground control/panel shed that can be easily screened;
- The system must be managed by a licensed operator who is available 24 hours a day and 7 days a week;
- The system requires that a SPDES be granted from the New York State Department of Environmental Conservation to regulate effluent quality and quantity;
- Effluent is periodically sampled by the system operator;
- SCDHS regulations limit the capacity of each system to no more than 15,000 gallons per day;
- Parking lots and buildings can not be constructed over the system;
- A public water supply must be provided to serve the development;
- The system must be accessible by a wastewater truck as it must be periodically pumped and maintained; and
- The system must conform to specified SCDHS setback requirements.

The scale and intensity of the proposed development with total "upper" wastewater flow estimates of 32,430 gpd for the two blocks containing Chromaglass systems indicate that the anticipated maximum flow would exceed the systems' capacities. This circumstance, therefore, warrants either:

- construction of a standard "community" sewage treatment plant (STP) that will safely accommodate this volume;
- a scaling down of the maximum development yield to a density that can be supported by the two Chromaglass treatment facilities and conventional systems;

- construction of Chromaglass systems that exceed the current maximum capacity of 15,000 gpd, although this would require a variance from SCDHS;[6]
- construction of a third SBR, although this would require a variance from SCDHS;
- use of more conventional sewage facilities to address the overcapacity of the Chromaglass units;
- restrictions on certain wet uses in order to ensure appropriate flow levels; or
- a combination of the above.

Construction of a "community" tertiary sewage treatment plant (STP) has particular merit as it could also be retrofitted to serve other development in the Riverside community and allow for more centralized, efficient, and potentially effective waste management. A community STP, while potentially a considerable investment, would accommodate the proposed Hamlet Center development, other large pending nearby development (e.g., Rivercatwalk MPDD), existing nonconforming systems associated with dense development, and help in achieving some of the nitrate loading and future total maximum daily loads (TMDL) of nitrogen proposed by SCDHS's Peconic Estuary Program. Public funding, such as matching grants may be available for such a project.

Any and all wastewater issues must ultimately be found acceptable and approvable by the SCDHS which requires early input and involvement from the SCDHS.

Other means to mitigate the impacts of high density development and associated sewage flows include:

1) Seek to acquire adjacent lands and preserve these properties as undeveloped, sterilized, open space, thereby increasing the permissible sewage flow on the overall site and assuring greater conformance to SCDHS maximum flow standards,

[6] It is CA's understanding that the SCDHS is currently considering increasing its maximum Chromaglass system capacity standard from 15,000 gpd to 18,000 gpd, although such a standard has not been officially established.

while precluding flow on other sites in order to strike a regional balance of discharge (Hutton, 2005);

2) Utilize the transfer of development rights (TDR) land management technique. The subject property (Sites A and B) is located within a designated Central Pine Barrens TDR Receiving Area. The site's status as a TDR receiving area provides opportunities for the redemption of transferred development rights (also referred to as wastewater credits by the SCDHS) from land located in environmentally sensitive and significant "sending" areas such as the Central Pine Barrens Core Preservation Area, Pine Barrens Critical Resource Area or other valued site to the project site. This approach provides an opportunity to meet a variety of socioeconomic and public and environmental health goals and can provide benefits to both the sending and receiving area property owners (Hutton, 2005).
3) Reduce wastewater discharges by incorporating water conservation techniques that lessen water use and wastewater generation.

In addition to receiving SCDHS input and approval, a referral should be made to the Suffolk County Planning Commission, particularly in regard to the rezoning and issues relating to the Central Pine Barrens and sole source aquifer protection.

Maintaining native woodlands and limiting clearing to the maximum extent practicable can have a positive effect on groundwater quality. The project site is within the Town's APOD and designated Central Pine Barrens and is subject to clearing restrictions in order to address this issue. According to § 330-67, *Protection of natural vegetation*, clearing on the subject property is restricted to 50 percent of the site. Based on this standard and the estimated clearing depicted on the conceptual site plan of 68 percent, the proposed project exceeds the Town's standard by approximately 36 percent of the maximum allowed (i.e., 136 percent of the maximum standard). Despite this exceedance of the clearing standards, a number of mitigative strategies are proposed to protect local groundwater supplies including innovative wastewater and stormwater management techniques, wetlands protection strategies, and others. The use of TDRs or other mechanisms for preserving open space off-site, thereby balancing overall Town development,

density, and clearing is an especially appropriate tool for meeting the purpose and goals of Town clearing restrictions. The fact that the site is designated as a TDR receiving area and has been identified and supported in several of the Town's studies and adopted plans as a future growth center to address other important municipal responsibilities (i.e., various social and economic opportunities), factors into any decisions regarding the amount of clearing necessary to achieve and balance the Town's most critical concerns. Section 617.1 (d), *Authority, Intent and Purpose,* of SEQR expressly permits and promotes the balancing of environmental factors with social and economic considerations as part of the decision-making processes of agencies.

Other means for mitigating potential impacts to groundwater include:

- Installing water conservation fixtures and devices for both indoor plumbing and outdoor irrigation to help reduce water consumption and wastewater flow that would otherwise have to be treated by the proposed sewage facilities;
- Limiting outdoor areas that will require watering by retaining natural vegetation to the maximum extent;
- Constraining site clearing to the maximum extent practicable. Restoring disturbed areas and landscaping with native plant species that are adapted for survival at the site and have limited water demands;
- Limiting the number and extent of areas with nonnative, poorly adapted vegetative landscaping to reduce the need for fertilizers and pesticides. No more than 15 percent of the property should be planted with fertilizer dependent vegetation such as certain grasses;
- Strictly complying with all SPDES effluent permit requirements for the on-site "community" wastewater treatment and disposal systems;
- Strictly observing all SPDES permit requirements for soil disturbance as well as the approved NYSDEC SWPPP; and
- Using stormwater collection and treatment devices that comply with minimum Town engineering standards and meet the approval of the Town Engineer and Planning Board. Stormwater controls must also be consistent with a NYSDEC approved SWPPP, a NYSDEC soil disturbance SPDES permit, and Town wetlands permits.

- Consider incorporating vegetated swales, filter strips, and state-of-the-art treatment technologies and best management practices (BMPs). Examples of BMPs are provided in the *New York State Stormwater Management Design Manual* (NYSDEC, *et al.* 2003-a).

4.2.2 SURFACE WATERS

With the exception of some limited seasonal or intermittent standing water in the two small wet depressions identified on the Hamlet Center property, no surface waters occur on-site. The property is, however, located in close proximity (approximately 800 to 900 feet) from the tidal portion of the Peconic River and Estuary which have numerous environmental and ecological distinctions. Separation of the project site from the Estuary by the "raised" Flanders Road (S.R. 24) right-of-way has prevented the establishment of a direct surface water or wetland connection to Estuary.

The Estuary is protected and managed in large part through the Peconic Estuary Program's (PEP) 2001 *Comprehensive Conservation and Management Plan* (CCMP) and its various guidelines. The CCMP contains a number of goals and objectives directed toward reducing nitrogen loading to the western portion of the Estuary, including the mouth of the Peconic River and Flanders Bay, due to historically high concentrations of nitrogen and corresponding low concentrations of dissolved oxygen. The CCMP strives to ensure no net increase of nitrogen in the Bay and an eventual decrease in overall nitrogen levels in this area to return the bay to more normal dissolved oxygen concentrations.

At the time of the writing of this document, total maximum daily load (TMDL) standards were being considered by the County. However, no TMDLs were in effect. Although the site is within the Peconic Estuary watershed and poses some potential threats to water quality, particularly in terms of soluble and mobile forms of nitrogen that are not easily attenuated without treatment, the site is at least 800 feet from the river at its closest point. Using alternative wastewater treatment facilities such as sequencing batch reactors or standard above ground sewage treatment plants will greatly reduce nitrogen loading, while diffusion and dilution

processes in the subsurface can also reduce concentrations. Restrictions on the use of fertilizer dependent vegetation (no more than 15 percent of the site) and installation of stormwater BMPs will also greatly reduce nitrogen loading from the site.

The CCMP also addresses impacts to water quality from pathogens such as certain bacteria and viruses. Pathogens are of concern as they can affect human health through direct and indirect contact and cause water use restrictions (e.g., swimming, canoeing/kayaking, etc.), as well as economic impacts stemming from the closure of shellfish beds and a possible loss of contact recreational activities and tourism. The Peconic River and Flanders Bay are closed to shellfishing due to concerns over pathogens in the water.

Table 5-5 of the CCMP, *Pathogens Management Actions*, lists various actions that should be taken to mitigate or eliminate further degradation of the Estuary's waters from pathogens. The actions are listed under a number of general subject headings relating to stormwater runoff, sewage disposal, and various other coastal and open water topics. Sources of pathogens are many, but are often associated with sewage and point and non-point stormwater discharges, not to mention large populations of wildlife or farm animals.

The CCMP also addresses potential water quality impacts from toxic contaminants. "Toxics" are substances that are harmful to living organisms when they are exposed at certain levels. For the purposes of this discussion, pathogenic (harmful) organisms are considered separately. Toxic contaminants are of interest as they can affect water quality, harm fish and wildlife, and affect human health if they are ingested. Toxic chemicals can include pesticides, oils, gasoline, solvents, industrial chemicals, metals, and other harmful substances which can be introduced into water via stormwater runoff, infiltration into groundwater, direct point discharge, or settling of windborne pollutants. The proposed MUPDD legislation includes important land use controls which preclude the establishment of light industrial manufacturing uses in the MUPDD. This prohibition can help to reduce the potential for toxics contamination from commonly "heavier" or more intensive manufacturing land uses.

To address general wastewater pollutant concerns SBR (e.g., Chromaglass) systems and large communal or municipal STPs require a NYSDEC-issued SPDES permit. The permit requires effluent monitoring and establishes discharge flow and water quality standards for various applicable parameters depending on the nature of the discharge. As an example, maximum effluent nitrate levels at the discharge point should not exceed a concentration of 10 mg/l (the State's maximum contaminant level (MCL) standard for drinking water), with additional anticipated dilution as the nutrient travels and disperses toward the estuary.

Clearing is an important surface water protection issue as also mentioned in the "Groundwater" section, especially since the site is within a Central Pine Barrens Compatible Growth area and the Town's APOD. Vegetation is important for stabilizing soils, absorbing and/or transforming pollutants, and promoting evaporation, transpiration and recharge. These qualities will be diminished by the fact that the proposed project will exceed the maximum clearing permitted by as much as 11.8 acres within the proposed MUPDD. As previously noted, the site is also a designated TDR receiving area that allows for dense growth if development rights, wastewater, or pine barrens credits are transferred from the pine barrens core or other environmentally valuable or vulnerable sending areas. Use of non-fertilizer dependent vegetation would be helpful in lessening nutrient loading, particularly phosphorus and nitrogen which can have environmental repercussions, as well as rare human health concerns in infants in the case of nitrogen.

Proper stormwater controls, including a system that can accommodate the flow of a 2-inch, 24-hour storm and which conforms to Town specifications and Town engineering approvals must be provided. In addition, a NYSDEC SPDES permit must be obtained since the project involves the disturbance of more than one acre of soil. Conditions of this permit must be strictly adhered to in order to ensure the maximum practicable stormwater treatment and erosion and sedimentation control. Moreover, a SWPPP must be specifically prepared for the site and be determined acceptable by NYSDEC prior to commencing site work.

Use of TDRs or pine barrens credits to offset development density and impacts in the area would provide additional local environmental benefits by protecting critical environmental and ecological resources such as groundwater, surface waters, wetlands, wildlife habitat, and open space. Any "significant" fuel or chemical storage or operation that handles, transports, or stores other potentially hazardous materials that could affect the environment, will be subject to the regulations of the NYSDEC, including underground and above-ground storage requirements and regulations relating to the Resource Conservation and Recovery Act (RCRA) as implemented by the State.

The project involves the use of up to two sequencing batch reactors to treat sewage generated by the site. Sequencing batch reactors such as Chromaglass systems can reduce nitrogen loading significantly below the effluent concentrations of conventional septic systems. Chromaglass sewage treatment systems have been shown to deliver effluent with an average total nitrogen concentration of 7.8 mg/l or roughly 75 percent of the 10 mg/l standard for nitrate alone, thus providing a good level of mitigation over conventional systems (SCDHS, 2004-a). It also meets the maximum standard 10 mg/l standard required by SCDHS under Article 6, §760-607 C. of the Suffolk County Sanitary Code. The systems will also be subject to a NYSDEC SPDES permit which will include requirements for monitoring, recording, reporting, and meeting of flow and certain effluent concentration parameters.

Pollutants associated with stormwater and/or industrial chemicals are always a concern, particularly when the pollutants are toxic to living organisms, persistent in the environment, and readily mobile, and the soils or surface conditions are susceptible to runoff or rapid infiltration to a shallow groundwater system. The project must have a suitable drainage system to collect, detain, treat, and recharge stormwater on-site. Available alternative stormwater control systems including both structural and non-structural techniques can increase treatment effectiveness and provide greater environmental protection. BMPs such as vegetated swales, filter strips, and state-of-the-art structural stormwater controls can:

- capture and retain stormwater on-site;

- promote nutrient uptake and biological breakdown of organic materials by introducing them to soil microbes (particularly in the case of non-structural/vegetative structures);
- maximize the removal of suspended solids, and
- enhance stormwater filtration through soils by increasing separation distances between recharge areas and seasonally high groundwater levels.

Site plan review, public education, and strict conformance with the conditions of all required permits from SCDHS and NYSDEC can help to ensure that materials associated with light industrial land uses such as (e.g., small quantities of solvents) are properly controlled. Use, storage, handling, and disposal of any chemical or hazardous or toxic substance, regardless of their quantity, can adversely affect the environment. That is why it is important that all such substances are used and stored in conformance with manufacturer's directions, State laws, and Fire Marshal and/or Fire District recommendations. Storing potentially hazardous supplies in appropriate containers, where there are impervious surfaces, the absence of floor or other drains, and secondary containment will be effective at preventing spills or leaks from entering the environment.

Pollutants associated with stormwater are always a concern, particularly when the soils or surface conditions are susceptible to runoff or rapid infiltration to a shallow groundwater system and the pollutants are toxic to living organisms and are persistent and highly mobile in the environment. Future site development will be required to have a suitable drainage system to collect and maintain stormwater on-site and allow for filtration and, in undisturbed areas, pollutant uptake by plants.

Clearing of one acre or more also triggers a requirement for a SPDES stormwater permit and the preparation and NYSDEC approval of a SWPPP. Periodic maintenance of stormwater structures by both public and private entities, as applicable, will also improve the functionality of runoff management systems and the quality of stormwater recharge. Finally, providing public education materials to future managers of multi-family housing, businesses, and industries in the MUPDD can also be beneficial in protecting water resources in the area.

4.2.3 WETLANDS

Two small isolated freshwater wetlands or drainage swales have been identified on-site. The wetlands fall within the regulatory jurisdiction of the Town (Chapters 325 and 325A), but are not protected by the NYSDEC or the United States Army Corps of Engineers. Section 325-6, *Regulated activities and areas*, of the Southampton Town Code sets forth a "no net loss" policy for wetlands and identifies Town wetlands permit jurisdiction as 200 feet from any wetland edge (tidal or freshwater) as determined by a survey of plant life in the area of concern. The Code also includes a list of regulated activities ranging from clearing, filling, excavation, construction or expansion of buildings and structures, damming, dredging, planting, seeding, or maintaining areas with the use of fertilizers, installing wastewater system and storage systems, and other such activities. If a wetland permit is issued for a specific activity, it is nearly always accompanied by a series of general and specific conditions of approval. At a minimum, the following wetlands buffer standards must be employed:

- no construction of buildings or structures with the exception of fencing and no storage of materials;
- no operation of motor vehicles;
- no discharge of stormwater, wastewater, or other hazardous or objectionable materials;
- no application of pesticides, herbicides or fertilizers within the non-disturbance buffer except under demonstrated urgent conditions and subject to Town review and approval;
- no clearing of vegetation or disturbance with the exception of necessary trimming or removal of dead, noxious, or diseased plants and trees;
- no excavation, dredging, grading, filling or stockpiling of earth materials;
- no planting of nonnative species; and
- disturbed upland areas must be expeditiously reseeded, revegetated, and restored with vegetation after construction is completed.

The proposed Hamlet Center design depicts a road that has been realigned to avoid the small freshwater wetland located on the 12.5-acre vacant lot on the west side of the MUPDD which is

identified as SCTM# 900-139-3-10.2 or "Site B". However, additional adjustment to the alignment is necessary.

The wetland feature should and can be easily incorporated into the overall site plan to maintain certain natural stormwater and recharge functions, and possibly small ecological and aesthetic qualities, although direct stormwater discharges should not be permitted to any wetland. The wetland should be protected to the maximum extent practicable through the use of a non-disturbance buffer/setback that is in no case less than 10 feet from any delineated wetland edge. Wastewater disposal systems should be located no closer than 150 feet from the two on-site wetlands and comply with all SCDHS setback requirements. The non-disturbance buffer must remain in a native vegetated or enhanced revegetated state using, where necessary, native wetland and facultative species such as, but not limited to:

- red maple (*Acer rubrum*);
- black tupelo (*Nyssa sylvatica*);
- northern arrowwood (*Viburnum dentatum*);
- winterberry (*Ilex verticillata*);
- highbush blueberry (*Vaccinium corymbosum*);
- spicebush (*Lindera benzoin*);
- sweet pepperbush (*Clethra alnifolia*);
- swamp azalea (*Rhododendron viscosum*); or
- other native shrub or tree species that are available and consistent with a red maple swamp if further restoration and enhancement is warranted.

Upland pine barrens species such as mixed oak, pitch pine, and northern bayberry may be appropriate in upland buffer areas that are dry throughout the year. Inkberry may also be appropriate and is commercially available.

The wetlands features should serve as natural stormwater recharge areas with no direct discharges and the exhibiting of natural visual qualities. It should also provide some very limited

habitat or a seasonal source of water for certain species of birds or small wildlife. Maintaining a tree canopy in this area would also be beneficial in perpetuating the natural existing conditions and intermittent surface hydrology of the wetlands.

4.2.4 FLOODPLAINS, FLOOD ZONES, AND STORMWATER MANAGEMENT

The subject property is located within approximately 800 feet of the Peconic River. Elevations at the site range between approximately 8 and 25 feet amsl. Almost the entire Riverside Hamlet Center site is within a Federal Emergency Management Agency's (FEMA) "X" Flood Zone. This zone indicates a very low likelihood of flooding, and is in fact considered to be outside of (above) the 500 year flood zone of the Peconic River. Based on this information it is thus assumed by FEMA to be relatively safe from significant flood potential. A small portion of Site B consisting of approximately one-half acre along Flanders Road is within FEMA's X500 Zone or 500-year floodplain. Therefore, a small portion of this area at the intersection of Downtown Road and Flanders Road may be affected. Based on the existing grade and the proposed road's approximate location, it appears that some limited fill could be necessary to address a grade change near the entrance to the future "Downtown Road" depending on its exact alignment so that it is generally consistent in elevation with Flanders Road. Based on the above information and analysis, it does not appear that there is a significant threat of structural or street flooding if adequate drainage controls are installed.

Incorporation of adequate stormwater controls will also help to reduce potential impacts to the wetlands on or near the site and prevent flooding of area streets and buildings. Wetlands are commonly located in low-lying areas where stormwater runoff tends to accumulate, particularly if man-made appurtenances or impervious surfaces direct flow to these low-lying areas. Stormwater should instead be directed to natural, vegetated, non-wetland swales or drywells, and leaching catch basins and/or leaching pools or other special stormwater BMPs where it can be safely recharged into the ground.

A Town wetlands permit will be required to address development around two small wetlands. The permit should specify that stormwater will not be directly discharged via point sources into any wetland and that runoff from streets, roofs, parking lots and other permanent impervious structures will be directed toward suitable leaching stormwater catch basins or drywells. Similarly, eroded sediment carried by stormwater runoff should be controlled, especially during site preparation and construction to prevent siltation of wetlands. This may include, but not be limited to the erection of silt fencing. Moreover, the maximum non-disturbance buffer that is practicable should be provided to unnecessary encroachment into wetlands areas.

4.3 AIR RESOURCES

The only known sources of air pollution relating to the project are the additional traffic it will generate. Based on the existing air quality in the region as discussed in Section 2 and the level of traffic to be generated by the two development sites, it does not appear that significant air quality degradation would result from the project. Moreover, the overall vehicle miles traveled for some individuals should be reduced since the center will likely serve a preponderance of locals and on-site residents with a shorter origin to destination distance than their previous commercial and employment trips. Passy-by traffic is also expected to be a significant contributor to site visitation.

Mitigation of potential air pollution from traffic can be reduced; albeit, to a very minimum extent, by promoting pedestrian activity in the area and at the site by creating a dense mixed-use development, including to some extent, potentially self-sustaining residential, commercial, and industrial land uses where citizens can work, shop, and live. Pedestrian amenities such as a network of connected sidewalks, crosswalks, signage, and street furniture, bicycle facilities, and a nearby bus stop should be promoted to assist in limiting the number of individual vehicle trips necessary. Currently, pedestrian, bicycle, and bus ridership are relatively high in the area and could be augmented by providing a new bus stop in the future Riverside Hamlet Center to serve residents, employees and shoppers. Recent improvements to Flanders Road in Riverside have

included the construction of a new bus shelter, sidewalks, and the provision of bicycle lane striping in the right-of-way.

In addition, although permitted industrial development in the Town is restricted to "light industry", and there is no way of knowing at this time the exact nature of a future operation, there is the potential for some small-scale air emissions from buildings and small relatively non-intensive light industry or commercial operations. The possibility for potential significant air quality concerns from the light industrial and commercial uses is very unlikely and manufacturing uses will not be permitted in the MUPDD. Moreover, in the unlikely event that a particular activity requires an air permit, any such emissions would be regulated by the NYSDEC Division of Air Resources which could require an air emissions permit.

Limiting clearing to the maximum extent practicable, restoring vegetation in areas that are disturbed, and planting new vegetation as part of a landscaping plan can help to reduce CO_2 levels and produce oxygen. High CO_2 levels in the atmosphere are believed to contribute to the "greenhouse effect" and be partly responsible for suspected global warming. The extent of air quality impacts and mitigation associated with the site and its conceptual plan, alone, however, is considered very small. In order to achieve meaningful mitigative air quality results, conservation of trees must be part of a larger Town, regional, State if not worldwide strategy. The Town's APOD, CPBOD, and open space preservation efforts provide many opportunities for preserving vegetation in the Town to offset some of the potential air quality impacts associated with tree removal.

4.4 ECOLOGICAL RESOURCES

The subject property is situated within a Peconic Estuary Program's (PEP) Critical Natural Resource Area (CNRA) which defines areas of biodiversity in order to better manage these resources. There are a total of 17 CNRAs containing a total of 97 "hot spots" along the shores of the Peconic Estuary. Most of the CNRAs are geographically extensive. In fact the CNRA that contains the subject property includes the entire portion of the Peconic River watershed located

south of the river as well as an extensive swath of land located along the Riverside/Flanders shoreline.

As part of the ecological investigation, CA reviewed Chapter 4 of the PEP's 2001 *Comprehensive Conservation and Management Plan*, Including Table 4-1, *Habitat and Living Resources Management Plan Actions*, which include 96 recommended actions. The actions address various subjects ranging from additional research and monitoring, public and expert outreach, shoreline management and stabilization, dredging, wetlands protection, eelgrass protection, habitat restoration, aquaculture, artificial reefs, protection of shorebirds and sea life, and land use planning. Of the 96 recommended actions, nearly all were directly related to the estuary or shoreline areas or involved further monitoring and research. Four of the recommendations, however, could be conceived as related to the proposed site and its future development. These recommended actions include:

- *Protect the CNRAs through land acquisition and other protection tools (e.g., clearing restrictions, setback requirements, zoning, transfer of development rights) principally within the areas themselves and including essential buffers.*

The property is situated within a designated TDR receiving area. The Town's long-range planning documents (i.e., 1999 Comprehensive Plan Update, 2004, *Flanders/Northampton/Riverside Revitalization Study*, and the draft 2005 *Riverside Hamlet Center: A Vision for the Future* plan) are all supportive of development on the site in order to address various socioeconomic needs and goals which have been largely supported by the community. The project is also located within a Central Pine Barrens Compatible Growth Area, APOD, and CPBOD. The pine barrens in particular, relate to ecological issues. Although the development is expected to be relatively dense and clearing restrictions will not be met, the proposed MUPDD focuses development in a centralized location, while extensive blocks of preserved open space to the south, east, and west containing thousands of acres serve to provide significant high quality wildlife habitat. Review of the conceptual MUPDD site plan indicates that some small areas of the site will be maintained in a natural wooded condition

(approximately 12.4 acres), while other limited areas will be restored and landscaped thus maintaining some limited wildlife habitat on-site.

- *Ensure protection of freshwater wetlands through the implementation and enforcement of current regulations under the Federal Clean Water Act and State Wetlands Protection Programs, local government regulations and local land use practices.*

Two wetlands which may be better described as wet depressions or drainage swales were identified on the site. These features do not fall within the regulatory jurisdiction of Federal or State agencies. The wetlands, and areas within 200 feet of their boundaries, are however, regulated by the Town and are subject to any and all conditions of Town wetlands permits. The wetlands are very small, are not connected at the surface to any other surface waters or wetlands, and do not offer significant wildlife habitat. No signs of wildlife were found to be associated with the site during field investigations. A number of minimum standards and conditions are recommended by this DGEIS.

- *Each town should develop a master or comprehensive management plan, coordinated with plans of other towns that increase the level of protection of natural resources and habitats and accounts for cumulative impacts.*

The Town has a Master Plan which has been periodically updated (1984 and 1999) and sets forth a number of environmental protection strategies. The proposed plan will be generally consistent with the policies of the Town except where careful deliberation reveals that other standards, which are balanced with socioeconomic considerations, will be adequate to meet the Town's environmental and socioeconomic objectives and the greater good of the community.

- *Develop implementation mechanisms for all measures required by Section 6217(g) of CZARA that are applicable to the Peconic Estuary. These measures would include BMPs for the use of natural vegetation, minimization of impervious surfaces, safe and reasonable use of lawn, garden, and household chemicals, and minimization of*

> *stormwater runoff. Incorporate these BMPs into the site plan requirements for all newly-developed and redeveloped property, particularly along the shoreline* (PEP, 2001).

To the maximum extent practicable the applicable BMPs discussed in Section 6217(g) of the CZARA as well as the New York State's Stormwater Management Design Manual (NYSDEC *et. al*, 2003-a) should be incorporated into the final site plan for the project.

No rare or endangered plant or animal species were identified on the site. Much of Site A's natural vegetation has been disturbed by past land use activities and has begun to regenerate. Ecological communities on the site include common pitch pine-oak pine barrens forest. The two small wetlands on-site are considered low quality examples of red maple swamps. These areas will nevertheless be protected from direct encroachment. Developed portions of the MUPDD, such as the site of the Southampton Head Start have been significantly disturbed.

Due to the size of the undeveloped portion of the site and field investigations, it is clear that some habitat will be lost and some wildlife either displaced or lost. During field investigations a herd of four deer and a few grey squirrels were noted. Both species are considered common throughout Long Island.

Preserving land within the Central Pine Barrens' Core Preservation Area or other designated development rights sending location could help to offset any losses to ecological resources on the site and could conceivably protect resources of greater ecological value. Maximum clearing on the site should be made consistent with the 65 percent maximum standard of the Central Pine Barrens Joint Planning and Policy Commission, excluding those areas that were previously disturbed.

4.4.1 CRITICAL ENVIRONMENTAL AREAS

The project site is within three designated critical environmental areas pursuant to SEQR (§ 617.14 (g)) and Chapter 157 of the Southampton Town Code. These areas include the Town's CPBOD and APOD and the Suffolk County designated Central Suffolk Special Groundwater Protection Area (SGPA).

These districts have one thing in common. They each strive to protect groundwater resources in deep recharge areas, as well as native vegetation.[7] Mitigation to the site, despite polices to promote its development, include:

- limitations on clearing and maintenance of native, well-adapted vegetation to prevent the need for fertilization, pesticide applications, and irrigation that may be necessary if non-native and poorly-adapted plant materials were utilized for landscaping;
- protection of two small poorly-drained swales or wetlands on the site;
- quick restoration of areas disturbed during site preparation;
- use of landscaping including street trees and parking area shade trees to augment vegetation density;
- use of special wastewater treatment systems and stormwater BMPs; and
- conformance with wetland permit standards.

(See previous mitigation sections on groundwater, surface waters, and wetlands)

Sites A and B are also designated transfer of development rights (TDR) receiving areas. These parcels were designated as such in order to allow development rights to be transferred to the site from other more environmentally sensitive and significant locations. Some of the possible reasons for Sites A and B having been designated as TDR receiving sites appears to be their:

[7] The Central Pine Barrens Overlay District also directly promotes the protection of ecological resources.

- large size that allows for meaningful planned development;
- suitable site characteristics for development;
- capacity for promoting local investment and economic revitalization that can support various important land uses that would be beneficial to the community and provide needed property tax revenues, employment opportunities, and a diversified housing stock;
- targeting in various long-range planning strategies for developing the area and creating a desirable Hamlet center;
- position within a somewhat centralized community that is located along a major throughway, that is served by utilities, and surrounded by existing development;
- disturbance as part of past land use activities (Site A only), thus reducing some of the property's inherent ecological value; and
- designation as a TDR site in conjunction with other studies including this DGEIS suggests that the property is less critical for preservation than other sites in the interior core preservation area.

4.5 LAND USE AND ZONING

Each of the environmental and community resources topics reviewed by this DGEIS is considered in light of important socioeconomic issues and concerns. This is certainly true of land use and zoning considerations. The impetus behind this project includes establishing a much needed Hamlet Center, to provide employment, investment, and economic vitalization opportunities, to stimulate the local property tax base, improve property values and investments, provide needed goods and services to the local community that are easily accessible, and a mix of land uses that are supportive and sustainable in the community. These very important considerations are greatly influenced by the types, numbers, and scale of land uses that can be permitted in this area. The proposed MUPDD recommends the development of industrial, commercial, and multi-family residential land uses in conjunction with existing residential, commercial, and institutional land uses, thus creating a neighborhood center.

The types of land uses on the site, although relatively dense, is considered reasonable and generally consistent with what is currently permitted as of right or by SEP, except that, generally, manufacturing and residential and community facilities will no longer be permitted in Block III and multi-family housing would be allowed in Block II. Based on the proposed MUPDD legislation, all other permitted and SEP uses would be permitted "subject to compliance with all applicable laws, rules, and regulations." This would include any SEP general and special standards requirements.

The proposed MUPDD legislation includes a variety of regulations and design standards that focus on many land use issues. These regulations and standards address:

- maximum development density,
- yard setbacks,
- building heights, scale, massing, bulk, and variation,
- lot coverage,
- parking,
- architecture details,
- landscaping and streetscapes,
- lighting, and
- open public spaces.

The standards and regulations addressing the above topics have been formulated based on contemporary planning standards, have been tailored toward achieving identified community needs and concerns, and will contribute to the creation of a unified, compatible, and functional Hamlet Center Development. The standards and specifications have also been carefully crafted in order to mitigate many potential land use and zoning impacts that might otherwise result from an as-of-right design, as well as negative existing development patterns and conditions.

Buildings will be generally consistent in scale with surrounding land uses and clearly consistent with a typical east end Hamlet Center or central business district such as downtown Riverhead.

4.6 TRANSPORTATION

Chapter 8 of the Traffic Report provided in Appendix 4 of Volume II discusses traffic mitigation. Chapter 7 of the Traffic Report considers traffic alternatives and their usefulness for mitigating impacts.

4.6.1 COMMUNITY FACILITIES, UTILITIES, AND EMERGENCY SERVICES

4.6.1.1 WATER

A public water supply is available to the Riverside community. Future development within the proposed Riverside MUPDD must be connected to this distribution system. Future adjacent development in the area should also be required to tie into this system and existing land uses should be urged to do so where possible.

The subject property is located within the Town's APOD, CPBOD, and a Central Pine Barrens Compatible Growth Area (CGA). The APOD and pine barrens designations are designed to protect vital natural resources within their respective districts. Of particular note are the planning standards and policies directed toward the protection of groundwater and public drinking water resources. As previously discussed above and throughout this document, the protections associated with these planning districts should be used to help in mitigating potential impacts to water supplies including local private and public sources.

Since private wells are believed to be present nearby in the Riverside community it is important to note that Suffolk County Sanitary Code regulations prevent systems from being located in close proximity to private wells to lessen the chances that area well water will become contaminated from on-site activities. Therefore, proper siting of sanitary systems will be an important aspect of protecting public health. Protection of wetlands or groundwater discharge and recharge zones can also help in preserving local drinking water supplies as these areas are

often locations where the area's groundwater table is directly exposed at the surface and vulnerable to contamination from human activities. Providing non-disturbance and non-encroachment buffers and placing important wetlands permit conditions and wetlands easements and the filing of covenants and restrictions to protect these resources as previously discussed will be very helpful in protecting the integrity of area drinking water. Some of the more important environmental controls include prohibiting direct stormwater discharges to these areas and allowing for appropriate stormwater management and recharge, ensuring that sewage disposal systems, areas that may be fertilized or sprayed with pesticides, and potentially hazardous activities are not permitted or conducted within buffer areas, and incorporating the appropriate erosion and sedimentation controls during site preparation, and before and after construction.

Finally, incorporating water conservation techniques such as low flow toilets and fixtures and placement of limitations on irrigation including the use of drought tolerant landscaping would be beneficial in reducing water demand.

4.6.1.2 SEWER

In order to achieve the density that would be allowed under the draft MUPDD and conceptual site plan, suitable alternative sewage disposal systems or a sewage treatment plant must be constructed. If two sequencing batch reactor systems are employed in the future within Blocks I and II, as proposed, a variance from the SCDHS will be required. In addition, a NYSDEC SPDES permit must be obtained and the operators of the system will be required to conform to all requirements and conditions of that permit. Should the alternative systems or a sewage treatment plant not be permitted by SCDHS, conventional sewage disposal systems must be installed. These systems will have to meet all SCDHS requirements, including maximum loading restrictions pursuant to Groundwater Management Zone III, unless additional development rights or pine barrens or wastewater credits are used and all necessary approvals are granted. The two largest vacant tracts of land in the proposed Hamlet Center (Sites A and B) have been designated as development rights receiving parcels. Nevertheless, for whatever reason, if such approvals can not be granted, the proposed development(s) will have to be

significantly scaled down to a density where it can be demonstrated to the SCDHS that the projected wastewater flow can be safely accommodated on-site by conventional systems. The conceptual plan does not depict the location of future Chromaglass systems or a community STP. The siting of these systems may ultimately require a further reduction in density in order to provide the needed space to accommodate the facilities and their required setbacks from buildings, streets, and wetlands.

4.6.1.3 SOLID WASTE

As noted in Section 3, the increase in solid waste from future residential, commercial, and industrial uses in the Riverside Hamlet MUPDD will have an effect on solid waste and recyclable collection facilities. Some multi-family residents in the Town may participate in the "Pay-Per-Bag" program; however, others may be served by private haulers depending on the arrangement with the landlord or homeowners association. Most commercial solid waste and all industrial solid waste would have to be collected by private haulers who ship the waste out of Town. Some small businesses will be allowed to use the local transfer stations to dispose of small, insignificant, "household-like" trash which would be expected to represent only a very small fraction of the community's waste stream.

Moreover, future MUPDD residents and small business owners have the reasonable option of shipping their household wastes to either the Town's Hampton Bays or Westhampton transfer facilities. In addition, the Town is currently planning for an upgrade to its Hampton Bays ("Jackson Avenue") complex which is expected to address, among other things, transfer station and compositing facility needs. Based on a telephone conversation with the Town's Recycling Coordinator, while future development at the Riverside MUPDD may have an impact on municipal solid waste handling facilities, it is not expected that this will result in any significant impacts in the near future (McCleery, 2006). In accordance with this review, no further mitigation is recommended at this time.

Existing buildings will have to be demolished and removed from the site in order to develop the property in a manner consistent with the conceptual MUPDD master site plan. This action would involve the disposal of a various building materials and possibly equipment that could conceivably contain asbestos containing materials (ACM) and/or lead-based paint. As such, a comprehensive asbestos survey, including appropriate bulk sampling and laboratory analysis of suspect materials, should be performed prior to any demolition activities in these portions of the building, in order to accurately identify the presence of ACM that may be impacted by such actions. Any confirmed ACM that will be impacted must first be properly removed and disposed of by a qualified, licensed asbestos abatement contractor.

Lead-based paint may be present in underlayers of paint on building interior and exterior components. A lead paint survey, including appropriate bulk sampling and laboratory analysis of suspect paint, should be performed prior to any demolition in order to determine the presence of lead in on-site paint. If this survey finds lead-based paint, it is recommended that the services of a qualified, licensed lead abatement company be retained for its abatement. This contractor will ensure that all applicable OSHA regulations pertaining to worker and workplace safety are strictly adhered to, and will also handle the proper disposal of all waste materials (lead-paint waste, work zone materials, personal protection).

4.6.1.4 EDUCATIONAL FACILITIES/RIVERHEAD CENTRAL SCHOOL DISTRICT

The residential component of the plan could be expected to generate a high estimate of 27 new school-aged children. Assuming that all of these children would attend public school (Riverhead Central School District) and assuming a per student expenditure of $16,000 per student per school year, a total of $430,000 in additional school revenues would be needed, some of which would be provided by State and other sources. Expenditures could be more if the proposed development and other actions within the school district cause one or more of the schools to reach capacity and requirements for additional school expansion is required.

The costs of educating children from the proposed development, however, are clearly mitigated by the anticipated property tax revenues that would be generated by the new commercial and industrial land uses and many residences that will not contain school-aged children. The maximum commercial/office and industrial building space that would be subject to school district property taxes in the 53-acre MUPDD is estimated to be approximately 327,549 square feet of GFA (roughly 185,500 square feet of GFA for commercial/office and 142,049 square feet of industrial space). An additional 112 residential dwellings (most of which would not house school-aged children) would also share in this expense. Generation of school tax revenues from these land uses would be available to mitigate the costs of educating the upper estimate of 27 children for the district. Based on this review, it appears that the commercial, industrial, and residential land uses in the district, in conjunction with various other social and economic benefits of the proposed action, would clearly mitigate any significant school district impacts.

4.6.1.5 PUBLIC OPEN SPACE AND PARKLANDS

The Hamlet of Riverside, as well as the nearby communities of Flanders, Northampton, Hampton Bays, and Westhampton contains many large tracts of preserved open space and parkland. Several golf courses are also located in the area. Ludlam Avenue Park is a small Town-owned outdoor recreation facility that serves the Hamlet and is located within walking distance of the MUPDD. The Town also has a large public park in Hampton Bays (Red Creek Park) which is just 5 miles from the district and various types of water-related recreational activities and beaches are available in the general area.

The proposed development will affect approximately 53 acres of privately-owned woodlands, 35 acres of which have been identified as a target preservation area (Town of Southampton Preservation Division, 2005). Conversely, the land in question has been identified as a TDR receiving site by previous planning studies and a potential Hamlet economic development center with mixed use potential by several other studies including the 1999 Comprehensive Plan Update, the 2004 Flanders/Northampton/Riverside Revitalization Study, and the draft 2005

Riverside Hamlet Plan. The development of the site has also received considerable public support, as evidenced by the previous public outreach and planning efforts.

In order to offset some of the private open space losses, the proposed MUPDD proposes two small public Hamlet greens or plazas referred to in the design standards as the "Fountain Plaza" and the "Entrance Plaza". Again, opportunities for the use of TDRs to achieve desired density could help in balancing development and environmental protection goals.

4.6.1.6 ELECTRICITY AND NATURAL GAS

Electrical and natural gas utilities are available in the area. Although the project is relatively large and compact, the scale of the project and its overall consumption of electricity and natural gas as compared to all regional development is quite small. A discussion of energy conservation strategies is provided under the "Energy" heading.

4.6.2 EMERGENCY SERVICES

4.6.2.1 POLICE

State and local police coverage is provided in the area. A new State Police Barracks was recently built on Riverleigh Road in Riverside. By letter dated November 7, 2005, CA requested input from the Southampton Police Department regarding its ability to serve the proposed MUPDD development. On November 10, 2005, a response was received from Southampton Police Chief, James Overton, indicating that the agency had adequate resources to provide the necessary police services to the proposed district. The Southampton police patrol the area and have a barracks that is just five minutes away. No significant impacts to police services are anticipated and no further mitigation is recommended.

4.6.2.2 FIRE

The project site is situated within the Riverhead Fire District. As noted previously in this document, the Fire District has several fire departments that are in relatively close proximity to the proposed MUPDD. Firefighting infrastructure including fire hydrants and inside sprinkler systems must be provided in accordance with fire and building codes. The Town Fire Marshal and local fire district's comments and recommendations should be incorporated into final site plan review. No further recommendations are offered as part of this review.

4.6.2.3 AMBULANCE

The site would be served by the Flanders Northampton Volunteer Ambulance Corps which is located near the project site. A representative of the Corps has indicated that manpower and vehicle coverage is currently limited. Although additional development can result in increased strain on the Corps, manpower shortages could actually be mitigated or fully addressed if new residents of the MUPDD wish to volunteer. Also, increased opportunities exist for donations and fundraising with an increased residential population and commercial and industrial land uses. As with, fire protection concerns, adequate access should be provided to all buildings. This concern can be accomplished by incorporating handicap accessible infrastructure into the site and building plans and ensuring that structures are built to current building and fire code requirements. Vehicle access to the district will be provided over three separate access points.

4.7 SOCIOECONOMICS

Town land use goals supporting the use of PDDs are numerous and can be viewed under § 330-240 of the Southampton Town Code, not the least of which is to address and mitigate both existing and future socioeconomic conditions. The project proposal is therefore specifically created and designed to address, mitigate, and eliminate several adverse socioeconomic conditions and create new opportunities for the future. In addition, SEQR promotes the

consideration of socioeconomic issues in all environmental reviews and recommends the balancing of competing factors when developing public policy.

Some of the goals of the project are to create local investment, generate local property tax revenues in order to support the public school district, infrastructure, and services, provide jobs, offer a mix of housing opportunities, make efficient, productive, and efficient use of land, provide a variety of compatible commercial, industrial, and civic land uses that create synergistic benefits, and provide social interaction, a desired community character, and a cherished sense of place.

If the Town decides to construct a western access road from the MUPDD to Old Quogue Road and Riverleigh Road (CR 104) several parcels will have to be acquired. This will require negotiated purchase by the Town or the use of eminent domain proceedings. If the new road is needed and the execution of eminent domain powers is necessary, the Town will have to provide fair market value compensation ("just compensation") to the property owners to mitigate this impact. In addition, the new development that is proposed will create new commercial, industrial, and multi-family residential opportunities including some below-market rate dwellings which should help to offset any reduction in the housing stock.

Section 4, *Mitigation*, of this DGEIS discusses socioeconomic issues further.

4.8 CULTURAL RESOURCES

4.8.1 HISTORIC RESOURCES

As indicated in Section 3, no significant historic resources have been identified on or adjacent to the site and no impacts to historic resources are anticipated. As such no further mitigation is necessary.

4.8.2 ARCHAEOLOGICAL RESOURCES

The impact analysis from this DGEIS did not reveal the presence of archaeological resources on the subject site. An inventory of archaeological sites by the New York State Office of Parks Recreation and Historic Preservation as mapped by the Town of Southampton's Geographic Information Systems suggest that there are no known sites within a mile of the site. A recent Phase IA and IB archaeological survey, including a subsurface investigation for another nearby pending project on a 20-acre site along the Peconic River on the north side of Flanders Road did not reveal the presence of noteworthy artifacts. The above conditions, coupled with previous, yet, relatively recent site disturbance on portions of the site, and the generally inland nature of the site, suggests a low probability for finding archaeological resources. No further mitigation is recommended at this time.

4.8.3 COMMUNITY CHARACTER

As noted in the discussion of impacts, the character of the MUPDD will change from a rural woodland to a dense traditional mixed-use development. Public input, planning studies, Town land use and social and economic goals, and the designation of Sites A and B as TDR receiving areas all support the development of the site. The Town proposes a design guidelines manual in addition to the MUPDD Local Law that include a variety of sound and cohesive design principles for achieving the Town's community character goals. It will be the responsibility of the Town's Planning Board and Architectural Review Board to ensure that the proposed design principles are implemented as part of final site plan review. The proposed project is expected to transform the Hamlet Center from a negative development pattern to a more desirable and functional design. Based on the above and the related information provided below under *Visual Resources*, no further mitigation is recommended.

4.8.4 VISUAL RESOURCES

The Riverside Hamlet Center Plan (p. 43) discusses a subsequent planning phase that will involve the refinement of the conceptual plan which will include more-detailed design guidelines including beautification of the site. The draft local law and future development within the MUPDD will be guided by the design standards manual proposed as part of this action. This manual, therefore, is considered as part of this environmental review. The draft MUPDD law also addresses the issue of design standards including the identification of contiguous design overlay districts that can be put into effect upon redevelopment of these areas and the opting-in of the respective property owners. The plan recommends a "neo-traditional" or "New Urbanist" "form-based" design that includes the creation of two Hamlet Center greens or plazas. Site design, landscaping and architecture will play important roles in ensuring that the site is visually appealing, therefore, the specifics of project design, type of input received from the community, and careful site and building plans reviewed by the Town's Planning Board and Architectural Review Board will be critical toward advancing the preservation and enhancement of visual qualities at the site. The Town's Architectural Review Board should be consulted to ensure a thorough review that is consistent with Town standards and requirements for architectural improvements.

Most of the future development of the site will not be directly visible from Flanders Road due to: property configuration, proposed preservation of certain areas of woodlands and a wetland near Site B's frontage, the existence of buildings and native trees on other lots, and future landscaping that will provide screening. Structures will be much more visible along the secondary (district) streets shown as Main Street, New Street, Downtown Road, and Enterprise Zone Drive on the conceptual plan. However, future development will incorporate numerous architectural design details and fine landscaping, streetscaping, vegetated off-street parking islands, and existing native vegetation in some areas that will enhance the appearance of the area. Structures would not be located at elevations or be of a scale or height that makes them unusually conspicuous or above the existing tree canopy in the community.

Those structures that will be located along and facing roads will relate to the streets and promote a pedestrian oriented development at a human scale that supports desirable man-made aesthetic qualities. The MUPDD legislation in conjunction with the MUPDD design standards requires that certain architectural design elements and façade treatments be included in building construction. The purpose of these design elements, including the orientation, massing, scale, form, and style and relationship of structures, streets, and undeveloped spaces, is to establish a desired community character and identity that makes for a pleasant setting. Rooflines and suitable materials and colors are considered, as well as standards for screening unsightly features such as loading areas and HVAC equipment. Special pavement treatments could be used along sidewalks, crosswalks, public spaces and other spaces. Lighting is also a key aesthetic (not to mention safety) issue that is addressed in the MUPDD design standards manual including recommendations and standards regarding the style of light fixtures and poles and the height of outdoor lighting. Lighting must be shielded to prevent light trespass, glare, and skyglow, and that illumination levels are consistent with International Dark Sky Association and Illuminating Engineering Society of North America standards (IESNA, 2000).

The nature of the proposed development, its incorporation of various landscaping and architectural themes and other vegetated features, and its distance from features offering scenic qualities, it is not expected that there will be a significant, if any effect, on these resources as it relates to their appreciation and public enjoyment. The proposed development would also be generally compatible with proposed surroundings, therefore not introducing visual elements that would detract from existing character.

4.8.5 ARTS, EDUCATION, RELIGIOUS INSTITUTIONS, AND MISCELLANEOUS CULTURAL RESOURCES

As discussed in Section 3, both the existing and proposed zoning conditions allow for significant opportunities for establishing diverse cultural institutions and resources. Based on this review, no further mitigation is recommended. The two proposed plazas provide opportunities for establishing outdoor art amities such as fountains, sculptures, and/or statues.

4.9 NOISE

No significant noise impacts are anticipated from the project. However, mitigation of noise impacts to the "maximum extent practicable" involves three fundamental aspects of noise control. These include strategies that focus on and address: 1) the source or origin of the noise; 2) the sound pathway between the source of the noise and the noise recipient; and 3) the noise receptor. Controlling and mitigating potential noise impacts may be best accomplished through both general site planning and individual project reviews. Of particular importance in sound mitigation are site design and layout of structures, use of appropriate construction materials and practices to maximize sound attenuation, and use of noise-mitigating land management tools such as:

- establishing suitable setbacks between future development and incompatible abutting properties;
- segregating less-compatible on-site land uses (e.g., industrial and residential) and land use activities (e.g., loading areas/garbage dumpsters, air conditioning units, etc. from residential uses);
- creating vegetated buffers between sensitive receptors;
- requiring that potentially significant noise generating commercial and industrial operations be conducted indoors, where possible; and
- using sound barriers when practicable such as soundwalls, solid fencing, vegetated berms, properly constructed common interior walls, double pane glass, etc.

Separation of the potential mix of uses that may be established on-site can be accomplished vertically (e.g., compatible first floor retail versus second floor office or residences) or horizontally within the same building. Although the MUPDD calls for mixed uses the layout or conceptual development pattern of the site does allow for the segregation of certain uses. As an example light industry areas (Block III) is proposed to be located on the east side of the development, while the proposed multi-family residential development (Block II) is to the west. Commercial and institutional development (Block I) will provide a transition between Blocks II

and III, with retail, office, and upstairs apartments directed toward the north and the main road (Flanders Road).

Use of noise barriers such as solid fencing augmented by vegetation, isolating noisy activities to indoor spaces to the extent practicable, soundproofing of buildings or receptors, ensuring that loud activities are reserved for specific times of the day (usually not at night or during early morning) will help to address the small noise issues that may arise. Final site plan review provides another opportunity to address the relationships of future uses and the attenuation of noise. As an example, the use of covenants and restrictions tied to certificates of occupancy can be useful in restricting certain loud activities during particular times of the day, if a specific plan warrants such measures.

4.10 ENERGY

All new buildings and the mechanical, electrical service, water heating, and illumination systems that serve them are subject to compliance to the Energy Conservation Construction Code of New York State (NYSDOS, 2002) as implemented by the Town's Building Department.

Future individual site plan reviews should include consideration of the potential for utilizing energy conservation building designs, efficient and recyclable materials, and state-of-the-art principles, practices, and technologies. Construction of energy efficient "smart buildings" and use of environmentally-friendly site designs not only help to mitigate energy consumption concerns, but can deliver long-term savings on energy bills. The Leadership in Energy and Environmental Design (LEED) program has recently received considerable interest and acclaim and offers guidance and helpful strategies for maximizing the energy efficiency of buildings, promoting greater development sustainability, and attaining increased independence from nonrenewable resources and escalating energy costs.

Energy consumption mitigation for future development at the site, include but is not limited to:

- retaining or planting parking area shade trees and street trees in order to reduce summer "heat island" effect;
- using of recycled and recyclable building materials;
- orienting buildings and windows to maximize daylighting based on summer and winter sun exposures and reducing the necessity for artificial lighting;
- using light-reflective ceiling tiles;
- creating buildings with numerous commercial and/or dwelling units that share common interior walls that are not exposed to outdoor elements;
- using high R-value insulation in buildings;
- installing photocells, sensors, and timers that control automated lighting and HVAC;
- regulating energy involved in commercial refrigeration, and interior lighting, heating, and cooling;
- installing energy efficient light fixtures and bulbs;
- using Energy Star rated electronics, appliances, and office machines;
- employing alternative energy technologies such as photovoltaic cell /solar panels to generate electricity;
- installing thermopane windows;
- promoting pedestrian and bicycle activity, and bus use by providing appropriate amenities, street furniture, and facilities (bus stop, benches, sidewalks, safe and attractive crosswalks, bike racks and lane striping where possible, handicap accessibility, fine landscaping, streetscaping, and architecture, including providing window shopping opportunities, streets and buildings that promote pedestrian scale and a sense of street enclosure, compact, diverse development that allows for one-stop shopping, minimizing travel distances, or walking to work and for commodities and services, developing a pedestrian scale); and
- striving for LEED certification.