TOWN OF RED HOOK

Proposed Amendments to Chapter 143 Entitled ZONING and Chapter 120 entitled SUBDIVISION OF LAND of the Code of the Town of Red Hook and the Comprehensive Plan

DRAFT GENERIC ENVIRONMENTAL IMPACT STATEMENT

May 11, 2010

Lead Agency: Town Board of the Town of Red Hook

Prepared by: GREENPLAN, Inc.

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Project Name:	Proposed Amendments to Chapter 143 entitled "Zoning" and Chapter 120 entitled "Subdivision of Land" of the Code of the Town of Red Hook and the *Comprehensive Plan*
Project Location:	Town of Red Hook, Dutchess County, New York
Lead Agency:	Town Board of the Town of Red Hook 7340 South Broadway Red Hook, New York 12571
Lead Agency Contact:	Sue T. Crane, Supervisor 7340 South Broadway Red Hook, New York 12571
Prepared By:	GREENPLAN, Inc. 302 Pells Road Rhinebeck, New York 12572
Contributors to DGEIS	Fairweather Consulting 124 Main Street, Suite 2 New Paltz, NY 12561 Aspen Environmental P.O. Box 400 Clintondale NY 12515
SEQRA Counsel:	Christine Chale, Esq. Rapport Meyers Whitbeck Shaw & Rodenhausen, LLP 35 Main Street, Suite 541 Poughkeepsie, NY 12601
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This document is the Draft Generic Environmental Impact Statement for the above referenced project. Copies are available for review at the office of the Lead Agency and on the Town of Red Hook website (www.redhook.org). Comments are solicited and may be submitted to the Lead Agency.

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CHAPTER I: EXECUTIVE SUMMARY

Introduction

The Town Board of the Town of Red Hook (the "Town Board") is considering a set of related actions: adoption of amendments to Chapter 143 Entitled "Zoning" and Chapter 120 entitled "Subdivision of Land" of the Town Code, and adoption of amendments to the *Comprehensive Plan*. The individual actions are integral to one another and each was developed in a coordinated fashion to ensure consistency. As such, the proposed actions are evaluated together in this DGEIS and are referred to as the Proposed Action.

This document is the Draft Generic Environmental Impact Statement (DGEIS) for the Proposed Action and evaluates the potential for any environmental impacts that could result from the Proposed Action. This DGEIS was prepared pursuant to the State Environmental Quality Review Act (SEQRA) (Article 8 of the Environmental Conservation Law) and its implementing regulations (6 NYCRR Part 617). The document has been prepared in a generic format because adoption of the Proposed Action will have a wide application, will affect many sites, and will have generic or common effects. This DGEIS incorporates by reference each of the documents that comprise the Proposed Action. SEQRA allows for the incorporation by reference of certain documents when those documents are available for full public review. This practice avoids unnecessary duplication of information found elsewhere and allows for a more concise environmental impact statement.

Description of the Proposed Action

The Town Board has proposed amendments to the Town Zoning Law, Subdivision Law, and *Comprehensive Plan* to implement the proposed "Centers and Greenspaces" Plan, as shown on Figure II-2 The amendments will create two new zoning districts (the Agricultural Business District and the Traditional Neighborhood Development District), and will replace the Town's existing residential cluster subdivision regulations with provisions for conservation subdivisions. The amendments will also add a new section on Open Space Incentive Zoning, in addition to other incidental changes necessitated by these amendments. In order to encourage village-scale density within the Traditional Neighborhood Development District, the law eliminates the density bonus for provision of central water in the R1 and R1.5 Districts. The amendments are designed to protect the health, safety and welfare of Town residents, to bring the Town's Zoning Law and Subdivision Law into conformance with the Town's *Comprehensive Plan*, *Greenway Connections: Greenway Compact Program and Guides for Dutchess County Communities* pursuant to Chapter 17-3 of the Town Code, and with amendments since 1990 to New York State Town Law's planning and zoning provisions.

The proposed amendments will apply town-wide with the exception of the two villages. An "Illustrative Sketch Plan" for the proposed Traditional Neighborhood Development District

showing design principles for the Residential Neighborhood Subdistrict and the Commercial Center Subdistrict appears as Figure II-3. Existing Zoning Districts are shown in Figure II-4. Proposed Zoning Districts, as contemplated as part of the Proposed Action, are shown in Figure II-5. There are currently eleven Zoning Districts in the Town, including the Light Industrial Overlay. Two new Zoning Districts are proposed: the Agricultural Business District and the Traditional Neighborhood Development District. The principal changes to the Zoning Law, Subdivision Law and *Comprehensive Plan* are described fully in Chapter II and readers are encouraged to consult the full text of the proposed amendments to obtain a complete understanding of all changes.

To prepare the proposed amendments, the Town Board, working with the Villages of Red Hook and Tivoli, appointed an 11-member Intermunicipal Task Force ("Task Force") comprised of representatives from each of the three municipalities' planning boards and zoning boards along with additional "at large" appointees from each of the municipalities, including one member from the Town's Conservation Advisory Council. The Task Force worked for over three years to create the Centers and Greenspaces Plan and the proposed amendments to the Zoning and Subdivision Laws and the *Comprehensive Plan*. In preparing the proposed amendments, the Task Force sought out the preferences and priorities of townspeople during an extensive public participation process that included more than 200 public meetings. This process began with community meetings and numerous discussions with stakeholders, community groups, and Town and village boards and committees. Hundreds of residents were involved in the public meetings, and additional outreach was conducted with individual stakeholders representing various interests, including developers, realtors, landowners, environmentalists, farmers, builders, historians, architects, business people, civic and community groups. A more complete description of the community outreach process can be found in Chapter II below. The public outreach meetings indicated strong support for the "Centers and Greenspaces" plan. Stakeholders across the board felt the Centers and Greenspaces plan was "*clearly a better way to develop than the current zoning permits,*" and most were very excited about the "smart growth" approach to planning in Red Hook.

The Task Force also met with other Town and village boards, committees, and organizations to solicit their input, including the Town of Red Hook Planning Board, Economic Development Committee, Trails Committee, Recreation Commission, Agriculture and Open Space Advisory Committee, Water District Board, Hamlet Buildings Review Committee, and Conservation Advisory Council, the Village of Red Hook Board of Trustees and the Village of Tivoli Board of Trustees, the Red Hook Central School District, Red Hook Chamber of Commerce, Dutchess County Water and Wastewater Authority, and the Dutchess County Planning Commissioner. With the Town's Agriculture and Open Space Advisory Committee, the Task Force also conducted a survey of landowners in the proposed Agricultural Business (AB) District and offered to meet with survey respondents to further clarify the proposal.

In response to community comments, numerous changes were made to the plans during the planning process. An Office-Industrial Subdistrict was added to the TND District at the request of the Town's Economic Development Committee. At the request of farmers, additional uses were added to the AB District, and the District was amended to permit development rights to be sold at the current zoning level. In response to the Conservation Advisory Council, the Task Force requested that the Town and Village of Red Hook retain a hydrologist to conduct a water budget analysis and to determine whether any adverse impacts to the aquifer and wellheads would result from the proposal. The study (Chazen Companies, January 4, 2007) determined that there is sufficient aquifer capacity to meet the proposed water demand and that the wellhead protection zones would be adequate. The Town and Village of Red Hook also funded a sewer feasibility study (C.T. Male Associates, March 2007) which determined that the proposed traditional neighborhoods would make development of a municipal sewer system, that could serve the Village of Red Hook as well as the new commercial and residential development in the TND District, more economically feasible as costs could be shared by developers. These are just a few examples of changes that were made to the "Centers and Greenspaces" plan and the implementing zoning and subdivision amendments in response to community comments.

In preparing the proposed Local Law amendments, numerous model and adopted zoning laws and subdivision laws were examined by the Intermunicipal Task Force, the Town Board and/or Town consultants. These included existing zoning and subdivision regulations or model regulations found in surrounding towns and villages, other local municipalities in the region and State, and from around the nation. For the proposed amendments to the Town's Subdivision regulations, the Dutchess County Department of Planning and Development's *Model Subdivision Regulations* were consulted. State of the art land use control recommendations by the American Planning Association (APA) were consulted. A wide variety of other reference and scholarly publications were also consulted by the Intermunicipal Task Force, the Town Board and/or its consultants in preparing the proposed amendments, as cited in Chapter II of this DGEIS.

Public Need and Benefits

The Proposed Action is intended to enhance the Town's small town character, with close-knit villages surrounded by rural countryside ("centers and greenspaces"). The public need that would be fulfilled, and the public benefits to be gained from the adoption of the Proposed Action include, but are not limited to, the following:

- Implement the current recommendations of the Town's *Comprehensive Plan* to maintain the Town's rural character by providing incentives for new development to locate within or adjacent to existing centers while discouraging a land use pattern that uniformly disperses development throughout the Town.

- Implement the current recommendations of the Town's *Open Space Plan* to ensure that as the Town grows, it maintains its historic "town and country" settlement pattern with new development located in and adjacent to existing centers and the preservation of farmland.
- Promote small town development, with close-knit villages surrounded by rural countryside, in keeping with traditional rural land use patterns of the Hudson Valley and in conformance with the Town's existing *Comprehensive Plan* and *Open Space Plan*, rather than the sprawl-type development as currently allowed.
- Reduce the costs of infrastructure and create greater community cohesiveness by encouraging compact development in areas already fully or partially served by community water, and by making construction of a community sewer system more feasible, rather than continuing to promote a sprawling pattern of development served exclusively by individual water and sewer systems spread throughout the Town.
- Strengthen the existing commercial base of the community by creating compact development adjacent to the Village of Red Hook, which will support existing businesses and make a community sewer system more cost effective, an essential element for attracting new businesses.
- Provide expanded opportunities for economic development by increasing the areas in the Town where commercial development can occur, particularly light industrial and office research, while protecting the gateway.
- Reduce future school tax impacts by decreasing the overall potential for new residential development in the Town.
- Provide for a more comprehensive set of design regulations to govern new development in the TND District so that architectural and streetscape elements are more in keeping with the traditional and nationally significant historic character of the Town's settled areas.
- Provide a positive vision for where new development is most desirable, thereby attracting new economic investment with a streamlined review process.
- Implement the current recommendation of the Town's *Comprehensive Plan* to protect rural and agricultural lands, discourage incompatible nearby land uses, and promote agriculture as a component of the local economy now and in the foreseeable future.
- Allow for development and redevelopment of the emerging center south of the Village of Red Hook as a walkable mixed use center that reflects the principles of traditional neighborhood design through the TND District.
- Provide for a greater variety of housing styles, types, sizes, and costs to accommodate a diversity of age and income groups and residential preferences.

- Ensure the availability of a safe, locally grown food supply.
- Provide better control over the pace and location of development.
- Minimize traffic impacts of new development in the Town by creating mixed-use neighborhoods and re-establishing pedestrianism as a primary form of mobility.
- Enhance agricultural businesses that contribute to the general economic conditions of the Town by allowing a wider range of industrial and commercial uses on farm properties.
- Minimize traffic impacts on major arterial roads by creating the TND District with a grid pattern of interconnected streets that allow for traffic to be more uniformly dispersed.
- Prevent fragmentation of the Town's existing agricultural lands by non-agricultural development.
- Conserve a critical mass of important farmlands in order to facilitate active and economically viable agricultural use of the lands now and in the future.
- Create conformance with the Dutchess County Plan, *Directions* to strengthen community centers and protect agricultural lands, amongst other policies as discussed more fully in Chapter II below.
- Create conformance with *Greenway Connections: Greenway Compact Program and Guides for Dutchess County Communities* to reinforce centers and preserve farmland and open space, amongst other recommendations as discussed more fully in Chapter II below.
- Create conformance with New York State's Quality Communities Interagency Task Force Report *State and Local Governments Partnering for a Better New York* (January 2001) to revitalize downtowns, promote agriculture and farmland protection, conserve open space and other critical environmental resources, enhance transportation choices and encourage more livable neighborhoods.

Potential Environmental Impacts and Proposed Mitigation Measures

A. Land Use, Zoning and Public Policy

This section analyzes consistency of the Proposed Action with the Town's adopted planning and zoning documents as well as those adopted by other agencies with Red Hook's concurrence. A complete description of such consistency can be found in Chapter III, Existing Setting, Impacts and Mitigation for the Proposed Action below.

A variety of land uses and land use patterns contribute to Red Hook's unique character. The Town is known as the "Breadbasket of Dutchess County"[1] and it retains significant areas of agricultural lands. In general, the Town consists of low-density rural uses predominated by open fields, agriculture, and some forested areas. This overall rural character is complemented by the two prominent higher density centers within the Town, the Villages of Red Hook and Tivoli, in addition to historic hamlets scattered throughout the Town. Despite a number of scattered suburban subdivisions, particularly north of the Village of Red Hook and near the approach to the Kingston-Rhinecliff Bridge, the Town's historic "town and country" settlement pattern has been largely retained.

The largest Zoning District in the Town is the RD3 District (1 dwelling unit/3 acres), which encompasses the majority of the Town's farmland. Additional agricultural lands are zoned in the Limited Development (LD), RD5 and Institutional (I) Districts, with a density of one dwelling unit per 5 acres, and the R1.5 District, with a density of one dwelling unit per 1.5 acres. Lands adjacent to the Village of Red Hook, the Town's principal commercial center, are primarily zoned for low density residential uses, R1 and R1.5 (1 acre and 1.5 acres per dwelling unit, respectively). For residential developments that connect to a town-approved community water supply system, density may be increased in these Districts to one dwelling unit per half acre or per 1 acre, respectively. Adjacent to the Hudson River is the Waterfront Conservation District, with a permitted density of one dwelling unit per 10 acres. The historic hamlets of Annandale, Barrytown, and Upper Red Hook are included in the Hamlet District, with a required minimum lot size of 5 acres, with the exception of Upper Red Hook where minimum lot size is 1.5 acres. South of the Village of Red Hook is a commercial district, the B1 District, that includes a requirement for a deep (80') front yard setback that encourages commercial strip development. The Town also includes a B2 District, a floating Light Industrial District, and a number of overlay districts. Existing Zoning Districts are shown in Figure II-4.

The Villages of Red Hook and Tivoli are the two prominent higher density centers within the Town. The Town, by law, cannot control zoning in the Villages. Although land use within the Villages of Red Hook and Tivoli are not included in the Proposed Action, the proposed Centers and Greenspaces Plan was prepared by the Intermunicipal Task Force of the Town of Red Hook and the Villages of Red Hook and Tivoli, and officials and residents in all three municipalities were directly involved in the extensive public planning process in preparation of the Plan and the Proposed Action. The Villages of Red Hook and Tivoli provide evidence of historic land use patterns with compatible uses on smaller lots. The Village of Red Hook plays an important role as the principal commercial and residential center in the Town. The Village of Tivoli has a smaller central business district. The

[1] Claire O'Neill Carr, *A Brief History of Red Hook* (The Wise Family Trust and the Egbert Benson Historical Society of Red Hook, 2001), page 24.

Hamlets of Upper Red Hook, Barrytown, and Annandale consist primarily of residential development, but a small amount of commercial space exists within some of the hamlets.

The Town conducted a build-out analysis to estimate the potential impacts of growth prescribed by the existing Zoning Law, the proposed Zoning amendments and the alternatives being considered in this DGEIS. The Build-Out Analysis, which is included as Appendix F of this DGEIS, used Geographic Information Systems (GIS) to identify future development, under existing Zoning. The study area for the Build-Out Analysis is shown on Figure 1 of Appendix F.

The Build-Out Analysis estimated 3,588 new single family dwelling units and 11,089 new residents of the Town if lands in the Study Area were built in accordance with existing Zoning. In 2008, the Town of Red Hook had approximately 1,128 dwellings in the Study Area[2], and an estimated population of 8,455 residents[3]. The impact of build-out under the existing Zoning is that the Town's population would more than double to 19,544 people. The 11,089 additional residents, including 2,479 school age children, would require 22 new paid police officers and 18 new full-time firefighters, new town facilities, and more classrooms and other space to accommodate the additional school children. The dwellings that these new residents would live in would require construction of about 3,500 new septic disposal systems generating more than 1,148,000 gallons of sewage per day discharged into the ground, and these dwellings would also depend upon 3,500 new groundwater wells drawing more than 1,148,000 gallons of water per day. Projected vehicle trips in the Town (generated by the residential development alone) would be more than 34,000 additional trips per day by an additional 7,176 vehicles on the roads, and these vehicles would need to travel to or through the Village of Red Hook or on Route 9G.

By comparison, the proposed Zoning may result in 1,388 new dwelling units and 4,226 new residents, including 940 new children needing to go to school, an additional 2,776 vehicles making 12,436 vehicle trips per day on local roads, an additional 435,280 gallons of water per day consumed, and the need to add 8 new police officers and 7 new firefighters.

The proposed zoning amendments would result in new development in the Town occurring primarily in a designated priority growth area, the Traditional Neighborhood Development (TND) District, located immediately south of the Village of Red Hook, coupled with a continuation of the dominant pattern of sparsely settled rural lands in the remainder of the Town. It would also be a method for achieving affordable housing in the Town since the proposed zoning would result in 1,388 new dwelling units.

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[2] There are an additional 1,090 dwelling units on lands in Study Areas C and D which were not included in the build-out analysis since they are already fully developed; see discussion on pages 5 - 6 of the Build-Out Analysis in Appendix F.

[3] Source: US Census Bureau. The Town population cited here does not include the two Villages.

The Town's adopted ***Comprehensive Plan*** recommends that the Town provide incentives for new development to locate within or adjacent to existing centers in the community while discouraging a land use pattern that uniformly disperses development throughout the Town. This "town and country" planning model is further emphasized by the *Comprehensive Plan*'s recommendations to preserve the Town's "irreplaceable agricultural land resource" for this and future generations. The *Comprehensive Plan* recommends that density be transferred from environmentally sensitive lands (especially important agricultural lands) to prospective higher density areas around the Village of Red Hook where development is preferred and central water and sewer is feasible. The Proposed Action is consistent with these recommendations.

For economic development other than agriculture, the *Comprehensive Plan* recommends that the Village of Red Hook be maintained as the primary commercial center of the community, with limited commercial expansion in carefully-defined areas outside the center, such as immediately adjacent to the Village of Red Hook. It also recommends small retail and service businesses consistent with the day-to-day needs of the community. Light industry and small-scale office/research facilities are encouraged in appropriately serviced locations as long as building scale, intensity and character is compatible with the community and its rural character. The *Comprehensive Plan* also discourages highway strip commercial development. The Proposed Action is consistent with these recommendations.

In terms of housing policies, the Town's *Comprehensive Plan* recommends encouraging a range of housing types in or adjacent to existing centers to meet the housing needs of Town residents with a range of income levels, ages, household sizes and housing preferences. It also recommends concentrating higher-density residential development in areas that can be most efficiently served by existing and prospective municipal or municipally-approved central water and/or sanitary sewage facilities, such as the Village of Red Hook and the area immediately to the south. This compact development is also intended to reduce the extent of new roadway construction in the Town. To service this concentrated development, the *Comprehensive Plan* recommends that the Town conduct a feasibility study for the installation of central water and sanitary sewage services in these areas. Accessory apartments are recommended as a more affordable housing type. The Proposed Action is consistent with these recommendations.

The Proposed Action would reinforce a "centers and greenspaces" or "town and country" land use pattern as is recommended by the *Comprehensive Plan*. The amendments would protect agricultural lands by creating incentives, through a new section on Open Space Incentive Zoning, for the transfer of building potential from the proposed AB District to the proposed TND District located immediately south of the Village of Red Hook, and would also minimize the amount of residential development permitted in the AB District, which would be required to be located away from agricultural soils, all as recommended by the Town's *Comprehensive Plan*.

Directions: The Plan for Dutchess County ("Directions"), which was prepared by the Dutchess County Department of Planning and Development (February 1987) and was formally endorsed by the Town of Red Hook, recommends that anticipated population growth in the County be accommodated in community centers within and adjacent to existing villages, with large areas of rural and agricultural uses surrounding the villages (the "centers and greenspaces" concept). The Proposed Action is consistent with the goals and objectives of *Directions.* The Proposed Action would reinforce a "centers and greenspaces" land use pattern as is recommended by *Directions*. It would protect agricultural soils by transferring residential development from the proposed AB District to the proposed TND District. The Proposed Action would minimize the amount of residential development permitted in the AB District, which would be required to be located away from agricultural soils. The proposed amendments to delete unbuildable lands prior to calculating permitted density would result in greater protection of sensitive areas such as steep slopes, wetlands and surface waters. Permitting greater residential building potential immediately adjacent to the proposed Commercial Center of the TND District would promote village-like commercial development rather than strip commercial, as shown in Figure III-11. Finally, the proposed Office-Industrial subdistrict of the TND District would include limited access points and significant buffering (a minimum of 200' with extensive vegetative screening) to screen future industrial and office research uses from views along Route 9. All of these planning strategies are consistent with the recommendations of the *Directions: The Plan for Dutchess County*.

Greenway Connections: The Greenway Compact Program and Guides for Dutchess County Communities, ("*Guides*"), which has been adopted by the Town of Red Hook, promotes a "smart growth" strategy that focuses development in well planned centers ("priority growth areas") rather than randomly sprawled on greenspaces or farmland. The proposed amendments are consistent with the recommendations of *Greenway Connections.* In fact, Dutchess County has recently proposed a new *Greenway Guide* entitled "Centers and Greenspaces," which uses Red Hook's Proposed Action as a model for other Dutchess County communities to emulate.

Local Waterfront Revitalization Program, which was adopted by the Town of Red Hook and affirmed by the State and Federal governments, was reviewed to determine if the Proposed Action is consistent to the maximum extent practicable with the LWRP as required. A Coastal Assessment Form (CAF) has been prepared for the Proposed Action (see Appendix A). As noted in the CAF, the Proposed Action is designed to protect scenic resources, agricultural lands, and historic, archaeological and cultural resources, and therefore no significant adverse effects on coastal resources is anticipated as a result of the Proposed Action. Moreover, no development is proposed as part of the action and therefore no direct impacts would occur.

The ***Dutchess County Agricultural and Farmland Protection Plan*** notes that significant concentrations of prime and important agricultural soils are located throughout the Town of Red Hook (page 31) and that it is "our duty not to waste this valuable resource, but to use it in the manner that is most productive to the community. This means locating construction projects based on soils information, and avoiding developing farmland" (page 26). Specific recommendations to preserve agricultural soils recommended by the *Dutchess County Agricultural and Farmland Protection Plan* that fall under the jurisdiction of local municipalities include ensuring that local regulations consider the importance of soil resources, and developing agricultural protection strategies such as transfer of development rights, purchase of development rights, and leasing of development rights to direct development away from agricultural soils while balancing a property owner's interests. The *Agricultural and Farmland Protection Plan* also recognizes that, in order to protect agricultural soils, land use policies must also identify where development should occur in the community, and should simplify the approval process for developers whose proposals are compatible with community goals (page 41). The Proposed Action is consistent with these and other recommendations of the *Dutchess County Agricultural and Farmland Protection Plan* as discussed more fully in Chapter II below.

The Proposed Action would avoid potential adverse environmental impacts to the Town's rural, small-town character by directing new development towards existing centers, designing that development as walkable village-scale neighborhoods consistent with the existing historic character of the Village of Red Hook, and protecting agricultural lands and other important natural resources. These are beneficial impacts for which no mitigation is required.

B. Water Resources

a. Groundwater

Aquifers in the Town were identified by the Dutchess County Water and Wastewater Authority in 1993, and are shown in Figure III-3 in Chapter III. The aquifer that underlies the Village of Red Hook is a very large deposit of sand and gravel extending along both sides of Route 9 from Pitcher Lane south to the Town of Rhinebeck boundary. It is a primary source of well water in both the Town and Village of Red Hook. The Town currently has an aquifer protection overlay district which regulates uses within an aquifer protection area.

In 2007, The Chazen Companies conducted a groundwater resource assessment for the central part of the Town of Red Hook and the Village of Red Hook (the "study area," as shown in Figure 1 of Appendix G). The purpose of the assessment was to determine whether lands enclosing the study area receive sufficient aquifer recharge to support the anticipated future demand in the Town and Village Center. The Chazen assessment studied the impacts of three projects that were under review at that time (Red Hook Commons, Knollwood Commons, and Anderson Commons) and demand from future potential development of two

traditional neighborhoods, one in the north portion of the Village of Red Hook, and one in the South Broadway area of the Town (the proposed TND District included in the Proposed Action). The report assumed that the Town's TND District would consist of 189 single family dwellings, 70 townhouses, 105 apartments, and 140,000 square feet of commercial space.

The study found that the Town and Village water supplies currently meet an approximate, combined average daily demand of 256 gallons per minute (gpm). With the addition of water demand from Red Hook Commons, Knollwood Commons, Anderson Commons and from the potential future North Village and South Broadway traditional neighborhoods, increased typical daily water demand could rise to a daily average of 466 gpm, with peak demand periods requiring well field daily yields averaging 640 gpm. The hydrogeologic review of the study area indicates that aquifer recharge refreshing aquifers in this area provide a sustainable annualized groundwater supply likely to average, under future build-out conditions, approximately 2,345 gpm during normal years and approximately 1,641 gpm during drought years. The self-replenishing rate at which aquifer recharge occurs in the study area exceeds the proposed average Village/Town water demand rate of 466 gpm by approximately 5 times during normal years and by approximately 3.5 times during drought years. The study concludes that there is sufficient renewable groundwater moving under Red Hook's central area to meet the community's present and proposed future water demands.

Subsequent to the Chazen groundwater report, the Build-Out Analysis determined that the TND Residential Subdistrict could accommodate up to 149 single family homes, 74 townhouses and 74 duplex/apartments. Using the multipliers provided by the Chazen report, the revisions to the proposed TND District would result in a water demand of 103 gpm, which is less than the 109 gpd in the Chazen estimate (see Table III-4 in Chapter III). Thus, the revised proposal is well within the estimates of the Chazen Report.

The Chazen report recommends providing moderate levels of aquifer protection for all areas in the Town (similar to the Town's current regulations), with a higher level of protection in particularly valuable aquifer areas and community water system wellfield wellhead protection areas. None of the higher risk land uses (such as underground storage tanks for soluble chemicals) cited in the Chazen report would be permitted by the Proposed Action. Uses such as laboratories and light manufacturing would be permitted in the Office-Industrial Subdistrict south of Hannaford Drive, a portion of which would overlay the Zone 2 aquifer. However, these uses would be subject to existing regulations to control pollutants, including the Town's aquifer protection overlay regulations found in the Zoning Law § 143-47D(2), which prohibit high risk uses such as those referred to in the Chazen report. Any development within the Office-Industrial Subdistrict would be required to undergo site specific environmental reviews of impacts to the aquifer.

Based on the findings of the Chazen report, no significant adverse impacts to groundwater resulting from the water demands of the Proposed Action are anticipated. Nonetheless, interconnecting water mains, a lift pump to deliver Town water to the elevation of the Village water tank, and one or more new wells may be needed to best manage future proposed water demand. Any development allowed by the Proposed Action that proposes to connect to the Village municipal water system should fund the improvements necessary to service their proposed development. Potential impacts to groundwater may also result from an increase in impervious surfaces in the proposed TND District. To address potential impacts of increased impervious surfaces in the TND District, site specific reviews of development proposals that have a potential to impact the aquifer should include methods to retain or detain stormwater, such as low-impact development techniques including bioretention basins, vegetated roofs and other effective surface water treatment facilities, to ensure there is no infiltration of stormwater directly into the aquifer.

b. Surface Water

The Hudson River provides outstanding scenic, historic and recreational amenities for Red Hook. All of Red Hook's watershed areas ultimately drain into the Hudson River. Red Hook has eight State classified and regulated streams. In addition, there are numerous non-regulated streams in the Town. Many of the water bodies have floodplains, which have a chance of flooding occurring in any given year. The location of surface waters in the Town are shown on Figure III-4 in Chapter III, and the location of FEMA 100-year floodplains are shown on Figure III-7.

The proposed Zoning Law would amend the current method of calculating permitted residential density based in part on surface waters. Currently, residential density is calculated in terms of minimum lot area per dwelling unit, with a minor subtraction under certain circumstances (depending on the land area of the resource and the size of the proposed lot) for State protected wetlands, surface waters and floodplains. The proposed Zoning Law would provide for a maximum residential building potential that would be based on buildable acreage, the land area of the lot after subtracting non-buildable areas, including wetlands and regulated wetland buffers, 100-year floodplains, ponds, streams and buffer areas, and steep slopes 20% gradient or greater. This provision would exclude environmentally sensitive lands, including surface waters and floodplains, when calculating residential density, and would afford greater protection of these resources and associated ecosystems during the development review process, all beneficial impacts for which no mitigation is required.

There are no protected surface water bodies in the proposed TND District. A small portion of a stream (a tributary of the Rhinebeck Kill) is located in the proposed TND Residential Subdistrict to the west of Route 9, and a small segment of another tributary of the Rhinebeck Kill runs along the edge of the proposed TND Office-Industrial Subdistrict. However, both of these streams are Class C and are not regulated by the NYSDEC. As

shown on Figure III-7, there are no 100-year floodplains in the proposed TND District, and therefore no impacts on 100-year floodplains would occur as the result of development in this area. There are no significant areas of steep slopes 20% gradient or greater in the proposed TND District. Therefore, no significant adverse impacts to surface waters would result from adoption of the proposed TND District.

C. Terrestrial and Aquatic Ecology

a. Flora and Fauna

There is only limited data about specific ecological habitats and species within the Town of Red Hook since, to date, no Town-wide mapping and species identification has been performed. In the absence of a Town-wide ecological survey, this section relies heavily on generalized regional data provided through the New York State Natural Heritage Program's Data Base (Plant, Animal and Community Guides), U.S. Fish and Wildlife Service information, aerial photographs, and reported conditions documented in other studies, reports and publications prepared for locations within the Town and neighboring communities. Readers should note that the Tivoli Bays Wildlife Management Area, which contains some of the most significant habitats and protected species within the Town, is not discussed or included here. The State of New York owns or controls more than 1,700 acres of the most valuable wetlands and adjacent upland buffers at Tivoli Bays and has an established policy of acquisition of land or conservation easements from willing sellers for additional lands adjacent to the Wildlife Management Area.

Habitats within the proposed TND District are predominantly active and abandoned agricultural fields and mixed hardwood forest or woodlands; a limited quantity of wetland habitats also exists within the proposed district. All such generalized habitats are common; none identified here appear to be of exceptionally high quality. Furthermore, all areas within the proposed zone have been altered to some degree by past and/or ongoing human activity, most particularly logging and farming in addition to residential and non-residential development.

Flora

The New York State Natural Heritage Program's 2004/2005 database indicates that a number of native plant species listed in Table III-6 in Chapter III may exist both in the north western portion of Dutchess County and within the general habitat types found in the proposed TND District. Site specific surveys, during the development review and approval process, are needed in order to determine the actual existence of any of these or additional species of statewide concern.

Fauna

The New York State Natural Heritage Program's 2004/2005 database indicates that the

protected animal species listed in Table III-7 in Chapter III have been identified within the northwestern portion of Dutchess County and are known to utilize, for at least a portion of their lives, the general habitat types found in the proposed TND District area. Site specific surveys prior to development would be needed in order to determine the actual existence of any of these or additional species of state wide concern. According to the US Fish and Wildlife Service, federally listed endangered and threatened species and candidate species within Dutchess County include those listed in Table III-8 in Chapter III. Site specific surveys, during the development review and approval process, would be needed in order to determine the actual existence of any of these or additional species of concern.

The Town of Red Hook contains a diversity of habitat, plant and animal species including species of conservation concern which are most vulnerable to the adverse impacts often associated with development and construction. Most known occurrences of such special concern species within the Town occur in the Tivoli Bays Wildlife Management Area (not discussed here), yet the potential exists for species of conservation concern to be found elsewhere in the Town, including within the proposed TND District. There have been no reports of rare, endangered, or threatened, species, or species of conservation concern within the proposed TND District, only potential habitat. Nonetheless, site specific surveys are recommended during the development review and approval process, in order to rule out the presence of such species.

The proposed Zoning Law amendments would reduce permitted density in most areas of the Town. It would, however, allow for increased building potential in the proposed TND District, through the use of incentive zoning. Accordingly, lands proposed for inclusion in the TND District may be subject to substantial development, thereby eliminating the majority of existing habitat and plant communities. Existing trees, shrubs, ferns, grasses and forbes would be substantially eliminated and replaced with structures, impervious surfaces and landscaped vegetation. Little currently existing habitat would exist under full build out conditions.

However, all areas within the proposed TND District exhibit previous disturbance activities. Specifically, the proposed district encompasses the highly disturbed Route 9 corridor with its associated residential, commercial and industrial uses. Flanking both sides of this corridor lie lands under active or recent agricultural activity; such agricultural land use comprises the majority of vacant lands in the proposed TND District. The single large expanse of forest which currently occupies the eastern most portion of the proposed TND District displays rather recent logging activity. The proposed TND District exhibits some of the most altered habitats within the Town but caution suggests a thorough field analysis to ensure that species of conservation concern, or their habitats, are properly considered during future site-specific environmental analysis under SEQR.

b. Wetlands

New York State Freshwater Wetlands maps prepared by the NYS DEC, and National Wetlands Inventory (NWI) maps prepared by the US Fish and Wildlife Service show the general locations of all the Town's previously identified wetlands. As shown on Figure III-8 in Chapter III, a total of 35 state regulated wetlands, as identified on the NYS DEC maps, and numerous federally regulated wetlands, as shown on the NWI wetlands map (some of which overlap), are located within the Town. In order to ascertain whether or not additional wetlands exist on any given parcel, site specific surveys should be conducted on all lands during the development review and approval process.

At the federal level, the US Army Corps of Engineers protects wetlands under Section 404 of the Federal Clean Water Act, regardless of size. No upgradient adjacent areas or buffers are offered protection under federal law. Currently, smaller "isolated" wetlands are unprotected by State and Federal law.

Section 143-23 of the Town's Zoning Law currently requires a minor subtraction for NYSDEC wetlands in the calculation of permitted residential density; there is no deduction required for federal jurisdictional wetlands. Additionally, § 143-30 of the Town's Zoning Law currently requires a special use permit for development activities within 100 feet of a NYSDEC wetland; however, there is no similar protection afforded federal jurisdictional wetlands unless they are "established" by the Town as subject to this protection, which the Town has not undertaken. Section 143-33 permits the Planning Board to require clustering if it would result in better protection of wetlands than a conventional lot-by-lot subdivision. The Town does not have a local wetlands law.

Specifically within the area proposed for the TND District are four identified wetlands, including a portion of a NYS DEC wetland (KE-3), located on the east side of Route 9, and three small federal jurisdictional wetlands located on the west side. While the Proposed Action by itself will not have any adverse impacts on these or other wetlands existing within the proposed District, potential impact due to future construction activities in proximity to these wetlands remain. Direct impacts would be attributed to the permitted filling of any State or federal jurisdictional wetland as well as isolated and therefore unregulated wetlands. Indirect impacts including but not limited to increased runoff from impervious surfaces, increased pollutant load, sedimentation, habitat degradation and the proliferation of invasive species may also result from activities permitted upon upgradient lands adjacent to wetlands. However, this potential would exist regardless of whether the current Zoning remains in place (i.e., if the No Action Alternative is chosen) or if the Proposed Action is adopted by the Town Board. Site-specific wetland delineation and impact assessment remains a requirement for regulated wetlands.

Furthermore, the lands proposed for the TND District are adjacent to existing commercial

development along Route 9. It is therefore likely that these lands are already somewhat more disturbed than outlying areas (i.e., existing influx of pollutants, less quality habitat, higher density of non-native species). Moreover, the proposed Zoning amendments contain a requirement that "wetlands, floodplains, and other valuable environmental resources" are to be protected and integrated into the TND neighborhood as assets. No significant adverse impacts to wetlands are anticipated as a direct result of the proposed Zoning of these lands for an increased level of development.

No adverse impacts on wetlands have been identified as a result of the Proposed Action. Foremost, avoidance of wetlands and minimization of wetland impact is required by law and site specific activities within the proposed TND District must take existing State and federal wetlands and any associated buffers into consideration. However, the proposed zoning adds a degree of overall wetland protection in that it eliminates some of the piecemeal approach to development. By concentrating development, particularly into areas in which both the quantity and quality of existing wetlands is already somewhat limited, indirect and cumulative impacts can be substantially avoided.

D. Transportation

The automobile is the predominant mode of travel in the Town of Red Hook. A network of smaller Town roads serves residential areas, while County and State roads collect traffic from Town roads and provide access to other communities and regions. Two major routes (US Route 9 and NY Route 199) intersect within the Village of Red Hook and a third major route (NY Route 9G) runs parallel to US Route 9 to the west.

Annual Average Daily Traffic (AADT)[4] for US and State routes in Red Hook during the last decade, according to the NYS DOT 2008 Traffic Volume Report,[5] are shown in Table III-10 in Chapter III. According to the AADT's, traffic volumes have declined on all segments of Route 9 and Route 199 in the last 10 years, while traffic volumes have increased moderately on all segments of Route 9G.

Development densities would decrease throughout most areas of the Town as a result of the Proposed Action. However, building potential could be transfered from the AB District to the TND Residential and Commercial Center Subdistricts through the use of incentive zoning. This zoning tool would authorize adjustments to building potential in the TND District *in exchange for* funds to be used exclusively to preserve greenspaces in the AB District. Thus, the increased building potential in the TND District would not increase density in the Town overall, but would rather shift potential development from farmlands in

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[4] AADT is a standard measure of two-way daily traffic volume, adjusted for weekly and seasonal variations.

[5] https://www.nysdot.gov/divisions/engineering/technical-services/hds-respository/NYSDOT_Traffic_Volume_Report_by_Region_2008.pdf. The Traffic Volume Report is prepared by the Traffic Monitoring Unit of the Highway Data Services Bureau of the NYS DOT. The 2008 Report contains the most recent data published by the NYS DOT.

outlying areas of the Town to the area immediately south of the Village of Red Hook on US Route 9. The TND District would also permit greater commercial development on lands in the proposed Commercial Center Subdistrict, and would include an Office-Industrial Subdistrict, which would permit uses such as light industry, office, and lodging, on lands that are currently Zoned RD3. Special consideration should therefore be given to potential traffic impacts on the US Route 9 corridor in the vicinity of the proposed TND District.

The traffic operating conditions of signalized and unsignalized intersections of local roads with US Route 9 in the vicinity of the proposed TND District were assessed in two recent traffic studies. In June 2005, a Traffic Impact Study was conducted by John Collins Engineers, PC for the Anderson Commons project located on Fisk Road in the Town and Village of Red Hook. Detailed turning movement traffic counts were collected at several key intersections in the vicinity of the Anderson Commons site, including the intersection of US Route 9 with Firehouse Lane/Amherst Road, Fisk Road, and Metzger Road.[6] The Traffic Impact Study determined that all of the intersections would operate at a acceptable LOS and no improvements, beyond additional pavement markings, were necessary.

A Traffic Impact Study prepared by Creighton Manning Engineering, LLP for the Red Hook Hannaford Supermarket (June 29, 2000) studied additional intersections in the vicinity of the proposed TND District. A traffic signal was installed at the US Route 9 and Rokeby Road intersection as part of the Hannaford project. Signalization of this intersection was an alternative studied in the Hannaford DEIS, which concluded that the signalized intersection would operate adequately under this alternative.

The Town has planned a connector road that will run parallel to US Route 9 from the Hannaford grocery store to Firehouse Lane. Portions of the road have already been constructed, and the Town is in the process of adopting an Official Town Map identifying the location of the remaining road segments.

Bus service in the Town of Red Hook is provided by the Dutchess County LOOP System. The LOOP System provides both express (commuter) and mid-day service throughout the county. Red Hook residents are served by a LOOP commuter route, which operates Monday through Friday and serves the Tivoli to Poughkeepsie corridor (Express A). Mid-day service runs Monday through Saturday and also connects Tivoli to Poughkeepsie. All LOOP buses can be hailed or will stop along their routes where the bus can stop safely. The County operates Dial-A-Ride service in the Town of Red Hook once a week to provide door-to-door transportation for eligible handicapped and senior residents.

Sidewalks are found in the Village of Red Hook and along US Route 9 between Firehouse Lane and Rokeby Road. The Town also has a few off-road dedicated hiking, biking and

[6] Proposed site access driveways to the Anderson Commons project, the intersection of NY Route 199 and Baxter Road, and other minor intersections of concern specific to that project were also analyzed.

walking trails, particularly in proximity to the Hudson River. Signed bicycle routes exist on a network of Town, Village, County and State roads, but these are simply trail blazed "share-the-road" routes along existing roads rather than dedicated lanes in the public right-of-way.

The Build-Out Analysis conducted for the Town of Red Hook (Appendix F) found that the current Zoning would permit the development of approximately 3,588 new single family dwelling units in the study area. Projected vehicle trips in the Town (generated by the residential development alone) would be more than 34,000 additional trips per day made by 7,176 vehicles on the road, and these vehicles would need to travel to or through the Village of Red Hook or on Route 9G. In comparison, the Proposed Action would permit approximately 1,388 new dwelling units, with 2,776 vehicles making 12,436 additional vehicle trips per day on local roads. Thus the Proposed Action would generate 64% less traffic than the existing Zoning as a result of new residential development, as shown in Table III-15 in Chapter III. This is a beneficial impact for which no mitigation is required.

As shown in Table III-19 in Chapter III, additional traffic on US Route 9 south of the Village of Red Hook may occur as a result of the proposed TND District, although this would be offset by the overall 64% reduction in potential traffic that could result from the Proposed Action. As shown in Table III-10 in Chapter III, the annual average daily traffic on US Route 9 in 2008 was 9,550 vehicles. As noted in *Place Making, Developing Town Centers* (by Charles Bohl, 2002), traffic flow on an ideal Main Street is 16,000 to 20,000 average daily trips (Bohl, page 290). The Route 9 corridor is thus currently functioning at approximately half the ideal capacity for a Main Street commercial area.

The area immediately south of the Village of Red Hook on US Route 9 is an appropriate location for permitting increased building potential since this road, which serves as the primary corridor for travel within the community, has the capacity to accommodate the additional growth. It is also located on the LOOP bus route, and use of public transit would further reduce potential impacts of automobile traffic resulting from development in this area. Finally, the Town planned connector road running approximately one block east of US Route 9 will alleviate traffic on Route 9 and at the Route 9/Route 199 intersection without diverting traffic too far from the business district. The grid pattern of roads will diffuse most congestion by enabling traffic to take alternative routes without detracting from the vitality of the TND Commercial Center.

The LOOP bus may see an increase in ridership over time due to the location of the proposed TND District on the bus route. Increased ridership is a beneficial impact that helps to offset the public subsidies needed to keep the LOOP operational.

Potential traffic impacts resulting from increased residential and commercial development in the proposed TND District can be mitigated by measures such as signalizing additional intersections, reconstructing intersections as roundabouts, retiming traffic signals, adding or

improving pavement markings, and construction of the planned connector road. The Village of Red Hook has been working with the NYSDOT and a nearby landowner to improve the off-set intersection of US Route 9 with Firehouse Lane/Amherst Road, and plans to realign the roadway into a single four-leg signalized intersection. Alternatively, a roundabout might be appropriate at this location. Recent studies by the Insurance Institute for Highway Safety and New York State Department of Transportation show that roundabouts can improve safety and reduce delays at intersections. This parallels findings from studies of roundabouts in Europe and Australia. In addition, signalization or use of a roundabout at the US Route 9/ Old Farm Road intersection would not only improve the operation of this intersection, it would also serve to space traffic along the corridor between Hannaford Drive and the Village of Red Hook, and thereby improve the level of service of the US Route 9/NY Route 199 intersection.

A project specific Traffic Impact Study assessing existing and projected traffic flow, operating conditions, and specific mitigation measures, should be required of any project in the Town when the Planning Board determines the project may have a potential impact on traffic. Generally, a comprehensive traffic impact analysis should be completed whenever proposed development is expected to generate 100 or more new inbound or outbound trips during the peak hours (the ITE's recommended practice). For example, developments containing about 150 single-family homes, or approximately 15,000 square feet of retail would be expected to generate this level of traffic and hence, require a complete traffic analysis.

E. Community Services and Infrastructure

a. Emergency Services

The Town of Red Hook is served by the Red Hook Police Department, which operates out of the Red Hook Village Hall. The department currently has 13 officers on staff, including three full-time officers. The Dutchess County Sheriff's Department and the New York State Police provide additional police protection in the Town. The Sheriff's Department has a substation on Route 308 near Sepasco Lake in Rhinebeck. The State Police maintain a barracks on Route 9 south of Rhinebeck.

Fire protection services in the Town of Red Hook are provided by volunteers from two fire companies: the Red Hook Fire Company located on Fire House Lane in the Village of Red Hook, and the Tivoli Fire Company, located in the Village of Tivoli. The Red Hook Fire Company is an all volunteer department that protects approximately 8,000 residents living in a 25 square mile area. In addition to fire fighting services, the department provides basic life support emergency ambulance service that is simultaneously dispatched with paramedics for typical emergency calls. Equipment includes two fire engines, a ladder truck, heavy rescue truck, brush truck, and an ambulance. The Tivoli Fire Company is an all volunteer, fully equipped fire department and rescue squad. The fire district includes the Village of

Tivoli, Annandale-on-Hudson (including a portion of the Bard College Campus) and the northern sector of the Town of Red Hook.

In a rural residential community such as the Town of Red Hook, calculation of the necessary numbers of emergency service personnel is based on a per capita calculation: the more residences the Town has in the future, the more personnel would be required. The build-out analysis indicates the need for approximately 22 new police officers and 18 new fire fighters[7] should the additional development allowed by existing Zoning be realized. However, comparison of the existing Zoning with the Proposed Action reveals a significant difference, with the need for only 8 new police officers and 7 new fire fighters required to serve the larger community as shown on Table III-20 in Chapter III. The reduction in future population under the Proposed Action is accompanied by a reduction in the need for emergency service providers, a beneficial impact on community services.

b. Utilities

CH Energy Group is a distribution utility and, through its subsidiaries and affiliates, services the Town of Red Hook with electricity. The actual source of the generated electricity, that is distributed by Central Hudson, can be chosen by those with accounts with Central Hudson. No natural gas lines extend to Red Hook. Propane, fuel oil, and other petroleum products are provided to residents by several local and regional companies. Central Hudson currently serves approximately 300,000 electric customers and 74,000 natural gas customers throughout its franchise area. It has an aggregate transformer capacity of 5.3 million kilovolt amps.

Central Hudson is regulated by the New York State Public Service Commission, which requires that every distribution utility in the State must provide residential service without unreasonable qualifications or lengthy delays and such service is necessary for the preservation of the health and general welfare and is in the public interest.

Frontier Communications provides basic local telephone service to the Red Hook area. No other basic local providers service Red Hook at this time. Numerous providers are available for regional and long distance service. Frontier is also subject to New York State Public Service Commission regulations.

The New York State Department of Public Service has a broad mandate to ensure that all New Yorkers have access to reliable and low-cost utility services. The Department is the staff arm of the Public Service Commission. The Commission regulates the state's electric, gas, steam, telecommunications and water utilities. The Commission also oversees the cable

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[7] Additional police protection was estimated at two (2) police officers per 1,000 population based upon the commonly applied planning standard outlined in *Community Guide to Development Impact Analysis* by Mary M. Edwards (March 2000). Additional fire protection was estimated at 1.65 fire fighters per 1,000 population based upon the standards of the International Association of Fire Chiefs.

industry. The Commission is charged by law with responsibility for setting rates and ensuring that adequate service is provided by New York's utilities.

Time Warner provides cable service in the Town. The Town is served by a number of internet service providers, such as AT&T, Verizon, and Webjogger.

The Proposed Action will reduce the need for utility services to be provided in the Town of Red Hook due to a reduced build-out over the existing Zoning. It is not possible at this time to predict the energy and other utility needs of any future development that may occur as a result of the Proposed Action since this will require a site-specific assessment of energy needs and impacts as part of any SEQR reviews that may occur in the future. However, no significant adverse impacts can be expected from the Proposed Action.

c. Water and Wastewater

The Build-Out Analysis estimates, under the Town's existing Zoning, would result in the addition of 3,588 new single family dwelling units and 11,089 new residents. The dwellings that these new residents would live in would require construction of approximately 3,588 new septic disposal systems generating more than 1,148,000 gallons of sewage per day discharged into the ground, and these dwellings would also depend upon new groundwater wells drawing more than 1,148,000 gallons of water per day.

In comparison, if the existing Zoning were amended as proposed, these impacts would be reduced as compared to the above figures as follows: there would be potentially 1,388 new dwelling units and 4,226 new residents requiring an additional 435,280 gallons of water per day. Thus the Proposed Action would result in consumption of less water and the discharge of less sewage to ground and/or surface waters.

Limited areas of the Town, including the two Villages, Bard College, and residential developments to the northwest and immediately south of the Village of Red Hook, are served by existing central water supply systems. The entire community, except for the Village of Tivoli and Bard College, depend on private, on-site sanitary sewage disposal facilities.

The Town and Village of Red Hook are in the process of developing a sewer district to be located primarily in the Village, with a portion along Route 9 in the Town. That project is subject to a separate SEQR review. The sewer district will serve residential and commercial properties on US Route 9 from Old Post Road to Rokeby Road and on NY Route 199 from Cherry Street to Linden Avenue. There are currently no public sewers in the Village or Town of Red Hook, and all of the properties within the proposed sewer district are serviced by individual sewage disposal systems that discharge into groundwater, with the exception of the senior housing units and commercial uses at Red Hook Commons. As noted in the "Map, Plan & Report" for the proposed sewer district prepared by C.T. Male Associates, P.C.

(December 2009 [8]), "some existing buildings have substandard septic systems which can pose a threat to the drinking water supply due to the fast/free draining soils in the [proposed sewer] District."

The proposed TND Residential Subdistrict and Office-Industrial Area is not included in the proposed sewer district. However, the proposed wastewater treatment plant and sewer collection system will be designed to allow expansion in the future so that future developments in the proposed TND District can connect to the proposed sewer system. This would be preferable to the construction of private central sewer facilities to service the residential neighborhoods. To provide wastewater treatment, the privately owned 25,000 gallon per day (gpd) Red Hook Commons wastewater treatment plant (WWTP) would be obtained by the District and its capacity would be expanded to 85,000 gpd. The 12.4 acre lot where the WWTP is located was studied in the "Facility Plan and Basis of Design Reports" (C.T. Male Associates, P.C., 2008) and it was found suitable for building the needed improvements to treat 85,000 gpd. Additionally, the site can be expanded to treat up to 285,000 gpd (200,000 future capacity) if needed to accommodate, for example, development in the proposed TND Residential Subdistrict and Office-Industrial Area.

The Proposed Action would result in the consumption of less water and discharge of less sewage into ground and/or surface waters than the No Action Alternative, both beneficial impacts. Moreover, the Proposed Action would concentrate new development in the proposed TND District where it could be served by municipal water and potentially sewer, rather than continuing to disperse development throughout the landscape where it would be served by individual groundwater wells and septic systems discharging into the ground. As noted in the recent Dutchess County Aquifer Study, "*concentrating most new development in and around traditional mixed-use, walkable cities, villages and hamlet centers is still one of the best strategies to protect natural resources and the rural countryside, which provides significant filtering and recharge of our groundwater resources*."[9] The Chazen Companies groundwater report (see Appendix G) determined that there would be an adequate amount of groundwater to support development in the proposed TND District.

The New York State Department of Health, in discussing the use of septic systems in rural and suburban areas, recommends that "*Wherever possible, sewage should be collected in community sewers connected to a central treatment plant.*" The Proposed Action, therefore, is consistent with established State policies to avoid a proliferation of septic systems throughout the Town's rural and suburban areas.

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[8] Available on-line at www.co.dutchess.ny.us/CountyGov/Departments/WaterandWaste/WRIndex.htm)

[9] *Dutchess County Aquifer Recharging Rates and Sustainable Septic System Density Recommendations* (The Chazen Companies, April 2006), page iv.

d. Public Schools

The Red Hook Central School District encompasses approximately 90 square miles and includes most of the Town of Red Hook, and portions of the Towns of Rhinebeck and Milan in Dutchess County as well as Clermont and Livingston in Columbia County. Total enrollment in the Red Hook Central School District is currently 2,231 students. Enrollment in recent years has remained relatively stable, with only slight increases and decreases in the last five years. Previously, the District experienced a steady enrollment growth at an annual rate of 2.5%. The District has a teaching staff of 215 and a support staff of 179. In 1999, voters approved a $28 million bond referendum for a comprehensive school building project to upgrade existing District facilities. In 2009, a $15 million roofing project was completed.

The Fiscal Impact Analysis (Appendix H) includes a detailed projection of future operating costs for the Red Hook Central School District under No Action Alternative (i.e., the current Zoning). At full build-out, it is projected that the additional 2,479 new school-age children generated by new residential construction under the No Action Alternative would more than double the School District's current enrollment and would require an increase of approximately $28,839,930 in operating costs annually. These new costs would be partially offset by the $17,340,946 in additional property tax revenues generated by the new residential growth. However, the net result would be an annual loss of $11,498,983. It should be noted that this does not include the cost of capital improvements that may be required due to growth from new residents and school-children.

The Proposed Action, which includes the TND District with its requirement for a range of housing types, which includes additional commercial development, and which reduces the potential build-out of the Town, would minimize potential impacts to the school district. The Fiscal Impact Analysis estimates that the 940 school-age children generated by new residential construction under the Proposed Action would would increase school district appropriations by approximately $10,929,780, of which an estimated $6,433,159 would be offset by the increase in property tax revenues, leaving a net loss of $3,975,266 annually. This loss is significantly less than the annual $11,498,983 loss generated by the current Zoning. Since the Proposed Action would significantly diminish the future tax burden in comparison to the current Zoning, no mitigation is required.

F. Cultural and Historic Resources

a. Historic and Archaeological Resources

Red Hook has a rich cultural past spanning over 300 years of European settlement and thousands of years of prehistoric habitation. This legacy is recognized in a nationally significant historic district and many scattered historic sites throughout the Town. The Hudson River National Historic Landmark District was designated by the US Secretary of the Interior in 1990 and is one of the nation's largest landmark districts. Its aim is to

preserve the great estates region of the Hudson River Valley. The District includes over 500 contributing structures and features, and two sites (Montgomery Place and Rokeby) which are individually listed on the State and National Registers in Red Hook. Most of the estates included in the District would individually meet the criteria for listing on the State and National Registers, but they gain additional significance from their grouping along the Hudson River. The District, which draws 500,000 visitors annually, also has significant economic benefits for the region. In 1997, a Marist College-Greenway Council Survey estimated that the annual economic impact of these visitors was as much as $250 million.

Outside the National Historic Landmark District, the following properties in the Town of Red Hook are individually listed on the National Register of Historic Places: Heermance (Bulkeley) Farmhouse; Hendrick Martin Stone House; St. Margaret's Orphanage; Parker Training Academy Dutch Barn.

A review of the NYS Site Inventory for pre-historic and historic sites indicates that archaeologically sensitive areas in the Town (areas with the potential for additional archaeological discovery) are primarily associated with the National Historic Landmark District and with historic sites listed on the National Register in the Town and Village of Red Hook. Archaeologically sensitive areas contain one or more variables that make them likely locations for evidence of past human activities. Figure III-10 in Chapter III identifies the location of all National Register sites and the general location of archaeologically sensitive areas in the Town of Red Hook.

Potential impacts to historic and cultural resources could result whenever development occurs in proximity to historic sites listed on the State and National Registers of Historic Places and in archaeological sensitive areas. It should be noted that all areas of Town that would be affected by the proposed amendments currently permit development and associated land disturbance. The potential impact of development on historic and cultural resources would thus not be increased by the Proposed Action. Site specific investigations must be undertaken whenever development is proposed in proximity to historic sites and in archaeologically sensitive areas in accordance with the standards for cultural resource investigations adopted by the New York State Office of Parks, Recreation and Historic Preservation.

G. Community Character

This DGEIS does not attempt to redefine Red Hook's community character but is based solely upon how that character has been defined in officially approved or adopted planning and zoning documents. Red Hook's *Comprehensive Plan* begins with a concise statement of the community's character:

> "Although it is experiencing moderate population growth, the Town of Red Hook remains predominantly rural in character, with many distinguishing scenic resources,

including country roads; open views of agricultural fields, mountains and woodlands; streams and other waterways; and its Hudson Riverfront setting. The rural character and scenic features are identified as important elements contributing to the sense of place and the quality of the living environment within the Town. The community's objective is to maintain this overall sense of rural character while accommodating the inevitability of growth and change. . . "

The *Town of Red Hook, Village of Red Hook and Tivoli Open Space Plan* adopted by the Town Board in 2006, funded by the Hudson River Valley Greenway and a joint undertaking of the Town and two Villages, discusses the character of the Red Hook community as follows:

"The Red Hook community is twice blessed. First it is endowed with a bounty of open space resources that range from tidal wetlands to productive farmland, and include a variety of scenic, recreational and historic resources. Second, the Red Hook community is fortunate because its residents realize the value of these resources. Their acknowledgment of these values is demonstrated in the community survey where 88% said 'yes' to the question: do you believe the community should actively pursue protecting open space as an 'investment' for keeping the community fiscally healthy and affordable?...Protection of farmland and other ecological, recreational, and scenic resources assures continuance of community character. A significant portion of the open space recommended for protection is productive farmland, important because agriculture occupies one third of the community's land area and contributes significantly to the rural character and scenic working landscape of the community. Protection of open space land is necessary if we are to control sprawl development, protect wildlife habitat, maintain historic character, preserve scenic and rural roads, provide passive recreational opportunities, maintain water quality, preserve architectural and archaeological resource, and protect scenic corridors and views."

Further guidance on how Red Hook has defined the character of the community comes from several of the Purposes of the *Town of Red Hook Zoning Law* [see § 143-3] as follows:

"To encourage the conservation and sound management of natural, scenic and historic resources throughout the Town in order to preserve the integrity, stability and beauty of the community and the value of the land.

To protect the character of specifically identified scenic and historic resources and sensitive environmental areas including groundwater, streams, wetlands, floodplains and significant wildlife habitats.

To foster the continuation and diversification of farm activities and preservation of irreplaceable agricultural land resources.

To foster the creation of economic development activities within the town consistent with rural small-town character yet capable of providing goods, services and jobs to town residents."

The Subdivision Regulations, adopted by the Town Planning Board and approved by the Town Board, as well as a number of other planning studies and related documents[10] prepared in the past also provide consistent evidence of Red Hook's characterization of and commitment to protect the character of its community. Readers who are interested in learning more about this topic are encouraged to consult the above and footnoted documents, which are referenced herein, as a description of the character of the Red Hook community.

The question of whether the Proposed Action is consistent with the Town's *Comprehensive Plan, Open Space Plan* and *Zoning Law* or whether the Proposed Action has the potential to impair the rural and scenic character of the Town as described in the *Comprehensive Plan, Open Space Plan* and *Zoning Law* is fully described in Chapter III. As described in the subsection on Land Use, Zoning and Public Policy, the existing Zoning can be expected to change the Town from a predominantly rural community to a more suburban-like community. Houses would sprawl over the agricultural and other scenic landscapes and commercial strip development would continue to line the Route 9 corridor south of the Village of Red Hook in an auto-dependent manner. The Proposed Action on the other hand, would direct new growth into a compact pattern that continues and strengthens the Town's existing rural and agricultural character by concentrating mixed uses in a pattern of compact growth through the retrofitting of an almost exclusive commercial district while adding protections and reducing densities in the Town's most rural and agricultural areas. The gradual transformation of a commercial strip into a traditional walkable Main Street more in keeping with small town character, as would result from the Proposed Action, is illustrated in Figure III-11 in Chapter III.

The Traditional Neighborhood Development (TND) District would permit development at levels that match the prevailing pattern of existing development within the village areas, which is consistent with the character of Red Hook's settlements. The TND District would accommodate a more modest level of growth in the Town than would be possible now under Red Hook's more suburban-oriented Zoning Districts pattern as outlined in the Build-Out Analysis. There would be no hazards to human health created by the TND District and the levels of development achievable town-wide under the Proposed Action would be less intense than the existing Zoning could accommodate. While the numbers of people attracted to the proposed TND District would be greater than what could be accommodated now, the

[10] For instance, see "Recommendations of the Land Use, Conservation and Development Working Group Report," "Trails Feasibility Study," Purchase of Development Rights Program (Chapter 56 of the Red Hook Code), Community Preservation Plan legislation (i.e. New York State Town Law Section 64-h and Chapter 57 of the Red Hook Code).

existing non-residential districts in this area of the Town are not fully built out and could accommodate significant additional non-residential and residential development activity under the No Action Alternative.

The TND District would permit a compact, mixed-use neighborhood where residential, commercial, and civic buildings are in close proximity to each other. This is a planning concept that is based on traditional small town development principles and would enhance the existing small town, rural community character of Red Hook. By allowing for village scale development in and adjacent to existing settled areas, density in areas outside the villages can be reduced without adverse impacts on housing affordability. A diversity of dwelling options would be provided in the TND District, including allowances for apartments, cottages, duplex units, townhouses and single family dwellings. The apartments and cottages would provide for a more affordable housing option that is possible now with the Town's predominant pattern of single family dwellings. Moreover, row or attached dwellings would be added as a permitted use in the R1 and Hamlet (H) Zoning Districts. These measures are intended to ensure an adequate supply of more affordable housing types in the Town.

Coupled with the use of conservation subdivision throughout the Town, the proposed Zoning provisions would ensure that the greenbelts defining the edge of the villages are maintained. In terms of the southern gateway into the Village of Red Hook, the proposed TND Office-Industrial Subdistrict would require a minimum 200 foot setback and landscaped buffer from US Route 9 to effectively screen structures and parking on a year-round basis from views from Route 9 through the preservation of existing vegetation and landforms, and by substantial new plantings. These measures are intended to ensure that the greenbelt south of the TND is maintained. Design standards in the TND District's form-based Zoning amendments would ensure that new development follows the design principles and patterns of development that the villages were originally based upon. Preservation of the historic "town and country" development pattern of the Town, which will result from the proposed Zoning, is a beneficial impact on community character.

The proposed village-scale development in the TND District could have the potential to have adverse impacts on adjoining lands resulting from increased noise, light and air quality impacts. These potential impacts can and should be addressed by site-specific SEQR reviews of any development proposed in the future in the TND District. In any case, the Town already has performance standards for noise found in § 143-25 of the Zoning Law, in addition to standards for outdoor lighting found in § 143-27.1. Potential air quality impacts from increased traffic would be minimized or avoided altogether by the provision of a mix of land uses, interconnected streets, sidewalks and small lots, all of which would create a pedestrian-friendly environment, encourage walking and discourage driving. The existing Zoning, on the other hand, forces people to drive by separating different land uses and by locating houses at a distance from each other, frequently on cul-de-sacs that are not internally

connected to neighboring subdivisions. The proposed Zoning would thus include provisions that would avoid or minimize potential impacts of the proposed TND District on noise, light, and air quality.

The proposed Agricultural Business District would enable and encourage agriculture to continue to thrive in the Town by permitting farmers greater business opportunities, such as larger farm markets and a wide range of agri-tourism businesses, to enhance farm income. This is consistent with the goals of the *Comprehensive Plan, Open Space Plan,* and *Zoning Law.* Many of the new agriculturally related uses would receive a streamlined review process. Farmers could choose different options for their properties. Under the conservation option, they could participate in the Town's PDR program, community preservation fund or incentive zoning program, to sell their development rights at the rate allowed under the current zoning as depicted on the 1999 Zoning Map, while retaining the right to build some new homes on the farm in a farmstead complex without the need to subdivide. Under the limited development option, farmers could develop their lands at a reduced density based on a sliding scale using conservation subdivision design so that new residential development did not adversely impact other farms in the area.

The Agricultural Business District would provide a number of beneficial social, economic and environmental impacts as detailed in Chapter III. The proposed Agricultural Business District will not cause a substantial change in the use or intensity of use of land but rather will allow for a reduction in the intensity of use of land over what could occur under the existing Zoning. It will not encourage or attract a large number of people to a place for more than a few days absent such action but will allow for a reasonable increase in the use of agricultural lands for agricultural purposes, consistent with the Town's *Comprehensive Plan, Open Space Plan, Zoning Law*, as well as Article XIV of the New York State Constitution, which states that: "*The policy of the state shall be to conserve and protect its natural resources and scenic beauty and encourage the development and improvement of its agricultural lands for the production of food and other agricultural products. The legislature, in implementing this policy, shall include adequate provision for the abatement of air and water pollution and of excessive and unnecessary noise, the protection of agricultural lands, wetlands and shorelines, and the development and regulation of water resources*."

Encouraging agriculture in the Town has the potential to create a hazard to human health for several reasons. Agriculture is an industry and, while many farms throughout the nation have moved away from the use of pesticides and artificial fertilizers by adopting certified organic farming methods, many farms, including some in Red Hook, have not. Thus, potentially dangerous chemical substances are used by farmers in the production of food and other crops. This will not create a hazard to human health that is not already present on the Town's existing farms nor is it an unnecessary hazard that has been determined by the State of New York to exceed reasonableness, based upon the fundamental need for growing food and other crops.

New York State Agriculture and Markets Law prohibits local laws, including zoning laws, to unnecessarily restrict farm operations. State Law also addresses whether the local law limits, restricts or prohibits the production, preparation and marketing of any crop, livestock or livestock product as a commercial enterprise. Pesticides and artificial fertilizers are commonly used throughout the Town by residential, commercial, industrial, and agricultural land uses at present. What must be examined from a planning and zoning standpoint is whether agriculture would be subjected to more intensive reviews or requirements than other land uses without a demonstrated link to a specific and meaningful public health or safety standard designed to address a real and tangible threat. Red Hook's proposed Agricultural Business District would allow agricultural land uses to continue, to expand and to prosper, provided they used "generally accepted agricultural and farm management practices." This is the threshold that New York State uses to judge whether agriculture can enjoy the protections embodied by the State Constitution and New York State Laws. In regards to pollutant discharge from chemical substances, if it is found that a farm operation is in contravention of "generally accepted agricultural and farm management practices," the Town of Red Hook may request a "Commissioner's Opinion" from the Department of Agriculture and Markets, which will evaluate the situation on a case by case basis.

Since the Proposed Action would not result in any significant adverse impacts to community character, no mitigation is required.

H. Economic and Fiscal Considerations

Fairweather Consulting conducted a Fiscal Impact Analysis (see Appendix H) of the current Zoning, the Proposed Action and the alternatives outlined in the Scoping Document for this DGEIS. For each option, the analysis includes a review of the costs and revenues associated with new development for the Town of Red Hook general budget, general and highway budgets, and the Red Hook Central School District (RHCSD). The analysis does not estimate the cost of capital improvements that may be required due to growth from new residents and school children, nor does it estimate how inflation will affect costs and tax revenues of the jurisdictions. It is thus based on conservative assumptions. The analysis does not include special improvement districts in the Town, such as lighting, drainage, sewer and water districts, since those districts' revenues would be driven by user charges, not property taxes.

Based on current *per capita* expenditures, the new residents added to the Town's population upon build-out under the No Action Alternative (i.e., the current Zoning) would increase the Town's Townwide (general budget) appropriations by $855,766, and the Town's TOV (general and highway budgets) appropriations by $1,188,316. The addition of new school children under this scenario would increase school district appropriations by approximately $28,839,930, using current per-pupil estimates.

These new costs would be partially offset by the additional property tax revenues generated by the Town's residential growth. As estimated by the Fiscal Impact Analysis, under the No Action Alternative, the added value of new housing units would generate an increase of $805,821 in the town's Townwide (general budget) revenues and $1,128,261 in the town's TOV (general and highway) budget. Property taxes on the new units would generate an estimated $17,340,946 in revenues for the RHCSD. The net result would be a total annual loss of $11,608,983.

The Proposed Action would significantly reduce the number of new dwelling units that could be developed within the Town. It would also permit an increase in commercial development in the TND District, creating the potential for 140,000 square feet of new commercial space in the Commercial Center of the TND District, and an additional 180,000 square feet of hotel and light industrial uses in the Office-Industrial Subdistrict. Based on current *per capita* expenditures, the new residents added to the Town's population upon build out under the Proposed Action would increase the town's Townwide (general budget) appropriations by $340,620, and the town's TOV (general and highway budgets) appropriations by $474,192. The addition of new school children under this scenario would increase school district appropriations by approximately $10,929,780, using current per-pupil estimates.

As with the current Zoning, these new costs are partially offset by the additional property tax revenues driven by the Town's residential growth. Under the Proposed Action, new development would drive an increase of $323,171 in the Town's Townwide (general budget) revenues and $452,484 in the Town's TOV (general and highway) budget. Property taxes on the new units would generate an estimated $6,954,515 in revenues for the RHCSD. The net result would be a total annual loss of $4,068,379. Thus, the net fiscal impact of the Proposed Action represents a significant improvement over the current Zoning.

A final factor to consider related to the Proposed Action is the fiscal impact associated with purchase of development rights (PDR) in the AB District, and incentive zoning in the TND District. The Fiscal Impact Analysis estimates that the total cost of development rights under the Proposed Action would be $7,396,500. Incentive zoning would reduce this cost by contributing $4,800,000 in new revenues, leaving a total one-time cost for PDR of $2,596,500. If the Town financed this one-time cost, the annual payment (assuming a 20-year term, and a 4.75% annual interest rate) would be approximately $204,000. However, annual CPA revenues received by the Town (estimated at $150,000 per year) would reduce the debt service payments to $54,000 per year for 20 years.

Note that if the development rights are not purchased from lands in the AB District, the cost of additional residents and school age children resulting from additional residential development would need to be added to the estimates. These costs, unlike the borrowing costs for PDR, would be ongoing on an annual basis.

Review and Approvals

The Proposed Action consists of adoption of amendments to the Town's Zoning and Subdivision Laws pursuant to authority granted under Article 2 of the New York State Municipal Home Rule Law and in accordance with Article XI of the Town of Red Hook Zoning Law and Chapter 120 of the Code, and the adoption of amendments to the Town's *Comprehensive Plan* under § 272-a of New York State Town Law and as recommended in the "Closing Statement" of the Town's *Comprehensive Plan*. In amending the *Comprehensive Plan*, the Town Board must take into consideration applicable county agricultural and farmland protection plans as created under Article 25-AAA of the New York State Agriculture and Markets Law pursuant to NYS Town Law § 272-a.9. The Town Board is the only entity with approval authority over the Proposed Action. The Dutchess County Department of Planning and Development has review responsibilities under General Municipal Law § 239-m, but no approval authority. The Town of Red Hook Planning Board has review responsibility of the proposed Zoning and Subdivision amendments under §§ 143-141 and 120-32 of the Town Code, but no approval authority. The Planning Board, acting as the Waterfront Advisory Committee pursuant to Chapter 68 of the Town Code, must also review and make recommendations to the Town Board regarding the consistency of the Proposed Action with the Town's Local Waterfront Revitalization Program policy standards and conditions. No other local, state, or federal approvals or permits are required.

Alternatives Considered

Chapter IV of the DGEIS evaluates a range of reasonable and feasible alternatives, including the No Action alternative, in addition to the evaluation of the Proposed Action. A summary of each alternative is presented below along with a Table comparing impacts of each alternative and a separate Chart illustrating the fiscal implications of each alternative. A complete discussion of each alternative can be found in Chapter IV.

A. No Action Alternative

The Town Board may consider taking no action with respect to the proposed amendments to the Zoning Law, Subdivision Law and *Comprehensive Plan*. A decision to take no action would mean that the existing Zoning Law, Subdivision Law and *Comprehensive Plan* would remain in effect. The Town Board, the Intermunicipal Task Force of the Town of Red Hook and the Villages of Red Hook and Tivoli, and members of the public have engaged in extensive research, analysis and discussion concerning the future of the Town. The No Action Alternative would result in a lack of public benefits outlined in Chapter II of this DGEIS as well as a lack of consistency with the Town's *Comprehensive Plan* and *Open Space Plan*, as well as a lack of consistency with the *Greenway Compact* and *Directions: The Plan for Dutchess County*.

B. Modification to Conservation Option of AB District (1)

This alternative evaluates the impacts of the proposed amendments to the Zoning Law but with the modification that the conservation option of the AB District permits a purchase of development rights density bonus of: a) one (1) dwelling unit per five (5) acres; or b) one (1) dwelling unit per six (6) acres.

C. Modification to Conservation Option of AB District (2)

This alternative analyzes the impacts of the proposed amendments to the Zoning Law but with a modification that provides an alternative method to determine the number of development rights that could be sold from lands in the AB District.

D. Modification to Limited Development Option of AB District (1)

This alternative analyzes the impacts of the proposed amendments to the Zoning Law but with the modification that the limited development option of the AB District is calculated at: a) one dwelling unit per ten (10) acres using conservation subdivision design; b) one dwelling unit per six (6) acres using conservation subdivision design.

E. Modification to Limited Development Option of AB District (2)

This alternative analyzes the impacts of the proposed amendments to the Zoning Law but with a modification that the limited development option of the Agricultural Business District is calculated as follows: one dwelling unit for parcels 0 to 6 acres in size; two dwelling units for parcels > 6 to 40 acres in size; one dwelling unit per twenty (20) acres for parcels greater than 40 acres in size, all using conservation subdivision design.

F. Modification to Limited Development Option of AB District (3)

This alternative analyzes the impacts of the proposed amendments to the Zoning Law but with a modification that the limited development option of the Agricultural Business District is calculated at one dwelling unit per forty (40) acres, using conventional subdivision (i.e., without a requirement for conservation subdivision).

G. Deletion of Limited Development Option of AB District

This alternative analyzes the impacts of the proposed amendments to the Zoning Law but with a modification that the limited development option of the Agricultural Business District is deleted. This alternative is a means to evaluate what the impacts would be if all lands in the AB District sold their development rights.

H. Increased Development Potential in TND District

This alternative analyzes the impacts of the proposed amendments but with a modification to Table 1 in Section 143-49.1G of the Zoning Law that would increase development potential in the Residential Neighborhood Subdistrict of the Traditional Neighborhood Development District.

I. Deletion of TND District and Open Space Incentive Zoning

This alternative analyzes the impacts of the proposed amendments to the Zoning Law but with a modification that the Traditional Neighborhood Development District and the Open Space Incentive Zoning provisions are deleted.

Table I-1: Comparison of Potential Impacts of Different Zoning Scenarios

	New Dwellings	Additional Residents	Additional School Children	Additional Vehicles on Roads	Additional Vehicle Trips Per Day (tpd)	New Police Officers	New Fire Fighters	Additional Water Consumed (gpd)	Additional Sewage Generated (gpd)
Current Zoning (Alternative A)	3,588	11,089	2,479	7,176	34,337	22	18	1,148,160	1,148,160
Proposed Action	1,388	4,226	940	2,776	12,436	8	7	435,280	435,280
Alternative B(a)	1,388	4,226	940	2,776	12,436	8	7	435,280	435,280
Alternative B(b)	1,388	4,226	940	2,776	12,436	8	7	435,280	435,280
Alternative C	1,388	4,226	940	2,776	12,436	8	7	435,280	435,280
Alternative D(a)	1,420	4,325	962	2,840	12,743	8	7	445,520	445,520
Alternative D(b)	1,603	4,891	1,089	3,206	14,494	10	8	504,080	504,080
Alternative E	1,321	4,019	894	2,642	11,795	8	7	413,840	413,840
Alternative F	1,213	3,685	819	2,426	10,762	7	6	379,280	379,280
Alternative G	1,197	3,963	881	2,394	10,609	8	7	374,160	374,160
Alternative H	1,554	4,696	1,042	3,108	13,140	9	8	482,700	482,700
Alternative I	1,131	3,485	775	2,262	10,823	7	6	361,920	361,920

Annual Net Impact, All Affected Jurisdictions

CHAPTER II: DESCRIPTION OF THE PROPOSED ACTION

A. Project Purpose, Need and Benefits

a. Introduction

The Town Board of the Town of Red Hook (the "Town Board") is considering a set of related actions: adoption of amendments to Chapter 143 Entitled "Zoning" and Chapter 120 entitled "Subdivision of Land" of the Town Code, and adoption of amendments to the *Comprehensive Plan*. The individual actions are integral to one another and each was developed in a coordinated fashion to ensure consistency. As such, the proposed actions are evaluated together in this DGEIS and are referred to as the Proposed Action.

This document is the Draft Generic Environmental Impact Statement (DGEIS) for the Proposed Action and evaluates the potential for any environmental impacts that could result from the Proposed Action. This DGEIS was prepared pursuant to the State Environmental Quality Review Act (SEQRA) (Article 8 of the Environmental Conservation Law) and its implementing regulations (6 NYCRR Part 617). The document has been prepared in a generic format because adoption of the Proposed Action will have a wide application, will affect many sites, and will have generic or common effects. This DGEIS incorporates by reference each of the documents that comprise the Proposed Action. SEQRA allows for the incorporation by reference of certain documents when those documents are available for full public review. This practice avoids unnecessary duplication of information found elsewhere and allows for a more concise environmental impact statement.

On January 13, 2009, the Town Board declared itself Lead Agency for the SEQR review of the Proposed Action, identified the Proposed Action as a Type I Action under SEQR, and adopted a Positive Declaration indicating that the Proposed Action may result in one or more significant adverse environmental impacts (see Appendix A). The Town Board also received a Draft Scoping Document which was prepared by consultants to the Town and which, on February 6, 2009, was made available to the public at the Town Hall, the Red Hook and Tivoli Public Libraries, and on the Town's website at www.redhook.org for viewing or downloading.

On March 10, 2009, the Town Board held a public-noticed scoping session to receive public comments on the Draft Scoping Document. Written comments were solicited until March 16, 2009. On April 14, 2009, after considering the public comments received during the public scoping session as well as written comments received, the Town Board adopted a Final Scoping Document (see Appendix A).

This chapter describes the Proposed Action, provides background discussion of the development of the Proposed Action, and describes the public need and benefits of the Proposed Action.

b. Background and History

To prepare the proposed amendments, the Town Board, working with the Villages of Red Hook and Tivoli, appointed an 11-member Intermunicipal Task Force ("Task Force") comprised of representatives from each of the three municipalities' planning boards and zoning boards along with additional "at large" appointees from each of the municipalities, including one member from the Town's Conservation Advisory Council. The Task Force worked for over three years to create the Centers and Greenspaces Plan and the proposed amendments to the Zoning and Subdivision Laws and the *Comprehensive Plan*. In preparing the proposed amendments, the Task Force sought out the preferences and priorities of townspeople during an extensive public participation process that included more than 200 public meetings including three community meetings and numerous discussions with stakeholders, community groups, and Town and village boards and committees.

The first community meeting, held on August 7, 2006, introduced the Centers and Greenspaces Plan and included breakout groups to discuss the concept. Over 130 residents attended this meeting and indicated strong support for the plan. The second community meeting on October 12, 2006 explored the different land use tools that could be employed to implement the Centers and Greenspaces Plan. This meeting and the subsequent community meeting on "Considerations" held on November 16, 2006 were also well attended, with over 100 residents at each. Both of these meetings were designed to solicit community feedback on the best way to implement the plan.

In addition to the community meetings, the Task Force met with over 30 individual stakeholders representing various interests, including developers, realtors, landowners, environmentalists, farmers, builders, historians, architects, business people, civic and community groups. Again, these meetings indicated strong support for the "Centers and Greenspaces" plan. Stakeholders across the board felt the Centers and Greenspaces Plan was "*clearly a better way to develop than the current zoning permits*," and most were very excited about the "smart growth" approach to planning in Red Hook.

To solicit further community input into the proposed plan, the Task Force prepared a *Progress Report* which it submitted to the Town Board on May 9, 2007 during a fourth community meeting attended by over 100 people. This meeting discussed the specific amendments proposed to implement the plan and the fiscal impacts of the proposed zoning in comparison to the existing zoning, as determined by a "Fiscal Impact Analysis for the Centers and Greenspaces Plan" conducted for the Town by Fairweather Consulting (May 2007). The *Progress Report*, along with draft zoning amendments, maps, plans, and other

materials, were filed with the Town Clerk and posted on the Town's website so they were available for public review.

Subsequent to the May 2007 community meeting, the Task Force met with the Red Hook Town Board on eleven occasions between May and September 2007 to review the proposed amendments in detail and make modifications. The Task Force held a community forum in Tivoli on April 24, 2008, and met separately with officials from the Village of Red Hook. Two well-attended meetings with landowners in the proposed Agricultural Business District were held on June 6, 2008 and June 18, 2008. As a result of all of these meetings, further changes and modifications to the proposed amendments were made based on the comments of participants.

The Task Force met with other Town and Village boards, committees, and organizations to solicit their input, including the Town of Red Hook Planning Board, Economic Development Committee, Trails Committee, Recreation Commission, Agriculture and Open Space Advisory Committee, Water District Board, Hamlet Buildings Review Committee, and Conservation Advisory Council, the Village of Red Hook Board of Trustees and the Village of Tivoli Board of Trustees, the Red Hook Central School District, Red Hook Chamber of Commerce, Dutchess County Water and Wastewater Authority, and the Dutchess County Planning Commissioner. With the Town's Agriculture and Open Space Advisory Committee, the Task Force also conducted a survey of landowners in the proposed Agricultural Business (AB) District and offered to meet with survey respondents to further clarify the proposal.

In response to community comments, numerous changes were made to the plans during the planning process. For instance, the Town's Economic Development Committee recommended that an area for light industry should be identified, so the plans were revised to include the Office-Industrial subdistrict of the Traditional Neighborhood Development District. Other residents were concerned about protecting the southern gateway, so provisions for a vegetated buffer along Route 9 were included in the Office-Industrial Subdistrict. At the request of farmers, additional uses were added to the AB District, and the District was amended to permit development rights to be sold at the current zoning level. The Town's Conservation Advisory Council was concerned about impacts of the traditional neighborhoods on the aquifer, so the Task Force requested that the Town and Village of Red Hook retain a hydrologist to conduct a water budget analysis and to determine whether any adverse impacts to the aquifer and wellheads would result from the proposal. As will be discussed herein, the study (Chazen Companies, January 4, 2007) determined that there is sufficient aquifer capacity to meet the proposed water demand and that the wellhead protection zones would be adequate. The Town and Village of Red Hook also funded a sewer feasibility study (C.T. Male Associates, March 2007) which determined that the proposed traditional neighborhoods would make development of a municipal sewer system, that could serve the Village of Red Hook as well as the new commercial and

residential development in the TND District, more economically feasible as costs could be shared by developers. These are just a few examples of changes that were made to the "Centers and Greenspaces" plan and the implementing zoning and subdivision amendments in response to community comments.

In total, the Intermunicipal Task Force held five community meetings and workshops, two meetings held specifically for landowners in the proposed Agricultural Business District, numerous meetings with individual stakeholders representing various interests in the community, and more than 200 Task Force meetings, workshops, and forums, including meetings with Town and Village Boards, committees and organizations to solicit their input.

In preparing the proposed Local Law amendments, numerous model and adopted zoning laws and subdivision laws were examined by the Intermunicipal Task Force, the Town Board and/or Town consultants. These included existing zoning and subdivision regulations or model regulations found in surrounding towns and villages, other local municipalities in the region and State, and from around the nation. For the proposed amendments to the Town's Subdivision regulations, the Dutchess County Department of Planning and Development's *Model Subdivision Regulations* were consulted. State of the art land use control recommendations by the American Planning Association (APA) were consulted, including relevant monthly issues of the APA's *Zoning Practice* (previously entitled *Zoning News*) from 1984 to the present. A wide variety of other reference and scholarly publications were also consulted by the Intermunicipal Task Force, the Town Board and/or its consultants in preparing the proposed amendments, including but not limited to:

- *Well Grounded: Local Land Use Law and Practice* by John F. Nolon (Land Use Law Center of Pace University School of Law)
- *Breaking Ground: Planning and Building in Priority Growth Districts: A Guide for Local Leaders* (Land Use Law Center of Pace University School of Law and Yale School of Forestry and Environmental Studies)
- *Preserving Natural Resources Through Local Environmental Laws: A Guidebook for Local Governments* by John F. Nolon (Land Use Law Center of Pace University School of Law)
- *Holding our Ground: Protecting America's Farms and Farmlands* by Tom Daniels and Deborah Bowers (Island Press)
- "The Need for New Models of Rural Zoning" by Joel Russell (*Zoning News*, American Planning Association)
- "A New Generation of Rural Land-Use Laws" by Joel S. Russell (*Zoning News*, American Planning Association)
- "Practice Rural Zoning" by Tom Daniels (*Zoning Practice*, American Planning Association)

- *Nature Friendly Communities: Habitat Protection and Land Use Planning* by Christopher Duerksen and Cara Snyder (Island Press)
- *Redesigning the Edgeless City* (Regional Plan Association and Lincoln Institute of Land Policy)
- *Rural by Design* by Randall Arendt (American Planning Association)
- *Preservation of Rural Character and Protection of Natural Resources* by Patricia E. Salkin (Albany Law School Government Law Center)
- *Crossroads, Hamlet, Village, Town: Design Characteristics of Traditional Neighborhoods, Old and New* by Randall Arendt (American Planning Association)
- *Codifying New Urbanism: How to Reform Municipal Land Development Regulations* by Congress for the New Urbanism (American Planning Association)
- *The Small Town Planning Handbook* by Thomas Daniels, John Keller, Mark Lapping (American Planning Association)
- "Agricultural Zoning: Managing Growth, Protecting Farms" by Tom Daniels (*Zoning News*, American Planning Association)
- *Zoning for Farming* by Robert E. Coughlin (Center for Rural Pennsylvania)
- *Site Planning* by Kevin Lynch and Garcy Hack (The MIT Press)
- *Community by Design: New Urbanism for Suburbs and Small Communities* by Kenneth B. Hall and Gerald A. Porterfield (McGraw-Hill)
- *SmartCode Version 9.0* by Andres Duany, Sandy Sorlien, William Wright (Duany Plater-Zyberk & Co.)
- "Policy Guide on Agricultural Land Preservation" by Chapter Delegate Assembly, Ratified by Board of Directors (American Planning Association)
- "Policy Guide on Smart Growth" by Chapter Delegate Assembly, Ratified by Board of Directors (American Planning Association)

c. Proposed Amendments

The Town Board has proposed amendments to the Town of Red Hook Zoning Law, Subdivision Law, and *Comprehensive Plan* to implement the proposed "Centers and Greenspaces" Plan. The amendments will create two new zoning districts (the Agricultural Business District and the Traditional Neighborhood Development District), will replace the Town's existing residential cluster subdivision regulations with provisions for conservation subdivisions, and will add a new section on Open Space Incentive Zoning, in addition to other incidental changes necessitated by these amendments. In order to encourage village-scale density within the Traditional Neighborhood Development District, the law eliminates the density bonus for provision of central water in the R1 and R1.5 Districts. The

amendments are designed to protect the health, safety and welfare of Town residents, to bring the Town's Zoning Law and Subdivision Law into conformance with the Town's *Comprehensive Plan*, *Greenway Connections: Greenway Compact Program and Guides for Dutchess County Communities* pursuant to Chapter 17-3 of the Town Code, and with amendments since 1990 to New York State Town Law's planning and zoning provisions.

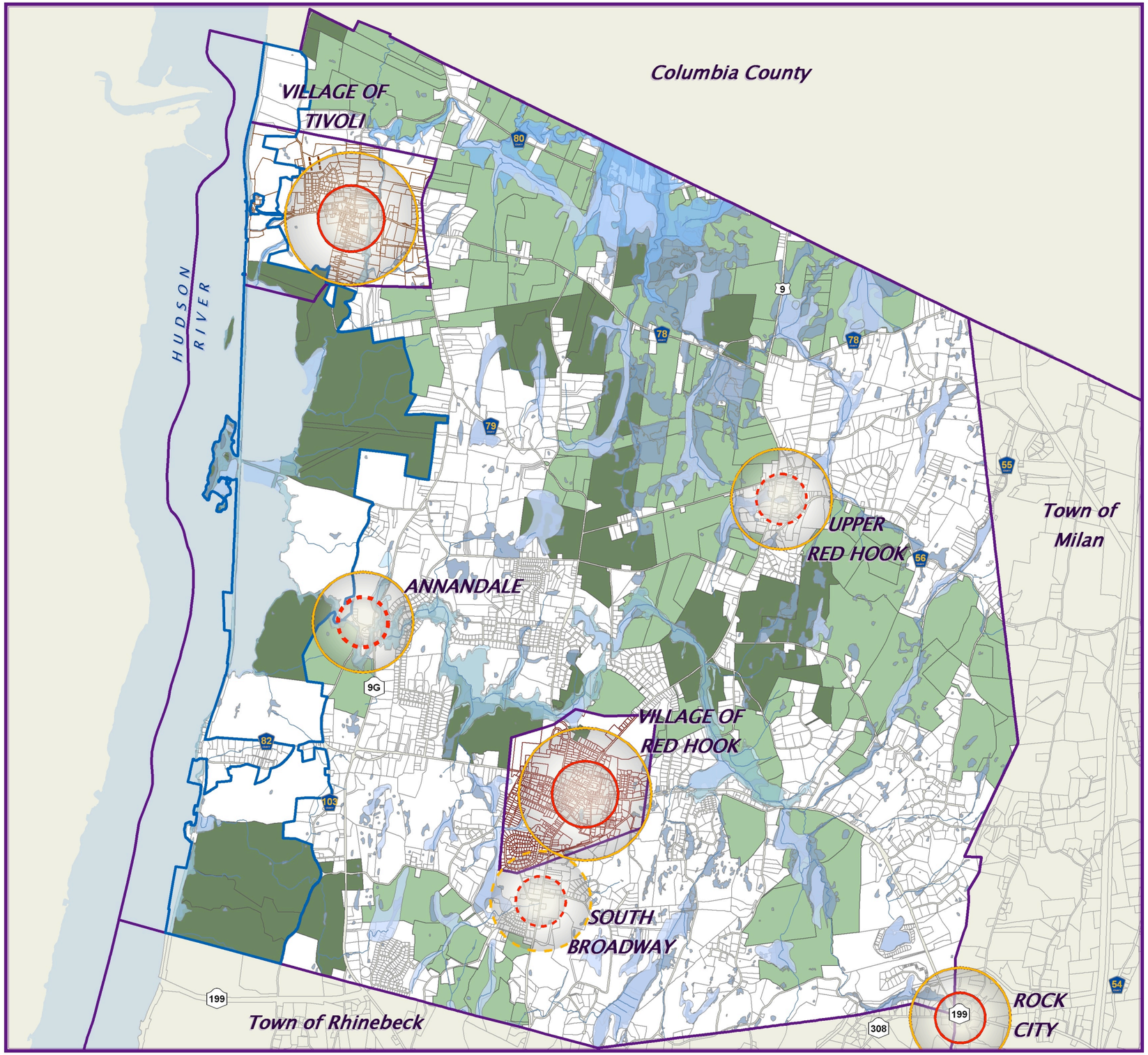
The proposed amendments will apply town-wide in the Town of Red Hook with the exception of the two villages. The Town of Red Hook is located in the northwest corner of Dutchess County, New York, as shown on Figure II-1 herein. The proposed Centers and Greenspaces Plan showing existing and emerging centers, and agricultural and easement protected greenspaces appears as Figure II-2. An "Illustrative Sketch Plan" for the proposed Traditional Neighborhood Development District showing design principles for the Residential Neighborhood Subdistrict and the Commercial Center Subdistrict appears as Figure II-3. Existing Zoning Districts are shown in Figure II-4. Proposed Zoning Districts, as contemplated as part of the Proposed Action, are shown in Figure II-5. There are currently eleven Zoning Districts in the Town, including the floating Light Industrial Overlay. Two new Zoning Districts are proposed: the Agricultural Business District and the Traditional Neighborhood Development District. The principal changes to the Zoning Law, Subdivision Law and *Comprehensive Plan* are described below.

Proposed Zoning Law Amendments

The proposed amendments to the Zoning Law would create two new zoning districts, the Agricultural Business (AB) District and the Traditional Neighborhood Development (TND) District. The purpose of the AB District is to implement the goals of the Town's *Comprehensive Plan* and *Open Space Plan* to protect agricultural lands, discourage incompatible land uses, and promote agriculture as a component of the local economy now and in the future. The purpose of the TND District is to ensure that development adjacent to the Village of Red Hook is designed to conform to the Village's traditional compact, pedestrian-oriented, mixed-use neighborhood pattern. Adoption of these two new Zoning Districts would promote small town development, with close-knit villages surrounded by rural countryside, in keeping with traditional rural land use patterns of the Hudson Valley and in conformance with the Town's *Comprehensive Plan* and *Open Space Plan*, rather than the sprawl-type development as currently allowed. A more complete rationale for each of the proposed Zoning Districts can be found in §§ 143-39.1 and 143-49.1 of the proposed Zoning Law amendments, which are referenced herein. The proposed new Zoning Districts are identified on the Town of Red Hook Proposed Zoning Map (Figure II-5).

The TND District would have the same features that characterize existing villages, such as walkable, mixed-use neighborhoods and more variety and choice in housing types. The "form-based" zoning of the District would ensure that these features are included in new

Figure II-2:
Centers and Greenspaces Plan



Legend

- Village Center 1/4 - 1/2 Mile Radii
- Hamlet Center 1000' -2000' Radii
- Emerging Center
- Mixed-Use Center for "Park Once and Walk Around" Core
- Walkable from Edge to Center, Primarily Mix of Housing Types
- Easement-Protected and Public Lands
- Agricultural Business District
- Parcel Lines
- Large Riverfront Parcels
- Municipalities
- Water/Wetland/Floodplain

N

Scale: 1" = 4000 feet

Prepared for the Town of Red Hook
by
Dutchess County Department of Planning & Development

January 2009

Town of Red Hook
Centers and Greenspaces DGEIS

Figure II-3:

Red Hook Traditional Neighborhood Extension Illustrative Sketch Plan

Scale: 1 inch = 300 feet

Prepared for the Town of Red Hook
by

Dutchess County Department of Planning and Development

January 2009

Town of Red Hook
Centers and Greenspaces DGEIS

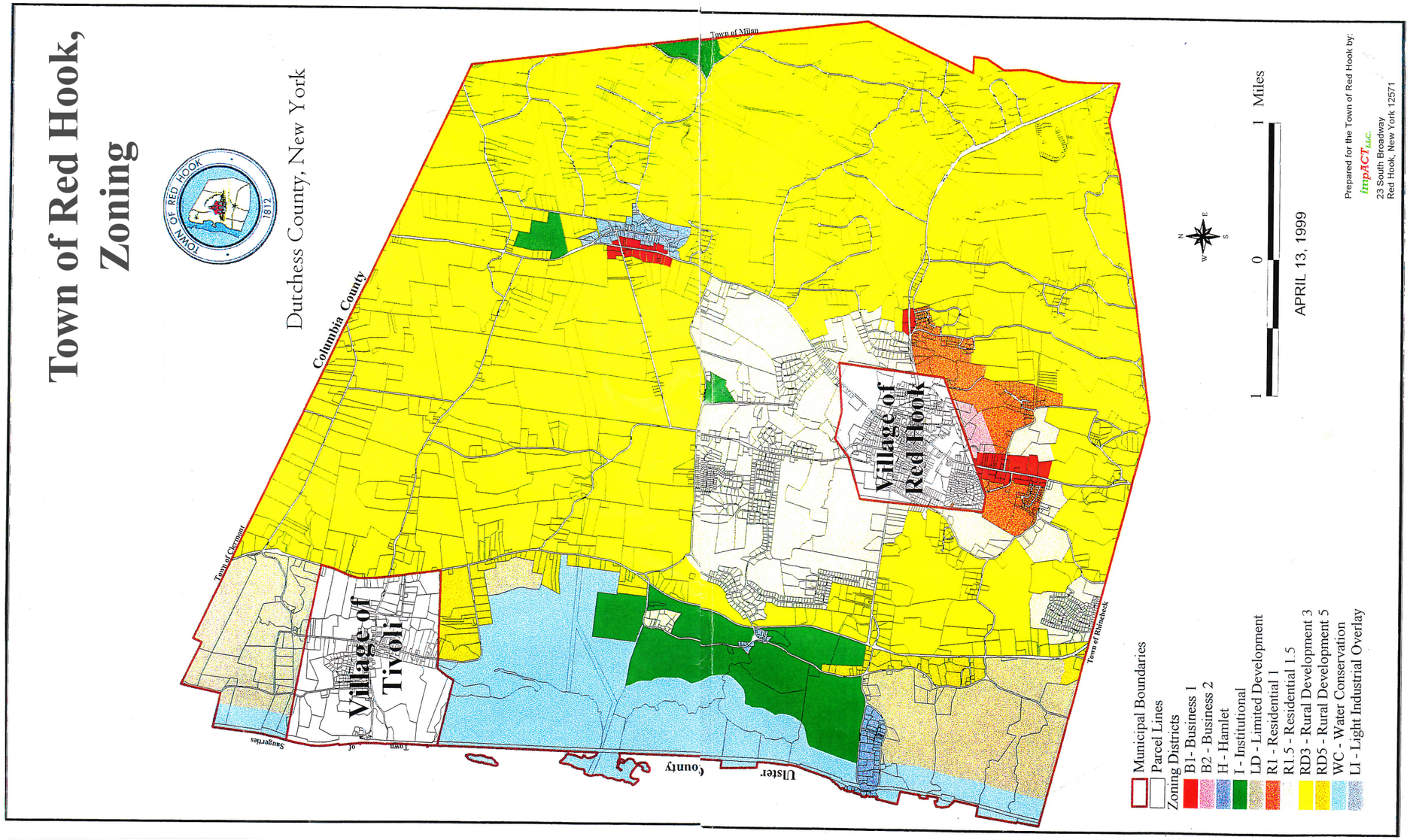


Figure II-4:
Existing Zoning Map
Town of Red Hook

Prepared for the Town of Red Hook
by

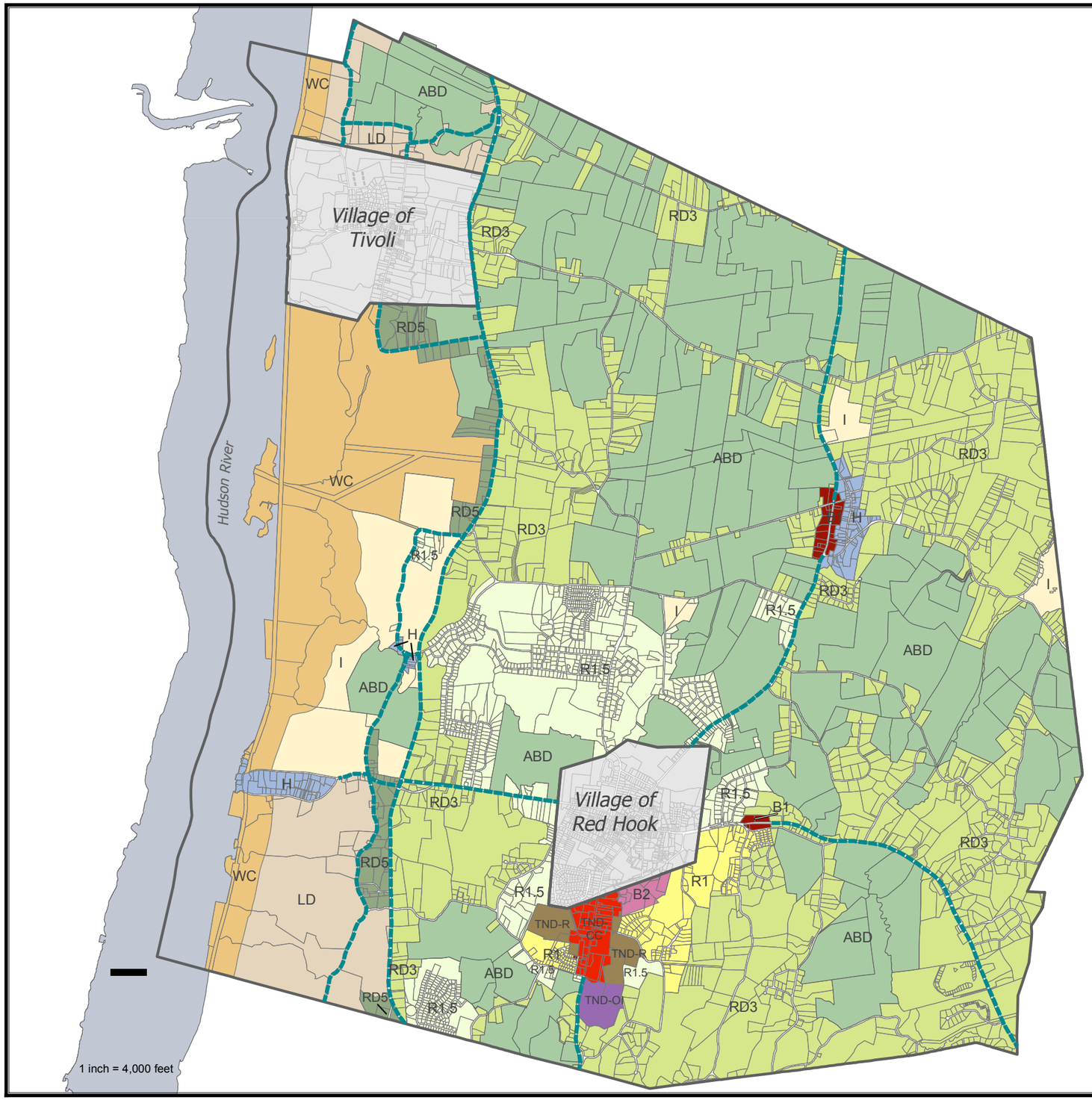
impACT, LLC

April 13, 1999

Town of Red Hook
Centers and Greenspaces DGEIS

Figure II-5: Town of Red Hook Proposed Zoning Map

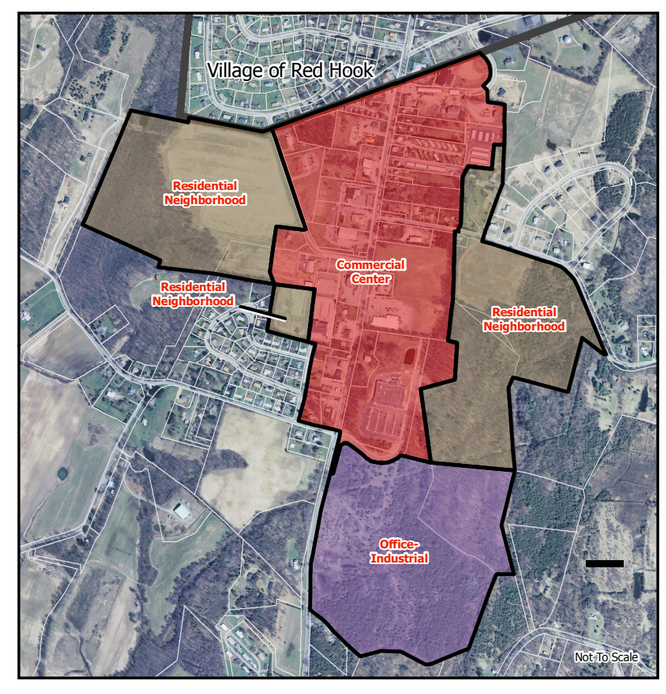
Prepared for the Town of Red Hook by
Dutchess County
Department of Planning & Development
January 2009



Legend

- Municipal Boundaries
- Parcel Boundaries
- ABD- Agricultural Business District
- B1- Business 1
- B2- Business 2
- H- Hamlet
- I- Institutional
- LD- Limited Development
- R1- Residential 1
- R1.5- Residential 1.5
- RD3- Residential 3
- RD5- Residential 5
- TND-CC Commercial Center
- TND-OI Office-Industrial
- TND-R Residential
- WC- Water Conservation
- SC-O Scenic Corridor Overlay

Proposed Traditional Neighborhood Development (TND) District



development. An illustrative sketch of what development might look like in the proposed TND District appears in Figure II-3.

The TND District would consist of three subdistricts: the Commercial Center, the Residential Neighborhood, and the Office-Industrial area, identified on the Town of Red Hook Proposed Zoning Map (Figure II-5). The Commercial Center would be designed similar to a traditional Main Street with buildings close to the sidewalk and parking behind buildings and along the street, as illustrated in Figure III-11 in Chapter III. Reduced setbacks would permit shopfronts to be built to the sidewalk, and an increase in maximum lot coverage (up to 85% through incentive zoning) would allow for a continuous row of shops to encourage walking. The Office-Industrial Subdistrict, located south of Hannaford's, includes a requirement for a 200' vegetated buffer along Route 9 to preserve the Town's southern gateway. In the Office-Industrial Subdistrict, development potential would be determined by the dimensional requirements of the district, including a maximum lot coverage of 45% and a maximum building coverage of 20%. The Residential Neighborhood Subdistrict would have a base zoning of one (1) dwelling unit per net acre. Developers could increase building potential above the base zoning, in keeping with the existing Village character, by contributing to a dedicated greenspace fund through incentive zoning. These funds would be used to purchase development rights from lands in the proposed AB District, thereby shifting building potential from the Town's farmlands to its center.

The proposed Open Space Incentive Zoning provisions would authorize adjustments to building potential in the TND District *in exchange for* funds to be used exclusively to preserve greenspaces in the AB District or alternatively in exchange for the permanent protection of land within the AB District, at no direct cost to residents and taxpayers of the Town. This is the mechanism for transferring building potential to lands that have been identified for development (i.e., "centers") in the Town's *Comprehensive Plan* from lands that have been identified in the *Plan* for conservation (i.e., "greenspaces"). A developer who wished to increase building potential above the base zoning in the TND District could contribute to a fund that could only be used to buy development rights from lands in the AB District. Alternatively, the developer could purchase development rights directly from a landowner in the AB District. In this way, residential development is promoted in the traditional neighborhoods, where it supports Village businesses and encourages additional commercial development in the TND Commercial Center, rather than on farmland. In order to encourage village-scale density within the TND District, the proposed Zoning amendments would eliminate the density bonus for provision of central water in the R1 and R1.5 Districts. Under the proposed zoning, large development projects in the TND Residential Subdistrict would be required to consist of a minimum of three different housing types (such as houses, duplexes, multi-family, townhouses, etc.), with no one type comprising less than 20% of the total units proposed. Moreover, Row or Attached Dwellings would be added as a permitted use in the R1 and Hamlet (H) Zoning Districts. These measures are intended to ensure an adequate supply of more affordable housing types in the Town.

The determination as to which lands would be most appropriately included in the proposed AB District was based on extensive discussions with the Town's Agriculture and Open Space Advisory Committee, which reviewed lands within the Town according to a set of land evaluation criteria. The criteria, which are included in Appendix E along with a parcel-by-parcel analysis of lands proposed to be included in the AB District, combine a soil suitability analysis for agricultural productivity with other factors such as access to water resources (for irrigation), neighboring land uses, active or past agricultural use, and location (for example, whether adjacent to existing centers where development may be appropriate, or in the gateway to a center where it may not be). These criteria are consistent with the Land Evaluation and Site Assessment (LESA), a rating system developed by the Natural Resources Conservation Service of the USDA as a way for local governments to assess the suitability of parcels of farmland for continued agricultural use. Identifying lands that are appropriate for agricultural use is consistent with the New York State Constitution, which states:

> *The policy of the state shall be to conserve and protect its natural resources and scenic beauty and encourage the development and improvement of its agricultural lands for the production of food and other agricultural products. The legislation, in implementing this policy, . . . shall include adequate provision for the protection of agricultural lands.*
>
> New York State Constitution, Article XIV

The AB District would permit farmers greater business opportunities to enhance their farms, such as larger farm markets up to 4,000 square feet in size, wineries, distilleries and cider mills, and agritourism uses such as farm tours, B&B's, and harvest festivals. Many of these permitted uses would receive a streamlined review process, requiring only minimal site plan review with no public hearing, as discussed more fully in Chapter III Section A.

In the AB District, landowners could avail themselves of different development options for their properties. Under the "conservation option," they could participate in the Town's purchase of development rights program, community preservation fund, or the proposed incentive zoning program to sell their development rights. Landowners would be permitted to sell development rights at the rate allowed under the current Zoning as depicted on the Town's 1999 Zoning Map. For example, if the property was in the RD3 Zoning District, development rights could be sold at a rate of one development right per three buildable acres. This will create an incentive for landowners in the AB District to sell development rights and protect their lands rather than develop them for residential purposes. In addition, under the conservation option, landowners would be permitted to retain the right to build some new homes on the farm in a farmstead complex without the need to subdivide. For example, an 80-acre parcel currently zoned RD3 would be permitted to sell development rights at the rate of one development right per 3 buildable acres, and in addition, could build two dwelling units, which would be deducted from the total number of permitted development rights and retained on the parcel in a farmstead complex. Housing for farm

labor would be exempt from the calculation of retained farmstead dwelling units and could be located outside the farmstead complex. The farmstead complex would be developed in a whole farm plan to be approved by the Planning Board. Housing for farm labor would be exempt from the calculation of retained farmstead dwelling units and could be located outside the farmstead complex.

Under the "limited development option," landowners in the AB District could develop their lands at a reduced density based on a sliding scale (shown below) using conservation subdivision design and siting guidelines to minimize impacts of new residential development on agricultural soils and other farms in the area. For example, a 42-acre parcel would be permitted four (4) single-family dwelling units using conservation subdivision design.

LIMITED DEVELOPMENT OPTION	
Parcel Size	**Number of Dwelling Units**
0 to 6 acres	1
> 6 to 20 acres	2
> 20 to 40 acres	3
> 40 to 60 acres	4
> 60 to 80 acres	5
> 80 to 100 acres	6
>100 acres	6 dwellings plus one (1) additional dwelling for each increment of up to 20 acres

The proposed AB District incorporates many of the standards of the Town's current important farmlands law found in § 143-47D(4) of Zoning Law, which would be eliminated upon establishment of the AB District.

The proposed Zoning amendments would replace the Town's existing cluster regulations with provisions for conservation subdivisions to more concertedly preserve the natural and scenic qualities of open space. A conservation subdivision permits greater design flexibility and smaller average lot sizes than otherwise possible in a conventional subdivision in order to preserve greenspaces on the remainder of the property without affecting building potential for the tract as a whole. Conservation subdivisions follow a four-step design process that identifies important natural resources, such as wetlands, valuable soils, habitats, and other special features of the site around which development is designed. This would allow limited development in the AB District and in other parts of the Town, where appropriate, to fit into the landscape while conserving greenspaces and minimizing impacts on agricultural lands.

The Proposed Action would also amend §143-23 of the Zoning Law to provide new criteria for determining buildable acreage and permitted density in all districts of the Town excepting the limited development option of the AB District and the proposed TND District. Finally, a number of related changes have been made to fully incorporate the two

new Zoning Districts into the Zoning Law, such as adding sign standards for non-residential uses in the AB District, and adding the AB and TND Districts to the list of districts where certain uses are allowed by special permit.

The proposed Zoning amendments are summarized in relation to the existing Zoning Law in a Table included as Appendix C of this DGEIS. The Table consists of four columns. The first column identifies the Article of the current and proposed Zoning laws. The second column identifies the subsections in each Article of the current and/or proposed Zoning laws. The third column identifies the existing section of the current Zoning Law, while the fourth and final column identifies the changes that have been proposed to the current Zoning Law, as explained in underlined red typeface. If there are no changes proposed in a particular subsection of the current Zoning Law, there is no text explanation provided in column four. Some new sections have been added; these new sections, which are proposed for the Zoning Law, will not have any text appearing in column three.

Readers are encouraged to consult the full text of the proposed Zoning amendments to obtain a complete understanding of all changes.

Proposed Subdivision Law Amendments

Two major amendments are proposed to the Town's current Subdivision regulations. First, provisions for conservation subdivision design, consistent with the proposed amendments to the Zoning Law, would replace the existing provisions for residential cluster development. Included would be new design standards for open space, house lots, streets and driveways in a conservation subdivision, and a new section outlining the four-step design process for a conservation subdivision.

The second major amendment is to the pre-application procedure, which adds the submission of a resource analysis map for major subdivisions based on the Model Subdivision Regulations prepared by Dutchess County Department of Planning and Development. The resource analysis map would be submitted prior to the sketch plat and would be based on an aerial map with information on the site's natural and built features taken from various readily available sources. The purpose of the resource analysis map is to help applicants and the Planning Board design a subdivision around a site's important natural and cultural features and to fit new development into the landscape in conformance with the Town's *Comprehensive Plan* and as recommended by the *Greenway Guides*.

Minor amendments to the Subdivision regulations that will not have any significant adverse environmental impacts include the addition of a subsection on application fees to replace repeated references to application fees in other sections of the regulations, and amendments to the timeframes for public hearings and expiration of approvals to be consistent with NYS Town Law. SEQR timeframes for the review of applications have also been added to assist the Planning Board in the SEQR review of applications. An inconsistency in the existing

subdivision regulations regarding the number of lots permitted on a cul-de-sac (variously described as eleven or twelve lots) has been eliminated by revising the references to consistently refer to twelve lots. The permitted length and design of cul-de-sacs has also been revised. Finally, an inconsistency regarding the number of lots permitted on a shared driveway has been revised to refer consistently to four lots.

The proposed Subdivision amendments are summarized in relation to the existing Subdivision Law in a Table included as Appendix D of this DGEIS. The Table consists of four columns. The first column identifies the Article of the current and proposed Subdivision laws. The second column identifies the subsections in each Article of the current and/or proposed Subdivision laws. The third column identifies the existing section of the current Subdivision Law, while the fourth and final column identifies the changes that have been proposed to the current Subdivision Law, as explained in underlined red typeface. If there are no changes proposed in a particular subsection of the current Subdivision Law, there is no text explanation provided in column four. Some new sections have been added; these new sections, which are proposed for the Subdivision Law, will not have any text appearing in column three.

Readers are encouraged to consult the full text of the proposed Subdivision amendments to obtain a complete understanding of all changes.

Proposed Comprehensive Plan Amendments

Two amendments to the land use portion of the *Comprehensive Plan* are proposed. First, language would be added to clarify that for lands in the Conservation/Rural Development area that are suitable for agriculture (as determined by a land evaluation assessment consistent with rating systems developed by the US Department of Agriculture and other recognized organizations), permitted density should be lowered for the purposes of conserving irreplaceable agricultural soils and to minimize land use conflicts between agricultural and non-agricultural uses. This amendment is consistent with the existing policy statements in Section 3.i and Section 5 of the *Comprehensive Plan.*

Second, language would be added to the land use portion of the *Comprehensive Plan* identifying lands located within a ¼ to ½ mile radius of the Old Farm Road/US Route 9 intersection as the "receiving area" for the transfer of building potential from agricultural lands within the Town. Base density in this area would be one dwelling unit per acre. However, in order to support and expand the emerging commercial center in this area, and to encourage the development of community water and sewer facilities as discussed in Section 7.d of the *Comprehensive Plan*, an increase in building potential, consistent with village-scale development, would be allowed in this area through the use of incentive zoning. Incentive zoning would allow adjustments to the permissible building potential in exchange

for providing the community benefit of preserving agricultural lands in other areas of the Town.

Readers are encouraged to consult the full text of the proposed *Comprehensive Plan* amendments to obtain a complete understanding of all changes.

d. Public Need and Benefits

Despite the current recommendation of the Town's *Comprehensive Plan* to preserve agriculture, most of the agricultural lands in the Town are zoned for residential use and, if the Zoning Law is not amended, will eventually be converted to such use. This is the pattern that is already slowly underway in the Town of Red Hook and can be seen elsewhere in the Hudson Valley, such as in southern Dutchess County and Orange County.

The largest Zoning District in the Town is the RD3 District, which encompasses the majority of the Town's farmland and permits one dwelling unit per three acres. Additional agricultural lands are zoned in the Limited Development (LD), RD5 and Institutional (I) Districts, with a density of one dwelling unit per 5 acres, and the R1.5 District, with a density of one dwelling unit per 1.5 acres. Lands adjacent to the Village of Red Hook, the Town's principal commercial center, are primarily zoned for low density residential uses, R1 and R1.5 (1 acre and 1.5 acres per dwelling unit). For residential developments that connect to a town-approved community water supply system, density may be increased in these Districts to one dwelling unit per half acre or per 1 acre, respectively; however these densities are still too low to be consistent with the historic scale of the Town's villages and hamlets, which have residential lots less than ¼ acre in size. The R1 and R1.5 Districts are large areas that extend significantly beyond the *Greenway* recommendation and smart growth planning principal that dwellings should be located within a half mile radius of a central business district to encourage walking, reduce vehicle miles traveled, and reduce traffic congestion.[11] Consequently, development of the lands in the R1 and R1.5 Districts has in part caused an increase in traffic congestion in the Town.

Together, these residential districts exemplify the typical problem of sprawl-type zoning, which permits too much density on agricultural lands and too little adjacent to centers. The build-out analysis conducted by GREENPLAN, Inc. for the Town found that the current Zoning would permit an estimated 3,496 additional single family dwelling units on greenspaces in the study area, while only 92 additional dwellings would be permitted adjacent

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[11] As articulated, for example, by Clarence Perry in "Neighborhood Unit Concept" (*Regional Survey of New York and Its Environs*, 1929). In the early 1990's the firm Duany Plater-Zyberk reproduced Perry's diagram showing the 5 minute walking radius of the Neighborhood Unit to demonstrate its continued effectiveness in planning today. The definition of the 5 minute walking radius for a neighborhood is part of the American Institute of Architects Architectural Graphic Standards, which is an industry standard for dimensional criteria for buildings and site planning. The ½ mile radius is the first prerequisite for defining "smart location" for a LEED certified neighborhood in the LEED Neighborhood Development rating system (created by the Congress for the New Urbanism, Natural Resources Defense Council, and the U.S. Green Building Council, 2009).

to the center. Even with clustering, which the current Zoning requires for properties that are located within a NYS Certified Agricultural District and have prime or statewide important agricultural soils, one dwelling unit per 3 or 5 acres allows for a significant increase in residential development with resulting land use conflicts and nuisance complaints between farm and non-farm neighbors. As noted by the American Farmland Trust's "Fact Sheet on Agricultural Protection Zoning" (September 1998), zoning laws that are designed to protect agricultural lands limit maximum residential densities to a range of one (1) dwelling unit per 20 acres to one (1) dwelling unit per 640 acres, a significantly lower density than Red Hook's existing Zoning Law permits.

While the current Zoning promotes suburban sprawl, the Proposed Action is intended to result in enhancement of the Town's small town character, with close-knit villages surrounded by rural countryside ("centers and greenspaces"). The public need that would be fulfilled, and the public benefits to be gained from the adoption of the Proposed Action include, but are not limited to, the following:

- Implement the current recommendations of the Town's *Comprehensive Plan* to maintain the Town's rural character by providing incentives for new development to locate within or adjacent to existing centers while discouraging a land use pattern that uniformly disperses development throughout the Town.
- Implement the current recommendations of the Town's *Open Space Plan* to ensure that as the Town grows, it maintains its historic "town and country" settlement pattern with new development located in and adjacent to existing centers and the preservation of farmland.
- Promote small town development, with close-knit villages surrounded by rural countryside, in keeping with traditional rural land use patterns of the Hudson Valley and in conformance with the Town's existing *Comprehensive Plan* and *Open Space Plan*, rather than the sprawl-type development as currently allowed.
- Reduce the costs of infrastructure and create greater community cohesiveness by encouraging compact development in areas already fully or partially served by community water, and by making construction of a community sewer system more feasible, rather than continuing to promote a sprawling pattern of development served exclusively by individual water and sewer systems spread throughout the Town.
- Strengthen the existing commercial base of the community by creating compact development adjacent to the Village of Red Hook, which will support existing businesses and make a community sewer system more cost effective, an essential element for attracting new businesses.

- Provide expanded opportunities for economic development by increasing the areas in the Town where commercial development can occur, particularly light industrial and office research, while protecting the gateway.
- Reduce future school tax impacts by decreasing the overall potential for new residential development in the Town.
- Provide for a more comprehensive set of design regulations to govern new development in the TND District so that architectural and streetscape elements are more in keeping with the traditional and nationally significant historic character of the Town's settled areas.
- Provide a positive vision for where new development is most desirable, thereby attracting new economic investment with a streamlined review process.
- Implement the current recommendation of the Town's *Comprehensive Plan* to protect rural and agricultural lands, discourage incompatible nearby land uses, and promote agriculture as a component of the local economy now and in the foreseeable future.
- Allow for development and redevelopment of the emerging center south of the Village of Red Hook as a walkable mixed use center that reflects the principles of traditional neighborhood design through the TND District.
- Provide for a greater variety of housing styles, types, sizes, and costs to accommodate a diversity of age and income groups and residential preferences.
- Ensure the availability of a safe, locally grown food supply.
- Provide better control over the pace and location of development.
- Minimize traffic impacts of new development in the Town by creating mixed-use neighborhoods and re-establishing pedestrianism as a primary form of mobility. This will occur by constructing sidewalks, pedestrian and bicycle amenities, and traffic calming measures in the TND District, and by incorporating small-scale commercial development which neighboring residents can easily walk to.
- Enhance agricultural businesses that contribute to the general economic conditions of the Town by allowing a wider range of industrial and commercial uses on farm properties.
- Minimize traffic impacts on major arterial roads by creating the TND District with a grid pattern of interconnected streets that allow for traffic to be more uniformly dispersed.
- Prevent fragmentation of the Town's existing agricultural lands by non-agricultural development.
- Conserve a critical mass of important farmlands in order to facilitate active and economically viable agricultural use of the lands now and in the future.

- Create conformance with the Dutchess County Plan, *Directions*. The Proposed Action is consistent with the goals of the County Plan, and particularly supports the following:
    - Promoting a land use pattern that strengthens traditional community centers and provides for the economical provision of services and facilities by concentrating development in and adjacent to existing villages.
    - Encouraging development in areas served by central water and sewer services, and providing these services in areas of existing concentrated development.
    - Strengthening the local economy by encouraging a diversified economic base.
    - Protecting agricultural lands and promoting the economic health of the agribusiness community.
    - Providing a greater variety of housing styles, types and costs.
    - Developing design guidelines to achieve high architectural quality in residential and non-residential construction.
    - Limiting commercial and residential strip development that results in multiple access points along state and county roads.
    - Encouraging alternative means of transportation, particularly for pedestrians and bicyclists.
    - Preserving the traffic volume capacities of state and county roads. In particular, preserving the traffic volume capacity of Route 9 through community planning and zoning actions that concentrate land use development, and limit access to Route 9.
    - Developing entrances to communities in an attractive manner that complements the overall character of the community and preserves scenic vistas.
    - Preserving and maintaining the quantity and quality of the county's surface and ground water resources.
    - Limiting development on steep slopes, ridgelines, wetlands, and other significant natural areas.
- Create conformance with *Greenway Connections: Greenway Compact Program and Guides for Dutchess County Communities*, particularly the policy framework (*Greenway Connections* pages 19-20), Guides A through E, and the following principles: reinforcing centers as primary growth areas; fitting outlying development into the natural landscape to preserve farmland and open spaces; encouraging development of walkable mixed use centers; creating an integrated system of scenic roads and streets,

bike routes, open space corridors, waterways and sidewalks; coordinating development with community water and sewer systems; and streamlining the review process. In 2000, Red Hook became a participating Greenway community and adopted the *Greenway Compact Program and Guides for Dutchess County Communities* as a statement of land use policies, principles and guides.

- Create conformance with New York State's Quality Communities Interagency Task Force Report *State and Local Governments Partnering for a Better New York* (January 2001), particularly the following Quality Communities Principles: revitalize downtowns; promote agriculture and farmland protection; conserve open space and other critical environmental resources; enhance transportation choices and encourage more livable neighborhoods; encourage sustainable development; involve all members of the community in creating, implementing and sustaining the vision of a quality community.

Decreasing the density of development in the proposed AB District and the existing R1 and R1.5 Districts may have an effect on the cost of housing in the community by reducing the potential housing stock. To compensate for this potential effect, the proposed Zoning amendments would permit an increase in building potential, consistent with the existing character of the Village of Red Hook, in the proposed TND District through the use of incentive zoning. By allowing for village scale development in and adjacent to existing settled areas, density in areas outside the centers can be reduced without adverse impacts on housing affordability. Moreover, the proposed amendments would require large development projects in the TND Residential Subdistrict to provide a diversity of dwelling options, including allowances for apartments, cottages, duplex units, townhouses and single family dwellings. The apartments and cottages would provide for a more affordable housing option than is possible now with the Town's predominant pattern of single family dwellings on large lots. In addition, ancillary dwelling units up to 600 sq. ft. in size would be permitted on the same lot as the principal residence in the TND District. Moreover, Row or Attached Dwellings, a more affordable option than single family detached dwellings, would be added as a permitted use in the R1 and Hamlet (H) Zoning Districts. The Town's current provisions for multi-family dwellings and for accessory dwellings would remain in effect and would provide further opportunities for more affordable housing options. These measures are intended to ensure an adequate supply of more affordable housing types in the Town. No adverse impact on housing affordability will occur as a result of the action.

B. Context of the Proposed Action

a. Location

The proposed amendments to the Zoning Law, Subdivision Law, and *Comprehensive Plan* will apply town-wide within the Town of Red Hook, Dutchess County, NY, as shown in its regional context on Figure II-1 below. The Town of Red Hook is located in New York State's

Mid-Hudson Valley in the northwestern corner of Dutchess County. Red Hook is bordered by the Towns of Clermont to the north, Milan to the east, Rhinebeck in the south, and Saugerties and Ulster and the Village of Saugerties to the west. The Villages of Red Hook and Tivoli are located within the Town; the Proposed Action does not apply to the two villages.

b. Existing Zoning and Land Uses

A variety of land uses and land use patterns contribute to Red Hook's character. The Town is known as the "Breadbasket of Dutchess County"[12] and it retains significant areas of agricultural lands. In general, the Town consists of low-density rural uses predominated by open fields, agriculture, and some forested areas. This overall rural character is complemented by the two prominent higher density centers within the Town, the Villages of Red Hook and Tivoli, in addition to historic hamlets scattered throughout the Town. Despite a number of scattered suburban subdivisions, particularly north of the Village of Red Hook and near the approach to the Kingston-Rhinecliff Bridge, the Town's historic "town and country" settlement pattern has been largely retained.

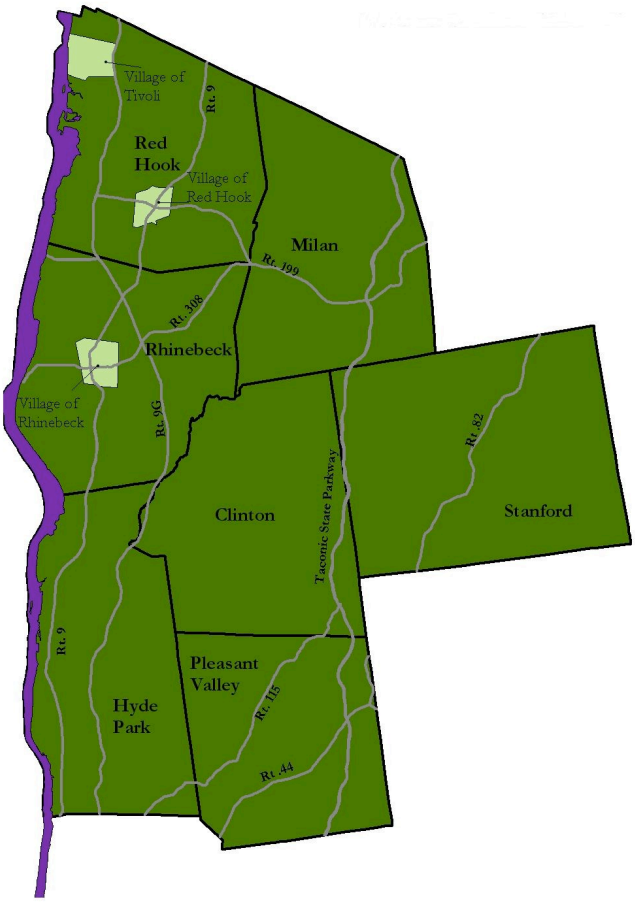

Figure II-1: Locational Map, Town of Red Hook

[12] Claire O'Neill Carr, *A Brief History of Red Hook* (The Wise Family Trust and the Egbert Benson Historical Society of Red Hook, 2001), page 24.

The Town's land uses are similar to those of surrounding commun-ities. However, unlike Red Hook, the Town of Clermont to the north and the Town of Milan to the east do not have clearly defined, well-developed village centers. And unlike Rhinebeck, Red Hook has a much smaller percentage of residents who live within walking distance of its commercial center. Thirty-seven percent of Rhinebeck residents (3,049 persons) live in the Village of Rhinebeck, while only 17% of Red Hook residents (1,881 persons) live in the Village of Red Hook.[13] The greater population living in the Village of Rhinebeck contributes to the strength of its central business district. Similarly, the smaller population living outside the Village of Rhinebeck generates less traffic than in Red Hook. These are two problems the Proposed Action is intended to address.

The largest Zoning District in the Town of Red Hook is the RD3 (1 dwelling unit/3 acres) District, which encompasses the majority of the Town's farmland. Additional agricultural lands are zoned Limited Development (LD), RD5 and Institutional (I), with a density of one dwelling unit per 5 acres, and R1.5, with a density of one dwelling unit per 1.5 acres. Lands adjacent to the Village of Red Hook, the Town's principal commercial center, are primarily Zoned for low density residential uses, R1 and R1.5 (1 acre and 1.5 acres per dwelling unit, respectively). For residential developments that connect to a town-approved community water supply system, density may be increased in these Districts to one dwelling unit per half acre or per 1 acre, respectively. South of the Village of Red Hook is a commercial district, the B1 District, that includes a requirement for a deep (80') front yard setback that encourages commercial strip development. Existing Zoning Districts are shown in Figure II-4.

The Villages of Red Hook and Tivoli are the two prominent higher density centers within the Town. The Town, by law, cannot control zoning in the Villages. Although land use within the Villages of Red Hook and Tivoli are not included in the Proposed Action, the proposed Centers and Greenspaces Plan was prepared by the Intermunicipal Task Force of the Town of Red Hook and the Villages of Red Hook and Tivoli, and officials and residents in all three municipalities were directly involved in the extensive public planning process in preparation of the Plan and the Proposed Action. For example, the Town consulted with officials from the Village of Red Hook to ensure that the building sizes and types of commercial uses in the proposed Commercial Center Subdistrict of the TND District would not create competition that would potentially result in blight in the Village's central business district. The Villages of Red Hook and Tivoli provide evidence of historic land use patterns with compatible uses on smaller lots. The Village of Red Hook plays an important role as the principal commercial and residential center in the Town. The Village of Tivoli has a smaller central business district. The Hamlets of Upper Red Hook, Barrytown, and

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[13] Source: US Census Bureau, population estimates for 2008. In 2008, the unincorporated area of the Town of Red Hook had an estimated population of 8,455 persons, while the unincorporated area of the Town of Rhinebeck had an estimated population of 5,299 persons.

Annandale consist primarily of residential development, but a small amount of commercial space exists within some of the hamlets.

c. Planning Context

The Town of Red Hook has a rich historical and cultural past spanning nearly 300 years of European settlement and several thousand years of pre-historic habitation by Native Americans. Much of Red Hook's unique historic legacy is recognized in a nationally significant historic district and many scattered historic sites throughout the Town. The Town is home to a portion of a National Historic Landmark District, the State Mid-Hudson Historic Shorelands Scenic District, the Estates District Scenic Area of Statewide Significance, the New York State Scenic Byways and locally designated Scenic Corridors and Scenic Roads, and a New York State Coastal Zone (Local Waterfront Revitalization) area. It is also within the Hudson River Valley National Heritage Area and the state's Hudson River Valley Greenway, to name just a few of the designations that have recognized the Town's exceptional natural and cultural characteristics. Each of these designations will be discussed together with a discussion of the consistency of the proposed amendments with such designations and their implications for planning in Red Hook.

<u>National Historic Landmark District</u>

The Hudson River National Historic Landmark District, designated by the U.S. Secretary of the Interior in 1990 as the nation's largest landmark district, is a 32 square mile cultural landscape on the eastern shore of the Hudson River. Red Hook is in the heart of the District, which stretches from Germantown in Columbia County to Hyde Park in Dutchess County. The District includes over 40 riverfront estates, several historic villages and hamlets, and the significant designated landscapes and farmlands in between. The region holds a unique position in the settlement and social history of the Nation. The origins of permanent settlement begin about 1688, and the district is notable for the preservation of its aristocratic estates and gilded age mansions. These remarkable county seats built by members of the Livingston family and other wealthy individuals, together with the sedate Dutch homesteads, German tenant farms, and historic villages, create a rich landscape.

The Proposed Action has been designed to be consistent with the National Historic Landmark District. As shown on Figure 2 in the Build-Out Analysis in Appendix F of this DGEIS, a substantial portion of lands in the Historic District are either easement protected or public lands, or are in educational use (Bard College). Of the remaining unprotected lands, approximately half would be included in the proposed AB District, where preservation of important agricultural lands for continued agricultural use would be consistent with the existing character of the Historic District. On the remaining lands, the proposed amendments to §143-23 of the Zoning Law (to include additional unbuildable features that would be deducted in the calculation of permitted density) would result in a slight decrease

in permitted residential density on lands in the Historic District, from approximately 90 additional dwelling units to 63 units (see Table 1 and Table 2e of the Build-Out Analysis for lands currently Zoned RD5, LD, I, and WC). The reduction in permitted residential density would serve to preserve the landscape of the Historic District, particularly if coupled with other zoning practices, such as the conservation subdivision design principals (intended to preserve the natural and scenic qualities of open space) included in the proposed amendments.

New York State Mid-Hudson Historic Shorelands Scenic District

In 1980, the Commissioner of the NYSDEC designated the 20-mile long Mid-Hudson Historic Shorelands Scenic District under Article 49 of the Environmental Conservation Law. Subsequently, the Heritage Task Force for the Hudson River Valley, Inc. commissioned the Hudson River Shorelands Task Force to develop a management plan for the district. The plan makes recommendations for on-going maintenance, enhancement of visual amenity, and preservation of the resources. In Red Hook, the District extends the length of the Town from the Dutchess/Ulster County boundary in the Hudson River to a line 500 feet east of the centerline of Route 9G.

Features identified as having the potential to detract from the District's scenic quality include the following:

- Modern roadside development, parking lots and commercial signs along Route 9G.
- Contemporary suburban housing, especially where it detracts from scenic views.
- Industrial scale development and large-scale institutional development, with parking lots and traffic.
- Utility lines.
- Private house construction on the river outside the established river landings.

The proposed amendments are designed to be consistent with the Scenic District for the reasons discussed above under the heading National Historic Landmark District.

Estates District Scenic Area of Statewide Significance

Portions of the Town of Red Hook lie within the 27 mile long Estates District Scenic Area of Statewide Significance (SASS). The District consists of the Hudson River and its eastern shorelands extending from Cheviot Landing in the Town of Germantown, to just south of the Franklin D. Roosevelt Home in Hyde Park. The District's western boundary is the west bank of the Hudson River, and its eastern boundary in Red Hook follows NY Route 9G.

The District is highly recognized by the public for its scenic and historic values. The landscapes and panoramic views of the SASS were frequently the subject matter for artists in the 19th century Hudson River School of Painting, the first indigenous art movement in the U.S., and of international renown. Many scenes appearing in their works remain relatively unchanged. The scenic qualities of the Estates District SASS is recognized through designation of the Mid-Hudson Historic Shorelands Scenic District (discussed above), the State's first official scenic area designated under Article 49 of the Environmental Conservation Law. Most of the SASS is included within the 32 square mile Hudson River National Historic Landmark District. The collection of large estates with their designated landscapes, the beauty of the region's panoramic views of the Hudson River and the distant Catskill Mountains, the many undisturbed natural features, and the significant public historic sites and architectural treasures render the SASS unique in the Hudson River coastal area, the State and the nation.

The Estates District SASS is comprised of 29 subunits, 12 of which are located in the Town of Red Hook, including: Clermont Subunit; Clermont/Tivoli Estate Farmland Subunit; Tivoli Subunit; Montgomery Place/Blithewood Subunit; Tivoli Bays Subunit; Bard College Subunit; Annandale-on-Hudson Subunit; Barrytown Subunit; Astor Point Subunit; Astor Cove Subunit; River Road Subunit; and Mount Rutsen Subunit. These subunits are dominated by historic estates, pastoral designed landscapes and estate woodlands, fields and meadows, ecologically sensitive areas such as the Hudson River bluffs and the Tivoli Bays Wildlife Management Area, and settled areas such as the historic Village of Tivoli and the small historic hamlets of Annandale and Barrytown. All of these subunits are unique and the historic setting is irreplaceable. Minor discordant features are limited to a few recent residential and commercial developments. Together these subunits constitute a landscape of national and international significance which evolved through the development of a rich cultural heritage in an outstanding natural setting.

Whether within or outside a designated SASS, all proposed actions subject to review under federal and State coastal acts or a Local Waterfront Revitalization Program must be assessed to determine whether the action could affect a scenic resource and whether the action would be likely to impair the scenic beauty of the scenic resource. Impairments include:

- The irreversible modification of geologic forms, the destruction or removal of vegetation, or the modification, destruction or removal of structures, whenever such elements are significant to the scenic quality of the resource
- The addition of structures, which because of siting or scale will reduce identified views or which because of scale, form, or materials will diminish the scenic quality of an identified resource.

To ensure such impairments do not occur, the following siting and facility-related guidelines are set forth:

- Siting structures and other development such as highways, power lines, and signs back from shorelines or in other inconspicuous locations to maintain the attractive quality of the shoreline and to retain views to and from the shore.
- Clustering or orienting structures to retain views, save open space, and provide visual organization to a development.
- Incorporating sound, existing structures (especially historic buildings) into the overall development scheme.
- Removing deteriorated and/or degrading elements.
- Maintaining or restoring the original land form, except when changes screen unattractive elements and/or add appropriate interest.
- Maintaining or adding vegetation to provide interest, encourage the presence of wildlife, blend structures into the site, and obscure unattractive element, except when selective clearing creates views of coastal waters.
- Using appropriate materials, in addition to vegetation, to screen unattractive elements.
- Using appropriate scales, forms and materials to ensure that buildings and other structures are compatible with and add interest to the landscape.

The proposed amendments are designed to be consistent with the SASS for the reasons discussed above under the heading National Historic Landmark District.

New York State Scenic Byways and Locally Designated Scenic Roads

In 1981, following provisions of Article 49 of the Environmental Conservation Law empowering the DEC to designate scenic highways and develop programs for their preservation and enhancement, the State Legislature directed DEC's Heritage Task Force for the Hudson River Valley, Inc. (established by the DEC in 1980) to undertake a study regarding the protection and enhancement of certain roadways in the Hudson River Valley. The Heritage Task Force examined a series of roadways which are considered important cultural and scenic features in the landscape, and prepared a report that identified roads recommended for designation as scenic roads under Article 49 of the Environmental Conservation Law, along with recommended measures to protect, preserve and enhance the scenic road system. Several scenic roads providing outstanding scenery, views to the Hudson River and Catskill Mountains, and access to historical, cultural and recreational facilities, were identified in the Town of Red Hook in the *Scenic Roads Program* (Vol. 1), prepared by the

Heritage Task Force in 1983. The scenic roads in the Town of Red Hook identified by the Heritage Task Force included:

- River Road/Annandale Road (County Route 103) from the junction with NY Route 9G southerly to the Town of Rhinebeck boundary
- NY Route 9G from the Town of Rhinebeck boundary to the Dutchess/Columbia County line
- Kidd Lane from its junction with NY Route 9G to the Tivoli Village boundary
- Woods Road from the Tivoli Village boundary to the Dutchess/Columbia County line
- Sengstack (Santage) Road from its junction with Woods Road to its junction with Stonybrook Street
- Stonybrook Street from its junction with Sengstack (Santage) Road to its junction with NY Route 9G
- Barrytown Dock Road and Station Hill Road west of River Road
- Kelly Road (east of River Road)

The following additional scenic roads are listed in the Mid-Hudson Historic Shorelands Scenic District *Management Plan*:

- Rokeby Road
- Cruger Island Road

In October 1985, River Road/Annandale Road, Sengstack (Santage) Road and Stoneybrook Street were officially designated as Scenic Roads by the DEC under Article 49 of the NYS Environmental Conservation Law, and in 1992 they were included in the State's Scenic Byways Program administered by the NYS Department of Transportation.

The Town of Red Hook has also locally designated certain roads as scenic, as shown in Table II-1. Certain roads (or portions of roads) were identified as scenic corridors in the Town's *Comprehensive Plan* adopted in 1990, as shown on the *Plan*'s Land Use Map. This map became the basis for the Town's Zoning Map, adopted in 1993 and revised in 1994. As shown in Table II-1, the 1994 Zoning Map identifies the same roads as scenic as are identified in the *Comprehensive Plan*. Additional scenic roads were identified in the Town's *Open Space Plan* (November 2000). In 1999, the Town adopted a new Zoning Map dated April 13, 1999. During this time, the Town was in the process of adopting additional regulatory maps, including a scenic resource map. The Scenic Corridor Overlay (SC-O) District, which identifies the Town's locally designated scenic roads, was removed from the Zoning Map and placed on a draft map entitled "Town of Red Hook E.P.O.D. Scenic Overlay" prepared by

*imp*ACT, LLC. The new Zoning Map was adopted; however the "Scenic Overlay" map was not. The SC-O District provisions were not deleted from the Zoning Law. For ease of reference, the proposed Zoning Map that is part of this action depicts the original scenic roads as they appeared on the Town's 1994 Zoning Map. No significant adverse environmental impacts are anticipated to result from restoring the SC-O District as its purpose is to protect scenic and environmental resources.

TABLE II-1: TOWN OF RED HOOK SCENIC ROADS DESIGNATION

Road Name	NYS DEC (Scenic Byway Program)	Town Comprehensive Plan	Town Open Space Plan	Town's 1994 Zoning Map
Woods Road		✓	✓	✓
River/Annandale Road (all)	✓	✓	✓	✓
Sengstack (Santage) Road	✓	✓	✓	✓
Stoneybrook Street	✓	✓		✓
Kidd Lane		✓	✓	✓
West Kerley Corners			✓	
Guski Road			✓	
Budds Corner Road (Rt. 9G to Pitcher Lane)			✓	
Pitcher Lane			✓	
Route 9G (all)		✓	✓	✓
Route 9 (all within Town boundaries)		✓		✓
Route 199		✓	✓	✓
Co. Route 82 (from Route 9G to Station Hill Road)		✓		✓
Norton Road			✓	
Williams Road			✓	

The proposed amendments are designed to be consistent with the preservation of scenic corridors for the reasons discussed above under the heading National Historic Landmark District.

New York State Coastal Zone Management Program

The Town of Red Hook has adopted a Local Waterfront Revitalization Program (LWRP). The LWRP has been incorporated into the New York State Department of State's Coastal Management Program, with concurrence by the federal Office of Ocean and Coastal

Resource Management. In accordance with the LWRP, the Town Supervisor and the Town Board are responsible for overall management and coordination of the LWRP. When an action is proposed within the Town's coastal area, the action must be reviewed for consistency with the LWRP. A Waterfront Advisory Committee, presently constituted of all appointed members of the Town's Planning Board pursuant to Town Code Chapter 68, is authorized to review and make recommendations to appropriate agencies regarding the consistency of Proposed Action with the LWRP policy standards and conditions.

The Waterfront Revitalization Area boundary for Red Hook is co-terminus with the Mid-Hudson Historic Shorelands Scenic District. This revitalization or coastal area extends from the Dutchess/Ulster County boundary in the Hudson River to a line 500 feet east of the centerline of Route 9G, excluding the area within the Village of Tivoli. The boundary was placed 500 feet east of the centerline in order to assist in control of development of properties on both sides of this scenic road.

The proposed amendments are designed to be consistent with the policies of the LWRP. A Coastal Assessment Form (CAF) has been prepared for the Proposed Action (see Appendix A). As noted in the CAF, the Proposed Action is designed to protect scenic resources, agricultural lands, and historic, archaeological and cultural resources, and therefore no significant adverse effect on these resources would occur as a result of the action. Moreover, no development is proposed as part of the action and therefore no direct impacts would occur.

Hudson River Valley National Heritage Area

The Hudson River Valley National Heritage Area designation is one of only 40 such designations nationwide. The mission of the Hudson River Valley National Heritage Area Program is to recognize, preserve, protect and interpret the nationally significant cultural and natural resources of the Hudson River Valley for the benefit of the nation. The Hudson River Valley National Heritage Area was established by Congress in 1996 and is one of 40 federally designated Heritage Areas funded through the National Park Service and Department of the Interior by annual appropriations.

In National Heritage Areas, residents, businesses, governments and non-profit organizations collaborate to promote conservation, community revitalization and economic development projects. Through the facilitation of a local coordinating entity, such as a private non-profit corporation or a public commission, residents come together to improve the regional quality of life through the protection of shared cultural and natural resources.

This cooperative approach allows National Heritage Areas to achieve both conservation and economic growth in ways that do not compromise local land use controls. Designation legislation does not provide the coordinating entity or any Federal agency authority to regulate land. Long-term National Heritage Area success depends upon the willing support

and activities or partner organizations and residents, who collaborate from the very beginning to develop and implement an area's mission and goals. Participation in projects and programs is always voluntary, with zoning and land use decisions remaining under the jurisdiction of local governments. In addition, the coordinating entity is also prohibited from using Federal funds it receives through enabling legislation to acquire real property.

The proposed amendments are designed to be consistent with the Hudson River Valley National Heritage Area for the reasons discussed above under the heading National Historic Landmark District.

Hudson River Valley Greenway and Greenway Compact

Greenway Connections is the sourcebook that describes the Greenway Compact program in Dutchess County. The book describes the benefits of the Compact program, presents ideas and practical solutions to land use development issues, and illustrates guidelines for everyday design decisions by municipal boards.

The Greenway Compact is a voluntary partnership between the Hudson River Valley Greenway Council and the Town of Red Hook, among other local municipalities in Dutchess County. The Town of Red Hook joined the Compact in 2000. The Greenway works with Compact communities, like Red Hook, to accomplish five complementary goals:

1. Natural and cultural resource protection;
2. Economic development, including agriculture, tourism, and urban redevelopment;
3. Public access;
4. Regional planning; and
5. Heritage and environmental education.

The Town of Red Hook, as a member of the Compact program, agreed to work with neighboring communities and other Compact members to implement projects that are compatible with the goals and policies outlined in *Greenway Connections*. The Town also agreed to amend its Zoning Law and Subdivision Regulations to state that planning review of proposed development projects should take into consideration *Greenway Connections* and agreed that, whenever appropriate, any new or amended land use regulations should be consistent with the Greenway Compact Program.

The proposed amendments are designed to be consistent with the Greenway Compact, as discussed in Chapter III Section A.a.iv of this DGEIS.

C. Implementation

a. SEQR Process

This DGEIS will be subject to a public comment period, during which a Public Hearing will be held. Following the close of the public comment period on the DGEIS, a Final GEIS (FGEIS) will be prepared that will include a response to all substantive comments received on the DGEIS, corrections or modifications that are considered appropriate to the DGEIS. The FGEIS will incorporate the DGEIS by reference. All surrounding municipalities, the Town's two villages, many Town committees, and regional and state departments and organizations have been identified as interested agencies, as listed at the end of this DGEIS. Following a period during which members of the public and interested agencies are given an opportunity to consider the FGEIS, the Town Board will adopt a Findings Statement. This will conclude the SEQR review process.

b. Review and Approvals

The Proposed Action consists of adoption of amendments to the Town's Zoning and Subdivision Laws pursuant to authority granted under Article 2 of the New York State Municipal Home Rule Law and in accordance with Article XI of the Town of Red Hook Zoning Law and Chapter 120 of the Code, and the adoption of amendments to the Town's *Comprehensive Plan* under § 272-a of New York State Town Law and as recommended in the "Closing Statement" of the Town's *Comprehensive Plan*. In amending the *Comprehensive Plan*, the Town Board must take into consideration applicable county agricultural and farmland protection plans as created under Article 25-AAA of the New York State Agriculture and Markets Law pursuant to NYS Town Law § 272-a.9. The Town Board is the only entity with approval authority over the Proposed Action. The Dutchess County Department of Planning and Development has review responsibilities under General Municipal Law § 239-m, but no approval authority. The Town of Red Hook Planning Board has review responsibility of the proposed Zoning and Subdivision amendments under §§ 143-141 and 120-32 of the Town Code, but no approval authority. The Planning Board, acting as the Waterfront Advisory Committee pursuant to Chapter 68 of the Town Code, must also review and make recommendations to the Town Board regarding the consistency of the Proposed Action with the Town's Local Waterfront Revitalization Program policy standards and conditions. No other local, state, or federal approvals or permits are required.

CHAPTER III: ENVIRONMENTAL SETTING, IMPACTS, MITIGATION

A. Land Use, Zoning, and Public Policy

a. Existing and Potential Land Use, Zoning, and Public Policy

A variety of land uses and land use patterns contribute to Red Hook's unique character. The Town is known as the "Breadbasket of Dutchess County"[14] and it retains significant areas of agricultural lands. In general, the Town consists of low-density rural uses predominated by open fields, agriculture, and some forested areas. This overall rural character is complemented by the two prominent higher density centers within the Town, the Villages of Red Hook and Tivoli, in addition to historic hamlets scattered throughout the Town. Despite a number of scattered suburban subdivisions, particularly north of the Village of Red Hook and near the approach to the Kingston-Rhinecliff Bridge, the Town's historic "town and country" settlement pattern has been largely retained.

The largest Zoning District in the Town is the RD3 District (1 dwelling unit/3 acres), which encompasses the majority of the Town's farmland. Additional agricultural lands are zoned in the Limited Development (LD), RD5 and Institutional (I) Districts, with a density of one dwelling unit per 5 acres, and the R1.5 District, with a density of one dwelling unit per 1.5 acres. Lands adjacent to the Village of Red Hook, the Town's principal commercial center, are primarily zoned for low density residential uses, R1 and R1.5 (1 acre and 1.5 acres per dwelling unit, respectively). For residential developments that connect to a town-approved community water supply system, density may be increased in these Districts to one dwelling unit per half acre or per 1 acre, respectively. Adjacent to the Hudson River is the Waterfront Conservation District, with a permitted density of one dwelling unit per 10 acres. The historic hamlets of Annandale, Barrytown, and Upper Red Hook are included in the Hamlet District, with a required minimum lot size of 5 acres, with the exception of Upper Red Hook where minimum lot size is 1.5 acres. South of the Village of Red Hook is a commercial district, the B1 District, that includes a requirement for a deep (80') front yard setback that encourages commercial strip development. The Town also includes a B2 District, a floating Light Industrial District, and a number of overlay districts. Existing Zoning Districts are shown in Figure II-4.

The Villages of Red Hook and Tivoli are the two prominent higher density centers within the Town. The Town, by law, cannot control zoning in the Villages. Although land use within the Villages of Red Hook and Tivoli are not included in the Proposed Action, the proposed Centers and Greenspaces Plan was prepared by the Intermunicipal Task Force of

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[14] Claire O'Neill Carr, *A Brief History of Red Hook* (The Wise Family Trust and the Egbert Benson Historical Society of Red Hook, 2001), page 24.

the Town of Red Hook and the Villages of Red Hook and Tivoli, and officials and residents in all three municipalities were directly involved in the extensive public planning process in preparation of the Plan and the Proposed Action. For example, the Town consulted with officials from the Village of Red Hook to ensure that the building sizes and types of commercial uses in the proposed Commercial Center Subdistrict of the TND District would not create competition that would potentially result in blight in the Village's central business district. The Villages of Red Hook and Tivoli provide evidence of historic land use patterns with compatible uses on smaller lots. The Village of Red Hook plays an important role as the principal commercial and residential center in the Town. The Village of Tivoli has a smaller central business district. The Hamlets of Upper Red Hook, Barrytown, and Annandale consist primarily of residential development, but a small amount of commercial space exists within some of the hamlets. The Town is also home to Bard College, which is located on 500 acres of land bordering the Hudson River.

The proposed amendments to the Zoning Law would create two new zoning districts, the Agricultural Business (AB) District and the Traditional Neighborhood Development (TND) District. The purpose of the AB District is to implement the goals of the Town's adopted *Comprehensive Plan* and *Open Space Plan* to protect agricultural lands, discourage incompatible land uses, and promote agriculture as a component of the local economy now and in the future. The purpose of the TND District is to ensure that development adjacent to the Village of Red Hook is designed to conform to the Village's traditional compact, pedestrian-oriented, neighborhood pattern. The TND District would have the same features that characterize existing villages, such as walkable, mixed-use neighborhoods and more variety and choice in housing types. The "form-based" zoning of the TND District would ensure that these features are included in new development. An illustrative sketch of what development might look like in the proposed TND District appears in Figure II-3. Adoption of these two new Zoning Districts would promote small town development, with close-knit villages surrounded by rural countryside, in keeping with traditional rural land use patterns of the Hudson Valley and in conformance with the Town's *Comprehensive Plan* and *Open Space Plan*, rather than the more suburban oriented regulations currently allowed under the Zoning Law. A more complete rationale for each of the proposed Zoning Districts can be found in §§ 143-39.1 and 143-49.1 of the proposed Zoning Law amendments, which is referenced herein. Chapter II of this DGEIS describes the proposed amendments more fully. The proposed new Zoning Districts are identified on the Town of Red Hook Proposed Zoning Map (Figure II-5).

The proposed Open Space Incentive Zoning provisions would authorize adjustments to building potential in the TND District *in exchange for* funds to be used exclusively to preserve greenspaces in the AB District, at no direct cost to residents and taxpayers of the Town. This is the mechanism for transferring building potential to lands that have been identified for development (i.e., "centers") in the Town's *Comprehensive Plan* from lands that have been identified in the *Plan* for conservation (i.e., "greenspaces"). A developer who wished to

increase building potential above the base zoning in the TND District would contribute to a fund that could only be used to buy development rights from lands in the AB District. Alternatively, the developer could purchase development rights directly from a landowner in the AB District. In this way, residential development is promoted in the traditional neighborhoods, where it supports Village businesses and encourages additional commercial development in the TND Commercial Center, rather than on farmland. In order to encourage village-scale density within the TND District, the proposed Zoning amendments would eliminate the density bonus for provision of central water in the R1 and R1.5 Districts.

In preparing the proposed amendments, the Town conducted a build-out analysis to estimate the potential impacts of growth under the existing Zoning and the proposed Zoning. A build-out analysis is a planning tool that "*estimate[s] the impact of cumulative growth upon a town's land areas once all the developable land has been consumed and converted to uses permitted under the current* [or proposed] *regulatory framework.*"[15] The original build-out analysis, which was conducted for the Town in 2007 by the Dutchess County Department of Planning and Development, focused on the proposed AB District and TND District. Subsequently, the Town Board made modifications to the Proposed Action, specifically to the proposed Zoning Map and to permitted density levels of various additional Zoning Districts. Consequently, a new Build-Out Analysis was conducted for the Town by GREENPLAN, Inc. (March 2010), to assess the impacts of the current Zoning, the proposed amendments, and the alternatives being considered in this DGEIS.

The 2010 Build-Out Analysis, which is included as Appendix F of this DGEIS, used Geographic Information Systems (GIS) consisting of relevant geospatial data including tax parcels, New York State Protected (DEC) wetlands, Federal Jurisdictional (ACOE) wetlands,[16] streams, waterbodies, slopes, and Federal (FEMA) 100-year floodplains. The methodology for the analysis is explained in detail in Appendix F. The Study Area for the analysis includes the following: lands to be included in the proposed Agricultural Business (AB) District (Study Area A); lands to be included in the proposed Traditional Neighborhood Development (TND) Residential Subdistrict (Study Area B); lands not included in either of the preceding that are currently zoned R1 and R1.5 where the water bonus is proposed to be deleted (Study Area C); remaining lands in the Town[17] (Study Area D). See Figure 1 of Appendix F.

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[15] *Manual of Build-Out Analysis*, Center for Rural Massachusetts.

[16] As shown on the US Fish and Wildlife Service's National Wetland Inventory (NWI) maps, but such maps merely illustrate potential wetland areas based on aerial photographs. Actual Federal wetlands may be more or less than what the NWI Maps show.

[17] Exclusive of: educational institutions (Bard College, Mill Road Elementary School, and the Devereaux Foundation) and the NYS property on Turkey Hill Road (none of which are likely to be developed for residential uses); lands in the Hamlet Districts (which are small, nearly built-out areas that would permit little additional development); and existing or proposed commercial districts, since the purpose of the build-out analysis was to determine the permitted number of additional residential dwellings.

The Build-Out Analysis estimates that the result of build-out under the existing Zoning would be the addition of 3,588 new single family dwelling units and 11,089 new residents. In 2008, the Town of Red Hook had approximately 1,128 dwellings in the Study Area[18], and an estimated population of 8,455 residents[19]. The impact of build-out under the existing Zoning is that the Town's population would more than double to 19,544 people. The 11,089 additional residents, including 2,479 school age children, would require 22 new paid police officers and 18 new full-time firefighters, new town facilities, and more classrooms and other space to accommodate the additional school children. The dwellings that these new residents would live in would require construction of about 3,500 new septic disposal systems generating more than 1,148,000 gallons of sewage per day discharged into the ground, and these dwellings would also depend upon 3,500 new groundwater wells drawing more than 1,148,000 gallons of water per day. Projected vehicle trips in the Town (generated by the residential development alone) would be more than 34,000 additional trips per day by an additional 7,176 vehicles on the road, and these vehicles would need to travel to or through the Village of Red Hook or on Route 9G.

In comparison, if the existing Zoning were amended as proposed, the total number of dwelling units, population, school-aged children and infrastructure impacts would be reduced as compared to the above figures as follows: there would be potentially 1,388 new dwelling units and 4,226 new residents, including 940 new children needing to go to school, an additional 2,776 vehicles making 12,436 vehicle trips per day on local roads, an additional 435,280 gallons of water per day consumed, and the need to add 8 new police officers and 7 new firefighters.

The following Table compares the number of new residential dwelling units that would be permitted under the current zoning and the proposed amendments.

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[18] There are an additional 1,090 dwelling units on lands in Study Areas C and D which were not included in the build-out analysis since they are already fully developed; see discussion on pages 5 - 6 of the Build-Out Analysis in Appendix F.

[19] Source: US Census Bureau. The Town population cited here does not include the two Villages.

Table III-1: New Dwellings Permitted Under Existing Zoning and Proposed Action		
	New Dwellings	
	Current Zoning	Proposed Zoning
Study Area A	1,420	297*
Study Area B	92	297**
Study Area C	1,037	324
Study Area D	1,039	470
TOTAL:	**3,588**	**1,388**

* 106 retained du + 191 potential new lots. Assumes that development rights would be sold from 50% of lands in the AB District under the "conservation option" and 50% of lands would be developed under the "limited development option." In addition to the dwelling units, there would be 441 development rights for sale.

** 57 as-of-right units and 240 incentive units. Three different housing types are required in the TND District, and each type must comprise a minimum of 20% of the total units. The 297 units were analyzed as 149 TND Houses, 74 TND Townhouses, and 74 TND Duplex/Apartment units.

Based on the Build-Out Analysis, if all of the buildable land in the Town were developed as currently zoned, eventually Red Hook would look more like a typical suburban community than a rural community, with single-family homes on 1, 1½, 3 and 5 acre lots spread throughout the landscape. In cases where landowners chose to keep their lands in the NYS certified Agricultural District, cluster development, as required by the Town's important farmlands law, would preserve some open spaces; however, the fiscal, traffic and other impacts would be the same. Moreover, the amount of residential development currently permitted on agricultural lands would create significant land use conflicts between farm and non-farm neighbors, making continued agricultural use of the remaining open space lands difficult. By locating the majority of new residential development beyond walking distance of the commercial centers in the Villages, the existing Zoning would result in commercial strip development spread along Routes 9, 9G and 199 in an auto-dependent manner. This is the potential for land use development currently written into the Zoning Law. This pattern of development, sometimes referred to as sprawl, would result in low-density residential subdivisions providing a poor mix of homes, jobs and services. If the Town does nothing to refine its current planning and zoning practices, the consequences would likely take this conventional suburban form.

The proposed zoning amendments would result in new development in the Town occurring primarily in a designated priority growth area, the Traditional Neighborhood Development (TND) District, located immediately south of the Village of Red Hook, coupled with a continuation of the dominant pattern of sparsely settled rural lands in the remainder of the Town. This development pattern, known as smart growth, would strengthen and direct development towards an area immediately adjacent to the existing Village of Red Hook (i.e., a "center"), resulting in compact, mixed-use, walkable neighborhoods with a traditional

neighborhood design, while conserving agricultural lands and open spaces (i.e., "greenspaces") in the remainder of the Town. It would also be a method for achieving affordable housing in the Town since the proposed zoning would result in 1,388 new dwelling units.

Potential impacts of the existing zoning compared with the Proposed Action are summarized in Table III-2 below.

TABLE III-2: COMPARISON OF POTENTIAL IMPACTS, CURRENT & PROPOSED ZONING

	Current Zoning	Proposed Zoning
New Dwellings	3,588	1,388
Additional Residents	11,089	4,226
Additional School Age Children	2,479	940
Additional Vehicles on Road	7,176	2,776
Additional Vehicle Trips per Day	34,337	12,436
New Police Officers	22	8
New Fire Fighters	18	7
Additional Water Consumed	1,148,160 gpd	435,280 gpd
Additional Sewage Generated	1,148,160 gpd	435,280 gpd

Source: Town of Red Hook Build-Out Analysis, March 2010 (see Appendix F).

iv. Consistency with Plans

The Town's adopted ***Comprehensive Plan*** recommends that the Town provide incentives for new development to locate within or adjacent to existing centers in the community while discouraging a land use pattern that uniformly disperses development throughout the Town (known as "sprawl"). This "town and country" planning model is further emphasized by the *Plan*'s recommendations to preserve the Town's "irreplaceable agricultural land resource" for this and future generations. Specifically the *Plan* calls for conserving prime and statewide important agricultural soils, separating agricultural and incompatible non-agricultural uses, and requiring non-agricultural uses to be located on marginal agricultural soils. To conserve agricultural soils, the *Comprehensive Plan* recommends the use of innovative land use techniques, such as conservation easements, conservation density subdivision, cluster development, and transfer of development rights, which can be accomplished through incentive zoning. Specifically, the *Plan* recommends that density be transferred from environmentally sensitive lands (especially important agricultural lands) to prospective higher density areas around the Village of Red Hook where development is preferred and central water and sewer is feasible.

For economic development other than agriculture, the *Comprehensive Plan* recommends that the Village of Red Hook be maintained as the primary commercial center of the community,

with limited commercial expansion in carefully-defined areas outside the center, such as immediately adjacent to the Village of Red Hook. In these areas, the *Plan* recommends small retail and service businesses consistent with the day-to-day needs of the community. The higher density of commercial development envisioned by the *Plan* adjacent to the Village of Red Hook would require central facilities; to service this concentrated development, the *Plan* recommends that the Town conduct a feasibility study for the installation of central water and sanitary sewage services in this areas. Light industry and small-scale office/ research facilities are encouraged in appropriately serviced locations as long as building scale, intensity and character is compatible with the community and its rural character. The *Comprehensive Plan* discourages highway strip commercial development.

In terms of housing policies, the Town's *Comprehensive Plan* recommends encouraging a range of housing types in or adjacent to existing centers to meet the housing needs of Town residents with a range of income levels, ages, household sizes and housing preferences. It also recommends concentrating higher-density residential development in areas that can be most efficiently served by existing and prospective municipal or municipally-approved central water and/or sanitary sewage facilities, such as the Village of Red Hook and the area immediately to the south. This compact development is also intended to reduce the extent of new roadway construction in the Town. Accessory apartments are recommended as a more affordable housing type.

The *Comprehensive Plan* recommends protecting surface and groundwater resources, and restricting land use and development activities with the potential to pollute groundwater resources. Finally it should be noted that the *Plan* strongly encourages Town/Village cooperation in on-going land use planning and in the development of suitable infrastructure (such as community water and sewer) to encourage the long-term economic vitality of the community. Such efforts should be "*based upon the principle of accommodating growth only when consistent with the rural, small-town character of the Town of Red Hook*" (*Comprehensive Plan*, page 12). This recommendation has been implemented with the creation of the Intermunicipal Task Force which prepared the initial draft amendments under consideration.

The *Comprehensive Plan* recommends a permissible density of 1 dwelling unit per 5 acres in Conservation/Rural Development area west of NY Route 9G, and 1 dwelling unit per 3 acres elsewhere in the Conservation/Rural Development area. However, the *Comprehensive Plan* also notes that "both large-scale residential development projects and use of the conventional lot-by-lot approach to subdivision layout should be discouraged on lands designated as Conservation/Rural Development." Furthermore, the *Plan* recommends that transfer of development rights be encouraged to "reduce the amount of development that might actually be carried out within the Conservation/Rural Development area" and ensure "the Town's objective that agricultural use remain the predominant land use" be achieved. The Proposed Action is consistent with these recommendations. Landowners who choose to sell their development rights would be permitted to do so at the current zoning level (for

example, 1 unit per 5 buildable acres in the RD5 District and 1 unit per 3 buildable acres in the RD3 District). However, for the Limited Development of the proposed AB District, the Proposed Action would revise the density standards to a sliding scale, as described in detail in Chapter II of this DGEIS. In the last 20 years there has been a greater recognition that to preserve agricultural resources, a reduction in density is appropriate, as shown in Table III-3.[20] The Proposed Action includes an amendment to the Town's *Comprehensive Plan* to address this.

TABLE III-3: EXAMPLES OF AGRICULTURAL DENSITY

Source or Location	Density Recommendation or District Purposes	District	Density: Acres/ Dwelling Unit
American Farmland Trust	AFT's "Fact Sheet on Agricultural Protection Zoning" (Sept. 1998) states that zoning laws designed to protect agricultural lands limit maximum residential densities to a range of 1 du per 20 acres to 1 du per 640 acres.	NA	20 to 640
Regional Plan Association (RPA)	The RPA's 2007 *Southeast Orange County Land Use Study*, prepared in partnership with the Orange County Planning Department, recommends use of low density zoning for agriculture, forest, and rural conservation.	NA	25 to 100
SmartCode, Version 9.2	The T2 (rural zone) is intended to conserve agriculture and open lands, discourage sprawl development and automobile dependency.	Transect T2, Rural Zone	20 (average)
Carroll County, MD	Agricultural District	A	20
Baltimore County, MD	Resource Conservation District	RC-2	50
Montgomery County, MD	Agricultural Zone	A	25
Stearns County (St. Cloud), MN	Agricultural Zone	A-160	160
Lancaster County, PA	Model Zoning Ordinance	NA	23.5
York County, PA	Varies by Townships in the county	NA	20 to 100
Rapho Township, PA	Agricultural Zone	A	20
East Donegal, PA	Agricultural Zone	A	25
Marin County, CA	Agriculture and Conservation District	A60	60

[20] Many of the density levels presented in Table III-3 are area-based allocations rather than minimum lot size. See page III-18 of this DGEIS for an illustration of these concepts.

TABLE III-3: EXAMPLES OF AGRICULTURAL DENSITY			
Source or Location	Density Recommendation or District Purposes	District	Density: Acres/ Dwelling Unit
Box Elder County, UT	Multi-Use District: To protect land and other open space resources; reduce unreasonable requirements for public utility and service expenditures through uneconomic and unwise dispersal and scattering of population; encourage use of the land for forestry, grazing, agriculture, wildlife habitat, and recreation; avoid excessive damage to watersheds, water resources, soil erosion, and wildlife.	MU-160	160
		MU-80	80
		MU-40	40

In addition, the Proposed Action would create a new Zoning District, the TND District, which would effectively serve as a "receiving area" for the transfer of building potential from the AB District through the use of incentive zoning and sale of development rights, as described in detail in Chapter II. In order to encourage village-scale development within the TND District, the local law eliminates the density bonus for provision of central water in the R1 and R1.5 Districts. The Proposed Action includes an amendment to the Town's *Comprehensive Plan* to address this.

With the above exceptions, the Proposed Action is consistent with the land use policies of the Town's adopted *Comprehensive Plan*. The Proposed Action would reinforce a "centers and greenspaces" or "town and country" land use pattern as is recommended by the *Comprehensive Plan*. The amendments would protect agricultural lands by creating incentives, through a new section on Open Space Incentive Zoning, for the transfer of building potential from the proposed AB District to the proposed TND District located immediately to the south of the Village of Red Hook, and would also minimize the amount of residential development permitted in the AB District, which would be required to be located away from agricultural soils, all as recommended by the Town's adopted *Comprehensive Plan*. The proposed amendments would require subtracting unbuildable lands prior to calculating permitted density, which would result in greater protection of slopes, wetlands and surface waters. Permitting greater residential building potential immediately adjacent to the proposed Commercial Center of the TND District would promote village-like commercial development more in keeping with the historic character of Hudson Valley towns, rather than strip commercial, as illustrated in Figure III-11. Finally, the proposed Office-Industrial subdistrict of the TND District would include limited access points and significant buffering (a minimum of 200' with extensive vegetative screening) to screen future industrial and office research uses from views from Route 9.

Directions: The Plan for Dutchess County ("Directions"), which was prepared by the Dutchess County Department of Planning and Development (February 1987) and formally endorsed by the Town of Red Hook, recommends that anticipated population growth in the County be accommodated in community centers within and adjacent to existing villages, with large areas of rural and agricultural uses surrounding the villages (the "centers and greenspaces" concept). It promotes a land use pattern that strengthens traditional centers and protects important natural resources, particularly agricultural soils, surface water and ground water, wetlands and slopes. According to *Directions*, community centers should be walkable, have a strong sense of place, and provide a diversity of housing types and opportunities. They should have the highest density of residential development and be served by central water and sewer systems. Outside the centers, rural agricultural uses are recommended to preserve agricultural soils, with residential uses at a very low density on marginal agricultural land. *Directions* recommends transfer of development rights to keep development off agricultural soils and minimize land use conflicts between agricultural and residential uses. It recommends that towns encourage agriculture and tourism to maintain a balanced local economy. *Directions* discourages strip commercial uses along major roadways, and recommends small-scale industrial and office research uses limited to sites adjacent to community centers where direct access to major transportation facilities is available. It encourages well-planned industrial parks with limited access points, an interior road system, and adequate buffering.

Directions is similar in its goals and objectives to the Town of Red Hook's *Comprehensive Plan.* The Proposed Action is consistent with the goals and objectives of *Directions.* The Proposed Action would reinforce a "centers and greenspaces" land use pattern as is recommended by *Directions*. It would protect agricultural soils by transferring residential development from the proposed AB District to the proposed TND District. The Proposed Action would minimize the amount of residential development permitted in the AB District, which would be required to be located away from agricultural soils. The proposed amendments to delete unbuildable lands prior to calculating permitted density would result in greater protection of sensitive areas such as steep slopes, wetlands and surface waters. Permitting greater residential building potential immediately adjacent to the proposed Commercial Center of the TND District would promote village-like commercial development rather than strip commercial, as shown in Figure III-11. Finally, the proposed Office-Industrial subdistrict of the TND District would include limited access points and significant buffering (a minimum of 200' with extensive vegetative screening) to screen future industrial and office research uses from views along Route 9. All of these planning strategies are consistent with the recommendations of the *Directions: The Plan for Dutchess County*.

Greenway Connections: The Greenway Compact Program and Guides for Dutchess County Communities, ("*Guides*"), which has been adopted by the Town of Red Hook, promotes a "smart growth" strategy that focuses development in well planned centers ("priority growth areas") rather than randomly sprawled on greenspaces or farmland. The

Guides include strategies to strengthen existing settlements, such as villages and hamlets and their immediately surrounding growth areas, while protecting the countryside. Economic development that protects community character and the environment, such as agriculture, tourism, Main Street and other urban revitalization strategies, is encouraged, as is the protection of natural resources, such as important habitats, surface and ground waters, wetlands and steep slopes. Centers should be planned for pedestrians as a top priority, and new construction should be compatible with the existing community context and nearby distinctive or historic buildings. The *Guides* also recommend redeveloping commercial strips and, where possible, turning them into mixed-use centers. Included in the *Guides* are site standards that include specifics such as the location of street trees between the sidewalk and the road, lighting, signage, and a wide variety of other design guidelines.

The proposed amendments are consistent with the above recommendations of *Greenway Connections.* In fact, Dutchess County has recently developed a new *Greenway Guide* entitled "Centers and Greenspaces," which uses Red Hook's Proposed Action as a model for other Dutchess County communities to emulate.

To summarize, all of the above cited plans call for locating new development in and adjacent to existing centers while conserving important farmlands and open space in the remainder of the Town. The Proposed Action is entirely consistent with these policies.

Potential Impacts

As indicated in the Build-Out Analysis prepared for this DGEIS, the future build-out of remaining undeveloped or underdeveloped lands in the Town of Red Hook would result in suburban sprawl-type residential development, accompanied by commercial strip development, a significant increase in traffic and other related environmental impacts. The Proposed Action would avoid potential adverse environmental impacts to the Town's rural, small-town character by directing new development towards existing centers, designing that development as walkable village-scale neighborhoods consistent with the existing historic character of the Village of Red Hook, and protecting agricultural lands and other important natural resources.

Proposed Mitigation Measures

Since the Proposed Action would result in beneficial impacts to the Town and would not result in any adverse impacts, no mitigation is required.

b. Agricultural Resources

To determine which lands should be included in the proposed AB District, the Town evaluated parcels against a set of land evaluation criteria. These criteria are consistent with those outlined in the American Planning Association's "Policy Guide on Agricultural Land

Preservation," and the Land Evaluation and Site Assessment (LESA) rating system developed by the Natural Resources Conservation Service of the US Department of Agriculture as a way for local governments to assess the suitability of parcels of farmland for continued agricultural use. The land evaluation criteria combine a soil suitability analysis with other site factors that directly affect agricultural use of the land, such as neighboring land uses, availability of water for irrigation purposes, scenic or historic values, development pressure and development potential, local land-use policies, among other factors. The specific land evaluation and site assessment criteria that were used by the Town to evaluate parcels for inclusion in the proposed AB District are as follows:

Land Evaluation:

Prime soils: USDA classification, categories I - III, soils best suited for agricultural use.

Soils of statewide importance: USDA classification, categories III - VI, soils that are of statewide importance for agricultural use but do not meet the prime farmland criteria.

Figure III-1 identifies the location of prime and statewide important agricultural soils in the Town.

Site Assessment:

Active/past agricultural use: Lands which are either currently being used for agricultural pursuits and/or which mapping can document was farmed in the past. Figure III-2 identifies lands that are currently being farmed, and the products they are producing.

Access to water resources: Properties that have or are near streams, aquifers, and other waterbodies that would provide water for irrigation purposes and thereby enhance agricultural production. Aquifers, streams, and waterbodies, are identified on Figures III-3 and III-4.

Critical mass: Whether the parcel is isolated or is part of a larger block of lands that are suitable for agricultural use.

Development potential: Whether the parcel would yield a significant number of homes that could impact neighboring farms and agricultural lands, or whether size, configuration or natural constraints on the parcel would limit development potential.

Historic significance: Whether the parcel contains historic buildings or structures that reflect the historic character of the community.

Consistency with local land use plans (the Town's *Comprehensive Plan* and *Open Space Plan*): Whether the parcel is located in an area identified by the plans as priority agricultural areas, or in an area where the land use plans recommend that new development occur (such as adjacent to the Villages, particularly south of the Village of Red Hook).

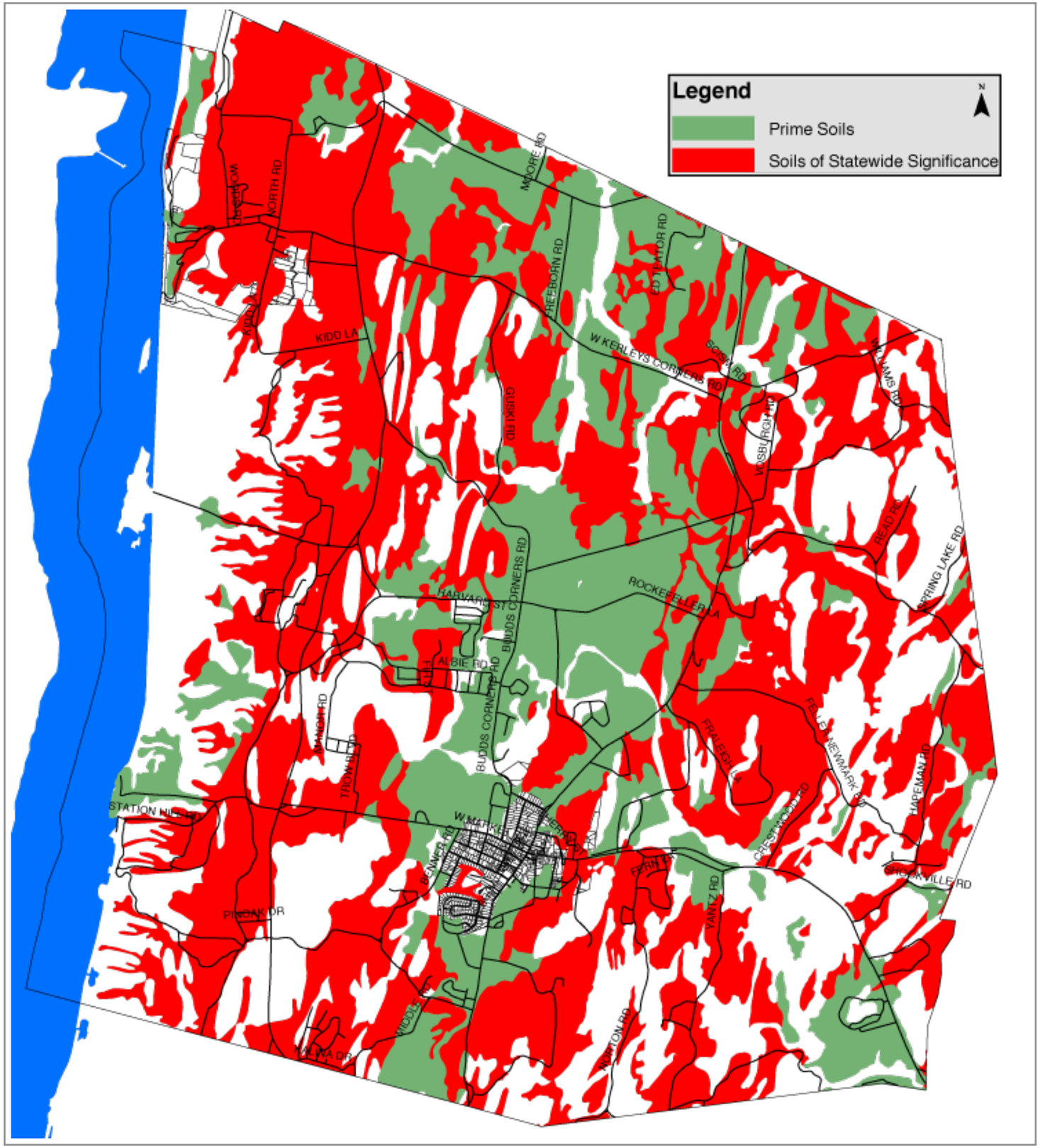

Figure III-1: Prime and Statewide Agricultural Soils Town of Red Hook

Data Source: Dutchess County Department of Planning and Development

Prepared for the Town of Red Hook
by

GREENPLAN

January 2010

Town of Red Hook
Centers and Greenspaces DGEIS

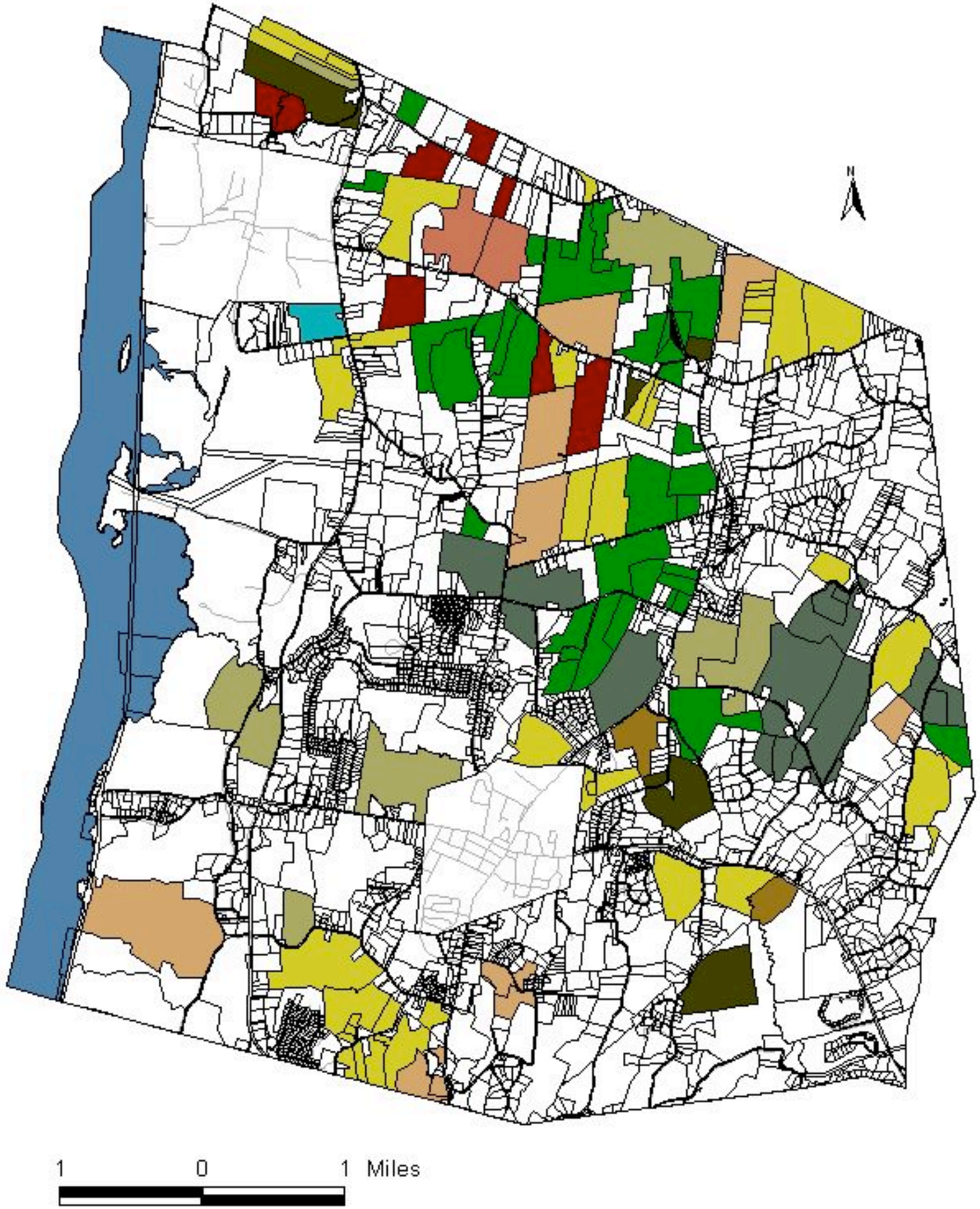

Figure III-2: Currently Active Farmland Town of Red Hook

Data Sources: Dutchess County Department of Planning and Development; Town of Red Hook Agriculture and Open Space Advisory Committee

Products:

- Beef
- Dairy
- Fruit
- Fruit & Vegetables
- Hay
- Horses
- Nursery
- Poultry & Beef
- Sheep
- Vegetables

Prepared for the Town of Red Hook by

GREENPLAN

March 2010

Town of Red Hook
Centers and Greenspaces DGEIS

Buffering: Whether the parcel serves to buffer adjacent or nearby farmland, or is located in proximity to farmland in which financial investments have been made for protection (for example, through the Town's existing purchase of development rights program).

Gateways: Whether the parcel is located in an area that defines the gateway to an existing center.

Scenic viewshed: Whether the parcel is in a location that contributes to the scenic assets of the community.

The list of criteria with examples, and the parcel-by-parcel evaluation of lands against the criteria can be found in Appendix E.

Some farmland in the Town is currently included in the NYS certified Agricultural District 20). The New York State Agriculture Districts Law was enacted in 1971 to protect and conserve the State's agricultural resource base. It is based on Article XIV of the State constitution which states that it is the policy of the State "to conserve and protect its natural resources and scenic beauty and encourage the development and improvement of its agricultural lands for the production of food and other agricultural products." The State constitution recognizes that agricultural lands are a necessary and irreplaceable resource. The purpose of agricultural districting is to encourage the continued use of farmland for agricultural production. The program provides protection against overly restrictive local laws, and private nuisance suits involving agricultural practices. Currently approximately 7,885 acres in the Town are included in the NYS Agricultural District 20 (see Figures III-5 and III-6). Inclusion in the District is voluntary.

Farmland owners also have the opportunity to receive real property assessments based on the value of their land for agricultural production rather than on its development value. This portion of Article 25-AA of NYS Agriculture and Markets Law is designed to provide a partial exemption for taxation for farmland where urban pressure causes the market value of the land to exceed the value of the land in agricultural production.

The Town of Red Hook currently includes provisions in §143-47D(4) of the Zoning Law ("Important Farmlands") that pertain to lands within the NYS certified Agricultural District 20. For all subdivision applications for lands within the NYS Agricultural District that contain prime or statewide important agricultural soils, cluster development is required, in accordance with siting standards that include, for instance, locating development on the least productive soils. One drawback of the current provisions is that since they are applicable only to lands in the NYS Agricultural District, landowners can opt out of the requirements, which makes zoning subject to landowner preferences rather than being based on sound planning principles. The proposed AB District incorporates some of the standards of the Town's important farmlands law (such as the site standards), and amends others (replacing clustering with conservation subdivision that can more effectively protect

agricultural lands). Section 143-47D(4) of Zoning Law would be eliminated upon establishment of the AB District.

Most of the land proposed for inclusion in the AB District is currently zoned RD-3 (1 dwelling unit per 3 acres), with smaller areas north and south of the Village of Tivoli currently zoned Limited Development (LD), which permits 1 dwelling unit per 5 acre, two parcels in the vicinity of Annandale-on-Hudson currently zoned Institutional (I), and some lands in the vicinity of the Village of Red Hook currently zoned R1.5 (1 dwelling unit per 1.5 acres). As can be seen in the following illustrations, these densities, even with clustering, are not an effective tool for farmland preservation. The 31 residential lots permitted by the RD3 District on a 100 acre parcel, for instance, would result in significant land use conflicts if the remaining land were kept in agriculture.

100 acre farm	Residential lots, sprawl development	Residential lots, cluster development

The AB District would permit farmers greater business opportunities to enhance their farms by including allowances for farm markets up to 4,000 square feet in size (amending the current regulations which restrict year-round farm markets to a maximum of 1,000 square feet), wineries, distilleries and cider mills, and agri-tourism uses such as farm tours, bed-and-breakfasts, and harvest festivals. Many of these permitted uses would received a streamlined review process, requiring only minimal site plan review and no public hearing, as recommended by NYS Department of Agriculture and Markets (see "Guidelines for Review of Local Zoning and Planning Laws"). In the current Zoning Law, for example, a "farm

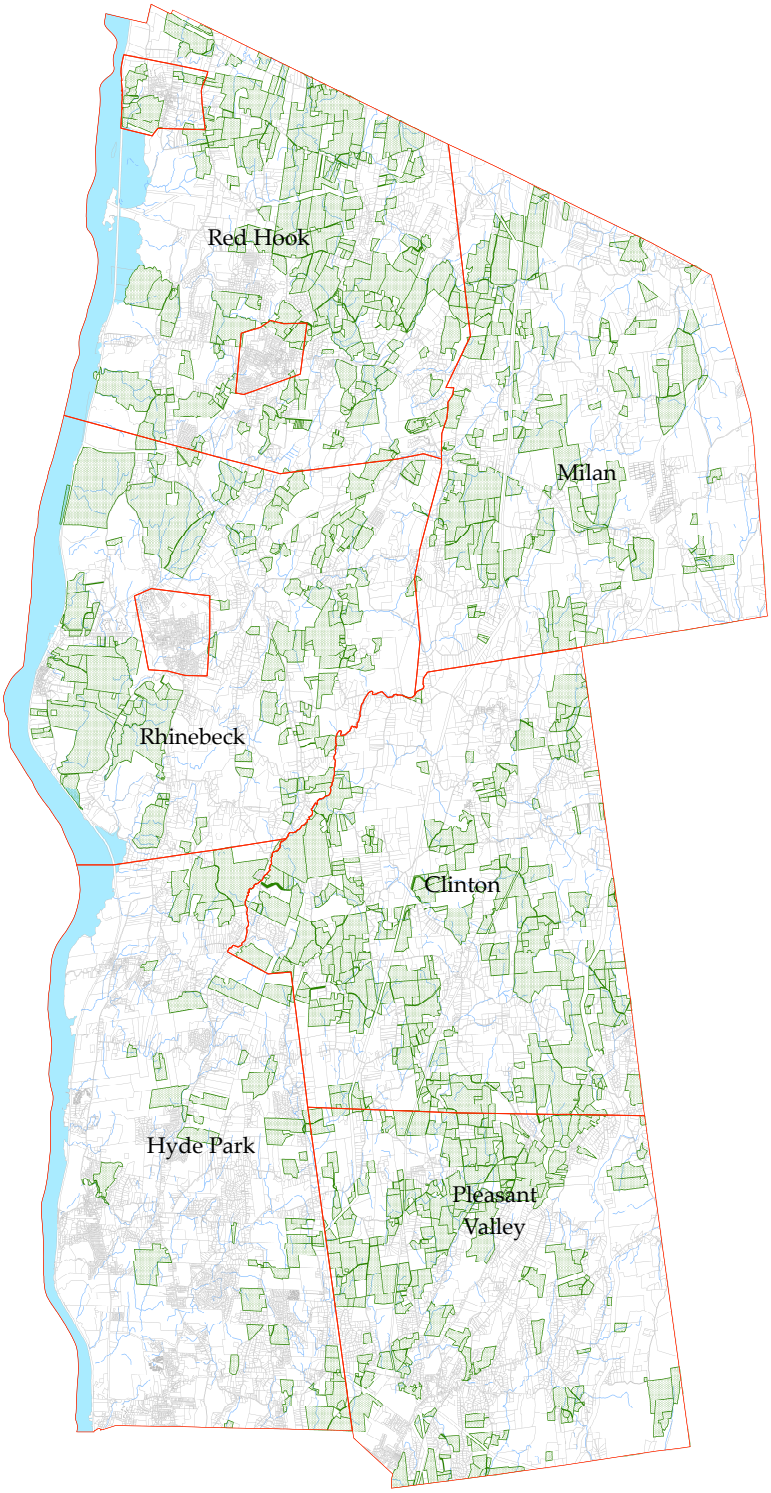

Figure III-5:
Agricultural District 20
Dutchess County, New York

Prepared by: Dutchess County Real Property
Tax Service Agency G.I.S. Lab
Kathleen Myers, Director, RPTSA
Betsy Mark, GIS Project Coordinator
December, 2009

Data Sources:
Tax Parcel Maps and Municipal Boundaries:
Dutchess County Real Property Tax Map Coverages, December 2009
Agricultural Districts: An Overlay of District Boundaries and
Dutchess County Real Property Tax Map Coverages, December 2009

State Plane Coordinate System - New York
East Zone - NAD 27 Projection

Legend

- Municipal Boundaries
- Parcels
- Ag District Parcels
- Hydrology

Major Roads

- State
- County

Scale: 1:48000

4000 0 4000 8000 12000 Feet

N W E S

Town of Red Hook
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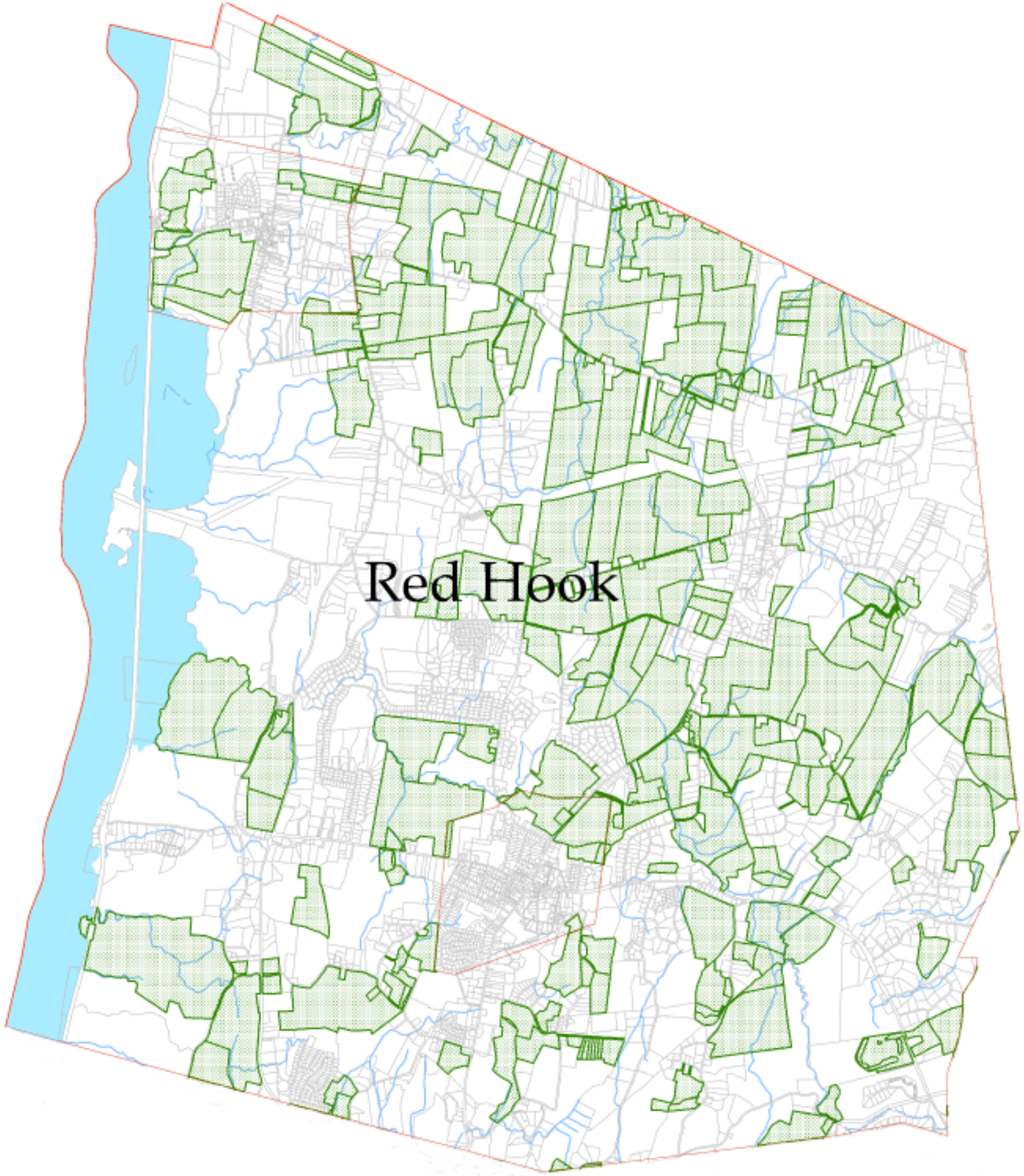

Figure III-6: Agricultural District 20 Town of Hook

Prepared by: Dutchess County Real Property
Tax Service Agency G.I.S. Lab
Kathleen Myers, Director, RPTSA
Betsy Mark, GIS Project Coordinator
December, 2009

Data Sources:
Tax Parcel Maps and Municipal Boundaries:
Dutchess County Real Property Tax Map Coverages, December 2009
Agricultural Districts: An Overlay of District Boundaries and
Dutchess County Real Property Tax Map Coverages, December 2009

State Plane Coordinate System - New York
East Zone - NAD 27 Projection

Legend

- Municipal Boundaries
- Parcels
- Ag District Parcels
- Hydrology

Major Roads

- State
- County

Not to Scale

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Town of Red Hook
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market 1" requires site plan review (with a public hearing) by the Planning Board, and a "farm market 2" requires a special use permit and site plan review (with a public hearing). The proposed amendments would eliminate the need for a special use permit, and would reduce the site plan requirements to minor site plan review, with no public hearing. Minor site plan review would be limited to building elevation and design, parking, lighting and signage, unless the Planning Board had specific concerns regarding public health, safety or general welfare and such concerns were set forth in the minutes of the Planning Board meeting.

Other uses that would require only minor site plan review include a "farm market 3" (up to 4,000 sq. ft. in size); wineries, distilleries and cider mills created through adaptive reuse of existing buildings; tack shops as either adaptive reuse or new construction (the latter up to 4,000 sq. ft. in size); organized meeting space for use by weddings, birthday parties, events, and corporate picnics; and small-scale entertainment (e.g., music concert, car show, art fair) which does not require a large assemblies permit.[21] All of these are new uses proposed to be included in the AB District.

Other uses that would no longer require a special use permit include bed-and-breakfast establishments, two-family and multi-family dwellings created through conversion or adaptive reuse.

The NYS Department of Agriculture and Markets typically defines "direct farm marketing" as an integral component of agriculture and includes protections for roadside stands, farm markets, farmers' markets, and "u-pick" or "pick your own operations." Direct farm marketing, therefore, is considered by the Department to be part of a "farm operation" and thus protected from unreasonable local restrictions by Agriculture and Markets Law (AML) §305-a when conducted on the farm. However, the degree of regulation of the various forms of direct farm marketing that is considered unreasonable depends on the nature of the proposed activities and the size and complexity of the proposed structure. A requirement to apply for a permit is generally not unreasonable. Depending upon the size and scope of the retail facility, greater regulation, such as special use permits and site plan review, may be deemed to be reasonable by the Department. The Department urges local governments to take into account the size and nature of the particular farm market when setting and administering such requirements. For example, to require a small farm market, which sells only a minimal amount of off-farm product, to obtain a special use permit and site plan approval may be unreasonably restrictive.

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[21] A "Large Assembly" is defined as "Any assemblage or gathering of more than 1,000 persons on any parcel or parcels of property within the Town, or any assemblage or gathering of more than 500 persons on any parcel or parcels of property within the Town which continues or can be reasonably expected to continue for more than eight consecutive hours. A large assembly does not include an assembly of persons at a location with permanent facilities designed for that specific assembly." Chapter 44 of the Town Code of the Town of Red Hook.

Farmers must comply with local requirements, which regulate the health and safety aspects of the construction of farm buildings through provisions to meet local building codes or the State Building Code (unless exempt from the State Building Code under 9 NYCRR §651.32) and Health Department requirements. Farmers must also obtain local building permits and certificates of occupancy to ensure that health and safety requirements are met. Generally the Department of Agriculture and Markets will consider whether maximum dimensions imposed by a local law are sufficient to meet existing and/or future farm needs. For example, many roadside stands are located within existing garages, barns, and outbuildings that may have dimensions greater than those set by a local law. Buildings specifically designed and constructed to accommodate the sale of farm products may also not meet the local requirements. The size and scope of the farm operation is also considered. Larger farms, for example, cannot effectively market their produce through a traditional roadside stand.

In cases where a farmer believes that local regulation of agriculture is unreasonable, he or she may file with the Department of Agriculture and Markets a 305-a Review Form. After a review process has been completed by the Department in consultation with the municipality, the Commissioner of Agriculture and Markets may issue a Determination and Order to the unit of government compelling them to issue a permit, allow an activity to occur, etc. as long as the municipality cannot show that the farm practice under review poses a threat to public health and safety. The Commissioner's authority to compel compliance is found under Article 36 of the New York State Agriculture and Markets Law. When the Commissioner issues his or her Determination and Order, the municipality can comply with the Order, take an action against the Department under Article 78 of the Civil Practice Laws and Rules, or do nothing whereby the Order becomes effective 30 days after its issuance. If the municipality does not comply with the Order, the Department must sue the municipality to enforce the Order.

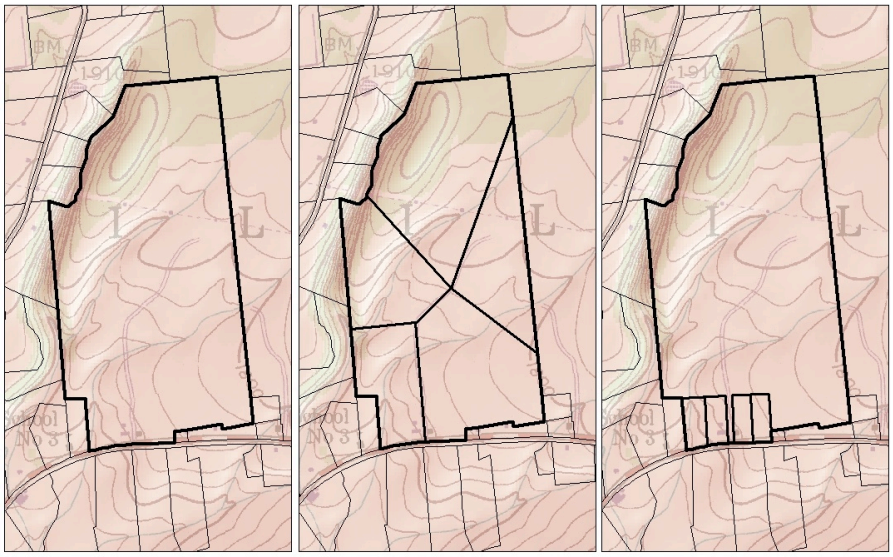
The *Dutchess County Agricultural and Farmland Protection Plan* (prepared by the County's Agriculture and Farmland Protection Board and adopted in 1998) has five broad policies for the protection of agricultural resources in the County, covering taxation, resource protection, local farmland protection strategies, marketing, and education. The *Agricultural and Farmland Protection Plan* notes that significant concentrations of prime and important agricultural soils are located throughout the Town of Red Hook (page 31) and that it is "our duty not to waste this valuable resource, but to use it in the manner that is most productive to the community. This means locating construction projects based on soils information, and avoiding developing farmland" (page 26). The *Agricultural and Farmland Protection Plan* states that:

> "Agriculture is a significant and highly valued component of Dutchess County's economic and visual identity. Prime and important soils support active farms throughout the northern and eastern communities, as well as a handful of farming operations within urban areas. Many of these farms are

> under intense development pressures, which threaten their continued viability. Therefore, *it is necessary to devise ways to preserve the county's best soils even where farming activity declines.* [emphasis added]
>
> If land uses that can function satisfactorily on less valuable soils are allowed to continue to consume the best soils in Dutchess County, the county's agricultural community will weaken and its ability to respond to future changes in the nation's food production system will be severely impaired. The loss of agricultural open land also threatens one of the most traditional and aesthetically pleasing contributors to the county's high quality of life.
>
> Aggressive measures are needed to protect the soil resource. A quality soil resource base is needed to ensure sustainable food and fiber production in an economically and environmentally sound manner. Communities must find equitable, effective ways to divert development to less valuable sites, to encourage open space preservation, to support agricultural activities, and to institute effective resource management system." (page 32)

Specific recommendations to preserve agricultural soils recommended by the *Dutchess County Agricultural and Farmland Protection Plan* that fall under the jurisdiction of local municipalities include ensuring that local regulations consider the importance of soil resources, and developing agricultural protection strategies such as transfer of development rights, purchase of development rights, and leasing of development rights to direct development away from agricultural soils while balancing a property owner's interests. The *Agricultural and Farmland Protection Plan* also recognizes that, in order to protect agricultural soils, land use policies must also identify where development should occur in the community, and should simplify the approval process for developers whose proposals are compatible with community goals (page 41). As noted in the *Agricultural and Farmland Protection Plan*, "concentrating development in and around community centers reinforces the economic vitality of village centers and supports existing local businesses. Open space consistently increases surrounding land values." (page 88). The *Agricultural and Farmland Protection Plan* identifies relying on the technique of combining agricultural and residential uses in the same district (such as is currently allowed in Red Hook) as often defeating their intended purpose: "instead of preserving the landscape, they encourage piecemeal suburban-style development. The larger the lots, the more quickly productive farmland is converted to fenced lawn" (page 41). This is particularly a problem with 25 acre lots, which are discouraged. Instead, the *Agricultural and Farmland Protection Plan* recommends the innovative techniques discussed above (such as transfer of development rights) rather than 25 acre zoning or agricultural zoning (where subdivision for residential purposes is prohibited). As can be seen in the illustrations below, large lot zoning divides large tracts of farmland and reduces the "critical mass" necessary for successful farm operations. Area-based allocations (as is included in the Proposed Action), permit the same number of dwelling units while preserving a larger area of farmland intact and minimizing land use conflicts. The *Agricultural and Farmland Protection*

Plan also recommends the use of build-out analysis to properly assess impacts of development under the current zoning on agricultural resources (page 43).



100 acre farm	Large Lot Zoning (1 lot/20 acres)	Area-based Allocation (1 dwelling/20 acres)

The Proposed Action is consistent with the recommendations of the *Dutchess County Agricultural and Farmland Protection Plan*. Prime and statewide important agricultural soils were a primary consideration in the land evaluation criteria used to determine which parcels should be included in the AB District, as discussed above. The proposed AB District does not include agricultural zoning (residential subdivision would still be permitted based on a sliding scale, as discussed more fully in Chapter II of this DGEIS), nor does it include large 25 acre lots. Through the use of incentive zoning and sale of development rights, building potential would be transferred from lands with agricultural soils in the AB District to the proposed TND District adjacent to the Village of Red Hook, as recommended by the *Agricultural and Farmland Protection Plan.* Development rights could be sold from lands within the AB District at the level of the current Zoning. As discussed above, a build-out analysis was conducted to assess the impacts of development under the current zoning on agricultural resources.

Potential Impacts

The proposed Agriculture Business District has been designed to maintain the viability of the most important agricultural lands in the Town for continued agricultural purposes, as

recommended in the *Town Comprehensive Plan, Town Open Space Plan*, the *Dutchess County Agriculture and Farmland Protection Plan*, the *Dutchess County Plan: Directions*, and the *2009 New York State Open Space Conservation Plan*. Maintaining the viability of the most important agricultural lands in the Town for continued agricultural purposes is also one of the purposes of the Town Zoning Law. The New York State Constitution cites the need to "encourage the development and improvement of [its] agricultural lands for the production of food and other agricultural products." Beneficial environmental impacts on agriculture include but are not limited to the following:

- Increasing economic development opportunities by providing local jobs, purchasing other local goods and services, reducing the property tax burden on existing landowners by reducing the demand for schools, roads, water, sewer and other utility services (see the Fiscal Impact Analysis in Appendix G for a more complete discussion of these beneficial impacts). According to the *Dutchess County Agriculture and Farmland Protection Plan*, farms continue to support the local economy year after year, without requiring many local services (pages 39-40). "Studies clearly demonstrate that services required by residential development--more schools, roads, fire protection--cost more than the taxes these developments generate. Farmland, however, costs far less in services than it contributes in taxes: farming actually subsidizes your municipal tax base." (*Dutchess County Agriculture and Farmland Protection Plan*, page 88);
- Preserving the rural character of the Town, thereby conserving Red Hook's sense of place;
- Drawing tourists and other visitors attracted to wineries, U-pick farms and other agri-tourism ventures;
- Protecting surface and ground water quality when farms are managed properly;
- Protecting natural resources such as wildlife habitats;
- Reducing land use conflicts by establishing an area in the Town where the expectations of farming activity (as a from of industry) is the norm;
- Production of fresh local foods, which provides the security of a local food supply and reduces the need for fossil fuel powered vehicle trips that often truck food supplies thousands of miles to reach consumers.

The proposed AB District includes a density bonus that permits landowners to sell development rights at the rate allowed under the current Zoning as depicted on the Town's 1999 Zoning Map. For example, if the property is currently in the RD3 Zoning District, development rights under the proposed Zoning could be sold at a rate of one development right per three buildable acres. This will create an incentive for landowners in the AB District to sell development rights and protect their lands rather than develop them for

residential purposes, with beneficial impacts on agricultural resources. In addition, landowners would be permitted to retain the right to build some new homes on the farm for family members or others in a farmstead complex without the need to subdivide. For example, an 80-acre parcel currently zoned RD3 would be permitted to sell development rights at the rate of one development right per 3 buildable acres, and could build two dwelling units, which would be deducted from the total number of permitted development rights and retained on the parcel in a farmstead complex. Housing for farm labor would be exempt from the calculation of retained farmstead dwelling units and could be located outside the farmstead complex. Farm labor housing would no longer be required to be removed or subdivided from the farm if the farm ceased agricultural operations.

No significant adverse environmental impacts to agriculture have been identified and therefore no mitigation is required. In fact, the action itself can be considered mitigation for potential impacts on existing agricultural operations and agricultural soils if the No Action Alternative were chosen.

Proposed Mitigation Measures

Since the Proposed Action would result in beneficial impacts to agriculture in the Town and would not result in any adverse impacts, no mitigation is required.

c. Local Waterfront Revitalization Program

On May 2, 1995, the Town of Red Hook adopted a Local Waterfront Revitalization Program (LWRP), which was approved by the New York State Department of State on September 20, 1995. with concurrence by the Federal Office of Ocean and Coastal Resource Management. The LWRP requires that the lead agency under the State Environmental Quality Review Act make a determination that an action under its jurisdiction, which is located within the Coastal Boundary (Waterfront Revitalization Area), is consistent to the maximum extent practicable with the LWRP prior to approving, funding or undertaking the action. Prior to reaching its consistency determination, the lead agency must forward the Proposed Action and the Coastal Assessment Form to the Waterfront Advisory Committee (presently constituted, pursuant to Town Code Chapter 68, of all appointed members of the Town's Planning Board) for its review and recommendations regarding the consistency of the Proposed Action with the LWRP policy standards and conditions.

The Coastal Boundary for Red Hook is co-terminus with the Mid-Hudson Historic Shorelands Scenic District. This coastal area extends from the Dutchess/Ulster County boundary in the Hudson River to a line 500 feet east of the centerline of Route 9G, excluding the area within the Village of Tivoli. A small portion of the proposed AB District in the vicinity of the Village of Tivoli (north and south of the Village, and 500 feet east of Route 9G on lands east of the Village) and south of the hamlet of Annandale-on-Hudson is located within the Town's Coastal Boundary. Moreover, the proposed amendments to the

Town's residential cluster provisions (in the Zoning and Subdivision Laws) and to the buildable acreage basis for calculating permitted density would apply to lands within the Coastal Area. A Coastal Assessment Form (CAF) has been prepared for the Proposed Action (see Appendix A). As noted in the CAF, the Proposed Action is designed to protect scenic resources, agricultural lands, and historic, archaeological and cultural resources, and therefore no significant adverse effects on coastal resources is anticipated as a result of the Proposed Action. Moreover, no development is proposed as part of the action and therefore no direct impacts would occur.

The LWRP notes that agriculture in the coastal area of the Town is an important economic and visual resource for the community. These lands are also located within the Mid-Hudson Historic Shorelands Scenic District, the Estates District Scenic Area of Statewide Significance (SASS), and the Ulster North SASS, which are notable for their remarkable landscapes. The agricultural lands policy of the LWRP states that "To conserve and protect agricultural lands in the Coastal Area of the Town of Red Hook, an action shall not result in a loss, nor impair the productivity of important agricultural lands, if that loss or impairment would adversely affect the viability of agriculture in an Agricultural District, or if there is no Agricultural District, in the area surrounding such lands." The scenic related policies of the LWRP call for preventing the impairment of scenic resources of statewide significance within the Scenic District and the SASSs by modifying the land, removing vegetation, or through the "addition of structures which because of siting or scale will reduce identified views or which because of scale, form, or materials will diminish the scenic quality of an identified resource."

The purpose of the proposed AB District to protect agricultural lands, discourage incompatible nearby land uses, and promote agriculture as a component of the local economy is consistent with the LWRP's agricultural policy. The AB District would allow landowners to sell development rights at the current Zoning level to encourage the sale of development rights from agricultural lands, which would preserve those lands in perpetuity. Alternatively, a limited development option with a lower density than the current Zoning allows would be permitted, with siting standards to fit development into the landscape. This would conserve agricultural soils and minimize the visual impact of new development, consistent with both the LWRP agricultural policy and the scenic policies. The use of siting standards and conservation subdivision design would also serve to preserve wetlands consistent with the LWRP water policy.

B. Water Resources

a. Groundwater

Existing Conditions

Aquifers are underground reservoirs that serve as the primary drinking water source for many residents in Red Hook. Aquifers in the Town of Red Hook were identified by the Dutchess County Water and Wastewater Authority in 1993, and are shown in Figure III-3. The aquifer that underlies the Village of Red Hook is a very large deposit of sand and gravel extending along both sides of Route 9 from Pitcher Lane south to the Town of Rhinebeck boundary. It is the primary source of well water in both the Town and Village of Red Hook.

Aquifers are broken into three different zones of concern. Of primary concern is Zone 1 where permeable deposits directly overlay the aquifer. Contaminants can move directly downward to the aquifer with little or no natural filtration. Protection of the Zone 1 areas is critical to maintain a clean drinking water supply and to avoid costly, if not impractical, remediation efforts. Zone 2 aquifers contain less permeable deposits located up gradient from the aquifer. These areas contribute recharge to the aquifer through both overland runoff and ground water flow. Contaminant pathways are generally longer and slower in Zone 2 than in Zone 1. Zone 3 areas contribute to streams and eventually infiltrate the aquifer. The Town of Red Hook has Zone 1 and Zone 2 aquifers, as shown on Figure III-3.

Section 143-47D(2) of the Town's Zoning Law regulates uses within an aquifer protection area. Storage of hazardous and solid waste materials, gasoline stations, cemeteries, production of corrosive and noxious chemicals, and other similar uses are prohibited in this area. Other uses, such as installation of underground fuel storage tanks, are permitted subject to conditions. These measures are intended to minimize potential impacts to the aquifer.

Potential Impacts

In 2007, the Town and Village of Red Hook retained The Chazen Companies to conduct a groundwater resource assessment for the central part of the Town of Red Hook and the Village of Red Hook (the "study area," as shown in Figure 1 of Appendix G). The purpose of the assessment was to determine whether lands enclosing the study area receive sufficient aquifer recharge to support the anticipated future demand in the Town and Village Center. This "water budget analysis" described volumes of groundwater available under normal and drought conditions to support present and proposed uses. The report also included an analysis of the impact of new pumping rates on the Village and Town well fields to determine if a revision to the wellhead protection areas would be warranted. Finally, the report made recommendations for aquifer protection overlay regulations.

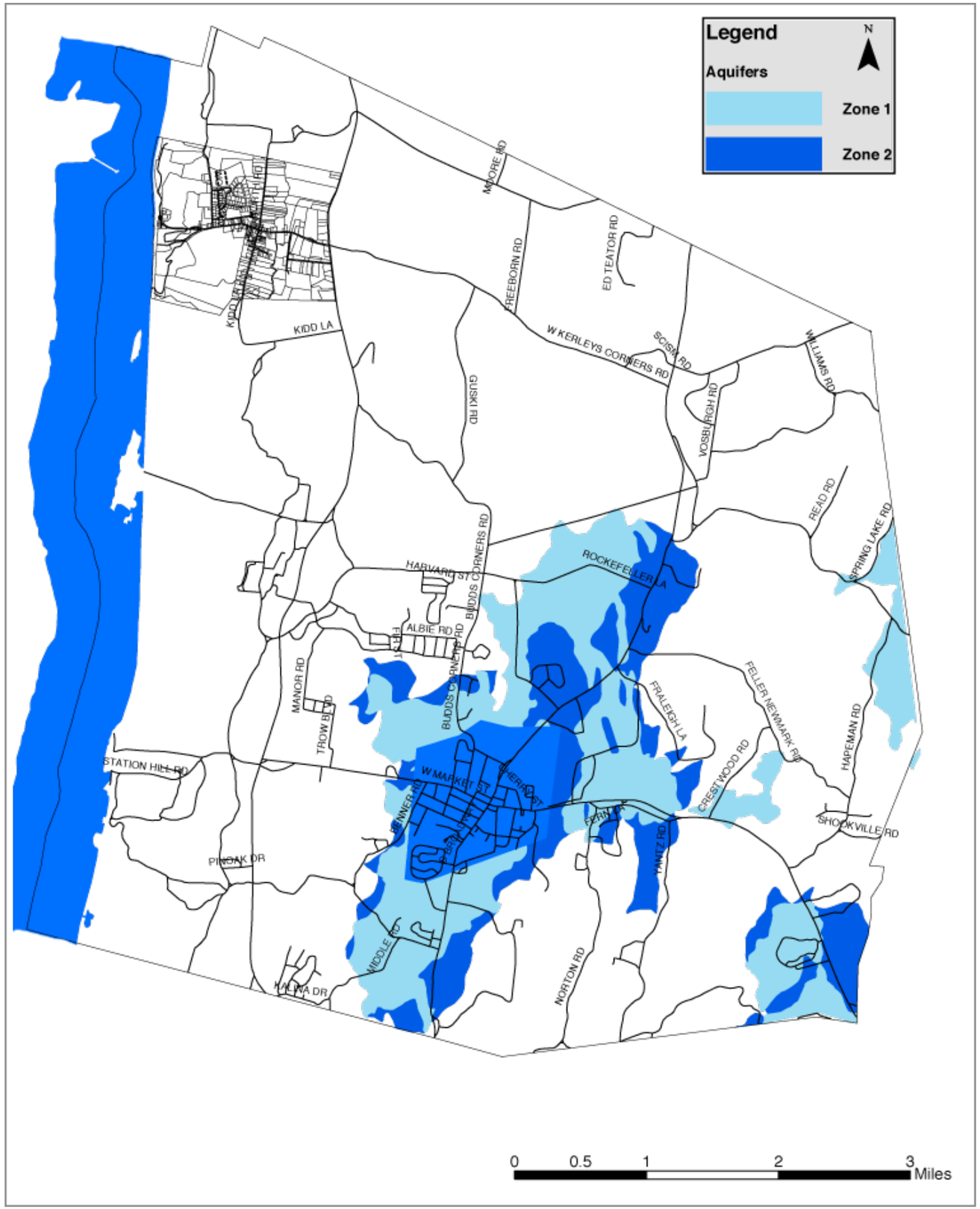


Figure III-3: Aquifers Town of Red Hook

Data Source: Dutchess County Environmental Management Council

Prepared for the Town of Red Hook
by

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The Chazen groundwater report (January 4, 2007; see Appendix G) studied the impacts of three projects that were under review at that time (Red Hook Commons, Knollwood Commons, and Anderson Commons) and demand from future potential development of two traditional neighborhoods, one in the north portion of the Village of Red Hook, and one in the South Broadway area of the Town (the proposed TND District included in the Proposed Action). The report assumed that the Town's TND District would consist of 189 single family dwellings, 70 townhouses, 105 apartments, and 140,000 square feet of commercial space.[22]

The study found that the Town and Village water supplies currently meet an approximate, combined average daily demand of 256 gallon per minute (gpm). With the addition of water demand from Red Hook Commons, Knollwood Commons, Anderson Commons and from the future North Village and South Broadway traditional neighborhoods, increased typical daily water demand could rise to a daily average of 466 gpm, with peak demand periods requiring well field daily yields averaging 640 gpm. The hydrogeologic review of the study area indicates that aquifer recharge refreshing aquifers in this area provides a sustainable annualized groundwater supply likely to average, under future build-out conditions, approximately 2,345 gpm during normal years and approximately 1,641 gpm during drought years. The self-replenishing rate at which aquifer recharge occurs in the study area exceeds the proposed average Village/Town water demand rate of 466 gpm by approximately 5 times during normal years and by approximately 3.5 times during drought years. The study concludes that there is sufficient renewable groundwater moving under Red Hook's central area to meet the community's present and proposed future water demands.

Subsequent to the 2007 Chazen groundwater report, the Town revised the Centers and Greenspaces proposal to include the TND Office-Industrial Subdistrict, which could accommodate an estimated 180,000 sq. ft. of commercial space. The Town also conducted a Build-Out Analysis (Appendix F) which determined that the TND Residential Subdistrict could accommodate up to 149 single family homes, 74 townhouses and 74 duplex/apartments. Using the multipliers provided by the Chazen report, the revisions to the proposed TND District would result in a water demand of 103 gpm, which is less than the 109 gpd in the Chazen estimate (see Table III-4). Thus, the revised proposal is well within the estimates of the Chazen Report.

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[22] There are two Tables on page 24 of the Chazen report. The second Table (which shows a total of 156,870 gpd) is incorrectly labeled "North Broadway Project." It should be labeled "South Broadway Project."

Table III-4: Estimated Water Demand, TND District					
Use		Number of Units	BR/Unit	GPD/BR	GDP Total
Chazen Report:					
	Single Family	189	3.5	130	85,995
	Townhouse	70	2.5	130	22,750
	Duplex/Apartment	105	2.5	130	34,125
	Commercial Center	140,000 sq. ft.	1.0	0.1	14,000
TOTAL:					156,870*
Revised Centers and Greenspaces Proposal:					
	Single Family	149	3.5	130	67,795
	Townhouse	74	2.5	130	24,050
	Duplex/Apartment	74	2.5	130	24,050
	Commercial Center	140,000 sq. ft.	1.0	0.1	14,000
	Office-Industrial	180,000 sq. ft.	1.0	0.1	18,000
TOTAL:					147,895**
* 109 gpm					
** 103 gpm					

At least 70% of water used in households and businesses normally becomes treated wastewater returned to watersheds via septic systems or sewage treatment plants. When considering the average daily 256 gpm currently pumped by the Red Hook Village and Town well fields, this means approximately 77 gpm are currently lost by such uses as plant watering, cooking, laundry drying, and other evaporative processes. If proposed future water demand in the study area rises to 466 gpm as discussed above, consumptive losses will rise to 140 gpm, approximately 63 gpm more than currently. The loss of 63 gpm new gallons in the study area would represent an approximately 6 percent reduction in flow during extreme droughts (10 year statistical flows) but only a small fraction of normal flows, normally ranging between 2,200 and 13,000 gpm (the 10% to 90% normal flow percentiles) (Chazen, page 2).

The Chazen report concluded that wellhead protection areas previously mapped for the Town and Village well fields appear adequate to describe the highest-risk recharge areas near the Village and Town well fields.

The Chazen report also makes recommendations for aquifer protection. It recommends providing moderate levels of aquifer protection for all areas in the Town (similar to the Town's current regulations), with a higher level of protection in particularly valuable aquifer areas and community water system wellfield wellhead protection areas. None of the higher risk land uses (such as underground storage tanks for soluble chemicals) cited in the Chazen report would be permitted by the Proposed Action. The Proposed Action includes an Office-Industrial Subdistrict south of Hannaford Drive, a portion of which would overlay the

Zone 2 aquifer. The Office-Industrial Subdistrict would permit lodging, office parks, conference centers, laboratories, and light manufacturing uses. The latter two uses have the potential to impact groundwater resources. However, these uses would be subject to existing regulations to control pollutants. Laboratories would be required to meet "all applicable federal, state, county and town requirements for the control of emissions and pollutants" (Town of Red Hook Zoning Law § 143-4). Light manufacturing would be limited to categories such as food and beverage production, apparel and other textile production, etc., subject to performance standards (Town of Red Hook Zoning Law § 143-4 and § 143-25). All uses in the Office-Industrial Subdistrict would be subject to the Town's existing aquifer protection overlay regulations found in the Zoning Law § 143-47D(2), which prohibit high risk uses such as those referred to in the Chazen report. Any development within the Office-Industrial Subdistrict would be required to undergo site specific environmental reviews of impacts to the aquifer.

To achieve the building potential allowed by incentive zoning in the proposed TND District, applicants would need to connect to municipal water and sewer, or provide central facilities in accordance with NYS Department of Health requirements. This would result in beneficial impacts to groundwater as it would replace groundwater discharge with surface water discharge regulated by the NYS Department of Environmental Conservation, as discussed in detail in Section E.c of this Chapter.

Based on the findings of the Chazen report, no significant adverse impacts to groundwater resulting from the water demands of the Proposed Action are anticipated. Nonetheless, interconnecting water mains, a lift pump to deliver Town water to the elevation of the Village water tank, and one or more new wells may be needed to best manage future proposed water demand. Potential impacts to groundwater may also result from an increase in impervious surfaces in the proposed TND District.

Proposed Mitigation Measures

The Proposed Action will not result in any significant adverse environmental impacts to groundwater. Any development allowed by the Proposed Action that proposes to connect to the Village municipal water system should fund the improvements necessary to service their proposed development.

The creation of increased impervious surfaces in the TND District may result in the potential for increased stormwater runoff. To address these potential impacts, site specific reviews of development proposals that have a potential to impact the aquifer should be mindful of methods to retain or detain stormwater, such as low-impact development techniques including bioretention basins and other effective surface water treatment facilities, to ensure there is no infiltration of stormwater directly into the aquifer.

b. Surface Water

Existing Conditions

The Hudson River, which provides outstanding scenic, historic and recreational amenities, is Red Hook's most distinctive natural feature. All of Red Hook's watershed areas ultimately drain into the Hudson River.

Within New York State, most surface waters are classified by the New York State Department of Environmental Conservation (DEC) as either "AA," "A," "B," "C," or "D." Classes AA through B are regulated by the state. Waters classified as A, B or C can also have an added standard of (T) or (TS). The (T) indicates the waters support or have the potential to support a trout population, and (TS) means it supports or has the potential to support trout spawning. All waters that have a (T) or (TS) designation are regulated, including those with a classification of C. The absence of a (T) or (TS) designation does not mean that trout do not inhabit and/or spawn in the streams however. The State conducts reclassification of streams on a regular basis to identify such omissions.

Each stream can have different classifications in different reaches depending upon its characteristics and uses. In addition to the regulated stream, an area 50 feet from the mean high water mark of the stream is subject to the Protection of Waters regulations and a permit may be necessary for any land disturbance activities.

Red Hook has eight waterbodies classified by the NYSDEC, including streams or reaches of streams, and two ponds (Shook's Pond off Route 199, and Warackamac Lake on the border of Red Hook and Milan off Turkey Hill Road). In addition, there are numerous non-regulated streams in the Town. The water quality classes of regulated surface waters are identified in the following Table. The location of surface waters in the Town are shown on Figure III-4.

TABLE III-5: CLASSIFIED WATER BODIES, TOWN OF RED HOOK

Waterbody	NYS DEC Classification
Hudson River	B
Stony Kill (White Clay Kill)	North of Lasher Road: A South of Lasher Road to Tivoli Bay: A(T) Eastern branch (running south): C
Saw Kill	Route 199 to Mill Pond: B(TS) Mill Pond to Hudson River: B(T) South of Route 199: C Branch west of V. of Red Hook: C(T) tributaries: C
Lakes Kill	Spring Lake to Turkey Hill Road: B(T) Turkey Hill Road to Route 199: B(TS) South of Route 199 (west fork): C South of Route 199 (east fork): C(TS)

Table III-5: Classified Water Bodies, Town of Red Hook	
Waterbody	NYS DEC Classification
Mudder Kill	C
Rhinebeck Kill	C
Shook's Pond	B
Warackamac Lake	B

Floodplains provide relief from floodwaters, filter impurities, and control sediment along the river and stream banks. They are characterized as either 100-year floodplains, which have a one chance in one hundred of occurring in any one year, and 500-year floodplains, which have a one chance in five hundred of occurring in any one year. The location of FEMA 100-year floodplains in the Town of Red Hook are shown on Figure III-7. Floodplains in the Town are associated with the Sawkill north of Route 199, the Stony Kill, and the Hudson River.

Section 143-23 of the Town's Zoning Law currently requires a minor subtraction under certain circumstances for NYS DEC wetlands, surface waters and floodplains in the calculation of permitted residential density. Section 143-30 requires a special use permit for development activities within 100 feet of NYSDEC classified streams and water bodies in excess of ¼ acre, and within 1,000 feet of the Hudson River. Section 143-31 requires a special use permit for development within the Flood-Fringe Overlay District in accordance with the standards of § 143-111 and Chapter 77, Flood Damage Prevention, of the Town Code. Section 143-47D(1) requires a special use permit for land development activities within 100 feet of NYSDEC classified streams, and requires a 25 foot natural buffer from the normal streambank. Section 143-33 permits the Planning Board to require clustering if it would result in better protection of surface waters than a conventional lot-by-lot subdivision.

Potential Impacts

Section 143-23 of the proposed Zoning Law would amend the current method of calculating permitted residential density. Currently, residential density is calculated in terms of minimum lot area per dwelling unit, with a minor subtraction under certain circumstances (depending on the land area of the resource and the size of the proposed lot) for NYS DEC wetlands, surface waters and floodplains. The proposed Zoning Law would provide for a maximum residential building potential that would be based on buildable acreage, the land area of the lot after subtracting non-buildable areas, including wetlands and regulated wetland buffers, 100-year floodplains, ponds, streams and buffer areas, and steep slopes 20% gradient or greater. This provision would exclude environmentally sensitive lands, including surface waters and floodplains, when calculating residential density, and would afford greater protection of these resources and associated ecosystems during the development review process, all beneficial impacts for which no mitigation is required.

Erosion and subsequent sedimentation of surface waters is the greatest potential adverse environmental impact resulting from construction activity. The increased rate and volume of stormwater runoff resulting from additional impervious surfaces associated with new development has the potential to adversely effect water quality. The potential for erosion and sedimentation of surface waters is of particular concern in areas adjacent to protected water bodies, and in areas of steep slopes, such as the bluffs along the Hudson River. In addition, increased stormwater runoff rates and volumes can result in increased flooding.

There are no protected surface water bodies in the proposed TND District. A small portion of a stream (a tributary of the Rhinebeck Kill) is located in the proposed TND Residential Subdistrict to the west of Route 9, and a small segment of another tributary of the Rhinebeck Kill runs along the edge of the proposed TND Office-Industrial Subdistrict. However, both of these streams are Class C and are not regulated by the NYSDEC. As shown on Figure III-7, there are no 100-year floodplains in the proposed TND District, and therefore no impacts on 100-year floodplains would occur as the result of development in this area. There are no significant areas of steep slopes 20% gradient or greater in the proposed TND District. Therefore, no significant adverse impacts to surface waters would result from adoption of the proposed TND District.

The Town *Comprehensive Plan* has established an objective to prevent erosion and control stormwater runoff through the careful application of erosion control measures and protection of steeply sloped lands and erodible soils. Future development in the Town, including the proposed TND District, must be in compliance with New York State's Stormwater Management Design Manual. The Proposed Action includes provisions requiring the identification of water resources, soil conditions and other related natural resources as an integral component of the development design process. These requirements would provide greater assurance that land development activities would not result in erosion and sedimentation of surface waters, and would provide better controls to minimize flooding, all beneficial impacts.

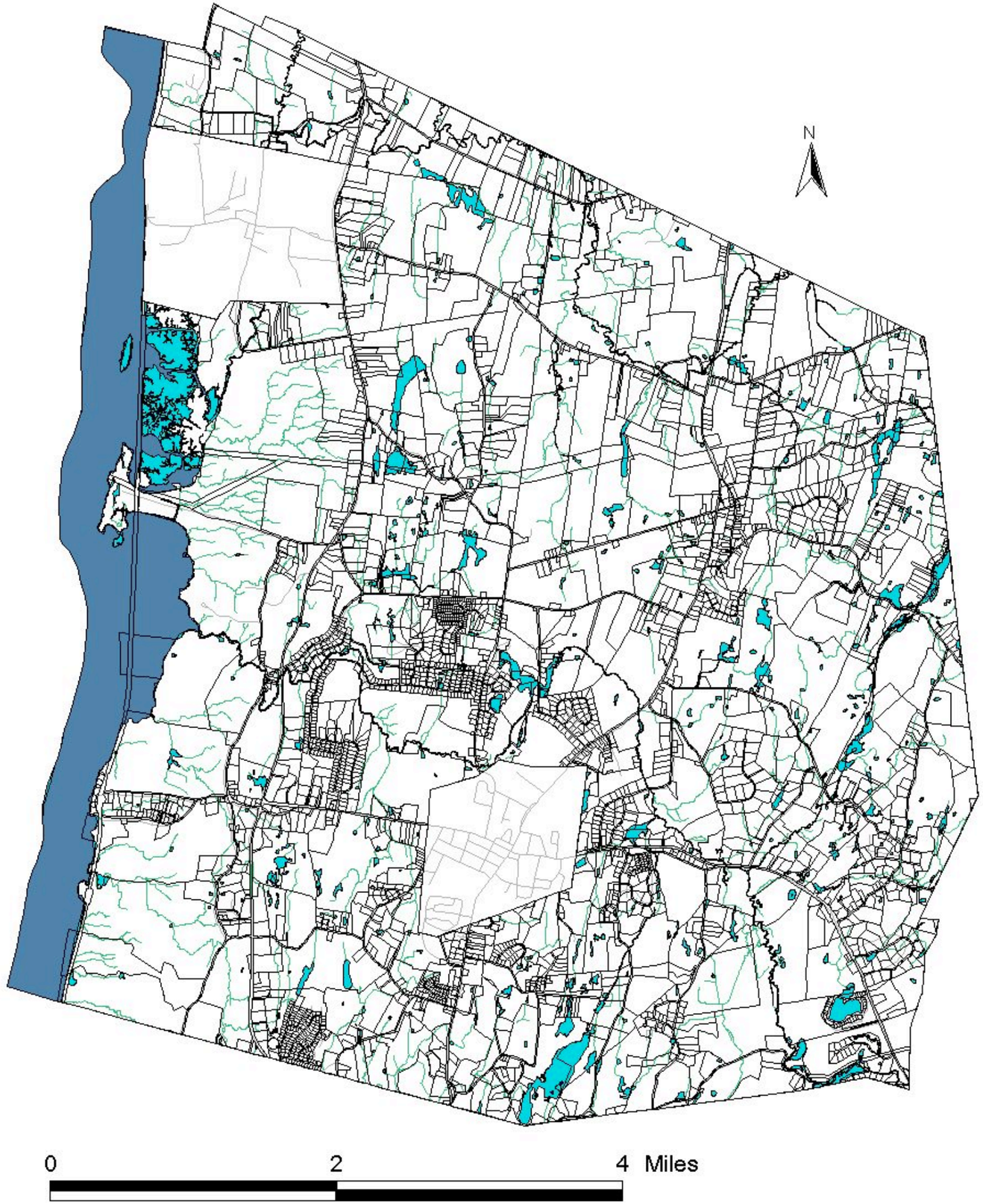
The adoption of these provisions would implement the policies of the Town *Comprehensive Plan* to minimize potential impacts of erosion and sedimentation of surface waters as a result of construction activity and to prevent flooding by controlling runoff rates and volumes. These would be beneficial impacts on surface water resources.

Proposed Mitigation Measures

Since no significant adverse environmental impacts to surface waters as a result of the Proposed Action were identified, no mitigation is required.

Figure III-4:
Surface Waters
Town of Red Hook

Data Source: Dutchess County Department of Planning and Development



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Waterbodies
Streams

Prepared for the Town of Red Hook
by

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January 2010

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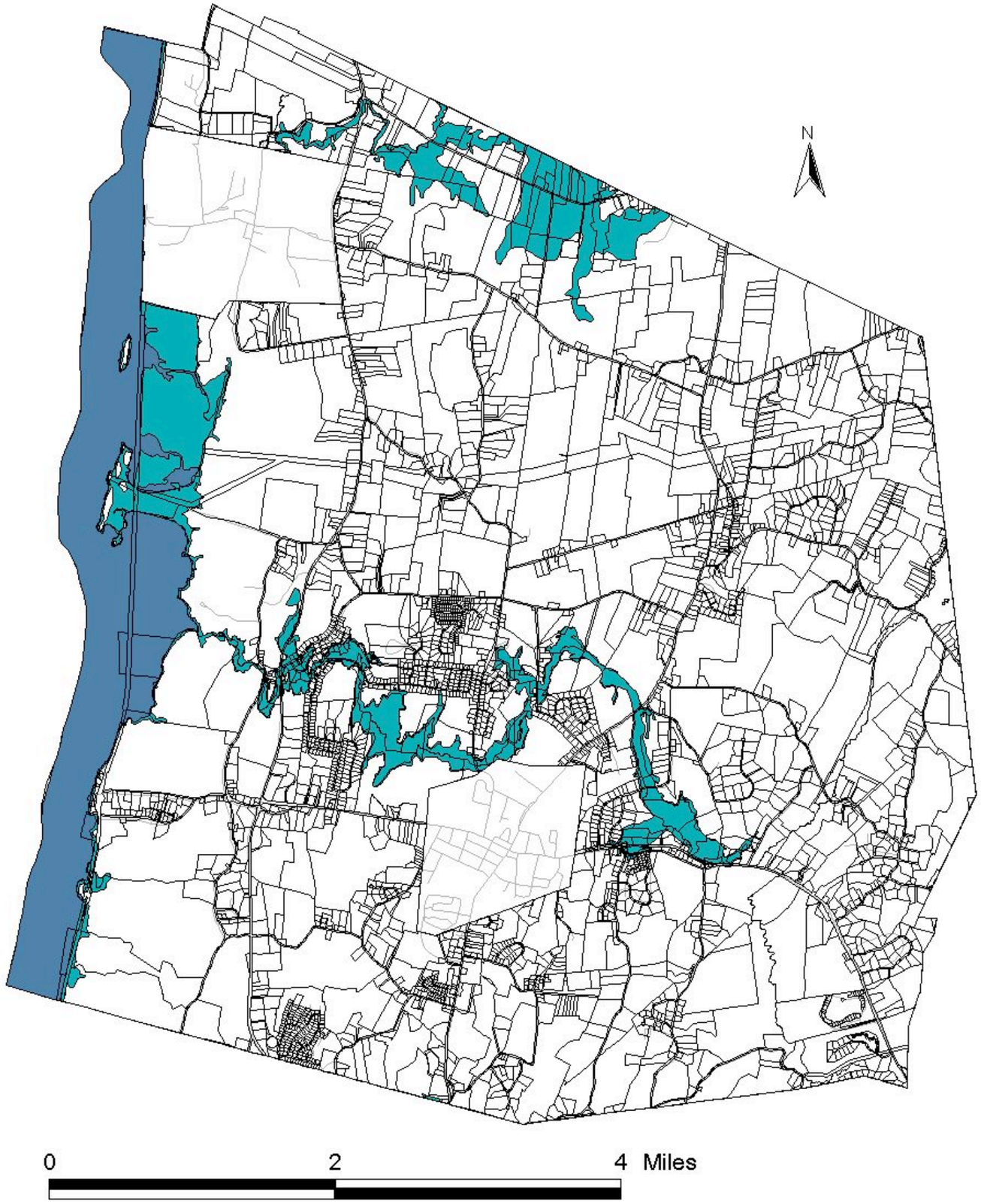
Figure III-7:
Floodplains
Town of Red Hook

Data Source: Dutchess County Department of Planning and Development



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FEMA 100 Year Floodplains

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January 2010

Town of Red Hook
Centers and Greenspaces DGEIS

C. Terrestrial and Aquatic Ecology

a. Flora and Fauna

Existing Conditions

There is only limited data about specific ecological habitats and species within the Town of Red Hook since, to date, no Town-wide mapping and species identification has been performed. In the absence of such Town-wide ecological survey, this section relies heavily on generalized regional data provided through the New York State Natural Heritage Program's Data Base (Plant, Animal and Community Guides), U.S. Fish and Wildlife Service information, aerial photographs, and reported conditions documented in other studies, reports and publications prepared for locations within the Town and neighboring communities. Readers should note that the Tivoli Bays Wildlife Management Area, which contains some of the most significant habitats and protected species within the Town, is not discussed or included here. The State of New York owns or controls more than 1,700 acres of the most valuable wetlands and adjacent upland buffers at Tivoli Bays and has an established policy of acquisition of land or conservation easements from willing sellers for additional lands adjacent to the Wildlife Management Area.

Habitats within the proposed TND District are predominantly active and abandoned agricultural fields and mixed hardwood forest or woodlands; a limited quantity of wetland habitats also exists within the proposed district. All such generalized habitats are common; none identified here appear to be of exceptionally high quality. Furthermore, all areas within the proposed zone have been altered to some degree by past and/or ongoing human activity, most particularly logging and farming in addition to residential and non-residential development.

Flora

The New York State Natural Heritage Program's 2004/2005 database indicates that the native plant species listed in Table III-6 may exist both in the north western portion of Dutchess County and within the general habitat types found in the proposed TND District. Site specific surveys prior to development would be needed in order to determine the actual existence of any of these or additional species of statewide concern.

These protected plants, categorized by habitat, are further identified as endangered (E), threatened (T), rare (R), and exploitably vulnerable and of special concern (SC). The Natural Heritage Program rank, which reflects rarity, is also provided (with S5 being demonstrably secure in NY; S4 being apparently secure; S3 indicating limited occurrences; S2 with few statewide occurrences; and S1 with few occurrences and exceptional vulnerability of the species or community).

Table III-6: Protected Plant Species, Town of Red Hook		
Open Field/Shrub Upland Habitats	**Forested Upland Habitats**	**Wetland Habitats**
Black sedge – E; S1 Clustered sedge – T; S2 Davis' sedge – T; S2 Fairy wand – T; S1 Fernald's sedge – T; S2 Glaucous sedge – E; S2 Rattlebox – E; S1 Stiff leaf goldenrod – T; S2 Woodland agrimony – T; S2	Blunt lobe grape fern – E; S2 Fairy wand – T; S1 Hookers orchid – E; S1 Nodding Pogonia – E; S2	Black sedge – E; S1 Button bush dodder – E; S1 Cat tail sedge – T; S1 Davis' sedge – T; S2 Hookers orchid – E; S1 Large twayblade – E; S1 Marsh horsetail – T; S2 Meadow horsetail – T; S2 Ovate spikerush – E; S1 Rough Avens – E; S2 Schweinitz's sedge – T; S2 Smooth bur marigold – T; S2 Swamp lousewart – T; S2 Straw sedge – E; S1 Swamp cottonwood – T; S2

Fauna

The New York State Natural Heritage Program's 2004/2005 database indicates that the protected animal species listed in Table III-7 have been identified within the north western portion of Dutchess County and are known to utilize, for at least a portion of their lives, the general habitat types found in the proposed TND District area.

These protected animals are further identified as endangered (E), threatened (T) or protected (P) with B and N indicating breeding or non-breeding. The Natural Heritage Program rank, which reflects rarity, is also provided (with S5 being demonstrably secure in NY; S4 being apparently secure; S3 indicating limited occurrences; S2 with few statewide occurrences; and S1 with few occurrences and exceptional vulnerability of the species or community).

Site specific surveys prior to development would be needed in order to determine the actual existence of any of these or additional species of state wide concern.

Table III-7: Protected Animal Species Town of Red Hook	
Protected Species	**Status**
Blanding's turtle	T; S2/S3
Northern cricket frog	E; S1

Table III-7: Protected Animal Species Town of Red Hook	
Protected Species	**Status**
Northern harrier	T; S3BS3N
Bald eagle	T; S2S3B
Sedge wren	T; S3B
Kentucky warbler	S2
Indiana bat	E; S1

According to the US Fish and Wildlife Service, federally listed endangered and threatened species and candidate species within Dutchess County include those listed in Table III-8. Site specific surveys prior to development would be needed in order to determine the actual existence of any of these or additional species of concern.

Table III-8: Species of Conservation Concern, Town of Red Hook		
Common Name	**Scientific Name**	**Status**
Atlantic Sturgeon	*Acipenser oxyrinchus oxyrinchus*	C
Bald Eagle	*Haliaeetus leucocephalus*	D
Bog turtle	*Clemmys [=Glyptemys] muhlenbergii*	T
Dwarf wedgemussel (Housatonic River drainage)	*Alasmidonta heterodon*	E
Indiana bat (S)	*Myotis sodalis*	E
New England cottontail	*Sylvilagus transitionalis*	C
Shortnose sturgeon	*Acipenser brevirostrum*	E

Status Codes: E=Endangered T=Threatened P=Proposed C=Candidate D=Delisted W=Winter S=Summer

Potential Impacts

Zoning prescribes the general uses and density of development within a municipality and therefore, subsequently influences the natural setting and habitat within these areas. While individual lot by lot changes may result in negligible impact, the cumulative effect of these changes over time and within a landscape may result in significant impacts, most particularly to the Town's environmental setting. Individual development decisions often result in a piecemeal approach that fails to properly address both the direct and indirect long term consequences of development upon the landscape. Such consequences include habitat elimination, degradation and fragmentation, as well as the proliferation of invasive and

nuisance species and loss of native biodiversity. In the most extreme cases, complete regional loss of a species may occur.

The key to protecting habitat is appropriate planning and zoning which identifies sensitive locations where reduced development densities may be appropriate. Doing so minimizes the amount of new impervious surface areas, results in less elimination of natural habitats with subsequent conversion to residential and other intensive uses, protects contiguous habitat and maintains existing biodiversity. In other words, by designating compact development in the most suitable areas and minimizing sprawl throughout the Town, reasonable growth can be achieved with a significant reduction of impacts to and continued protection of ecological communities and associated flora and fauna.

The Town of Red Hook contains a diversity of habitat, plant and animal species including species of conservation concern which are most vulnerable to the adverse impacts often associated with development and construction. Most known occurrences of such special concern species within the Town occur in the Tivoli Bays Wildlife Management Area (not discussed here), yet the potential exists for species of conservation concern to be found elsewhere in the Town, including within the proposed TND District. There have been no reports of rare, endangered, or threatened, species, or species of conservation concern within the proposed TND District, only potential habitat. Nonetheless, site specific surveys are recommended during the SEQR reviews of development projects in order to rule out the presence of such species.

The proposed Zoning Law amendments would reduce permitted density in most areas of the Town. It would, however, allow for increased building potential in the proposed TND District, through the use of incentive zoning. Accordingly, lands proposed for inclusion in the TND District may be subject to substantial development, thereby eliminating the majority of existing habitat and plant communities. Existing trees, shrubs, fern, grasses and forbes would be substantially eliminated and replaced with structures, impervious surfaces and landscaped vegetation. Little currently existing habitat would exist under full build out conditions.

However, all areas within the proposed TND District exhibit previous disturbance activities. Specifically, the proposed district encompasses the highly disturbed Route 9 corridor with its associated residential, commercial and industrial uses. Flanking both sides of this corridor lie lands under active or recent agricultural activity; such agricultural land use comprises the majority of vacant lands in the proposed TND District. The single large expanse of forest which currently occupies the eastern most portion of the proposed TND District displays rather recent logging activity. The proposed TND District exhibits some of the most altered habitats within the Town but caution suggests a thorough field analysis to ensure that species of conservation concern, or their habitats, are properly considered during future site-specific environmental analysis under SEQR.

Proposed Mitigation Measures

There is a potential for increased development and the subsequent loss of habitat within the proposed TND District. However, this potential impact is insignificant when compared to the potential for habitat conservation in the areas of the Town in which density will be decreased. The overall reduction in potential adverse environmental impacts is a basis for the proposed Zoning amendments. No further mitigation is necessary other than a requirement for subsequent site-specific environmental review of proposed developments.

b. Wetlands

Existing Conditions

Wetlands are lands that are greatly influenced by the presence of water. These lands are saturated by surface or ground water at a frequency and duration that allow plants suited to wet conditions (hydrophytic vegetation) to have a competitive edge over species that prefer drier conditions. Similarly, saturated conditions make wetland soils distinctly different from upland soils.

Wetlands serve a large number of valuable ecological functions. These functions vary from wetland to wetland and include, but are not limited to, water quality protection, specifically sediment trapping, chemical detoxification and nutrient removal; storm water retention and flood control; ground water recharge, stream flow maintenance and shoreline stabilization; and fish and wildlife habitat. Wetlands are also valuable in terms of the unique aesthetic, recreational and educational opportunities which they can provide.

For a number of reasons, documentation of existing Town wetlands is incomplete. Foremost, wetlands are dynamic, constantly evolving in response to changes in both natural and manmade conditions. These changes may be rather rapid, as in the case of direct filling of wetlands or beaver activity, or may be more gradual as with natural succession and eutrophication. Furthermore, with respect to documented identification of wetlands, all current mapping is based upon aerial photography and as such, has inherent limitations. Accordingly, due to both the dynamic nature of wetlands as well as the imprecise, broad brush approach of mapping, wetlands in addition to or an extension of those identified within the Town undoubtedly do exist.

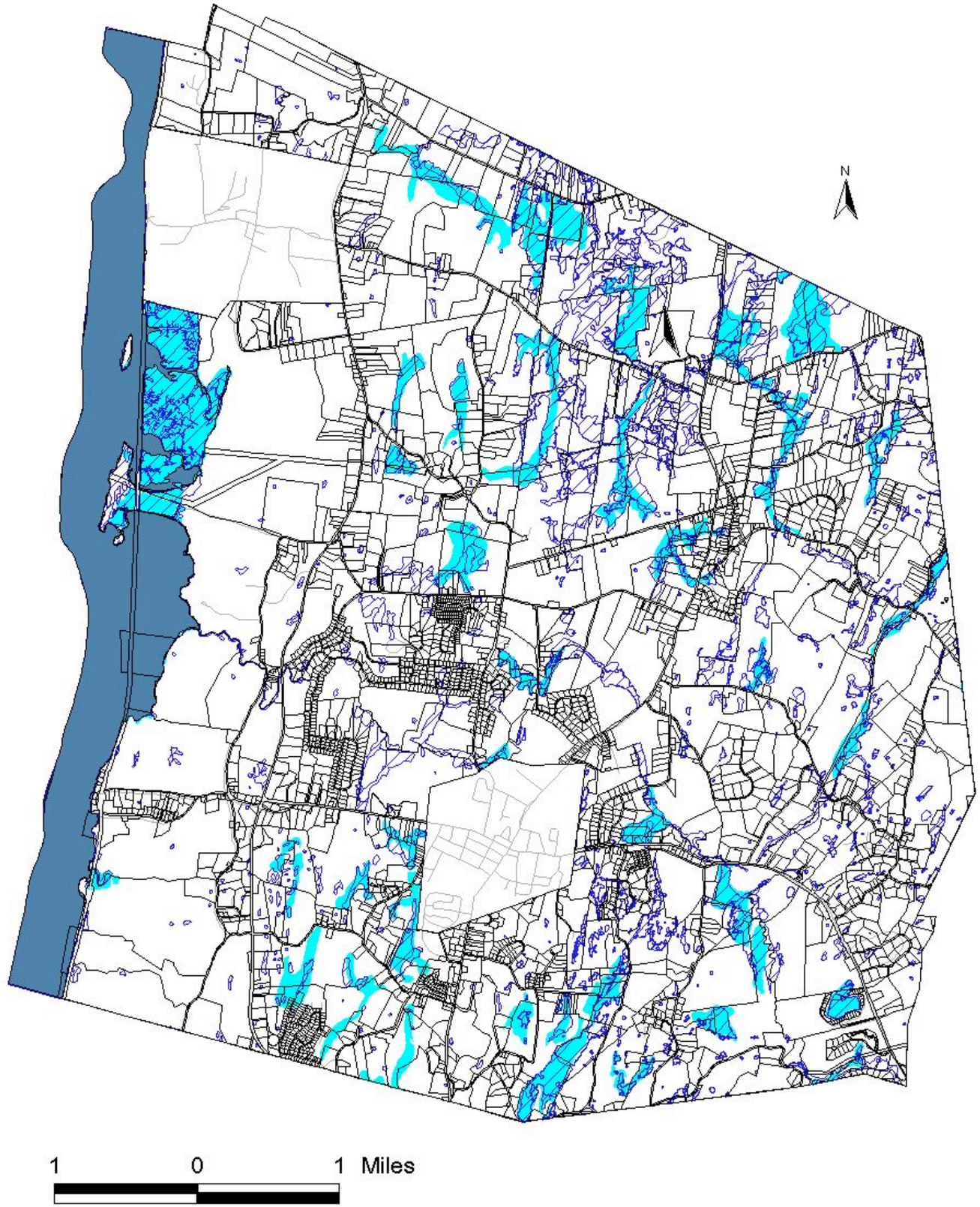
With regard to those wetlands already mapped within the Town of Red Hook, all are considered freshwater wetlands. State Freshwater Wetlands maps prepared by the NYS DEC, and National Wetlands Inventory (NWI) maps prepared by the US Fish and Wildlife Service show the general locations of all the Town's previously identified wetlands. As shown on Figure III-8, a total of 35 state regulated wetlands, as identified on the NYS DEC maps, and numerous federally regulated wetlands, as shown on the NWI wetlands map (some of which overlap), are located within the Town. In order to ascertain whether or not additional

wetlands exist on any given parcel, site specific surveys should be conducted on all lands prior to development.

Wetlands in the Town of Red Hook are protected at the State and federal level. At the State level, pursuant to the Freshwater Wetlands Act, NYS DEC regulates wetlands that are at least 12.4 acres in size and greater or are considered to have unusual local importance. Additionally, the State governs all activities within the 100 foot adjacent area surrounding State jurisdictional wetlands. The DEC ranks its wetlands in one of four classes ranging from Class I, which provides the most benefits, to Class IV, which provide the fewest benefits. The wetlands are classified based on several factors, including vegetative cover, ecological associations, special features, hydrological and pollution control features, distribution and location. The quality of DEC wetlands in the Town of Red Hook is high. As can be seen in Table III-9, the Town has one large (736 acres) Class I wetland identified as Tivoli Bay. Twenty-eight DEC wetlands in the Town are ranked Class II and the remaining 6 are ranked Class III. There are no Class IV DEC wetlands in the Town.

Figure III-8:
Wetlands
Town of Red Hook

Data Source: Dutchess County Department of Planning and Development



Legend

National Wetlands Inventory
DEC Wetlands

Prepared for the Town of Red Hook
by

GREENPLAN

January 2010

Town of Red Hook
Centers and Greenspaces DGEIS

Table III-9: NYS DEC Wetlands, Town of Red Hook					
NYS DEC Designation	Class	Acreage	NYS DEC Designation	Class	Acreage
CM-1	3	102.9	KE-33	2	13.8
CM-2	2	67.1	RC-1	2	35.3
CM-3	3	18.9	RC-2	2	50.9
CM-7	3	33.8	RC-5	2	128
CM-9	2	34.8	RC-6	2	22.4
CM-12	2	31	RC-7	2	30.3
CM-22	2	62.4	RC-8	2	17.2
CM-23	2	82.4	RC-56	2	24.4
CM-24	3	22.9	RC-68	2	18
CM-25	2	53.6	RC-69	2	25.7
CM-26	2	30.3	RC-71	2	24
CM-27	2	91.8	SG-2	2	201.9
KE-1	3	26	SG-3	1	736.2
KE-2	2	22.1	SG-4	3	26.6
KE-3	2	85.1	SG-5	2	31.7
KE-20	2	50.4	SG-8	2	66.6
KE-21	2	37.3	SG-12	2	18.1
KE-22	2	40.9			

At the federal level, the US Army Corps of Engineers protects wetlands located on or adjacent to navigable waters of the United States and their tributaries under Section 404 of the Federal Clean Water Act, regardless of size. No upgradient adjacent areas or buffers are offered protection under federal law. Currently, smaller "isolated" wetlands are unprotected by State and Federal law.

Section 143-23 of the Town's Zoning Law currently requires a minor subtraction for NYSDEC wetlands in the calculation of permitted residential density; there is no deduction required for federal jurisdictional wetlands. Additionally, § 143-30 of the Town's Zoning Law currently requires a special use permit for development activities within 100 feet of a NYSDEC wetland; however, there is no similar protection afforded federal jurisdictional

wetlands unless they are "established" by the Town as subject to this protection, which the Town has not undertaken. Section 143-33 permits the Planning Board to require clustering if it would result in better protection of wetlands than a conventional lot-by-lot subdivision. The Town does not have a local wetlands law.

The Town has an extensive system of surface waters and wetlands within its jurisdiction that are essential for control of flooding, maintenance of water quality, groundwater recharge, and wildlife and vegetation habitats. Identification and consideration of the importance of such surface waters and wetlands during the development review process by the Planning Board is a requirement of the Zoning Law and Subdivision Regulations.

Potential Impacts

The true value of wetlands, specifically the many ecological functions which these resources provide, as well as their significance to society, has only recently been discovered. In the U.S., net annual loss of wetlands has decreased from nearly 500,000 acres per year between the 1950s and 1970s to nearly 60,000 acres per year in the decade from 1986 to 1997. By the mid 1980s, it was estimated that New York State had lost sixty (60) percent of its original wetland base. The Federal Clean Water Act, the New York State Freshwater Wetlands and other regulations have significantly curtailed wetland loss. However, ongoing elimination of wetlands and their buffers continues.

Currently, urban and rural development is the leading cause of wetland loss, accounting for more than half of the freshwater wetlands loss nationally. In addition to the elimination of wetland resources directly through filling, urban and rural development results in significant indirect loss and impairment. Such impact can result in changes to ground water and surface water quality and quantity; flood intensity, duration and downstream impacts; reduction and elimination of habitat, species, and biodiversity; the proliferation of non native and nuisance species; and the loss of educational, recreational and aesthetic opportunities which exist at little or no cost. Accordingly, wetland degradation is as significant a problem as is outright wetland loss. It is however, more difficult to specifically identify and quantify.

Furthermore, wetland impacts often have a significant domino effect. For example, an increase in nutrient load from an adjacent development may result in an increase in vegetation within a wetland. The resultant increased biomass may then cause a decrease in water level due to uptake and evapotranspiration. Additionally, the increased annual plant growth and dieback result in the more rapid conversion of the wetland resource to an upland habitat. Decreased biodiversity with its associated loss of opportunity for wildlife, as well as loss of ground water filtration and recharge, among other impacts, may also occur. In other words, each adverse impact can have an exponential influence on the wetland.

Water Quality Protection

Wetlands can improve water quality by removing pollutants from surface waters, such pollutants originating from the air, impervious land surfaces, agricultural and urban lands. The pollutants include atmospheric chemicals, soil particles, heavy metals and petroleum products, application chemicals such as fertilizers and pesticides, excess nutrients, etc. Wetlands serve to remove such pollutants through biogeochemical cycling, specifically sediment trapping, nutrient removal and chemical detoxification.

When wetlands function properly, water quality protection is one of its most valuable functions. However, wetlands can be detrimentally impacted by pollutant levels which are beyond their capacity for filtration and biological conversion. Unchecked urban and rural development can degrade existing wetlands to a point in which little water quality protection is provided and may even result in the conversion of wetland areas to uplands. Subsequently, the loss or degradation of wetlands may create the potential for more costly water treatment of drinking water supplies.

Ground Water Recharge/Discharge

Wetlands receive, store and release waters. Water stored within wetlands may enter the underlying soils and recharge the groundwater supply. Conversely, water stored within wetlands may be released to nearby streams, via surface or subsurface discharge. During dry periods, a wetlands' contribution to stream flow can be critical to stream inhabitants. Both ground water recharge and stream flow maintenance or discharge occur following the water quality improvements performed by wetlands, as discussed above. Development which results in the elimination or degradation of wetlands has the potential to reduce the capacity of groundwater recharge, thereby affecting water supplies. Stream flows may also be adversely impacted, particularly at times when they are most vulnerable.

Flood Protection/Stabilization

Many wetlands, particularly those associated with flood plains, provide holding and slow release capacity, thereby reducing the severity of and possibly eliminating downstream flooding and erosion. Additionally, wetland vegetation on shorelines, be they large rivers or intermittent streams, serves to absorb and dissipate the energy of surface waters while also binding sediments.

The elimination of wetlands may intensify downgradient flooding during storm events and result in a need for more costly protection methods. Damage due to erosion as well as downstream accumulation of sediments may also result from wetland impact.

Wildlife Habitat

Wetlands are among the most productive ecosystems in the world, comparable to rain forests and coral reefs; they are a source of substantial biodiversity, supporting species of all of the major groups of organisms – from microbes to mammals. Specifically, wetlands provide essential habitat in terms of water and food, cover or shelter, and breeding, nesting, migration and over wintering sites for a wide variety of birds, mammals, reptiles, amphibians, fish, mollusks and insects. An estimated 45% of the species listed by the federal government as threatened or endangered depend on wetlands during some time during their life cycle.

The destruction or degradation of wetlands results in both habitat loss and habitat fragmentation. Subsequently, both may result in changes in species composition, loss of large, wide-ranging species, loss of genetic integrity when isolated habitats are too small to support viable populations and reduced populations of interior species that can only reproduce in large tracts, and increased numbers of competitor, predator, and parasite species tolerant of disturbed environments. The Blandings turtle is one such local species which is imperiled by habitat fragmentation due predominantly to urbanization.

Recreation/Education/Research

Wetlands also provide an abundance of opportunity for human activity in terms of recreation, education, research and aesthetic appreciation. Specifically, wetlands can be utilized for active pursuits such as hiking, hunting, and fishing, as well as passive interests such as bird watching, photography and other forms of recording nature. Nature based or eco-tourism, a major player in regional economics, is often associated with wetlands and wetland dependent species, particularly birds. Additionally, wetlands are studied in conjunction with environmental programs and provide excellent research and teaching sites to learn about vegetation, ecological functions and processes, biodiversity, and plant-animal interactions. Loss and degradation of wetlands can limit or even eliminate some of the opportunities for such benefits.

Overview of Impact

As with other environmental resources, opportunities exist to improve the protection of wetlands through changes to land use regulations. Strengthening regulations regarding development within and in proximity to wetlands can help minimize adverse impacts to their environmental functions. As discussed in the preceding section on Water Resources, the Proposed Action would provide for a maximum residential building potential that would be based on buildable acreage, the land area of the lot after subtracting non-buildable areas, including wetlands and regulated wetland buffers, 100-year flood plains, ponds, streams and buffer areas, and steep slopes (20% gradient or greater). When calculating density, this provision would specifically exclude environmentally sensitive lands, including wetlands and regulated upland areas, thereby having a significant positive impact on the functional

qualities of wetlands in the Town, a beneficial impact for which no mitigation is required.

Specifically within the area proposed for the TND District are four identified wetlands, including a portion of a NYS DEC wetland (KE-3), located on the east side of Route 9, and three small federal jurisdictional wetlands located on the west side. While the Proposed Action by itself will not have any adverse impacts on these or other wetlands existing within the proposed District, potential impact due to future construction activities in proximity to these wetlands remain. Direct impacts would be attributed to the filling of any State or federal jurisdictional wetland as well as isolated and therefore unregulated wetlands. Indirect impacts including but not limited to increased runoff from impervious surfaces, increased pollutant load, sedimentation, habitat degradation and the proliferation of invasive species may also result from activities permitted upon upgradient lands adjacent to wetlands. However, this potential would exist regardless of whether the current Zoning remains in place (i.e., if the No Action Alternative is chosen) or if the Proposed Action is adopted by the Town Board. Site-specific wetland delineation and impact assessment remains a requirement for regulated wetlands.

Furthermore, the lands proposed for the TND District are adjacent to existing commercial development along Route 9. It is therefore likely that these lands are already somewhat more disturbed than outlying areas (i.e., existing influx of pollutants, less quality habitat, higher density of non-native species).

Moreover, the proposed Zoning amendments contain a requirement that "wetlands, floodplains, and other valuable environmental resources" are to be protected and integrated into the TND neighborhood as assets. No significant adverse impacts to wetlands are anticipated as a direct result of the proposed Zoning of these lands for an increased level of development.

Proposed Mitigation Measures

No adverse impacts on wetlands have been identified as a result of the Proposed Action. Foremost, avoidance of wetlands and minimization of wetland impact is required by law and site specific activities within the proposed TND District must take existing State and federal wetlands and any associated buffers into consideration. However, the proposed zoning adds a degree of overall wetland protection in that it eliminates some of the piecemeal approach to development. By concentrating development, particularly into areas in which both the quantity and quality of existing wetlands is already somewhat limited, indirect and cumulative impacts can be substantially avoided.

D. Transportation

Existing Conditions

Road Network

The automobile is the predominant mode of travel in the Town of Red Hook. As commonly occurs in low-density rural communities, a network of smaller Town roads serves residential areas, while County and State collector and arterial roads collect traffic from Town roads and provide access to other communities and larger State highways. Two major routes (US Route 9 and NY Route 199) intersect within the Village of Red Hook and a third major route (NY Route 9G) runs parallel to US Route 9 to the west. Each of these three major routes is described below.

- US Route 9 is a federal rural arterial that generally runs in a north-south direction and is under the jurisdiction of the New York State Department of Transportation (NYSDOT). US Route 9 generally provides one moving lane in each direction within the study area. Based on field observations, the pavement along US Route 9 is generally in good condition. US Route 9 has a signalized intersection with NY Route 199 in the center of the Village of Red Hook. South of NY Route 199, where it known as South Broadway, it intersects with other local roads including Fisk Road, Firehouse Lane/Amherst Road, Metzger Road, Old Farm Road, and Hannaford Drive. US Route 9 at its intersection with these local roadways consists of one lane in each direction plus shoulders. The speed limit in this vicinity is 40 mph.

- NY Route 9G is a rural arterial that generally runs in a north-south direction and is under the jurisdiction of the NYSDOT. NY Route 9G generally provides one moving lane in each direction in the study area. Based on field observations, the pavement along NY Route 9G within the study area is generally in good condition.

- NY Route 199 is a rural arterial that provides for east-west travel through Dutchess County. It provides access to Kingston via the Kingston-Rhinecliff bridge to the west, overlapping with NY Route 9G, and then continuing east through the Village of Red Hook and out to the Town of Milan border. NY Route 199 is under the jurisdiction of the NYSDOT. It generally provides one moving land in each direction in the study area. Based on field observations, the pavement within the study area is generally in good condition.

Traffic Volumes

Annual Average Daily Traffic (AADT)[23] for US and State routes in Red Hook during the last decade, according to the NYS DOT 2008 Traffic Volume Report,[24] are shown in Table III-10. As can be seen from this Table, traffic volumes have declined on all segments of Route 9 and Route 199 in the last 10 years, while traffic volumes have increased moderately on all segments of Route 9G.

TABLE III-10: TRAFFIC VOLUMES ON MAJOR CORRIDORS, TOWN OF RED HOOK

		AADT	Year	AADT	Year	AADT	Year	AADT	Year
US Route 9	From Rt. 9G to Rt. 199	9,950	'08	12,450	'03	11,000	'02	11,030	'99
	From Rt. 199 to Columbia Co. Line	7,460	'08	8,000	'05	8,440	'02	7,520	'99
NY Route 9G	From Rt. 9 to Bridge approach	12,070	'08	9,610	'05	7,250	'02	10,300	'99
	From Bridge approach to Barrytown Rd.	10,600	'08	10,700	'03	9,470	'00	9,180	'97
	From Barrytown Rd. to Kelley Rd.	8,610	'08	9,030	'05	10,550	'02	7,320	'99
	From Kelley Rd. to CR 78	6,940	*	6,860	'03	8,090	'00	5,660	'97
	From CR 78 to Columbia Co. line	4,860	'08	5,260	'05	4,780	'03	4,150	'00
NY Route 199	From Barrytown Rd. to Rt. 9	6,100	'08	6,970	'05	6,660	'02	6,500	'99
	From Rt. 9 to Rt. 308 (Rock City)	5,070	'08	5,300	'03	4,340	'00	6,280	'97

* Denotes that an estimated AADT was developed from the last actual traffic count based on growth factors for similar highway function classification.

Traffic Operating Conditions

The operation of signalized intersections is analyzed by applying the methodologies presented in the 2000 *Highway Capacity Manual*. This procedure evaluates signalized intersections for average control delay per vehicle and level of service (LOS). Control delay is a measure of driver discomfort, frustration, fuel consumption, and increased travel time.

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[23] AADT is a standard measure of two-way daily traffic volume, adjusted for weekly and seasonal variations.

[24] https://www.nysdot.gov/divisions/engineering/technical-services/hds-respository/NYSDOT_Traffic_Volume_Report_by_Region_2008.pdf. The Traffic Volume Report is prepared by the Traffic Monitoring Unit of the Highway Data Services Bureau of the NYS DOT. The 2008 Report contains the most recent data published by the NYS DOT.

In order to identify an intersection's LOS, the average control delay per vehicle is computed for the various lane group movements at the intersection. The control delay criteria for the range of service levels for signalized intersections are shown in Table III-11.

LOS A represents the best condition and LOS F represents the worst. LOS C is generally used as a design standard, while LOS D is acceptable during peak periods. LOS E represents an operation near capacity. However, it is important to note that LOS E conditions during the peak hour are not uncommon operating conditions at the intersection of two major state roads. LOS E conditions are indicative of some congestion and drivers may have to wait for more than one cycle to clear the intersection. It is not uncommon to have some movements operate at LOS E even if the overall intersection LOS is D.

TABLE III-11: LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS

Level of Service (LOS)	Control Delay Per Vehicle
A	≤ 10.0 seconds
B	>10.0 and ≤ 20.0 seconds
C	>20.0 and ≤ 35.0 seconds
D	>35.0 and ≤ 55.0 seconds
E	>55.0 and ≤ 80.0 seconds
F	>80.0 seconds

Source: Transportation Research Board, *Highway Capacity Manual*, 2000

LOS for unsignalized intersections is determined by computing the total elapsed time a vehicle stops at the end of the queue to the time the vehicle departs from the stop line (average control delay), for each minor movement. Average control delay for any particular minor movement is a function of the capacity of the approach and the degree of saturation. The control delay criteria for the range of service levels for unsignalized intersections are shown in Table III-12.

TABLE III-12: LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

Level of Service (LOS)	Control Delay Per Vehicle
A	≤ 10.0 seconds
B	>10.0 and ≤ 15.0 seconds
C	>15.0 and ≤ 25.0 seconds
D	>25.0 and ≤ 35.0 seconds
E	>35.0 and ≤ 50.0 seconds
F	>50.0 seconds

Source: Transportation Research Board, *Highway Capacity Manual*, 2000

Although development densities would decrease throughout most areas of the Town as a result of the Proposed Action (as discussed in subsection A, "Land Use, Zoning and Public

Policy," above), building potential could be transferred from the AB District to the TND Residential and Commercial Center Subdistricts through the use of incentive zoning. This zoning tool would authorize adjustments to building potential in the TND District *in exchange for* funds to be used exclusively to preserve greenspaces in the AB District. This is the mechanism for transferring building potential to lands that have been identified for development (i.e., "centers") in the Town's *Comprehensive Plan* from lands that have been identified in the *Plan* for conservation (i.e., "greenspaces"). Thus the increased building potential in the TND District would not increase density in the Town overall, but would rather shift potential development from farmlands in outlying areas of the Town to the area immediately south of the Village of Red Hook on US Route 9. The TND District would also permit greater commercial development on lands in the proposed Commercial Center Subdistrict, and would include an Office-Industrial Subdistrict, which would permit uses such as light industry, office, and lodging, on lands that are currently Zoned RD3. Special consideration should therefore be given to potential traffic impacts on the US Route 9 corridor in the vicinity of the proposed TND District.

The traffic operating conditions of signalized and unsignalized intersections of local roads with US Route 9 in the vicinity of the proposed TND District have been assessed in two recent traffic studies that were conducted for proposed development projects in the Town of Red Hook. In June 2005, a Traffic Impact Study was conducted by John Collins Engineers, PC for the Anderson Commons project located on Fisk Road in the Town and Village of Red Hook. The study included traffic counts for Anderson Commons and for two additional projects proposed at the time known as Red Hook Commons and Knollwood Commons. Detailed turning movement traffic counts were collected at several key intersections in the vicinity of the Anderson Commons site, including the intersection of US Route 9 with Firehouse Lane/Amherst Road, Fisk Road, and Metzger Road.[25] All of these intersections are unsignalized, and all intersect the main highways with a "stop" sign controlled "T" intersection, with the exception of Firehouse Lane, which intersects US Route 9 at a slight offset approximately 30 feet south of Amherst Road. All approaches to the above intersections consist of one lane.

Traffic volumes for the intersections were collected during April and May 2005 and were also compared with previous data including data collected during 2004. Based upon a review of the traffic volumes, the peak hours were generally determined to occur as follows:

Weekday AM Peak Hour:	7:30 - 8:30 AM
Weekday PM Peak Hour:	5:00 - 6:00 PM
Saturday Midday Peak Hour:	12:00 - 1:00 PM

[25] Proposed site access driveways to the Anderson Commons project, the intersection of NY Route 199 and Baxter Road, and other minor intersections of concern specific to that project were also analyzed.

LOS for each of the intersections under the existing 2005 conditions, the estimated 2008 "no-build" scenario (which assumed a growth factor of 2% per year), and the estimated 2008 "build" scenario (assuming the 3 projects studied were all constructed) are shown in Table III-13.

TABLE III-13: LEVEL OF SERVICE FOR PEAK HOURS, US ROUTE 9 INTERSECTIONS

		2005 Existing			2008 No-Build			2008 Build		
		AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
US Route 9 and Amherst Road	NB	A	A	A	A	A	A	A	A	A
	EB	C	C	C	C	D	D	C	D	D
US Route 9 & Firehouse Lane	SB	A	A	A	A	A	A	A	A	A
	WB	C	D	D	C	E	E	C	E	E
US Route 9 and Fisk Road	SB	A	A	A	A	A	A	A	A	A
	WB	C	D	D	C	D	E	C	E	E
US Route 9 & Metzger Road	SB	A	A	A	A	A	A	A	A	A
	WB	B	C	C	C	D	D	C	D	D
NY Route 199 & Baxter Road	NB	B	B	B	B	B	B	B	B	B
	WB	A	A	A	A	A	A	A	A	A

The Traffic Impact Study determined that all of the intersections would operate at a acceptable LOS and no improvements, beyond additional pavement markings, were necessary.

The Traffic Impact Study prepared by Creighton Manning Engineering, LLP for the Red Hook Hannaford Supermarket (June 29, 2000) studied additional intersections in the vicinity of the proposed TND District, including the following:

- US Route 9 and NY Route 199. This is a signalized intersection in the center of the Village of Red Hook. It consists of a single lane on each approach, with on-street parking and curbs. Prior to construction of the Hannaford project, the intersection was operating pre-timed with two phases and a 75 second cycle length. Pedestrian crosswalks and buttons are also provided.

- US Route 9 and Old Farm Road. This is a T-type intersection with a single lane approach, operating under stop sign control.

- US Route 9 and Rokeby Road (Hannaford site access). At the time of the study this was a T-type intersection with a single lane approach, operating under stop sign control.

Peak hours were determined to be from 4:45 PM to 5:45 PM weekdays, and on Saturday from 11:15 AM to 12:15 PM. The directional traffic flows on US Route 9 showed approximately 57% of the traffic traveling northbound toward the Village and 43% traveling southbound during the PM peak hour. The directional traffic patterns during the Saturday peak hour are similar to the PM peak hour pattern with approximately 52% of the traffic traveling northbound and approximately 48% traveling southbound during the Saturday peak hour (Hannaford DEIS, September 2000, Volume One, page 2-7).

The Traffic Impact Study projected that the Hannaford grocery store would generate 368 new vehicle trips during the weekday afternoon peak hour and 400 new trips during the Saturday mid-day peak hour. It projected a minor increase in delay at the intersection of Route 9 and Old Farm Road during the PM and Saturday peak hours as a result of the action, but not significant enough to warrant improvements at this intersection. A traffic signal was installed at the US Route 9 and Rokeby Road intersection as part of the Hannaford project. Signalization of this intersection was an alternative studied in the DEIS, which concluded that the signalized intersection would operate adequately under this alternative (Hannaford DEIS, September 2000, Volume One page 5-13).

LOS for the US Route 9/NY Route 199 intersection under the existing 2000 conditions, the estimated 2000 "build" scenario without transportation improvements, and the estimated 2000 "build" scenario with transportation improvements for the PM and Saturday peak hours are shown in Table III-14.

Table III-14: Level of Service for Peak Hours, US Route 9/NY Route 199 Intersection

	2000 Existing Conditions		2000 No-Build		2000 Build		2000 Build with Improvements	
	PM	SAT	PM	SAT	PM	SAT	PM	SAT
Eastbound LTR*	F	F	F	F	F	F	E	F
Westbound LTR	E	D	F	E	F	F	C	C
Northbound LTR	C	C	C	D	E	F	E	E
Southbound LTR	B	C	B	C	B	C	D	F
Overall Intersection	D	D	E	E	E	F	D	E

* L = left; T = through; R= right

The Traffic Study found that the US Route 9/NY Route 199 intersection currently operated at a LOS D during the peak hours. Under the year 2000 no-build scenario (i.e., if the project was not constructed), the intersection was expected to operate at a LOS E for both peak periods. By replacing the signal equipment with a new fully actuated traffic signal, including all new vehicle detectors to improve the operation of the intersection and reduce delays, the study projected the overall level of service would be LOS D during the PM peak period (an

improvement over the No Build LOS D) and LOS E during the Saturday peak hour (the same LOS as the No Build condition). As noted above, LOS "E" conditions during the peak hour are not uncommon operating conditions at the intersection of two major state roads. LOS "E" conditions are indicative of some congestion and drivers may have to wait for more than one green cycle to clear the intersection. During non-peak hours (the majority of the day), these approaches operate at better LOS conditions (LOS D or better). As discussed above, traffic volumes on US Route 9 in the vicinity of Hannaford between Route 9G and Route 199 have declined in the last decade, from 11,030 to 9,950 AADT. Therefore, for the purpose of this DGEIS, a growth factor has not been applied to the study of these intersections.

The Town has planned a connector road that will run parallel to US Route 9 from the Hannaford grocery store to Firehouse Lane. Portions of the road have already been constructed, and the Town is in the process of adopting an Official Town Map identifying the location of the remaining road segments.

Public Transportation

Bus service in the Town of Red Hook is provided by the Dutchess County LOOP System. The LOOP System provides both express (commuter) and mid-day service throughout the county. Red Hook residents are served by a LOOP commuter route, which operates Monday through Friday and serves the Tivoli to Poughkeepsie corridor (Express A). Mid-day service runs Monday through Saturday and also connects Tivoli to Poughkeepsie. All LOOP buses can be hailed or will stop along their routes where the bus can stop safely.

Mountain View Coach Lines and Shortline also provide service both within Dutchess County and to various regional destinations, including New York City. In addition, van shuttles provide transportation to the three major airports in the New York metropolitan region.

The County operates Dial-A-Ride service in the Town of Red Hook once a week. This is a service that is arranged on a town-by-town basis throughout the County to provide door-to-door transportation for eligible handicapped and senior residents.

Amtrak, the nationwide rail passenger line, provides service from stations at Poughkeepsie and Rhinecliff. Metro-North Commuter Railroad, a subsidiary of the Metropolitan Transportation Authority, provides passenger service from Poughkeepsie to Grand Central Terminal in New York City.

Pedestrian and Bicycle Facilities

Sidewalks are found in the Village of Red Hook and along US Route 9 between Firehouse Lane and Rokeby Road. The Town also has a few off-road dedicated hiking, biking and

walking trails, particularly in proximity to the Hudson River. Signed bicycle routes exist on a network of Town, Village, County and State roads, but these are simply trail blazed "share-the-road" routes along existing roads rather than dedicated lanes in the public right-of-way.

In 1998, the Town of Red Hook conducted a Trails Feasibility Study (prepared by *imp*ACT , LLC, December 1998) to assess the feasibility of a network of interconnected trails to link key population centers with points of activity and interest in the Town. The trails are intended primarily for pedestrians and bicycles, although some could accommodate other uses such as cross-country skiing, but no motorized vehicles (other than wheelchairs). The report outlines the location of five (5) proposed trails, and these locations are also illustrated on the map labeled "Recommendations Map" that follows page 41 of the *Town of Red Hook, Villages of Red Hook and Tivoli Open Space Plan* prepared by Behan Planning Associates (November 9, 2000). The Trails Feasibility Study also recommends that dedicated bicycle lanes be constructed on Town and State highways as these are updated or repaved in the future.

Potential Impacts

Traffic

The Build-Out Analysis conducted for the Town of Red Hook (Appendix F) found that the current Zoning would permit the development of approximately 3,588 new single family dwelling units in the study area. Projected vehicle trips in the Town (generated by the residential development alone) would be more than 34,000 additional trips per day made by 7,176 vehicles on the road, and these vehicles would need to travel to or through the Village of Red Hook or on Route 9G. In comparison, the Proposed Action would permit approximately 1,388 new dwelling units, with 2,776 vehicles making 12,436 additional vehicle trips per day on local roads. Thus the Proposed Action would generate 64% less traffic than the existing Zoning as a result of new residential development. (See Table III-15.) This is a beneficial impact for which no mitigation is required.

TABLE III-15: COMPARISON OF POTENTIAL TRAFFIC IMPACTS, EXISTING ZONING AND PROPOSED ACTION

	Additional Dwellings	Additional Vehicles on Roads	Additional Vehicle Trips Per Day (tpd)
Current Zoning	3,588	7,176	34,337
Proposed Action	1,388	2,776	12,436

The Proposed Action would also have the effect of reducing vehicle miles travelled between residences and shops, services and other destinations by potentially shifting 240 dwellings from large lots in outlying areas of the Town to small lots in the centrally located TND

District, a beneficial impact. This change in the location of new residential development would result in shorter automobile trips and would facilitate alternative modes of transportation such as walking, biking, public transportation, and car pooling. Traffic impacts of new development in the TND District would be minimized by creating walkable residential neighborhoods with sidewalks, short blocks, and interconnected streets and by incorporating small-scale commercial development serving local shopping and service needs within easy walking distance of the neighboring residents.

The Proposed Action comprises a set of public policy actions intended to guide development within the Town of Red Hook for the foreseeable future. Typically, a Traffic Impact Study included in an Environmental Impact Statement assesses future operating conditions for traffic associated with a specific project or new development. A project-specific Traffic Impact Study inventories and analyzes information relevant to existing traffic flow and projected traffic flow in the future both with and without the proposed project for the roadway network immediately surrounding the project site. For a Generic Environmental Impact Statement, such as this one, the project site covers the entire Town and considers potential development of different types and at undetermined times well into the future. As such, it would not be appropriate to conduct a traditional Traffic Impact Study on the Proposed Action as too many factors would be speculative (including how much development would happen in any one year and at what locations) and would result in analysis results not altogether meaningful. In addition, traffic impact studies are time sensitive since they are based upon traffic counts at intersections relevant to the study and then projected to a specific date after a development is approved, built and occupied.

However, since building potential could be transferred from the AB District to the TND Residential and Commercial Center Subdistricts through the use of incentive zoning, and since lands south of Hannaford Drive would be included in the TND Office-Industrial Subdistrict, an analysis of the amount of potential traffic that could be generated by the proposed TND District located on US Route 9 immediately south of the Village of Red Hook is provided. Additional vehicle trips per day were based upon the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 7th Edition (2003). This information should be understood in the context of a significant (64%) overall reduction in potential traffic that could result from the Proposed Action.

As discussed in the Build-Out Analysis in Appendix F, a modest 15% "mixed-use" reduction in trip generation rates was applied to the TND Residential Subdistrict since the ITE's methodology is designed "for single-use developments where virtually all access is by private automobile."[26] Actual trip generation rates for the Residential Subdistrict would likely be much lower. The ITE is currently in the process of updating its *Trip Generation Manual* to include trip generation rates for mixed-use developments (such as the TND District), which

[26] ITE *Trip Generation Handbook*, 2nd Edition, (June 2004), Appendix B, page 121.

are anticipated to generate significantly fewer trips than conventional suburban auto-dependent developments.[27] Including the "mixed-use" reduction, it is estimated that the increase in building potential in the TND Residential Subdistrict resulting from the transfer of development from the AB District would generate approximately 93 new trips during the weekday AM peak hour, 118 new trips during the weekday PM peak hour, and 112 new trips during the Saturday peak hour. Again, this should be placed in the context of an overall 64% reduction in potential traffic resulting from the Proposed Action over the existing Zoning.

TABLE III-16: PEAK HOUR VEHICLE TRIPS, TND RESIDENTIAL SUBDISTRICT

Use	Number of Units	ITE Land Use Code	Trip Generation Rate			Number of Trips Per Peak Hour		
			AM	PM	SAT	AM	PM	SAT
Single Family Detached	57	210	0.75	1.01	0.94	43	58	54
Townhouse	74	230	0.44	0.52	0.47	33	38	35
Duplex/Apartment*	74	221	0.46	0.58	0.58	34	43	43
Subtotal:						110	139	132
TOTAL TRIPS With Deduction for TND:						93	118	112

* The ITE *Trip Generation Manual* does not provide trip generation rates for duplexes, so the land use code for low-rise apartments was used.

According to an analysis prepared by the Dutchess County Department of Planning and Development, at full build-out the proposed TND Commercial Center Subdistrict has the potential for approximately 140,000 square feet of additional commercial development. For the purpose of this analysis, it was assumed that this commercial development consists of a mix of small retail shops, offices, services, and restaurants. There is no equivalent ITE land use code for a mixed-use Main Street-style central business district such as is proposed for the TND Commercial Center. The ITE land use "specialty retail" may be closest to the proposal; however, the sample size for the PM peak hour for "specialty retail" is very small, and the ITE gives no Saturday peak hour rate. Therefore, the trip generation rates for a "shopping center" were used for the Commercial Center. However, some adjustments were made to the trip generation rates to accommodate the type of development proposed in the TND Commercial Center, which would not be an automobile-oriented conventional suburban style shopping center. It is anticipated that there will be a significant percentage of internal trips between the various uses in the Commercial Center because the uses will be located in close proximity to each other; shoppers will park once and walk between the uses. And since the Commercial Center will be located within a ½ mile radius of residential neighborhoods, many people will be able to walk from their homes. A 15 percent internal trip capture rate, comparable to the deduction made for the TND Residential Subdistrict, was therefore included in the analysis. Moreover, in acknowledging some trips to the

[27] Currently, the ITE's only available data indicates trip generation rates ranging from 2% to 20% less for mixed use development, depending on their features. *Ibid*.

Commercial Center will originate from traffic that is already passing the site on the adjacent roadway, pass-by trips were taken into account when applying the trip generation vehicle trips to the roadway network. Pass-by trips represent vehicles that will stop at the site before continuing to their primary destination. Given the types of commercial uses anticipated in the Commercial Center, a conservative pass-by rate of 10 percent was applied to the trip totals. Including the pass-by credit and the mixed-use deduction, it is estimated that the TND Commercial Center Subdistrict would generate approximately 108 new trips during the weekday AM peak hour, 394 new trips during the weekday PM peak hour, and 522 new trips during the Saturday peak hour.

TABLE III-17: PEAK HOUR VEHICLE TRIPS, TND COMMERCIAL CENTER SUBDISTRICT

Use	Square Feet	ITE Land Use Code	Trip Generation Rate*			Number of Trips Per Peak Hour		
			AM	PM	SAT	AM	PM	SAT
Mix of small retail shops, offices, services and restaurants	140,000	820	1.03	3.75	4.97	144	525	696
TOTAL TRIPS With Pass-by Trip Credit and Mixed-Use Deduction:						108	394	522

* Trip generation per 1,000 sq. ft. gross floor area.

According to an analysis prepared by the Dutchess County Department of Planning and Development, at full build-out the proposed TND Office-Industrial Subdistrict could accommodate approximately 180,000 square feet of commercial development, which includes an 80,000 square foot three-story hotel, and 100,000 square feet of flex space. For the purpose of this analysis, it was assumed that the flex space was divided evenly between an industrial park, a business park, and an office park. As shown in Table III-18, it is estimated that the TND Office-Industrial Subdistrict would generate approximately 180 new trips during the weekday AM peak hour, 170 new trips during the weekday PM peak hour, and 76 new trips during the Saturday peak hour.

TABLE III-18: PEAK HOUR VEHICLE TRIPS, TND OFFICE-INDUSTRIAL SUBDISTRICT

Use	Square Feet	ITE Land Use Code	Trip Generation Rate*			Number of Trips Per Peak Hour		
			AM	PM	SAT	AM	PM	SAT
Hotel	80,000**	310	0.67	0.70	0.87	46	48	59
Industrial Park	33,333	130	0.84	0.86	0.35	28	29	12
Business Park	33,333	770	1.43	1.29	***	48	43	***
Office Park	33,333	750	1.74	1.50	0.14	58	50	5

Table III-18: Peak Hour Vehicle Trips, TND Office-Industrial Subdistrict								
Use	Square Feet	ITE Land Use Code	Trip Generation Rate*			Number of Trips Per Peak Hour		
			AM	PM	SAT	AM	PM	SAT
Hotel	80,000**	310	0.67	0.70	0.87	46	48	59
TOTAL TRIPS:						180	170	76

* Trip generation per 1,000 sq. ft. gross floor area for all uses, except Hotel which is per occupied room.

** Assumed to be an 80 room hotel with an 85% occupancy rate (i.e., 68 occupied rooms).

*** Saturday peak hour not available.

To ensure that growth in the proposed TND District occurs in an orderly and planned manner, residential development in the TND District is required to be phased[28]. This would allow time for preparation to maintain high quality services for an expanding residential population. Phasing of commercial development in the TND District would also occur in response to market conditions; it is highly unlikely that a full build-out of all the commercially zoned lands in the Commercial Center and Office-Industrial Subdistricts of the TND District would occur at once. As an example, if the TND District were built out over a 20 year period in three equal phases, the total trip generation for each phase would occur as shown in Table III-19. A large proportion of this traffic would be generated by the Commercial Center Subdistrict.

Table III-19: Total TND District Vehicle Trips, Phased			
	Number of Trips Per Peak Hour		
	AM	PM	SAT
TOTAL TRIPS:	127	227	237

As shown in Table III-19, additional traffic on US Route 9 south of the Village of Red Hook may occur as a result of the proposed TND District, although this would also be offset by the overall 64% reduction in potential traffic that could result from the Proposed Action. As shown in Table III-10, the annual average daily traffic on US Route 9 in 2008 was 9,550 vehicles. As noted in *Place Making, Developing Town Centers* (by Charles Bohl, 2002), traffic flow on an ideal Main Street is 16,000 to 20,000 average daily trips (Bohl, page 290). The Route 9 corridor is thus currently functioning at approximately half the ideal capacity for a Main Street commercial area.

The area immediately south of the Village of Red Hook on US Route 9 is an appropriate location for permitting increased building potential since this road, which serves as the primary corridor for travel within the community, has the capacity to accommodate the additional growth. It is also located on the LOOP bus route, and use of public transit would

[28] See § 143-49.1F(4) of the proposed Zoning amendments.

further reduce potential impacts of automobile traffic resulting from development in this area. Finally, the Town planned connector road running approximately one block east of US Route 9 will alleviate traffic on Route 9 and at the Route 9/Route 199 intersection without diverting traffic too far from the business district. The grid pattern of roads will diffuse most congestion by enabling traffic to take alternative routes without detracting from the vitality of the TND Commercial Center.

Public Transportation

The LOOP bus may see an increase in ridership over time due to the location of the proposed TND District on the bus route. Increased ridership is a beneficial impact that helps to offset the public subsidies needed to keep the LOOP operational.

Pedestrian and Bicycle Facilities

As can be seen from the Trails Feasibility Study and the "Recommendations Map" in the *Open Space Plan,* all of the proposed trails, with the exception of trail segment five, would be located north of Route 199. The segment five trail would primarily be a bicycle access utilizing existing roads ("share-the-road") to connect the Hardscrabble area of Route 9 to Route 199 to the northeast (following Fire House Lane, Elizabeth and Fisk Streets, and Baxter Road), and to Route 9G to the southwest (connecting through Amherst Road, Cambridge Drive and Old Farm Road to the Lyceum Theatre property, then to Adams Road, Rokeby Road and Middle Road). Thus, none of the potential trails would be impacted by the proposed TND District located south of Route 199, as the only trails proposed in this area would utilize existing roads.

In other areas of the Town residential densities will be reduced, and the proposed amendments to the Subdivision regulations will require the identification of existing and proposed trails on the Resource Analysis Map submitted by applicants for major subdivisions, or when required by the Planning Board, to determine a conceptual plan for the proposed subdivision. This will assist the Planning Board and applicants to plan for the proposed trails network. Further, the supplemental design standards and plat requirements for conservation subdivisions found in §§ 120-18.1 and 120-22.1 respectively will require that the open space lands associated with a conservation subdivision be laid out to enable potential connections within the Town's long-range trail networks as reflected in the Town's *Open Space* Plan. Finally, in the area of the proposed TND District, installation of ADA compliant sidewalks will be a requirement for development in the District, and new roads will be required to be interconnected, which will shorten the distance between activity points and encourage walking and bicycling. Provision of bicycle racks in the Commercial Center of the proposed TND District would be encouraged. These provisions will improve pedestrian and bicycle facilities in the Town, a beneficial impact.

Proposed Mitigation Measures

Traffic

Potential traffic impacts resulting from increased residential and commercial development in the proposed TND District can be mitigated by measures such as signalizing additional intersections, reconstructing intersections as roundabouts, retiming traffic signals, adding or improving pavement markings, and construction of the planned connector road. The Village of Red Hook has been working with the NYSDOT and a nearby landowner to improve the off-set intersection of US Route 9 with Firehouse Lane/Amherst Road, and plans to realign the roadway into a single four-leg signalized intersection. Alternatively, a roundabout might be appropriate at this location. Recent studies by the Insurance Institute for Highway Safety and New York State Department of Transportation show that roundabouts can improve safety and reduce delays at intersections. This parallels findings from studies of roundabouts in Europe and Australia. In addition, signalization or use of a roundabout at the US Route 9/ Old Farm Road intersection would not only improve the operation of this intersection, it would also serve to space traffic along the corridor between Hannaford Drive and the Village of Red Hook, and thereby improve the level of service of the US Route 9/NY Route 199 intersection. The Town planned connector road running approximately one block east of US Route 9 will alleviate traffic on Route 9 and at the Route 9/Route 199 intersection without diverting traffic too far from the business district.

A project specific Traffic Impact Study assessing existing and projected traffic flow, operating conditions, and specific mitigation measures, should be required of any project in the Town when the Planning Board determines the project may have a potential impact on traffic. Generally, a comprehensive traffic impact analysis should be completed whenever proposed development is expected to generate 100 or more new inbound or outbound trips during the peak hours (the ITE's recommended practice). For example, developments containing about 150 single-family homes, or approximately 15,000 square feet of retail would be expected to generate this level of traffic and hence, require a complete traffic analysis.

Public Transportation

Since no significant adverse environmental impacts to public transportation as a result of the Proposed Action were identified, no mitigation is required.

Pedestrian and Bicycle Facilities

Since no significant adverse environmental impacts to pedestrian and bicycle facilities as a result of the Proposed Action were identified, no mitigation is required.

E. Community Services and Infrastructure

a. Emergency Service Providers

Existing Conditions

The Town of Red Hook is served by the Red Hook Police Department, which operates out of the Red Hook Village Hall. The department currently has 13 officers on staff, including three full-time officers. The Dutchess County Sheriff's Department and the New York State Police provide additional police protection in the Town. The Sheriff's Department has a substation on Route 308 near Sepasco Lake in Rhinebeck. The State Police maintain a barracks on Route 9 south of Rhinebeck.

Fire protection services in the Town of Red Hook are provided by volunteers from two fire companies: the Red Hook Fire Company located on Fire House Lane in the Village of Red Hook, and the Tivoli Fire Company, located in the Village of Tivoli.

The Red Hook Fire Company is an all volunteer department that protects approximately 8,000 residents living in a 25 square mile area. In addition to fire fighting services, the company provides basic life support emergency ambulance service that is simultaneously dispatched with paramedics for typical emergency calls. Equipment includes two fire engines, a ladder truck, heavy rescue truck, utility truck, Chief's car, and an ambulance.

The Tivoli Fire Company is an all volunteer, fully equipped fire department and rescue squad. The fire district includes the Village of Tivoli, Annandale-on-Hudson (including a portion of the Bard College Campus) and the northern sector of the Town of Red Hook.

Potential Impacts

In a rural residential community such as the Town of Red Hook, calculation of the necessary numbers of emergency service personnel is based primarily on per capita calculation: the more residences the Town has in the future, the more personnel would be required. Thus the cost of providing emergency services is almost entirely borne by the residential property owners through property taxes.

The build-out analysis conducted for the Town by GREENPLAN, Inc. (March 2010), which appears in Appendix F, found that a total of 3,588 new single family dwelling units, resulting in 11,08 new residents, could be accommodated in the study area[29] under the current Zoning

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[29] The study area includes: lands to be included in the proposed AB District (Study Area A); lands to be included in the proposed TND Residential Subdistrict (Study Area B); lands not included in either of the preceding that are currently zoned R1 and R1.5 where the water bonus is proposed to be deleted (Study Area C); and remaining lands in the Town exclusive of: educational institutions (Bard College, Mill Road Elementary School, the Devereaux Foundation), the NYS property on Turkey Hill Road, lands in the Hamlet Districts, and existing or proposed commercial districts (Study Area D). See Figure 1 of Appendix F.

regulations. The build-out analysis indicates the need for approximately 22 new police officers and 18 new fire fighters[30] should the additional development allowed by existing Zoning be realized. However, comparison of the existing Zoning with the Proposed Action reveals a significant difference, with the need for only 8 new police officers and 7 new fire fighters required to serve the larger community (see Table III-20). The reduction in future population under the Proposed Action is accompanied by a reduction in the need for emergency service providers, a beneficial impact on community services for which no mitigation is required.

TABLE III-20: PROJECTED NEED FOR EMERGENCY SERVICE PROVIDERS, EXISTING ZONING AND PROPOSED ACTION

	New Dwelling Units	New Residents	New Police Officers	New Fire Fighters
Existing Zoning	3,588	11,089	22	18
Proposed Action	1,388	4,226	8	7

Proposed Mitigation Measures

Since the Proposed Action would not result in any significant adverse impacts to emergency services, no mitigation is required.

b. Utilities

Existing Conditions

CH Energy Group is a distribution utility and, through its subsidiaries and affiliates, services the Town of Red Hook with electricity,. The actual source of the generated electricity, that is distributed by Central Hudson, can be chosen by those with accounts with Central Hudson. No natural gas lines extend to Red Hook. Propane, fuel oil, and other petroleum products are provided to residents by several local and regional companies. Central Hudson currently serves approximately 300,000 electric customers and 74,000 natural gas customers throughout its franchise area. It has an aggregate transformer capacity of 5.3 million kilovoltamps.

Central Hudson is regulated by the New York State Public Service Commission, which requires that every distribution utility in the State must provide residential service without

[30] Additional police protection was estimated at two (2) police officers per 1,000 population based upon the commonly applied planning standard outlined in *Community Guide to Development Impact Analysis* by Mary M. Edwards (March 2000). Additional fire protection was estimated at 1.65 fire fighters per 1,000 population based upon the standards of the International Association of Fire Chiefs.

unreasonable qualifications or lengthy delays and such service is necessary for the preservation of the health and general welfare and is in the public interest.

Frontier Communications provides basic local telephone service to the Red Hook area. No other basic local providers service Red Hook at this time. Numerous providers are available for regional and long distance service. Frontier is also subject to New York State Public Service Commission regulations.

Time Warner provides cable service in the Town. The Town is served by a number of internet service providers, such as AT&T, Verizon, and Webjogger.

Potential Impacts

The New York State Department of Public Service has a broad mandate to ensure that all New Yorkers have access to reliable and low-cost utility services. The Department is the staff arm of the Public Service Commission. The Commission regulates the state's electric, gas, steam, telecommunications and water utilities. The Commission also oversees the cable industry. The Commission is charged by law with responsibility for setting rates and ensuring that adequate service is provided by New York's utilities. The Proposed Action will reduce the need for utility services to be provided in the Town of Red Hook due to a reduced build-out over the existing Zoning (the No Action Alternative). It is not possible at this time to predict the energy and other utility needs of any future development that may occur as a result of the Proposed Action since this will require a site-specific assessment of energy needs and impacts as part of any SEQR reviews that may occur in the future. However, no significant adverse impacts can be expected from the Proposed Action.

Proposed Mitigation Measures

Since the Proposed Action would not result in significant adverse impacts to utility services in the Town, no mitigation is required.

c. Water and Wastewater

Existing Conditions

As discussed in Section A (Land Use and Zoning) above, the Build-Out Analysis (Appendix F) estimates that the result of build-out under the Town's existing Zoning would be the addition of 3,588 new single family dwelling units and 11,089 new residents. The dwellings that these new residents would live in would require construction of approximately 3,588 new septic disposal systems generating more than 1,148,000 gallons of sewage per day discharged into the ground, and these dwellings would also depend upon new groundwater wells drawing more than 1,148,000 gallons of water per day.

In comparison, if the existing Zoning were amended as proposed, these impacts would be reduced as compared to the above figures as follows: there would be potentially 1,388 new dwelling units and 4,226 new residents requiring an additional 435,280 gallons of water per day. Thus the Proposed Action would result in consumption of less water and discharge of less sewage into the ground.

Limited areas of the Town, including the two Villages, Bard College, and residential developments to the northwest and immediately south of the Village of Red Hook, are served by existing central water supply systems. The entire community, except for the Village of Tivoli and Bard College, depend on private, on-site sanitary sewage disposal facilities.

The Town and Village of Red Hook are in the process of developing a sewer district to be located primarily in the Village, with a portion along Route 9 in the Town. That project is subject to a separate SEQR review. The sewer district will serve residential and commercial properties on US Route 9 from Old Post Road to Rokeby Road and on NY Route 199 from Cherry Street to Linden Avenue. There are currently no public sewers in the Village or Town of Red Hook, and all of the properties within the proposed sewer district are serviced by individual sewage disposal systems that discharge into groundwater, with the exception of the senior housing units and commercial uses at Red Hook Commons. As noted in the "Map, Plan & Report" for the proposed sewer district prepared by C.T. Male Associates, P.C. (December 2009 [31]), "some existing buildings have substandard septic systems which can pose a threat to the drinking water supply due to the fast/free draining soils in the [proposed sewer] District." As noted in the discussion of aquifers in Section B.a. of this Chapter, Zone 1 aquifers, which underlie areas where the proposed sewer district would be located, are most susceptible to contaminants.

The proposed TND Residential Subdistrict and Office-Industrial Area is not included in the proposed sewer district. However, the proposed wastewater treatment plant and sewer collection system will be designed to allow expansion in the future to allow developments within the proposed TND District to connect to the sewer system. This would be preferable to the construction of private central sewer facilities to service the residential neighborhoods. To provide wastewater treatment, the privately owned 25,000 gallon per day (gpd) Red Hook Commons wastewater treatment plant (WWTP) would be obtained by the District and its capacity would be expanded to 85,000 gpd. The 12.4 acre lot where the WWTP is located was studied in the "Facility Plan and Basis of Design Reports" (C.T. Male Associates, P.C., 2008) and it was found suitable for building the needed improvements to treat 85,000 gpd. Additionally, the site can be expanded to treat up to 285,000 gpd (200,000 future capacity) if needed to accommodate, for example, development in the proposed TND Residential Subdistrict and Office-Industrial Area.

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[31] Available on-line at www.co.dutchess.ny.us/CountyGov/Departments/WaterandWaste/WRIndex.htm)

Potential Impacts

As noted above, the Proposed Action would result in the consumption of less water and discharge of less sewage into the ground, both beneficial impacts. Moreover, the Proposed Action would concentrate new development in the proposed TND District where it could be served by municipal water and potentially sewer, rather than continuing to disperse development throughout the landscape where it is served by individual groundwater wells and septic systems discharging into the ground. As noted in the recent Dutchess County Aquifer Study, "*concentrating most new development in and around traditional mixed-use, walkable cities, villages and hamlet centers is still one of the best strategies to protect natural resources and the rural countryside, which provides significant filtering and recharge of our groundwater resources*."[32] Section B.a. (Groundwater Resources) above summarizes the Chazen Companies groundwater report (see Appendix G), which determined that there would be an adequate amount of groundwater to support development in the proposed TND District.

Impacts of the proposed sewer district are discussed in the "Map, Plan & Report" for the proposed sewer district prepared by C.T. Male Associates, P.C. (December 2009). The report notes that 40 years of adopted planning documents (including the Village of Red Hook *Comprehensive Plan* 1969, the Town of Red Hook *Comprehensive Plan* 1990, the Town of Red Hook *Open Space Plan* 2000, and the Intermunicipal Task Force's proposed *Centers and Greenspaces Plan* 2009) have recommended establishing a sewer district for portions of the Village and more densely developed portions of the Town (i.e., the "center"). The proposed sewer district will reinforce the Village business district, and provide for village-scale development in the proposed TND District adjacent to the Village in the Town. Beneficial impacts of providing a central sewer system include:

- A public sewer system will enable residential and commercial development in the TND District, which will allow walkable residential neighborhoods to be located within walking distance of an emerging commercial center.
- Through incentive zoning, productive farmland and Village gateway buffer areas will be protected by transferring development from these areas to the compact TND District.
- A central sewer system will increase development potential within the Village of Red Hook's General Business District. Land currently being used to accommodate septic systems could be used to expand existing commercial/residential buildings and enlarge/connect off-street parking areas.

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[32] *Dutchess County Aquifer Recharging Rates and Sustainable Septic System Density Recommendations* (The Chazen Companies, April 2006), page iv.

- Properties within the Village could be redeveloped to provide a larger variety of business uses, (hotels, restaurants, department stores, etc.) that currently cannot accommodate excess, or reserve, septic system capacity necessary for these uses.
- Compact, walkable residential neighborhoods, based on the architectural character of the existing Village residential districts, could be developed in the Village and Town. The TNDs would offer a variety of housing sizes and types that would appeal to residents of varying age and income levels, and would serve to reinforce the economic viability of the business districts.
- The porous nature of the Town and Village soils may not be adequately filtering waste water as enters the aquifer. A central sewer system confined to the central area of the community will treat all waste water for safe return to the environment. This would be an improvement to public health of the community.

The New York State Department of Health, in discussing the use of septic systems in rural and suburban areas, recommends that "*Wherever possible, sewage should be collected in community sewers connected to a central treatment plant.*" The Proposed Action, therefore, is consistent with established State policies to avoid a proliferation of septic systems throughout rural and suburban areas.

Proposed Mitigation Measures

The Proposed Action would not result in any significant adverse environmental impacts on water and wastewater. With regards to development that would be permitted by the Proposed Action in the TND District, any development or expansion of a proposed WWTP would need to undergo site specific environmental reviews of impacts and ability to accommodate flows from the proposed project. No further mitigation measures are required.

d. Public Schools

Existing Conditions

The Red Hook Central School District was organized as a merger of a number of smaller school districts. The District encompasses approximately 90 square miles and includes most of the Town of Red Hook, and portions of the Towns of Rhinebeck and Milan in Dutchess County as well as Clermont and Livingston in Columbia County (see Figure III-9). A small portion of the southwest corner of the Town of Red Hook is located in the Rhinebeck Central School District; however the majority of lands in this area are encumbered by a conservation easement that prohibits further development. With the exception of the elementary school, which is located in the Town, all of the Red Hook Central School District facilities are located in the Village of Red Hook.

Currently the school system is organized into three different levels of grades located in three school facilities. The Mill Road Elementary School (K to grade 5) was built in 1968 and houses grades K-2 in a primary wing and grades 3-5 in an elementary wing. The elementary school has a current enrollment of 939 students. The original central school, now the Linden Avenue Middle School, currently houses grades 6-8 and has a current enrollment of 516 students. Current enrollment in the Red Hook High School, built in 1962, is 776 students[33].

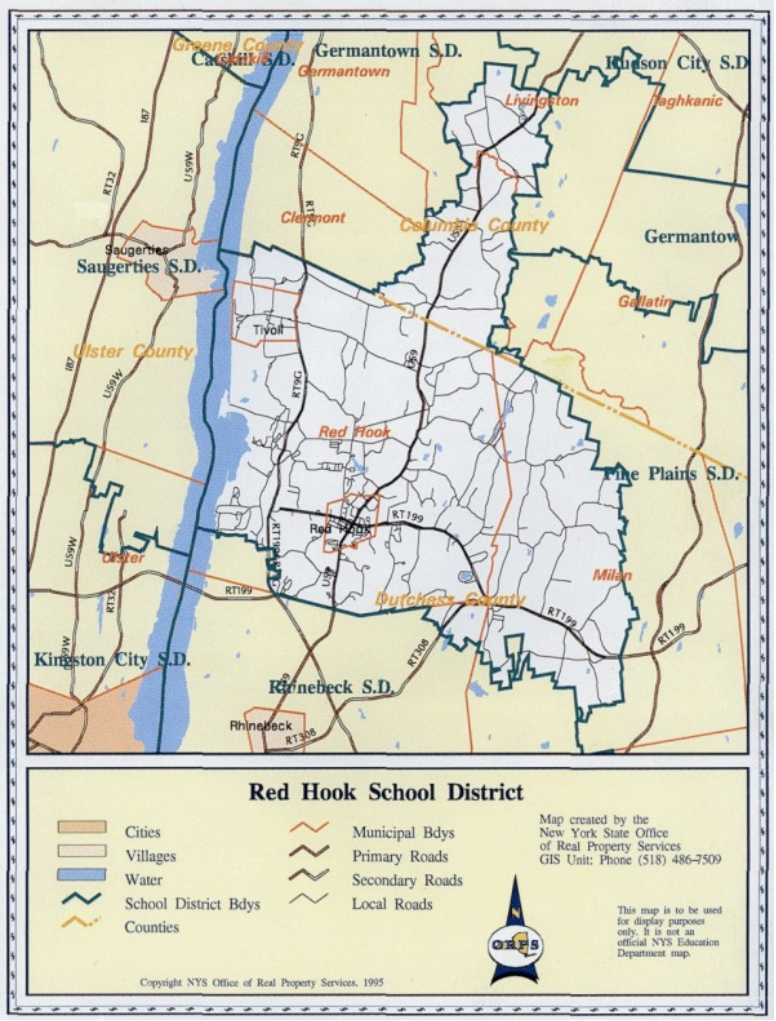

Figure III-9: Red Hook Central School District

Total enrollment in the Red Hook Central School District is currently 2,231 students. Enrollment in recent years has remained relatively stable, with only slight increases and decreases in the last five years. Previously, the District experienced a steady enrollment growth at an annual rate of 2.5%. The District has a teaching staff of 215 and a support staff of 179.

In 1999, voters approved a $28 million bond referendum for a comprehensive school building project to upgrade existing District facilities. In 2009, a $15 million roofing project was completed.

[33] According to information provided by Bruce T. Martin, Business Administrator of the Red Hook Central School District.

Potential Impacts

The Fiscal Impact Analysis (Appendix H) includes a detailed projection of future operating costs for the Red Hook Central School District under the No Action Alternative (i.e., the current Zoning). At full build-out, it is projected that the additional 2,479 new school-age children[34] generated by new residential construction under the No Action Alternative would more than double the School District's current enrollment and would require an increase of approximately $28,839,930 in operating costs annually. These new costs would be partially offset by the $17,340,946 in additional property tax revenues generated by the new residential growth. However, the net result would be an annual loss of $11,498,983. It should be noted that this does not include the cost of capital improvements that may be required due to growth from new residents and school-children.

Reducing the total future build-out would result in smaller increases to the school budget as compared to the No Action Alternative. Residential development typically does not pay for itself with respect to school taxes. Each new household typically generates greater costs to the school district than it generates in revenue. However, by reducing the potential future build-out and by providing a range of housing options for different households in different life-cycle points, it is possible to generate property tax revenue without significantly increasing the costs to the school district. Housing for young singles or couples or empty-nesters are examples of residential types that generate property tax without generating significant numbers of school-age children.

The Proposed Action, which includes the TND District with its requirement for a range of housing types, which includes additional commercial development, and which reduces the potential build-out of the Town, would also reduce and therefore minimize potential impacts to the school district. The Fiscal Impact Analysis estimates that the 940 school-age children generated by new residential construction under the Proposed Action would increase school district appropriations by approximately $10,929,780, of which an estimated $6,433,159 would be offset by the increase in property tax revenues, leaving a net loss of $3,975,266 annually. This loss is significantly less than the annual $11,498,983 loss generated by the current Zoning.

Proposed Mitigation Measures

The Proposed Action would significantly diminish the future tax burden in comparison to the current Zoning. No mitigation is required.

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[34] The Build-Out Analysis prepared for the Town by GREENPLAN, Inc. (Appendix F herein) found the potential for a total of 3,588 new single family dwellings in the study area under the current Zoning regulations.

F. Cultural and Historic Resources

a. Historic and Archaeological Resources

Existing Conditions

Red Hook has a rich cultural past spanning over 300 years of European settlement and thousands of years of prehistoric habitation. This legacy is recognized in a nationally significant historic district and many scattered historic sites throughout the Town. The Hudson River National Historic Landmark District[35] was designated by the US Secretary of the Interior in 1990 and is one of the nation's largest landmark districts. Its aim is to preserve the great estates region of the Hudson River Valley. The National Park Service describes the District as holding "a unique position in the settlement and social history of the nation. Sedate Dutch homesteads, rustic German farms, industrious Yankee towns, and Gilded Age mansions all contribute to a rich landscape fabric, remarkable for its integrity and its preservation." The District includes over 500 contributing structures and features, and two sites (Montgomery Place and Rokeby) which are individually listed on the State and National Registers in Red Hook. Most of the estates included in the District would individually meet the criteria for listing on the State and National Registers, but they gain additional significance from their grouping along the Hudson River. The District, which draws 500,000 visitors annually, also has significant economic benefits for the region. In 1997, a Marist College-Greenway Council Survey estimated that the annual economic impact of these visitors was as much as $250 million.

Outside the National Historic Landmark District, the following properties in the Town of Red Hook are individually listed on the National Register of Historic Places:

Heermance (Bulkeley) Farmhouse

Hendrick Martin Stone House

St. Margaret's Orphanage

Parker Training Academy Dutch Barn

The New York State Office of Parks, Recreation and Historic Preservation (OPRHP), maintains an inventory of known sites where historic and prehistoric artifacts have been

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35 This district was preceded by the designation of the Sixteen Mile Historic District, which was listed on the State and National Registers of Historic Places in 1979. It is composed of thirty contiguous river-front estates associated with the landed aristocracy in the Hudson Valley during the eighteenth, nineteenth and early twentieth centuries, and encompasses properties in the town of Clermont in Columbia County and the towns of Red Hook, Rhinebeck and Hyde Park in Dutchess County. The portion of the District in Red Hook extends the entire length of the Town along the Hudson River, from the river to east of Route 9G, and includes architectural and landscape masterpieces of the Valley such as Teviot, Ward Manor, Cruger Island, Massena, Edgewater, Sylvania, Atalanta, Montgomery Place and Rokeby. These homes are exceptional national treasures that represent the architectural and social history of the times.

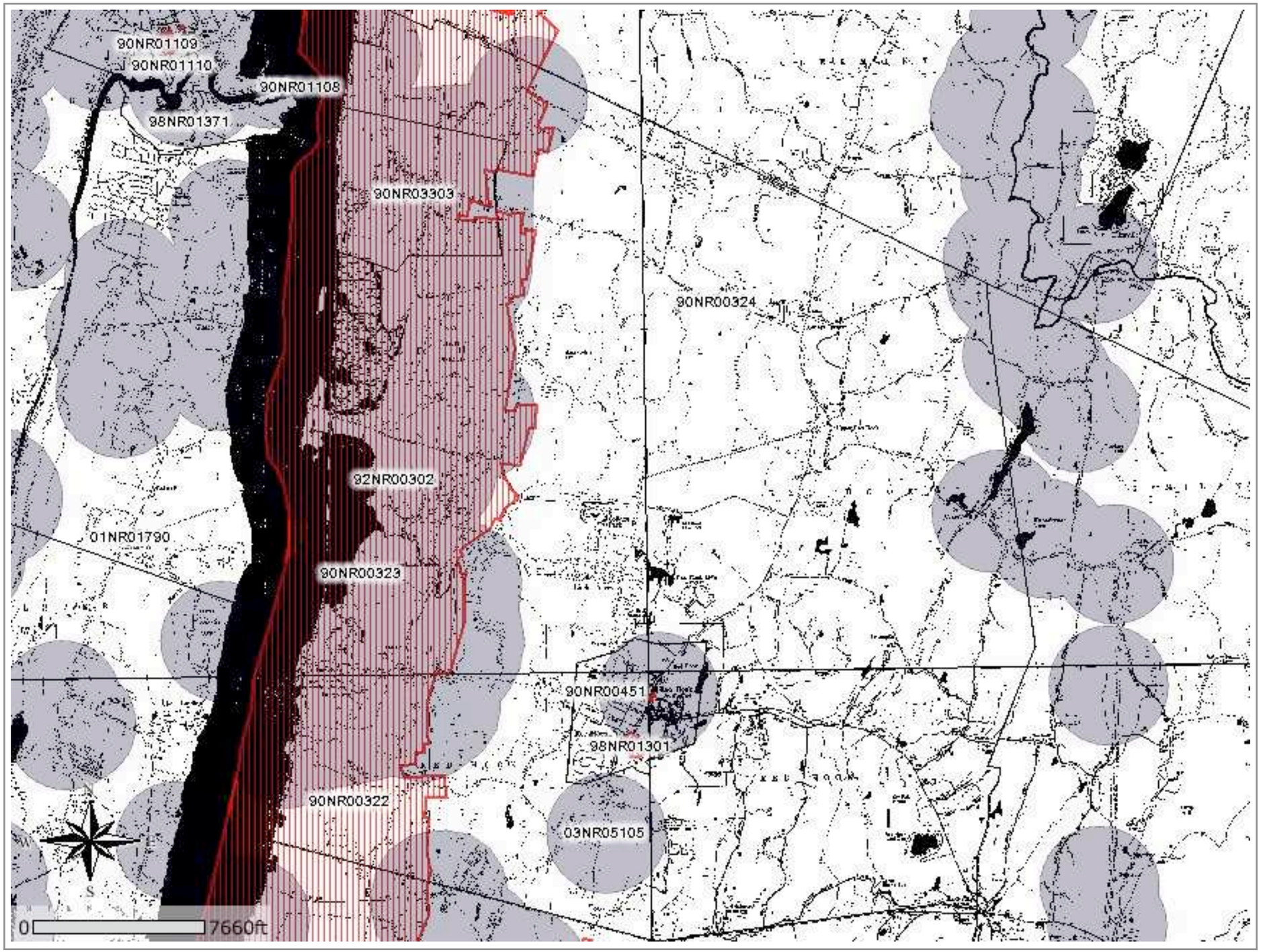

Figure III-10: National Register Sites and Archaeological Sensitive Areas, Town of Red Hook

Data Source: New York State Historic Preservation Office

Legend

- National Register Sites
- Archaeo-sensitive Areas

Prepared for the Town of Red Hook by

GREENPLAN

January 2010

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discovered and reported across the state. While this inventory is not a complete listing of all known archaeological sites in the state, it is utilized by towns, counties and state and federal agencies to help determine archaeologically sensitive areas and identify where a survey would be appropriate. All of the site specific information in the state inventory is sensitive and is exempt from the Freedom of Information Act; detailed information regarding specific archaeological sites cannot be revealed in this document.

A review of the NYS site inventory indicates that archaeologically sensitive areas in the Town (areas with the potential for additional archaeological discovery) are primarily associated with the National Historic Landmark District and with historic sites listed on the National Register in the Town and Village of Red Hook. Archaeologically sensitive areas contain one or more variables that make them likely locations for evidence of past human activities.

Figure III-10 identifies the location of all National Register sites and the general location of archaeological sensitive areas in the Town of Red Hook.

Potential Impacts

Potential impacts to historic and cultural resources could result whenever development occurs in proximity to historic sites listed on the State and National Registers of Historic Places and in archaeological sensitive areas. It should be noted that all areas of the Town that would be affected by the proposed amendments currently permit development and associated land disturbance. The potential impact of development on historic and cultural resources would thus not be increased by the Proposed Action.

Proposed Mitigation Measures

In areas of the Town in proximity to historic sites and in archaeologically sensitive areas, the potential impacts to historic and cultural resources that may occur as a result of development activities permitted by the Zoning Law must be investigated on a site specific basis in accordance with the standards for cultural resource investigations adopted by OPRHP. Where archaeological or historic artifacts are discovered, such impacts must be avoided or mitigated in accordance with OPRHP requirements or as a result of a local SEQR determination by a Lead Agency..

Cultural resource investigations are divided into three phases: Phases I, II, and III. Phase I is subdivided into a Phase IA and Phase IB. The Phase IA consists of a Literature Review and Sensitivity Assessment, which includes a search of published and unpublished sources of historic and prehistoric information in the files of the Historic Preservation Field Services Bureau of the OPRHP, the Dutchess County Historical Society, and other sources to determine known historical development and documented cultural resources. For any area that will potentially be disturbed by a proposed action, a Phase IB Field Investigation is

conducted, which involves a systematic, on-site field inspection to verify the presence or absence of archaeological or historic artifacts. The most common method for conducting a Phase IB is systematic subsurface testing, which requires the excavation of small test pits at regular intervals throughout the area of potential effect (the area of a project site that will be subject to ground disturbance during construction and any area involved with proposed improvements). The soil from these pits is examined for subsurface cultural remains. Significant findings can trigger the requirement of more extensive investigation in a Phase II analysis, which may include a Phase III Mitigation Plan. Mitigation or avoidance of that portion of the site where remains are known or suspected may be accepted by OPRHP or the Lead Agency under SEQR, which allows the modified project to continue.

All development proposed in any area of the Town identified by the OPRHP as sensitive for archaeological resources shall be required to submit a Phase I cultural resource investigation conducted by a qualified archaeologist to determine whether the site contains archaeological or historic artifacts. In cases where remains are known or suspected, mitigation or avoidance of that portion of the site shall become part of the project proposal, subject to review by OPRHP. These measures will ensure that potential impacts on cultural resources, resulting from development activities permitted by the Proposed Action, are mitigated to the greatest extent practical.

G. Community Character

Existing Conditions

An understanding of the character of a community is central to an assessment of potential environmental impacts as a result of proposed planning and zoning actions. But what does "community character" mean? Under the New York State Environmental Quality Review Act (SEQR), community character is an integral part of the definition of the environment. "Environment means the physical conditions that will be affected by a proposed action, including land, air, water, minerals, flora, fauna, noise, resources of agricultural, archaeological, historic or aesthetic significance, existing patterns of population concentration, distribution or growth, existing community or neighborhood character, and human health." [see 6 NYCRR 617.2(l)]. There are several "Criteria for Determining [the] Significance" of an action under 6 NYCRR 617.7(c) of the SEQR regulations, which include topics to be considered during environmental reviews under this overall heading. They include the following:

- "The creation of a material conflict with a community's current plans or goals as officially approved or adopted.
- The impairment of the character or quality of important historical, archaeological, architectural, or aesthetic resources or of existing community or neighborhood character.

- The creation of a hazard to human health.

- A substantial change in the use, or intensity of use, of land including agricultural, open space or recreational resources, or in its capacity to support existing uses.

- The encouraging or attracting of a large number of people to a place or places for more than a few days, compared to the number of people who would come to such place absent the action."

This DGEIS does not attempt to redefine Red Hook's community character but is based solely upon how that character has been defined in officially approved or adopted planning and zoning documents. Red Hook's *Comprehensive Plan* begins with a concise statement of the community's character:

> "Although it is experiencing moderate population growth, the Town of Red Hook remains predominantly rural in character, with many distinguishing scenic resources, including country roads; open views of agricultural fields, mountains and woodlands; streams and other waterways; and its Hudson Riverfront setting. The rural character and scenic features are identified as important elements contributing to the sense of place and the quality of the living environment within the Town. The community's objective is to maintain this overall sense of rural character while accommodating the inevitability of growth and change. . . "

The *Town of Red Hook, Village of Red Hook and Tivoli Open Space Plan* adopted by the Town Board in 2006, funded by the Hudson River Valley Greenway and a joint undertaking of the Town and two Villages, discusses the character of the Red Hook community as follows:

> "The Red Hook community is twice blessed. First it is endowed with a bounty of open space resources that range from tidal wetlands to productive farmland, and include a variety of scenic, recreational and historic resources. Second, the Red Hook community is fortunate because its residents realize the value of these resources. Their acknowledgment of these values is demonstrated in the community survey where 88% said 'yes' to the question do you believe the community should actively pursue protecting open space as an 'investment' for keeping the community fiscally healthy and affordable?...Protection of farmland and other ecological, recreational, and scenic resources assures continuance of community character. A significant portion of the open space recommended for protection is productive farmland, important because agriculture occupies one third of the community's land area and contributes significantly to the rural character and scenic working landscape of the community. Protection of open space land is necessary if we are to control sprawl development, protect wildlife habitat, maintain historic character, preserve scenic and rural roads, provide passive recreational opportunities, maintain water

quality, preserve architectural and archaeological resource, and protect scenic corridors and views."

Further guidance on how Red Hook has defined the character of the community comes from several of the Purposes of the *Town of Red Hook Zoning Law* [see § 143-3] as follows:

> "To encourage the conservation and sound management of natural, scenic and historic resources throughout the Town in order to preserve the integrity, stability and beauty of the community and the value of the land.
>
> To protect the character of specifically identified scenic and historic resources and sensitive environmental areas including groundwater, streams, wetlands, floodplains and significant wildlife habitats.
>
> To foster the continuation and diversification of farm activities and preservation of irreplaceable agricultural land resources.
>
> To foster the creation of economic development activities within the town consistent with rural small-town character yet capable of providing goods, services and jobs to town residents."

Evidence of how Red Hook has defined its character can be found throughout all three of these relevant planning and zoning documents, but the excerpts provided above provide a relevant means of observing and learning about how the community has defined itself in the past. The Subdivision Regulations, adopted by the Town Planning Board and approved by the Town Board, as well as a number of other planning studies and related documents[36] prepared in the past also provide consistent evidence of Red Hook's characterization of and commitment to protect the character of its community. Readers who are interested in learning more about this topical area are encouraged to consult the above and footnoted documents, which are referenced herein as a description of the character of the Red Hook community.

Potential Impacts

The question of whether the Proposed Action is consistent with the Town's *Comprehensive Plan, Open Space Plan* and *Zoning Law* is to be addressed by this section. Will the Proposed Action have the potential to impair the rural and scenic character of the Town as described in the *Comprehensive Plan, Open Space Plan* and *Zoning Law*? Will it create a hazard to human health? Will it cause a substantial change in the use or intensity of use of land? And finally,

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36 For instance, see "Recommendations of the Land Use, Conservation and Development Working Group Report," "Trails Feasibility Study," Purchase of Development Rights Program (Chapter 56 of the Red Hook Code), Community Preservation Plan legislation (i.e. New York State Town Law Section 64-h and Chapter 57 of the Red Hook Code).

will it encourage or attract a large number of people to a place for more than a few days absent such action?

In terms of community character, the existing Zoning can be expected to change the Town from a predominantly rural community to a more suburban-like community. Houses would sprawl over the agricultural and other scenic landscapes and commercial strip development would continue to line the Route 9 corridor south of the Village of Red Hook in an auto-dependent manner. The Proposed Action on the other hand, would direct new growth into a compact pattern that continues and strengthens the Town's existing rural and agricultural character by concentrating mixed uses in a pattern of compact growth through the retrofitting of an almost exclusive commercial district while adding protections and reducing densities in the Town's most rural and agricultural areas. The gradual transformation of a commercial strip into a traditional walkable Main Street more in keeping with small town character, as would result from the Proposed Action, is illustrated in Figure III-11.

It is important to note that the Proposed Action does not rely exclusively on large minimum lot sizes to retain the Town's community character. Such a zoning strategy is often referred to as "large-lot zoning" and does not, on its own, result in beneficial effects to community character. Large-lot zoning is often blamed for continuation of suburban sprawl. The Proposed Action envisions a distribution of new residential development and mixed-uses between priority growth areas and the lands outside these areas. This sort of balanced and comprehensive management of growth is more likely to result in longer-term benefits and preservation of community character.

The Traditional Neighborhood Development (TND) District would permit development at levels that match the prevailing pattern of existing development within the village areas, which is consistent with the character of Red Hook's settlements. The TND District would accommodate a more modest level of growth in the Town than would be possible now under Red Hook's more suburban-oriented Zoning Districts pattern as outlined in the Build-out analysis. There would be no hazards to human health created by the TND District and the levels of development achievable townwide under the Proposed Action would be less intense than the existing Zoning could accommodate. While the numbers of people attracted to the proposed TND District would be greater than what could be accommodated now, the existing non-residential districts in this area of the Town are not fully built out and could accommodate significant additional non-residential and residential development activity under the No Action Alternative.

The TND District would permit a compact, mixed-use neighborhood where residential, commercial, and civic buildings are in close proximity to each other. This is a planning concept that is based on traditional small town development principles and would enhance the existing small town, rural community character of Red Hook. By allowing for village scaled development in and adjacent to existing settled areas, density in areas outside the

villages can be reduced without adverse impacts on housing affordability. A diversity of dwelling options would be provided in the TND District, including allowances for apartments, cottages, duplex units, townhouses and single family dwellings. The apartments and cottages would provide for a more affordable housing option than is possible now with the Town's predominant pattern of single family dwellings. Moreover, row or attached dwellings would be added as a permitted use in the R1 and Hamlet (H) Zoning Districts. These measures are intended to ensure an adequate supply of more affordable housing types in the Town.

Coupled with the use of conservation subdivision throughout the Town, the proposed Zoning provisions would ensure that the greenbelts defining the edge of the villages are maintained. In terms of the southern gateway into the Village of Red Hook, the proposed TND Office-Industrial Subdistrict would require a minimum 200 foot setback and landscaped buffer from US Route 9 to effectively screen structures and parking on a year-round basis from views from Route 9 through the preservation of existing vegetation and landforms, and by substantial new plantings. These measures are intended to ensure that the greenbelt south of the TND is maintained. Design standards in the TND District's form-based Zoning amendments would ensure that new development follows the design principles and patterns of development that the villages were originally based upon. Preservation of the historic "town and country" development pattern of the Town, which will result from the proposed Zoning, is a beneficial impact on community character.

The proposed village-scale development in the TND District could have the potential to have adverse impacts on adjoining lands resulting from increased noise, light and air quality impacts. These potential impacts can and should be addressed by site-specific SEQR reviews of any development proposed in the future in the TND District. In any case, the Town already has performance standards for noise found in § 143-25 of the Zoning Law in addition to standards for outdoor lighting found in § 143-27.1. Potential air quality impacts from increased traffic would be minimized or avoided altogether by the provision of a mix of land uses, interconnected streets, sidewalks and small lots, all of which would create a pedestrian-friendly environment and encourage walking. The existing Zoning, on the other hand, forces people to drive by separating different land uses and by locating houses at a distance from each other, frequently on cul-de-sacs that are not internally connected to neighboring subdivisions. The proposed Zoning would thus include provisions that would avoid or minimize potential impacts of the proposed TND District on noise, light, and air quality.

The proposed Agricultural Business District would enable and encourage agriculture to continue to thrive in the Town by permitting farmers greater business opportunities, such as larger farm markets and a wide range of agri-tourism businesses, to enhance farm income. This is consistent with the goals of the *Comprehensive Plan, Open Space Plan,* and *Zoning Law.* Many of the new agriculturally related uses would receive a streamlined review process. Farmers could choose different options for their properties. Under the conservation option,

A. Existing Conditions

B. Sidewalks, lighting

C. Street trees

D. New mixed-use buildings at sidewalk

E. New mixed-use buildings and patterned street paving

Mobile, Alabama

A.. Existing Conditions

B. Public Street Improvements

C. Sidewalk-oriented shopfronts

D. Mixed-use buildings at sidewalk

Lakewood, Colorado

A. Existing Conditions

B. Sidewalk-oriented neighborhood shops, street trees

Memphis, Tennessee

Figure III-11: Transforming Commercial Strips to Main Streets

Source: UrbanAdvantage

Town of Red Hook Centers and Greenspaces DGEIS

they could participate in the Town's PDR program, community preservation fund or incentive zoning program, to sell their development rights at the rate allowed under the current zoning as depicted on the 1999 Zoning Map, while retaining the right to build some new homes on the farm in a farmstead complex without the need to subdivide. Under the limited development option, farmers could develop their lands at a reduced density based on a sliding scale using conservation subdivision design so that new residential development did not adversely impact other farms in the area.

The Agricultural Business District would provide beneficial social, economic and environmental impacts as follows:

1. **Consistency with Red Hook's Existing PDR Program.** Communities that have PDR programs need zoning that promotes and protects agriculture to protect public investments in preserved farms. Without this type of zoning, development will be drawn to the perimeter of conserved farms by those who seek perpetual views, creating additional conflicts for farmers and fragmenting the critical masses of farmland that are necessary for the industry's long-term future. Such development constitutes an unreasonable burden for those who have made long-term commitments to remain in agriculture through their participation in the PDR program. Farmers with preserved farms come to support zoning that protects agriculture as they know that it can reduce development densities around them and result in the siting of residences in ways that will minimize conflicts.

2. **Protection of a Critical Mass of Farmland.** Individual farms cannot survive as farms over the long-term unless they are part of a critical mass of usually several hundred acres of farms. This is because larger acreages are necessary for farm-support businesses to stay solvent and continue to serve the farm community. A critical mass of farmland also protects the interior farms from the conflicts of residential development at the outer perimeter. Residentially preferred zoning (i.e., medium density rural-residential zoning such as currently exists) is often seen as offering farmers more choices – the choice of farming or the choice of developing subdivisions. In actuality, it takes from farmers the choice of farming over the long-term, leaving them ultimately only the choice of developing. The Agricultural Business District is a kind of mutual insurance policy for farmers in that it limits each farmer's ability to develop but also limits the ability of his or her neighbors to develop, thus providing farmers with the real choice of remaining in farming over the long-term. Rural-residential zoning, which is what the Town of Red Hook currently has, will ultimately force farming out of the Town if unchanged. The Agricultural Business District includes several critical masses of farms that would be protected over the long-term, while omitting other lands that are more suitable for other compatible development.

3. **Greater Opportunities for Diversification on the Farm.** In exchange for limiting residential development within the Agricultural Business District, a number of new opportunities would be created for farmers to have farm-related uses and businesses that can provide them with supplemental means of income that may help to make the difference in profits on the farm. These uses have been specifically developed for the Town of Red Hook and go well beyond what most other communities allow in rural or even agricultural zones. In many cases, these uses are permitted in few if any other zones within the Town, providing farmers within the Agricultural Business District an advantage in attracting business. Farm-related uses and businesses do not pose the conflicts for farming that neighboring residences do.

4. **Agricultural Zoning Stabilizes the Tax Base.** It is well established that farming contributes more to the local tax base than it requires in services, making it a net revenue-producer. Over the past 20 years, studies by Cornell University, the American Farmland Trust, Rutgers University Center for Urban Policy Research, Scenic Hudson and many others have consistently shown that agricultural, commercial, industrial, open space and forestry land uses contribute more in taxes and other revenues than they utilize in public service expenditures. Most types of residential development, on the other hand, require more in services than they produce in taxes, meaning that residential development is subsidized by the public at large. In other words, new residential development does not pay its own way. If the conversion of agricultural lands to residential development continues, tax rates could rise dramatically as shown in the Fiscal Impact Analysis. It is therefore in the public's overall interest that residential development be intelligently managed. The Proposed Action will stabilize land values and taxes and result in residential development directed towards the Village where such uses can more efficiently provide needed services and where it stimulates economic development in existing centers. Stabilized land values have the benefit of permitting young farmers to enter into farming more easily. The Agricultural Business District will not reduce a farmer's ability to secure farm loans as such loans are made based on the demonstrated productivity of the land involved. At the same time, the Town has enough proximity to the New York metropolitan area that, even with limited development opportunities, farmland is likely to retain and not lose its value.

5. **The Agricultural Business District is Legitimate, Legal and in Common Use in Many States**. Zoning designed to protect agriculture has been in common use in many states around the country for over 25 years. Just like any other legitimate land use, it is permitted by law and has been upheld at many state and federal Supreme Court levels. In New York State, it is even constitutionally protected by Article XIV of the State Constitution. The Town has demonstrated that agriculture is a reasonable and highly desirable use through consistent *Comprehensive Plan, Open Space Plan* and *Zoning Law* policy statements.

6. **The Agricultural Business District has been Carefully Crafted.** The Agricultural Business District is carefully prepared to concentrate on larger landholdings, currently operating farms, lands with a high proportion of prime agricultural soils and soils of statewide significance, and certain other parcels at the perimeter which were necessary to include to support the integrity of the District, among other criteria. The boundaries of the Agricultural Business District were carefully drawn to include these areas and no others. At the same time, the District uses a sliding scale approach in the permitting of dwellings such that the relatively few smaller parcels within the District are entitled to proportionately more dwellings. The larger ownerships that have more limits on development are the ones that would be more likely to benefit from farm-related uses and easement sale.

7. **Financial Compensation is an Option.** Many communities across the country use agricultural zoning, that prohibits subdivision for residential purposes, and they do not offer PDR as an option for financial compensation to farmers. Therefore, farmers in the Town of Red Hook are fortunate that the local PDR and Community Preservation Plan programs, as well as the State and County's farmland protection programs, are available. In addition, the proposed incentive zoning program would offer farmers an additional avenue of compensation.

8. **The Hudson Valley Region is the Fastest Growing Region in the State**. The Town is in the path of growth of the expanding suburbs in southern Dutchess County and counties further to the south. Already the pressures are evident in the extensively parcelized land use pattern in the Town. The Town is at the edge of advancing growth with several thousand units of residential development planned or recently approved in nearby municipalities. A majority of the residents of the Town supported creation of a local PDR and CPF programs as evidenced at the ballot box, and a majority of townspeople spoke in favor of farmland protection in surveys conducted for the Town's *Comprehensive Plan* and *Open Space Plan*, and during the extensive public participation process that occurred during preparation of the Recommendations of the Land Use, Conservation and Development Working Group and the proposed Centers and Greenspaces Plan.

The proposed Agricultural Business District will not cause a substantial change in the use or intensity of use of land but rather will allow for a reduction in the intensity of use of land over what could occur under the existing Zoning. It will not encourage or attract a large number of people to a place for more than a few days absent such action but will allow for a reasonable increase in the use of agricultural lands for agricultural purposes, consistent with the Town's *Comprehensive Plan, Open Space Plan, Zoning Law*, as well as Article XIV of the New York State Constitution, which states that: "The policy of the state shall be to conserve and protect its natural resources and scenic beauty and encourage the development and improvement of its agricultural lands for the production of food and other agricultural

products. The legislature, in implementing this policy, shall include adequate provision for the abatement of air and water pollution and of excessive and unnecessary noise, the protection of agricultural lands, wetlands and shorelines, and the development and regulation of water resources."

Encouraging agriculture in the Town has the potential to create a hazard to human health for several reasons. Agriculture is an industry and, while many farms throughout the nation have moved away from the use of pesticides and artificial fertilizers by adopting certified organic farming methods, many farms, including some in Red Hook have not. Thus, potentially dangerous chemical substances are used by farmers in the production of food and other crops. This will not create a hazard to human health that is not already present on the Town's existing farms nor is it an unnecessary hazard that has been determined by the State of New York to exceed reasonableness based upon the fundamental need for the growing food and other crops.

New York State Agriculture and Markets Law prohibits local laws, including zoning laws, to unnecessarily restrict farm operations. State Law also addresses whether the local law limits, restricts or prohibits the production, preparation and marketing of any crop, livestock or livestock product as a commercial enterprise. Pesticides and artificial fertilizers are commonly used throughout the Town by residential, commercial industrial and agricultural land uses at present. What must be examined from a planning and zoning standpoint is whether agriculture would be subjected to more intensive reviews or requirements than other land uses without a demonstrated link to a specific and meaningful public health or safety standard designed to address a real and tangible threat. Red Hook's proposed Agricultural Business District would allow agricultural land uses to continue, to expand and to prosper, provided they used "generally accepted agricultural and farm management practices." This is the threshold that New York State uses to judge whether agriculture can enjoy the protections embodied by the State Constitution and New York State Laws.

In regards to pollutant discharge from chemical substances, if it is found that a farm operation is in contravention of "generally accepted agricultural and farm management practices," the Town of Red Hook may request a "Commissioner's Opinion" from the Department of Agriculture and Markets, which will evaluate the situation on a case by case basis.

Proposed Mitigation Measures

Since the Proposed Action would not result in any significant adverse impacts to community character, no mitigation is required.

H. Economic and Fiscal Considerations

Existing Conditions

Fairweather Consulting conducted a Fiscal Impact Analysis (see Appendix H) of the current Zoning, the Proposed Action and the alternatives outlined in the Scoping Document for this DGEIS. For each option, the analysis includes a review of the costs and revenues associated with new development for the Town of Red Hook and the Red Hook Central School District (RHCSD)[37]. For the Town, the analysis reviews the impact of new costs and revenues on the Town's Townwide (Town) funds (including the General or Fund A budget) and the Town's Outside (TOV) Funds (including the General or Fund B budget and the Highway or Fund DB budget). The analysis does not estimate the cost of capital improvements that may be required due to growth from new residents and school children, nor does it estimate how inflation will affect costs and tax revenues of the jurisdictions. It is thus based on conservative assumptions. The analysis does not include special improvement districts in the Town, such as lighting, drainage, sewer and water districts, since those districts' revenues would be driven by user charges, not property taxes.

Potential Impacts

Based on current *per capita* expenditures, the new residents added to the Town's population upon build-out under the No Action Alternative (i.e., the current Zoning) as estimated by the Build-Out Analysis would increase the Town's Townwide (general budget) appropriations by $855,766, and the Town's TOV (general and highway budgets) appropriations by $1,188,316. The addition of new school children under this scenario would increase school district appropriations by approximately $28,839,930, using current per-pupil estimates.

These new costs would be partially offset by the additional property tax revenues generated by the Town's residential growth. As estimated by the Fiscal Impact Analysis, under the No Action Alternative, the added value of new housing units would generate an increase of $805,821 in the town's Townwide (general budget) revenues and $1,128,261 in the town's TOV (general and highway) budget. Property taxes on the new units would generate an estimated $17,340,946 in revenues for the RHCSD.

In net terms, the balance of costs for each jurisdiction (Townwide, TOV, and RHCSD) under the No Action Alternative exceeds new revenues, as shown in Table III-21. The net result would be a total annual loss of $11,608,983.

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37 Additional information about the Red Hook Central School District can be found in Section E.d. of this DGEIS.

TABLE III-21: NET FISCAL IMPACT OF CURRENT ZONING					
Municipality/ District	New Appropriations	Purchase of Development Rights	New Property Tax Revenues	Other Revenues	Net Fiscal Impact
Townwide	$(855,766)	$-	$805,821	$-	$(49,945)
TOV	$(1,188,316)	$-	$1,128,261	$-	$(60,054)
RHCSD	$(28,839,930)	$-	$17,340,946	$-	$(11,498,983)
TOTAL FISCAL IMPACT:					**$(11,608,983)**

The Proposed Action would significantly reduce the number of new dwelling units that could be developed within the Town. It would also permit an increase in commercial development in the TND District, creating the potential for 140,000 square feet of new commercial space in the Commercial Center of the TND District, and an additional 180,000 square feet of hotel and light industrial uses in the Office-Industrial Subdistrict. Based on current *per capita* expenditures, the new residents added to the Town's population upon build out under the Proposed Action would increase the town's Townwide (general budget) appropriations by $340,620, and the town's TOV (general and highway budgets) appropriations by $474,192. The addition of new school children under this scenario would increase school district appropriations by approximately $10,929,780, using current per-pupil estimates.

As with the current Zoning, these new costs are partially offset by the additional property tax revenues driven by the Town's residential growth. Under the Proposed Action, new development would drive an increase of $323,171 in the Town's Townwide (general budget) revenues and $452,484 in the Town's TOV (general and highway) budget. Property taxes on the new units would generate an estimated $6,954,515 in revenues for the RHCSD.

A final factor to consider related to the Proposed Action is the fiscal impact associated with purchase of development rights (PDR) in the AB District, and incentive zoning in the TND District. The Fiscal Impact Analysis estimates that the total cost of development rights under the Proposed Action would be $7,396,500. Incentive zoning would reduce this cost by contributing $4,800,000 in new revenues, leaving a total one-time cost for PDR of $2,596,500. If the Town financed this one-time cost, the annual payment (assuming a 20-year term, and a 4.75% annual interest rate) would be approximately $204,000. However, annual CPA revenues received by the Town (estimated at $150,000 per year) would reduce the debt service payments to $54,000 per year for 20 years.

Note that if the development rights are not purchased from lands in the AB District, the cost of additional residents and school age children resulting from additional residential development would need to be added to the estimates. These costs, unlike the borrowing costs for PDR, would be ongoing on an annual basis.

In net terms, the balance of costs for each jurisdiction (Townwide, TOV, and RHCSD) under the Proposed Action exceeds new revenues, as outlined in the Table III-22 below. However, the net fiscal impact of the Proposed Action represents a significant improvement over the current Zoning.

TABLE III-22: NET FISCAL IMPACT OF PROPOSED ACTION

Municipality/ District	New Appropriations	Purchase of Development Rights	New Property Tax Revenues	Other Revenues	Net Fiscal Impact
Townwide	$(340,620)	$(53,956)	$323,171	$-	$(71,405)
TOV	$(474,192)	$-	$452,484	$-	$(21,708)
RHCSD	$(10,929,780)	$-	$6,954,515	$-	$(3,975,266)
TOTAL FISCAL IMPACT:					**$(4,068,379)**

Proposed Mitigation Measures

The Proposed Action would significantly diminish the future tax burden in comparison to the current Zoning. No mitigation is required.

CHAPTER IV: ALTERNATIVES

The State Environmental Quality Review Act (SEQRA) requires the evaluation of a range of reasonable and feasible alternatives, including the No Action alternative, in addition to the evaluation of the Proposed Action. This Chapter describes the alternatives, some of which were developed as part of the Town Board's deliberations during preparation of the Proposed Action.

A. No Action Alternative

The Town Board may consider taking no action with respect to the proposed amendments to the Zoning Law, Subdivision Law and *Comprehensive Plan*. A decision to take no action would mean that the existing Zoning Law, Subdivision Law and *Comprehensive Plan* would remain in effect. The Town Board, the Intermunicipal Task Force of the Town of Red Hook and the Villages of Red Hook and Tivoli, and members of the public have engaged in extensive research, analysis and discussion concerning the future of the Town. The No Action Alternative would result in a lack of public benefits outlined in Chapter II of this DGEIS.

The impacts of the No Action Alternative have been discussed in Chapter III above and are summarized here. The build-out analysis estimates that the result of build-out under the existing Zoning would be the addition of 3,588 new single family dwellings units and 11,089 new residents. The impact of this build-out is that the Town's population would more than double to 19,544 people. The 11,089 additional residents, including 2,479 school age children, would require 22 new paid police officers and 18 new full-time firefighters, new town facilities, and more classrooms and other space to accommodate the additional school children. The Fiscal Impact Analysis found that build out under the current zoning would result in a total annual loss in operating costs to the Town and Red Hook Central School District (RHCSD) of $11,608,983.

The dwellings that these new residents would live in would require construction of about 3,500 new septic disposal systems generating more than 1,148,000 gallons of sewage per day discharged into the ground, and these dwellings would also depend upon 3,500 new groundwater wells drawing more than 1,148,000 gallons of water per day. Projected vehicle trips in the Town (generated by the residential development alone) would be more than 34,000 additional trips per day by an additional 7,176 vehicles on the road, and these vehicles would need to travel to or through the Village of Red Hook or on Route 9G.

Under the No Action Alternative, agricultural lands would continue to be converted to residential uses. Piecemeal development of the landscape would result in habitat elimination, degradation and fragmentation, as well as the proliferation of invasive and nuisance species and loss of native biodiversity. Under the No Action Alternative, the Town

would fail to preserve its small-town character; eventually Red Hook would look like a typical suburban community with single-family homes on 1, 1½, 3 and 5 acre lots spread throughout the landscape, and commercial strip development would continue to line the Route 9 corridor south of the Village of Red Hook. Additional direct and indirect consequences of development that would occur as a result of the "No Action" alternative are discussed in Chapter III. These include a lack of consistency with adopted planning documents such as the *Town Comprehensive Plan, Town Open Space Plan, Greenway Compact,* and *Directions: The Plan for Dutchess County.*

B. Modification to Conservation Option of AB District (1)

This alternative evaluates the impacts of the proposed amendments to the Zoning Law but with the modification that the conservation option of the AB District permits a purchase of development rights density bonus of: a) one (1) dwelling unit per five (5) acres; or b) one (1) dwelling unit per six (6) acres.

The impacts of this alternative are the same as the Proposed Action with the following exceptions:

- This alternative would reduce the number of development rights allowed by the conservation option of the AB District. If development rights were sold at a rate of 1 dwelling unit per 5 acres, the conservation option would yield approximately 186 development rights for sale, 58% fewer than the Proposed Action. If development rights were sold at a rate of 1 dwelling unit per 6 acres, the conservation option would yield approximately 129 development rights for sale, 71% fewer than the Proposed Action. A comparison of the Proposed Action with Alternative B is presented in the following Table.

TABLE IV-1: AB DISTRICT, CONSERVATION OPTION* UNDER ALTERNATIVE B

	Number of Development Rights
Proposed Action	441
Alternative B(a) -- 1 du/5 acres	186
Alternative B(b) -- 1 du/6 acres	129

* Assumes development rights are sold from 50% of lands in the AB District, and 50% of lands are developed under the limited development option.

- This alternative would result in fewer development rights for sale, which would result in a smaller fiscal impact than the Proposed Action. The Fiscal Impact Analysis (Appendix G) found that the estimated cost to purchase development rights (PDR) for Alternative B(a) is $3,119,612. Total revenues from incentive zoning is $4,800,000, which is more than sufficient to cover the entire PDR, meaning that the net cost of development rights is $0. The balance of unspent incentive zoning

revenues, $1,680,388, is enough to cover the purchase of an additional 100 development rights. The same net result applies to Alternative B(b), where the remaining balance of incentive zoning revenues could be used to purchase an additional 157 development rights.

- In terms of the fiscal impact, Alternative B is a significant improvement over the current Zoning and a slight improvement over the Proposed Action. See Chart IV-1 at the end of this Chapter for a comparison of the total fiscal impact of Alternative B in comparison to the current Zoning and the Proposed Action.

C. Modification to Conservation Option of AB District (2)

This alternative analyzes the impacts of the proposed amendments to the Zoning Law but with a modification that provides an alternative method to determine the number of development rights that could be sold from lands in the AB District, as follows:

a) Subtract from the total (gross) acreage of the parcel: a) mapped NYS DEC and NWI wetlands; b) acreage subject to a conservation easement or other long-term easement that expressly prohibits development; and c) six (6) percent of the gross acreage as an allowance for roads, drainage features, and lot shape irregularities.

b) Divide the remaining net acreage by the minimum lot size established for the parcel set forth in the 1999 Reference Map. This calculates the total number of development rights the property yields.

This alternative also evaluates an alternative method to sell development rights, permitting landowners to sell development rights from a parcel over time, as follows: at the time of the initial sale of development rights, the total number of development rights would be calculated based on the above method; landowners could sell all or a portion of the development rights; a conservation easement would be placed on the entire property at the time of the first sale of development right(s). The remaining development rights could be sold at a later time.

The impacts of this alternative are the same as the Proposed Action with the following exceptions:

- This alternative would increase the number of development rights allowed by the conservation option of the AB District. Under this alternative, the conservation option of the AB District could yield approximately 531 development rights for sale, 17% more than the Proposed Action. A comparison of the Proposed Action with this alternative is presented in the following Table:

TABLE IV-2: AB DISTRICT, CONSERVATION OPTION* UNDER ALTERNATIVE C	
	Number of Development Rights
Proposed Action	441
Alternative C	531
* Assumes development rights are sold from 50% of lands in the AB District, and 50% of lands are developed under the limited development option.	

- The Fiscal Impact Analysis (Appendix G) found that the estimated cost to purchase development rights (PDR) for Alternative C is $9,055,500. Total revenues from incentive zoning is $4,800,000. Thus, the estimated annual cost (for 20 years) to purchase development rights under this alternative, if financed, is $184,272, the majority of which ($150,000) would be covered by Community Preservation Act (CPA) revenues.

- In terms of the fiscal impact, Alternative C is a significant improvement over the current Zoning and is slightly less advantageous than the Proposed Action. See Chart IV-1 at the end of this Chapter for a comparison of the total fiscal impact of Alternative C in comparison to the current Zoning and the Proposed Action.

Selling development rights from a parcel of land over time may result in an increase or a decrease in the cost of development rights depending on market conditions at the time of sale. However, CPA revenues and revenues generated from incentive zoning will also fluctuate in response to the same market conditions. Thus no significant fiscal impact is anticipated from this aspect of Alternative C.

D. Modification to Limited Development Option of AB District (1)

This alternative analyzes the impacts of the proposed amendments to the Zoning Law but with the modification that the limited development option of the AB District is calculated at: a) one dwelling unit per ten (10) acres using conservation subdivision design; b) one dwelling unit per six (6) acres using conservation subdivision design.

The impacts of this alternative are the same as the Proposed Action with the following exceptions:

- This alternative would increase the number of dwelling units (du) allowed by the limited development option in the AB District. If calculated at 1 du/10 acres, the limited development option would yield an estimated 223 dwelling units, a 14% increase over the Proposed Action. If calculated at 1 du/6 acres, it would yield an estimated 406 dwelling units, more than twice as many as the Proposed Action. A comparison of the Proposed Action with these alternatives is presented in the following Table:

TABLE IV-3: AB DISTRICT, LIMITED DEVELOPMENT OPTION* UNDER ALTERNATIVE D	
	Additional Dwellings
Proposed Action	191 du
Alternative D(a) -- 1 du/10 acres	223 du
Alternative D(b) -- 1 du/6 acres	406 du
* Assumes development rights are sold from 50% of lands in the AB District, and 50% of lands are developed under the limited development option.	

- The greater number of dwellings permitted in the AB District under Alternative D would increase the potential for land use conflicts between farm and non-farm neighbors, and would also result in a greater likelihood of impacting flora, fauna and wetlands in comparison to the Proposed Action.

- In comparison to the Proposed Action, Alternative D(a) would result in a slight increase in population, school age children, traffic, and water usage/sewage generated, as shown in Table IV-8 at the end of this Chapter.

- In comparison to the Proposed Action, Alternative D(b) would result in greater increases in population, school age children, traffic, water usage/sewage generated, and a need for one more police officer and one more fire fighter, as shown in Table IV-8 at the end of this Chapter.

- In terms of the fiscal impact, Alternative D is a significant improvement over the current Zoning and is slightly less advantageous than the Proposed Action. See Chart IV-1 at the end of this Chapter for a comparison of the total fiscal impact of Alternative D in comparison to the current Zoning and the Proposed Action.

E. Modification to Limited Development Option of AB District (2)

This alternative analyzes the impacts of the proposed amendments to the Zoning Law but with a modification that the limited development option of the Agricultural Business District is calculated as follows: one dwelling unit for parcels 0 to 6 acres in size; two dwelling units for parcels > 6 to 40 acres in size; one dwelling unit per twenty (20) acres for parcels greater than 40 acres in size, all using conservation subdivision design.

The impacts of this alternative are the same as the Proposed Action with the following exceptions:

- This alternative would decrease the number of dwelling units allowed by the limited development option in the AB District. With this alternative, the limited development option would yield an estimated 124 dwelling units, 40% fewer than the

Proposed Action. A comparison of the Proposed Action with this alternative is presented in the following Table:

TABLE IV-4: AB DISTRICT, LIMITED DEVELOPMENT OPTION* UNDER ALTERNATIVE E	
	Additional Dwellings
Proposed Action	204 du
Alternative E	124 du
* Assumes development rights are sold from 50% of lands in the AB District, and 50% of lands are developed under the limited development option.	

- The fewer number of dwellings permitted in the AB District under Alternative E would reduce potential land use conflicts between farm and non-farm neighbors, a beneficial impact on agricultural resources. It would also reduce potential impacts on flora, fauna and wetlands.

- In comparison to the Proposed Action, Alternative E would result in a slight decrease in population, school age children, traffic, and water usage/sewage generated, as shown in Table IV-8 at the end of this Chapter.

- In terms of the fiscal impact, Alternative E is a significant improvement over the current Zoning and a slight improvement over the Proposed Action. See Chart IV-1 at the end of this Chapter for a comparison of the total fiscal impact of Alternative E in comparison to the current Zoning and the Proposed Action.

F. Modification to Limited Development Option of AB District (3)

This alternative analyzes the impacts of the proposed amendments to the Zoning Law but with a modification that the limited development option of the Agricultural Business District is calculated at one dwelling unit per forty (40) acres, using conventional subdivision (i.e., without a requirement for conservation subdivision).

The impacts of this alternative are the same as the Proposed Action with the following exceptions:

- This alternative would decrease the number of dwelling units allowed by the limited development option in the AB District. With this alternative, the limited development option would yield an estimated 16 dwelling units, 92% fewer than the Proposed Action. A comparison of the Proposed Action with this alternative is presented in the following Table:

TABLE IV-5: AB DISTRICT, LIMITED DEVELOPMENT OPTION* UNDER ALTERNATIVE F	
	Additional Dwellings
Proposed Action	204 du
Alternative F	16 du
* Assumes development rights are sold from 50% of lands in the AB District, and 50% of lands are developed under the limited development option.	

- Alternative F would result in subdividing agricultural lands into 40 acre parcels, which could result in adverse impacts on agricultural operations by reducing the size of agricultural parcels. This alternative is an example of the "large lot" zoning concept that *Dutchess County Agriculture and Farmland Protection Plan* discourages.

- In comparison to the Proposed Action, Alternative F would result in a slight decrease in population, school age children, traffic, water usage/sewage generated, and fire and emergency service providers, as shown in Table IV-8 at the end of this Chapter.

- In terms of the fiscal impact, Alternative F is a significant improvement over the current Zoning and a slight improvement over the Proposed Action. See Chart IV-1 at the end of this Chapter for a comparison of the total fiscal impact of Alternative F in comparison to the current Zoning and the Proposed Action.

G. Deletion of Limited Development Option of AB District

This alternative analyzes the impacts of the proposed amendments to the Zoning Law but with a modification that the limited development option of the Agricultural Business District is deleted. This alternative is a means to evaluate what the impacts would be if all lands in the AB District sold their development rights.

The impacts of this alternative are the same as the Proposed Action with the following exceptions:

- This alternative would result in a decrease in the number of dwelling units in the AB District and an increase in the number of development rights for sale. If the limited development option were deleted, the AB District would yield approximately 212 new dwellings (retained farmstead units), which is 85 fewer than the Proposed Action, and twice as many (882) development rights.

- Fewer dwelling units in the AB District would have beneficial impacts on agriculture by minimizing the potential for land use conflicts between farm and non-farm neighbors.

- There would also be fewer residents, fewer school age children, and less traffic than the Proposed Action, as shown in Table IV-8.

- The decrease in dwelling units translates into lower *per capita* costs for both the Town and the RHCSD, while the increased number of development rights to be purchased increases the one-time purchase cost for PDR, which translates into an increase in the annual debt payments used to finance the purchase. However, once the debt obligation for PDR had been met, this alternative would be an improvement over the Proposed Action as it would result in fewer ongoing costs to the school district.

H. Increased Development Potential in TND District

This alternative analyzes the impacts of the proposed amendments but with a modification to Table 1 in Section 143-49.1G that would increase development potential in the Residential Neighborhood Subdistrict of the Traditional Neighborhood Development District as follows:

TABLE 1: MAXIMUM HOUSING EQUIVALENT UNITS PER ACRE		
	By Right	**By Incentive Zoning**
Residential Neighborhood Subdistrict	1 unit per net acre	TND House: 6 units per net acre TND Cottage and TND Duplex: 8 units per net acre TND Town house and TND Apartment: 12 units per net acre

The impacts of this alternative are the same as the Proposed Action with the following exceptions:

- The build-out analysis has found that the current Zoning would permit 92 new dwellings in this area of Town. Under Alternative H, 57 dwelling units would be permitted as-of-right, and 463 dwellings would be allowed using incentive zoning[38], a difference of 406 dwellings. Funds contributed by developers to build the additional 406 dwellings would be used to purchase development rights from lands in the AB District, thereby effecting the transfer of building potential from the AB District to the TND District.

- In comparison to the Proposed Action, Alternative H would result in an increase in population, school age children, traffic, water usage/sewage generated, and fire and emergency service providers, as shown in Table IV-8 at the end of this Chapter.

- While the increased number of dwelling units permitted under Alternative H would result in a corresponding increase in residents and school-age children, the increase in incentive zoning payments received by the Town would be sufficient to cover the

[38] 220 TND Houses, 146 TND Townhouses, and 97 TND Duplex/Apartment units.

entire cost of 441 development right with funds left over to purchase an additional 43 development rights.

- As shown in Table IV-6, the estimated water demand of Alternative H would be 147 gpm, approximately 38 gpm higher than the demand for the TND District originally studied by Chazen. Thus, under this alternative, increased typical daily water demand could rise to a daily average of 504 gpm, with peak demand periods requiring field daily yields averaging 678 gpm. The hydrogeologic review of the study area indicates that aquifer recharge refreshing aquifers in this area provides a sustainable annualized groundwater supply likely to average, under future build-out conditions, approximately 2,345 gpm during normal years and approximately 1,641 gpm during drought years. The self-replenishing rate at which aquifer recharge occurs in the study area exceeds Alternative H's water demand rate of 504 gpm by approximately 4.5 times during normal years and by approximately 3 times during drought years. There is thus sufficient renewable groundwater moving under Red Hook's central area to meet the community's present and proposed future water demands under Alternative H.

TABLE IV-6: ESTIMATED WATER DEMAND, TND DISTRICT UNDER ALTERNATIVE H

Use		Number of Units	BR/Unit	GPD/BR	GDP Total
Chazen Report:					
	Single Family	189	3.5	130	85,995
	Townhouse	70	2.5	130	22,750
	Duplex/Apartment	105	2.5	130	34,125
	Commercial Center	140,000 sq. ft.	1.0	0.1	14,000
TOTAL:					156,870*
Alternative H:					
	Single Family	220	3.5	130	100,100
	Townhouse	146	2.5	130	47,450
	Duplex/Apartment	97	2.5	130	31,525
	Commercial Center	140,000 sq. ft.	1.0	0.1	14,000
	Office-Industrial	180,000 sq. ft.	1.0	0.1	18,000
TOTAL:					211,075**
* 109 gpm					
** 147 gpm					

- As shown in Table IV-7, the increase in building potential in the TND Residential Subdistrict resulting from the transfer of development from the AB District under Alternative H would generate approximately 174 new trips during the weekday AM peak hour, 222 new trips during the weekday PM peak hour, and 208 new trips during

the Saturday peak hour. These figures should be understood in the context of an overall 64% reduction in potential traffic resulting from the Proposed Action over the existing Zoning.

TABLE IV-7: PEAK HOUR VEHICLE TRIPS, TND RESIDENTIAL SUBDISTRICT UNDER ALTERNATIVE H

	Number of Units	ITE Land Use Code	Trip Generation Rate			Number of Trips Per Peak Hour		
			AM	PM	SAT	AM	PM	SAT
Single Family Detached	128	210	0.75	1.01	0.94	96	129	120
Townhouse	146	230	0.44	0.52	0.47	64	76	69
Duplex/Apartment*	97	221	0.46	0.58	0.58	45	56	56
Subtotal:						205	261	245
TOTAL TRIPS With Deduction for TND:						174	222	208

* The ITE *Trip Generation Manual* does not provide trip generation rates for duplexes, so the land use code for low-rise apartments was used.

I. Deletion of TND District and Open Space Incentive Zoning

This alternative analyzes the impacts of the proposed amendments to the Zoning Law but with a modification that the Traditional Neighborhood Development District and the Open Space Incentive Zoning provisions are deleted.

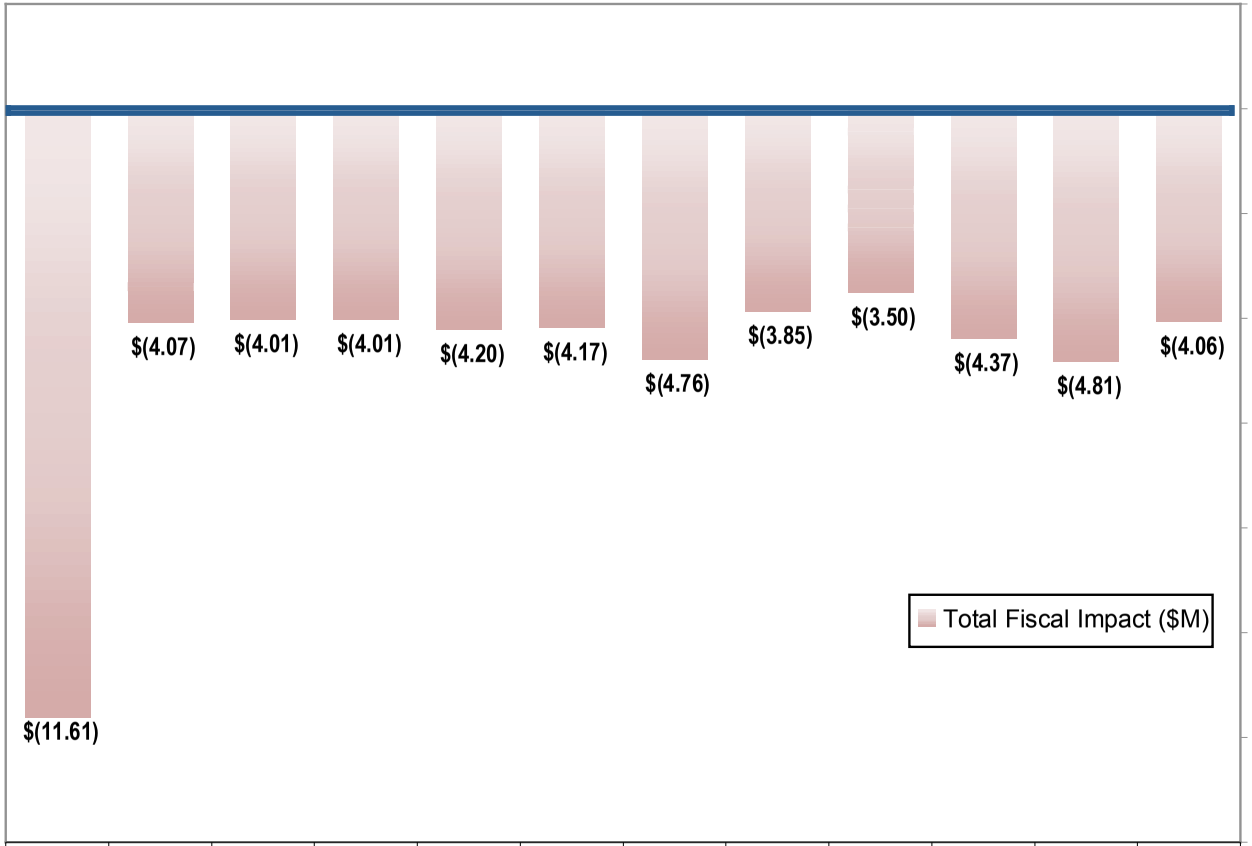
Under this alternative, the Town would not convert the existing zoning into a mixed-use TND neighborhood with significantly more commercial and economic development potential, as well as the additional residential units. The Town would also not receive any funds contributed by developers for the purchase of development rights from lands in the proposed AB District. As shown in Chart IV-1, the total fiscal impact of this alternative is a significant improvement over the current Zoning, and is nearly the same as the Proposed Action, with the loss of revenues from incentive zoning driving a large increase in the cost of financing the PDR.

This alternative would have adverse impacts on community character in the area south of the Village of Red Hook, which would continue to develop in a strip commercial configuration rather than as a Main Street, with suburban sized residential lots rather than village-scale lots in keeping with the historic character of the Village of Red Hook. This alternative would not achieve the two primary objectives of the Proposed Action to enhance centers and protect greenspaces in the Town.

Table IV-8: Comparison of Potential Impacts of Different Zoning Scenarios

	New Dwellings	Additional Residents	Additional School Children	Additional Vehicles on Roads	Additional Vehicle Trips Per Day (tpd)	New Police Officers	New Fire Fighters	Additional Water Consumed (gpd)	Additional Sewage Generated (gpd)
Current Zoning (Alternative A)	3,588	11,089	2,479	7,176	34,337	22	18	1,148,160	1,148,160
Proposed Action	1,388	4,226	940	2,776	12,436	8	7	435,280	435,280
Alternative B(a)	1,388	4,226	940	2,776	12,436	8	7	435,280	435,280
Alternative B(b)	1,388	4,226	940	2,776	12,436	8	7	435,280	435,280
Alternative C	1,388	4,226	940	2,776	12,436	8	7	435,280	435,280
Alternative D(a)	1,420	4,325	962	2,840	12,743	8	7	445,520	445,520
Alternative D(b)	1,603	4,891	1,089	3,206	14,494	10	8	504,080	504,080
Alternative E	1,321	4,019	894	2,642	11,795	8	7	413,840	413,840
Alternative F	1,213	3,685	819	2,426	10,762	7	6	379,280	379,280
Alternative G	1,197	3,963	881	2,394	10,609	8	7	374,160	374,160
Alternative H	1,554	4,696	1,042	3,108	13,140	9	8	482,700	482,700
Alternative I	1,131	3,485	775	2,262	10,823	7	6	361,920	361,920

Chart IV-1: Total Fiscal Impact ($M) by Alternative



	Alt A (Current Zoning)	Proposed Zoning	Alt B(a)	Alt B(b)	Alt C	Alt D(a)	Alt D(b)	Alt E	Alt F	Alt G	Alt H	Alt I
Total Fiscal Impact ($M)	$(11.61)	$(4.07)	$(4.01)	$(4.01)	$(4.20)	$(4.17)	$(4.76)	$(3.85)	$(3.50)	$(4.37)	$(4.81)	$(4.06)

CHAPTER V: UNAVOIDABLE ADVERSE IMPACTS

Unavoidable adverse impacts are defined as those that meet the following two criteria:

- There are no reasonably practical mitigation measures to eliminate the impact.
- There are no reasonable alternatives to the Proposed Action that would meet the purpose and need of the action, eliminate the impact, and not cause other or similar significant adverse impacts.

This DGEIS evaluates the Proposed Action and alternatives at a generic level. The DGEIS indicates that there were no potential unavoidable adverse impacts identified for the Proposed Action. The DGEIS did not, nor could it, evaluate potential site-specific impacts that may result from development of parcels based on the proposed Zoning and Subdivision Laws. As such, future site-specific environmental impact assessments of development proposals may identify unavoidable adverse impacts; but those impacts would be more a function of the site-specific conditions or the development program and not a function of the Proposed Action.

CHAPTER VI: IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The Proposed Action would not directly result in the irreversible and irretrievable commitment of resources. To the extent that specific development encouraged by the Proposed Action occurs, the building materials used, energy and electricity, and human effort expended in the construction process would be considered irretrievably committed. Given that the Proposed Action would result in a reduction in total potential residential development levels compared to what the existing Zoning Law would permit, it is likely that this commitment of resources would also be less than what would be expected under the No Action Alternative. It should also be noted that the decisions to amend the Zoning and Subdivision Laws and the *Comprehensive Plan* are, in fact, reversible.

CHAPTER VII: GROWTH INDUCING ASPECTS

The Proposed Action is intended to manage new development in a manner that is consistent with the vision of the Town's *Comprehensive Plan* (through the proposed amendments to the Zoning and Subdivision Laws). The Proposed Action in itself will not result in new development and will not result in conditions that will make development any more, or any less, likely to occur within the Town of Red Hook. The Proposed Action simply modifies the permitted densities, locations, and permitted or desired configuration of new development.

Future development in the Town, whether permitted by the existing Zoning or the Proposed Action would likely generate additional residential or commercial populations, additional demands on community services, additional traffic, and additional pressure on environmental resources. However, the Proposed Action will reduce overall levels of development when compared to existing Zoning. As noted above in Section III.A, the Proposed Action would result in approximately 2,200 fewer dwellings units in Town. Under existing Zoning approximately 3,588 new dwelling units could be constructed in the Town. With the proposed amendments, approximately 1,388 new dwelling units could be constructed. The Proposed Action would also permit a modest increase in commercial development in the proposed TND District resulting from relaxed setback and parking standards in the Commercial Center and from the creation of the Office-Industrial Subdistrict; however, the Town currently has a floating Light-Industrial District which would permit similar light industrial uses on these lands. The Proposed Action does not propose changes which will significantly affect commercial development at the scale of the entire Town. Therefore, the Proposed Action does not have significant growth-inducing aspects.

To the extent that the Proposed Action reduces permitted development levels within the Town, market demand for that development may cause increased interest in development in neighboring communities. However, the Proposed Action includes a land use strategy based on well-considered plans for local and regional growth management that includes priority growth areas where new residential and commercial development is encouraged (and permitted densities could be increased over existing permitted levels) to minimize the amount of development that would occur distant from existing centers or existing emerging centers. This provision may offset some of the potential displacement of growth from lower-density portions of the Town into surrounding communities. It should also be noted that the Proposed Action was developed in collaboration with the Dutchess County Department of Planning and Development and the Villages of Red Hook and Tivoli, and is based on recommendations for intermunicipal actions to manage growth in a regional fashion.

CHAPTER VIII: EFFECTS ON THE USE AND CONSERVATION OF ENERGY RESOURCES

The Proposed Action would not, in itself, consume any energy, nor would it have a direct impact on the energy supply system. However, development made possible by the Proposed Action could lead to increased energy usage above existing conditions. Since the Proposed Action would result in a reduction in total potential residential development levels compared to what the existing Zoning Law would permit, it is likely that total energy utilization would also be less than what would be expected under the No Action Alternative.

The Proposed Action would have the effect of reducing vehicle miles travelled between residences and shops, services and other destinations by potentially shifting 240 dwellings from large lots in outlying areas of the Town to small lots in the centrally located TND District. This change in the location of new residential development would result in shorter automobile trips and would facilitate alternative modes of transportation such as walking, biking, public transportation, and car pooling. The Proposed Action would also keep agriculture close to major markets, which would minimize vehicle miles required for transportation of agricultural products. The reduction in vehicle miles traveled and the increased use of transportation alternatives would reduce energy consumption and reduce greenhouse gas emissions.

INTERESTED AGENCIES

Town of Red Hook Town Clerk

Town of Red Hook Planning Board

Town of Red Hook Zoning Board of Appeals

Town of Red Hook Agriculture and Open Space Advisory Committee

Town of Red Hook Conservation Advisory Council

Town of Red Hook Economic Development Committee

Town of Red Hook Farmland Protection Committee

Town of Red Hook Design Review/ Hamlet Committee

Town of Red Hook Greenway and Trails Committee

Town of Red Hook Recreation Commission

Town of Red Hook Water Board

Town of Red Hook Zoning Review Committee

Intermunicipal Task Force

Red Hook Central School District

Red Hook Public Library

Tivoli Free Library

Village of Red Hook Board of Trustees

Village of Tivoli Board of Trustees

Village of Saugerties Board of Trustees

Town Board of the Town of Rhinebeck

Town Board of the Town of Milan

Town Board of the Town of Clermont

Town Board of the Town of Saugerties

Town Board of the Town of Ulster

Dutchess County Department of Planning and Development

Dutchess County Department of Health

Dutchess County Water and Wastewater Authority

Dutchess County Department of Public Works

NYS Department of State (Coastal Management and Local Government)

NYS Department of Transportation

NYS Department of Environmental Conservation

NYS Department of Agriculture and Markets

NYS Office of Parks, Recreation, and Historic Preservation

Pace University Land Use Law Center

Hudson River Valley Greenway

Hudson River Heritage

Scenic Hudson

J. Theodore Fink, AICP

Christine Chale, Esq.