

# **DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)**

## **WARWICK VIEWS SUBDIVISION**

West side of Blooms Corners Road, approximately 2,000 feet south of County Route 1  
Town of Warwick  
Orange County, New York

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## I. EXECUTIVE SUMMARY

### A. Description of the Proposed Action

The applicant, Warwick Views, LLC is proposing a 53 lot single family detached residential cluster subdivision on a 249.9 acre site consisting of three separate parcels defined on Orange County Tax Maps as parcels 27-1-41.131, 27-1-47, and 27-48.1 and commonly known as the Sandford Farm.

The project site is located on the west side of Blooms Corners Road approximately 2,000 feet north of the intersection with Newport Bridge Road and approximately 2,000 feet south of the intersection with Pine Island Turnpike in the Town of Warwick, Orange County, New York.

The applicant's preferred alternative proposes that each dwelling be served by central community wells and individual septic disposal systems. Approximately 6,020 linear feet of road which will be dedicated to the Town and approximately 1,033 linear feet of private roadway will be constructed which includes an interconnection to an adjoining recently approved subdivision (Luft Subdivision for 24 lots). Approximately 174.9 acres or 70% percent of the site will be conserved as open space under a proposed cluster subdivision plan. As required by the Town of Warwick Zoning Code, four of the proposed dwellings will be designated as affordable housing under the Town of Warwick's affordable housing program.

There is a 60 foot wide easement running across the property from Blooms Corners Road in a north westerly direction for an existing gas transmission line. The total length through the site is approximately 4,280 feet. This line is currently being replaced by a larger diameter gas line by Millennium Pipeline Company.

The project site is located within the Rural (RU) Zoning District, as designated on the Town of Warwick Zoning Map. The project also lies within the Town's Agricultural Protection Overlay (AP-O) District and a portion of the site lies within the Town's Aquifer Protection Overlay (AQ-O) District.

The Project Site currently has access to Blooms Corners Road via a driveway to the existing farmstead and a gravel access road which extends in a northeasterly direction. Primary access to the proposed subdivision will be from Blooms Corners Road with secondary access through the Luft subdivision.

Currently the site is primarily densely forested with a approximately 68 acres being used for agricultural purposes.

The following properties, identified by section, block and lot number, directly abut the project site according to the Orange County Department of Real Property: 27-1-52, 27-1-51, 27-1-50, 27-1-49, 27-1-42, 27-1-35.23, 27-1-58.1, 27-1-41.2, 27-1-41.11, 27-1-41.12, 27-1-41.132, 27-2-40.2, 27-2-40.32, 27-2-40.4, 27-1-116, 27-2-13, 27-1-72.16, 27-1-72.17, 26-1-73.1, 26-1-101, 26-1-110.

The applicant is not currently pursuing any plans for development of abutting properties.

### Social & Economic Benefit to the Town of Warwick

The project is consistent with the Town's objective to avoid conventional subdivisions and to create a cluster plan which preserves important natural resources and a rural appearance along Blooms Corners Road. The Cluster Subdivision is designed with smaller lots and homes closer together which is intended to enhance social interaction among residents. A central water system providing for a more efficient use of water resources is proposed. The Town and the environment will benefit from having nearly 175 acres of land conserved as open space in perpetuity. As an additional social benefit, the proposed subdivision will include four homes that will qualify as affordable as defined by the Town Zoning Code and based on the median household income of Orange County residents as reported by the U.S. Department of Housing and Urban Development (HUD).

It is estimated that the Town of Warwick (not including special districts) will generate approximately \$22,884.91 of net revenue after costs from the proposed subdivision. (See Section III-J. for a full fiscal impact analysis). There is also potential for local businesses to see a small increase in economic activity due to the proposed project.

### **B. List of Involved Agencies**

The Proposed Action requires approvals from the following involved agencies:

- Lead Agency, Town of Warwick Planning Board – Completion of SEQR process, Subdivision approval, Special Use Permit for affordable housing
- Orange County Department of Health – Water supply wells, sewage disposal systems, subdivision approval
- Town of Warwick Department of Public Works – Road Access Approval
- New York State Department of Environmental Conservation – Freshwater Wetlands Disturbance, Stormwater SPDES Permit, possible SPDES permit for any central sewer system alternative layouts.
- New York State Department of Health - Approval of waiver to allow individual septic system to serve more than 49 lots.
- Orange County Department of Planning – General Municipal Law Review

### **C. List of Interested Agencies**

The following agencies have no permitting authority, but have expressed an interest or concern regarding the environmental impacts of the proposed action:

- New York State Office of Parks, Recreation and Historic Preservation
- Town of Warwick Conservation Advisory Board

### **D. Summary of Potential Impacts and Mitigation Measures**

#### Soils and Geology

The project will result in the permanent regrading of the property. A total of 41.23 acres of total disturbance with 1.81 acres of disturbance on slopes greater than 25%. 10.23 acres of Prime Agricultural soils will be disturbed and 7.68 acres of soils of statewide significance will be disturbed. It is likely that blasting will take place during the construction phase of the project. There is potential for erosion.

The applicant will secure a permit from the Town in the event that blasting is required and all requirements of Chapter 63 of the Town Code, Blasting and Explosives, will be met. An Erosion and Sediment Control Plan has been prepared to limit erosion and any impacts to on site and off site surface water resources. Best Management Practices will be followed. The applicant will install whole house radon evacuation systems in all proposed homes which lie within the Franklin Marble geology in order to mitigate potentially present radon.

#### Water Resources

On site drainage will be changed by the proposed development due to land grading and the addition of impervious surfaces. Overall general onsite drainage patterns will remain unchanged as post developed stormwater discharges will follow their pre development natural course of drainage. A 46.8 acre, Class III DEC wetland exists on the site. The potential exists for impacts to DEC wetlands and other proximate surface water resources as a 9,840 square foot portion of the wetlands are proposed to be disturbed due to roadway construction and 30,390 square foot portion of the adjacent wetland buffer.

Stormwater management infrastructure consisting of multiple stormwater management ponds, water quality ponds, diversion swales and other measures consistent with current NYS DEC SPDES permit criteria will be implemented. A Stormwater Pollution Prevention Plan (SWPPP) has been prepared for the project and is attached hereto in **Appendix A**. This plan includes water quality and erosion and sediment control measures and will be strictly adhered to. All necessary permits will be obtained for disturbance within the wetlands and associated buffer areas. The clustered nature of the subdivision provides some mitigation for stormwater management as there will be less overall land disturbance under this layout.

#### Vegetation and Wildlife

A portion of the proposed road will cross a section of the wetland which may impact any existing habitats therein. A biological evaluation has been completed by the applicant which concludes that all ecological communities found on the site are common and no State listed endangered or threatened species or any species of special concern currently exist on the project site. (See **Appendix B**)

The roadway crossing will be constructed with sloping curbs and a four foot wide by three foot high open bottom culvert will be installed to best preserve the vegetation and natural hydrologic conditions of the wetland area.

The assessment also concluded that there is potential for an Indiana Bat habitat in the vicinity of the northeasterly portion of the uplands on the property. While no habitat was located, conditions were found to exist which are typically favorable to Indiana Bats. In order to avoid direct impacts to any potentially present individual Indiana Bats, removal of trees for construction activities will occur during the time period from October 1 to March 30.

#### Cultural Resources

The project site has been determined to have a higher than average potential for the existence of prehistoric and historic sites. A Phase I Archaeological Investigation was undertaken on the project site and no prehistoric or historic sites were located.

A Phase II investigation was not recommended as no sites were located. Based upon their review the New York State Office of Parks, Recreation and Historic Preservation has no further

archaeological concerns regarding this project. (See **Appendix C** for Archaeology report and related correspondence)

### Visual

The proposed development will permanently change the existing physical characteristics of the project site. Based on a visual analysis the proposed subdivision will be visible from Blooms Corners and Almond Tree Lane and from some single family residences to the west of the project site mainly contained in a recently approved subdivision known as Old World Estates. (see Visual Impact Photos and Cross Sections in **Appendix D**)

Dwellings have been proposed away from existing roadways and existing mature trees along Blooms Corners Road will remain to protect the existing viewshed to the greatest extent possible. Homes will be designed in a manner which is consistent with both the Town design guidelines and local vernacular (see proposed architecturals in **Appendix D**)

### Transportation

The proposed subdivision will create additional traffic on local roads. A Traffic Impact Study (TIS) was prepared to evaluate any potential impacts and is attached hereto in **Appendix E**. The conclusions of the report indicate that the existing road infrastructure in the vicinity of the project site is capable of handling the additional traffic without any upgrades.

The intersection of the proposed road with Blooms Corners Road will provide for site distances of 410 feet to the north onto Blooms Corners Road and 550 feet to the south.

### Land Use and Zoning

The project is consistent with surrounding land uses and existing zoning regulations including cluster subdivision regulations and additional regulations for existing overlay zones in which portions of the project site are included.

The project is consistent with Town and County goals and recommendations found in their existing Comprehensive Plans. The project requires a Planning Board waiver from Town Design Guidelines for not providing sidewalks. The project requires a waiver from the subdivision regulations for providing more than 49 lots without public sewer.

Lots all meet minimum lot size and setback requirements in the zoning code, and all lots have a total development coverage of less than 35% as required. The cluster layout including the location of dwelling units, streets and open space has been designed based on the Town's Four Step Design Process for cluster subdivisions and deep pit soil testing. A total of 70% of the property is being maintained as open space in perpetuity.

### Police, Fire and Emergency Medical Services

The project will increase the number of residents in community service districts. No impacts are anticipated to the public water supply as water for fire fighting will be obtained by water tanker trucks as is the current practice for the site and all areas of the Town with no public water or fire hydrants.

Residents of Warwick Fire and Ambulance districts are subject to applicable district taxes to mitigate impacts. (See Fiscal Impact Section)

### School District Services

The project can be expected to generate approximately 46 public school students which represents a 1.04% overall increase in student population. It can be assumed that the district can accommodate this additional growth because over the last five years the district has averaged a higher total student population than would result from the additional students from this project added to current enrollment totals.

No mitigations regarding school district services are proposed.

### Fiscal Impact Analysis

The project will generate the following net fiscal impacts for its taxing districts as determined by a fiscal impact analysis found in Section III-J: \$52,512.77 for Orange County, \$23,054.75 for the Town of Warwick, \$1,002.71 for the Warwick Ambulance District, \$2,999.77 for the Warwick Fire District and -\$90,520.27 for the Warwick Central School District. (Calculation tables are contained in **Appendix F**)

No mitigations regarding fiscal impacts are proposed.

### Recreation and Open Space Resources

The proposed subdivision will increase usage of local parks and recreation facilities. A list of such facilities is provided in Section III-K.

Approximately 174.9 acres, or 70% of the project site will remain in its existing state and will be conserved in perpetuity. This land will provide opportunity for passive recreation for residents of the project. In addition, a payment will be made to the Town by the applicant in lieu of providing public park land in the amount of \$2,500 per newly created lot which is equivalent to \$125,000.

### Utilities – Water

The estimated average daily water demand for the 53 proposed single-family residences is 400 gpd per residence is 21,200 gpd (gallons per day) or about 14.7 gpm. The New York State Department of Health (NYSDOH) requires that the available water supply for the proposed development meet at least twice the average daily demand estimate with the highest producing well out of service. Therefore, the water supply must have the capacity to produce a minimum of 42,400 gpd or about 29.5 gpm. Wells were found to meet this standard with wells 2 and 5 producing a combined yield of 71 gpm. (See Hydrological Report in **Appendix G**)

Well 1 will not be placed into service due to elevated levels of draw-down observed in the adjacent wetlands during well tests. Well 2 will be disinfected and re-sampled for total coliform prior to being placed into service. Water saving plumbing fixtures will be used in all homes.

### Utilities – Wastewater

The proposed subdivision is likely generate approximately 27,560 gallons of wastewater per day based on Orange County Health Department Standards.

Proposed dwelling units will be served by septic tanks on individual lots. The applicant is currently in the process of seeking a waiver from the Orange County Health Department to allow

more than 49 lots to be served by septic. If this permit cannot be obtained, the applicant will provide a central sewerage system.

#### Other Utilities

The proposed subdivision is anticipated to use a total of 318,583 kwh per year to provide power to individual homes. The New York Independent System Operator (NYISO) has determined that the current condition of the bulk electricity grid is adequate to meet short term reliability requirements through 2010.

#### **E. Summary of Project Alternatives Considered**

As required by NYS SEQRLaw, this section considers the No Build Alternative in which no change would take place on the property.

Also considered were a Traditional Neighborhood Design, Conventional subdivision which features 44 lots each with a minimum four acre lot size, a Reduced Scale Alternative depicting 37 lots, two different alternative Cluster Designs each with 53 lots, an alternative energy plan which would feature the same lot layout as the Preferred Alternative (therefore no plan was included) and a plan utilizing a community septic system featuring 53 lots.

The table following this page is a summary of impacts related to each of the alternatives to the proposed subdivision (or Preferred Alternative) relative to each impact issue addressed in the document. Each alternative, is further discussed and most are visually depicted in the Alternatives Section of this report.



**Table I-1 Continued**

<b>Impact Issue</b>	<b>No Action Alternative</b>	<b>Traditional Neighborhood Design</b>	<b>Conventional Subdivision</b>	<b>Reduced Scale Alternative</b>	<b>Alternative Cluster Design(s)</b>	<b>Alternative Energy Option</b>	<b>Community Septic Alternative</b>
Visual	No visual impacts would occur.	Additional open space on the project site would provide increased buffers between homes and surrounding properties and roadways. The appearance of modest homes on small lots in a more dense setting may appeal to some while others may not prefer this setting.	Dwelling units would be sited closer to property lines. Additional trees would likely need to be cut down for a longer roadway resulting in the diminution of the natural view shed. An additional road opening would be placed along Blooms Corners Road reducing the natural scenic view along this road.	Impacts along Blooms Corners Road and from neighboring properties would be similar to the preferred alternative.	Visual impacts would be similar for most vantage points under these alternative layouts. Impacts would be greater for residents on Stonehedge Road as development under these plans are closer to western property lines.	Solar panels affixed to roofs would likely be visible from Almond Tree Lane. Other alternative energy options are not likely to be visible from the outside of the home.	Lots are minimally smaller but generally impacts would be the same as the Preferred Alternative.
Transportation	No additional trips would be generated from the project site but it can be assumed that based on both natural growth and the construction of over 150 additional new homes in the vicinity traffic volumes in the vicinity of the project site would increase.	The number of vehicle trips generated would be the same as the Preferred Alternative. Sidewalks would be provided under this alternative but it is unlikely residents would walk to destinations outside of the subdivision as sidewalks would not connect to a larger system. Access points to the subdivision on Blooms Corners Road and through the Luft Subdivision would be the same as under the Preferred Alternative.	An additional connection to Blooms Corners Road would be constructed under this layout. No sidewalks would be constructed under this alternative and a waiver still would be required from the Planning Board.	The number of vehicle trips would be reduced commensurately with the reduced number of dwelling units. Access points to the subdivision on Blooms Corners Road and through the Luft Subdivision would be the same as under the Preferred Alternative. No sidewalks would be constructed under this alternative and a waiver still would be required from the Planning Board.	As the same number of dwelling units would be constructed, vehicle trips and overall impacts would be the same as the Preferred Alternative.	As the same number of dwelling units would be constructed, vehicle trips and overall impacts would be the same as the Preferred Alternative	As the same number of dwelling units would be constructed, vehicle trips and overall impacts would be the same as the Preferred Alternative
Land Use and Zoning	The current land use is permitted under the RU Zoning Regulations.	This alternative is consistent with the Town and County Master Plans as well as Town design guidelines and Community Preservation project. Lots would be smaller and could be as small as 12,500 square feet with individual septic systems.	This layout is not consistent with requirements of the AP-O overlay District, the Community Preservation Project, or Residential Design Guidelines discussed in the Town's Comprehensive Plan.	Based on zoning and subdivision regulations, additional homes could be constructed. This alternative is consistent with the Town and County Comprehensive Plans as well as Design Guidelines and the Community Preservation Project.	Number of homes, lots sizes and bulk dimensions are consistent with zoning. Town plans do not recommend specific cluster layouts. A waiver would still be required to not provide sidewalks.	Impacts would be the same as the Preferred Alternative	The use of community septic systems is encouraged in both the zoning and the Town's Design Guidelines. This would alleviate the need for a waiver from OCDOH.
Police, Fire and Emergency Services	No additional impacts to police, fire or emergency services would occur.	Number of service calls to the project site would be the same as under the Preferred Alternative. (see below for discussion of fiscal impacts).	Impacts for the same number and size dwelling units would be the same.	Impacts would be reduced commensurately with the reduction in the number of dwelling units. Costs to each district would be less and tax revenue generated would be reduced.	As the same number of additional residents would be generated, impacts would be the similar. However, circulation for emergency vehicles would be improved.	Impacts would be the same as the Preferred Alternative.	Impacts would be the same as the Preferred Alternative.
School District Services	No impacts to the School district would occur.	As the same number of dwellings and bed rooms would be constructed, impacts on the school district would be the same.	As the same size, and number of dwellings would be constructed, impacts on the school district would be the same.	Less students would be added to the school district. Fiscal impacts to the school district would be reduced.	As the same number of additional public school children would be generated, impacts would be the same as the Preferred Alternative.	Impacts would be the same as the Preferred Alternative (see below for fiscal impacts).	As the same number of additional public school children would be generated, impacts would be the same as the Preferred Alternative.
Fiscal Impact	No additional revenue would be generated and costs to the Town related to this site would remain the same.	It is reported in many planning texts (The Urban Land Institute's <u>Valuing New Urbanism</u> , for example) that neighborhoods designed in a TND layout are valued higher and retain their value better than similar traditional subdivision layouts. Also, Town maintenance costs are typically lower.	Tax revenue from larger lots would likely be higher, costs to the Town would be higher to maintain longer roadway and additional stormwater management facilities. Net impacts to the school district would be the same.	Costs to each district would be less and tax revenue generated would be reduced.	As the same number of additional residents and public school children would be generated, impacts would be the same as the Preferred Alternative.	Home values would increase if alternative means of energy were installed in all homes thus increasing tax revenues to the taxing jurisdictions. Costs would likely remain the same as the preferred alternative, thus increasing overall net revenue to taxing jurisdictions.	As the same number of additional residents and public school children would be generated, impacts would be the same as the Preferred Alternative.

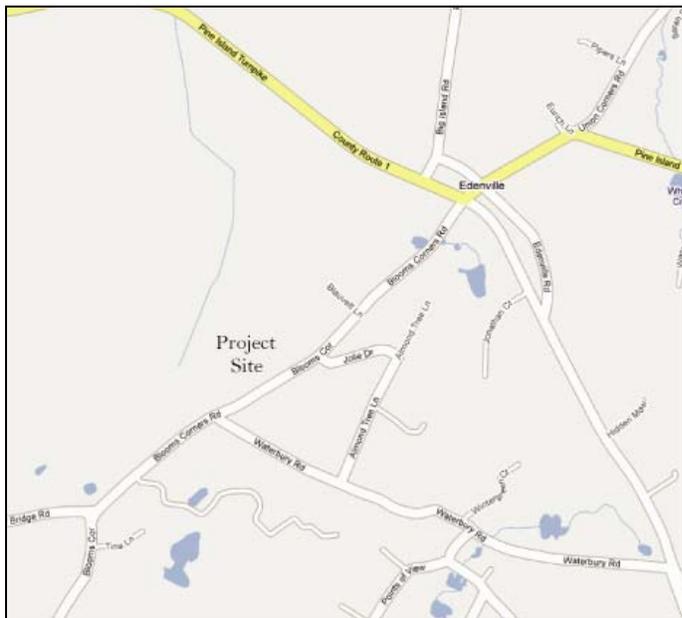
**Table I-1 Continued**

<b>Impact Issue</b>	<b>No Action Alternative</b>	<b>Traditional Neighborhood Design</b>	<b>Conventional Subdivision</b>	<b>Reduced Scale Alternative</b>	<b>Alternative Cluster Design(s)</b>	<b>Alternative Energy Option</b>	<b>Community Septic Alternative</b>
Recreation and Open Space	No land would be permanently conserved or protected from future development.	The same number of residents would use local facilities and the applicant would make the same payment in lieu of providing park land. There would more protected open space available on the project site. Sidewalks would be provided under this alternative.	Consumption of 100% of developable land with dwellings, roadways and manicured lawns. All land would be privately owned. Residents would increase usage at other local facilities.	Less residents would use local facilities and the applicant's payment in lieu of providing parkland would be less, but available land for passive recreational use on the project site would be increased.	The same number of residents would use local facilities and the applicant would make the same payment in lieu of providing parkland.	Impacts would be the same as the Preferred Alternative.	The same number of residents would use local facilities and the applicant would make the same payment in lieu of providing parkland.
Utilities – Water	No impacts to water would occur.	The overall amount of water consumed by the project site would be the same as the Preferred Alternative. Community wells would remain the means of water supply.	The overall amount of water consumed by the project site would be the same as the Preferred Alternative. Community wells would remain the means of water supply. Water distribution lines would be longer to serve homes which are more spread out.	Ground water consumption would be reduced commensurately with the reduction in the number of proposed lots. Community wells would still be the means of providing water supply.	The overall amount of water consumed by the project site would be the same as the Preferred Alternative. Community wells would remain the means of water supply.	Water saving devices would be used in both this alternative and the Preferred Alternative and therefore the impacts to ground water will be the same.	The overall amount of water consumed by the project site would be the same as the Preferred Alternative. Community wells would remain the means of water supply.
Utilities - Wastewater	No impacts to wastewater would occur.	The overall amount of wastewater produced by the project would be the same. Minimum lot size of 12,500 square feet could be maintained and still provide individual septic systems. A waiver from OC DOH would still be required.	As the same size, and number of dwellings would be constructed, the amount of wastewater would be the same under this layout. Individual septic systems would still be utilized under this alternative and a waiver from the Health Department would still be required.	Less wastewater would be produced and need to be treated. Individual septic systems would be utilized under this alternative and no waiver would be necessary from OC DOH.	The amount of wastewater produced would be the same under this layout. Individual septic systems would still be utilized under this alternative and a waiver from the Health Department would still be required.	The same number of residents would produce the same amount of wastewater and the means of treatment would be the same as the preferred alternative.	The same amount of wastewater would be generated but the means of treatment would be via a community septic system. No waiver would be necessary from OCDOH. See Section V-G for additional information on this system.
Other Utilities	No impacts to other utilities would occur.	The overall amount electricity consumed by the project site would be the same, although usage during construction may be reduced. Distribution lines would be shorter.	Additional infrastructure would be required to supply homes which are more spread out in the standard layout. The amount of usage for the same number, and size of homes would remain the same.	Less residents would use less energy resources and impacts to service providers, although very minimal, would be reduced.	As the same number of additional dwelling units and residents would be generated, utility usage would be the same as the Preferred Alternative.	The use of alternative forms of energy including solar power would reduce the onsite use of traditional energy resources and in tern reduce the burning of fossil fuels. While this is a positive impact to the environment, the reduction is likely too small to have any overall impacts to the energy grid or service providers. The use of Energy Star appliances would reduce home-owner use of energy.	As the same number of additional dwelling units and residents would be generated, utility usage would be the same as the Preferred Alternative

## II. DESCRIPTION OF PROPOSED ACTION

### A. Site Location and Description

The project site is located on the west side of Blooms Corners Road approximately 2,000 feet north of the intersection with Newport Bridge Road and approximately 2,000 feet south of the intersection with Pine Island Turnpike in the Hamlet of Edenville within the Town of Warwick, Orange County, New York. The Hamlet of Edenville is located in the central part of the Town, north of County Route 1. The project site is southwest of the center of the Hamlet of Edenville which, as shown below, is centered around the intersection of Edenville Road and Pine Island Turnpike. (For larger area context see **Figure II-1: Site Location**)

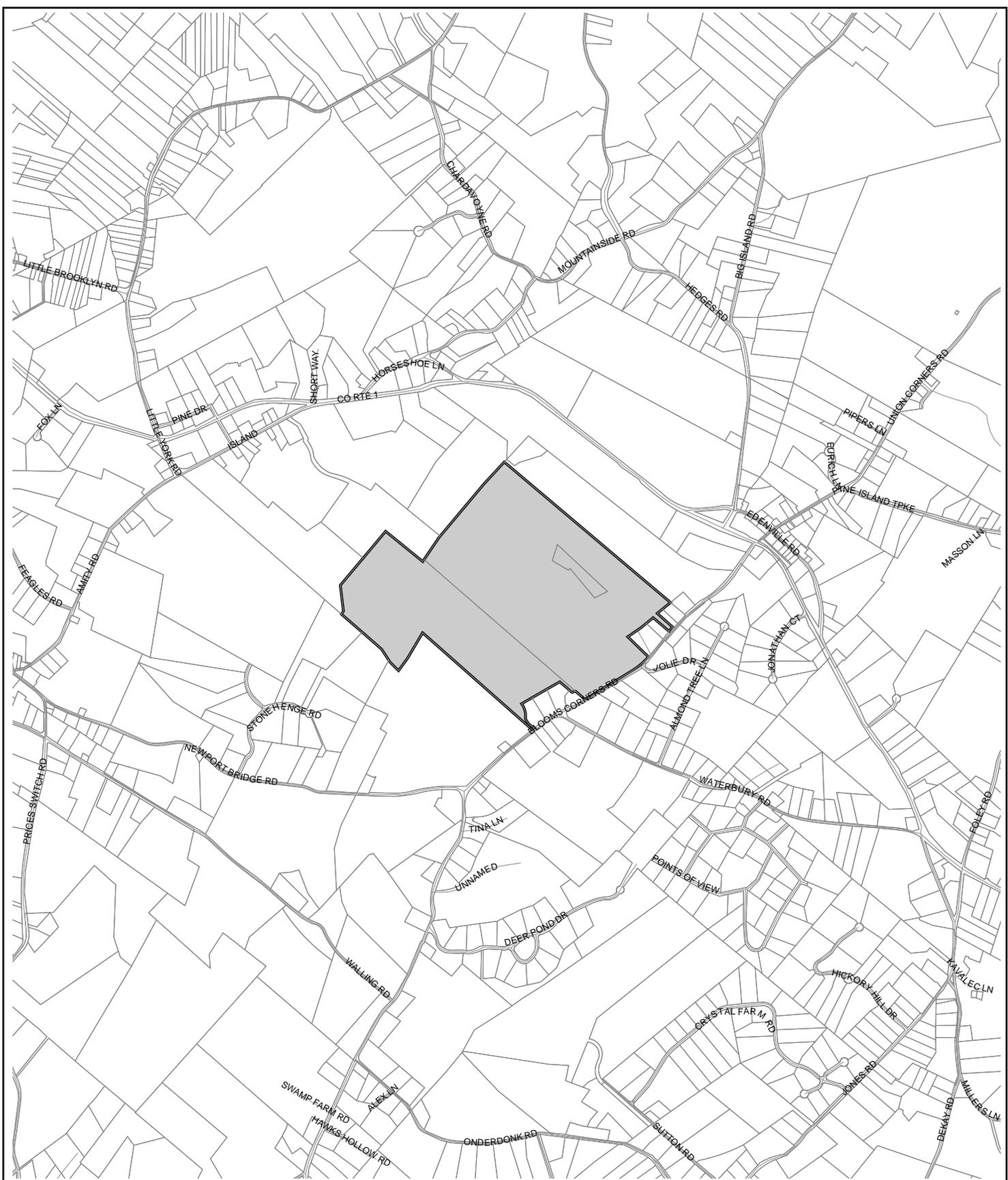


Source: Google maps

The Project Site is within the Rural (RU) Zoning District, as designated on the Town Zoning Map. A portion of the project also lies within the Town's Agricultural Protection Overlay (AP-O) District and a portion of the site lies within the Town's Aquifer Protection Overlay (AQ-O) District. The extent of these districts is shown on the Site Context Plan and the Cluster Subdivision Plan. (See **Figure II-3**, Site Context Plan)

The site currently consists of a total of 249.9 acres which includes approximately 68 acres of farmland (27% of the site) which includes multiple farm related buildings, 105 acres of forested land (42% of the site), 46.8 acres of Class III, New York State protected Freshwater Wetlands identified as PI-21 (18.7% of the site) and approximately 30 acres of idle grass land (12% of site). The site also contains a stream which is tributary to Quaker Creek. The site contains prime agricultural soils and soils of statewide significance. Existing site resources are mapped on **Figure II-4**. Land in the vicinity of the site contains single family residences on lots of varying sizes, vacant land and agricultural land.

Currently gas and electricity infrastructure are available to the project site. No other utility infrastructure is available to the project site.



**TURNER MILLER GROUP**  
*Planning and Development Consultants*

2 Executive Blvd., Suite 401, Suffern, NY 10901

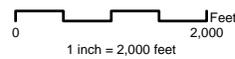
Tel: (845) 368-1472

Fax: (845) 368-1572

-  Project Site
-  Parcels
-  Roads

Source:  
 Orange County Geographic Information Systems  
 New York State Department of Transportation

Map Prepared June 2008 by TMG



**SITE LOCATION MAP**

*Warwick View DEIS*

Town of Warwick, New York

Figure II-1

The project site is accessed via Blooms Corners Road which extends south from Pine Island Turnpike/ County Route 1 for about three miles to the New Jersey State Line. Pine Island Turnpike, north of the project site, extends southeasterly from U.S. Route 6 to Route 94/ 17A in the Village of Warwick. Newport Bridge Road, south of the project site, runs east/west from Blooms Corners Road to Liberty Corners Road. Figure II-1 clearly shows all major roads within one half mile of the project site.

### Subdivision Plans

The subdivision has been designed using the Four-Step Design Process for cluster subdivisions as described in Section 164-41.1.E.(3) of the Zoning Code. This process was used to determine the layout of the proposed open space lands, house sites, lot lines and roadways based on identified Primary and Secondary conservation areas and topographic conditions. (See **Figure II-2**) The Town's Comprehensive Plan was also considered when locating dwelling units.

A total of 53 lots have been proposed with 53 single family dwelling units. Development will include a total of 8.95 acres of impervious surfaces. The number of dwelling units was determined by creating a Yield Plan (See **Figure II-5**) which produced 49 lots and adding the required 10% affordable units. As per the zoning law, all septic systems are located within soil groups on which septic system are permitted. Soil groups in the zoning law are not consistent with those identified in the subdivision regulations. As per Section 174-72 of the Town Code where a provision of the zoning chapter, shall contradict or be inconsistent with a provision of the Town of Warwick municipal code, the provisions contained in this chapter shall govern and prevail. Accordingly, the plan adheres to the soil criteria established in section 164-41.3 of the Zoning Code.

A total of 174.9 acres of open space, or 70% of the project site will be protected by conservation easement on the project site. Approximately 53% of this land will contain environmental constrains such as wetlands, wetland buffers, steep slopes and rock outcrops.

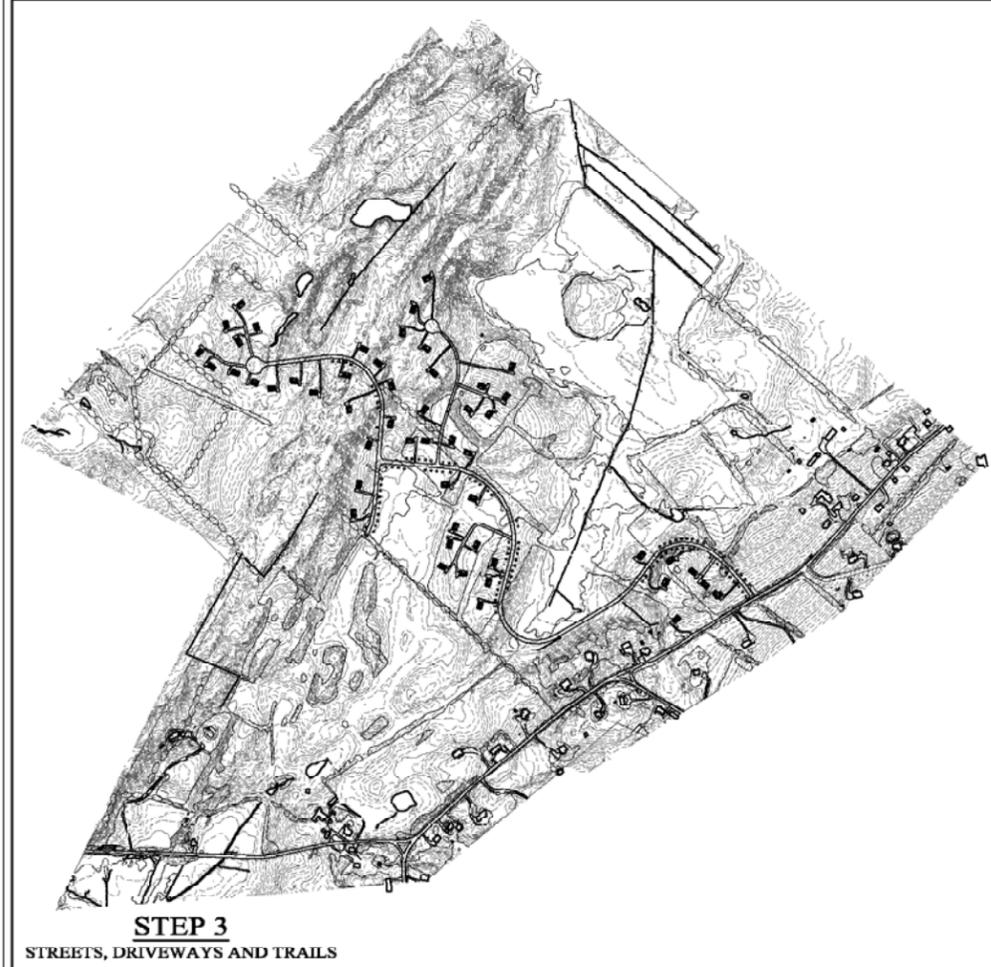
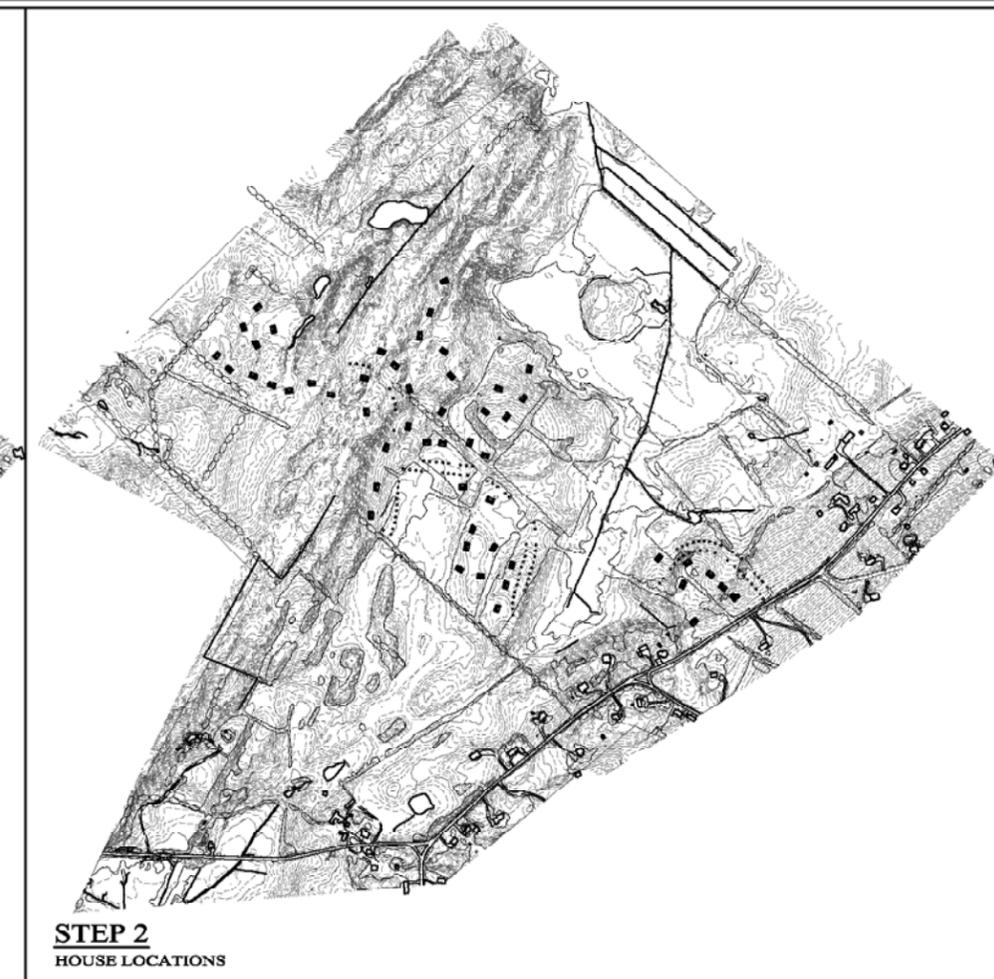
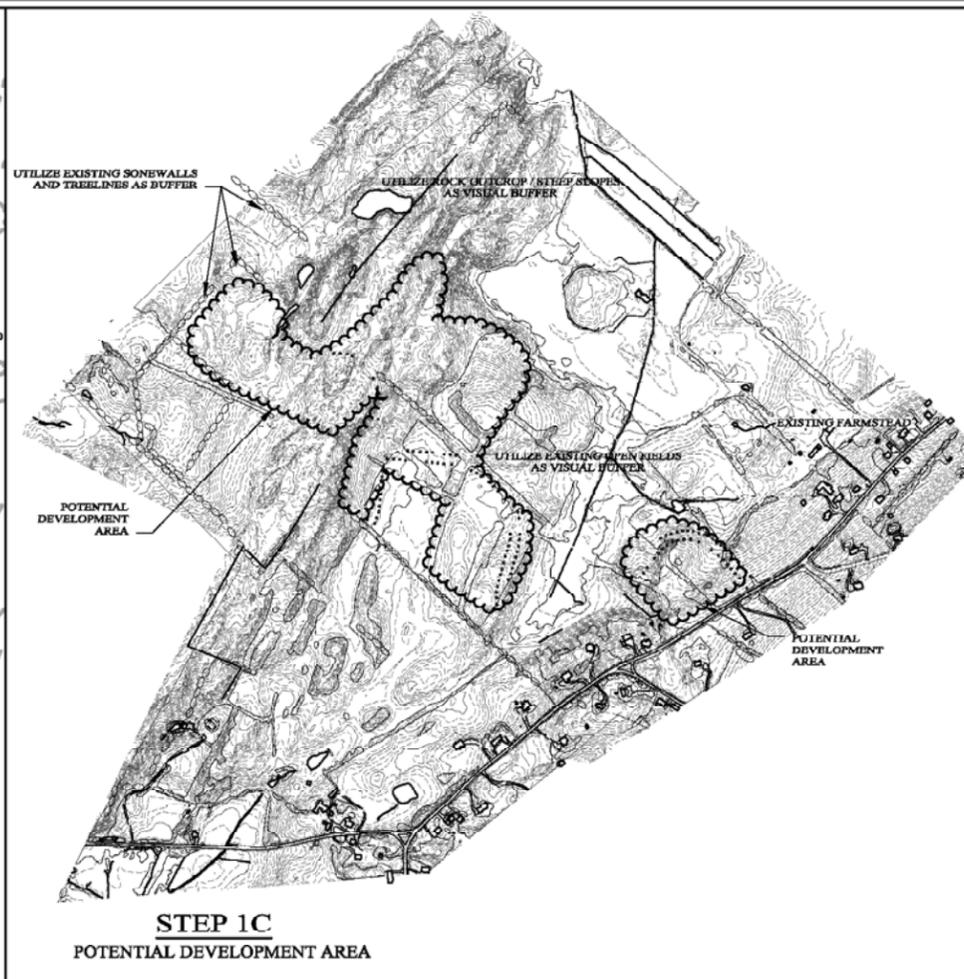
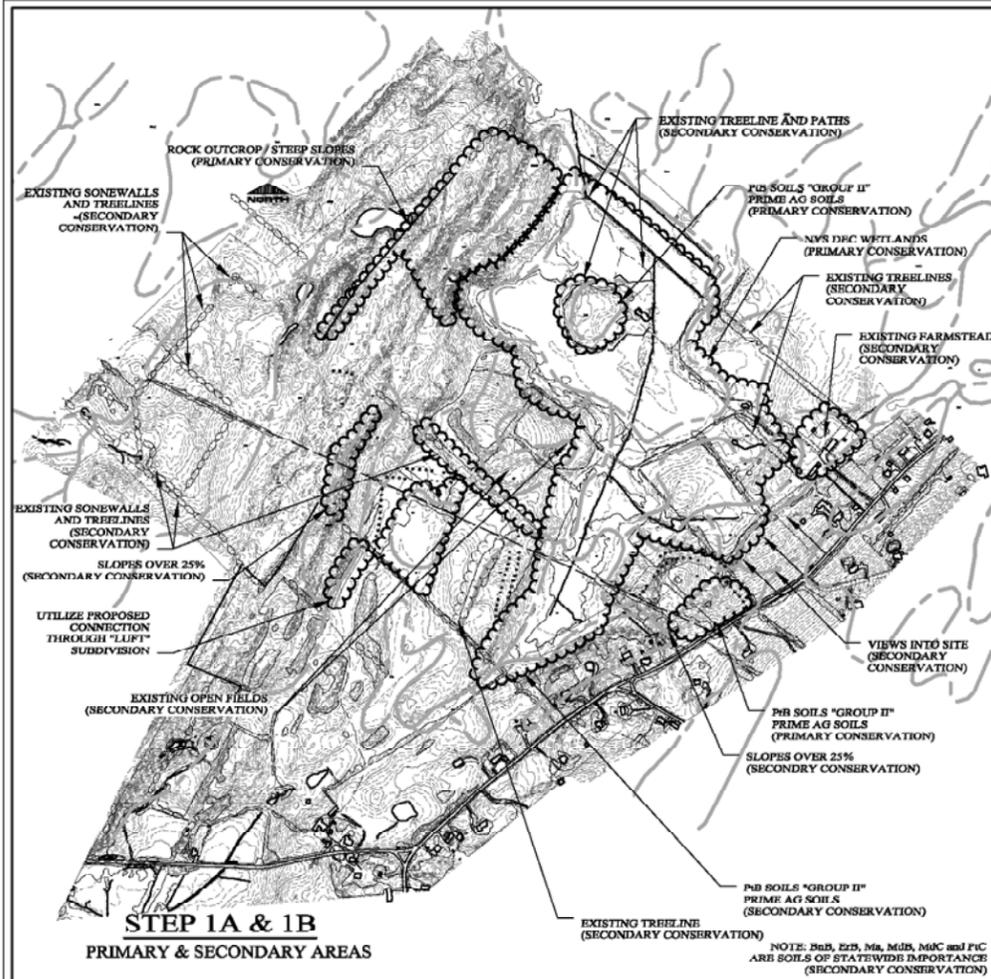
Street trees will be provided throughout the subdivision in accordance with the Subdivision Code as well as additional landscaping around stormwater management facilities.

Internal vehicular circulation will be via three total roads. Road A will provide the a connection to Blooms Corners Road. A total of 13 dwelling units will be located directly on Road A. Road B will intersect Road A at a "T" intersection and will provide a connection from the proposed subdivision to the adjacent Luft Subdivision. Road B will terminate in a cul-de-sac. The third road will be a private road and will intersect Road A at a "T" intersection. This road will also terminate in a cul-de-sac. All roads have been designed to avoid long straight portions where practicable in accordance with Town Design Guidelines.

No formal pedestrian circulation is proposed at this time. The applicant will need a waiver from the Planning Board to not provide sidewalks within the subdivision.

### Utilities

The applicant does not intend to hook into municipal water or sewer systems. An on site central community water system including two wells, a pressure tank and associated distribution systems and facilities will be constructed to supply water to each dwelling unit. This system has the capability of providing 71 gallons per minute (102,240 gpd).



**LEGEND**

- EXISTING PROPERTY LINE
- EXISTING CONTOUR LINE
- EXISTING EDGE OF PAVEMENT
- EXISTING SONEWALL
- EXISTING WIRE FENCE
- EXISTING OVER HEAD UTILITIES
- USDA SOILS BOUNDARY
- PROPOSED PROPERTY LINE
- PROPOSED SETBACK LINE
- PROPOSED SILT FENCE
- PROPOSED SWALS
- EXISTING CONCRETE MONUMENT
- EXISTING SIGN
- EXISTING WOOD BOLLARD
- EXISTING UTILITY POLE
- EXISTING TREELINE

PROPOSED SINGLE FAMILY RESIDENCE

**NORTH**

**FIGURE II-2**

**WARWICK VIEWS**

TOWN OF WARWICK, ORANGE COUNTY, NEW YORK  
PROJECT TITLE

**4-STEP DESIGN**

DRAWING TITLE SECTION 26, BLOCK 1, LOT 6.5

**Kirk Rother, P.E.**  
CONSULTING ENGINEER, PLLC  
206 Pine Island Turnpike, Warwick, NY 10990  
(845) 988-0620

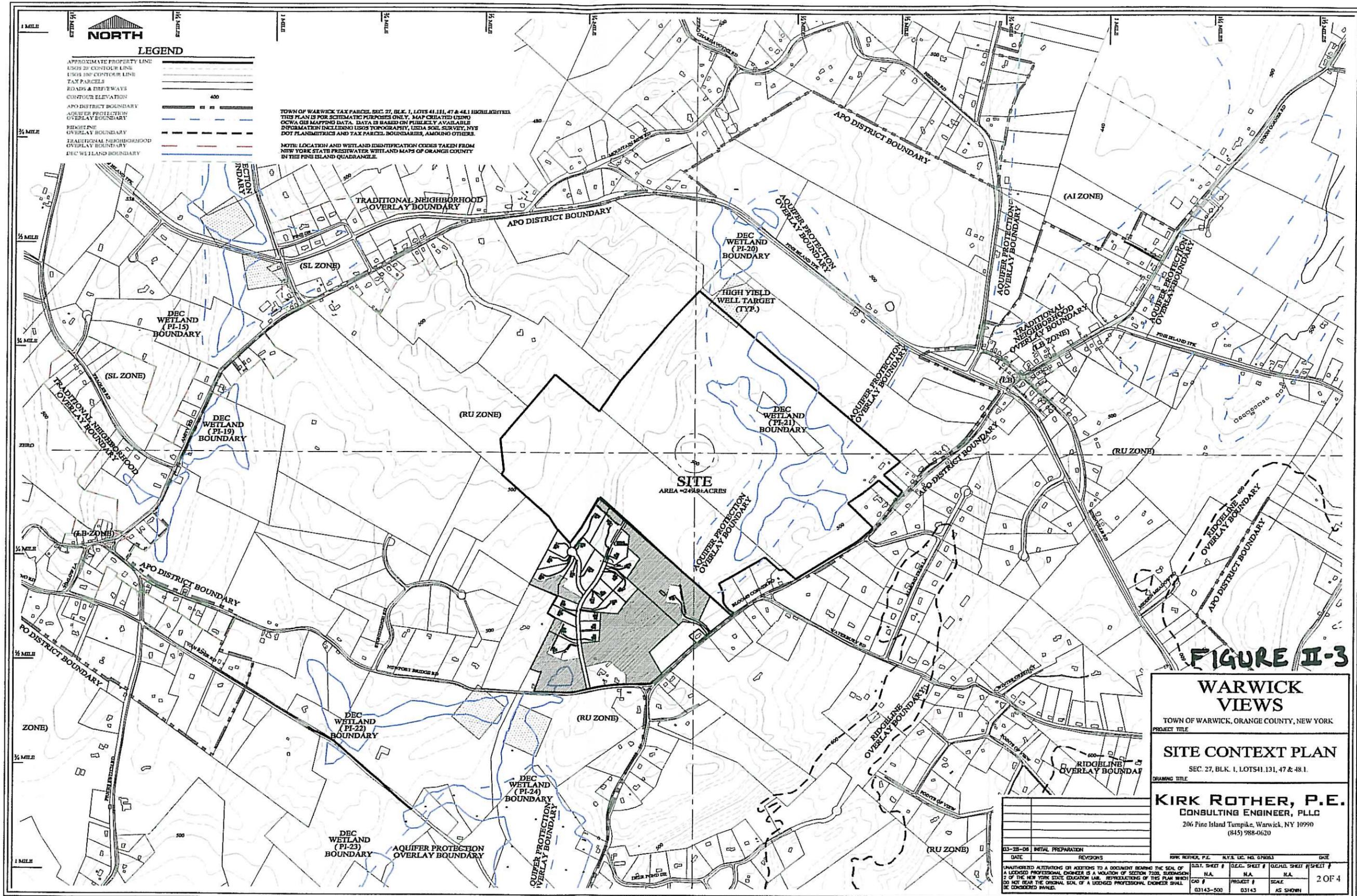
DATE	REVISIONS	DATE
5-15-08	MAXIMUM CONSERVATION LAYOUT	
3-28-06	INITIAL PREPARATION	

D.O.T. SHEET #	D.E.C. SHEET #	D.C.H.D. SHEET #	SHEET #
N.A.	N.A.	N.A.	4 OF 4

UNAUTHORIZED ALTERATIONS OR ADDITIONS TO A DOCUMENT BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER IS A VIOLATION OF SECTION 7209, SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW. REPRODUCTIONS OF THIS PLAN WHICH DO NOT BEAR THE ORIGINAL SEAL OF A LICENSED PROFESSIONAL ENGINEER SHALL BE CONSIDERED INVALID.

KIRK ROTHER, P.E. N.Y.S. LIC. NO. 079053

03143 CLUS 03143.0 AS SHOWN



TOWN OF WARWICK TAX PARCEL, SEC. 27, BLK. 1, LOTS 41, 43, 47 & 48.1 HIGHLIGHTED.  
 THIS PLAN IS FOR SCHEMATIC PURPOSES ONLY. MAP CREATED USING  
 OCWA GIS MAPPING DATA. DATA IS BASED ON PUBLICLY AVAILABLE  
 INFORMATION INCLUDING USGS TOPOGRAPHY, USDA SOIL SURVEY, NY  
 DOT PLANIMETRIC AND TAX PARCEL BOUNDARIES, AMONG OTHERS.

NOTE: LOCATION AND WETLAND IDENTIFICATION CODES TAKEN FROM  
 NEW YORK STATE FRESHWATER WETLAND MAPS OF ORANGE COUNTY  
 IN THE PENN ISLAND QUADRANGLE.

**FIGURE II-3**

**WARWICK VIEWS**  
 TOWN OF WARWICK, ORANGE COUNTY, NEW YORK  
 PROJECT TITLE

**SITE CONTEXT PLAN**  
 SEC. 27, BLK. 1, LOTS 41, 47 & 48.1  
 DRAWING TITLE

**KIRK ROTHER, P.E.**  
 CONSULTING ENGINEER, PLLC  
 206 Pine Island Turnpike, Warwick, NY 10990  
 (845) 988-0620

DATE	REVISIONS	DATE	REVISIONS
03-28-08	INITIAL PREPARATION		

DATE	REVISIONS	DATE	REVISIONS

UNAUTHORIZED ALTERATIONS OR ADDITIONS TO A DOCUMENT BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER IS A VIOLATION OF SECTION 7203, SUBSECTION 12 OF THE NEW YORK STATE EDUCATION LAW. REPRODUCTIONS OF THIS PLAN WHICH DO NOT BEAR THE ORIGINAL SEAL OF A LICENSED PROFESSIONAL ENGINEER SHALL BE CONSIDERED INVALID.

DIST. SHEET #	DEC. SHEET #	GENL. SHEET #	SHEET #
N.A.	N.A.	N.A.	2 OF 4

03143-500 03143 AS SHOWN

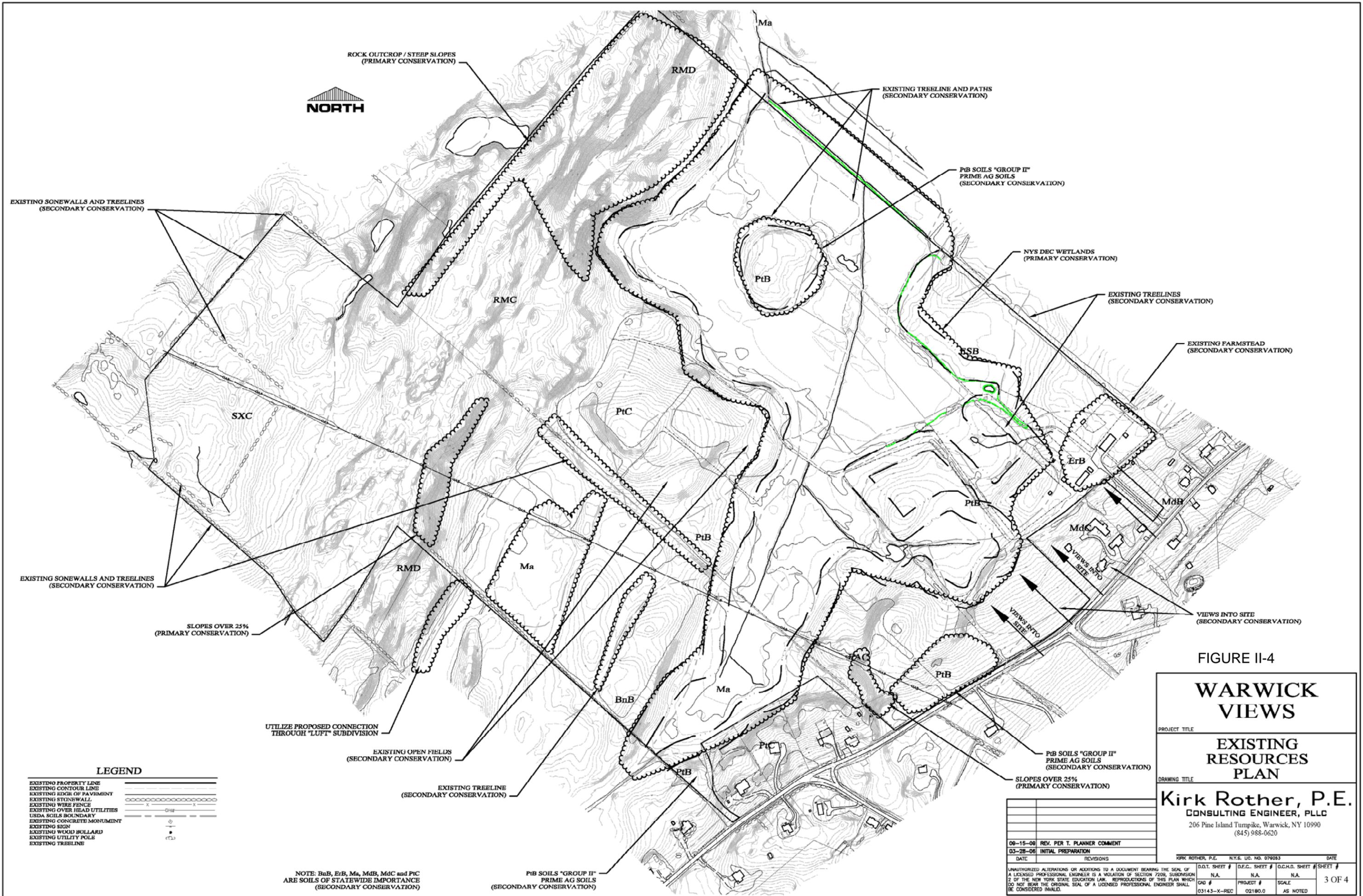


FIGURE II-4

**WARWICK VIEWS**

PROJECT TITLE  
**EXISTING RESOURCES PLAN**  
 DRAWING TITLE

**Kirk Rother, P.E.**  
 CONSULTING ENGINEER, PLLC  
 206 Pine Island Turnpike, Warwick, NY 10990  
 (845) 988-0620

DATE	REVISIONS	KRK ROTHER, P.E.	N.Y.S. LIC. NO. 079053	DATE
08-15-08	REV. PER T. PLANNER COMMENT			
03-28-06	INITIAL PREPARATION			
D.O.T. SHEET #	D.E.C. SHEET #	D.C.H.D. SHEET #	SHEET #	
N.A.	N.A.	N.A.	3 OF 4	
CAO #	PROJECT #	SCALE		
03143-X-REC	02180.0	AS NOTED		

**LEGEND**

- EXISTING PROPERTY LINE
- EXISTING CONTOUR LINE
- EXISTING EDGE OF PAVEMENT
- EXISTING STONEWALL
- EXISTING WIRE FENCE
- EXISTING OVER HEAD UTILITIES
- USDA SOILS BOUNDARY
- EXISTING CONCRETE MONUMENT
- EXISTING SIGN
- EXISTING WOOD BOLLARD
- EXISTING UTILITY POLE
- EXISTING TREE LINE

NOTE: BnB, ErB, Ma, MdB, MdC and PtC ARE SOILS OF STATEWIDE IMPORTANCE (SECONDARY CONSERVATION)

P1B SOILS "GROUP II" PRIME AG SOILS (SECONDARY CONSERVATION)

P1B SOILS "GROUP II" PRIME AG SOILS (SECONDARY CONSERVATION)

SLOPES OVER 25% (PRIMARY CONSERVATION)

UTILIZE PROPOSED CONNECTION THROUGH "LUFT" SUBDIVISION

EXISTING OPEN FIELDS (SECONDARY CONSERVATION)

EXISTING TREE LINE (SECONDARY CONSERVATION)

VIEWS INTO SITE (SECONDARY CONSERVATION)

VIEWS INTO SITE

VIEWS INTO SITE

EXISTING FARMSTEAD (SECONDARY CONSERVATION)

EXISTING TREE LINES (SECONDARY CONSERVATION)

NYS DEC WETLANDS (PRIMARY CONSERVATION)

P1B SOILS "GROUP II" PRIME AG SOILS (SECONDARY CONSERVATION)

EXISTING TREE LINE AND PATHS (SECONDARY CONSERVATION)

ROCK OUTCROP / STEEP SLOPES (PRIMARY CONSERVATION)



EXISTING SONEWALLS AND TREELINES (SECONDARY CONSERVATION)

EXISTING SONEWALLS AND TREELINES (SECONDARY CONSERVATION)

SLOPES OVER 25% (PRIMARY CONSERVATION)

SXC

RMC

RMD

Ma

PtB

PtC

RMD

Ma

BnB

Ma

PtB

PtC

PtB

PtB

MdB

MdC

ErB

PtB



### BULK REQUIREMENTS RU ZONE

(2001 ZONING REQUIREMENTS)  
USE GROUP "B" - CLUSTER DEVELOPMENT  
MINIMUM REQUIRED

LOT AREA (AC)	5
LOT WIDTH (FT.)	200
LOT DEPTH (FT.)	200
FRONT YARD (FT.)	75
REAR YARD (FT.)	50
ONE SIDE YARD (FT.)	75
BOTH SIDE YARDS (FT.)	150
YARDS ADJACENT TO SPECIAL AREAS (FT.)*	200
SPECIAL AREAS (FT.)*	(100)
FLOOR AREA / D.U. (SQ. FT.)	1,200

LOT COVERAGE (%)	20
BUILDING HEIGHT (STORIES)	3
BUILDING HEIGHT (FT.)	35

\*SPECIAL AREAS ARE LOTS WITHIN 25' OF A RESIDENTIAL DISTRICT BOUNDARY, AIRPORT, OR DESIGNATED PROTECTION AREA

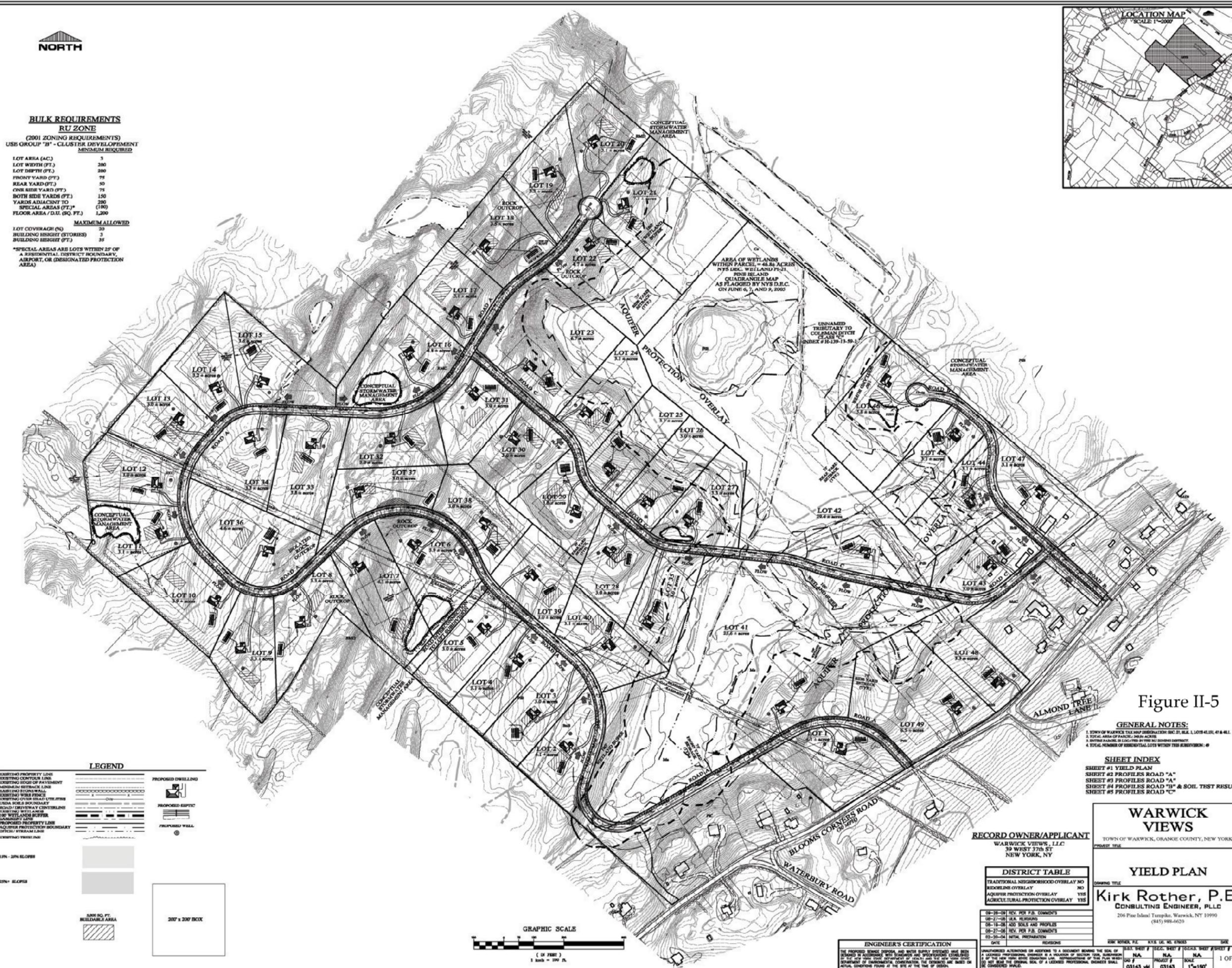
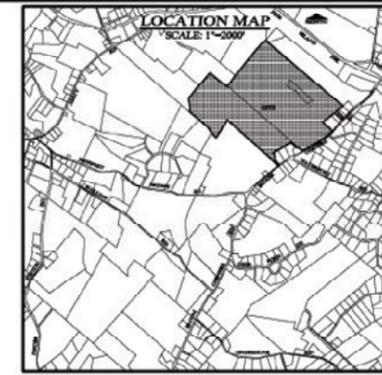


Figure II-5

**GENERAL NOTES:**  
1. TOWN OF WARWICK TAX MAP OBSERVATION: DEC. 21, 2011, LOTS 41, 42, 47 & 48.  
2. TOTAL AREA OF PARCEL: 268.81 ACRES.  
3. BOUNDARY LINES SHOWN BY THIS RECORDING INSTRUMENT.  
4. TOTAL NUMBER OF RESIDENTIAL LOTS WITHIN THIS SUBDIVISION: 47

**SHEET INDEX**  
SHEET #1 YIELD PLAN  
SHEET #2 PROFILES ROAD "A"  
SHEET #3 PROFILES ROAD "A"  
SHEET #4 PROFILES ROAD "B" & SOIL TEST RESULTS  
SHEET #5 PROFILES ROAD "C"

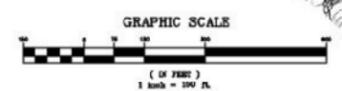
**LEGEND**

EXISTING PROPERTY LINE	EXISTING CONTOUR LINE	EXISTING SIDE OF PAVEMENT	MINIMUM RETRACT LINE	EXISTING SIDEWALK	EXISTING WIRE FENCE	EXISTING OVERHEAD UTILITIES	UNDA SOLE BOUNDARY	ROAD / DRIVEWAY CENTERLINE	EXISTING WETLANDS	100' WETLAND BUFFER	PROPOSED PROPERTY LINE	AQUIFER PROTECTION BOUNDARY	DITCH / STREAM LINE	CONCEPTUAL STORMWATER MANAGEMENT AREA	PROPOSED DWELLING	PROPOSED SEPTIC	PROPOSED WELL
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

15% - 20% SLOPES  
25%+ SLOPES

3000 SQ. FT. BUILDABLE AREA

200' x 200' BOX



**RECORD OWNER/APPLICANT**  
WARWICK VIEWS, LLC  
39 WEST 37th ST  
NEW YORK, NY

**DISTRICT TABLE**

TRADITIONAL NEIGHBORHOOD OVERLAY NO	NO
WETLANDS OVERLAY	NO
AQUIFER PROTECTION OVERLAY	YES
AGRICULTURAL PROTECTION OVERLAY	YES

08-28-09	REV. PER P.B. COMMENTS
09-27-09	REV. PER P.B. COMMENTS
08-18-08	REV. PER P.B. COMMENTS
08-27-08	REV. PER P.B. COMMENTS
02-20-04	INITIAL PREPARATION

**ENGINEER'S CERTIFICATION**  
I, THE UNDERSIGNED, A LICENSED PROFESSIONAL ENGINEER, HEREBY CERTIFY THAT I AM THE DESIGNER OF THE ABOVE DESCRIBED PROJECT AND THAT I AM AWARE OF THE EXISTING CONDITIONS OF THE SITE AT THE TIME OF DESIGN.

**WARWICK VIEWS**  
TOWN OF WARWICK, ORANGE COUNTY, NEW YORK

**YIELD PLAN**

**Kirk Rother, P.E.**  
CONSULTING ENGINEER, PLLC  
206 Pine Island Turnpike, Warwick, NY 10990  
(845) 988-6020

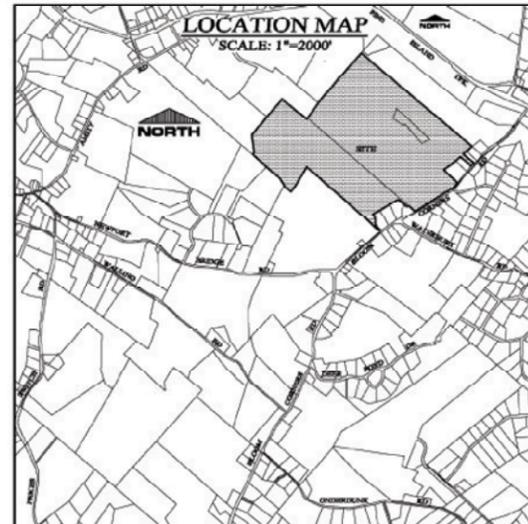
DATE: 03/14/13  
SCALE: 1"=150'

1 OF 5



# WARWICK VIEWS

TOWN OF WARWICK  
ORANGE COUNTY, NEW YORK



## TOWN OF WARWICK DRIVEWAY NOTES

- DRIVEWAYS SHALL BE DESIGNED AND CONSTRUCTED IN COMPLIANCE WITH SECTION A §168-19 OF THE TOWN CODE.
- DRIVEWAY GRADE FOR THE FIRST 25 FEET SHALL NOT EXCEED #4.
- FOR ALL LOTS WITH DRIVEWAYS THAT DO NOT EXCEED 10% IN GRADE, THE FIRST 25 FEET OF THE DRIVEWAY SHALL BE PAVED.
- FOR ALL LOTS WHERE ANY PORTION OF THE DRIVEWAY IS GREATER THAN 10% IN GRADE, THE DRIVEWAY SHALL BE PAVED IN ITS ENTIRETY.
- ALL FLAG LOT DRIVEWAYS SHALL BE PAVED IN THEIR ENTIRETY.
- OCCUPANTS ARE AWARE THAT AMBULANCE, POLICE AND FIRE PROTECTION SERVICES MAY ENCOUNTER DIFFICULTY OR DELAY IN RESPONSE TO EMERGENCIES WHERE THE LENGTH OF THE DRIVE IS OVER 1000 FT OR THE GRADE IS GREATER THAN 10%.

## SHEET INDEX

- SHEET #1 - COVER SHEET
- SHEET #2 - SURVEY PLAT (OMITTED)
- SHEET #3 - SURVEY PLAT (OMITTED)
- SHEET #4 - SUBDIVISION PLAN
- SHEET #5 - SUBDIVISION PLAN
- SHEET #6 - SUBDIVISION PLAN
- SHEET #7 - SUBDIVISION PLAN
- SHEET #8 - SUBDIVISION PLAN
- SHEET #9 - SUBDIVISION PLAN
- SHEET #10 - WELL CONNECTION PLAN
- SHEET #11 - ROAD A PROFILE
- SHEET #12 - ROAD A & PRIVATE ROAD PROFILES
- SHEET #13 - ROAD B PROFILES
- SHEET #14 - SDS DETAIL SHEET
- SHEET #15 - DETAIL SHEET

## AGRICULTURAL NOTES

BEING THAT THIS SUBDIVISION IS LOCATED WITHIN 2,000 FEET OF AN AGRICULTURALLY ZONED DISTRICT, IT MAY HAVE ACTIVE FARMING OPERATIONS IN THE VICINITY. BE ADVISED OF THE FOLLOWING:

- THAT FARMING DOES NOT ONLY OCCUR BETWEEN 8:00 a.m. AND 5:00 p.m. AND IS DEPENDENT ON NATURE. RESIDENTS SHOULD BE AWARE OF NOISE FROM AGRICULTURAL MACHINERY BEING OPERATED BY NEARBY FIELDS IN BOTH EARLY MORNING AND EVENING HOURS AND NOISE FROM CROP-DRYING FANS WHICH ARE RUN 24 HOURS A DAY DURING THE HARVESTING SEASON.
- THAT THE ROADS LEADING TO AND FROM THE SUBDIVISION ARE FREQUENTLY TRAVELED BY FARMERS AND THEIR SLOW MOVING FARM VEHICLES AND EQUIPMENT.
- THAT FARM NEIGHBORS VERY OFTEN SPRAY THEIR CROPS WITH PESTICIDES IN ACCORDANCE WITH ACCEPTED PRACTICES REGULATED BY THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, (D.E.C. NOTIFICATION LAW #325, OCTOBER, 1988).
- THAT EXISTING AGRICULTURAL OPERATIONS MAY CREATE BOTH UNAVOIDABLE ODORS AND UNSIGHTLINESS COMMONLY ASSOCIATED WITH FARMING OPERATIONS IN THIS AREA.
- THAT THERE ARE DANGERS IN LETTING CHILDREN AND PETS ROAM INTO ANY ADJACENT AGRICULTURAL FIELD, WHICH IS PRIVATE PROPERTY.
- THAT RESIDENTS FOR SEASONAL FARM LABORERS ARE AN ACCESSORY USE TO FARMING ACTIVITIES IN THE AGRICULTURAL ZONE.
- BE ADVISED OF THE NUISANCE OF BLOWING BLACK DIRT CAUSED BY WIND STORMS IN THIS AREA.
- AS PER SECTION 146-46 (2)(3) OF THE TOWN CODE, NO BUILDING PERMIT FOR A NEW RESIDENCE SHALL BE ISSUED AND NO LOT SHALL BE SOLD OR CONVEYED IN THE AGRICULTURAL INDUSTRY AND AGRICULTURAL PROTECTION OVERLAY ZONING DISTRICTS UNLESS THE APPLICANT/PURCHASER OF SUCH RESIDENCE/LOT FILES A STATEMENT WITH THE TOWN CLERK THAT HE UNDERSTANDS THAT THE LOT LIES WITHIN THE AGRICULTURAL ZONING DISTRICT WITHIN WHICH THE PRIMARY ACTIVITY IS FARMING.
- A DECLARATION REFERENCING THE AGRICULTURAL NOTES HAS BEEN RECORDED IN THE ORANGE COUNTY CLERK'S OFFICE AT LIBER XXXXX, PAGE XXXX ON XX/XX/XXXX.

## TOWN OF WARWICK LIGHTING NOTES

ALL OUTDOOR LIGHTS SHALL BE DESIGNED, LOCATED, INSTALLED, AND DIRECTED IN SUCH A MANNER AS TO PREVENT OBJECTIONABLE LIGHT AT AND ACROSS THE PROPERTY LINES, AND TO PREVENT DIRECT GLARE AT ANY LOCATION ON OR OFF THE PROPERTY. THE PROHIBITIONS AND REQUIREMENTS LISTED IN SECTION 164-43 OF THE TOWN CODE SHALL APPLY TO ALL PROPOSED AND EXISTING OUTDOOR LIGHTING FIXTURES.

## AQUIFER PROTECTION NOTES:

THE USE RESTRICTIONS AND REQUIREMENTS OF SECTION 164-47.2 OF THE TOWN CODE, SUMMARIZED BELOW, SHALL APPLY TO ALL LAND IN THE AQ-D DISTRICT WHICH LIES WITHIN THE AQUIFER RECHARGE AREAS, PROBABLE HIGH YIELD BEDROCK WELL LOCATIONS, OR WHICH IS WITHIN ONE MILE OF PRESENT AND FUTURE COMMUNITY WATER SUPPLY WELLS OR SPRINGS.

BASED UPON A DETERMINATION BY THE TOWN OF WARWICK BUILDING DEPARTMENT, AN AQUIFER IMPACT ASSESSMENT IS NOT REQUIRED.

- DISPOSAL WELLS SHALL NOT BE INSTALLED OR USED.
- STORMWATER RUNOFF INFILTRATION BASINS ARE CONDITIONALLY PROHIBITED.
- STOCKPILING OR DUMPING OF SNOW IS PROHIBITED.
- MANURE PILES ARE CONDITIONALLY PROHIBITED.
- TOXIC OR HAZARDOUS SUBSTANCES SHALL NOT BE STORED EXCEPT IN ACCORDANCE WITH THE TERMS OF AN ISSUED USEPA OR NYSDEC PERMIT.
- USE OF WASTEWATER LAGOONS AND FITS IS PROHIBITED.
- DISPOSAL OF TOXIC CHEMICALS, INDUSTRIAL SLUDGE, OR RADIOACTIVE MATERIALS IS PROHIBITED.
- ALL OUTSIDE BULK STORAGE OF FERTILIZERS FOR AGRICULTURAL OR COMMERCIAL USE IS PROHIBITED.
- NO PESTICIDES OR HERBICIDES SHALL BE STORED OR APPLIED EXCEPT IN COMPLIANCE WITH THIS SECTION.
- INSTALLATION, CONSTRUCTION, PLACEMENT OR REPLACEMENT OF NEW OR EXISTING UNDERGROUND STORAGE TANKS SHALL COMPLY WITH THE REQUIREMENT OF THIS SECTION.
- ALL OUTSIDE STORAGE OF SALTS OR COAL IS PROHIBITED.
- ALL WATER SUPPLY WELLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENT OF THE ORANGE COUNTY DEPARTMENT OF HEALTH.
- ALL ABANDONED WELLS SHALL BE SEALED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ORANGE COUNTY DEPARTMENT OF HEALTH.

A DECLARATION REFERENCING THE AQUIFER PROTECTION OVERLAY NOTES HAS BEEN RECORDED IN THE ORANGE COUNTY CLERK'S OFFICE IN LIBER XXX AT PAGE XXXX ON XX/XX/XXXX.

## LEGEND

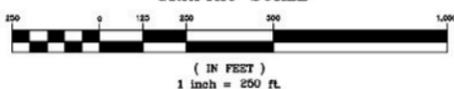
- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- MINIMUM SETBACK LINE
- EXISTING STONEWALL
- EXISTING WIRE FENCE
- EXISTING OVERHEAD UTILITIES
- USDA SOILS BOUNDARY
- EXISTING TRIBUTARY
- PROPOSED DWELLING
- PROPOSED STREET TREE
- OPEN SPACE CONSERVATION

TOTAL AREA OF LAND UNDER CONSERVATION - 173.35± ACRES  
TOTAL AREA OF LAND TO BE DEVELOPED = 89.4± ACRES  
TOTAL AREA OF PARCEL = 249.9± ACRES  
PERCENTAGE OF LAND CONSERVED = 69.4% ±

## DISTRICT TABLE

TRADITIONAL NEIGHBORHOOD OVERLAY	NO
RIDGELINE OVERLAY	NO
AQUIFER PROTECTION OVERLAY	YES
AGRICULTURAL PROTECTION OVERLAY	YES

SCALE: 1" = 250'  
GRAPHIC SCALE



## RECORD OWNER/APPLICANT

WARWICK VIEWS, LLC  
39 WEST 37th ST  
NEW YORK, NY

FIG. II-6

## WARWICK VIEWS

PROJECT TITLE  
**WARWICK VIEWS**

DRAWING TITLE  
**CLUSTER LAYOUT**

**Kirk Rother, P.E.**  
CONSULTING ENGINEER, PLLC  
206 Pine Island Turnpike, Warwick, NY 10990  
(845) 988-0620

DATE	REVISIONS	DATE
08-28-06	REV. PER P.B. COMMENTS	
05-15-09	MAXIMUM CONSERVATION LAYOUT	
08-18-08	GENERAL REVISIONS	
06-24-08	INITIAL PREPARATION	

D.O.T. SHEET #	D.E.C. SHEET #	D.C.H.D. SHEET #	SHEET #
N.A.	N.A.	N.A.	1 OF 15
QAD #	PROJECT #	SCALE	
03143.0	03143.0	AS NOTED	

Individual septic systems will be provided on individual lots for sewage disposal. A waiver will be obtained from the Orange County Health Department to allow individual septic systems to serve more than 49 lots so the applicant may provide the four additional affordable dwellings in accordance with the Town Zoning Code. If this permit is not obtained, the applicant will construct a central sewer system and associated permits will be obtained.

Gas and electricity infrastructure and service is available to the project site and will be provided by Orange and Rockland Utilities, Inc.

#### Objectives of the Project Sponsor

The objective of the project sponsor is to construct 53 single family homes in a cluster layout in accordance with the Town Comprehensive Plan and applicable zoning regulations. Homes are intended to be two story homes with attached garages ranging in livable square footage from 2,800 to 3,400. Homes will be designed in an architectural style similar to those in surrounding, recently constructed, neighborhoods and discussed in the Town's Design Guidelines. Homes will not be identical in appearance, but final design will be determined by the home buyer. Garages will not be placed in the front of the home. Each home will range in cost from \$330,000 to \$550,000 depending on square footage, lot size and affordability constraints. Each lot will be connected to a community well system and have an individual septic system (additional information regarding intended utilities systems can be found in Sections III-L, III-M, III-N of this report.

### **B. Project Purpose, Need and Benefits**

The purpose of the project is to construct 49 market rate single family dwellings and 4 affordable single family dwellings with community water and individual septic systems on lots which range from 2.53 to 0.75 acres (not including the agricultural lot) in accordance with adopted plans and laws of the Town, with which the applicant believes the plans conform.

The proposed subdivision is intended to meet some of the increased demand in the region for single family housing for both young professionals looking to begin a family or families currently living in a more urban area who may be looking to move to a more rural environment as well as the increasing need for affordable housing in the region. Dwellings will range between 2,800 and 3,400 square feet in livable floor area. From the exterior, the affordable dwelling units will not be distinguishable from those which are market rate although they may be placed on the smaller proposed lots within the subdivision. The applicant believes there is a market within the Town and Region for this type of housing.

Social benefits to the Town include the conservation of natural resources accomplished by the clustered nature of the subdivision and the implementation of conservation easements as well as the proposed construction of four dwelling units which will qualify as affordable as defined by the Town Zoning Code and based on the median household income of Orange County residents as reported by the U.S. Department of Housing and Urban Development (HUD).

The Town (not including special districts) will benefit economically from the proposed subdivision via the generation of tax revenue. It is estimated that the project will generate approximately \$23,054.75 of net revenue for the Town after costs from the proposed subdivision.

(See Section III-J. for a full fiscal impact analysis). There is also potential for local businesses to see a small increase in economic activity due to the proposed project.

### C. Construction and Operation

#### 1. Construction Schedule

Construction will take place Monday through Saturday 7:00 AM to 6:00 PM exclusive of holidays. Construction will take place in two phases as described in Section V of the applicant’s Stormwater Pollution Prevention Plan found in Appendix A. The first phase would entail construction of the road ways, drainage and public water infrastructure. The second phase would include the development of the individual lots. The construction of the roadways would not coincide with the presence of occupied residential lots. Total construction of the project is anticipated to take approximately 36 months with completion anticipated in year 2012.

Construction will commence as follows:

Activity	Month												
	1	2	3	4	5	6	7	8	9	10	11	12	13+
Clearing & Grubbing	■												
Grading-Filling		■	■	■									
Infrastructure					■	■	■	■					
Paving & Amenities									■	■			
Individual Lots											■	■	■

Construction Activities are likely to be ongoing after portions of the subdivision are placed into use. Activities will include only single-family residential building construction spread over a multi-year buildout as homes are purchased. Roadways and grading activities will be completed prior to resident occupation of the site. Extraordinary safety measures are not anticipated to be necessary beyond typical good housekeeping of the individual home sites and maintenance of the erosion and sediment control devices to protect from adverse impacts due to soils erosion and runoff.

There will be no additional construction entrance to the project. Access by construction vehicles will be via the existing access road or the proposed road once it has been constructed. Heavy equipment will use major roadways to the greatest extent possible. A heavy equipment staging and material handling area for the heavy earthwork associated with the proposed roadway construction is depicted on the Erosion and Sediment Control Plan. Material handling and storage associated with construction of the individual lots will occur on the individual lot as each lot is developed.

All requirements of Chapter 150 of the Town Code, Grading and Excavation, will be adhered to. Top soil will be stockpiled for re-use upon completion of construction activities and the soil erosion and sediment control devices will be implemented in accordance with the approved plan. Noise generation will be that typically associated with a construction site of this type with no extraordinary noise mitigation measures proposed.

A Stormwater Pollution Prevention Plan which includes an erosion control plan has been prepared for the project in accordance with the NYS Department of Environmental Conservation and a SPDES Permit for General Construction Activities. The SWPPP includes a Stormwater

Quality and Quantity Analysis, Erosion and Sediment Control Plan and a Construction Phasing and Sequence Plan many of these plans are fully discussed in Sections III-A, III-B and other applicable sections throughout this report.

## 2. Operations

Open space on site will be protected by conservation easement. Control over the conserved land outside of Lot 53 will be offered for dedication to the Town of Warwick or other agency they may designate. If the Town declines to take control of this land, then the land will be controlled by the individual homeowner. This land provide a passive recreation area for the benefit and enjoyment of all residents of the proposed subdivision. No recreational buildings, equipment or any construction of any kind will be located in this area.

Farming operations are likely continue to take place in the eastern corner of the site. While this site contains wetlands, farming has historically been successful in this area of the site and has included crops which are conducive to wet soils. Specific farming activities are will be left to the discretion of the landowner. Residents of the proposed project will be made aware that these operations will take place and that occasionally said operations may cause noises and, or odors which are above the levels of a typical residential subdivision. As shown on the subdivision layout plans, farming operations will be a considerable distance from all proposed residential lots and the proposed conservation easement will provide adequate buffering.

As proposed, no community septic or sewage treatment will take place on site. An alternative cluster layout plan, proposing 53 lots, utilizing two community septic areas has been prepared to further investigate the onsite potential. This plan is discussed in the Alternative Section of the document (Section V).

### III. EXISTING SETTING, POTENTIAL ENVIRONMENTAL IMPACTS AND PROPOSED MITIGATION MEASURES

#### **A. Soils and Geology**

##### EXISTING SETTING

##### 1. Soil

According to the Orange County Soil Survey the following soils are present on the site:

**Farmington (FAC)**- 8.63 acres of the project site. Found mainly on the northwest portion of the Site. This shallow well drained sloping soil formed in glacial till deposits derived from limestone, shale, slate and silt stone.

- Permeability is moderate.
- Bedrock: typically limestone or limy shale, is at a depth of 10 to 20 inches.
- Water table: generally 6 feet or deeper
- Construction restraints: moderate limitations for septic systems. Dwellings with and without basements may be installed.

**Bath- Nassau (BnB)** – 7.33 acres of the project site. This soil consists of approximately 50% Bath soil, 30% Nassau soil and 20% other soils. It is typically made up of deep, well drained soils and shallow somewhat excessively drained soils that formed in glacial till deposits derived from shale and slate. This soil is identified as a soil of Statewide Significance.

- Permeability in Bath soil is moderate in the subsoil and slow or very slow in the fragipan, while permeability in Nassau soil is moderate throughout.
- Depth to bedrock in Bath soil is 40 to 60 inches and 10 to 20 inches in Nassau soil.
- In Bath soil a perched water table is above the fragipan for brief periods in early spring. Nassau soil has no seasonal high water table above the bedrock.
- Construction constrains: This soil complex varies in suitability for development. Bedrock depth serves as a limitation for deep excavations for infrastructure such as pipelines. Excessive grading should be avoided.

**Rock Outcrop – Farmington Complex (RMC and RMD)**- RMC occupies 59.34 acres of the project site and RMD occupies 10.14 acres of the project site. This complex is comprised of exposed bedrock and shallow, somewhat excessively drained to well drained Farmington soils located in upland features. Areas of these types of soils sometimes have a “stairstep” appearance because of the ledgy bedrock.

- Permeability is moderate.
- Bedrock is exposed in some places or may have a thin layer of soil cover.
- There is no seasonal high water table perched above the fractured, jointed, and cavernous bedrock.
- Construction restraints: Rock outcrops restrict the use of construction equipment and creates severe limitations of the construction of septic systems, dwellings and roads.

**Pittsfield series (PtB and PtC located on site)**- PtB soils occupy 49.15 acres of the site and PtC soils occupy 11.66 acres of the site. This series consists of deep, well drained, gently sloping to moderately steep sloping soils which formed in glacial till deposits derived from limestone and schist in uplands. PtB soils are identified as Prime Agricultural soils and PtC soils are classified as soils of Statewide Significance.

- Permeability: moderately permeable in the upper 30 inches and slowly permeable below 30 inches.
- Depth to bedrock is typically greater than five feet
- Depth to the water table is typically more than six feet.
- Construction restraints: Moderate limitations for the construction of septic systems and slight to moderate restrictions exist for the construction of residences with or without basements.

**Erie Series (ErB and ESB located on site)** – ErB soils occupy 6.91 acres of the site and ESB soils occupy 17.17 acres of the site. Erie soils consist of deep somewhat poorly drained, nearly level soils which formed in glacial till deposits. ErB soils are classified as soils of statewide significance.

- Permeability is slow to very slow
- Erie soils are deep over bedrock.
- The water table in this series is perched above the fragipan in spring and other wet periods.
- Construction limitations: Severe limitations for installation of septic systems and residential homes with basements due to wetness and frost action.

**Madalin (Ma)**- 12.33 acres of the project site. This deep, poorly drained, level soil formed in glacial till in lake deposits of silt and clay. Madalin soils are classified as soils of Statewide Significance.

- Permeability is moderately slow in the upper layers and slow in the substratum.
- Depth to bedrock: Greater than 6 feet
- The water table is at or near the soil for prolonged periods during the year. Some areas are ponded for per periods in spring or other wet periods.
- Construction limitations: severe limitations for construction of residential buildings with or without basements due to prolonged wetness.

**Mardin (MdB, MdC and SXC located on site)** MdB soils occupy 1.21 acres of the site, MdC soils occupy 3.77 acres of the site, SXC soils occupy 24.08 acres of the site. Mardin soils are deep and moderately well drained soils that formed in glacial till deposits derived from sandstone, shale and slate. Surface layers consist of 15 to 35 % gravel fragments. SXC soil is a complex mix of Mardin Series with Swartswood soil. Swartswood soils have characteristics similar to Mardin. MdB and MdC soils are classified as Statewide Significant soils.

- Permeability is moderate in the surface and upper layers and slow in the substratum.
- Bedrock is greater than 6 feet.
- The water table is generally perched above the fragipan in spring and other wet periods.
- Construction limitations: Moderate limitations exist for dwellings without basements and sever limitations exist for dwellings with basements due to wetness and frost action.



**Canandaigua Silt Loam (Ca)** – 31.14 acres of the project site. This deep very poorly drained level soil formed in organic deposits. This muck typically extends to a depth of 155 inches or more. While this soil is drained, it is still subject to occasional flooding and ponding in spring and other wet periods.

- Permeability varies depending on the degree of soil compaction
- Bedrock: very deep, approximately 10 feet.
- The water table is near the surface in the spring but is lowered quickly through the drainage network once upland runoff subsides.
- Construction limitations: Severe limitations exist for the construction of dwellings with or without basements due to wetness and low soil strength.

The soil makeup of the site is visually depicted in Figure III-1.

## 2. Geology

The project site is located in the southern portion of Orange County. This region of New York State lies within the Ridge and Valley Physiographic Province. This province, also known as the Newer Appalachians, has a topography of successive parallel valleys and ridges trending roughly in a northeasterly direction.

Bedrock underlying the site consists of Calcite and Dolomite Marble on the northwestern portion of the property, and the Wappinger Group which consists of limestone and dolomite, underlies the rest of the parcel. The Calcite and Dolomite Marble unit has low primary permeability and moderate secondary permeability caused by the interconnection of fractures. The Wappinger Group has a low to moderate primary permeability based on the porosity of the bedrock and low to high secondary permeability caused by the presence of many interconnected fractures, joints, bedding, planes and dissolution cavities.

## 3. Topography

The site is characterized by gently rolling hills on the southeastern side of the property, with steeper, wooded terrain on the northwest side. The elevation along Blooms Corners Road is approximately 530 mean feet above sea level (msl). The property slopes in a northwesterly direction to the wetland corridor which runs across the project site at an elevation of 456 msl. The land then gently slopes through the grassy meadow to an approximate elevation of 470 msl. At the rear of the meadow, the land slopes rather steeply to an ultimate elevation of 540 msl. Approximately 74 % of the 249 acre site contains slopes less than 15%, 16% of the site contains slopes ranging from 15 to 25% and 10 % of the site contains slopes greater than 25%. Areas of slopes ranging from 15% to 25% and those which are greater than 25% are depicted in shaded relief on the Cluster Subdivision Plan. (See Slopes Map, Figure III-2)

## POTENTIAL IMPACTS

The proposed subdivision will result in changes to the site's natural topography. The clustered nature of the subdivision will reduce the overall amount of land that will need to be cleared and graded. A proposed grading plan has been completed for the subdivision at a scale of 1" = 50' which is located on sheets 4 through 9 of the Cluster Subdivision Plans. It is anticipated that cuts and fills will be balanced across the site which will alleviate the need to transport or remove soils to and from the site and top soil will be stockpiled for re-use upon completion of the construction activities.

- 15% - 25% SLOPES (28.82 ACRES)
- > 25% SLOPES (18.97 ACRES)

TOTAL AREA WITH SLOPES 15% OR GREATER = 47.79 ACRES



EXISTING SONEWALLS (TYP.)

APPROX. EXISTING GAS LINE

50' WIDE R.O.W. FROM "LUFT" SUBDIVISION

SCALE: 1" = 400'

**LEGEND**

- EXISTING PROPERTY LINE
- EXISTING CONTOUR LINE
- EXISTING EDGE OF PAVEMENT
- EXISTING STONEWALL
- EXISTING WIRE FINCH
- EXISTING CONCRETE MONUMENT
- EXISTING SIGN
- EXISTING WOOD BOLLARD
- EXISTING UTILITY POLE

SLOPES OVER 15%

SLOPES OVER 25%

NYS DEC WETLANDS

EXISTING FARMSTEAD

BLOOM CORNERS ROAD

WATERBURY ROAD

**FIGURE III-2**

**WARWICK VIEWS**

PROJECT TITLE

**STEEP SLOPES MAP**

DRAWING TITLE

**KIRK ROTHER, P.E.**  
CONSULTING ENGINEER, PLLC

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04-09-00	INITIAL PREPARATION
DATE	REVISIONS

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D.D.T. SHEET #	D.E.C. SHEET #	O.C.H.D. SHEET #	SHEET #
N.A.	N.A.	N.A.	1 OF 1
CAD #	PROJECT #	SCALE	
03143-X-COHD	03143.0	AS NOTED	

KIRK ROTHER, P.E. N.Y.S. U.C. NO. 079053 DATE

Based on soil composition and field evaluations, it is likely that there will be blasting on the site during the construction period in areas of shallow bedrock and rock outcrops generally located in the western portion of the site. (areas identified as soil classification RMC and RMD on the provided soil map). The exact locations of blasting and amounts to be removed will be determined at the time of construction.

Total area of disturbance is computed at 41.23 acres which includes disturbance associated with the construction of the roadways, associated stormwater management ponds and other infrastructure, as well as disturbance associated with the individual lots including houses, driveways, septic construction as well as modest yard areas. Of the total computed area of disturbance, approximately 38.9 acres occurs in areas where the slope ranges from 0 to 15%, 3.4 acres occurs in areas of slope of 15% to 25%, and 1.8 acres occurs in areas where the slope exceeds 25%.

Disturbance to hydric soil is limited to that necessary for the wetland crossing, approximately 8,108 square feet. A total of 10.23 acres of Prime Agricultural Soils will be disturbed, approximately 21% of that which exists on the site. A total of 7.68 acres of soils of Statewide Significance soils will be disturbed, approximately 17.7% of that which exists on the site.

Soils with high erosion potential will need special consideration to ensure that surface water is not negatively impacted. Soils identified by the Orange County Soil Survey as having a high potential for erosion if top cover is removed are Rock Outcrop- Farmington, hilly (RMD), Pittsfield (PtB and PtC) and Erie gravelly silt loam (ErB) in some cases. The potential impacts due to erosion include loss of soil, downstream siltation build up and decreased light infiltration to waterbodies impacting vegetative growth and other habitats

Based on Deep Pit and Percolation Soil Testing for each lot, completed with the Town of Warwick Town Engineer in the area of the proposed septic systems, no subsurface conditions were encountered which are expected to adversely affect septic use. Results of these tests have been included with the applicant's Yield Plan (Figure II-5). Areas of shallow bedrock were encountered (less than four feet), however the available depth of soil is found to be adequate to support conventional or shallow type sewerage disposal systems in accordance with NYS Department of Health appendix 75A standards. All proposed sewage disposal systems are situated a significant distance from any existing, known well or public water supply wellheads. Separation distances are substantially greater than the minimum required distances established by the state.

The applicant's geologist completed a detailed site inspection to determine the presence of karst features which included the testing of rock samples. Numerous rock outcrops observed on the study parcel confirm the marble and limestone/ dolomite units to be generally thin-bedded and are less likely to form karst features. The fractures and bedding plans did not exhibit dissolution cavities, which would be considered karst conditions. No sinking streams or resurgence of surface was noted during the site inspection, particularly in the low lying valley setting. In addition, during drilling of onsite Wells 1, 2, 4 and 5 water bearing fractures were reported, but no significantly open cavities were encountered at depths up to 350 feet. Large scale collapsed feature and closed depressions which were thought to be karst conditions were rectangular in shape and appeared to be old test pit locations. A small vertical crevice was observed in a marble outcrop which is a small karst feature. The majority of rock samples taken were granite rock but calcitic rock was also found.

The occurrence of radon is a concern of the Orange County Health Department and is somewhat common in this area of the Town of Warwick in areas with Franklin Marble geology.

## MITIGATION MEASURES

Lots and dwelling units have been sited based on the 4-Step Design Process (discussed further in Section III-G) which ensures that environmental features such as steep slopes and prime agricultural soils are avoided

The applicant will secure a permit from the Town in the event that blasting is necessary during the construction period and all NYS protocols will be strictly adhered to. Explosives will be transported, stored and disposed of in accordance with Section 63 of the Town Code and only a professional licensed by the State of New York with proper insurance will undertake the job. The location and depth of blasting will be precisely determined by an engineer and the use of blasting mats to minimize rock lift and debris during blasts will be implemented. No blasting will occur after 5:00 pm or before 8:00am nor any Sundays or holidays. Blasting measures will include pre-blast inspections of existing structures identified in the plan, identification to adjoining homeowners of the date and time of scheduled blasting activities, as well as post blast inspections upon completion of the blast. Given the sites distant proximity to adjoining structures, the requirements for pre blast inspections will be minimal as the survey radius is typically 1000 feet.

Computed cuts and fills for the site are calculated at 18,383 cubic yards of cut and 24,508 cubic yards of fill resulting in a surplus of fill of 6,125 cubic yards. Of this amount approximately 1,531 cubic yards (25%) is expected to be lost to material handling, compaction and spillage resulting in a surplus volume of approximately 4,594 cubic yards. This excess material will be spread along roadway embankments and around Stormwater Management Ponds. No excess material will be exported off site.

### Erosion and Sediment Control Plan

To address erosion concerns an Erosion Control Plan has been developed for the Project Site. Best Management Practices (BMPs) from the New York State Guidelines for Urban Erosion and Sediment Control will be put into place to control soil erosion impacts.

BMPs will consist of both temporary and permanent measures including the following:

- Silt fencing will generally located along the limits of disturbance at the downstream toe of all cut and fill slopes to reduce sediment loss.
- Inlet Sediment Traps will be located at all storm drain structures to minimize soil loss from entering the storm drainage system.
- Temporary swales will be used to convey stormwater runoff during construction to storm drainage and erosion control features.
- Check dams and rock dams will be located in drainage swales to help filter and settle out any sediments.

In addition to the above mentioned BMPs the contractor will be required to stage work consistent with NYS DEC requirements and will seed and stabilize all disturbed land within 14 days. Erosion control measures shall be inspected by a qualified professional at least once every seven days and after rainfall events of one half inch within a 24-hour period.

Due to the presence of calcitic rock, the applicant will prepare a karst mitigation plan prior to final approval to be implemented in the event karst conditions are encountered during construction. Possible mitigation measures which may be implemented include cementation or grouting of unstable features but actions will largely depend on the specific karst features encountered. The applicant will install whole house radon evacuation systems in all houses that lie within the Franklin Marble geology in order to mitigate any potentially present radon.

## **B. Water Resources**

### EXISTING SETTING

The project site lies within the Wallkill River Basin which drains into the Hudson River. A 46.8 acre freshwater wetland exists on the site, classified as a Class III, shallow emergent marsh, has been delineated by the New York State Department of Conservation (NYS DEC) and identified as #PI-21. The wetland area bisects the property and covers the majority of the eastern portion of the site. A stamped map illustrating the State jurisdictional wetlands from the DEC is included herewith and labeled as Figure III-3. Regulations applicable to this wetland are stated in the NYS Freshwater Wetlands Act. This Act regulates certain activities in the wetland including filling, draining and erecting buildings. In order to undertake such regulated activities a NYS jurisdictional Freshwater Wetland a permit must be obtained from the NYS DEC. The permit standards in the regulations require that impacts to wetlands be avoided and minimized.

An unnamed Class 'C' stream tributary to Quaker Creek bisects the site and discharges off site to the north. This stream is approximately 2560 linear feet and originates from a man made ditch which was constructed for irrigation purposes related to the agricultural activities which once took place on the site. There are no mapped floodplains associated with the stream. Existing Surface Water Resources are shown on Figure II-4, Existing Resources and Figure III-3, Wetlands.

Federal jurisdictional wetlands exist on the property, the limits of which coincide with the NYS DEC wetland. Wetlands were delineated by Robert Torgersen, L.A., CPESC, on May 31, 2007 field notes from this investigation are provided in **Appendix B**.

The project site has been found to have approximately eight drainage sub-catchments as shown on the Pre Development Drainage Analysis Map in the attached SWPPP which are a result of the topography on the site and surrounding area. The largest of the drainage sub-catchments is identified on the map as Basin E and has an area of approximately 163.4 acres and encompasses the entire freshwater wetland system.

The underlying bedrock aquifer consists of Calcite and Dolomite Marble on the northwestern portion of the site and the Wappinger Group, consisting of limestone and dolomite, underlies the remaining portion of the site. Calcite and dolomite marble is brittle with numerous open fractures. It exhibits low primary permeability based on the porosity of the bedrock and low to high secondary permeability caused by the presence of many interconnected fractures. The Wappinger unit exhibits low to moderate permeability based on the porosity of the bedrock and secondary permeability caused by the presence of many interconnected fractures and dissolution cavities can be low to high. The distinction between the confined and unconfined layer is not clear geologically, the aquifer shows characteristics of both types. This is often the case when the geology is fractured.

Groundwater in the aquifer is continually being replenished by precipitation on the local watershed. Historic precipitation data from the Gardnerville, Middletown and Port Jervis rain gauge stations indicate the average precipitation in Orange County is 43 inches annually. Groundwater recharge results from rainfall and snowmelt that infiltrates the overburden materials and reaches the bedrock aquifer. The applicant's hydro-geologist estimates the recharge directly to the 249.9 acre site to be about 107,770 gallons per day (gpd). The recharge



estimate significantly exceeds the estimated average water demand (21,200 gpd) for the proposed residential development under both normal and drought conditions. (See Section III-L of this DEIS and the Hydrogeologic report in **Appendix G**)

Groundwater is not currently being utilized on the Project Site but a groundwater well which services the existing farmstead is located on the project site. That well is identified on Figure 1 of Leggette, Brashears and Graham's Hydrological report in Appendix G as Well 3. Well 3 has a total depth of 500 feet, a casing length of 40 feet and an estimated yield of 15 gallons per minute. This well is not currently being used because the farmstead is vacant.

Currently there are four centralized water districts within the Town all of which are over 5 miles away from the Project Site which would make interconnection to these districts impractical. According to the Town Comprehensive Plan, no new water districts are planned and due to the spread out, rural nature of the Town and the desire of local residents to maintain the existing character new water districts are often not practical and undesirable.

Discussion of water supply and use of groundwater for public use is discussed in Section III-L of this document.

## POTENTIAL IMPACTS

Drainage patterns will be altered due to site grading and the construction of additional impervious surfaces. General post development stormwater runoff patterns will remain largely unchanged as stormwater runoff will follow its natural, pre-development, course of drainage.

Post development peak flow rates were determined to be below pre development levels for the 1, 10, 25, 50 and 100 year storms.

There is potential for contamination and sedimentation in on site water resources as a result of on site construction. Approximately 9,840 square feet of the on site wetlands is proposed to be disturbed as well as 30,390 square feet of adjacent buffer area. The wetland crossing is proposed at the most narrow point of the wetland area. Mr. Adam Peterson, a representative of the DEC was consulted in the design of the subdivision layout and they agreed the proposed design minimized impacts to the greatest extent possible. Based on State wetland compatibility criteria found in 6 NYCRR 663.4(d) the proposed road construction in the wetland area is "incompatible" with the wetland function and therefore this wetland intrusion will require a freshwater wetlands disturbance permit from the NYS DEC.

A person proposing to conduct an activity that requires a permit, as described in the NYS Environmental Conservation Law must meet the standards for permit issuance and receive a permit or letter of permission prior to commencing that activity. In granting a permit, the Commissioner will apply the designated standards for permit issuance in conjunction with the classification (Class III) of the subject wetland. According to the State standards, the loss of Class III wetlands is acceptable only after the exercise of caution and discernment. A permit shall be issued only if it is determined that the proposed activity satisfies an economic or social need that outweighs the loss of or detriment to the benefit(s) of the Class III wetland. The burden to prove the wetland disturbance for this development project will meet the above criteria will lie solely with the applicant and his consultants.

Two piezometers were installed in the onsite wetland to measure any potential hydraulic connections between the wetland and the wells under pumping conditions. Draw-down from adjacent wetland was observed during the testing of Well 1 and therefore this well will not be used as a water source for the project.

The wetland features on the Project Site are expected to exhibit no significant effects from the ground-water supply withdrawals from other bedrock wells. The water-level data and hydrographs for the piezometers installed in the onsite wetlands adjacent to Wells 2 and 5 indicate no direct hydraulic connection during the pumping test events on the respective wells.

Long term potential impacts to the wetlands include the potential for pesticides, fertilizers, and other chemicals which are frequently used by homeowners or are common for road maintenance to enter the wetland area. It is likely many of these chemicals have also been used near the wetland area in connection with the site's agricultural use in the past.

## PROPOSED MITIGATION MEASURES

The NYS DEC wetland area remaining on the site as well as 26.3 acres of NYS DEC buffer area will be included in the conservation easement and no filling, draining or other detrimental activities will be permitted in this area.

A Stormwater Pollution Prevention Plan (SWPPP) which addresses requirements of the Town of Warwick, Orange County and NYSDEC has been created for the project and is located in **Appendix A** of this report. Stormwater management will be accomplished via an open storm drain infrastructure which will convey stormwater runoff to multiple proposed wet detention ponds. Ponds have been designed in accordance with NYS DEC Design Guidelines and are provided to limit peak post development flow rates to pre development levels.

A Hydrologic Stormwater Analysis has been performed and attenuation of the peak discharge rates for the aforementioned storms will satisfy the NYS DEC SPDES permit requirements for channel protection, over bank flood control and extreme flood control. All drainage calculations can be found in the attached Stormwater Pollution Prevention Plan.

Water quality permanent pools within the detention pools have been sized in accordance with guidelines for water quality volume. Stormwater quality practices consistent with the NYS Stormwater Management Design Manual will be employed on the site. Details depicting the construction of the stormwater management ponds are located within the full set of subdivision plans and a full detailed discussion of stormwater quality can be found in the applicant's Stormwater Pollution Prevention Plan (SWPPP) located in Appendix A of this document.

The applicant will work closely with the Town Engineer to ensure the aquifer is protected. All of the regulations in Section 164-47.2 of the Warwick Town Code will be followed including strict restrictions on what types of materials can be stockpiled or dumped on the project site in order to protect the aquifer and ground water from possible contamination.

All wells on the project site will be constructed in compliance with the Orange County Health Department and all abandoned wells will be properly sealed.

## C. Vegetation and Wildlife

### EXISTING SETTING

According to a Biological Evaluation performed on the Project Site in May of 2007 this property contains five ecologically distinct communities identified in “Ecological Communities of New York State” (Reschke, 1990). Below is a description of these communities with the specific compositional variations that occur on the project site. A full copy of the Biological Investigation including a full inventory of the representative flora and fauna is located in Appendix B of this report. In general, the methodology suggested in Hudsonia’s Biodiversity Assessment Manual has been followed. Existing material in the form of topographical maps, soil surveys, biological literature relevant to the Hudson Highlands region, etc. was reviewed and analyzed. An inquiry was sent to the New York Natural Heritage Program (NYNHP) requesting records of rare communities and species in the vicinity and the U.S. Fish and Wildlife Service website for Orange County was investigated for their list of threatened or endangered species. A response letter from the Natural Heritage Program is included in Appendix B of this report.

In general, the wildlife on the project site is typical of a region dominated by woodlands dissected by a mosaic of disturbed habitats such as mowed lawns, roadways, pathways, transmission line corridors and other human development. A complete list of all species found on the project site can be found in the Biological Evaluation in **Appendix B**.

An existing Tree Location Map is provided and labeled as Figure III- 4 showing all trees 24 inches or greater at breast height.

A field investigation was undertaken to determine the presence of the identified state listed species that are known to exist within Orange County; Indiana Bat and Bog Turtle.

The study concluded that the project site is not a potential Bog Turtle habitat as no fen indicator species were observed and the hydrology and substrate material were too variable or unstable to support the Bog Turtle.

The assessment also concluded that, while no Indiana bats were found onsite, there is potential for a Indiana Bat habitat in the vicinity of the northeasterly portion of the uplands on the property due to the presence of several shagbark hickories ranging from 8-12 inches in diameter which are characteristic on the type of trees they would typically inhabit.

Community Type: Successional Old Field

Heritage Ranking G5, S4

Location:

The former fields are located generally across the site from southwest to northeast bordering the freshwater wetlands that run across the site in the lower third of the land.

Description:

This ecological community is a meadow dominated by forbs and grasses that occur on sites which have been cleared and plowed (for farming or development) and then abandoned. Characteristic herbs found

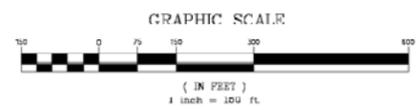


**FIGURE III-4**  
**WARWICK VIEWS**  
**TREE LOCATION MAP**

**LEGEND**

- EXISTING PROPERTY LINE
- EXISTING CONTOUR LINE
- EXISTING EDGE OF PAVEMENT
- EXISTING STONEWALL
- EXISTING WIRE FENCE
- EXISTING WETLANDS
- EXISTING CONCRETE MONUMENT
- EXISTING SIGN
- EXISTING WOOD BOLLARD
- EXISTING UTILITY POLE
- EXISTING TREE INK

TREES WITH TWENTY FOUR-INCH OR GREATER CALIPER				
COMMON NAME	KEY	SYMBOL	COMMON NAME	KEY
Ash	ASH		Hickory	HICK
Black Cherry	BC		Tulip	TULIP
Basswood	BASS		Maple	MAP
Hemlock	HEM		Oak	OAK



09-29-09 INITIAL PREPARATION			
DATE	REVISIONS	KIRK ROTHER, P.E. N.Y.S. LIC. NO. 076063	DATE
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D.D.T. SHEET #	D.E.C. SHEET #	D.C.R.D. SHEET #	SHEET #
N.A.	N.A.	N.A.	1 OF 1
CAD #	PROJECT #	SCALE	
03143.0	03143.0	AS NOTED	

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here include numerous goldenrods (*Solidago altissima*, *S. nemoralis*, *S. rugosa*, *S. Canadensis* and *Euthamia graminifolia*). These fields are composed primarily of introduced tame grasses, timothy (*Phleum pratense*), orchard grass (*Dactylis glomerata*), and Reed canary grass (*Phalaris arundinacea*) with a mixture of common chickweed (*Cerastium arvense*), old-field cinquefoil (*Potentilla simplex*), Queen Ann's lace (*Daucus corota*), ragweed (*Ambrosia artemisiifolia*), and hawkweeds *Hieracium spp.*. As farming has declined and the fields were mowed or grazed on an irregular basis, the quality of the hay has deteriorated and the fields were invaded by wildflowers and other herbaceous plants.

Community type. Hemlock Northern Hardwood Forest

Rank: G4, S2S3

Location:

Upper slopes along the steeper portions of the site in the northeasterly area, in steep terrain that abuts the wetland in the northeasterly corner of the site and the area which extends to the property boundary in that vicinity.

Description:

A mixed forest that typically occurs on middle to lower slopes of ravines, on cool, mid-elevation slopes, and on moist, well-drained sites at the margins of swamps.

In any one stand, hemlock (*Tsuga canadensis*) is codominant with any one to three of the following: beech (*Fagus grandifolia*), sugar maple (*Acer saccharum*), red maple (*A. rubrum*), black cherry (*Prunus serotina*), white pine (*Pinus strobus*), yellow birch (*Betula alleghaniensis*), black birch (*B. lenta*), red oak (*Quercus rubra*), and basswood (*Tilia americana*). The relative cover of hemlock can be as little as 20% of the canopy cover. Striped maple (*Acer pensylvanicum*) is often prominent as a mid-story tree.

The shrub layer may be sparse; characteristic shrubs are hobblebush (*Viburnum lantanoides*), maple-leafviburnum (*Viburnum acerifolium*), and raspberries (*Rubus spp.*). In some ravines, especially in the southern part of the state, rosebay (*Rhododendron maximum*) forms a dense subcanopy or tall shrub layer. Canopy cover can be quite dense, resulting in low light intensities on the forest floor and hence a relatively sparse groundlayer.

Characteristic groundlayer plants are Indian cucumber-root (*Medeola virginiana*), Canada mayflower (*Maianthemum canadense*), shining clubmoss (*Lycopodium lucidulum*), common wood fern (*Dryopteris intermedia*), mountain wood fern (*Dryopteris campyloptera*), christmas fern (*Polystichum acrostichoides*), star flower (*Trientalis borealis*), bellwort (*Uvularia sessilifolia*), common wood-sorrel (*Oxalis acetosella*), partridge berry (*Mitchella repens*), foamflower (*Tiarella cordifolia*), round-leaf violet (*Viola rotundifolia*), twisted stalk (*Streptopus roseus*), purple trillium (*Trillium erectum*), and the moss *Leucobryum glaucum*. In forests that have beech as a codominant, beech-drops (*Epifagus virginiana*) is a common herb.

Characteristic birds include wild turkey (*Meleagris gallopavo*), pileated woodpecker (*Dryocopus pileatus*), golden-crowned kinglet (*Regulus satrapa*), blackthroated green warbler (*Dendroica virens*), and Acadian flycatcher (*Empidonax virescens*).

This is a broadly defined and very widespread community, with many regional and edaphic variants. For example, in the Hudson Valley, hemlock is sometimes codominant with red oak; in the Adirondacks, yellow birch and sugar maple are sometimes codominant, with a relatively small number of hemlocks as well as a few red spruce (*Picea rubens*). More data on the shrub layer and ground layer composition are needed before these regional variants can be distinguished as separate types.

Community Type : Appalachian Oak-Hickory Forest

Heritage Ranking: G4, G5, S4

Location:

This ecological community occurs on the well-drained, upland sites in the northwesterly portion of the upland forest adjoining the meadows.

Description:

Appalachian oak-hickory forest: a hardwood forest that occurs on well-drained sites, usually on ridgetops, upper slopes, or south- and west-facing slopes. The soils are usually loams or sandy loams. This is a broadly defined forest community with several regional and edaphic variants.

The dominant trees include one or more of the following oaks: red oak (*Quercus rubra*), white oak (*Q. alba*), and black oak (*Q. velutina*). Mixed with the oaks, usually at lower densities, are one or more of the following hickories: pignut (*Carya glabra*), shagbark (*C. ovata*), and sweet pignut (*C. ovalis*). Common associates are white ash (*Fraxinus americana*), red maple (*Acer rubrum*), and Eastern hop hornbeam (*Ostrya virginiana*).

The trees on this site consist of a fairly mature forest, with the larger hickories and oaks being up to 36 inches in caliper, and approximately 60 feet in height. The overall tree canopy on this site reaches to a fairly even 60 feet in height throughout the major trees.

There is typically a subcanopy stratum of small trees and tall shrubs including flowering dogwood (*Cornus florida*), witch hazel (*Hamamelis virginiana*), shadbush (*Amelanchier arborea*), and choke cherry (*Prunus virginiana*). Common low shrubs include maple-leaf viburnum (*Viburnum acerifolium*), blueberries (*Vaccinium angustifolium*, *V. pallidum*), red raspberry (*Rubus idaeus*), gray dogwood (*Cornus foemina* ssp. *racemosa*), and beaked hazelnut (*Corylus cornuta*). The shrublayer and groundlayer flora may be diverse, although on this site there is little understory due to the heavy overstory of the more mature trees.

Characteristic groundlayer herbs are wild sarsaparilla (*Aralia nudicaulis*), false Solomon's seal (*Smilacina racemosa*), Pennsylvania sedge (*Carex pensylvanica*), tick-trefoil (*Desmodium glutinosum*, *D. paniculatum*), black cohosh (*Cimicifuga racemosa*), rattlesnake root (*Prenanthes alba*), white goldenrod (*Solidago bicolor*), and hepatica (*Hepatica americana*).

Characteristic birds in addition to those animals described below include red-bellied woodpecker (*Melanerpes carolinus*), whip-poor-will (*Caprimulgus vociferus*), and wild turkey (*Meleagris gallopavo*).

Community Type Intermittent Stream

Heritage Ranking G4, S4

Location:

These ecological communities occur near the center of the property forming part of the wetland corridor. There are several very poorly defined shallow drainage areas within the several wetland areas that could be classified as intermittent streams.

Description:

This community typically is a small, ephemeral streambed with a moderate to steep gradient, where water flows only during the spring or after a heavy rain. The stream area is dry in other periods. Its flora and fauna varies as it flows through forest or grassland and is limited to species that do not require a permanent supply of running water, or that inhabit the streambed only during the rainy season. Observed species included wood frog and eastern garter snake but other species are anticipated to be present on site. The streambed, at times, may be covered with mosses such as Sphagnum moss.

Community Type: Shallow Emergent Marsh

Heritage Ranking: G5, S5

Location:

This ecological community occurs through the lower third of the site and extends from the southwest property line through to the northeast property line across the entire site including the entire freshwater wetland. Much of this area may have been farmed fields in the past. A forested “island” lies in the middle of this wetland habitat which has a Appalachian Oak-Hickory habitat, and which rises to approximately 14 feet above the adjoining wetland.

Description:

This is a marsh meadow community that occurs on mineral soils that are permanently saturated near the surface and may be seasonally flooded. This marsh is better drained than a deep emergent marsh, water depths may vary from 6 inches to right at the surface during flood stages, but the water level usually drops by mid to late summer and the substrate is exposed during the average year.

This wetland community is a shrub/emergent meadow composed primarily of reed canary grass (*Phalaris arundinacea*), silky dogwood (*Cornus Amomum*), purple loosestrife (*Lythrum salicaria*), etc. with some multiflora rose (*Rosa multiflora*), Poison ivy (*Rhus toxicodendron*), Goldenrods (*Solidago spp*) on the drier spots. This is not a deep emergent wetland or other high quality wetland and it is unlikely it would sustain significant populations of fish, amphibians, reptiles or waterfowl in need of protection. Reptiles and amphibians are probably not well represented on this site. Raccoon, white-tailed deer and American Toads were the only species observed near the wetland (others which were not observed but which are expected to be present are listed in the Species List of the Biological Survey). There is little standing or running water on site and no ponds, permanent streams or vernal pools were identified. It is likely that these wetlands completely dry out in dry periods causing species which require a wet environment to migrate elsewhere.

Most abundant herbaceous plants include bluejoint grass (*Calamagrostis canadensis*), cattails (*Typha latifolia*, *T. angustifolia*, *T. x glauca*), sedges (*Carex spp.*), marsh fern (*Thelypteris palustris*), manna grasses, (*Glyceria pallida.*, *G. canadensis*), spikerushes (*Eleocharis smalliana*, *E. obtusa*), bulrushes (*Scirpus cyperinus*, *S. tabernaemontani*, *S. atrovirens*), threeway sedge (*Dulichium arundianceum*), sweetflag (*Acorus americanus*), tall meadow-rue (*Thalictrum virginicum*), goldenrod (*Solidago rugosa*, *S. gigantean*), eupatoriums (*Eupatorium maculatum*, *E. perfoliatum*), smartweeds (*Polygonum coccineum*), marsh bedstraw (*Galium palustre*),

Jewelweed (*Impatiens capensis*), loosestrifes (*Lysimachia thrysiflora*, *L. terrestris*, *L. ciliata*). Frequently in degraded sites, as in this instance, reed canarygrass (*Phalaris arundinacea*) and/or purple loosestrife (*Lythrum salicaria*) become abundant.

This shallow emergent marsh includes scattered shrubs including rough alder (*Alnus incana* spp *rugosa*), water willow (*Decodon verticillatus*), shrubby dogwoods (*Cornus amomum*, *C. sericea*), willows (*Salix* spp.) meadow sweet (*Spiraea alba* var. *latifolia*) and buttonbush (*Cephalanthus occidentalis*).

## POTENTIAL IMPACTS

A total of 41.23 acres will be disturbed on the site. Of this land, 8.95 acres will be made impervious.

The Southern Wallkill Biodiversity Plan, prepared by the Metropolitan Conservation Alliance discusses the importance of maintaining a diversity of habitats. An important issue in current site development is that of preserving and providing wildlife corridors along watercourses through an area of site development, and which includes areas that are currently agricultural. Another major emphasis of the Southern Wallkill Biodiversity Plan is maintaining connectivity throughout sites. The current proposal does provide a substantial amount of undisturbed wildlife habitat, both wetland and upland habitat throughout the site in order to allow for the continued presence of both wetland and upland habitats. The two forested habitats on this site in the northeasterly and northwesterly portions of the site will have some residential development through the middle portion of the site, along the north side of the gas main easement. 13.73 acres of the site disturbance will be to the Successional Old Field habitat. A total of 2.47 acres of the Hemlock Forest will be disturbed but significant portion of this community to the south of the gas main easement will remain entirely undisturbed. This woodland habitat extends offsite for a significant distance on adjoining lands. A portion of the Appalachian Oak-Hickory Forest to the north of the proposed development will remain undisturbed while 14.22 acres of this forest community will be disturbed. This area presently abuts a significant amount of similar forest land to the north which will continue to provide a significant amount of undisturbed native wildlife habitat in the overall area. The provided Tree Location Map (Figure III- 4) shows the locations of all significant trees over 24 inches in diameter at breast height.

It is specifically noted in the applicant's biological assessment that the deer population will not be negatively effected by the development and that deer and other ground mammal species are often attracted to residential areas due in part to the introduction of common residential landscaping plants and flowers.

As part of this development, a road is proposed to cross a portion of the wetland corridor. A total of 9,840 square feet of this wetland area will be disturbed for the road construction as well as 30,390 square feet of buffer area. This small crossing is not expected to impact wildlife in any significant way because the type of wetland occurring here is not of high wildlife value. The shrub meadow is composed primarily of reed canary grass (*Phalaris arundinacea*), silky dogwood (*Cornus Amomum*), purple loosestrife (*Lythrum salicaria*), etc. with some multiflora rose (*Rosa multiflora*), Poison ivy (*Rhus toxicodendron*), Goldenrods (*Solidago* spp) on the drier spots. This is not a deep emergent wetland or other high quality wetland that would sustain

significant populations of fish, amphibians, reptiles or waterfowl in need of protection. In fact, the only wildlife species seen or recorded near this wetland were deer, raccoons and American toads (*Bufo americanus*).

## MITIGATION MEASURES

A total of 174.9 acres of open space will be preserved on site which will allow for a substantial amount of both wetland and grassland and forest natural wildlife habitat to continue to exist on the site. The existing wetland habitat, part of the Blooms Corners Swamp which extends for a great distance offsite, will remain largely undisturbed and will continue to provide for the variety of amphibians and birds that currently utilize the site. The open meadows (former agricultural fields) in the protected upland areas which are proposed to remain will continue to provide for habitat for the upland species – birds and mammals. The basic function of these habitats will not be reduced. Also, as recommended by the Southern Wallkill Biodiversity Plan, the open space is preserved in contiguous strips of land and along the property border for species to move throughout the site and onto adjacent sites.

As shown on the provided Tree Location Map, the site contains a number of mature trees, many of which will remain on site. In total, over 16 acres of forested land will remain on the site. Site landscaping will include street trees such as Pin Oak and Sugar Maple, and where appropriate for additional shade, wind insulation, screening or privacy will be supplemented with additional tree plantings in the rear and/ or side yards such as Norway Spruce and White Pine. The applicant's engineer has selected native species and new species which will assimilate well into this environment for site landscaping. Additional landscaping will be provided around stormwater management facilities as required by the DEC. (See the full set of subdivision plans for proposed street trees and detail sheet 15 for typical site landscaping for naturally vegetated and non vegetated lots)

To mitigate the impacts to any potential amphibians, reptiles and small mammals that may occur in the wetland area that will be disturbed for roadway construction, the roadway crossing will be constructed with sloping curbs and a four foot wide by three foot high open bottom culvert will be installed in order to preserve the vegetation and natural hydrologic conditions of the wetland habitat. Overall, this small crossing is expected to have very little impact on wildlife.

It is understood that to avoid direct impacts to any potentially present individual Indiana Bats removal of trees for construction activities will occur during the time period from October 1 to March 30.

## D. Cultural Resources

### EXISTING SETTING

A Phase I Historic and Archaeological Resource Survey has been completed by Tracker Archaeology Services, Inc. to evaluate the potential for historic or archaeological resources on the project site. A copy of the full report can be found in **Appendix C** of this document. This report was reviewed by a representative from the New York State Office of Parks, Recreation and Historic Preservation and correspondence with them is also included in this Appendix.

A prehistoric site file search was also conducted at the New York State Historic Preservation Office which included a one mile radius around the project site. Two prehistoric sites are recorded in the vicinity of the project site with the closest site being 4000 feet from the site and the other being approximately one mile away.

A historic site file search was conducted at the New York State Historic Preservation Office which included a one mile radius around the project site. No State or National historic sites were reported. Older farm houses exist along Blooms Corners Road, one of which is identified as historic in the attached archeological investigation. This house appears to have been constructed in the mid to late 1800's and its architectural integrity has been somewhat compromised by the replacement of windows, doors, the addition of gutters, a new roof and a front porch. Other buildings in this vicinity are of local historic importance according to Appendix B of the Town Comprehensive Plan including the J. Nanny House (or Nebel Residence), the Stone House at Edenville, the Edenville Hotel, and the Dr. Young House (or Grassel Residence).

The project site has an above average potential for the recovery of prehistoric, or Native American sites. The type of site most likely to be encountered could be a procurement or processing site from either the Woodland or Archaic Periods.

The project site has an above average potential for encountering nineteenth century European American sites along level to moderately steep areas of the parcel.

As part of the field testing that was conducted during the Archaeological Resource Survey, 1511 shovel tests across the project site were excavated. No prehistoric or historic artifacts or features were encountered during the excavation.

Abandoned farm lanes are present on the site as well as other characteristics that demonstrate the site was farmed for a number of years. This agricultural use has always been restricted to the eastern portion of the site. According to conversations with the property owner and on site evidence crops grown on the property included corn, onions, pumpkins and hay.

### POTENTIAL IMPACTS

No prehistoric or historic artifacts were encountered on the project site and a Phase II survey is not required. Based upon their review the New York State Office of Parks, Recreation and Historic Preservation has no further archaeological concerns regarding the project site (See letter dated 9/10/07 following the report in Appendix C), and therefore no additional mitigations are proposed. Impacts to nearby locally historic buildings such as the farmhouse located on Blooms

Corners Road near the intersection of Waterbury, identified in Appendix 4 of the Archeological Investigation, would be limited to visual. Visual impacts, including impacts to this particular intersection, are evaluated in Section III-E of this report.

#### PROPOSED MITIGATION MEASURES

No further mitigation is proposed.

## E. Visual

### EXISTING SETTING

Photographs of the site have been taken from the following sites which have been agreed upon by the Town planner and included in **Appendix D** of this report:

- From the northernmost piece of the parcel along Blooms Corners Road at existing access drive;
- From the proposed access drive looking both, east and west along Blooms Corners Road;
- From Pine Island Turnpike looking southwest across Jorgenson Farm into site
- From Almond Tree Lane looking out over the site from an existing neighborhood south of the project site.
- From the intersection of Blooms Corners Road with Waterbury Road looking northeast
- From the end of Stonehedge Road looking in a northeasterly direction.

As seen in the images and in the provided aerial photograph, the site is characterized by densely wooded areas, grass land and an existing farmstead. Topography varies widely across the project site and adjacent lands which is beneficial for shielding development from surrounding properties.

The existing visual character of the surrounding area is rural with clusters of residential developments scattered among dense vegetation and agricultural land. The project site is not visible from Newport Bridge Road or remote locations due to dense vegetative cover along Blooms Corners Road further south of the project site.

As discussed in the NYS DEC's publication *Assessing and Mitigating Visual Impacts* which was utilized in the visual impact assessment, there are no State or Federally identified aesthetic resources within the viewshed of the project site nor are there any sensitive places of statewide concern.

### POTENTIAL IMPACTS

According to the NYS DEC an aesthetic impact, "Occurs when there is a detrimental effect on the perceived beauty of a place or structure. Significant aesthetic impacts are those that may cause a diminishment of the public enjoyment and appreciation of an inventoried resource, or one that impairs the character or quality of such a place".

The proposed subdivision will result in a physical change to the existing characteristics of the project site. However, due to more than half of the site being maintained in its existing state, including the more visible areas directly adjacent to Blooms Corners Road, the proposed development will not destroy the overall character of the site, diminish the public enjoyment of the site, nor will it be a detriment to the overall rural character of the surrounding areas.

The applicant has provided cross sections of the property and surrounding area which takes post-development elevations and vegetation into account to show how dwellings may or may not be visible from the various vantage points post construction. Based on this analysis the proposed development will be visible from Blooms Corners Road at the proposed access road, from Almond Tree Lane due to the change in elevation and the yards of some single family residences

to the west, namely those in a recently approved subdivision known as Old World Estates and roof tops will be visible from across the Jorgensen Farm . These Cross Sections are presented in **Appendix D** of this report.

No road or other internal lighting is proposed as part of this development.

## PROPOSED MITIGATION MEASURES

According to the DEC's report on Assessing and Mitigating Visual Impacts, a properly sited and designed project is the best way to mitigate potential visual impacts. One mitigation recommended in this report is location and taking advantage of natural mitigating effects of a site's topography and vegetation. The locations of the proposed homes are intended to accomplish this. Dwellings are sited so they blend into the landscape settling into lower lying areas of the site. Existing site features will be preserved to act as natural buffers along all property boundaries. In addition, in order to retain the rural look along Blooms Corners Road, dwelling units have been sited further back from the roadway and property boundaries.

Building materials and colors will be chosen that blend with the natural landscape, as recommended by the DEC's policy report. To further mitigate visual impacts and ensure the homes blend in with the existing character and vernacular of the Town, homes will be designed consistent with the Town's Design Guidelines, for example: garages will be attached but will not be a predominant feature of the structure; they will be placed on the side of the home, or if facing the front, will be recessed from the main façade of the dwelling, roofs will feature front and side gables, windows will be either double hung, casement or bay windows, wood clapboard siding will be used and may be supplemented by brick or stone detailing and height will be similar to surrounding properties. (See proposed architectural examples in **Appendix D**).

Open space and vegetation will be allotted between clusters of proposed dwelling units so new residents have views of natural scenic landscape in accordance with cluster regulations.

## F. Transportation

A Traffic Impact Study (TIS) has been prepared for the proposed development using standards and guidelines in common use and as developed by the New York State Department of Transportation, the Institute of Transportation Engineers and the Highway Capacity Manual. It has been included in this DEIS in Appendix E.

### EXISTING SETTING

#### a. Traffic

An assessment of the following intersections was conducted as part of the TIS. Manual turning movement counts were made as part of this assessment.

- Blooms Corners Road and Pine Island Turnpike
- Blooms Corners Road and Waterbury Road
- Blooms Corners Road and Newport Bridge Road
- Waterbury Road and County Route 1A (Edenville Road)

Counts were made at 15 minute intervals during the peak traffic periods of 7:00 AM – 9:00 AM and 3:30 PM – 6:30 PM. Volumes were then classified by passenger cars, heavy trucks, and busses and the heavy vehicles percentages were then used in the capacity analysis. Traffic counts can be viewed in the full traffic report in Appendix E.

#### b. Accident Statistics

Accident statistics from Blooms Corners Road from Pine Island Turnpike to Newport Bridge Road for the six year period of 2000-2006 were provided by the Town of Warwick Police Department. The number of accidents were as follows:

**Table III-1: Number of Reported Accidents, 2000-2006**

<b>Intersection</b>	<b>Number of Accidents</b>
Blooms Corners Road and Pine Island Turnpike/ CR 1	10
Blooms Corners Road and Waterbury Road	3
Blooms Corners Road and Newport Bridge Road	8

Source: Town of Warwick Police Department

As the data shows, the most accidents took place at the intersection of Blooms Corners Road and Pine Island Turnpike. This most likely due to the higher volume of traffic at this intersection as compared to the others as illustrated by Figures 2 and 3 in the Traffic Impact Study in Appendix E.

#### c. Roadways and Road Conditions directly serving the Project Site.

Blooms Corners Road: Blooms Corners Road extends south from Pine Island Turnpike / CR 1 for about three miles to the New Jersey State Line. It has a pavement width of 22-23 feet, providing one travel lane in each direction. The posted speed limit is 40 miles per hour (MPH).

Pine Island Turnpike / CR 1: Pine Island Turnpike is an east-west County arterial road, extending west from Route 17A in the Village of Warwick to U.S. Route 6 in the Town of Greenville. At the intersection with Blooms Corners Road it forms the west and north legs of the intersection. It has a pavement width of 23 feet, providing one travel lane in each direction. The

posted speed limits are 45 MPH west of the intersection and 35 MPH north of the intersection. The north and south approaches to the intersection are Stop sign controlled.

Edenville Road / CR 1A: Edenville Road is an east –west County arterial road, extending east from the intersection with Pine Island Turnpike and Blooms Corners Road to Route 17A in the Village of Warwick. It has a pavement width of 23 feet, providing one travel lane in each direction. The posted speed limit is 35 MPH.

Waterbury Road: Waterbury Road is a local road extending east from Blooms Corners Road to Edenville Road, a distance of about one mile. It has a narrow pavement width of between 19 and 20 feet, providing one travel lane in each direction. The posted speed limit is 30 MPH. Its approaches to both Blooms Corners Road and Edenville Road are controlled by Stop signs. The intersection of Waterbury Road with Blooms Corners Road is channelized.

Newport Bridge Road: Newport Bridge Road is a local road, extending west from Blooms Corners Road to Liberty Corners Road / CR88, providing one travel lane in each direction. The speed limit near Blooms Corners Road is 40 MPH. Its approach to Blooms Corners Road, which is a channelized intersection, is controlled by a Stop sign.

d. Pedestrian and bicycle movements

There are no known existing pedestrian or bicycle lanes or pathways in the immediate vicinity of the project site.

e. Other future local developments

Other pending and approved local development projects, provided by the Town Planning Consultant, were taken into consideration in the traffic study. Estimated traffic volumes to be generated by these eight developments were based on the standard trip generation rates developed by the Institute of Transportation Engineers.

**Table III-2: Potential Traffic Generated from Other Developments (Vehicles per Hour)**

DEVELOPMENT	LOTS	AM PEAK HOUR		PM PEAK HOUR	
		Arrive	Depart	Arrive	Depart
Luft	24	7	20	19	11
Meadowbrook Farm	33	8	24	25	15
Moore	35	8	25	26	15
Homestead Farms	30	8	23	23	13
Old World Estates	7	5	15	13	8
Colburn	3	2	5	3	2
Aigner	4	1	4	1	1
House	16	2	5	2	1

The Luft Subdivision is located directly south of the Project Site. The proposed development plan includes an internal road connection between the Luft Subdivision and the proposed Warwick Views Subdivision. It was assumed in the traffic study that approximately 50% of the traffic from the Luft Development destined to and from the intersection of Pine Island Turnpike and Blooms Corners Road would use the proposed connecting road. Similarly, it was assumed that all of the traffic destined to and from Newport Bridge Road to the west would use the proposed connecting road through the Luft Subdivision.

## POTENTIAL IMPACTS

Based on the Traffic Impact Study the traffic generated by the project (the 2012 Build Condition) will create the following impacts on local intersections. (Refer to the full Traffic Impact Study in Appendix E for a more detailed description and comparative analysis of Build and No-Build conditions):

Pine Island Turnpike and Blooms Corners Road: The only change is in the A.M. peak hour on the southbound approach which decreased from a B to a C Level of Service.

Edenville Road and Waterbury Road: Analysis calculates a Level of Service A on the northbound Edenville Road approach and Level of Service B on the Waterbury Road approach will be maintained in both the 2012 Build and No Build conditions during peak hours.

Blooms Corners Road and Waterbury Road: Analysis calculates a Level of Service A is maintained on all three legs of the intersection in both 2012 Build and No Build conditions during peak hours.

Blooms Corners Road and Newport Bridge Road: The analysis calculates a Level of Service A at all three legs of the intersection in both 2012 Build and No Build conditions during peak hours.

It has been determined by the applicant's traffic engineer that the traffic generated by the proposed subdivision can be accommodated on the adjacent road system without any significant adverse impacts and no additional work improvements will be necessary.

Traffic volumes will not increase significantly and no changes to the road network will be made which would negatively impact the character of the community. As Levels of Service on all roads will remain adequate (Level of C or better) the project is unlikely to negatively affect quality of life as it relates to traffic.

As stated above, there will be one access drive onto Blooms Corners Road from the proposed subdivision. This is proposed to be a three-way unsignalized intersection, with stop sign control on the Access Road approach. The capacity analysis conducted as part of the TIS calculates a Level of Service A in the 2012 Build condition for both the AM and PM peak hours. (See Traffic Impact Study in Appendix E for schematic diagram and further analysis)

No sidewalks are proposed for the project as many lots are over 1 acre in size and sidewalks are not appropriate in such a setting. Sidewalks will detract from the rural appearance of the subdivision and according to the Town's Zoning Code they can be waived by the Planning Board. Further more, no pedestrian generators such as parking areas, schools, stores or designated recreation areas are located adjacent to the subdivision.

### Site Distances

According to the American Association of State Highway Transportation Officials (AASHTO) residential driveway site distances should be maintained at a minimum of 200 feet based upon the proposed speed limit of 30 miles per hour along the proposed road.

Site distances from the project site onto Blooms Corners Road will be 410 feet when traveling north and 550 feet when traveling south based upon the speed limit of 40 miles per hour. Both of these site distances exceed the minimum AASHTO and Town site distance regulations for the existing speed limit. Town regulations require a minimum site distance of 300 feet at street intersections.

## PROPOSED MITIGATION MEASURES

The traffic impact study concluded that no road improvements would be necessary to accommodate traffic from the project site.

The proposed road opening onto Blooms Corners Road was sited in its proposed location by taking safety and sight lines into account. Also, headlights from traffic exiting the subdivision will not be directed at any existing residences nor will the traffic conflict with any existing driveways.

There will be no additional construction entrance to the property. The existing access onto the site and the eventual access to the subdivision will serve as the construction entrances.

No Pedestrian or bicycle pathways are currently proposed. The Greenway Trail project is not in the vicinity of the project and no adjacent properties contain trails that the applicant would be able to connect into. However, nothing would preclude residents from walking, or otherwise using the open space for passive recreation.

## G. Land Use and Zoning

### EXISTING SETTING

#### Existing Land Use

Currently the project site is mainly forested with approximately 68 acres of agricultural lands. The project site contains multiple structures including a garage, barn and multiple storage sheds which are related to the existing farmstead.

Land south and west of the project site is vacant or developed with single family residences on lots of varying sizes. Much of the land to the north and north east of the project site is vacant or agricultural land. See **Figure III-5: Existing Land Use** for a visual depiction of land uses within one half mile of the project site.

#### Zoning Designation

The project site is within the Rural Zoning District (RU), as designated on the Town of Warwick Zoning Map. The vast majority of land surrounding the project site is also zoned RU, however, other zoning designations within one half mile of the project site include Local Hamlet Business (LB), Agricultural Industry (AI), and Suburban Residential Low Density (SL). The RU zoning district regulations encourage cluster developments in order to preserve open space and scenic views as well as site all development away from sensitive environmental features such as wetlands and steep slopes in order to minimize impacts.



The proposed development will be subject to Cluster Subdivision Regulations found in §164-41.1 of the Town Zoning Code. The Cluster regulations require that 50% of the tract's acreage is preserved as open space. Minimum lot size in a Cluster Development with individual sanitary sewage disposal systems is 12,500 square feet. In addition, this section delineates minimum dimensional standards as follows:

**Table III-3: Cluster Development Dimensional Requirements**

Lot Width	Street Frontage	Front Yard	Rear Yard	Side Yard	Maximum Coverage
80 ft.	20 ft.	20 ft.	40 Ft.	10 ft.	35%

Source: Town of Warwick Zoning Code §164-41.1.F.

The project site is located Agricultural Protection Overlay (AP-O) Zone and therefore will conform to §164-47.3.D of the Zoning Code as well as additional regulations and standards set forth in Subsection H.(7) of the Cluster Subdivision Regulations. Regulations specifically encourage the use of cluster subdivisions as well as preserving the agricultural viability and rural character of the land.

The project is also located in the Aquifer Protection Overlay (AQ-O) Zone and therefore will be subject to regulations §164-47.2. In accordance with these regulations and Town building department protocol, an Aquifer Impact Assessment has been completed as required by the zoning code and is discussed further in Section III-B of this document and attached in Appendix G along with the project's hydrogeologic report.

#### Historic Usage

According to a review of aerial photographs, US Geological Survey topographic maps, tax maps and real property records<sup>1</sup> the property was never developed for use other than agricultural. This agricultural use has always been restricted to the eastern portion of the site. Property deeds and discussions with the current land owners indicate that the property has been farmed at different levels of intensity for over 40 years. Crops previously grown on the project site include corn, pumpkins, onions and hay. Horses and possibly cows were also kept onsite.

Aerial photographs from 1963 show eastern portions of the project site being used for farming purposes but no buildings or structures are present on the site.

No structures are shown to be located on the project site until aerial photographs taken in 1990.

#### Applicable Adopted Plans

##### 1999 Town Comprehensive Plan

The Town's plan describes the Town as large and diverse but as primarily rural and places strong emphasis on the protection of the Town's rural beauty and natural environment. Goals related to residential growth are stated as follows:

- Protect and enhance the rural character and quality of life in the Town
- Concentrate development around the Villages and hamlets, and maintain rural densities in the remainder of the Town.
- Stimulate a diversity housing types and increase the stock of affordable homes

<sup>1</sup> Research done by ERS Consultants, Inc., February 2006.

- Encourage a mixed use pattern of development, where appropriate, in and around the hamlets and adjacent to the Villages.

#### Town Community Preservation Project

The plan identifies sensitive environmental lands within the Town for preservation and alternate land uses. Its stated principal goal is:

*To protect and preserve the Town's unique open space, natural areas, farmland and historic places, and to provide park and recreation opportunities for residents and visitors alike. Warwick is therefore deeply committed to accomplishing all of the community preservation objectives, to maintain and enhance its status as one of the healthiest and most beautiful places to live.*

Appendix A of the Community Preservation Project specifically mentions two of the project site's three total parcels. These parcels are identified as parcel 27-1-41.131 and 27-1-47 which represent 98 acres of the project site's 249.9 total acres. The plan identifies 15,891 acres of land that should be preserved however, it also recognizes that due to the fact that many of these parcels are privately owned, alternative land preservation tools such as the use of cluster developments, conservation easements, or other agreements with land owners should be explored.

#### Orange County Comprehensive Plan

The Orange County Comprehensive Plan is titled "Strategies for Quality Communities" and was adopted in 2003. The overall goals of this plan are the following:

- Conserve the County's natural land resources in a sustainable, linked combination of parks, open space, agricultural land and water fronts.
- For all built environments in the County, utilize infill, redevelopment, and new development techniques which enhance the advancement of quality communities.
- Secure the rural ambiance and community aesthetic of the County through control of land use along its multi-purpose corridors.
- Promote a multi-modal transportation network that meets the needs of all County current and future population for intra- and inter-County travel and that adequately supports anticipated economic development.
- Strengthen the economy in Orange County by attracting and supporting businesses that will enhance the County's economic base and provide jobs, tax revenues, and an orderly and sustainable land use pattern that supports the best of the County's old economy while providing the attributes necessary to build a new economy.
- Promote a broad range of housing opportunities that meets the needs of all segments of the County's population and ensure the maintenance and rehabilitation of the County's existing housing stock.
- Encourage the provision of adequate utility systems that meet the needs of Orange County residents and businesses while balancing the preservation and quality of the County's natural resources.
- Identify protect and promote the County's historic and cultural resources ensuring the ability to enhance the sense of place and quality of life of county residents while providing an important component of overall County economic development.

### Town Design Guidelines for Residential Development

The 1999 Comprehensive Plan repeatedly states the Town's vision of protecting, "the Town's rural quality and natural environment". In order to implement this vision the Town has created Design Guidelines which will apply to all residential and non residential development. Chapter 2 of the guidelines lays out recommendations for residential development in the RU Zone. While there is no list of stated goals, the following goals are discussed in each of the chapter's sections.

- Development should fit into its natural surroundings, rather than becoming a dominant element in the countryside.
- All new subdivisions should be designed in a cluster pattern.
- Housing should be located off side roads and screened from public view
- New developments can be fitted into the streetscape by preserving vegetation and respecting the land's topography.
- Garages should not be a dominant feature on the house
- Stormwater management basins should enhance rather than detract from new development
- New developments should be landscaped to provide visual interest in all four seasons
- Street trees should be incorporated into new developments
- Homes should be designed that are compatible with Warwick's vernacular architecture and the surrounding architectural character should be upheld.

### POTENTIAL IMPACTS

#### Land Use Compatibility

The proposed subdivision is compatible with surrounding land uses because it maintains single family residential character that is currently existing in the immediate area. No impacts to the adjacent Jorgenson Farm or other nearby agricultural uses are anticipated. The closest proposed residential lot is over 1000 feet from this farmstead. No adverse impacts are anticipated to existing surrounding homes.

Agricultural use on the site will remain in the northwestern portion of the site as it has for over 40 years. Soil in this vicinity, classified as Carlisle Muck (Ce), is known to be fertile and according to the Orange County Soil Survey if properly drained, are exceptionally well suited for agriculture uses. Erie soils, also present in this area, are well suited for hay production which is one of the historic uses of this site. These soils will remain in the area of the existing farmstead and drainage patterns in this area will remain largely unchanged and therefore the agricultural use in this area will continue to be viable even if operations are reduced from the original farm.

Some residents of the site may be impacted by farming related activities which will continue on site but this is anticipated to be minor and no more than any other resident of a rural area.

#### Compliance with Town Comprehensive Plan Goals

The Plan is consistent with all applicable goals of the comprehensive plan. The Project respects and protects the rural quality of the Town by conserving 70% of the site as open space and by locating homes away from Blooms Corners Road in areas of lower elevation on the project site. The project uses a rural net density of one home per three acres (refer to Figure II-5, Yield Plan), but clusters development to preserve the sites sensitive environmental features. The plan stimulates diversity in housing stock and provides for affordable housing by proposing to construct four affordable dwelling units. No mixed use development is proposed as it is not permitted by zoning at this time.

### Compliance with County Comprehensive Plan Goals

The proposed project is in compliance with the County's goals by implementing Cluster techniques in order to enhance the community and preserve natural resources, by providing linked (with adjacent properties) open space on the site, and by providing a variety of housing types by proposing four affordable homes. No aspects of this proposal deviates with any aspect of the County Comprehensive Plan.

### Compliance with zoning: Cluster and Design Guidelines

The proposed single family residences are permitted by right in the RU Zoning District. Based on the presence of a number of sensitive environmental features and the site's inclusion in the AP-O overlay district, the Zoning Code recommends the use of a cluster subdivision. The purpose of creating a cluster subdivision, rather than a conventional subdivision, (as stated in Section 164-41.1 of the zoning code) is to (1) *provide greater economy, efficiency and convenience in the siting of services and infrastructure, including the opportunity to reduce road lengths utility runs and the amount of paving required*; the applicant has reduced road length, overall disturbance and total impervious surfaces over the convention subdivision layout (see Alternatives Section) (2) *conserve important open lands, including those areas containing unique and sensitive natural features, such as steep slopes, floodplains, stream corridors, and wetlands by permanently setting them aside from development*; the applicant proposes to set aside 174.9 acres of the project site in a conservation easement and the clustered lots allow for reduced impacts on wetland and steeply sloped areas compared with the convention subdivision (3) *protect areas of the Town with productive agricultural soils for continued or future agricultural use, by conserving blocks of land large enough to allow for efficient farm operations*; approximately 80% of the existing Prime Agricultural Soils on the site and proposes the existing farmstead on the property remain (4) *provide multiple options for landowners to minimize impacts on environmental resources and natural or cultural features such as mature woodlands, hedgerows and tree lines, critical wildlife habitats, historic buildings and sites, and fieldstone walls*; significant trees have been mapped and many mature trees and stone walls are being preserved on the site (5) *create neighborhoods with direct visual access to open land, with amenities in the form of neighborhood open space, with a strong neighborhood identity*; while the proposed subdivision is not part of a neighborhood or other more suburban setting each resident will have visual access to open space (6) *provide for a balanced range of lot sizes, building densities, and housing choices to accommodate a variety of age and income groups and residential preferences, so that Warwick's population diversity may be maintained*; the applicant has proposed four affordable homes in accordance with the provisions of Section 164-46.(100) of the Town Code (7) *To provide a reasonable setback for new development adjacent to lands in active farming due to potential incompatibility with nonfarm uses*; over 750 feet will be provided between any agricultural or farming activities and residential dwellings (8) *implement policies to conserve a variety of irreplaceable and environmentally sensitive resource lands as set forth in the Town's Comprehensive Plan, including provisions to create a greenway trail system and other areas for active or passive recreational use for the benefit of present and future residents*; no trails will be created but the conserved land on the site will serve as a passive recreation area for all residents of the site (9) *conserve scenic views and elements of the Town's rural character, and to minimize perceived density, by limiting views of new development from existing roads*; the project will maintain a rural appearance with winding roads and by not providing curbs or sidewalks (subject to Planning Board waiver) as found in more suburban developments also all lots are set back from roads and property lines (10) *promote development in harmony with the*

*goals and objectives of the Town's Comprehensive Plan*; see the section above titled “Town Comprehensive Plan Goals” for further discussion on the Town Comprehensive Plan and (11) *to mitigate identified environmental impacts under the State Environmental Quality Review Act (SEQR)*; the clustered nature and design of the subdivision aim to mitigate a number of impacts as discussed throughout this document.

The development will also comply with cluster regulations set forth in Section 164-41.1 of the Town Zoning Code in terms of density, lot layout, dimensional standards (minimum front yard shall be 20 feet, minimum rear yard shall be 40 feet and minimum side yard shall be 10 feet), minimum open space and payment in lieu of land (2,500 per newly created lot).

Dwellings on the project site have been located according to guidelines of the AP-O District. As required, to the greatest extent possible the dwellings in the proposed subdivision have been sited to avoid (1) groves of mature trees; (2) large individual trees (see Tree Location Map, Figure III-4), (3) hedgerows, (4) woodlands along roadways, property lines and streams, (5) scenic vistas (none exist on site) (6) water features, (7) stone walls, these are being preserved in full on site; (8) steep slopes in excess of 15%, (9) habitats of endangered or threatened species (none exist on site but see Section III-C for potential impacts and mitigations) (10) visually prominent agricultural landscape features such as fields, pastures and meadows on knolls or hilltops; the development was designed to avoid the site’s agricultural features and much of the existing farmstead will be preserved and continue to function as such (11) historic structures (none exist onsite); and (12) similar irreplaceable assets. In total, 70% of the project site will be preserved as open space.

Further, AP-O guidelines require dwelling should be located according to the following (1) *on the least fertile soils*; 80% of Prime Agricultural Soils will remain undisturbed on the site, (2) *away from boundaries of preserved farms and active farm land*; there is a large amount of natural buffer (over 750 feet) between proposed house lots and the remaining active agricultural land, (3) *in a manner that houses and active farms are buffered to minimize conflicts* (see item 2) ; (4) *to avoid environmental feature as stated above* (see above); (5) *to be visually inconspicuous from state, county and local roads* (homes will blend into the site’s natural topography and will not be visible from state or county roads, the project will have minimal impacts on Blooms Corners Road), (6) *next to other residences or building lots*; the applicant proposes a connection to the adjacent Luft Subdivision but homes are not necessarily “next to” these proposed homes due to thick vegetation and differences in site topography between the two developments, (7) *to encourage compact developments and discourage strip developments along local roads*, lots are reduced in size from a conventional subdivision, set back off of Blooms Corners Road and utilize shared drives. The natural rolling topography of the site is respected and homes nestled into the landscape to further prohibit strip or conventional suburban development, (8) *on suitable soils for sewage disposal*, soil testing has been completed for the subdivision to ensure the septic fields meet all applicable regulations, (9) *within woodlands or along far edges of agricultural fields*, much of the site contains wooded areas which will provide natural vegetation to the proposed development, the subdivision will also be supplemented with additional vegetation (see proposed landscaping in the subdivision plans and on detail sheet #15 of the subdivision plan set); (10) *in locations where the greatest number of dwelling can be designed to take advantage of solar heating or electric opportunities*, the numerous environmental features of the site has left little room to manipulate housing lots for other considerations other potential means to

reduce the consumption of energy have been taken into consideration (see Section VIII) and; (11) *any other mitigation imposed by SEQOR.*

The proposed development will preserve 174.9 acres, or 70%, of the total site's developed acreage as open space and all dimensional standards set forth in Subsection F of the Cluster Regulations will be maintained.

The subdivision will have two connections to existing local roadways. One direct connection to Blooms Corners Road and one connection through the Luft Subdivision. Roadway connections with adjacent developments are recommended in the Town's residential design guidelines. In accordance with Cluster Regulations (§164-41.1.I), roads will be curving and will avoid long straight segments except where necessary to avoid sensitive environmental features.

Street trees will be provided, along proposed roadways where natural vegetation needs to be supplemented, as well as additional landscaping around stormwater management facilities. Trees will provide visual interest in all four seasons and be a native species to the site such as Sugar Maple and Pin Oak, and also introduce new species such as Norway Spruce and White Pine will assimilate well in the local climate. No curbs or sidewalks are proposed in the subdivision because of the size of the lots and the desire to maintain a more rural character. A waiver from the Planning Board will be required to not provide sidewalks, but the applicant does not believe they are appropriate on this site. This is the only aspect of the project which deviates from the Town's design guidelines.

A waiver will also be required from Section 137-25.G of the subdivision regulations to develop more than 49 lots without creation of a public sewer system.

## PROPOSED MITIGATION MEASURES

A yield plan has been created for this site in accordance with Section D of the Cluster Subdivision Regulations. Lots in the Yield Plan meet all zoning regulations of the underlying RU Zoning District. A total of 49 lots are shown on this plan. (As previously mentioned, this plan is located in Section II of this report.)

The Cluster layout has the same number of lots as determined by the yield plan increased by 10%, or four additional lots, which are a result of a density bonus received in accordance with Section 164-46.J(100) of the Town's Zoning Code. Lots all meet minimum lot size and setback requirements in the zoning code, and all lots have a total development coverage of less than 35% as required. The cluster layout including the location of dwelling units, streets and open space has been designed based on the Town's Four Step Design Process for cluster subdivisions and deep pit soil testing. As stated previously, each step of the design process is documented on Figure II-1. Minimum distances from agricultural lands, barns containing livestock, and active recreation lands (none are located or proposed on the property) are maintained.

In total, 70% of the project site is set aside as open space. This is 20% more than recommended in the design guidelines. This open space consists of a combination of primary and secondary conservation areas including a NYS DEC wetland and its related 100 buffer, as well as steep slopes and prime agricultural soils. Approximately 93.5 acres, or 53% of this land contains

environmental constraints including wetlands, buffer areas, steep slopes and rock outcrops. The open space is laid out in an interconnected network as recommended in the Cluster regulations.

Nearly 70% of the proposed homes either abut or face the conserved open space. In order to achieve 75% as recommend in the Cluster Regulations the lots would need to be made more spread out and less clustered.

As discussed in the visual impact mitigations section in order to ensure proposed homes blend in with the existing character and vernacular of the Town, homes will be designed consistent with the Town's Design Guidelines, for example: garages will be attached but will not be a predominant feature of the structure; they will be placed on the side of the home, or if facing the front, will be recessed from the main façade of the dwelling, roofs will feature front and side gables, windows will be either double hung, casement or bay windows, wood clapboard siding will be used and may be supplemented by brick or stone detailing and height will be similar to surrounding properties. Examples of proposed homes have been provided in Appendix D of the DEIS.

A payment in lieu of land, as set forth in the Town's Fee Schedule (currently \$2,500 per new building lot), will be paid by the applicant as required by the Cluster Regulations.

As mentioned above, four affordable housing units, or 10% of the total number of lots created, and will be marketed and priced as affordable in accordance with the provisions of Section 164-46.(100). According to the U.S. Office of Housing and Urban Development income limits for a four person household earning 80% of the median household income of Orange County (\$79,900) have been set at \$61,500<sup>2</sup>. Affordable units will be constructed in similar styles as all other proposed dwelling units and deed restrictions will be placed on these housing units to ensure their affordability continues for a period of no less than 40 years. These restrictions will be placed on the individual deeds for each lot.

All future residents will be made aware by notes being placed on the final subdivision plat which will make clear that houses are within close proximity to an active agricultural district which has active farming operations which may produce noise at odd hours, odors or dust and may include spraying of pesticides or fertilizers on crops. Deeds to proposed lots will contain references to said notes.

## **H. Police, Fire and Emergency Medical Services**

### EXISTING SETTING

#### Police Services

The Project Site will be served by the Town of Warwick Police Department which provides 24-hour coverage to an area encompassing approximately 104 square miles and includes both the Town and Village of Warwick. The department consists of 35 officers, five of which are part time. The department has 15 marked police vehicles, three unmarked cars, five bicycles and three motorcycles. The police force operates out of Town Hall, located on Kings Highway, approximately 4.7 miles from the Project Site. The response time to a call at the project site is

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<sup>2</sup> As reported on [www.huduser.org](http://www.huduser.org), last updated 2/19/08.

estimated at less than 10 minutes. Based on the 2005 population of the Town the Police Department currently has 1 officer for every approximately 931 residents.

Additional police coverage for the Project Site is available from the Orange County Sheriff's office headquartered in the Village of Goshen.

The New York State Police Troop F provides coverage for a five-county area (Rockland, Orange, Ulster, Sullivan, and Green Counties) and employs approximately 500 personnel. Troop F has approximately 20 stations and is capable of drawing manpower from any of these station in the even of an emergency. Troopers will respond to any complaint received regardless of jurisdiction and maintain great coordination and cooperation with local forces. Troop F also provides special experts to local forces, including homicide investigators when requested.

Fire and Emergency Medical Services

The Project site is located in the Warwick Fire District. The Warwick Fire Department consists of four volunteer fire companies with 125 active members located in the Village of Warwick. The companies are Excelsior Hose Company, Goodwill Hook and Ladder, Raymond Hose, and Engine Company Number 3. Excelsior and Goodwill are located at 25 Church Street. Raymond House is located on West Street. Engine Company Number 3 is located on Galloway Road on the south side of the railroad tracks.

The department is part of Battalion 6 of the County Mutual Aid System and therefore in the event of a major emergency, additional manpower could be drawn from other local departments.

In total, the Department has three engine trucks, a 100-foot ladder truck, an 18-foot fire rescue truck, and a brush truck. According to a representative of the Excelsior Company, at least two engines, and the rescue truck respond to all residential calls. Fire hydrants are not currently located on or in the vicinity of the project site, nor are they available in the vast majority of the Town. Areas of the Town, including the project site, which do not have public water or fire hydrants are served by water pumper trucks in the event of a fire.

The Warwick Ambulance District, whose boundaries are the same as the fire district, provides 24-hour emergency medical services. The ambulance corps has 50 active members, 24 of whom are Emergency Medical Technicians (EMT's). The ambulance corps owns three ambulances, each equipped with basic life support units and defibrillators.

St. Anthony's Hospital, a 73-bed facility providing emergency and other services is located on Maple Avenue in the Village of Warwick, approximately 10 minutes away from the Project Site.

POTENTIAL IMPACTS

The table below shows the projected number of additional residents which can be expected to be generated by the proposed subdivision.

**Table III-4: Projected number of additional Town Residents**

Number and type of dwellings	Multiplier	Total Residents Generated
53, 4-bedroom single family detached (Valued over \$329,500)	3.67	194.5 ≈ 195

Source: Rutgers University Center for Urban Policy Research, table prepared by Turner Miller Group

This projection is used to determine impacts on the community services discussed below and all other per resident impacts discussed throughout the document.

#### Police

The proposed development will increase the number of residents in the Warwick Police Department jurisdiction. It is the opinion of the Warwick Chief of Police<sup>3</sup> that the proposed subdivision may cause an increase in traffic and may require additional police and emergency service personnel. A full analysis of traffic related impacts and mitigations can be found in Section III-F.

Based on generally excepted planning standards contained in the Development Impact Assessment Handbook published by the Urban Land Institute (1994) 1.5 police personnel are recommended for every 1,000 persons for residential uses. Based on this standard, the projected number of residents the development is likely to generate, 195, would increase police staffing needs by approximately 0.3 persons.

#### Fire and Emergency Medical Services

The proposed development will increase the number of residents in Fire and Ambulance districts. According to the 2008 Town draft Master Plan, fire protection services are adequate for present needs but may need to expand to accommodate growth in the future. Water pumper trucks will remain the means of water supply for fire fighting on the site. The fire department also has the ability to obtain water from nearby water bodies for use during fire suppression if necessary. As such, public water will not be effected

### PROPOSED MITIGATION MEASURES

#### Police

Additional tax revenue raised by the Town could be used to help defray the cost of additional police services. The department will continue to have an opportunity to comment on the this project as the review process continues.

#### Fire and Emergency Medical Services

Roads will be 24 feet wide, curves are large enough to accommodate emergency vehicles and will connect to the adjacent Luft Subdivision to provide for a second means of access to both subdivisions.

Fire and Ambulance districts levy taxes on all properties within the district which provides necessary funds to defray costs of service. Revenue from taxes is projected to be greater than the cost of services. See Fiscal Impact analysis for a full discussion of net impacts to districts.

Comments were solicited from the Fire Department during preparation of this DEIS and the department will continue to have an opportunity to comment on this project as the review process continues.

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<sup>3</sup> Comments stated in a letter to the Planning Board Chairman dated May 9, 2007.

## I. School District Services

### EXISTING SETTING

The Project Site is located within the Warwick Valley Central School District, which serves the entire Village of Warwick, approximately a third of the Town of Chester, and parts of the Town of Warwick which are not included in the Florida and Greenwood Lakes School Districts. The District consists of four elementary schools serving grades K-5, one middle school serving grades 6-8, and one high school serving grades 9-12 with a total enrollment for the 2007-2008 school year of 4,409 students according to the school district office<sup>4</sup>. School district enrollment totals have been steadily decreasing since the 2003-2004 school year. Since this time there has been a total decrease in school district enrollment of 5.81%.<sup>5</sup> The table below shows total enrollment is below rated capacity of school buildings.

**Table III-5: School Enrollment Compared with Capacity**

School Grade Level	Rated Capacity	2007-2008 Enrollment
Total Elementary	2,100	1,771
Warwick Valley Middle School	1,125	1,046
Warwick Valley High School	1,600	1,592

Source: NYS Education Department

Most school facilities are located in the Town of Warwick. Sanfordville Elementary is located on Sanfordville Road, Kings Elementary is located on Kings Highway, Park Avenue Elementary is located at 10 Park Avenue in the Village of Warwick, and Pine Island Elementary is located at 20 Schoolhouse Road in Pine Island. Warwick Valley Middle School is located at 225 West Street and the High school is located at 89 Sanfordville Road.

### POTENTIAL IMPACTS

**Table III-6: Potential School Child Generation**

Number and type of dwellings	Multiplier	Public School Children
53, 4-bedroom single family detached (Valued over \$329,500)	.87	46.11

Source: Rutgers University Center for Urban Policy Research, table prepared by Turner Miller Group

The proposed subdivision can be expected to generate approximately 46 children that would be expected to attend public school based upon the Residential Demographic Multipliers published by the Rutgers University, Center for Urban Policy Research<sup>6</sup>. Students can be expected to be spread throughout the grade levels and be phased in gradually as homes are constructed. These 46 students represent a 1.04% increase in student population. It can be assumed that the district can accommodate this additional growth because of the district's recent decline in enrollment and available capacity in district buildings. The total projected increase in student population

<sup>4</sup> Personal communication with Helen Hagen, WVCS District Registrar, on 8/17/07.

<sup>5</sup> School enrollment data from the New York State Education Department District Report Card, Accountability and Overview Report.

<sup>6</sup> Prepared by Burchell, Listokin, and Dolphin, June 2006.

that would result from the proposed subdivision remains less than the total student population was in the 2003-2004 school year.

The total school budget for the fiscal year 2006-07 is \$71,762,216 with the amount raised by property taxes being \$48,485,216. If the total budget is divided by the total most recent enrollment of 4,409, this yields a total per student cost of \$10,996.87 to be raised by local property taxes. An additional 46 students attending district schools can be expected to result in a cost of \$505,856.02 to be raised by local property taxes. (See Fiscal Impact analysis in Section III-J for additional analysis)

#### PROPOSED MITIGATION MEASURES

No mitigation measures regarding schools are proposed.

## J. Fiscal Impact Analysis

### EXISTING CONDITIONS

Currently the project site is divided into three separate tax parcels. The full project site currently generates \$4896.01 for its taxing jurisdictions. The table below summarize the revenue each of the three parcels generate for each taxing jurisdiction. The Town , County and School District tax amount is based on an exemption, or reduction in overall assessed value, to which the parcels are entitled based upon their current agricultural status.

**Table III-7: Summary of 2007 tax bill by parcel**

<b>Taxing Jurisdiction</b>	<b>Tax rate per \$1000 of assessed value</b>	<b>Tax amount for parcel 27-1-47</b>	<b>Tax amount for parcel 27-1-41.131</b>	<b>Tax amount for parcel 27-1-48.1</b>
County	24.762	15.35	229.79	445.22
Town (including Pt Town and Highway)	14.977	9.29	138.99	269.29
Warwick Ambulance	.9935	.62	9.22	17.86
Warwick Fire	3.7529	2.33	34.83	67.48
Warwick Valley CSD (including library)	131.20878	78.99	1217.62	2359.13
<b>TOTAL</b>	<b>-</b>	<b>\$106.58</b>	<b>\$1,630.50</b>	<b>\$3,158.98</b>

Source: Town of Warwick office of the receiver of taxes, table prepared by Turner Miller Group

### POTENTIAL IMPACTS

The project proposes to construct 49, four bedroom, single family residential homes in fee simple ownership with an average projected sales price of approximately \$550,000. The project also proposes four affordable single family 4-bedroom homes, in accordance with zoning regulations, with an average projected sales price of \$350,000. The reduced sales price of the affordable homes will reduce the overall tax revenue to the taxing jurisdictions, while costs to each district will remain the same as market rate housing.

As discussed in Section III-I, it is projected that this development will generate approximately 195 additional Town residents based upon Residential Demographic Multipliers published by the Rutgers University, Center for Urban Policy Research.

#### Revenue

Before calculating tax revenue from the development, each residential element of the proposal must be valued. Assessors typically compare new housing against the assessed value of comparable existing housing. The assessor maintains a comparison between the sales price and assessed valuation for one, two and three family residences. This ratio known as the Residential Assessment Ratio (RAR) which can be used to approximate the assessed value of residences based on their sales prices. The 2008 RAR for the Town of Warwick is 10.87.

When the RAR is applied to the projected sales price of the homes, the calculated residential assessed value for each of the 49 proposed market value dwelling units is \$59,785 and the four affordable dwelling units would be assessed at \$38,045 each. The entire project would therefore be assessed at \$3,081,645.

The table below shows the project revenue that could be expected from the proposed subdivision broken down by each taxing jurisdiction based on the projected assessment.

**Table III-8: Total Potential Tax Revenue Generated**

<b>Taxing Jurisdiction</b>	<b>Tax rate per \$1000 of assessed value</b>	<b>Tax amount for entire project</b>
County	24.762	\$76,307.69
Town (including Pt Town and Highway)	14.977	\$46,153.80
Warwick Ambulance	.9935	\$3,061.61
Warwick Fire	3.7529	\$11,565.11
Warwick Valley CSD (including library)	131.20878	\$404,338.88
<b>TOTAL REVENUE</b>	<b>-</b>	<b>\$541,427.09</b>

Source: Town of Warwick office of the receiver of taxes, Town Book Keeper, table prepared by Turner Miller Group

Cost of Municipal Services

Municipal costs are determined using Per Capita Multiplier Method as discussed in The New Practitioners Guide to Fiscal Impact.<sup>7</sup> The four basic assumptions of the Per Capita Multiplier Method are: that current average operating costs are the best estimate of future operating costs; current local service levels are the most accurate indicators of future service levels and that they will continue on the same scale in the future; the current composition of the population occasioning costs and the population contributing to future costs are sufficiently similar; and that current distribution of expenditures among the various sectors of municipal service will remain constant in the short run and will serve as the primary indicator of the way in which additional expenditures will be subsequently allocated.

County

Orange County total annual expenditures to be raised by taxes is \$112,262,700, of which \$43,566,846.92 is attributable to residential uses. When this total is divided by the most recent total population of Orange County of 372,893<sup>8</sup> the total per capita expenditure to be raised by property taxes is \$116.83 which equates to \$22,781.85 for the entire subdivision.

Town

The Town of Warwick’s total annual expenditures to be raised by property taxes is \$6,001,614 which includes highway and part Town taxes. Of this total \$3,860,147.50 is attributable to residential uses. When this total is divided by the most recent (2005) population of 32,587 the total per capita expenditure to be raised by property taxes is \$118.46 and \$23,099.05 for the entire subdivision.

<sup>7</sup> The New Practitioners Guide was written by Robert W. Burchell, David Listokin and William R. Dolphin, published by the Rutgers University Center of Urban Policy Research.

<sup>8</sup> As reported by the 2005 Census Bureau’s American Community Survey

### Fire District

The Warwick Fire District has a total tax levy of \$1,084,784. Cost per capita has been estimated to be \$43.67<sup>9</sup> and therefore the total cost for the proposed subdivision would be \$8,515.65.

### Ambulance District

The Warwick Ambulance District has a total tax levy of \$286,800. Cost per capita has been estimated to be \$10.47 and therefore the total cost for the proposed subdivision would be \$2,041.38.

### School District

The total budget for the Warwick Valley Central School District for the fiscal year 2006-2007 is \$71,762,216 with the amount raise by property taxes being \$48,485,216. If the total budget is divided by the enrollment total of 4,409, this yields a total per student cost of \$16,276.30 with amount to be raised by property taxes \$10,996.87 per student. With the total number of projected public school students for the project being 46, this would result in a projected additional expenditure of \$748,709.80, of which \$505,856.02 would need to be raised by local property taxes.

**Table III-9: Total Net Fiscal Impact**

<b>Taxing Jurisdiction</b>	<b>Revenue</b>	<b>Per Capita (or student) Cost</b>	<b>Total Cost</b>	<b>Net Fiscal Impact</b>
County	\$76,307.69	\$116.83	\$22,781.85	\$53,525.84
Town	\$46,153.80	\$118.46	\$23,099.05	\$23,054.75
Warwick Ambulance	\$3,061.61	\$10.47	\$2,041.48	\$1,020.23
Warwick Fire	\$11,565.11	\$43.67	\$8,516.54	\$3,049.46
School District	\$404,338.88	\$10,996.87	\$505,856.02	- \$101,517.14
<b>TOTAL</b>	<b>\$541,427.09</b>	<b>\$11,286.30</b>	<b>\$562,293.95</b>	<b>- \$20,866.86</b>

Source: Table prepared by Turner Miller Group

## MITIGATION MEASURES

The tax burden on market rate residential uses is often insufficient to defray school district service costs. The Town's affordable housing requirement, which the applicant has agreed to adhere to, further reduces the amount of total tax revenue generated by the project because the lower sales price results in the reduction of assessed value by \$21,740 per dwelling unit. This equates to a \$86,960 reduction in assessed value for the entire subdivision. At full market rate an additional \$15,278 could be generated for the project's various taxing jurisdictions. It is the applicant's objective to construct the subdivision in accordance with Town regulations as well as provide the benefit of affordable housing to the Town of Warwick. However, the result of this is a greater negative fiscal impact on the School District.

To better mitigate impacts to the school district, certificates of occupancy can be phased over a period of two or three fiscal years to help the school budget absorb additional costs with minimal impacts to tax payers.

<sup>9</sup> Due to lack of specific district data, costs were calculated by using the total tax levy attributed to the Town for all Town fire districts and average costs were determined. See Appendix G for fiscal analysis spreadsheets.

## K. Recreation and Open Space Resources

### EXISTING SETTING

The following parks and recreational facilities exist in the Town of Warwick:

**Table III-10: Existing Park and Recreation Facilities**

Name of Facility	Location	Facilities offered	Size (Acres)
<b>Neighborhood and Community Parks</b>			
Warwick Town Park / Union Corners Park	Union Corners Road	Pavilions, golf course, baseball diamonds, soccer fields, playground equipment	47.9
Union Corners Sports Complex	Union Corners Road	Six multi-use fields, little league fields	64.3
Pine Island	Kay Road at Treasure lane	Baseball fields, basketball court, playground, tennis court and fitness station	4.8
Airport Park	Airport Road	Playground area, basketball courts, baseball diamond	4.4
<b>Beaches</b>			
East Shore Beach	Gamache Lane	Pavilion, playground equipment, beach with swimming area, volleyball courts	38
Wickham Lake	Off County Route 13	Fishing , boating, beach area	13
<b>Natural Resource Areas</b>			
Cascade Park	Cascade Lake Road	Fishing, picnicking, nature trails, natural area	504
<b>County , State, and Nationally maintained park lands within the Town of Warwick</b>			
Hickory Hill County Park	Off Route 17A	Picnic Area, baseball fields, 18-hole golf course	708.5
Sterling State Forest	Southern tip of Town, accessible via Route 84 in the Town of Tuxedo	Fishing, biking, hunting, hiking, boating, natural trails	17,988, 8,668 within Town of Warwick
Wallkill River National Wildlife Refuge	Southwest portion of the Town	Nature trails, wildlife observation, fishing, canoeing	4,800, 222 within Town of Warwick

Source: Town of Warwick website and Town Recreation Plan

A number of pocket parks and small nature trails also exist throughout the Town as well as Mount Peter's Ski Area (privately owned facility). According to the Town's Recreation Plan, the Town is in the process (in 2006) of clearing an additional 10 acres at the Union Corners Park in order to accommodate additional facilities.

The closest park to the project site is Union Corners Park and Union Corners Sports Complex just north of project site on Union Corners Road.

According to the Town of Warwick Park and Recreation Plan dated June 2006, 57.1% of all respondents to a survey rated the Town Warwick's park and recreational facilities as satisfactory while 11.2% rated Town parks as excellent. The survey also reports that residents feel safety, accessibility and maintenance in Town parks is generally satisfactory. According to residents polled the only deficiency in the Town Park System is a lack of variety of available resources.

In accordance with these results the Town Park and Recreation plan recommends additional trails, courts and fields be constructed at existing parks in order to bolster a wider variety of facilities.

In addition to Municipal parks and recreation facilities, the Warwick Valley School District also maintains a number of facilities including one football field, eight baseball and softball fields, five soccer fields, seven tennis courts, seven gymnasiums, ten basketball courts, two tracks, an indoor swimming pool, one lacrosse field, and three playgrounds throughout district properties.

As discussed in Section III-G of this DEIS the Town's Community Preservation Project specifically made mention of two of the three parcels which make up the project site. They recommended that these lands be conserved as protected open space because of the sensitive environmental features contained on these lots. As also discussed, the plan concedes that as this land is privately owned they understand it is susceptible to development and encouraged the use of clustering and other tools to protect these features when development occurs.

#### POTENTIAL IMPACTS

The increased number of residents (195) will increase usage of local parks and recreation facilities. A commonly used benchmark established by the Trust for Public Land sets a goal of 2.5 acres per 1,000 residents. Using this rate, the projected residents of the Warwick Views subdivision would require less than one half acre or 20,800 square feet of recreation land.

While 70% of the Project Site will remain as open space, this land is not particularly ideal for active recreation such as playgrounds. Much of the land is wetlands and may be subject to flooding during wet periods and a portion of the open space will continue to be used for agricultural purposes. A total of 53% of the land contains environmental constraints leaving over 81 acres of the land available for potential passive recreation areas.

#### MITIGATION MEASURES

The techniques discussed in the Community Preservation Project such as clustering and conservation easements as well as other techniques discussed in the Town Design Guidelines for the siting of residential dwellings are being employed on the site in order to conserve the site's sensitive environmental features.

While some of the open space land does not lend itself well for use as park land due to environmental constraints such as wetlands, portions of the site can be used for passive recreation. No active recreational equipment or buildings will be constructed on site. Open space will be protected by conservation easements and therefore will remain in its natural state in perpetuity. Trails are not currently part of the proposed project. No adjacent properties contain trails to which trails could be connected. If the Town accepts the proposed dedication of the conservation easement it will be up to the Town to determine if trails are appropriate in this area.

The applicant will make a payment in lieu of providing public parkland in accordance with the Town Zoning Code in the amount of \$2,500 per newly created lot which is equivalent to \$125,000. This money will assist the Town in being able to construct the recommended amenities described in the Town Park and Recreation Plan.

## L. Utilities – Water

### EXISTING SETTING

Test Wells 1, 2, 3, 4 and 5 are located on the Warwick Views project site (See Figure 1 of water report in Appendix G for well locations). Wells 1, 2, 4 and 5 were drilled as proposed test wells for the project under the supervision of the applicant’s hydrogeologist, from February to July 2007. Well 3 was drilled by the applicant prior to purchase of the property, for due diligence purposes. Well 3 was not considered for water supply development due to the marginal yield.

A 72-hour pumping test was completed on wells 1,2 and 5 according to requirements and guidelines set by the NYS DEC “Recommended Pump Test Procedures for Water Supply Application”. The tests yielded the following results:

**Table III- 11: Well Pump Test Results**

Well number	Well 1	Well 2	Well 5
Gallons pumped per minute (gpm)	39 gpm	39 gpm	32 gpm

Groundwater samples collected from Wells 1, 2 and 5 meet all New York State Drinking Water Standards with the exception of the presence of total coliform in Wells 1 and 2. (See Appendix G for full water quality analysis)

No central water systems currently exist within the immediate area of the project site.

### POTENTIAL IMPACTS

The estimated average daily water demand for the 53 proposed single-family residences at 400 gpd per residence is 21,200 gpd (gallons per day) or about 14.7 gpm. The New York State Department of Health (NYSDOH) requires that the available water supply for the proposed development equal or exceed twice the average daily demand estimate. Therefore, the water supply must have the capacity to produce a minimum of 42,400 gpd or about 29.5 gpm. The NYSDOH requires proof of this supply with the most productive well out of service; therefore, a minimum of two sources was required for the proposed water supply.

As shown by the well pump test results, each of proposed wells (Well 2 and Well 5) would be able to meet the NYSDOH demand requirement of at least 29.5 gpm. The pumping data further indicates that higher sustainable yields could likely be developed from Wells 2 and 5. The applicant’s geologist has indicated that yields of 70 gpm or greater would likely be achieved from the respective wells. Assuming a yield of 70 gpm from each well, an additional 72 residential homes (assuming 4 bedrooms) could be supplied from this proposed water supply source. At this time, there are no plans to supply water to any off site locations.

### PROPOSED MITIGATIONS

Due to the amount of water-level drawdown observed in the adjacent piezometer during the pumping test, Well 1 will not be placed in service as a community water supply well for the proposed subdivision. Therefore, no treatment is necessary at this time for the well. Well 2 will be disinfected and re-sampled for total coliform prior to being placed in service.

In order to provide efficient reliable water supply to the residents of the Warwick Views Subdivision, the applicant proposes to create a community water district which will include all

53 proposed dwelling units and the aforementioned wells. The applicant will petition the Town Board to create such a district which will be of no cost to the Town.

The developer will ensure that all dwelling units are equipped with water saving plumbing fixtures in accordance with New York State Environmental Conservation Law standards.

## **M. Utilities – Wastewater**

### EXISTING SETTING

Currently there is no method of wastewater treatment on the Project Site. No public sewer infrastructure is available at the site.

### POTENTIAL IMPACTS

Individual septic systems are proposed for the 53 proposed new dwelling units. The applicant is currently in the process of seeking a waiver from the Orange County Department of Health to allow for more than the maximum number of lots to utilize septic systems. A waiver will also be required from the Town Board to develop more than 49 lots without central sewerage.

Based on the Orange County Health Department standard of 520 gallons of wastewater per day, per four-bedroom dwelling unit, the proposed subdivision would generate approximately 27,560 gallons of wastewater per day.

Nitrogen and phosphate levels in the soil can rise as a result of the additional load from septic leach fields. This can impact the existing surface water and ground water resources. Given the soils beneath the proposed development are derived from glacial till and contain an abundance of fine particles and the calculated recharge rates, (see section III-B for analysis) it is not anticipated that wastewater flows would cause nitrate levels in groundwater to rise above the NYSDOH specified maximum concentration level. (See Appendix G for calculations)

### PROPOSED MITIGATION MEASURES

Each septic tank will have a 1,250 gallon capacity. All proposed leach fields will use Eljen In-drain matting to further promote biological processes and reduce suspended solids thereby further mitigating potential impacts to groundwater resources.

Based on Deep Pit and Percolation Soil Testing, completed with the Town of Warwick Town Engineer in the area of the proposed septic systems, no subsurface conditions were encountered which are expected to adversely affect septic use. Areas of shallow bedrock were encountered (less than four feet), however the available depth of soil is found to be adequate to support conventional or shallow type sewerage disposal systems in accordance with NYS Department of Health Appendix 75A standards.

The septic fields have been carefully placed in accordance with NYS Health Department Standards. Each septic field is at least 100 feet from public community supply wells and at least 200 feet if the well is down slope of the septic field. Separation distances are substantially

greater than the minimum required distances established by the state. Septic design is based on the slowest percolation rates in the area of the proposed system.

## **N. Utilities – Other**

### **EXISTING SETTING**

Electricity is provided in the Town of Warwick, including the project site, by Orange and Rockland Utilities. Currently Orange and Rockland Utilities purchases its power for New York and Pennsylvania customers from the power market administered by the New York State Independent System Operator (NYISO).

According to the NYISO 2009 Load and Capacity Data Gold Book reporting on load forecasts and capacity for the NYS electrical grid for 2009-2019 reports the 2008 energy requirement of this grid was 144,619 GWh, approximately 4% less than was generated in 2007.

The report also states the Orange County area is likely to receive a 650 MW generator addition at the end of 2010 to supplement its energy capacity.

### **POTENTIAL IMPACTS**

The NYISO 2009 Load and Capacity Data Gold Book projects that energy demands of the grid in the project completion year of 2012 will be 166,221 GWh. The report anticipated a 30% margin of reserve in the 2012 completion year.

It is estimated by Orange and Rockland Utilities that on an annual basis, a single family home uses approximately 6,011 kwh of electricity per residence<sup>10</sup>. Therefore, the proposed subdivision is anticipated to use a total of 318,583 kwh per year (equal to 0.318583 GWh). Compared to the total amount of energy produced by the NYSISO the project site will require an extremely small (approximately 0.0002%) percentage.

Besides the additional capacity discussed above, other improvements made to the system include providing additional capacity at 14 other generation facilities in other areas of the state and bringing one older facility offline for retirement.

### **PROPOSED MITIGATION MEASURES**

Section V-F of this report discusses the possible means of reducing energy consumption on the project site. Due to the extremely small percentage of increase in electrical use compared to the system generation and plans to upgrade the system, no additional mitigation measures are proposed regarding electrical supply.

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<sup>10</sup> Orange and Rockland Utilities, Inc. <http://www.oru.com/energyandsafety/electricity/electricsupply.html>  
Warwick Views Subdivision  
Draft Environmental Impact Statement  
Town of Warwick, Orange County

#### **IV. ADVERSE UNAVOIDABLE SIGNIFICANT ENVIRONMENTAL IMPACTS IF PROJECT IS IMPLEMENTED**

Development of the Warwick View Subdivision site will have some unavoidable impacts. Although these impacts cannot be avoided, many can, to some extent be mitigated as noted in Section III.

- Alterations to the sites natural topography in areas of roads and development.
- Increased susceptibility to erosion from the loss of natural vegetation on the site. A description of the Erosion Control Plan can be found in Section III-A and is shown on the full set of plans.
- A portion of the wetland area and the related buffer will be permanently disturbed subject to a permit from the NYS Department of Environmental Conservation.
- The project will permanently alter the visual appearance of the project site. See Section III-E for a discussion of potential visual impacts and mitigation measures.
- The project will lead to an increased amount of traffic on local roads. See Section III-F or the Traffic Impact Analysis in Appendix E for a detailed description of current and anticipated traffic volumes.
- The project will cause an increase in the usage of local groundwater. See Section III-L or Appendix G for a detailed description of the amount of water usage anticipated and an Aquifer Impact Assessment.
- The project will increase populations within the emergency service districts and the Warwick Valley Central School District.
- The proposed subdivision will produce 27,560 gallons of wastewater per day. For means of wastewater management see Section III-M.

## V. ALTERNATIVES

Several alternatives to the proposed subdivision were explored. A comparative matrix table of each alternative can be found in Chapter 1.

### A. No Action

The No Action alternative essentially means that the property would remain as it exists today. The site impacts related to physical development would not exist, and the benefits of the Proposed Action would not be realized. The development potential of the site would remain the same. This alternative is not consistent with the objectives of the Project Sponsor.

No impacts would occur to soils or geology, water resources, vegetation and wildlife, cultural resources, emergency services, or utilities. No additional tax revenue, or costs would be generated for any of the site's taxing jurisdictions. No visual impacts would occur.

While, under this alternative, the project site would not generate traffic if the proposed subdivision were not constructed, it is anticipated that traffic on local roads would continue to increase based on a 2% growth rate taking other approved and pending major developments in the immediate area into account. No-Build Traffic Volumes for the year 2012 are shown on Figures 8 and Figure 9 in Appendix E.

### B. Traditional Neighborhood Alternative

This option could be implemented by subdividing the Project Site into much smaller clustered lots. Sidewalks would be provided under this option. This alternative would likely still utilize individual septic systems and provide lots which are at least 12,500 square feet in accordance with zoning. This alternative would still require a waiver from Orange County Health Department for the number of lots with septic systems. This alternative is not consistent with surrounding land uses, but would likely not have negative impacts on surrounding homes. This alternative is consistent with the Town and County Comprehensive Plans as well as the Town Design Guidelines.

The use of smaller lots would preserve additional land in its natural state and reduce infrastructure costs. However, the project site is not located within the TND Overlay District and the project site does not lend itself to this layout due to its natural rolling topography. Additional grading and increased disturbance to steeply sloped areas would be required to get viable dwelling locations closer together. Wetland disturbance would still be likely due to the location of the wetland on the project site relative to Blooms Corners Road and therefore a wetland permit would still be required from the DEC.

### C. Conventional Subdivision

A conventional layout featuring four acre lots has been prepared (See **Figure V-1**). Based on the Zoning Code this plan contains 44 lots, each of at least four acres and 13,038 linear feet of roadway; more than double the amount proposed under the preferred layout. A conventional layout is not consistent with the Town's goals as stated in the Comprehensive Plan, and is specifically discouraged in the Town's residential design guidelines. This type of layout would result in the excess clearing of land, additional trees would likely need to be removed which would reduce the amount of remaining wildlife habitat on the site, a larger portion of the onsite wetland would be disturbed and filled, and two road openings would be necessary. Visual



**BULK REQUIREMENTS**  
**RU ZONE**  
(2001 ZONING REQUIREMENTS)  
USE GROUP "B"

	MINIMUM REQUIRED
LOT AREA (AC.)	4
LOT WIDTH (FT.)	250
LOT DEPTH (FT.)	250
FRONT YARD (FT.)	75
REAR YARD (FT.)	50
ONE SIDE YARD (FT.)	75
BOTH SIDE YARDS (FT.)	150
YARDS ADJACENT TO SPECIAL AREAS (FT.)*	200 (100)
FLOOR AREA / D.U. (SQ. FT.)	1,200

**MAXIMUM ALLOWED**

LOT COVERAGE (%)	30
BUILDING HEIGHT (STORIES)	3
BUILDING HEIGHT (FT.)	35

\*SPECIAL AREAS ARE LOTS WITHIN 25' OF A RESIDENTIAL DISTRICT BOUNDARY, AIRPORT, OR (DESIGNATED PROTECTION AREA)

**DISTRICT TABLE**

TRADITIONAL NEIGHBORHOOD OVERLAY	NO
RIDGELINE OVERLAY	NO
AQUIFER PROTECTION OVERLAY	YES
AGRICULTURAL PROTECTION OVERLAY	YES



FIGURE V-1

**LEGEND**

EXISTING PROPERTY LINE	PROPOSED PROPERTY LINE	PROPOSED DWELLING
PROPOSED SETBACK LINE	MINIMUM SETBACK LINE	PROPOSED SEPTIC
EXISTING STONEWALL	EXISTING OVERHEAD UTILITIES	PROPOSED WELL
EXISTING WIRE FENCE	LOCAL SCALE BOUNDARY	
EXISTING OVERHEAD UTILITIES	EXISTING TRUSLING	

17% - 23% SLOPES

23%+ SLOPES

5,000 SQ. FT. BUILDABLE AREA

200' x 200' BLOCK

**WARWICK VIEWS**  
TOWN OF WARWICK, ORANGE COUNTY, NEW YORK  
PROJECT TITLE

**CONVENTIONAL 4 AC. LOT SUBDIVISION PLAN**  
DRAWING TITLE

**KIRK ROTHER, P.E.**  
CONSULTING ENGINEER, PLLC  
296 Pine Island Turnpike, Warwick, NY 10991  
(845) 988-9829

DATE	REVISIONS	DATE
05-07-09	INITIAL PREPARATION	

DATE	REVISIONS	DATE

DATE	SCALE	SHEET #	TOTAL SHEETS
05-07-09	1"=400'	1 OF 1	1

impacts would be increased to surrounding property owners because homes would be closer to property boundaries. Fiscal impacts to the Town would be greater as clustered developments reduce public sector long term infrastructure maintenance costs. This alternative is not consistent with the objectives of the Town or the property owner.

#### **D. Reduced Scale Alternative**

A reduced scale alternative depicting 37 single family homes with 6,303 linear feet of public road has been prepared (See **Figure V-2**). This alternative would require 36 acres of total disturbance and 7.4 acres of impervious surfaces. This alternative would not require a waiver for the use of individual septic systems by the Orange County Health Department. Impacts would be reduced commensurate with the reduction in number of lots and include a reduced number of residents, less energy and water consumption, and reduced amounts of wastewater. The Town zoning code permits the number of lots currently proposed, therefore under this alternative, additional development potential would exist on the property. This also is not consistent with the applicant's objectives.

#### **E. Alternative Cluster Design**

Two alternative cluster designs have been prepared for the project site (See **Figures V-3 and V-4**) These alternatives are identified as "West Loop Cluster Alternative" and "Double Loop Cluster Alternative" with both of these alternatives resulting in increased impervious area (11.38 total acres in the western loop and 10.28 acres in the double loop) and increased disturbance to highly erodible soils with slopes of 25% or greater with 2.32 acres and 3.65 acres of disturbance as compared to 1.81 total acres in the current preferred layout. One benefit to these layouts is loop roads would provide easier maneuvering for emergency vehicles and garbage collection vehicles.

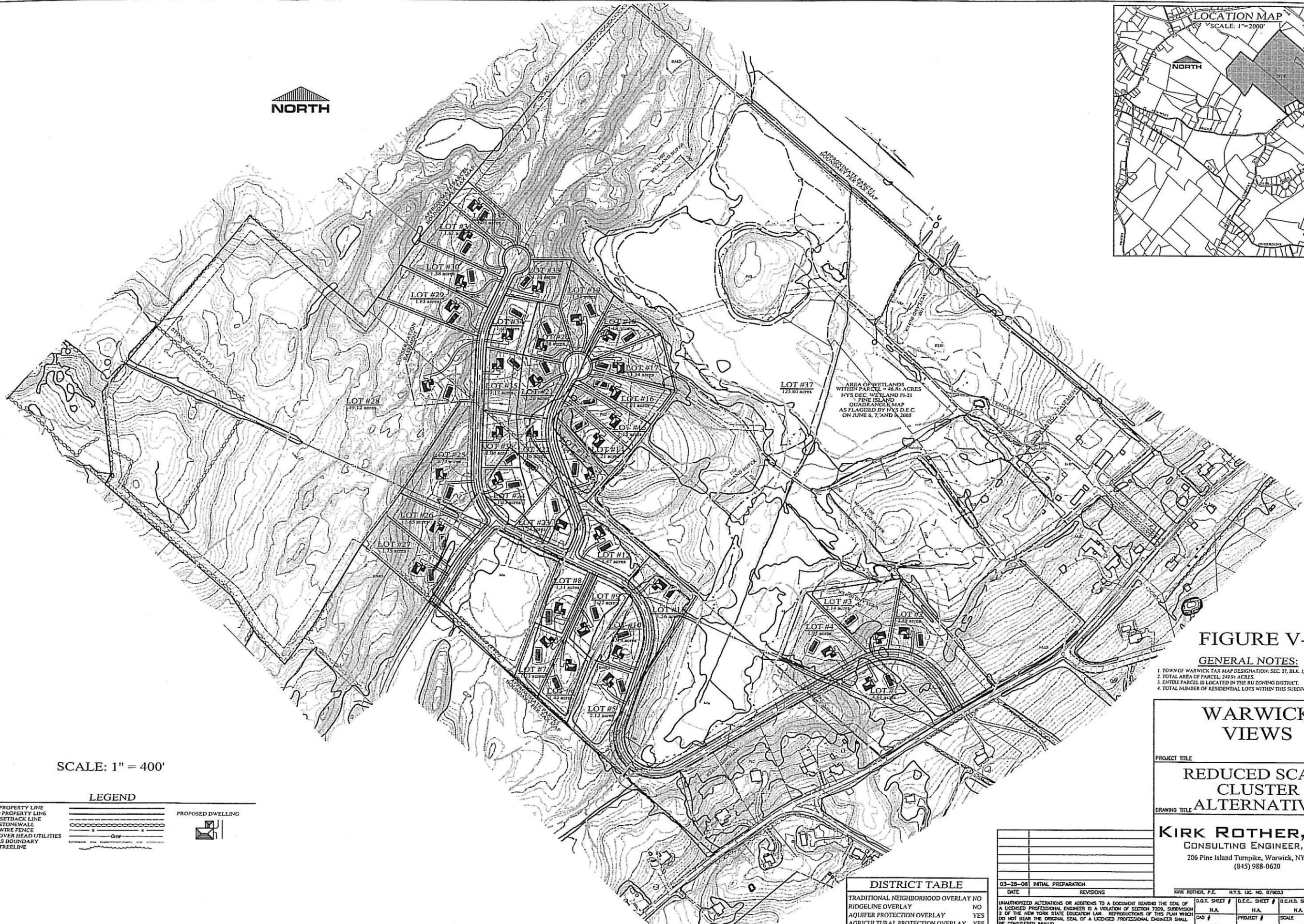
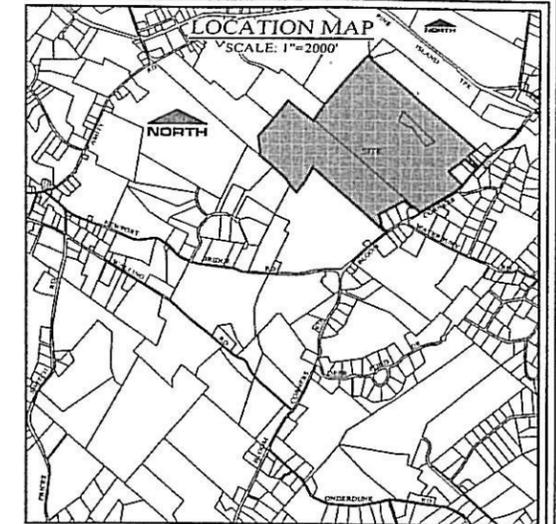
The applicant's preferred layout is the result of the 4-step design process as described in the Cluster Regulations of the Town's Comprehensive Plan and Section III-G of this report takes environmental factors including soil testing, well locations, wetlands and Project Site topographical limitations into account. The applicant believes the preferred layout will have the least amount of environmental impact.

#### **F. Alternative Energy Option**

Alternatives for heating and energy supply in individual dwelling units are liquefied petroleum gas, oil, or passive or active solar design. The use of alternative energy sources in this development is unlikely to have a major impact on Orange and Rockland Utilities, energy suppliers or the energy grid itself. However, these options are feasible for an additional cost if a homeowner chooses to have such infrastructure constructed. These alternative heating options will be available to the homeowner. Some dwellings may also supplement heating requirements with wood, coal, or pellet burning stoves depending on homeowner preferences.

Even in the an alternative energy option are employed by a homeowner, it is unlikely their home would qualify for LEED certification as this program requires a number of energy efficient construction techniques and products which are not proposed and is granted only once a certain point total has been reached.

The proposed construction will meet or exceed the standards for the New York State Energy Conservation Construction Code which requires the use of energy efficient products in all new



LOT #37  
125.80 acres  
AREA OF WETLANDS  
WITHIN PARCEL - 46.84 ACRES  
NYS DEC. WETLAND FI-21  
PINE ISLAND  
QUADRANGLE MAP  
AS FLAGGED BY NYS D.E.C.  
ON JUNE 6, 7, AND 9, 2005

SCALE: 1" = 400'

**LEGEND**

EXISTING PROPERTY LINE		PROPOSED DWELLING	
PROPOSED PROPERTY LINE			
MINIMUM SETBACK LINE			
EXISTING STONEWALL			
EXISTING WIRE FENCE			
EXISTING OVER HEAD UTILITIES			
USDA SOILS BOUNDARY			
EXISTING TREELINE			

**FIGURE V-2**

**GENERAL NOTES:**

1. TOWN OF WARWICK TAX MAP DESIGNATION: SEC. 27, BLK. 1, LOTS 1, 131, 47 & 48.1
2. TOTAL AREA OF PARCEL: 249.91 ACRES
3. ENTIRE PARCEL IS LOCATED IN THE R1-ZONING DISTRICT.
4. TOTAL NUMBER OF RESIDENTIAL LOTS WITHIN THIS SUBDIVISION: 21

**WARWICK VIEWS**

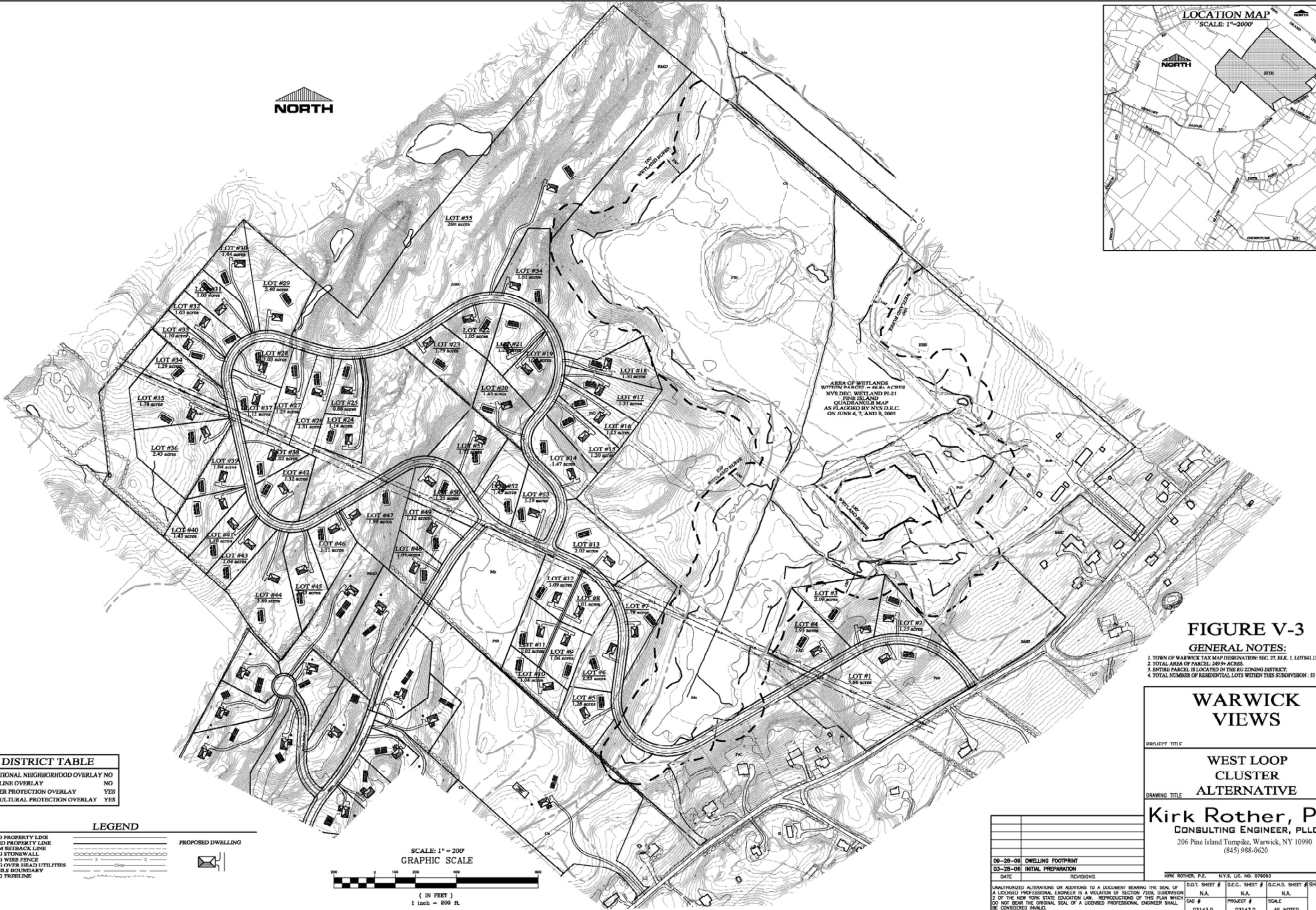
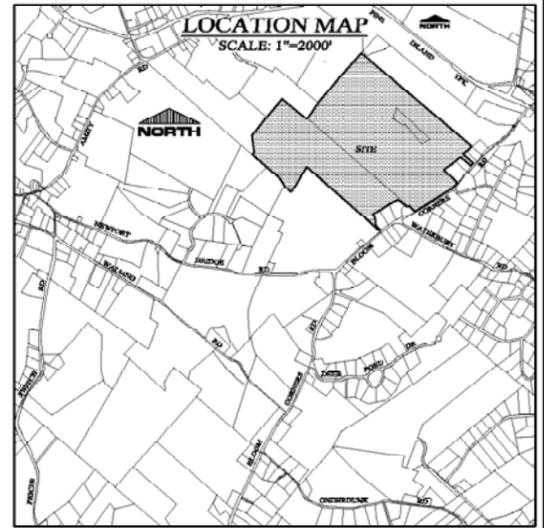
PROJECT TITLE  
**REDUCED SCALE CLUSTER ALTERNATIVE**

DRAWING TITLE  
**KIRK ROTHER, P.E.**  
CONSULTING ENGINEER, PLLC  
206 Pine Island Turnpike, Warwick, NY 10990  
(845) 988-0620

**DISTRICT TABLE**

TRADITIONAL NEIGHBORHOOD OVERLAY	NO
RIDGELINE OVERLAY	NO
AQUIFER PROTECTION OVERLAY	YES
AGRICULTURAL PROTECTION OVERLAY	YES

DATE	03-28-06	INITIAL PREPARATION			
DATE		REVISIONS			
UNAUTHORIZED ALTERATIONS OR ADDITIONS TO A DOCUMENT BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER IS A VIOLATION OF SECTION 7209, SUBSECTION 2 OF THE NEW YORK STATE EDUCATION LAW. REPRODUCTIONS OF THIS PLAN WHICH DO NOT BEAR THE ORIGINAL SEAL OF A LICENSED PROFESSIONAL ENGINEER SHALL BE CONSIDERED INVALID.					
D.O.T. SHEET #	N/A	D.E.C. SHEET #	N/A	D.C.H.D. SHEET #	SHEET #
CAD #	03143.0	PROJECT #	03143.0	SCALE	AS NOTED
					1 OF 1



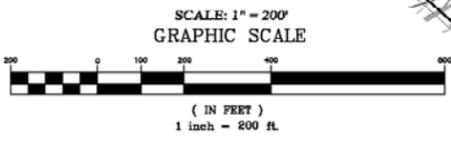
AREA OF WETLANDS  
WITHIN PARCEL - 46.81 ACRES  
NYS DEC. WETLAND PI-21  
PINE ISLAND  
QUADRANGLE MAP  
AS FLAGGED BY NYS D.E.C.  
ON JUNE 4, 7, AND 9, 2004

**FIGURE V-3**  
**GENERAL NOTES:**

1. TOWN OF WARWICK TAX MAP DESIGNATION: SIC: 27, B.L.K. 1, LOTS 41, 47 & 48.1.
2. TOTAL AREA OF PARCEL: 249.96 ACRES.
3. ENTIRE PARCEL IS LOCATED IN THE RU ZONING DISTRICT.
4. TOTAL NUMBER OF RESIDENTIAL LOTS WITHIN THIS SUBDIVISION : 53

DISTRICT TABLE	
TRADITIONAL NEIGHBORHOOD OVERLAY	NO
RIDGELINE OVERLAY	NO
AQUIFER PROTECTION OVERLAY	YES
AGRICULTURAL PROTECTION OVERLAY	YES

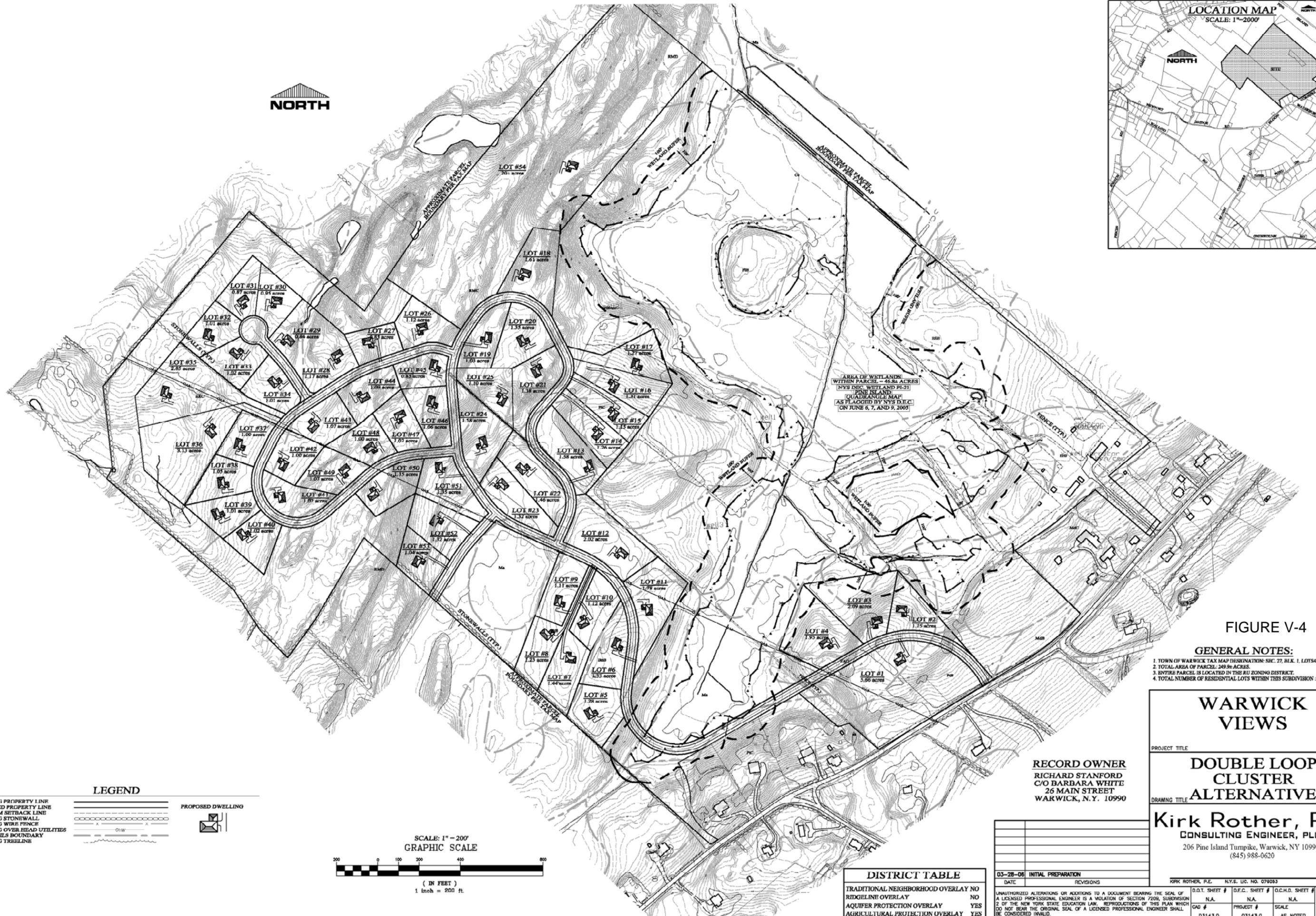
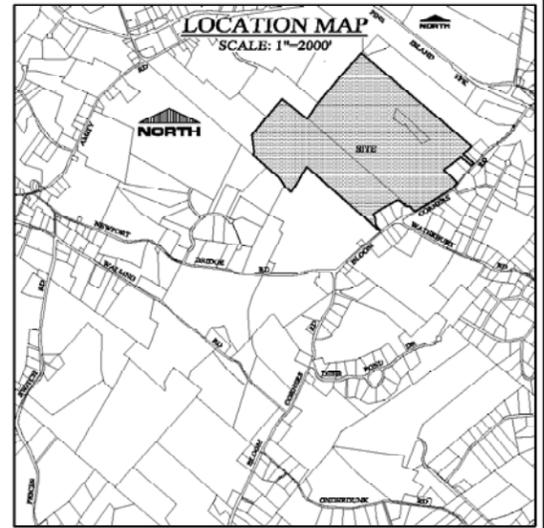
LEGEND	
EXISTING PROPERTY LINE	
PROPOSED PROPERTY LINE	
MINIMUM SETBACK LINE	
EXISTING STONEWALL	
EXISTING WIRE FENCE	
EXISTING OVER HEAD UTILITIES	
USDA SOILS BOUNDARY	
EXISTING TREELINE	
PROPOSED DWELLING	



DRAFT TITLE	
WEST LOOP CLUSTER ALTERNATIVE	
DRAWING TITLE	
<b>Kirk Rother, P.E.</b> CONSULTING ENGINEER, PLLC 206 Pine Island Turnpike, Warwick, NY 10990 (845) 988-0620	
DATE	REVISIONS
08-28-08	DWELLING FOOTPRINT
03-28-06	INITIAL PREPARATION
D.O.T. SHEET #	D.E.C. SHEET #
N.A.	N.A.
CAO #	PROJECT #
03143.0	03143.0
D.C.H.D. SHEET #	SHEET #
N.A.	1 OF 1

DATE	REVISIONS
08-28-08	DWELLING FOOTPRINT
03-28-06	INITIAL PREPARATION

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AREA OF WETLANDS  
WITHIN PARCEL - 46.84 ACRES  
NYS DEC WETLAND P1-21  
PINE ISLAND  
QUADRANGLE MAP  
AS PLACED BY NYS D.E.C.  
ON JUNE 8, 7, AND 9, 2005

FIGURE V-4

**GENERAL NOTES:**

1. TOWN OF WARWICK TAX MAP DESIGNATION: SEC. 27, B.L.K. 1, LOTS 41, 47 & 48.
2. TOTAL AREA OF PARCEL: 249.96 ACRES.
3. ENTERS PARCEL IS LOCATED IN THE R1 ZONING DISTRICT.
4. TOTAL NUMBER OF RESIDENTIAL LOTS WITHIN THIS SUBDIVISION: 24

**WARWICK VIEWS**

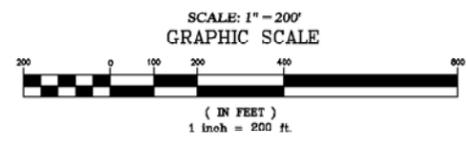
PROJECT TITLE  
**DOUBLE LOOP CLUSTER ALTERNATIVE**

DRAWING TITLE  
**Kirk Rother, P.E.**  
CONSULTING ENGINEER, PLLC  
206 Pine Island Turnpike, Warwick, NY 10990  
(845) 988-0620

**RECORD OWNER**  
RICHARD STANFORD  
C/O BARBARA WHITE  
26 MAIN STREET  
WARWICK, N.Y. 10990

**LEGEND**

- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- MINIMUM SETBACK LINE
- EXISTING STONEWALL
- EXISTING WIRE FENCE
- EXISTING OVER HEAD UTILITIES
- USDA SOILS BOUNDARY
- EXISTING TREE LINE
- PROPOSED DWELLING

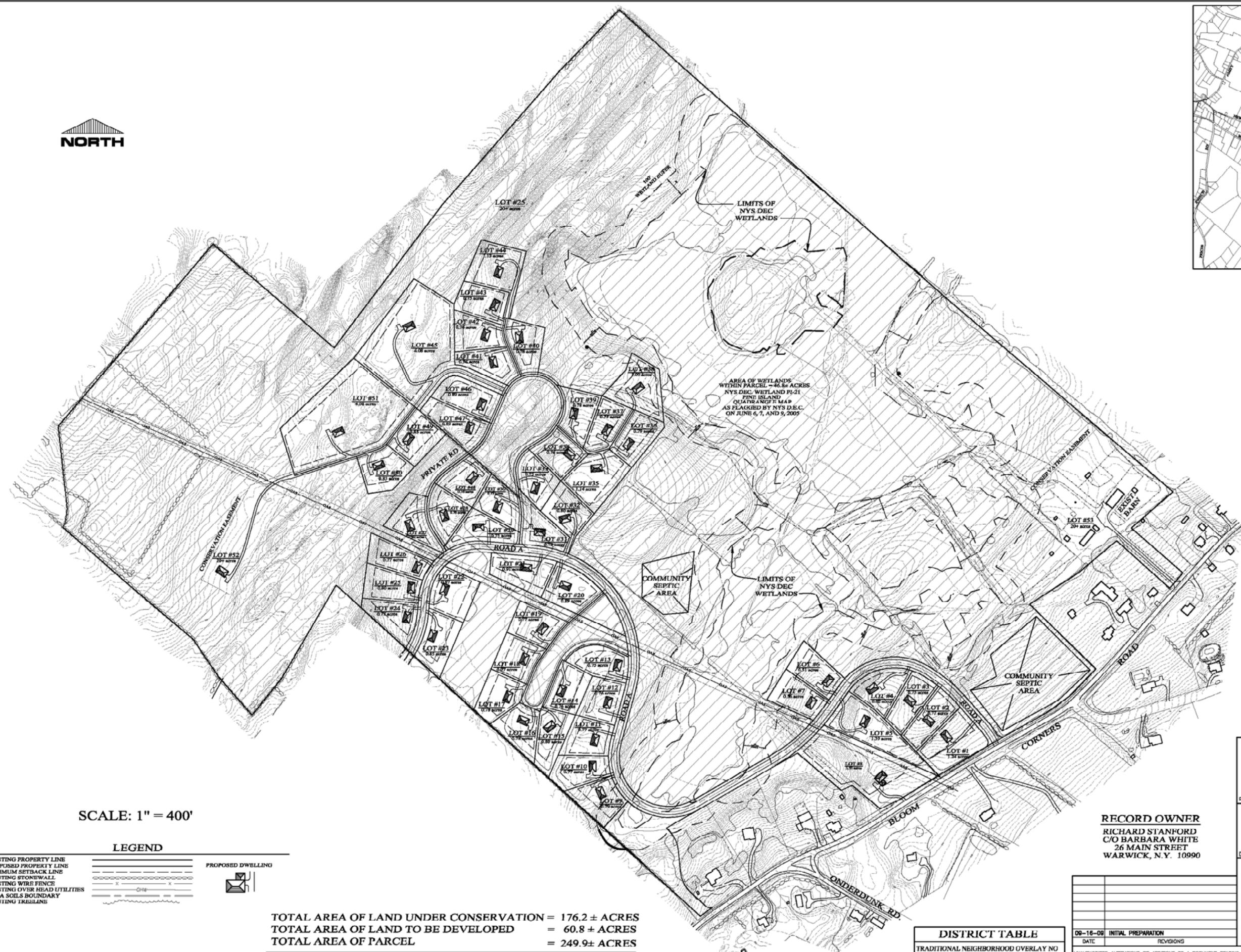
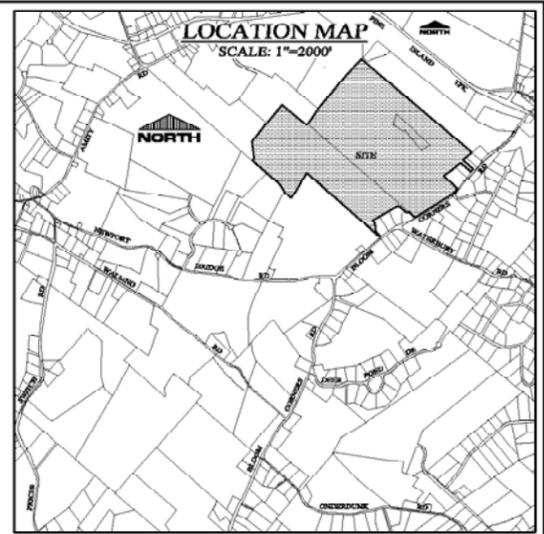


**DISTRICT TABLE**

TRADITIONAL NEIGHBORHOOD OVERLAY	NO
RIDGELINE OVERLAY	NO
AQUIFER PROTECTION OVERLAY	YES
AGRICULTURAL PROTECTION OVERLAY	YES

03-28-06	INITIAL PREPARATION
DATE	REVISIONS

UNAUTHORIZED ALTERATIONS OR ADDITIONS TO A DOCUMENT BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER IS A VIOLATION OF SECTION 7209, SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW. REPRODUCTIONS OF THIS PLAN WHICH DO NOT BEAR THE ORIGINAL SEAL OF A LICENSED PROFESSIONAL ENGINEER SHALL BE CONSIDERED INVALID.		KRK ROTHER, P.E.	N.Y.S. LIC. NO. 079053	DATE
D.O.T. SHEET #	D.E.C. SHEET #	D.C.H.D. SHEET #	SHEET #	
N.A.	N.A.	N.A.	1 OF 4	
CAO #	PROJECT #	SCALE		
03143.0	03143.0	AS NOTED		



LIMITS OF NYS DEC WETLANDS

AREA OF WETLANDS WITHIN PARCEL - 46.8± ACRES  
NYS DEC WETLAND PI-21  
PINE ISLAND  
QUADRANGLE MAP  
AS FLAGGED BY NYS DEC  
ON JUNE 6, 7, AND 9, 2005

COMMUNITY SEPTIC AREA

LIMITS OF NYS DEC WETLANDS

COMMUNITY SEPTIC AREA

SCALE: 1" = 400'

**LEGEND**

- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- MINIMUM SETBACK LINE
- EXISTING STONEWALL
- EXISTING WIRE FENCE
- EXISTING OVER HEAD UTILITIES
- USDA SOILS BOUNDARY
- EXISTING TREELINE
- PROPOSED DWELLING

TOTAL AREA OF LAND UNDER CONSERVATION	=	176.2 ± ACRES
TOTAL AREA OF LAND TO BE DEVELOPED	=	60.8 ± ACRES
TOTAL AREA OF PARCEL	=	249.9± ACRES
PERCENTAGE OF LAND CONSERVED	=	70.5% ±

**RECORD OWNER**  
RICHARD STANFORD  
C/O BARBARA WHITE  
26 MAIN STREET  
WARWICK, N.Y. 10990

**DISTRICT TABLE**

TRADITIONAL NEIGHBORHOOD OVERLAY	NO
RIDGELINE OVERLAY	NO
AQUIFER PROTECTION OVERLAY	YES
AGRICULTURAL PROTECTION OVERLAY	YES

DATE	REVISIONS
09-16-09	INITIAL PREPARATION

**FIGURE V-5**

**GENERAL NOTES:**

1. TOWN OF WARWICK TAX MAP DESIGNATION: SEC. 27, BLK. 1, LOTS 131, 47 & 48.1
2. TOTAL AREA OF PARCEL: 249.9± ACRES
3. NUMBER OF LOTS: 53
4. TOTAL NUMBER OF RESIDENTIAL LOTS WITHIN THIS SUBDIVISION: 53

**WARWICK VIEWS**

DRAWING TITLE  
**COMMUNITY SEPTIC CLUSTER ALTERNATIVE**

**Kirk Rother, P.E.**  
CONSULTING ENGINEER, PLLC  
206 Pine Island Turnpike, Warwick, NY 10990  
(845) 988-0620

D.O.T. SHEET #	D.E.C. SHEET #	D.C.H.D. SHEET #	SHEET #
N.A.	N.A.	N.A.	1 OF 1

and renovated construction. Requirements apply to heating and cooling systems, hot water systems, electrical systems, construction materials, equipment specifications, and building sealing and insulation. New York State Standards do not require Energy Star rated appliances.

A number of mature trees will remain on the site which can reduce cold winds in the winter and provide additional shade to homes in the summer. Additional plantings will supplement areas of less vegetation. According to Orange and Rockland Utilities' website trees have the ability to reduce energy consumption and heating and air conditioning costs up to 40%.<sup>11</sup>

### **G. Subdivision utilizing a Community Septic System**

An alternative cluster layout has been prepared utilizing a Community Septic System (Figure V-5). This layout would feature 53 lots with a similar amount of open space as proposed under the Preferred Alternative. This Alternative would not require waivers from the County Health Department or the Town Board for development of over 49 lots without community septic. This alternative would still require a waiver from the Planning Board for not providing sidewalks. This alternative would still require a wetlands permit but disturbance to the wetland area would be 0.25 acres. A total of 4,355 linear feet of Town roadway would be proposed with 1,982 linear feet of private roads. A total of 9.85 acres of impervious surfaces would be created. Two community septic discharge areas would be proposed under this alternative; one adjacent to Blooms Corners Road in an area consisting of MdB, MdC and PtB soils and the other located across proposed Road A from Lot 20 in an area consisting of PtB soils.

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<sup>11</sup> Orange and Rockland Utilities, Inc. : "Tree Landscaping Guide: Energy Saving Greenery"  
<http://www.oru.com/energyandsafety/energyefficiency/treeguide/energyefficiencytrees.html>  
Warwick Views Subdivision  
Draft Environmental Impact Statement  
Town of Warwick, Orange County

## **VI. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES**

Some areas of existing undeveloped land will be committed to development of residences, roads, and landscaped areas. Some existing soils will be altered, or removed and replaced with paving.

### **A. Geology**

As a result of grading activities, the upper geological formation on portions of the site will be irreversibly converted.

### **B. Soils**

As a result of grading and filling activities, the soil composition and characteristics of portions of the site will be irreversibly converted.

### **C. Topography**

As a result of grading and filling activities, the topography of portions of the site will be irreversibly converted.

### **D. Water Resources**

The Proposed Action will result in an increased use of ground water. This water will come from a newly created (pending approval) water district and not reduce another district's supply or draw down ground water on surrounding properties. As a result of construction of the proposed roadway, a portion of the onsite DEC wetland will be permanently disturbed and converted.

### **E. Utilities**

The Proposed Action will result in an increased demand for energy for heating, air conditioning, and electricity.

## VII. GROWTH INDUCING IMPACTS

This section describes the potential growth inducing impacts the Proposed Subdivision may have on the community. Listed below are factors typically affected by growth induced by a new residential development.

### A. Population

When completed the project site is proposed to contain 53 single family dwelling units. This will increase the Town of Warwick's population by approximately 195 new residents based on Residential Demographic Multipliers published by Rutgers University, Center for Urban Policy Research (See Section III-I for calculations). This would cause a 0.6 % increase in total population from the 2005 total population of 32,587 provided by Orange County Planning Department. This minimal growth may have occurred in other locations within the Town so it is debatable whether the Warwick Views subdivision will accommodate or induce growth.

### B. Support Facilities

The proposed subdivision may indirectly cause a very minor expansion of jobs and a commensurate increment of additional demand for retail, business and other services throughout the community, including local retail, business services and personal service establishments within the Town and Village of Warwick. On a regional level, the proposed subdivision is more than likely too small to have any significant impact on regional and national retailers located within nearby communities such as Middletown or Newburgh.

New service industries would not be necessary based on demands of this project alone.

### C. Development Potential

The remaining open land within the Warwick Views Subdivision will be preserved as open space in perpetuity through the use of conservation easements. No additional development would be permissible on the project site based on the current Town Zoning Law. Absent a major re-zoning by the Town, parcels are unlikely to be further subdivided.

### D. Infrastructure

The proposed utility infrastructure for the development is designed to serve 53 homes. Water supply wells have the potential to serve additional homes, but additional testing is needed. See Section III- L, Utilities – Water, for pumping capacity.

## VIII. EFFECTS ON THE USE AND CONSERVATION OF ENERGY RESOURCES

Energy consumption will occur during the construction and operation of the Proposed Subdivision. During the construction phase, energy will be used to power equipment and various construction vehicles. Once construction is completed, the Proposed Subdivision would require energy for heating and electricity. Effects of this use will be similar to those associated with all residential construction projects.

### A. Energy Sources to be used if the Proposed Project is implemented

The proposed primary energy sources for the project are electricity, fuel, and natural gas. Electricity and gas will be provided to the project site by Orange and Rockland Utilities. Orange and Rockland and its two subsidiaries currently serve approximately 745,000 customers in seven counties within New York, New Jersey and Pennsylvania.

It is estimated that on an annual basis, the 53 single family residences will use approximately 6,011 kwh of electricity per residence per year for a total of 318,583 kwh per year.<sup>12</sup> Orange and Rockland now purchases all of its power for its New York and Pennsylvania customers from the power market administered by the New York State Independent System Operator (NYISO).<sup>13</sup> Comparatively, this subdivision will produce an extremely small percentage of increase in electrical use in the overall supply. Therefore, it is anticipated that Orange and Rockland Utilities will remain able to provide sufficient electric service to the proposed subdivision.

During the construction phase of the project energy will be conserved by not permitting construction vehicles to idle when not in use, and keeping all vehicles and machinery in good repair. Also, limiting construction to 6 PM in accordance with the Town Code eliminates the need to provide construction site lighting typically used for night work.

As discussed earlier, residential energy will be conserved because each home will be constructed in accordance with the New York State Energy Conservation Construction Code which mandates energy efficient and water saving standards in new construction. Further compliance by homeowners with New York Energy Smart Programs or use of Energy Star Appliances would increase the amount of energy conservation.

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<sup>12</sup> According to the New York State Energy Research and Development Authority: <http://nyserda.org>

<sup>13</sup> Orange and Rockland Utilities, Inc.: <http://www.oru.com/energyandsafety/electricity/electricsupply.html>