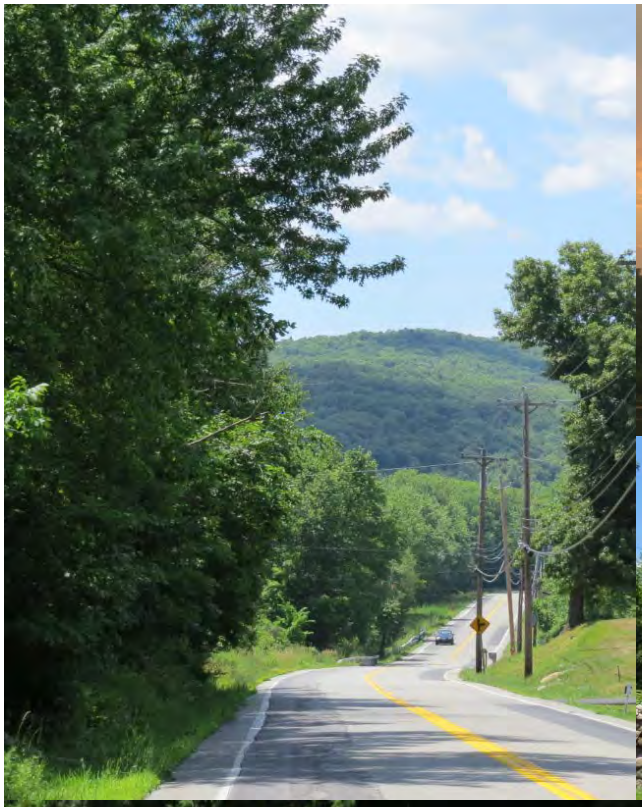
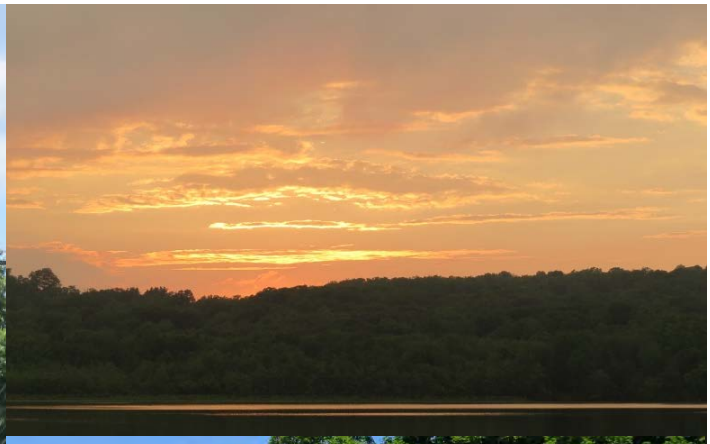
A SUSTAINABLE FUTURE:

TOWN OF MONROE

2017 COMPREHENSIVE PLAN UPDATE





2017 Monroe Town Board

Harley Doles, Supervisor

Anthony Cardone, Acting Supervisor

Richard Colon

Michael McGinn

Gerard McQuade

November 2017

Adopted by Resolution on November 20, 2017

Assistance Provide by:

NELSON, POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING

RESOLUTION

A Meeting of the Town Board of the Town of Monroe was convened on November 20, 2017 at 7:00 p.m.

The following resolution was duly offered and seconded to wit:

RESOLUTION ADOPTING THE 2017 COMPREHENSIVE PLAN UPDATE

WHEREAS, the Town Board of the Town of Monroe (the "Town") is responsible for the preparation and adoption of the Town of Monroe 2017 Comprehensive Plan Update, pursuant to Section 272-a of the New York State Town Law; and

WHEREAS, the Town's existing Comprehensive Plan has not been updated in a decade and does not accurately reflect the community's current vision and specific initiatives to help achieve that vision; and

WHEREAS, the proposed CPU and Zoning Amendments will amend the Town's 2005 Updated Comprehensive Plan and the Town's current Zoning laws; and

WHEREAS, on March 7, 2016, the Town Board appointed Nelson Pope Voorhis, LLC (the "Planner"), to provide services related to the development and preparation of the Monroe Comprehensive Plan Update ("CPU") and Updated Zoning Laws ("Zoning Amendments"); and

WHEREAS, on June 5, 2017, the Town Board received and reviewed a final draft of a proposed 2017 Comprehensive Plan Update and provided copies thereof to the Town Clerk, which were made available to the public; and

WHEREAS, the Town Board received comments on the draft versions of the proposed 2017 Comprehensive Plan Updates and various revisions were made thereto; and

WHEREAS, pursuant to Town Law § 272-a, on June 19, 2017, a public hearing was opened on the draft 2017 Comprehensive Plan Update for the purpose of further citizen participation in the preparation of the 2017 Comprehensive Plan Update; and

WHEREAS, on July 17, 2017, August 21, 2017, September 18, 2017, September 25, 2017, and October 16, 2017, the Town Board continued the public hearing on the 2017 Comprehensive Plan Update; and

WHEREAS, on October 16, 2017, the Town Board closed the public hearing on the 2017 Comprehensive Plan Update as to oral comments, but permitted written comments to be submitted through November 9, 2017; and

WHEREAS, there has been public participation throughout the Comprehensive Plan process, including community planning forums, the foregoing public hearings held by the Town

Board, a public opinion survey, newsletters and website publication, research and review of background documents and review of draft of the 2017 Comprehensive Plan Update; and

WHEREAS, by virtue of the foregoing, all interested individuals, organizations and agencies were afforded an opportunity to be heard and comment upon the 2017 Comprehensive Plan Update; and

WHEREAS, pursuant to the provision of Section 272-a of the Town Law, the Planner completed a final draft of the CPU and the same was presented to the Town Board at the Board's June 5, 2017 regular meeting to acknowledge completion of the draft CPU and Zoning Amendments; and

WHEREAS, the Town Board desired to study development within the Town to ensure that only the development that may take place is consistent with smart sustainable growth so that future generations within the Town can benefit from best practices with regard to such smart sustainable growth; and

WHEREAS, the Planner consulted with various boards including County departments, agencies and officials, surrounding municipalities, business groups, environmental and civic groups, civic leaders as well as various Federal, State, and regional organizations; and

WHEREAS, the Town Board referred the proposed 2017 Comprehensive Plan Update to the Orange County Department of Planning in accordance with Section 239-l and 239-m of the New York State General Municipal Law and the County Department of Planning responded by means of its letter dated October 31, 2017, wherein the County Department of Planning recommended that the Town Board adopt the 2017 Comprehensive Plan Update after consideration of the County's comments and recommendations; and

WHEREAS, consistent with the New York State Environmental Quality Review Act ("SEQRA"), the Town Board, as Lead Agency, prepared a Generic Environmental Impact Statement with respect to the Proposed Action, which was defined as the 2017 Comprehensive Plan Update as well as the enactment of zoning amendments; and

WHEREAS, the Town Board has issued a Positive Declaration dated July 17, 2017 regarding the adoption of the 2017 Comprehensive Plan Update, for the extensive reasoning contained in its entirety in the FGEIS dated October 16, 2017, and thereby completed the SEQRA review of the proposed action pursuant to the criteria contained in Section 617 of 6 NYCRR; and

WHEREAS, the 2017 Comprehensive Plan Update has been prepared in accordance with New York State law and provides a guide for land use and development decisions, the adoption of municipal regulations and the investment of public funds.

NOW THEREFORE BE IT RESOLVED that:

Section 1. The above "WHEREAS" clauses are incorporated herein by reference.

Section 2. The Town Board for the Town of Monroe hereby determines that to promote the health, safety, and welfare of the public there is a need to adopt the proposed 2017 Comprehensive Plan Update dated November 20, 2017, as an important planning mechanism designed to address a wide range of issues, initiatives, studies, projects and programs, which can be undertaken by various entities and individuals.

Section 3. The Town Board for the Town of Monroe hereby adopts the 2017 Comprehensive Plan Update.

Section 4. The Town Board hereby directs that a certified copy of the 2017 Comprehensive Plan Update be filed in the office of the Town Clerk and the Orange County Department of Planning, as required by Section 272-a of the Town Law.

Section 5. This Resolution shall be effective immediately.

On a motion by Councilman McGinn, seconded by Councilman Colon

	Yea	Nay	Abstain	Absent
Harley Doles, Supervisor	[ ]	[X]	[ ]	[ ]
Anthony Cardone, Acting Supervisor	[X]	[ ]	[ ]	[ ]
Gerard McQuade, Councilman	[ ]	[X]	[ ]	[ ]
Michael McGinn, Councilman	[X]	[ ]	[ ]	[ ]
Richard Colon, Councilman	[X]	[ ]	[ ]	[ ]

The Resolution was thereupon duly adopted.

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[1] *The figures in this Comprehensive Plan include parcels which have been the subject of annexation proceedings by the Village of Kiryas Joel and such annexation was the subject of legal challenges that remain pending in the Appellate Division. Upon a final determination of the legal proceedings, the 164 acres will either be outside the Town and part of the Village, or shall remain in the Town of Monroe in which case the Comprehensive Plan Update applies to same. Further, certain parcels of land located in the Town of Monroe are the subject of a petition and permissive referendum to be held on November 7, 2017, to incorporate same into a newly created Town of Palm Tree. At the time of adoption of this Comprehensive Plan Update, the Town of Palm Tree has not yet been formed, and those parcels are still subject to this Comprehensive Plan Update.*

I. INTRODUCTION TO THE 2017 PLAN UPDATE

A. OVERVIEW OF PLANNING PROCESS

In the fourth quarter of 2015, the Monroe Town Board began the public process associated with an update of the Town's zoning regulations, contained in Chapter 57, Zoning, of the Code of the Town of Monroe. During that process, including numerous workshops and a public hearing at which Town residents were allowed to express their thoughts with regard to the proposed revisions, a broad policy question arose – what is the background and basis for the zoning amendments that were being put forth? While it was expressed that the process was intended to "modernize" the regulations, reflect current types of land use patterns within the community, and address land use issues which had arisen, it was unclear whether the 2005 Town of Monroe Comprehensive Plan Update (adopted in 2008), was guiding or should guide the rezoning effort that had commenced.

What is a comprehensive plan or plan update? A comprehensive plan is a document that describes a vision of a community's future and the goals and objectives that, through action taken by a town board and other agencies, support that vision. While each citizen may have a particular vision for the town, an adopted Comprehensive Plan reflects consensus that is achieved through a participatory public input process, and contains the land use, environmental and related policies that will guide a municipality in the actions it undertakes or reviews, until the Plan is reviewed again. Before a comprehensive plan can be adopted and implemented, the Town must carefully consider the environmental impacts of implementing a plan in accordance with the regulations implementing the New York State Environmental Quality Review Act (SEQRA).

A comprehensive plan is broad in nature. In some sections, the Plan Update may be very specific about tools and recommended solutions while in others it may simply present a vision of the community that guides the Town Board in the adoption of specific local laws and regulations to achieve that vision. The Plan can guide actions of the Town such as land acquisition and funding decisions. New York State Town Law ("Town Law") regulates the preparation and adoption of a town comprehensive plan. Section 272-a defines a comprehensive plan as:

> *"…the materials, written and/or graphic, including but not limited to maps, charts, studies, resolutions, reports and other descriptive material that identify the goals, objectives, principles, guidelines, policies, standards, devices and instruments for the immediate and long-range protection, enhancement, growth and development of the town located outside the limits of any incorporated village or city."*

At the beginning of 2016, the zoning revision process was suspended, and the Monroe Town Board decided that it would review and reconsider whether the land use and associated recommendations set

forth in the 2005 Plan Update had been implemented, and assess whether existing conditions in the Town rendered these recommendations obsolete, relevant, or in need of revision. This evaluation needed to occur before the Town Board would recommence any zoning revision process. To assist the Board in this effort, the Town Board retained an environmental planning firm, Nelson, Pope, & Voorhis, LLC, (NP&V) to review the 2005 Plan Update. The assessment considered the following:

- Have economic and social forces and trends rendered assumptions or recommendations obsolete?
- Were the recommendations implemented?
- Is Chapter 57, Zoning, of the Code of the Town of Monroe ("Chapter 57"), consistent with the adopted 2005 Plan Update as required by law?
- Is the 2005 Plan Update a valid representation of the community's aspirations and vision?
- Is the 2005 Plan Update, and the zoning which implements same, reflective of current and modern environmental and planning standards and regulations?

The responses to the above questions led the Town Board to find that it was timely to prepare a Comprehensive Plan Update as the basis for any Chapter 57 zoning revisions. The 2005 Plan Update recognized the need to keep the document flexible and current, and that it should be revisited at regular intervals. Under Section XX. Looking Forward, C. Master Plan Review and Update Procedures:

> *"As noted in Section II of this document, there should be regularly scheduled review taking place typically on a **five to ten year basis** [emphasis added] in order to reconsider this Plan and determine whether it adequately addresses the town's needs. Given the development potential and relatively limited availability of land in the Town of Monroe, this Plan recommends that the next review should take place within a five year time frame." 2005 Plan Update*

Based on the Comprehensive Plan's own key recommendation, the 2005 Plan Update was clearly due for review and reconsideration. In addition to the 2005 Plan Update, past plans were also reviewed. The 2005 Plan Update followed previous comprehensive plan efforts, including updates prepared in 1990, 1993, and 1996 (corrected to 1998) - the 1998 Plan was adopted by the Town Board. Notably, the 2005 Plan Update, unlike prior plans, eliminated the "Prologue" to the Plan, which served as the then overriding vision for the unincorporated Town.

A vision is a major guiding component of a comprehensive plan. It describes a community's values and aspirations and a shared image of how it wishes to evolve over the next 10 to 20 years. A vision considers the attributes of a community that make it unique – its environmental and cultural fabric - and is forward looking, positive, affirmative and aspirational. The 1996 Town of Monroe Plan Master Plan Update contained such a vision as its Prologue. This 2017 Plan Update reintroduces an affirmative vision for the Town of Monroe, based on input from the Town's citizens; the Vision is described in Section II of this Plan Update. Results of a public survey administered for community input is included as Appendix A.

B. IMPLEMENTATION AND NEXT STEPS

The Vision, described in Section II of this Plan Update, is supported by the recommendations contained in the 2017 Plan Update. The 2017 Plan Update guides the Chapter 57 zoning amendment process and future decisions and regulations that relate to the Town's built and natural environment. Adoption of the plan update is only the first step in a process - the Town Board then pursues implementation measures to promote the goals and objectives of the plan, which can include the adoption of revised land use regulations. New York State Town Law requires that the community's land use regulations be consistent with the plan.

1998 Update (Corrected) - Prologue

The Town of Monroe has a wealth of inherent assets to protect. For many years it has been these assets that have brought people to live, work and to raise a family in the community. The reputation of the Town of Monroe as a desirable community is the result of several valuable attributes:

- ***A picturesque community among the mountains, Monroe is situated in a park like setting with numerous lakes, ponds, streams, hills, meadows and wooded areas.***
- ***As part of a larger ecosystem, Monroe contains environmental features that are critical to the future of the region.***
- ***A community with residential neighborhoods that are pleasant, stable, mature and varied.***
- ***A community conveniently located and within easy access to important destinations such as New York City and other nearby employment and shopping centers. Major highways – the New York State Thruway, Route 6 and the Route 17 Quickway – provide fast, direct routes to destinations throughout the region.***

It is largely to protect this valuable legacy that this Master Plan Update is dedicated.

The 2017 Town of Monroe Comprehensive Plan Update will guide the Town of Monroe **over the next five (5) years**. After five years, the Town Board will need to review and reevaluate the information and recommendations set forth in this Plan Update. This shortened timeframe is recommended, based on the uncertainty of major actions and activities, the outcome which will affect the unincorporated area. These include but are not limited to:

- Orange County Sewer District No. 1 is considering expansion of its 6 million gallon per day (mgd) plant to 9 mgd – the feasibility study considers not only whether the Harriman wastewater treatment plant can be expanded, but whether flows will be redirected to another facility;
- In2015, the then Monroe Town Board and the adjoining Village of Kiryas Joel Board of Trustees voted to approve the annexation of 164 acres from the unincorporated Town into the Village. The annexation approval has been challenged by numerous parties, and the outcome of the annexation has implications for land use and development on those lands. A recent court decision supported the annexation, but the decision has been appealed; and
- In September 2016, property owners submitted a petition to the Orange County Legislature proposing to form the new Town of Palm Tree, which would include much of the existing unincorporated area on the north side of Route 17, the Quickway. Monroe voters will decide whether or not to form the new town in the upcoming November 2017 general election.

Additionally, since it is apparent that few of the 2005 Plan Update recommendations have been implemented and the document went largely ignored, the five (5) year time period will allow for a more timely review, to ensure recommendations are being followed, or to revise them, if they are no longer relevant to the community.

This Plan Update reflects the preferences of the community, based on discussions that were held during review of proposed zoning amendments in 2016, and the findings of a public survey and a public open house administered in September 2016.

A Consultant's Report was delivered to the Town Board in March 2017. Two Town Board workshops were held on April 20, 2017, and April 26, 2017 to receive Board and public input on the recommendations contained in the Report. At the April 26, 2017 Town Board meeting, the Town Board voted to accept the Consultant Report as the official draft Town of Monroe Comprehensive Plan Update, to integrate recommended revisions based on public and Town Board input, and to prepare zoning amendments to effectuate the Plan Update. The 2017 Comprehensive Plan Update, with revisions, and the Chapter 57 Zoning Amendments were released for public review on June 5, 2017.

The Town Board accepted a Draft Generic Environmental Impact Statement (DGEIS) as complete for public review on June 19, 2017. The DGEIS evaluates the impacts associated with the proposed action, namely adoption of the 2017 Comprehensive Plan Update and the Chapter 57 Zoning Amendments. Proper notification was circulated, and availability of the DGEIS was published in the Environmental Notice Bulletin.

Public hearings have been held to solicit public comments on June 19, July 17, August 21, 2017, and September 18, 2017. A public hearing was held on July 31, 2017, to solicit comments on the DGEIS. The SEQRA public comment period was held open to receive written comments until August 11, 2017. All public comments received by the Town Board were reviewed by the board, and additional stakeholder meetings were held at the request of affected property owners. On September 13, 2017, the Town Board held a public workshop to discuss the comments received on the various documents, and to decide on any necessary changes to same. This November 2017 Comprehensive Plan Update reflects the revisions which the Town Board agreed should be integrated into the document. The Chapter 57 Zoning Amendments have been revised, and a FGEIS has been prepared addressing all SEQRA public comments raised during the public comment period, and summarizing the SEQRA process. A FGEIS document addressing all substantive comments received at the public hearing and all written comments provided by the public and public agencies during the required public comment period was accepted by the Town Board on October 16, 2017. The Notice of Completion was published in the ENB on October 25, 2017. Pursuant to SEQRA Part 617.11(a), following acceptance of this FGEIS by the Lead Agency, there is a minimum 10-day period during which the public and governmental review agencies can consider the FGEIS before the Lead Agency issues its written Findings Statement. The comment period ended on October 30, 2017.

C. REGIONAL LOCATION AND CONTEXT

The Town of Monroe is located strategically within Orange County, New York, and is within one-half hour drive or train trip to the New York-New Jersey border. New York City, northern New Jersey, and Westchester County, major employment, commercial and entertainment centers, are readily accessible from Monroe, and this proximity has in large part led to the residential growth patterns within both the unincorporated Town and its villages.

The entire Town of Monroe is 21. 3 square miles, of which….

The Unincorporated Area is 16.1 square miles, and…

Its Incorporated Villages are…

3.5 square miles - Monroe

0.5 square miles - Harriman (part)

1.1 square miles - Kiryas Joel

The Town of Monroe consists of unincorporated and incorporated areas. The Villages of Monroe, a portion of Harriman (the remainder being located in the Town of Woodbury) and Kiryas Joel represent the incorporated areas of the Town. Most of the unincorporated area is located south of the three villages – the villages are in close proximity to the New York State Route 17 (Quickway) transportation corridor.

The unincorporated Town of Monroe is mostly a "bedroom" community, located in an attractive woodland and former farmland setting which grew primarily around the Village of Monroe which is the Town's historic "center" – the Village of Monroe has been the location for the shopping centers, community facilities, medical facilities, and other uses which meet the daily needs of Town residents.

Residents perceive a sense of "entering" into the Town, as it is separated from other developed areas in the region by what the Regional Plan Association has called the "greensward" around the New York metropolitan region – In Monroe, this includes Sterling Forest and Harriman state parks, the Appalachian Trail, Schunemunk Mountain, and Goosepond Mountain. Most roads leading into the Town pass through these publicly held park and conservation lands. Many local roads still meander and extend through a wooded and even rugged landscape. In many places, beyond the preserved open spaces, there are older neighborhoods which were designed to fit into, rather than dominate, the natural environment, and where residents and visitors can still appreciate the green hillsides and blue lakes that imbue the Town with its unique character.

The 2005 Plan Update expressed many recommendations that were intended to protect the resources that lend the Town this sense of place. These recommendations were not adopted.

Monroe: A Hudson River Valley Greenway Community

The Town of Monroe is a participating member of the **Hudson River Valley Greenway**. The Hudson River Valley Greenway Act of 1991 (the "Greenway Act") created a process for *voluntary* regional cooperation

among 264 communities within 13 counties that border the Hudson River, to facilitate a regional strategy for preserving scenic, natural, historic, cultural and recreational resources while encouraging compatible economic development and maintaining the tradition of home rule for land use decision-making. The "Greenway criteria" serve as "the basis for attaining the goal of a Hudson River Valley Greenway". The criteria are:

- *Natural and Cultural Resource Protection - Protect, preserve and enhance natural resources including natural communities, open spaces and scenic areas as well as cultural resources including historic places and scenic roads.*
- *Economic Development - Encourage economic development that is compatible with the preservation and enhancement of natural and cultural resources including agriculture, tourism and the revitalization of established community centers and waterfronts.*
- *Public Access - Promote increased public access to the Hudson River through the creation of riverside parks and the development of the Hudson River Valley Greenway Trail System.*
- *Regional Planning - Communities can work together to develop mutually beneficial regional strategies for natural and cultural resource protection, economic development (including necessary public facilities and infrastructure), public access and heritage and environmental education.*
- *Heritage and Environmental Education - Promote awareness among residents and visitors about the Valley's natural, cultural, scenic and historic resources.*

Eligible communities that wish to participate in the Greenway pass a resolution indicating their interest in becoming a designated Greenway Community. The municipality becomes a "**Greenway Community**" - **Orange County, the Town of Monroe, and the Villages of Monroe and Harriman, have passed the applicable resolution and are designated "Greenway" communities**. Orange County has been additionally designated a Compact Community, upon adoption of its Greenway Compact Plan. A Compact Community's Comprehensive Plan will align with the five greenway criteria described previously.

The importance of the Hudson River Valley has been recognized at the federal level, and the region was designated the **Hudson River Valley National Heritage Area** by Congress to recognize the significance of the history and the resources of the Hudson River Valley to the nation. The cities, towns, and rural landscapes of the region display exceptional surviving physical resources spanning four centuries. The Hudson River Valley National Heritage Area is managed by the Greenway Conservancy for the Hudson River Valley, and the Hudson River Valley Greenway Communities Council. The Town of Monroe is located within the national heritage area.

In developing the Vision and recommendations for this Plan Update, ***the Town specifically acknowledges and reaffirms the importance of its location within this nationally significant region***.

Monroe: A Highlands Community

The entirety of Monroe, both incorporated and unincorporated areas, is located within the Highlands region of the New England physiographic province. This region is home to diverse and environmentally sensitive natural resources. The Town is known locally as "the Lake Region," due to the more than 77 lakes and ponds that are tucked into the terrain within its borders – its slogan is embodied in the Town's logo. This Plan Update recognizes that Monroe is a Highlands community, and that it is the Highlands which provides the unique natural framework on which the Town's development pattern has been superimposed, sometimes with success, and more increasingly, at odds with it.

The **Highlands region** was recognized in the passage of the Highlands Conservation Act, signed by President George Bush on November 30, 2004. The Act recognized this high value natural resource region that forms a greenbelt surrounding the New York City metropolitan region. The Act assisted the States of Connecticut, New Jersey, New York and Pennsylvania in conserving land and natural resources in the Highlands region through federal assistance for land conservation projects within it. The purposes of the Highlands Conservation Act are to:

- *recognize the importance of the water, forest, agricultural, wildlife, recreational, and cultural resources of the Highlands region, and the national significance of the Highlands region to the United States.*
- *authorize the Secretary of the Interior to work in partnership with the Secretary of Agriculture to provide financial assistance to the Highlands States to preserve and protect high priority conservation land in the Highlands region.*
- *continue the ongoing Forest Service programs in the Highlands region to assist the Highlands States, local units of government, and private forest and farm landowners in the conservation of land and natural resources in the Highlands region.*

The landscape of the Highlands, as evidenced in Monroe, is unique and characterized by open high hills and ridges cut by deep narrow valleys that distinguish it from the surrounding rolling plains. The region is comprised of 108 municipalities in 12 counties –Monroe is specifically identified as a Highlands municipality. Like the Hudson River Valley Greenway of which the Town is a part, this Plan Update also recognizes and affirms the Town's position within the Highlands region. The vision, policies, and recommended land use strategies take into consideration the Town's unique setting within the Highlands region and the larger Hudson River Valley region.

D. 2017 COMPREHENSIVE PLAN UPDATE – A SUSTAINABLE FRAMEWORK

The vision, goals, objectives and recommendations embodied in this Plan Update are intended to promote sustainability. Sustainable best practices have been promulgated nationally by organizations such as the American Planning Association (APA), and locally by the Orange County Department of Planning (OCP). Sustainable development is characterized as development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs. This concept has been expressed as a balance between the three "E"s – environment, economy, and equity or the three "P"s – planet, prosperity and people.

Six Principles for Sustaining Places…

Livable Built Environment: Ensure that all elements of the built environment – including land use, transportation, housing, energy, and infrastructure – work together to provide sustainable green places for living, working, and recreating, with a high quality of life.

Harmony with Nature: Ensure that the contributions of natural resources to human well-being are explicitly recognized and valued and that maintaining their health is a primary objective.

Resilient Economy: Ensure that the community is prepared to deal with both positive and negative changes in its economic health and to initiate sustainable urban development and redevelopment strategies that foster green business growth and build reliance on local assets.

Interwoven Equity: Ensure fairness and equity in providing for the housing, services, health, safety, and livelihood of all citizens and groups.

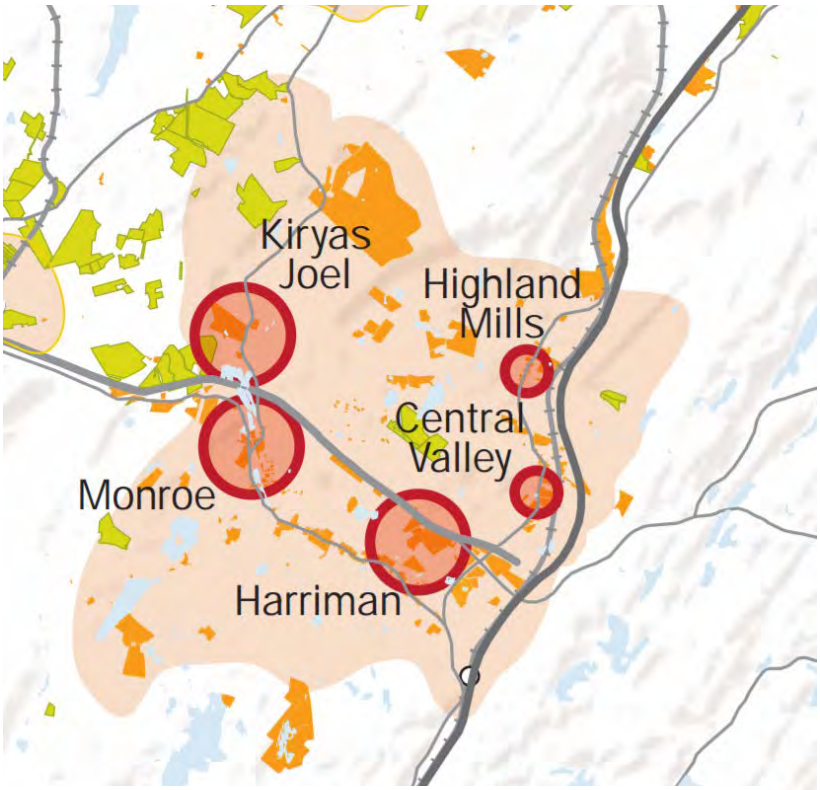
Healthy Community: Ensure that public health needs are recognized and addressed through provisions for healthy foods, physical activity, access to recreation, health care, environmental justice, and safe neighborhoods.

Responsible Regionalism: Ensure that all local proposals account for, connect with, and support the plans of adjacent jurisdictions and the surrounding region.

- PAS Report 578, Sustaining Places: Best Practices for Comprehensive Plans

OCP has pursued a comprehensive planning framework which recommends that development, and the infrastructure and resources need to accommodate it, be channeled into "priority growth areas" (PGA) – a portion of the Town of Monroe is located in the PGA. Most recently, Orange County prepared and adopted a Greenway Compact Plan; the Compact Plan considers the recommendations of previous County comprehensive and resource plans, and aligns it with the "Greenway Criteria" established in the Hudson River Valley Greenway Act.

The five Greenway criteria align well with APA's six principles for sustaining places. A component part of the Orange County Greenway Compact is the Orange County Design Manual that describes methods that can be used to achieve a sustainable land use pattern. This Plan Update has considered the Orange County Greenway Compact Plan and associated Design Manual, and incorporates many of the recommendations set forth in those documents.



Inset – Excerpt from Orange County Greenway Compact showing Priority Growth Area.

The existing Orange County Priority Growth Area is shown on a map contained within the Orange County Greenway Compact document. The PGA is shown in light pink. Community centers are shown within Monroe. Properties shown in green are agricultural properties. Priority Growth Areas are those places where development should take place, especially in the County's "historic" centers. These are places that can support a more intensive mix of uses, infill redevelopment and provide a distinct sense of place. The County's Plan recommends that these places be linked by a multimodal transportation system that serves motor vehicles, bicycles, and pedestrians. As shown in the inset, the PGA boundaries are drawn generally. As can be seen, the PGA extends southward to the Town's unincorporated areas around Walton Lake, and to areas that extend to Harriman Height Road's intersection with Orange Turnpike. On the north side of Route 17, the PGA includes all lands within the unincorporated area.

The Town of Monroe has given consideration to the County's Priority Growth Area and the Plan Update identifies, through the Conceptual Land Use Plan, those locations where growth should be channeled.

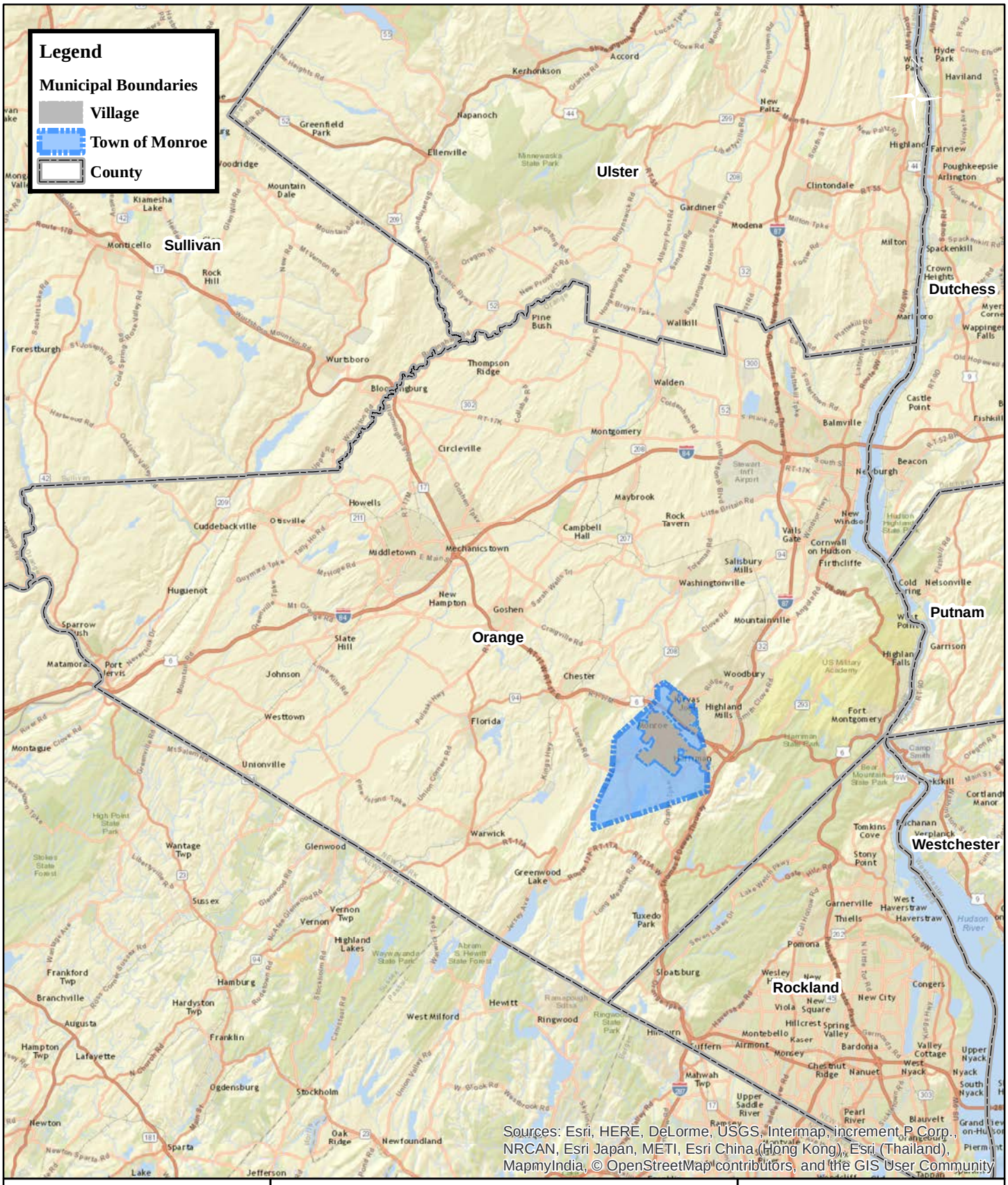


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Figure I-1 Regional Location

Source: ESRI Web Mapping Service;
Orange County GIS; NYS GIS
Scale: 1 inch = 33,000 feet

Town of Monroe

Comprehensive Plan

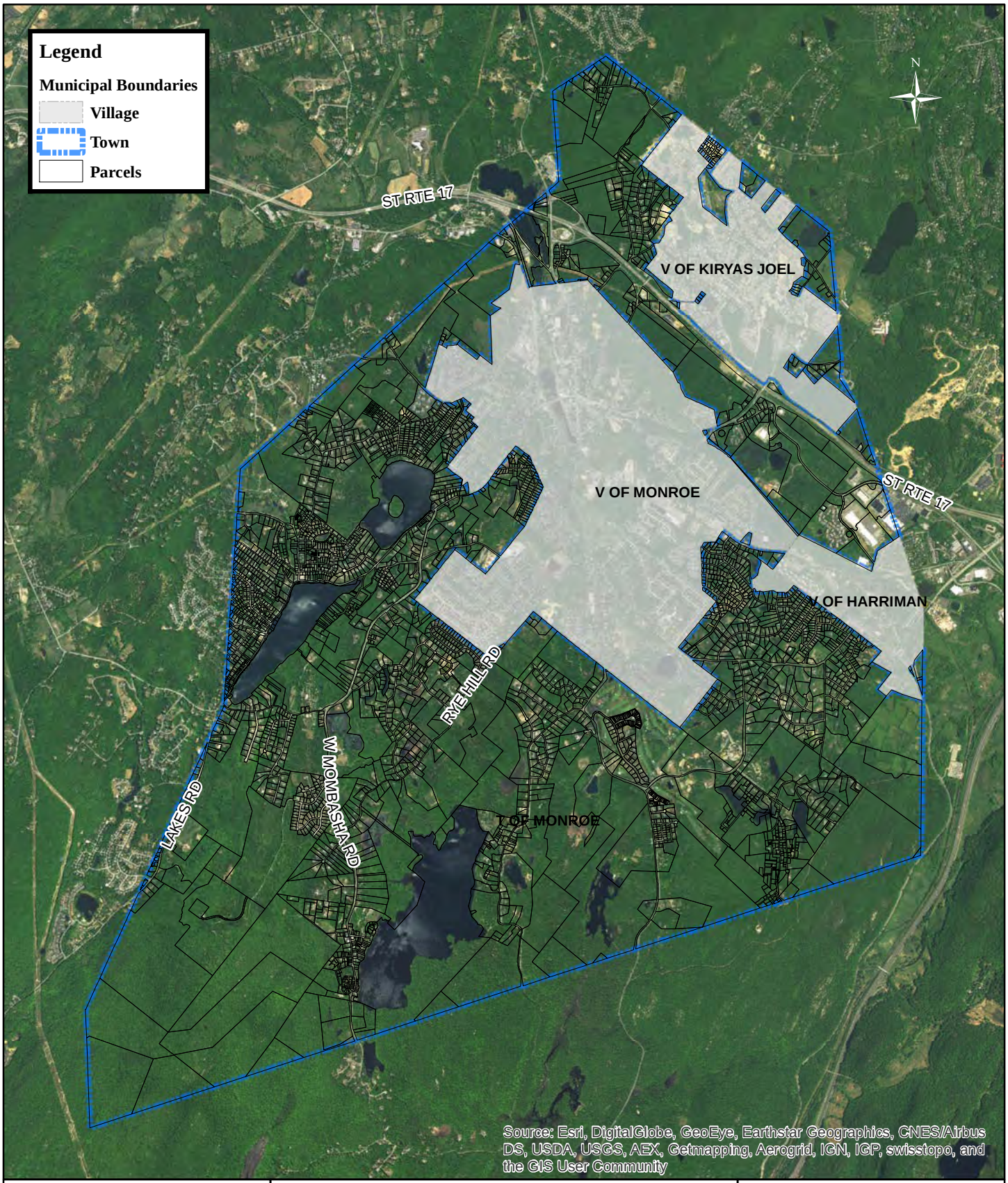

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Figure I-2 Town of Monroe Aerial

Source: NYSGIS Orthophotoimagery Program, 2007; Orange County GIS; NPV GIS Library
Scale: 1 inch = 4,500 feet

Town of Monroe

Comprehensive Plan

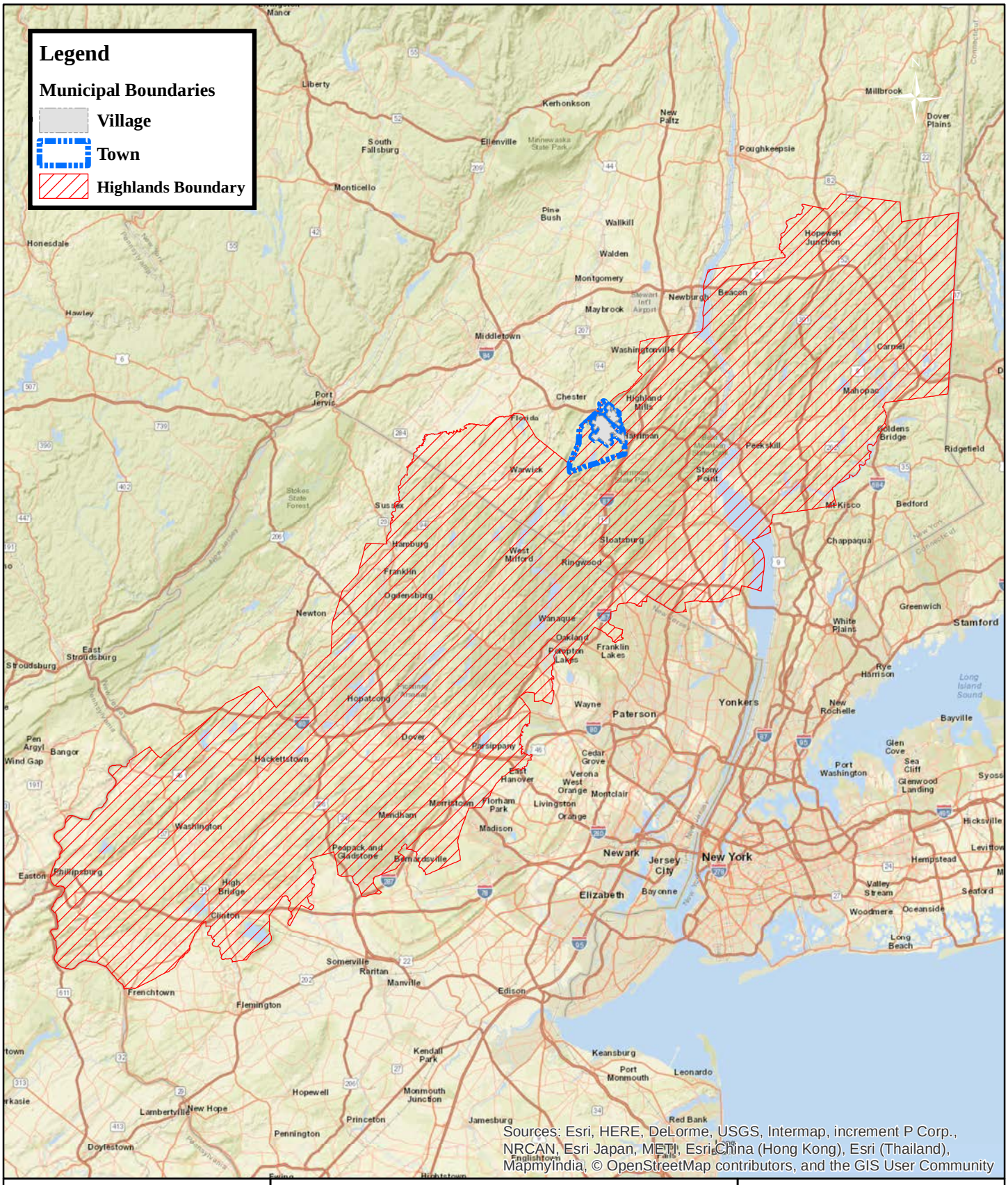

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Figure I-3
NY - NJ Highlands Boundary

Sources: ESRI Web Mapping Service;
Highlands Assessment, Rutgers; NPV GIS Library
Scale: 1 inch = 68,000 feet

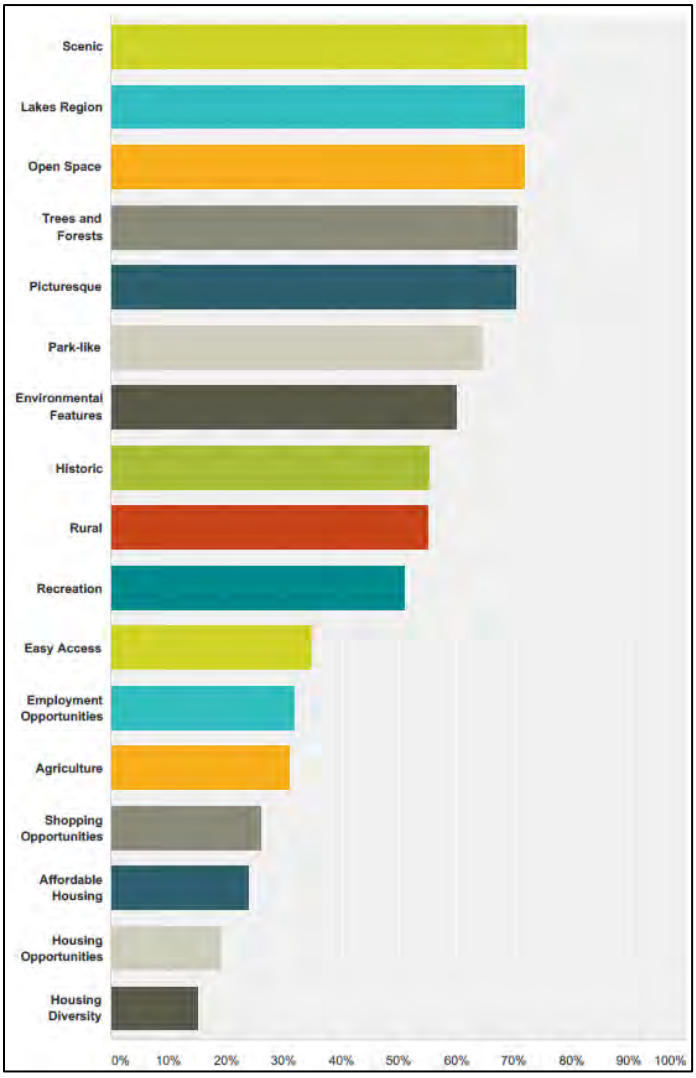
Town of Monroe

Comprehensive Plan

II. VISION FOR THE FUTURE

A. VISION STATEMENT

Community visioning is the process of developing consensus about what future the community wants, and then determining what is necessary to achieve it. This vision statement captures what community members most value about the Town of Monroe - the shared image of what they want their community to become. It inspires everyone to work together to achieve the vision. The vision statement gives the town's boards, agencies, and organizations the long-term, comprehensive perspective and direction necessary to make rational and disciplined decisions on community issues as they arise. Boards in reviewing a plan or proposal will ask – is it consistent with the Vision? This vision statement has been crafted through a collaborative process that involved the participation of community residents, stakeholders, elected officials and appointed board members. The public survey administered to solicit public input was open for one month, and had 364 respondents.



Participants were asked to review the Vision Statement expressed in previous Plan Updates and determine if it is relevant today. Approximately 87 percent of the respondents agreed it remained relevant.

The attribute that received the most support from the community is that it is "a community with residential neighborhoods that are pleasant, stable, mature and varied." Monroe as a "picturesque community" was identified as the second most important attribute.

In addition, respondents were asked to identify the key qualities that they would like to include in a vision statement. The chart at left illustrates the number of times a word was selected that should be included in the vision. Any word that received 50 percent or more support was included in the 2017vision statement to supplement and update the original vision statement. Words that participants agreed were most expressive of a vision for Monroe (above 50 percent support) were: **scenic, lakes**

region, open space, picturesque, trees and forests, park-like, environmental features, historic, rural, and recreation.

Thus, this 2017 Plan Update incorporates the following Vision Statement to guide future decisions.

2017 VISION STATEMENT

The Town of Monroe, known as the Lakes Region, has a wealth of inherent assets that must be protected to preserve its quality of life. For years, it has been these assets that have attracted people to live, work and raise a family in Monroe. The reputation of the Town of Monroe as a desirable community is the result of several valuable attributes:

- ***Unincorporated Monroe is a picturesque community situated within the Hudson Highlands, and its park-like setting with numerous lakes, ponds, streams, hills, meadows, trees and forests, form a cohesive open space and recreation framework within which its residential neighborhoods are nestled.***
- ***As part of a larger regional ecosystem, Monroe contains environmental features that are critical to the future sustainability of the region.***
- ***Monroe is a community that aspires to maintain its scenic beauty, especially in areas which still exhibit the Town's historic, rural character.***
- ***It is a community with residential neighborhoods that are pleasant, stable, mature and varied.***
- ***It is conveniently located and within easy access to important destinations such as New York City and other nearby employment and shopping centers. Major highways – the New York State Thruway, Route 6 and the Route 17 Quickway – provide fast, direct routes to destinations throughout the region.***

It is largely to protect this valuable legacy that this Comprehensive Plan Update is dedicated.

In order to achieve the Vision, the Comprehensive Plan Update considered the land use and other decisions that are being rendered, to determine what actions threaten and limit the Town's ability to achieve its Vision, and what opportunities may exist to reinforce the Vision. As part of a public open house held on September 28, 2016, all members of the public were invited to express the challenges confronting the Town. These challenges, or issues, are described in the following section, and a set of goals and objectives have been crafted to address them.

B. Major Issues in 2017

As part of this comprehensive planning effort, the challenges confronting the Town of Monroe since adoption of the previous plan were identified. Input was received from community service providers, board members, and the public through participation in a public survey and public open house. Additionally, challenges were also identified during preparation and review of the baseline inventory contained in Section IV of this Plan Update, and from review of the previous 2005 Plan Update.

Inset – a Word cloud of the words that appear most frequently in the public survey, when participants were asked: what are the issues that need to be addressed in the Comprehensive Plan Update?

The single, dominant issue expressed by the public is the need to restrict, limit, and control the perceived "overdevelopment" of Monroe. The issue was expressed using numerous terms, including "regulate development", "over development", "explosive development", "restrain development", control "dense development" "urbanization", and "unbridled growth". Closely related to this issue is the public's perception that housing developments that are proposed or under construction are massive in scale, and that there are too many multifamily dwelling units being proposed in locations which participants believe are inconsistent with the vision that has been expressed in the past and today.

Almost all other major issues expressed by public participants are the result of this "overdevelopment":

- Loss and fragmentation of open space, and need to preserve open space for ecological habitat, water quality protection, scenic vista protection, community character and quality of life;
- Clearcutting, deforestation, and excessive land disturbance, rather than integration and preservation of the natural environs within new developments;
- Impacts to the rural and semi-rural community character of the Town. Existing residential neighborhoods built prior to the 80s seem to have a better relationship to the Town's woodland landscape than what has been introduced in the recent years;
- Impacts to the scenic and historic character of the Town. Land use and other regulations do not support preservation of scenic roads and vistas, or historic buildings and structures;
- A concern about decreases in residential property values because of overdevelopment;

- Loopholes which allow a density of residential development not supported by the previous plan update or land use regulations, including specifically accessory apartments which many indicate doubles the allowable residential density in a zone;
- The public who participated in the survey and public open house see the Village of Monroe's central business district as the unincorporated area's "downtown". There is a desire to revitalize and not "drain" it, when considering the recommended land uses to be encouraged within the Town's nonresidential zones;
- A desire to pursue economic development which will increase employment opportunities locally with preference for higher wage jobs, and an increase the Town's ratable base. Non-taxable uses are being introduced in the nonresidential zoning districts and eroding opportunities to accommodate economic development.
- A desire to protect the Monroe-Woodbury Central School District that many feel is the most important community service provider and integral to residents perception of its quality of life and property values;
- The need to enforce zoning regulations and building standards, and to limit the extent to which variances are granted which may not be consistent with same;
- The concern that infrastructure is being impacted from overdevelopment, whether sewer, water supply, transportation or other infrastructure;
- Concerns with regard to annexation issues and development at densities higher than set forth in the existing land use regulations.

This 2017 Comprehensive Plan Update focuses on the issues expressed by the public in the above statements. The 2005 Plan Update focused on certain issues, e.g., traffic, sewer and water availability, etc., which are but the outcome and result of the amount of development allowed by the Town's (and other surrounding municipal) land use regulations. The 2017 Comprehensive Plan Update focuses on the community's preferences for a land use pattern that is consistent with and preserves the environmental, scenic and historic resources and features which make the Town "uniquely Monroe".

C. Goals and Objectives

The goals and objectives of the Comprehensive Plan are intended to guide the Town of Monroe in achieving its Vision, and to address issues presently confronting it. "Goals" are value statements that describe the aspirations of the community, and "objectives" are methods by which to achieve the goals. The goals and objectives have been formulated through review of the conclusions of the baseline conditions analyses, comments received by the boards and agencies that represent and serve the Town, and public participation. The goals and objectives also reflect the review, and where applicable, restatement of the recommendations identified in the 2005 Plan Update that remain relevant today.

1. **Residential neighborhoods will be designed to blend with and preserve, not dominate, the existing rural woodland landscape, and developed at an appropriate range of densities that take into consideration proximity to open space and sensitive ecological habitat, proximity to major transportation corridors, proximity to employment and shopping opportunities, and availability of sewer and water service.**

    - Protect existing open space-low density open single family detached residential neighborhoods in those areas which are: located distant from major employment and retail centers found within the Town's villages; not served by water or sewer service; and, in close proximity to ecologically sensitive regional parkland.
    - Allow low-medium density rural, single family detached residential neighborhoods in those areas that remain rural, but may be served by central water and sewer and are in closer proximity to major employment and shopping centers within the Town than the areas intended for low open space-low density residential uses.
    - Allow medium density, suburban residential neighborhoods in those areas that are close to existing Village residential neighborhoods, are served by central water and sewer, and proximate to major employment and shopping centers within the Town.
    - Allow limited high density, urban residential neighborhoods which are immediately adjacent to one or more of the Town's villages and are not significantly constrained by sensitive environmental features, and allow a variety of housing types in these neighborhoods.
    - Ensure that large developments proposed within urban residential neighborhoods, e.g., over 50 dwelling units, be designed to provide a mix of housing units, e.g., a mix of two-, three-, multifamily, townhome, and other housing types, rather than one single dwelling unit type, so as to promote the greatest housing diversity.
    - Revise the accessory apartment provisions of the Town's zoning law to ensure that an accessory apartment remains the small, affordable housing option intended by this and previous plans, and require that the Planning Board review and approve this accessory use. (Note: this objective was accomplished during the time this CPU was being updated)

- Require that applications for subdivisions which meet a defined minimum number of proposed lots submit both a conventional and cluster development layout, and allow the Planning Board to determine whether the cluster development must be pursued so that the Town's objective for preserving undisturbed open space are met.
- Ensure that all developments are designed to "fit" within the existing landscape, and that a minimum percentage of undisturbed woodland is integrated into all new developments to promote healthy and attractive neighborhoods.
- Revise land use regulations to eliminate nonresidential uses that are not consistent with the character of the Town's residential neighborhoods, e.g., resorts.
- Review home occupations to ensure that there is no material storage occurring which may pose a threat to the residential neighborhood within which the occupation is located or to emergency service providers that may have to respond to an incident.
- Discourage home occupations within residential neighborhoods that operate like businesses, and which could otherwise be located in nonresidential zones within the Town or within its villages.
- Protect the residential character of neighborhoods by regulating the use and location of transient rental properties, e.g., AirBnBs.
- Consider a public private partnership project to develop additional senior housing on a residentially zoned property that makes use of the Town's affordable housing fund.
- Require that pre-existing undersized lots be reviewed against applicable standards that ensure a lot can accommodate the necessary utilities, and that the dwelling is designed in a manner consistent with the existing surrounding neighborhood, with adequate setbacks and yards.

2. The Town will seek to increase opportunities for additional commercial and light industrial development in appropriate locations, and ensure that the land use regulations do not erode opportunities for major nonresidential development.

- Review and revise the land uses allowed within the Town's nonresidential zoning districts so that they are used for the development of office, light industrial, and general commercial uses.
- Do not allow residential uses, or uses that exclusively support residential uses, within the Town's nonresidential zones.
- Limit additional retail, entertainment, and similar commercial development along the Route 17M corridor and the Town's major nonresidential zoning districts, to encourage retail development within the Villages' downtown districts to revitalize these areas.
- Require that all nonresidential development, including alterations to existing buildings, are subjected to architectural review to promote the highest quality design within the Town.
- Encourage the construction of a solar farm on the former Town landfill and allow solar energy options accessory to residential uses.

3. Encourage an interconnected system of open space and recreational lands that provides a supporting sustainable framework for the neighborhoods within the Town and preserve the environmental resources that sustain the health and welfare of the Town's residents.

- Seek to acquire key properties within the Town that represent open space linkages, and that fulfill the natural resource, scenic and historic resource protection goals of this Plan Update.
- Prohibit clearcutting anywhere within the Town. Penalties must be meaningful to ensure that this prohibition is followed, and not simply a monetary fine. Where illegal clearcutting occurs, the allowable density or intensity of any development proposed within ten (10) years subsequent to the illegal activity should be reduced.
- Adopt tree preservation regulations which protect trees and forested areas within the Town for the numerous benefits tree protection provides.
- Mandate the submission of cluster development layouts at the same time the Planning Board considers a conventional subdivision plan, to afford the Planning Board the opportunity to review layouts which may advance the protection of a cohesive open space system.
- Require that density or intensity of land development be reduced appropriately to reflect the sensitive environmental features that may be present on a property, including but not limited to floodplains, wetlands, streams, and steep slopes.
- Protect streams which feed the Town's waterbodies, reservoirs, and groundwater, and an adjacent buffer strip to filter out pollutants from these receiving streams.
- Limit the amount of impervious surface area within any watershed that contributes to a public surface water drinking supply to protect water quality of same.
- Encourage terrain adaptive development to minimize loss of existing trees and vegetation by grading activities, and minimize disturbances to steep slopes.
- Protect and promote ecological biodiversity in the Town, and require ecological surveys as part of development applications given the presence of ecological habitat that is suitable for a diversity of species, including federal and state protected species. The ecological survey will consider year round use of a site by various species.
- Ensure that development applications are reviewed to analyze the potential impact on the Ramapo River Sole Source Aquifer.
- Update the Town's existing wetland law to provide a better definition of what disturbances are allowed within the buffer area.

4. Preserve the historic and scenic assets within the Town of Monroe which provide it with its attractive appearance and unique community character.

- Adopt local historic preservation regulations, and designate the properties in the Town which are worthy of protection. Review and consider the buildings identified in Section IV, A Baseline Update, as properties worthy of protection.

- Establish a historic preservation board, or provide the Planning Board with the authority to review activities proposed to alter or demolish designated local landmark buildings and structures.
- Pursue grants, and develop a plan for the restoration and use of the Checkerboard Inn.
- Require the preparation of cultural resource surveys to document a proposed development's impact on archaeological and historic resources.
- Establish an architectural review board to review all new multifamily residential and nonresidential developments, or provide the Planning Board with the authority to perform the same function.
- Protect the visual character of scenic roads within the Town, as identified in Section IV., A Baseline Update.
- Improve the appearance of the Town's major commercial corridors, and in particular, Route 17M.
- Protect the ridgeline areas in the Town, as shown in Figure IV.D-4, by adopting ridgeline protection regulations.
- Conduct viewshed analyses, as necessary, to ensure that the viewsheds visible from the Town's major trails are not disrupted by incongruous development.
- Develop architectural review design guidelines.
- Implement landscaping standards to ensure all developments are revegetated in a manner that protects and promotes positive aesthetic qualities and utilizes native species.
- Implement lighting standards that balance the need for safety during evening hours with the intent to protect dark sky conditions, especially in residential neighborhoods.
- Allow the adaptive reuse of historic buildings where the proposed use can be accommodated in a neighborhood without negatively impacting it.

5. Support green infrastructure and improvements that are supportive of the goals and objectives of the Plan Update.

- Central sewer and water service should be extended only where such extension supports the goals and objectives of the Plan Update and the Conceptual Land Use Plan, and does not increase the density of development beyond that recommended herein.
- Work with Orange County to establish a formal framework for Town input into decisions related to the Orange County Sewer District No. 1.
- Provide pavement striping and/or signage which defines the location of major existing and future trail crossings in the Town.
- Evaluate existing roads and trails within the Town to establish bike routes and pedestrian trails to and from major destinations, including major parks and village centers.
- Evaluate whether private roads can be used as a means to limit the number of short or dead end roads which may unnecessarily burden the Highway Department and its maintenance duties. In exchange for the development of a private road which would not be required to meet the same specifications as a road which is to be dedicated to the Town, the subdivision would be limited in

size (total number of lots or dwellings), and the density would be lower than a conventionally developed subdivision.

- Review road specification standards, and determine whether pavement width, sidewalks, and other improvements can be reduced or eliminated to be made consistent with more rural areas of the Town to maintain their existing primarily woodland landscape.

6. **Implement regulations necessary to ensure that applicants submit development applications that fully disclose the proposed density, intensity, size, environmental constraints and design of projects so that the boards can fully assess a project's potential impacts, and adopt mitigation measures that are consistent with the goals and objectives and policies of this Plan Update.**

- Site and subdivision plans must include data related to total bedrooms, housing types, floor plans, commercial floor area, and specifics related to a project's footprint, to evaluate the project in detail.
- Require that all environmental analyses prepared in connection with SEQRA evaluations are reviewed and updated, as necessary, when Negative Declarations or Findings are over five years old to ensure that they remain relevant and accurate and not based on obsolete data.
- Prohibit the clearing of trees and land, except for the installation of utilities and roads based on Planning Board determinations, prior to the signing and filing of any site plan or subdivision plan.
- Require standard house relocation notes on subdivision and site plans to ensure that buildings are located on the site in the manner approved by the Planning Board.
- Consider hiring an Environmental Inspector that would be responsible for reviewing applications and inspecting land development activities such as tree clearing, stormwater controls, wetland disturbances, and similar activities.

D. Conceptual Land Use Plan

The primary purpose of the 2017Plan Update is to express the community's preferences for land use – the types, pattern, intensity and density for the residential, nonresidential, and open space areas within the unincorporated Town. This pattern is based on a consideration of the relationship of uses to one another and within adjoining villages, the underlying environmental foundation on which development occurs, transportation system and utility availability, proximity to community services, and input expressed by Town residents. This pattern should not and is not based on one factor, e.g., sewer availability, but by all factors that have been considered collectively to develop the Conceptual Land Use Plan (**Figure II-1**).

The Conceptual Land Use Plan for Monroe serves as the basis for the Town's long term future growth and development, consistent with the expressed Vision Statement for Monroe. It builds upon the various land use areas identified in the previous Plan Update. This 2017 Plan Update maps these locations within the unincorporated area. Inherent to the community's expressed preferences with regard to the land use pattern within the unincorporated area is that it sees the villages as the location where retail and personal service commercial uses and higher density residential development should occur, because the Villages have the transportation access and utility infrastructure to support it. The unincorporated area is seen as an area that is to be developed primarily for residential land uses, which is higher density in closer proximity to the villages, and which transitions to low density residential and open space at the outskirts of the Town, especially adjacent to state parkland. The Town has limited areas which can support larger scale taxable nonresidential development, and these nonresidential areas are to be located adjacent to or along the major state arterials, e.g., the Quickway, serving the Town.

Ultimately, the land use categories below will be implemented by adoption of revisions to Chapter 57, Zoning. The Conceptual Land Use Plan is intentionally drawn to have generalized and non-specific boundaries, so that flexibility and discretion can be used at the time that the Town translates the conceptual land use areas into distinct zoning districts. The following descriptions identify the land use areas that constitute the Town.

1. Open Space and Conservation

This land use area includes land that is either protected for open space or recreation by conservation ownership or easement, or is owned by public agencies for conservation, parks or recreational purposes. It identifies properties that the public has expressed should be protected for open space and recreation purposes. These areas should be further linked together, to the extent possible, by open space corridors that include sensitive environmental resources that are preserved as part of future developments. This open space network will encompass portions of properties that are in private ownership and which

include environmentally sensitive resources such as: lakes, ponds and waterbodies; 100-year floodplain; streams; freshwater wetlands; steep slopes; ridgelines; and the woodland habitat that links all these resources and properties together. The Open Space and Conservation land use area incorporates the areas which should be retained undeveloped, or only developed with uses that do not involve significant building and land disturbances.

Uses in this category are limited to open space for passive recreation or environmental resource protection. This land use category incorporates lands contained within Sterling Forest and Harriman state parks, and properties owned by the Town of Monroe or Village of Monroe for resource protection, including Mombasha Lake and lands that have been acquired to protect its water quality. It includes the lands on which the Appalachian National Scenic Trail are located.

It is recommended that when land use applications are received for the development of private property, that sensitive environmental resources be excluded from the calculation of minimum lot area so that the potential density of any development reflects the presence of environmental features that constrain development. Development applications would be specifically reviewed to determine whether cluster development should be pursued to ensure that open space is protected on the relevant property – this is discussed in more detail under the supporting Environmental Framework section of this Plan Update.

The intent of this Plan Update is that large tracts of open space be interconnected through preservation of open space on public and private lots. By mapping this interconnected network, the boards can be guided by the conceptual land use plan, when it considers the areas on a site which could be preserved as open space, and those areas which can be developed. Because these land use areas are conceptual, the boards will determine the site-specific areas to be protected based on a detailed analysis of each parcel at the time a development application is received and reviewed. These areas, for zoning purposes, would be zoned the same as the Open Space Residential land use areas.

2. Residential Land Use Areas

The Town desires well-designed, high quality residential neighborhoods that support a diversity of households, meet a variety of housing needs, and fit within the context of the Town's natural environment. Residential land uses will continue to represent the majority of the unincorporated Town's land area. The density of residential development will vary depending on a variety of factors expressed previously. Each land use area is described by its relationship to existing natural resources, existing public services and proximity to village and shopping centers.

Whenever "cluster" development is recommended, this refers to a development technique authorized by Section 278 of New York State Town Law. That section defines cluster development as "*subdivision plat or plats…in which the applicable zoning ordinance or local law is modified to provide an alternative*

permitted method for the layout, configuration and design of lots, buildings and structures, roads, utility lines and other infrastructure, parks, and landscaping in order to preserve the natural and scenic qualities of open lands." Further, the enabling legislation states that a cluster development "*shall result in a permitted number of building lots or dwelling units which shall in no case exceed the number which could be permitted, in the planning board's judgment, if the land were subdivided into lots conforming to the minimum lot size and density requirements of the zoning ordinance or local law applicable to the district or districts in which such land is situated and conforming to all other applicable requirements*."

Cluster development does not necessarily require the provision of central water and/or sewer services, nor does it result necessarily in the creation of public parks. Lands may remain in private ownership, but deed restricted to ensure that no future development is permitted on the preserved portion of a property. No further development is permitted on the property since the "yield" has already been established and the dwellings have been located elsewhere on the property. Map notes will indicate that lots shall not be further subdivided or developed.

Unlike the previous Plan Update, this Plan does not support the use of cluster development that involves minor adjustments – clustering is intended to preserve expanses of open space, based on the natural and sensitive features unique to each property. Clustering should be considered especially when a portion of the interconnected open space network extends onto a property which is the subject of a development application. The submission of cluster development plans will be mandated for properties or developments of a certain size or proposed lot count, and the Planning Board, in its discretion, will determine whether cluster development will be required and what features on the property will be preserved.

To promote and create neighborhoods which are healthy, attention must be given to establishing recreational opportunities in close proximity to the residents that will be served. Pocket parks, recreation fields, and/or interconnected trails should offer healthful activities which do not require that a household get into a car to participate in these activities. While some activities will require more centralized locations, e.g., organized group sports, more attention should be given to establishing locations within neighborhoods which can serve as outdoor gathering places for children and adults alike to enjoy outdoor activities.

The Town, to encourage energy sustainability, will develop regulations that allow solar panels accessory to residential uses.

New residential development, as expressed previously, needs to be constructed in a manner which blends harmoniously with the wooded, rural landscape. Any new residential development that proposes to clear cut a site, and grade the majority of it to accommodate roads, dwellings and structures, is wholly inconsistent with this objective. While existing topography and vegetation will require some tree clearing and grading to accommodate new roads and create a building pad, the goal will be achieved by adhering

to the objective that undisturbed natural areas, especially woodland, be preserved to maintain a percentage of the site with existing tree canopy.

Whenever extensive structural measures are necessary to create a building pad so that a dwelling can be constructed on a lot, it is a reflection that the development is likely inconsistent with the Town's goals. This is true whether the building pad is supporting a single family detached, townhouse, or multifamily building. For example, the use of extensive retaining walls in residential areas is wholly inconsistent with the above goal for residential neighborhoods, and is discouraged in preference to retaining natural topographic conditions – this was an issue identified in the previous Plan Update. Dwellings must not be cookie-cutter design, but must be designed so that they are adapted to the natural contours of the existing terrain. The use of structural solutions should be used only where the Planning Board, during site or subdivision review, determines the solution meets the overall objective of preserving a portion of the open space network. During site or subdivision plan review, development design and yield must be adjusted, as necessary, to meet this objective.

Within the residential land use areas, accessory apartments will continue to be allowed. Applications for accessory apartments will be reviewed and approved by the Planning Board. Accessory apartments will be allowed within established neighborhoods where dwellings have been in existence for a defined length of time, and will be strictly limited in size to ensure that they provide the affordable housing alternative intended by this and previous Plan Updates. Accessory apartments will be allowed within the existing footprint of a single family detached dwelling, will be allowed one bedroom, and its size will be limited to a percentage of the principal dwelling, to ensure it remains "accessory".[2]

The land use regulations applicable to the residential land use areas will be revised to eliminate land uses that are considered "obsolete" as they are not found in the Town, and would be inconsistent with the residential character of existing neighborhoods, for example, resorts.

Also, to protect residential neighborhoods, home occupations should receive some level of review such as registration, to ensure that the home occupation being conducted is not detrimental to the neighborhood. While interviewing community service providers, it was disclosed that materials are being stored in residences that could pose a fire hazard, and could also be hazardous to emergency service providers that are required to respond to an incident. Home occupations need to be incidental to a dwelling, should not require customers to visit the dwelling or require a significant amount of deliveries to the home, or otherwise alter the appearance of the dwelling and become visibly apparent in any neighborhood. Home occupations that are personal service or retail businesses that rely on customer visitations should be encouraged to locate within the village centers thereby strengthening them.

Residential neighborhoods should also be protected from activities that are inconsistent with their

[2]*The Town Board adopted the revisions as Local Law 2 of 2017.*

residential character – thus, short-term transient rental properties, e.g., Air BnBs, should not be permitted except in conjunction with a bed and breakfast use, where permitted.

The Plan Update recognizes that the Town has had a fund in place to develop affordable housing. The Town should consider partnering with a private entity to develop additional senior housing.

The following presents the general residential land use areas within the unincorporated area of Monroe.

a. Open Space Residential

This land use area represents those existing or proposed residential neighborhoods that are or will be developed at the lowest density for residential uses. This land use area is planned for low-density, single family detached dwellings that are designed and laid out to preserve open space and existing woodland areas. Generally, these areas are contiguous to regionally significant parkland and open space. Properties in this land use area contain steep slopes, shallow depth to bedrock, although steep slopes or shallow soils are not necessarily uniformly present within this area. Open Space Residential land areas are also found at higher elevations in the Town, and may be seen from vantage points located at greater distances, such as the nationally significant Appalachian Trail. Some lands in this category also lie within the watershed of municipal public water supplies.

While small population clusters associated with seasonal bungalow and cabin lake communities that have converted to year round use may lie among lands in this category, and properties may have access to public sewer service, land in this category is remote from the Village centers that serve the unincorporated area. These small populated clusters are located in and around Lakeview Drive (west side of Mombasha Lake), Hain Drive (east side of Mombasha Lake), 1st and 2nd Drive (east side of Orange Turnpike near Arrow Lake), and the Forest Glen Road community (by Sapphire Lake).

Sewer service, if available, should not be used as a means to increase development within these land use areas. Rather, sewer service should be installed only where it serves the overall purpose of preserving open space integral to a development, through clustering, for example. With or without the presence of central water and/or sewer services, the gross density will be very low, e.g., one dwelling unit per 3-10 acres, due to the presence of sensitive environmental resources, although the minimum conventional lot size would be three (3) acres. The submission of a cluster development plan will be required for developments of a certain size, with or without the availability of services, in order for the Planning Board to assess whether the cluster development can achieves the natural resource and open space protection objectives of this Plan Update. Whether or not a subdivision is clustered, all residential subdivisions will be designed to preserve existing expanses of undisturbed woodland among and between dwellings. Grading must be minimized, and lots should not require installation of extensive structural wall systems. Existing stone walls, tree rows, historic buildings and other remnants of the town's history shall be preserved to the maximum extent. Any development proposed adjacent to a

scenic road will be screened from view to the maximum extent.

The Open Space Residential land use area includes lands on the north side of Route 17located generally on the west side of Seven Springs Road. The land area represents the flanks of Schunemunk Ridge, as reflected in both the geology and soils found here – it is part of the same mountainous range connecting Durland Hill with Schunemunk Mountain. In addition, this area is located outside any sewer service area. Bedrock controlled lands and steep topography are associated with the ridge found in this area. The difficulty of this terrain is evidenced by historical aerials and maps which show that this area has not been cultivated, unlike other properties on the north side of Route 17. The Town Board, in the development of this plan, acknowledge that the north side of the Quickway area is changing, in terms of the households residing there and their housing needs. The Town Board is willing to consider alternative housing uses and densities relative to this land use area if municipal sewer and water services are provided, provided the most sensitive environmental areas remain protected and other objectives are met, e.g., trail preservation and ridgeline protection. However, the Town Board does not envision allowing a residential density that would exceed that allowed in the Suburban Residential land use area.

On the south side of Route 17, the Open Space Residential area encompasses large lot vacant and residential properties that are located mostly outside any sewered areas. This area adjoins the various state and conservation lands found along the southerly and easterly boundaries of the Town. This residential area is served by West Mombasha Road, East Mombasha Road, Berry Road, Orange Turnpike, Harriman Heights and Orchard Hill Road. The Open Space Residential land use area encompasses lands that are within the watershed of Mombasha Lake, and lands that are within the watersheds of the smaller Shadowmere, Blythea, Blendale, and Sapphire Lakes. It includes the prominent bedrock controlled and visually prominent ridgeline found between Lakes and West Mombasha roads. Because these properties are bedrock controlled and most properties have shallow depth to bedrock, they have not been cultivated in the past, and the area is dominated by existing woodland cover which is intended to be protected on and/or between existing and proposed dwellings.

b. Rural Residential

This land use area includes rolling lands, generally with less steeply sloping terrain and generally with lower average topographic elevations than the Open Space Residential land use areas. This land use area is a transitional area located generally between the environmentally constrained Open Space Residential land use area, and the Suburban Residential areas which generally adjoin and are extensions of the residential neighborhoods within the Villages. Steep slopes and shallow soils are not uniformly present within this area. Many of these properties have been cultivated in the past, and woodland is not always present, except along road corridors or stone walls that separated farm fields. Land in this area may also include ridges that can be seen from a distance, although elevations are generally less than those in the Open Space Residential land use area. Some lands in this area may lie in the watershed of municipal public water supplies. The gross density of this land use area would be generally one

dwelling per 1-3 acres depending upon the extent to which environmentally sensitive features are present, although conventional lot size would be a minimum of one (1) dwelling unit per one acre, when translated into bulk requirements. The density of development would be the same whether a property is within or outside of a sewer service area, due to other factors, including but not limited to the distance of these areas to population centers or the need to minimize the number of properties that front to major arterials roads. The Rural Residential land use area is to be developed primarily with single family detached residential land uses.

Where sewer service may exist or be extended, it should be used as a means to cluster development in a way that preserves site features and habitat as open space, not to increase base land use densities. With or without the presence of central water or sewer services, average densities should be low in this land use category, and clustering should be required with or without the availability of services wherever appropriate in order to achieve the natural resources goals of this Plan.

Because these neighborhoods may be in closer proximity to the Village centers, attention should be paid to creating interconnections between residential neighborhoods by either connecting existing and proposed roads, or integrating a pedestrian path system into the development. Consideration should be given to creating new bicycle and/or pedestrian paths, particularly where new parklands are created in this land use area.

All residential subdivisions are to be designed to preserve existing expanses of undisturbed woodland among and between dwellings. Grading must be minimized, and lots shall not require extensive retaining wall systems. Existing stone walls, tree rows, and building and other remnants of the town's history shall be preserved to the maximum extent.

On the north side of NYS Route 17, the Rural Residential area would be located along and on the east side of Seven Springs Road (see north of Route 17 options at the end of this section). Because Seven Springs Road is a major arterial used for traffic into and out of the villages, lands are intended to be lower density than what would be allowed in the Suburban Residential areas to minimize the number of residential lots fronting to this road. On the south side of Route 17, much of these areas coincide with areas already zoned RR-1. In addition, the land area along Lakes Road to the south of Mine Road is included in the Rural Residential land use area, as the properties in the area of the Town are distant from major population centers to which Lakes Road connects, i.e., Monroe village or Greenwood Lake to the south. The Rural Residential land use area also includes undeveloped and low density residential areas which are within the watersheds of Walton Lake, Round Lake, and the smaller lakes that dot the landscape in the vicinity of Sapphire Road. This land use area includes many of the conventional subdivisions that have already been developed on lots that have a minimum size generally of one acre.

c. Suburban Residential

The difference between this area and the previous land use areas is that it is already mostly developed with higher density single family detached residential development, as well as several smaller scale townhome and multifamily residential developments. This category includes lands that are developed at densities that are higher than one dwelling unit per one acre, including large neighborhoods formerly intended for seasonal use but that have since converted to year round use. The housing stock found in these neighborhoods were former seasonal cottages that were winterized for permanent use. Suburban residential areas include the Sapphire Lake area, lands north and west of Walton Lake and Round Lake, and west of Mombasha Lake, and are presently zoned Suburban Residential. An area along Schunemunk Road would also fall in this category, as it is adjacent to areas in the Village of Monroe with comparable zoning, and is within the county sewer district. A large majority of acreage in this area is owned by the Village of Monroe. During Planning Board review of any new developments and roads that may be constructed in the Suburban Residential areas, efforts should be made for these developments to connect new roads to existing major arterials wherever possible, rather than small substandard roads, e.g., Oreco Terrace, which cannot accommodate additional traffic, or have existing substandard access or intersection connections to major roads. Suburban residential areas may have sewer service or may lie just outside existing sewer service areas and typically lack central water service. These areas contain most of the old neighborhoods of the Town where there are very small lots or combinations of lots. Minimum lot sizes of properties developed in accordance with Suburban Residential zoning regulations range between 10,000 to 20,000 square foot lots. However, since this land use area also encompasses existing seasonal lake communities, lots can be found in this area that are much smaller.

This Plan Update, consistent with the previous Plan Update, recommends eliminating outdated provisions of the zoning chapter regarding expired subdivisions. Lands covered by these requirements are often fairly steep and have poor access, with an existing road network that is narrow and lacks drainage infrastructure. Because these areas are typically serviced by central sewers but not central water, particular attention must be paid to questions of groundwater balance and potential well interference, so that the long term public health and safety of residents of these areas is protected. The limited road network typically servicing this land use category can pose a hazard to both residents and emergency service workers. Thus, while infill development would be encouraged, it should meet modern bulk requirements for the area to the maximum extent.

Typical density levels in this category would be medium density, depending on availability of utilities, and existing environmental conditions. This land use area, as regulated by the SR zoning district regulations, allow smaller scale single family attached and multifamily housing developments. This Plan Update recommends that the existing zoning regulations be refined to ensure that the scale of these types of developments remain small, as intended, so as to be consistent with adjoining, established single family neighborhoods.

In this land use category, the most significant concern will be community character and protecting existing neighborhood character while accommodating reasonable new development. Measures to protect the character of these areas from being overwhelmed by the scale of large new buildings and teardowns will be important – appropriate building height and yard setbacks will be necessary. Commercial and retail uses are not appropriate for inclusion in the Suburban Residential land use area as these neighborhoods are mostly close to existing village retail centers.

d. Urban Residential

This land use area includes lands directly adjacent to, or having convenient access to, areas similarly zoned in adjoining villages, or adjacent to existing commercial areas. These lands may have sewer service or may lie just outside existing sewer service areas. Soil conditions in this area are generally suitable to higher density residential uses, and the presence of bedrock does not limit land use in this category.

This land use area is intended to be the highest density residential land use category, but actual allowable density levels would depend on environmental conditions present on any property, and the provision of sewer and/or water service. This land use area is suited for a wide variety of housing types. To ensure this purpose, regulations would require that a diversity of housing types, bedroom count, and unit sizes be developed. Where any application proposes 50 or more dwelling units, for example, the development could be required to include a mix of housing units, e.g., a mix of two-, three-, multifamily, townhome, small lot single family detached, and other housing types, rather than one dwelling unit type, to promote the greatest housing diversity.

Close attention should be paid to providing pedestrian connections and making new development accessible to existing and future transit, to minimize the transportation impacts of new development. In this land use category, the most significant concern will be community character and protecting the visual character of nearby neighborhoods and the surrounding areas, while accommodating reasonable new development. Measures to protect the character of existing development in these areas from being overwhelmed by the scale of large new buildings will be important. Commercial uses are not appropriate for inclusion in this category, due to the proximity of these areas to existing shopping areas.

3. Commercial and Light Industrial Land Use Areas

A sustainable community is one that has a thriving and flourishing economy, with diverse employment opportunities. Areas intended to be used for commercial and light industrial uses are included in four categories. One of the land use areas, although intended to be a business park, includes an existing multifamily residential development.

A key factor that influences the location of commercial and light industrial uses is the availability of roads to accommodate the level of vehicular and in some instances, truck trips, generated by the use.

Generally, areas which can accommodate nonresidential uses are found along or in close proximity to Route 17M and Larkin Drive, where relatively easy access to a Route 17 interchange is available. Sewer and water service is generally present to serve these uses.

All nonresidential uses are proposed to be regulated in accordance with architectural, landscape, and lighting design standards that ensure that new or renovated buildings and properties enhance the positive aspects of the Town's visual character. In addition, like the Town's residential land use areas, the Town's nonresidential land use areas are also constrained in places by sensitive environmental features. The Town's nonresidential land use areas are well-established within the more readily developable sand and gravel valley that parallels Route 17M and 17. The headwaters of the Ramapo River travel through this same valley. Any development, especially within the nonresidential land use areas, needs to mitigate potential water quality impacts to the Ramapo Sole Source aquifer system within the Town. The Town, to encourage energy sustainability, will also develop regulations that allow solar panels accessory to nonresidential uses.

a. Neighborhood Business

This land use area is limited and includes small existing and future neighborhood convenience locations that are located distant from the Town's primary commercial corridor, NYS Route 17M, and intended to serve immediately adjoining residential neighborhoods. The range of uses recommended for this land use area are small convenience retail and personal service uses. To be consistent with adjoining residential neighborhoods, building footprints will be limited in size – "big box" establishments and other large scale anchor and destination tenants would not be allowed. Any development within these land use areas would be subject to architectural review, and nonresidential uses would be screened from residential uses that may directly abut same. Properties presently zoned WR, Waterfront Recreational Business, will be rezoned to reflect their current residential status; several properties that are presently developed with nonresidential uses would be included in the Neighborhood Business land use area.

b. General Business

This land use area includes a limited number of properties within the unincorporated area that maintain frontage along the Route 17Mcorridor and adjoin lands in the Villages of Monroe and Harriman. Land uses suited to this category include a mix of general office, medical office, and other general business uses.

Because this land use category generally abuts residential uses, especially along a rear yard, attention must be paid to screening and buffering any nonresidential use from an adjacent residential use. Most of the properties in this land use area are already developed with nonresidential uses, including automotive related uses. Thus, residential uses would not be allowed in the district, to also further the Town's economic development goals. In addition, as the community supports strong downtowns associated with the Town's villages, retail and similar uses are not be encouraged, that could draw

activity away from their downtown centers.

c. Multiple Use-Mixed Commercial Center

With the completion of Larkin Drive connecting County Route 105 and New York State Route 32, the Town allowed the construction of a retail and commercial center with multifamily residential development. Although referred to as the "Harriman Business Park", the development that has occurred along Larkin Drive consists of strip commercial retail uses, fast food restaurants, big box retailers, and a multifamily complex called Meadow Glen. This Plan Update acknowledges that these uses will continue. However, no further expansion of the retail uses within the LI district, including along Larkin Drive, is recommended. Future retail, entertainment, and personal service commercial uses should be directed to the village centers. To ensure that the uses remain conforming, an overlay district would be created to acknowledge the existing uses in the business park. The overlay district would provide for standards which allow a more streamlined approach to changes of use involving existing buildings. In addition, since the park is subject to a Declaration of Development, this developed area would be grandfathered from any net lot area calculations which could be adopted as part of the zoning revisions. The overlay district will also allow for additional infill nonresidential development, recognizing that large areas of parking are underutilized even during peak shopping seasons given retail trends such as online shopping. The HI district, once zoned, will be much smaller in area and will be limited to the north side of the Quickway, including on lands in close proximity to Kiryas Joel. There, commercial uses such as retail and hotel uses would be allowed.

d. Light Industry / Heavy Industry / Office

The Light Industry/Office land use area encompasses areas zoned Light Industry and Heavy Industry at present. It includes the remaining lands along Larkin Drive that have yet to be developed, and lands on the west side of Freeland Street, adjoining NYS Route 17. Lands in the Heavy Industry zoning district have been developed with not-for-profit uses and uses which serve exclusively residential uses, which is inconsistent with the intent of this land use area. The future uses for this area will be office, manufacturing, assembly and light industrial uses. Residential uses, and other uses which exclusively serve residential uses, will not be allowed, especially as there are no other lands in the Town which can accomplish the Town's economic development objectives.

This land use area would allow light industrial, office, manufacturing uses whether or not part of a coordinated business "park" plan. The Town supports the provision of a "spine road" that could serve development on the west side of Freeland Street. Once the extension is constructed, heavy vehicles would be directed to it as the need to travel through local village streets would no longer be necessary. The spine road was a recommendation developed during preparation of the Southeast Orange County Traffic and Land Use Study (2005). The Study states that the "Larkin Drive extension would connect NYS Route 208 with CR 105 and would act as the northern continuation of the existing Larkin Drive alignment.

This new two-way Town road would provide an alternative means of access to the commercial centers surrounding the NYS Route 32 corridor without having to travel through the Villages of Monroe and Harriman." Orange County DPW submitted a TIGER grant to secure $30 million in construction funding. The Bald Hill development has a Stipulation of Agreement wherein a portion of the Larkin Drive extension would be constructed in exchange for additional housing units approved as part of the residential portion of the development. The Town continues to support this effort of extending Larkin Drive west. The County has conducted preliminary design work in support of the grant application. During meetings with stakeholders, it was brought to the Town's attention that a similar road connector was being contemplated for the neighborhoods on the north side of the Quickway within the Village of Kiryas Joel to allow traffic to be redirected to Bakertown and Nininger Roads, redirecting traffic away from Forest Road.

Long-term, the Town Board is willing to consider alternative uses for parcels that front to and are on the east side of Forest Road, especially to the extent that the Larkin Drive extension is no longer advanced by the County or adjoining property owners and other roads, such as one constructed within Kiryas Joel, are not made available. These parcels are presently zoned LI and are proposed to remain in the LI zoning district. This Comprehensive Plan Update remains committed to having these areas developed with taxable, employment generating uses, and is willing to entertain such uses that meet that objective and that also can be designed in a manner that is integrated into the landscape and protective of the woodland character and the prominent ridgeline in this location.

4. North of Route 17 Land Use Options

During preparation of the Comprehensive Plan Update, various residents and stakeholders have expressed a number of land use options for the area located within unincorporated Monroe located on the north side of Route 17, and to the west of the Village of Kiryas Joel's borders. The area in question was also the subject of a 507-acre annexation petition which would have incorporated the lands into the Village of Kiryas Joel – property owners desired to be incorporated into the Village for a variety of reasons, including but not limited to the ability to construct dwellings at a higher density as is customary in the Village. As per the 507-Acre Annexation DGEIS, the annexation area, which includes a portion of the North of Route 17 area, would have accommodated at least 3,875 dwelling units on the 507 acres, or approximately eight (8) dwelling units per acre.

The Consultant's Report included several options as to how the area north of Route 17 should be planned. The options promoted different levels of potential density, based on presence of existing development, location within the Orange County Sewer District, presence of environmentally sensitive resources, and other considerations. In particular:

- Undeveloped lands have composite resource value as per the Highlands Assessment (Figure IV.B-5);

- There is a prevalence of steep slopes in excess of 25 percent on the west side of Seven Springs Road (Figure IV.B-9). Shallow depth to bedrock also limits some of the areas on this side of the Road (Figure IV.B-11);
- In terms of land use, accessory apartments and use variances have been sought within the Mountainview Drive neighborhood (Figure IV.C-3);
- Certain lands are potentially visible from the Appalachian Trail and the Long Trail and development would affect overall community character (Figure IV.D-3);
- Much of the area along Seven Springs Road and to the east of it is located within Orange County Sewer District No. 1, but is not served by central water;
- A portion of this area adjoins the high density Village of Kiryas Joel, and also adjoins the lower density areas of the Village of South Blooming Grove.

At the April 26, 2017 Town Board workshop meeting, the Town Board determined that it would be appropriate to include Option 2 in the draft Plan Update, as it represents the worst-case analysis to be evaluated for SEQRA purposes. This option is incorporated into the Conceptual Land Use Plan.

The Conceptual Land Use Plan shows the area within the existing boundaries of the Orange County Sewer District being developed as a Suburban Residential land use area. The area on the west side of Seven Springs Road would remain mostly in the Open Space Residential land use area, given existing environmental constraints, and its location outside the sewer district boundary. The area along Seven Springs Mountain Road, and west of its intersection with Seven Springs Road, would be within the Rural Residential land use area, reflecting the existing development density that already exists, but consistent with adjoining neighborhoods in the Village of South Blooming Grove. This area was previously zoned at a density of one dwelling unit per one acre, and reverting it back to Rural Residential would bring the pre-existing noncomplying lots along this corridor into compliance. As mentioned previously, this portion of the Town of Monroe is in “transition”, and based on use variances and the pursuit of large accessory apartments, it is evident that existing homeowners in this area desire to live at a higher density for a variety of reasons, including living more communally among the extended families that reside here. As the adjoining Village of Kiryas Joel expands, and as development in the area progresses, it can be anticipated that traffic will increase, and that centralized sewer and water services will be expanded. Over the long-term, the Town will need to address the progression of development, and it may be appropriate in the future to consider additional zone changes. However, regardless of density, new developments, as in the remainder of the Town, must be designed to accommodate meaningful expanses of open space, avoid environmentally constrained lands, and protect the woodland visual character of the Town of Monroe. Bulk requirements would be established that ensure that the existing wooded character is retained to screen views of properties which may be developed at higher densities than presently allowed. Limitations on impervious surface area, requirements for preserving tree cover and other standards would be implemented. There may be other options that the Town Board would consider, or a combination of the above, based on the characteristics presented above.

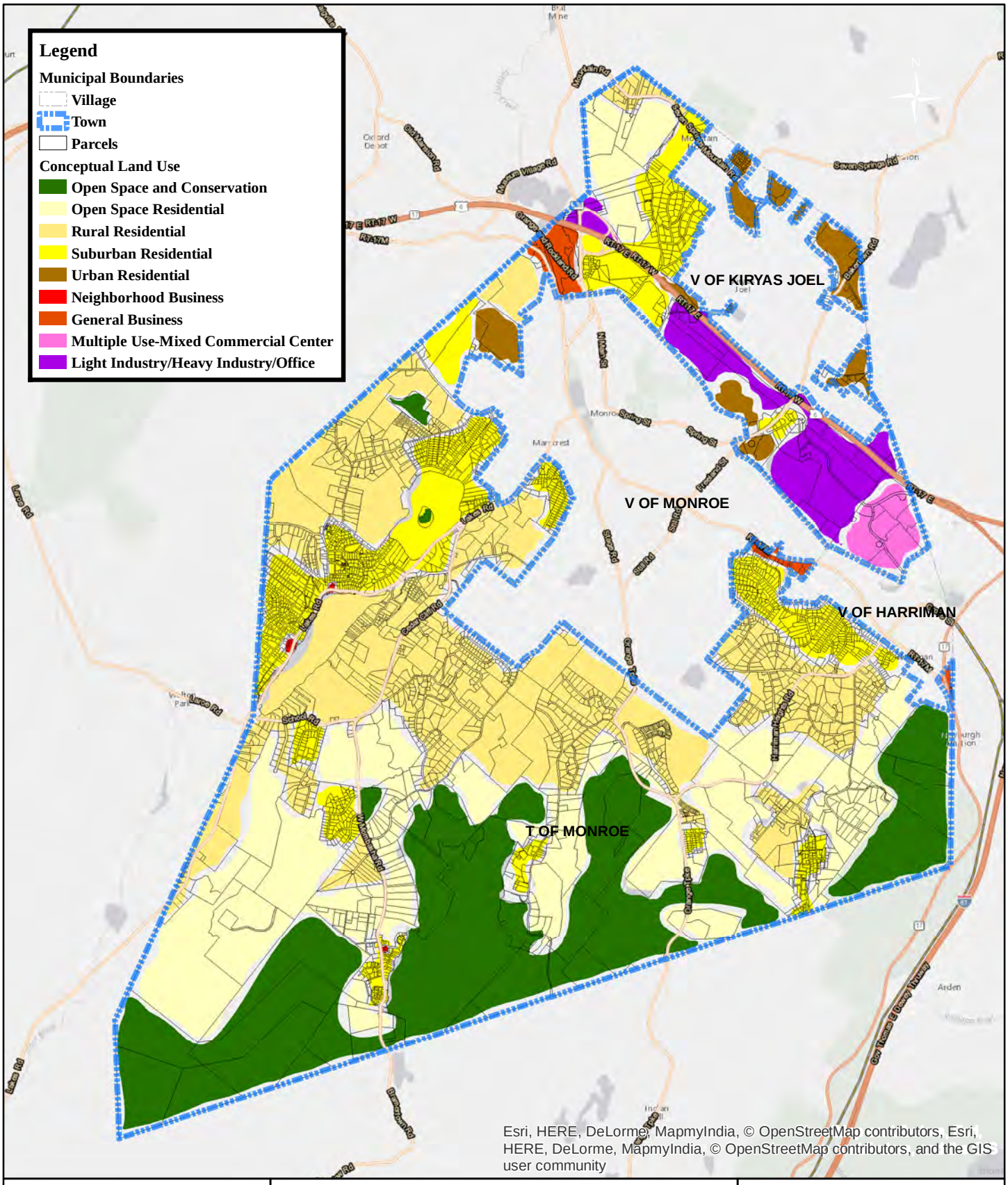


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Figure II-1
Conceptual Land Use

Source: ESRI Web Mapping Service;
Orange County GIS; NPV GIS Library
Scale: 1 inch = 4,500 feet

Town of Monroe

Comprehensive Plan

III. A SUSTAINABLE FRAMEWORK

The protection of natural resources and ecosystems within this Highlands region are considered essential for the well-being of Monroe's population. The Town desires to protect its inherent natural and community character by eliminating and minimizing deforestation and degradation, excessive water consumption, sanitary sewer and impervious surface runoff impacts to surface and groundwater quality, and loss of biodiversity. This sustainable framework seeks to also protect the scenic and historic resources that lend the Town its unique sense of place and an identity of its own. The Town's sustainable framework will ensure that infrastructure is implemented to achieve the Town's own community-expressed and driven goals and objectives related to land use patterns. For too long, the "tail" of sewer availability has been wagging the "dog" of the Town's pattern of growth resulting in a pattern which is not sustainable – e.g., promoting higher density development in areas distant from the Town's village centers.

This section discusses the intent of the environmental, community character, and infrastructure-related objectives that will allow the Town to achieve to pursue a more sustainable pattern of development within Monroe.

A. Environmental Framework

The environmental framework discusses the manner in which the Town intends to protect the natural resources that are unique to the Highlands and Hudson River Valley regions of which it is an integral part. It provides a discussion of the intent of the objectives set forth in Section II of this Plan Update.

Environmental Framework	
Objective	***Description***
Cluster Development	***Require that applications for subdivisions which meet a certain minimum threshold of proposed lots submit both a conventional and cluster development layout, and allow the Planning Board to determine whether the cluster development will be required so that the Town's objective for preserving open space and the natural environment are met.***
The Town's subdivision regulations do not regulate cluster development except to refer to Section 278 of the New York State Town Law which authorizes cluster developments. To support the Town's goal of pursuing the creation of a cohesive and interconnected open space framework, the Plan Update recommends that the zoning be amended to include comprehensive cluster development regulations. The regulations will: establish the housing types that would be allowed in each zoning district, consistent with what is allowed by right or by special use permit. A minimum percentage of open space	

Environmental Framework	
Objective	***Description***
would be established as a target. The ownership of open space lands would be determined, and open space would be preserved in perpetuity via applicable deed restrictions and conservation easements. The Planning Board would oversee review of cluster development design, and it would be within their discretion to pursue the cluster or conventional development based on the extent of open space benefits to be derived from any project. Any regulations would make clear that cluster development and the open space created is not in lieu of any recreational land, or fee in lieu of land, for which a development's new population may create demand. The manner in which development yield is determined would also be specified, to ensure consistency with the intent of Section 278 of NYS Town Law.	
Context Sensitive Residential Development	***Ensure that all developments are developed to "fit" with the existing landscape, and require that a minimum percentage of undisturbed woodland is integrated into all new neighborhoods to promote healthy and attractive neighborhoods.***
The Town desires to preserve the forested woodland environment as an integral component of any residential subdivision or site design. This objective is to be pursued throughout the Town regardless of the proposed density of development, i.e., whether in an area proposed for rural versus suburban scale neighborhoods. All development projects will be required to preserve a minimum amount of undisturbed woodland landscape, whether on individual lots, or within shared common areas. The intent is that the overall extent of any residential project should not be apparent, and to this end, should be broken up by undisturbed woodland to avoid extended views of housing.	
Sustainable Energy Options	***Encourage the construction of a solar farm on the former Town landfill. Encourage solar energy options for residential and nonresidential developments.***
The Plan Update supports the Town's pursuit of a solar energy facility on the former landfill as a means of encouraging alternative forms of energy. However, given the extent of agricultural land within the County which can support solar facilities without the need to clearcut land, the Plan Update supports accessory solar facilities located on individual residential and nonresidential buildings, or within parking areas accessory to nonresidential uses so as not to compromise the objective of preserving woodland. The land use regulations need to be amended to allow the use of solar energy facilities accessory to individual residential and nonresidential buildings. Solar farms as a principal use is not encouraged.	
Open Space Acquisition	***Seek to acquire key properties within the Town that represent open space linkages and that fulfill the natural resource, scenic and historic resource protection goals of this Plan Update.***
As per the public survey, over 89 percent of survey participants indicated that open space preservation should be a priority of this Plan Update. During the community participation process, the public identified parcels which the Town should consider acquiring to pursue a cohesive open space network and to also potentially fulfill the demand and desire for additional recreational opportunities throughout the Town. Many of the properties identified by community members are already preserved as open space, but there was a desire to make use of the properties, in some instances, for	

Environmental Framework	
Objective	***Description***
trail and recreational purposes. A variety of techniques are supported including: obtaining grants to purchase property; passage of an open space bond; mandatory clustering where open space can be preserved as part of a private development; and, eminent domain. It is noted that eminent domain was the least favored of the options, but did receive 41 percent support from those who responded to the question to be considered as a "last" option. Where properties are actively in use, the Town should acquire an option to purchase the property. Alternatively, in appropriate cases, the Town could acquire the development rights to a property, i.e., purchase of development rights (PDR), and allow the existing use to continue, e.g., agricultural use. Transfer of development rights (TDR) could also be explored where appropriate. Based on community input, properties to be considered for potential acquisition include: properties adjoining Round Lake to buffer the lake from development; Rosmarin's day camp; undeveloped properties adjacent to other open spaces along Berry Road, Rye Hill Road, Lakes Road, and Orange Turnpike; Bald Hill properties.	
Prohibit Clearcutting	***Prohibit clearcutting on all properties within the Town. Penalties must be meaningful to ensure that this prohibition is followed, and not simply a monetary fine. Where illegal clearcutting occurs, the allowable density or intensity of any development proposed within ten (10) years subsequent to the illegal activity would be reduced.***
Chapter 44 and 46 of the Town Code need to be consolidated, as they both deal with clearcutting and grading activities. In order to limit clearcutting within the Town of Monroe, grading activities need to be regulated by the Planning Board, which would approve plans for grading prior to issuance of a grading permit. In addition, the Plan Update recommends that clearcutting be prohibited in the Town of Monroe unless in conjunction with an approved and filed site or subdivision plan. An applicant would not be allowed to clearcut a property in advance of the submission of a land development application – clearcut is inconsistent with the purpose of this Plan Update, and violates the spirit of the regulations implementing SEQRA. To the extent that an applicant seeks to conduct commercial forestry activities, these activities must be reviewed and approved by the Planning Board, and only selective harvesting is to be allowed. In addition, the Plan Update does not support the grading of properties prior to the filing of final plans wherein all conditions required to proceed to development have been met. Except where the Planning Board authorizes the installation of roads and utilities subsequent to preliminary plan approval, no other grading, e.g., for lots, would be allowed until a subdivision plan is filed with the Orange County Clerk, or a site plan has been filed and met all required conditions of approval. Where a property owner violates clearcutting prohibitions, strict penalties need to extend beyond merely imposing a monetary fine. Reforestation must be required, and should a land development application be pursued within ten (10) years of such illegal activity, the maximum permissible density or intensity of a proposed project should be reduced to allow the beginning of reforestation on portions of the subject property that have been clearcut.	

Environmental Framework	
Objective	***Description***
Tree Preservation	***Adopt tree preservation regulations which protect trees and forested areas within the Town for the numerous benefits tree protection provides.***
It is a specific objective of the Plan Update to protect the woodland character of the Town of Monroe. In this age of climate change, trees and forests serves as a carbon sink – trees absorb carbon dioxide and regulate temperatures. The Monroe Conservation Commission has drafted a tree law to protect this important natural resource, for the purposes set forth in the law. The Plan Update considers adoption of the Tree Chapter to the Code to be a top priority.	
Net density	***Require that density or intensity of land development be reduced appropriately to reflect the sensitive environmental features that may be present on a property, including but not limited to floodplains, wetlands, streams, and steep slopes.***
The maximum density or intensity of development on any property needs to take into consideration the environmental constraints that are present on a property. These environmental constraints include the presence of wetlands and any regulated adjacent areas, the 100-year floodplain, steep slopes, streams, and waterbodies. Some provisions of the zoning chapter already require that certain constraints be "netted out" when determining density, e.g., steep slopes on properties to be developed as a multiple dwelling group in the UR-M district. The netting out of environmentally constrained lands will be applied to all developments, residential and nonresidential.	
Stream Protection	***Protect streams within the Town in their natural state to the maximum extent, in addition to freshwater wetlands.***
While freshwater wetlands are protected at the local level through the regulations set forth in Chapter 56, streams are not afforded protection, except to the extent they are regulated by the state in accordance with the Protection of Waters program. Many of the streams and surface waters feed the ponds, lakes, and drinking water supplies within the Town. The Plan Update recommends that the zoning incorporate, as an explicit purpose, the protection of streams and lakes, and that land disturbance within 25 feet of any stream be avoided.	
Watershed Overlay	***Minimize the amount of allowable impervious surface areas within any watershed that contributes to a public surface water drinking supply.***
The Town is home to two sensitive waterbodies that serve as drinking water supplies: Mombasha Lake, which is owned by and serves the Village of Monroe as well as several developments in the unincorporated area; and, Walton Lake, which services the Village of Chester. Excessive development, and the introduction of impervious surfaces within the watersheds, will compromise the water quality of these systems. The Center for Watershed Protection has concluded that watersheds that introduce more than 20 percent impervious surface area will degrade the water quality of the watershed via the stormwater that runs off of these surfaces. In order to protect the drinking water supplies in the Town, the Plan Update recommends that a watershed zoning overlay be enacted which limits the total amount of impervious surface area which can be introduced on any property post-development within the watershed. The Code Enforcement Officer will review building permits within the overlay to ensure that the standard is met, and the	

Environmental Framework	
Objective	***Description***
Planning Board would ensure that a subdivision or site plan within a watershed would not introduce, cumulatively, more than twenty percent impervious surface area, including buildings, driveways, and roads, unless it is determined that the specific site can support additional impervious surfaces without impacting the watershed.	
Terrain Adaptive Development	***Encourage terrain adaptive development to minimize loss of existing trees and vegetation by grading activities, and minimize disturbances to steep slopes.***
The Town has grappled with disturbances to and excessive grading on properties, especially where steeper terrain is encountered – this was an issue in the previous Plan Update. On steeper terrain, extensive grading activities, and introduction of significant retaining wall systems are introduced to accommodate buildings that are not designed to work with the existing grade. In addition, this grading is also occurring to introduce expansive lawn areas which is inconsistent with the desire to preserve woodland area throughout the Town's residential neighborhoods. The Plan Update recommends that the land use regulations be amended to include objectives and standards that ensure that steep slopes are avoided to the maximum extent, and that where the Planning Board allows disturbances in association with a subdivision and site plan for purposes of accomplishing other objectives, e.g., open space protection, that buildings on lots be required to be terrain adapted.	
Biodiversity Protection	***Promote biodiversity protection in the Town, and require ecological surveys as part of development applications given the presence of ecological habitat that is suitable for a diversity of species, including federal and state protected species. The ecological survey will consider year round use of a site by various species.***
Approximately 81 percent of public survey participants believe that open space must be preserved to protect ecological habitat. As identified in the baseline inventory of this Plan Update, the Town is host to a number of sensitive species which are protected under federal and/or state law. Because the Town is home to large swaths of protected open space and large vacant undeveloped properties, it is expected that these species would be present throughout the Town, including private properties. Over time, species have been added to protection lists, such as the Northern long-eared bat. This Plan Update recommends that the zoning chapter include a requirement that ecological surveys be conducted on vacant properties proposed for development, and that these surveys be conducted by qualified ecologists. Surveys will be required to document the habitats present on each site, and the likely species to be present during the different seasons. These surveys are to be conducted in a manner which considers overall biodiversity, and will not be limited to reviewing only the potential presence of protected species.	
Ramapo Sole Source Aquifer	***Ensure that development applications are reviewed to assess the potential impact on the Ramapo River Sole Source Aquifer.***
The areas of the Town which are considered the most developable, and which are programmed for commercial and light industrial economic development, are also within the Ramapo River sole source aquifer. Any proposed development application must be reviewed to determine the potential impact	

Environmental Framework	
Objective	***Description***
of a project on the aquifer. Protective measures will need to be implemented to ensure stormwater runoff is controlled and treated, that material storage is designed in a manner to avoid release, and any light industrial activities which by their nature could adversely impact the aquifer are prohibited after review and determination by the Planning Board.	
Freshwater Wetland Regulations	***Update the Town's existing wetland law to provide a better definition of what disturbances are allowed within the buffer area, and refine the law, based on project experiences, to ensure it is as protective of these resources as intended by this local law.***
Chapter 56, Wetlands, specifies activities that are regulated within a freshwater wetland and a defined wetland buffer. Section 56-6 states as follows: "Regulated activities also include all activities within a wetland buffer as it relates to the protection of the wetland, not the wetland buffer itself." The intent of the law as it regards disturbances to wetlands is ambiguous, and the law needs to be reviewed and revised to consider specifically what disturbances are allowed within the buffer.	

B. Community Character Framework

The community framework of this Plan Update advocates sustainable placemaking – this framework is intended to preserve those aspects of the Town's scenic beauty and history that are unique to the Town and region. It is a fundamental purpose of this Plan Update to educate the community of the Town's place in Hudson River Valley and Hudson Highlands regional history.

The Plan Update and this framework protects, preserves, and promotes Monroe's scenic and historic resources for this and future generations. From an economic perspective, the Town's community character, and preservation of same, is also integral to preserving property values. The methods to accomplish the various objectives related to community character are set forth below.

Community Character Framework	
Objective	***Description***
Historic Preservation Law	***Adopt local historic preservation regulations and designate the properties in the Town which are worthy of protection. Review and consider the buildings identified in Section IV, A Baseline Update, as properties worthy of protection.***
The previous Plan Update acknowledged the importance of the Town's history, and the need to protect the resources that contribute to it. At this time, the only method by which historic buildings are being preserved is through the SEQRA review process associated with development applications. Listing on the National Register or State Register of Historic Places does not offer protection to historic resources, except potentially for those actions which require state or federal permit review or funding. The previous Plan Update identified various properties which contribute to the Town's history and which should be preserved – several buildings have been lost since adoption of the Plan Update in 2008 due to development or other causes, e.g., fire. As part of the community participation process, several additional properties have been identified that are in need of protection (See Section IV). As development progresses in the Town, the loss of each individual property reduces the overall character of what makes the community uniquely Monroe. To that end, the Plan Update specifically recommends that local historic preservation regulations be adopted to protect designated historic buildings and places. Protection would be afforded to the buildings identified in the Plan Update which meet the criteria to be included in the law. In addition, the Plan Update recommends that the Town undertake a comprehensive historic building inventory to ensure that all properties and buildings that are worthy of protection are identified and protected.	
Historic Preservation Board	***Establish a historic preservation board, or provide the Planning Board with the authority to review activities proposed to alter or demolish designated local landmark buildings and structures.***
In order to protect the historic resources identified as per the above objective, a historic preservation board, or the planning board, must be given the authority to review activities that may impact a designated historic resource. This would include alterations that may be inconsistent with the historic attributes of the property or building. Whether a new board or the planning board is given this authority is a determination to be made by the Town Board. The public survey administered as part	

Community Character Framework	
Objective	***Description***
of the Plan update process supports the creation of a historic preservation board, and to a lesser degree, giving the Planning Board this authority.	
Checkerboard Inn	***Pursue grants, and develop a plan for the restoration and use of the Checkerboard Inn.***
As described in the Baseline Inventory, the Checkerboard Inn, also known as the Migel Residence, is owned by the Town of Monroe, and is located on the Mansion Ridge property next to the golf clubhouse. The dwelling is listed on the National Register of Historic Places. Also known as the Forshee-Jenkins House, it was converted to an inn when Orange Turnpike, an early toll road, opened in 1802. In the 20th century, it was expanded to serve as a family cottage for the family of a New York silk merchant, Moses Migel. New York City silk merchant Moses Charles Migel bought the property and surrounding lands to create Greenbraes Farm, a 230-acre estate. The Town's intent has been to convert the home into a Town Museum. At this time, the Town's artifacts are being stored within the senior center at the Historian's offices. The property has been sitting vacant for a long period of time, and will decline if not rehabilitated. This Plan Update finds that preservation and active rehabilitation of this property is a priority and necessary so that it can be used for its intended purpose.	
Cultural Resource Survey	***Require the preparation of a cultural resource survey to document a proposed development application's impact on archaeological and historic resources.***
Examples of the Town's rich history are located throughout the unincorporated area, including on properties which are the subject of development applications. The Plan Update advocates for the Planning Board and other boards to ensure that all properties are reviewed for the potential presence of archaeological and historic resources in order to determine whether they are worthy of protection. An objective needs to be added to the zoning chapter identifying the need to review historic and archaeological impacts in conjunction with development review.	
Architectural Review Board	***Establish an architectural review board to review all new multifamily residential and nonresidential developments, or provide the Planning Board with the authority to perform the same function.***
The Plan Update supports the review of building architecture and overall site design to ensure that the design fits with or improves the visual character for Monroe. At this time, architecture is reviewed only to the extent that visual character is examined during SEQRA review of a development application. The Plan Update recommends that an architectural review board or the Planning Board be assigned the role of reviewing architectural design. The public survey indicates that over 79 percent of participants support the creation of a new Board, and to a lesser degree giving the Planning Board this authority.	
Scenic Road	***Protect the visual character of scenic roads within the Town, as identified in Section IV, A Baseline Update.***
Eighty-six percent (86%) of survey participants supported the preservation of scenic roads within the Town. The support for specific roads is set forth in Section IV of the Plan Update. Orange Turnpike,	

Community Character Framework	
Objective	***Description***
Lakes Road, Rye Hill Road, and East and West Mombasha Road were the five roads that most participants identified as important to protect. The Plan Update recommends that the scenic roads identified in Section IV of the Plan Update be protected, and that specific design measures be introduced to the zoning chapter to ensure this objective is met. Standards could include larger building setbacks, wider lot widths to discourage overdevelopment of scenic corridors, preservation of existing vegetation along the road, preservation and limited disturbance to stone walls and existing tree rows lining streets, requirements that lots front to internal roads wherever possible, shared driveway use, screening to ensure development is not visible from scenic viewsheds, and other standards to be incorporated into site and subdivision plan design. In addition, as many of the features are actually located within road rights-of-way, the Plan Update recommends that the Highway Department consider a roads scenic status when recommending improvements to it that would alter these features.	
Commercial Corridor Design	***Improve the appearance of the Town's major commercial corridors, and in particular, Route 17M.***
The major commercial corridors within the unincorporated area are NYS Route 17M, NYS Route 17, and Larkin Drive. Approximately 76 percent of respondents in a public survey supported the Town Board commissioning architectural review design guidelines. These guidelines would provide guidance to the boards responsible for reviewing development applications. Until such time that guidelines specific to Monroe are prepared, the Plan Update recommends that the Orange County Design Manual be used for guidance. With regard to major corridors, design guidelines should consider integration of screening of parking lots, utilities, and solid waste areas with vegetation, fences or stone walls, attractive lighting, and other measures to improve the visual character of the corridor.	
Ridgeline Protection	***Protect the ridgelines in the Town, as shown in Figure IV.D-4, by adopting ridgeline protection regulations.***
Over 88 percent of survey participants supported the regulation of development on ridgelines. Thjs objective was also supported by the previous Plan, but regulations were not adopted. The Plan Update supports adoption of a ridgeline protection overlay zoning district, which maps a regulated area around the ridgeline within which development would be discouraged. To the extent that there are no alternative locations for siting a structure other than on a ridgeline, measures to reduce the visibility of the structure would be required, including screening, limitations to clearing, use of dark earthtone colors, and other measures. The Planning Board would be tasked with the review of these applications.	
Viewshed Analysis	***Conduct viewshed analyses, as necessary, to protect the viewshed visible from the Town's major trails is not disrupted by incongruous development.***

Community Character Framework	
Objective	***Description***
The Town is home to the Appalachian National Scenic Trail, a significant recreational resource, whose value is being compromised by development within its viewshed. In addition, it is important to protect the viewsheds visible from other important vantage points, including but not limited to other trails both within and outside the Town, scenic roads and historic buildings. It is important for boards to examine the potential impact that new development would have if introduced into these viewsheds. The Plan Update recommends that the zoning chapter include, as a specific objective, the need for projects to be evaluated to determine their impact on a viewshed. Photosimulations, balloon tests, and other techniques would be employed to determine visual impacts, both during on- and off-leaf conditions.	
Architectural Review Design Guidelines	***Develop architectural review design guidelines.***
Approximately 76 percent of respondents in a public survey supported the Town Board commissioning architectural review design guidelines. These guidelines would provide guidance to the boards responsible for reviewing development applications. Until such time that guidelines specific to Monroe are prepared, the Plan Update recommends that the Orange County Design Manual be used for guidance.	
Landscaping Standards	***Implement landscaping standards to ensure all developments are revegetated in a manner that protects and promotes positive aesthetic qualities and utilizes native species.***
One of the most important elements of site or subdivision design is landscaping. Landscaping – a combination of trees, shrubs, and plants that are introduced after a site has been cleared – serves as a visual green connection to nature and the environment. Residents, visitors, and others react positively to a community when surrounded by a beautiful landscape. Landscaping is essential to the health of a community and provides functions such as absorbing runoff, purifying air, regulating temperatures, and providing sinks for species. Landscaping is also an important visual buffer or screen, which can mitigate and improve the visual appearance of streetscapes and properties. It can promote civic pride in a community, and bolster property values. The Plan Update recommends that landscape plans be specifically required in connection with development plans, and that native plants be incorporated into designs to the maximum extent. Landscaping will be required to be more than "lawn" areas - landscaped areas will be made an integral element of any project and will be elevated as an important component of any layout. Consistent with previous objectives, the priority of any landscape plan will be to preserve existing vegetation to soften a development.	
Lighting Standards	***Implement lighting standards that balance the need for safety during evening hours with the intent to protect the dark night sky conditions.***
The Plan Update recommends that lighting standards be introduced to the zoning chapter to ensure that lighting plans are submitted as part of development applications, and that lighting plans meet the objective of minimizing light pollution. Light pollution is excessive and inappropriate artificial light. Attributes of light pollution include: the brightening of the night sky which impacts natural areas and habitats; light trespass in locations where light is not intended; and excessive brightness which causes	

Community Character Framework	
Objective	***Description***
visual discomfort. The zoning chapter would be amended to include standards promulgated by organizations such as the International Dark Sky Association.	
Adaptive Reuse	***Allow the adaptive reuse of historic buildings where the proposed use can be accommodated in a neighborhood without negatively impacting it.***
As a method of protecting and preserving historic buildings, adaptive reuse is recommended. Adaptive reuse is use of a building for additional purposes beyond those allowed in a zoning district to promote preservation of a historic building. In exchange for allowing the adaptive reuse, the owner is required to preserve and protect the historic buildings consistent with its original architectural and historic character. It is recommended that adaptive reuse standards be added to the zoning chapter to encourage preservation of historic buildings. Any use would be subject to Planning Board review and approval, to ensure that the use is compatible with the neighborhood in which it may be located.	

C. Infrastructure Framework

The goal of all infrastructure decisions in the Town is that they must support the other goals and objectives of the Plan Update and the Conceptual Land Use Plan. For example, sewer and water should be used when necessary to allow cluster development which protects meaningful open space, be directed to areas of the Town where diverse and denser housing is supported by the Plan Update, and support economic development initiatives. Conversely, sewer and water should not be introduced in areas to develop properties at a density in excess of what is recommended by the Plan Update. Wherever practicable, "green" or low impact infrastructure practices should be pursued. The use of green infrastructure can reduce energy needs, the demand for potable water, and the cost of maintenance. Tree buffers can provide shade in the summer and insulate areas during the winter – this reduces the need for mechanical cooling and heating reducing energy demand and requiring less maintenance. Rainwater harvesting can provide irrigation to landscaped areas, reducing water demand. Green infrastructure practices which utilize plantings to improve runoff absorption and reduce stormwater can also enhance the attractiveness of the surrounding environs. The infrastructure framework also seeks to increase opportunities for bicycle and pedestrian use as an alternative to reduce reliance on vehicles which would reduce greenhouse gas emissions.

Infrastructure Framework	
Objective	***Description***
Sewer and Water	***Central sewer and water service should be extended only where such extension supports the goals and objectives of the Plan Update and the Conceptual Land Use Plan, and does not increase the density of development beyond that recommended herein.***
In its decisionmaking, the Town Board needs to consider the goals and objectives of the Plan Update and whether requested sewer or water extensions achieve these objectives.	
Trail Improvements	***Provide pavement striping and signage which defines the location for major trail crossings in the Town.***
Trails, both existing and proposed, should be marked and signed for safety purposes. Although certain trails are primarily recreational, e.g., the Long Path and the Appalachian Trail, their locations should be well marked to direct visitors to their location, and provide safe passage across arterial roads.	
Alternative Routes	***Evaluate existing roads within the Town to determine and establish bike routes and pedestrian trails to and from major destinations, including major parks and village centers.***
There are a significant number of parcels that are adjacent to roads which could support a robust interconnected pedestrian and bicycle trail system. Throughout the Town, there are subdivisions which have not been connected by roads, but could be connected through small pedestrian and bike connections. This would allow adults and children to walk, bike, jog or run with these residential	

Infrastructure Framework	
Objective	***Description***
neighborhoods. The system would then be connected to major destinations including village centers, and community meeting places, e.g., the Senior Center. The Plan Update recommends that the Town establish a committee which can work to define property and neighborhood linkages, especially where development is proposed in the future. In this manner, vehicular trips could be reduced by allowing such connections and trails.	
Private Roads	***Evaluate whether private roads can be used as a means to limit the number of short or dead end roads which may unnecessarily burden the Highway Department and its maintenance duties. In exchange for the development of a private road which would not be required to meet the same specifications as a road which is to be dedicated to the Town, the subdivision would be limited in size (total number of lots or dwellings), and the density would be lower than a conventionally developed subdivision.***
The Town presently maintains small cul-de-sacs with few dwellings fronting to them. This results in the Highway Department having to maintain road which are used by few residents, adding to the cost burden of maintenance in the Town. Where a proposed development is only intended to serve a subdivision with no more than, for example, five dwellings, the Town could consider allowing a private road to serve the development. In exchange for allowing a developer to build a road to a lesser standard, e.g., no curbs or sidewalks, lesser road width, and limited drainage infrastructure, since the road will only serve a few homes, the Town could require that the development density be reduced and that no further subdivision be permitted within the subdivision. Residents along the private road would still be protected through a CPS-7 filing, i.e., a shortened homeowner association filing, which ensures maintenance of the road. In addition, the road would be located on one or more lots via an easement, therefore, the Town would not end up burdened by having to take over a private road parcel that has been abandoned.	
Road Specifications	***Review road specification standards, and determine whether pavement width, sidewalks, and other improvements can be reduced or eliminated to be more consistent with a rural landscape.***
In field visits throughout the Town, it is evident that different road specifications have been applied to developments during subdivision review, including subdivisions that adjoin one another within the same land use area. In addition, the standards have resulted in roads that are suburban in character, and incongruent with the rural character of the Town. In some instances, these suburban style specifications have resulted in unnecessary pavement width, curb installation, and sidewalks which are not utilized. Drainage improvements may also be inconsistent with current New York State SPDES permit requirements which require the use of low impact, "green" infrastructure design. The Plan Update recommends that road specifications be reviewed and that the Town consider implementing different specifications for different road types, that would depend on location, e.g., Rural versus Urban Residential areas, and the number of dwellings being served.	

Infrastructure Framework	
Objective	***Description***
OCSD Administration	***Require that Orange County establish a formal framework for Town input into decisions related to the Orange County Sewer District No. 1.***
The Town's growth and land use pattern is influenced by the Town's location within the Orange County Sewer District No. 1. Although significant decisions are presently being made with regard to how the plant will operate in the future, including the need to potentially expand the existing Harriman Wastewater Treatment Plant, the Town does not have any official status with regard to decision making. Decisions are made by the Orange County Legislature, even though the cost of any such decisions are borne solely by the ratepayers of the district, and not the entire county. The Plan Update recommends that the Town work with the County and other municipalities served by the plant to establish a formal arrangement of participating in decision making associated with the operational and capital cost improvements of the plant.	

D. Enforcement

During preparation of the Plan Update, various providers, board members, and the public expressed the need to ensure that all laws and regulations are written in a manner that supports the goals and objectives of the Plan Update, requires the submission of data and information necessary to make informed decisions, and that approved site plans and subdivisions be strictly enforced.

Plans should present a realistic portrayal of the development, which discloses the household size for which dwellings are to be marketed, the total number of bedrooms proposed to determine water demand and wastewater generation, and a realistic building footprint so that disturbances are not underestimated. The site plan and subdivision regulations need to be updated to the extent that the submission of this data is not explicit. For example, an application should not be presented as a senior housing project that will introduce small households without children, if the development is not in fact proposed to be restricted and limited to senior household occupancy.

Further, significant concern has been expressed with regard to the severely outdated SEQRA evaluations conducted on many of the subdivisions and site plans, the approval of which have been extended for years. The Rye Hill corridor GEIS, for example, is over a decade old, and most of these developments have yet to be constructed. The Plan Update therefore recommends that all environmental analyses prepared in connection with SEQRA evaluations be reviewed and updated, as necessary, when Negative Declarations or Findings are over five years old, or where a significant change has resulted in a finding being made obsolete. For example, during this ten year timeframe, the northern long-eared bat has been listed as a protected species. The ecological surveys for these developments did not consider the bat's habitat for status.

Although already discussed under Environmental Framework, the Plan Update reinforces the need to prohibit the clearing of trees and land prior to the signing and filing of a site plan or subdivision plan. Sites should not be cleared well in advance of the filing of these plans, subjecting adjoining residential neighborhoods to view a "work site" where plans are not being advanced or could be abandoned. Further, the site plan and subdivision regulations should include requirements that a plan remain current and that an applicant show due diligence in moving it to completeness and approval – the regulations should be updated to include language which allows the planning board to consider an application withdrawn when it is allowed to languish.

Lastly, the Plan Update recommends that all development plans include house relocation map notes on subdivision and site plans to ensure that buildings are located on the site in the manner approved by the Planning Board. The Planning Board spends an extensive amount of time and effort ensuring that developments pose the least impact to a site and its surrounds. Future homebuilder should not be allowed to cut more trees, clear more area, or develop a dwelling in a different location than what was evaluated. House relocation map notes are intended to control these potential occurrences.

IV. MONROE TODAY: A BASELINE UPDATE

This section of the 2017 Plan Update inventories the Town's existing resources. It serves as the input for the Town's residents and stakeholders to evaluate when considering recommendations for creating a sustainable community for the future. It also serves as the Existing Conditions section to the draft Generic Environmental Impact Statement.

A.DEMOGRAPHIC TRENDS

Inset - Street Fair in Monroe.

In order to properly plan for the Monroe community, it is necessary to have an understanding of the characteristics of its current residents in order to plan appropriately for their needs, e.g. demand for community facilities and services. The 2005 Plan Update's analysis of demographic trends was based on 2000 Census data, which are now over 15 years old.

At the time the 2005 Comprehensive Plan Update was written, the national economy was still in the midst of a housing boom, and real estate market values had skyrocketed. The Comprehensive Plan's recommendations, and discussions regarding the need for affordable housing, were predicated on these trends. Within the exurbs of New York City, the demand for housing was driven by households seeking shelter outside New York City and its immediate urban areas subsequent to the terrorist attack of September 11, 2001. As described in the 2005 Plan Update:

> *"Affordable housing is becoming an increasing concern within the region. Both the market-driven effects of the September 11, 2001 terrorist attacks in New York City and the combination of high prices and low supply in New York City's inner suburbs make the southeastern Orange County area more attractive to high-end newcomers purchasing relatively large, expensive houses compared to the housing that the "home-grown" market would otherwise sustain. The effect on the housing market has increased concerns about the need to accommodate affordable and diverse housing for the local population and community service providers as well as senior citizens. This Plan Update 2005 addresses the need to consider ways to protect the affordable housing that already exists within the town, as well as ways to either create or encourage the creation of a new supply."*

Subsequent to the adoption of the Comprehensive Plan, the real estate market bubble burst in 2007, and the nation entered a severe recession. Housing values plummeted, the inventory of available housing significantly increased due to foreclosures and high unemployment, and the conditions upon which the Plan's assumptions regarding "high end" house purchases were no longer relevant. As described in the land use and zoning section, which describes current housing conditions in the Town of Monroe, housing values within Orange County have been stagnant, and in some instances declined. According to recent data published by the Hudson Gateway of Association of Realtors (HGAR - 2015), the median sales prices in Orange County are still significantly lower than the values for Westchester, Rockland, and Putnam Counties. With that as background, the following provides a snapshot of Monroe's population and housing.

Table IV.A-1 provides a summary of the total population within the Town of Monroe, including its incorporated Villages. It is noted that the population data presented in the 2005 Plan Update (p. 82) were incorrect – specifically, the population that had been assigned to the Village of Harriman appears to have also included the portion of the Village within the Town of Woodbury, contrary to what is stated in the Plan Update. For purposes of this report, we corrected the data for 2000 and 2010 – thus, the 1990 data for Harriman likely still overstates that Village's population. The effect of the inaccurate reporting for the Village of Harriman population is that the population for the unincorporated area is also inaccurate, as it was determined by subtracting the village populations from the Townwide total. The 2005 Plan Update had reached the following conclusion, based on 2000 census data:

> *"The combined data supports this Plan's conclusion that the current growth rate in the unincorporated Town is 2.5% per year. If we continue to experience a growth rate of 2.5% per year, the population of the Town outside the Villages would double in 30 years. Therefore the unincorporated Town would have a population of 13,000 by the year 2010, and over 20,000 by the year 2035, if all conditions remain the same."*

Townwide, the population grew by approximately 2.6 percent annually. In comparison, the unincorporated area grew by approximately 1.7 percent annually. The 2010 population in the unincorporated area was approximately 3,000 fewer persons than projected in the 2005 Plan Update. Note the average population per housing unit is higher townwide (3.6 persons) than in the unincorporated area (2.8 persons).

Table IV.A-1 Population, Households and Housing Units– Townwide and Unincorporated Area				
Monroe - Townwide	**2000**	**2010**	**Change**	**2000-2010 Annual Rate**
Population	31,610	39,912	8,302	2.6%
Households	8,296	10,312	2,016	2.4%
Housing Units	8,588	11,144	2,556	3.0%
Population/Housing Unit	3.7	3.6		
Monroe - Unincorporated Area				
Population	8,456	9,888	1,432	1.7%
Households	2,813	3,286	473	1.7%
Housing Units	2,991	3,506	515	1.7%
Population/Housing Unit	2.8	2.8		
Source: ESRI Business Analyst, 2016; derived from U.S. Census Bureau data.				

The same comparison is made in **Table IV.A-2**, but the data are broken out by village jurisdiction. While the unincorporated area's population grew by 17 percent over the decade, Kiryas Joel's population grew by 44 percent. Harriman's population remained stable, as only a limited number of dwelling units were added to the Village's housing stock. The total number of households in Kiryas Joel grew by 57 percent, and the total number of housing units constructed over the 10-year period increased the 2000 housing stock by 75 percent.

The number of persons per housing unit is the largest for dwellings in Kiryas Joel. In 2010, the unincorporated area had an average of 2.82 persons per housing unit; Kiryas Joel had an average of 4.88 persons per dwelling unit. The largest surplus of housing units is also within the Village of Kiryas Joel. While there were 3,666 households in the Village, there were 4,136 dwellings, or a surplus of 470 housing units available to new households (11.3 percent of housing stock), which are available to new household formations within the Village, or from households migrating from other locations in the region. In the unincorporated area, there were 2,813 households, and 2,991 housing units; there is a 178 dwelling unit surplus (5.9 percent of housing stock) in the Town. The housing surplus in the Villages of Harriman and Monroe are less than within the unincorporated Town.

Table IV.A-2 Population, Households and Housing Units – Villages and Unincorporated Area				
Population	**2000**	**2010**	**Change**	**% Change**
Monroe unincorporated area	8,456	9,888	1,432	17%
Harriman within Monroe	1,743	1,766	23	1%
Kiryas Joel Village, NY	14,019	20,175	6,156	44%
Monroe Village, NY	7,722	8,364	642	8%
Monroe entire town	31,610	39,912	8,302	26%
Households				
Monroe unincorporated area	2,813	3,286	473	17%
Harriman within Monroe	754	762	8	1%
Kiryas Joel Village, NY	2,339	3,666	1,327	57%
Monroe Village, NY	2,542	2,743	201	8%
Monroe entire town	8,296	10,312	2,016	24%
Housing Units				
Monroe unincorporated area	2,991	3,506	515	17%
Harriman within Monroe	778	799	21	3%
Kiryas Joel Village, NY	2,366	4,136	1,770	75%
Monroe Village, NY	2,605	2,846	241	9%
Monroe entire town	8,588	11,144	2,556	30%
Population/Housing Unit				
Monroe unincorporated area	2.83	2.82		
Harriman within Monroe	2.24	2.21		
Kiryas Joel Village, NY	5.93	4.88		
Monroe Village, NY	2.96	2.94		
Monroe entire town	3.68	3.58		
Source: ESRI Business Analyst, 2016; derived from U.S. Census Bureau data.				

Table IV.A-3 2015 Population Estimate (Persons)		
	2015 Total Population	**Change since 2010**
Monroe unincorporated area	10,186	+298
Harriman within Monroe	1,879	+113
Kiryas Joel Village, NY	21,566	+1,391
Monroe Village, NY	8,789	+425
Monroe entire town	42,455	+2,543
Source: ESRI Business Analyst, 2016; derived from U.S. Census Bureau data.		

Table IV.A-3 presents an estimate of the population in 2015. When compared to 2010 population estimates, the Village of Kiryas Joel's population increased by 1,391 persons, compared to the approximately 113-person increase within the incorporated Village of Harriman. It is estimated that the

unincorporated area's population increased by 298 persons. Of the Town's total estimated increase of 2,543 persons, 1,391 persons, or 55 percent of the increase, was within Kiryas Joel.

Townwide, the average household[3] size was 3.86 persons. This size is influenced primarily by the households in Kiryas Joel, where the average household size is 5.5 persons. In comparison, the average household size in the unincorporated area is 3.00. Harriman had the smallest average household size, which is likely a reflection of the large percentage of multiple residences with one and two bedrooms only (e.g., Lexington Hills), which are attractive to smaller households including single persons, recently married households, and empty nester households.

Table IV.A-4 2010 Household Size (Persons)	
Monroe unincorporated area	3.00
Harriman within Monroe	2.32
Kiryas Joel Village, NY	5.50
Monroe Village, NY	3.04
Monroe entire town	3.86
Orange County	
Source: ESRI Business Analyst, 2016; derived from U.S. Census Bureau data.	

Average family size[4] in 2010 is provided in **Table IV.A-5**. Family sizes mirror average household size trends. Kiryas Joel's average family size was 5.7 persons in 2010; this compared with 2.9 persons per family in the Village of Harriman. The unincorporated area had a family size of 3.38 persons in 2010.

Table IV.A-5 2010 Family Size (Persons)	
Monroe unincorporated area	3.38
Harriman within Monroe	2.90
Kiryas Joel Village, NY	5.70
Monroe Village, NY	3.39
Monroe entire town	4.29
Orange County	
Source: ESRI Business Analyst, 2016; derived from U.S. Census Bureau data.	

Table IV.A-6 presents recent trends in median age. In 2015, Monroe Village had the oldest median age, or 39.1 years. Kiryas Joel's population is the "youngest" with a median age of 14.4 years. The 2015 median age in Harriman and the unincorporated area were 38.2 and 38.6 years, respectively. The influence of Kiryas Joel's population on Townwide trends is significant; the median age Townwide was was 22.2 years in 2015.

[3] A "household" includes all of the people who occupy a housing unit.
[4] A family or family household is defined by the United States Census Bureau for statistical purposes as "a householder and one or more other people related to the householder by birth, marriage, or adoption.

Table IV.A-6 Median Age (Years)		
	2010	**2015**
Monroe unincorporated area	37.7	38.6
Harriman within Monroe	37.1	38.2
Kiryas Joel Village, NY	13.4	14.4
Monroe Village, NY	38.2	39.1
Monroe entire town	21.9	22.2
Orange County		
Source: ESRI Business Analyst, 2016; derived from U.S. Census Bureau data.		

Table IV.A-7 presents household and per capita income. Kiryas Joel has the lowest median household and per capita income within the Town. Household and per capita income in the unincorporated area is highest. Monroe Village's median household and per capita incomes are close to that within the unincorporated area.

Table IV.A-7 2015 Household and Per Capita Income (Dollars)		
	Median Household Income	**Per Capita Income**
Monroe unincorporated area	$106,910	$40,307
Harriman within Monroe	$81,324	$36,615
Kiryas Joel Village, NY	$21,133	$7,119
Monroe Village, NY	$101,044	$38,215
Monroe entire town	$66,840	$22,479
Source: ESRI Business Analyst, 2016; derived from U.S. Census Bureau data.		

The population density of the Town and its jurisdictions are presented in **Table IV.A-8**. The population density within the unincorporated portion of the Town reflects its rural to semi-rural character, with 633 persons per square mile. The Village of Kiryas Joel has the highest residential density of the Villages within the Town, at 19,605 persons per square mile. The Village of Monroe has a lower population density than Harriman, with population densities of 2,511 and 3,758 persons per square mile, respectively. Although Harriman generally has a smaller average household size than within the Village of Monroe, it has approximately twice the number of housing units than the Monroe village per square mile. The population with the unincorporated area and its incorporated Villages are a function of household sizes and the intensity of residential development permitted within each jurisdiction based on each community's land use regulations.

Table IV.A-8 Population Density			
	Land Area (sq. mi.)	**2015 Population**	**Population/ Square Mile**
Monroe unincorporated area	16.1	10,186	633
Harriman within Monroe	0.5	1,879	3,758
Kiryas Joel Village, NY	1.1	21,566	19,605
Monroe Village, NY	3.5	8,789	2,511
Monroe entire town	21.3	42,455	1,993
Source: ESRI Business Analyst, 2016; derived from U.S. Census Bureau data.			

B. NATURAL RESOURCES

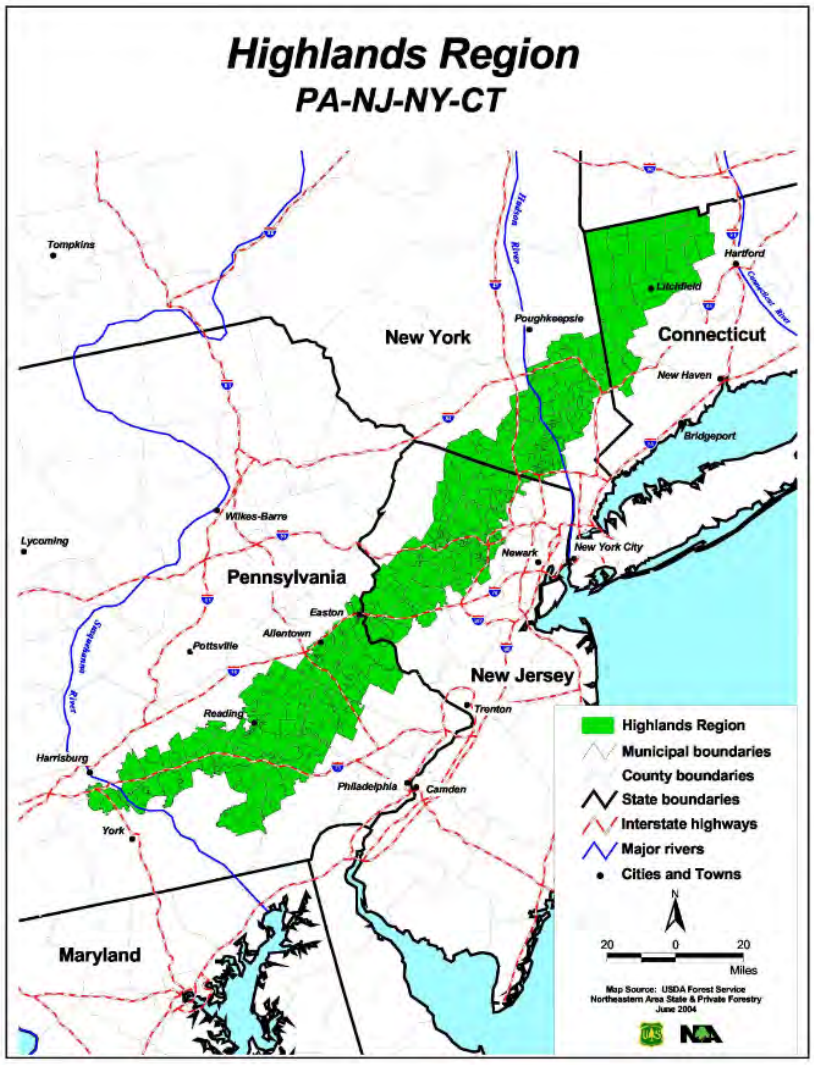
Environmental Framework - Monroe, A Highlands Community

As described in the introduction to this Plan Update, the Town of Monroe is located within the Highland region of the New England physiographic province, and has diverse and environmentally sensitive natural resources. The Town is known as "the Lake Region," due to the more than 77 lakes and ponds that are tucked into the terrain within its borders – its slogan is embodied in the municipal logo. Unlike the 2005 Plan Update which described the Ramapo/Highlands mountainous region of the Town as separate and distinct from the "valley" area, this Comprehensive Plan Update recognizes that the entire Town of Monroe is within the Highlands region – it is the natural framework on which the land use and development pattern has been superimposed.

The 1998 Plan Update stated that conservation of natural resources was a basic element of the Plan, guiding decisions relating to the predominately undeveloped and uncommitted areas that shape the quality of the local environment. It established a goal of protecting and conserving the natural and non-renewable resources in the Town of Monroe. Its goal was that the town should endeavor to prohibit the destruction, encroachment, or degradation of surface water bodies, subsurface resources and wetlands. The 2005 Plan Update incorporated most of the same natural resources protection goals as the 1998 Plan –the recommendations from the 2005 Plan Update have not been implemented. This 2017 Plan Update provides a baseline inventory of the Town's natural resources, and decisions related to the pattern, intensity and density of land use will consider the land's capacity to accommodate development and related impacts.

The **Highlands region** was recognized by passage of the Highlands Conservation Act, signed by President George Bush on November 30, 2004, and subsequent to the release of the New York-New Jersey Highlands Plan and Plan Update. These Plans acknowledged the high value natural resource region that forms a greenbelt around the New York City metropolitan region. The Act was intended to assist the States of Connecticut, New Jersey, New York and Pennsylvania in conserving land and natural resources in the Highlands region through federal assistance for land conservation projects within it.

The purposes of the Highlands Conservation Act was to:



Inset - Map of the Highlands, https://www.na.fs.fed.us/highlands/maps_pubs/highlands_map.jpg

- ***recognize the importance of the water, forest, agricultural, wildlife, recreational, and cultural resources of the Highlands region, and the national significance of the Highlands region to the United States.***
- ***authorize the Secretary of the Interior to work in partnership with the Secretary of Agriculture to provide financial assistance to the Highlands States to preserve and protect high priority conservation land in the Highlands region.***
- ***continue the ongoing Forest Service programs in the Highlands region to assist the Highlands States, local units of government, and private forest and farm landowners in the conservation of land and natural resources in the Highlands region.***

The landscape of the Highlands is unique and characterized by a series of open high hills and ridges cut by deep narrow valleys that distinguish it from the surrounding rolling plains. This pattern of development is evident in Monroe, where established roads such as Lakes Road, West Mombasha Road, and Orange Turnpike travel through the narrow valleys below the hills and ridges in the Town. In addition to the forested land of the physiographic region, the Highlands region includes less developed and agricultural lands. The region is comprised of 108 municipalities in 12 counties – the Town of Monroe is specifically identified as a Highlands municipality.

The USDA Forest Service assigned lands within the region a score of low, moderate and high conservation value for various types of natural resources. As described in detail in the 2002 New York – New Jersey Highlands Regional Study: 2002 Plan Update, a Conservation Values Assessment model was developed to translate conservation priorities described in the document into geographic information. The geographic locations of the natural resources described in the Highlands Plan were mapped using

Inset - Excerpt from New York - New Jersey Highlands Regional Study: 2002 Update. USDA, 2002.

geographic information system (GIS) technology in order to provide a picture of the relative resource conservation values across the region, highlighting areas that are a priority for conservation management. This assessment of expanded on a 1999 Priority Area Assessment conducted by the Regional Plan Association (2001). The GIS-based Conservation Values Assessment model weighed the conservation value of these various resources in two ways. First, the model was based on achieving the following goals for each of the five general resource types:

- Maintaining an adequate supply of high quality water;
- Conserving productive forest lands;
- Conserving areas of high biodiversity and habitat value;
- Conserving productive agricultural land; and
- Providing adequate recreational opportunities for natural, historic and cultural resource-based uses.

Individual resources within each of the five general resource areas were assigned a value ranging from 0 to 5 (highest value) based on parameters set forth in the Plan. The data for the Town of Monroe have been superimposed over the unincorporated area. **Figures IV.B-1** through **IV.B-4** present the various values for the Town of Monroe in the areas of:

- Agricultural productivity;
- Forest productivity;
- Recreation;
- Water Quality;

A Composite Resource Value Map is presented in **Figure IV.B-5**. In considering any plans for development within the Town, the Composite Resource Value Map, as well as the preceding maps upon which it is based, need to be reviewed in establishing areas which present better options for resource protection, areas which should be avoided, and lands that the Town or applicable agencies should consider purchasing for open space protection. **Figure IV.B-5**, along with other resource data, is to be considered

in any recommendations that propose creation of a contiguous, meaningful open space network, within which land development should "fit".

1. Geology, Topography, and Soils

The Town of Monroe's place in the Hudson River Valley's history owes to its unique geology and its mineral deposits. Iron ore, or magnetite, was mined extensively, for a variety of purposes, including military use during the Revolutionary War within the Highlands region of which the Town is a part. As the Town grew from colonial to modern times, geology and other environmental factors became opportunities or constraints to the Town's evolution. A community's geology, topography and soils present opportunities and constraints to development patterns. Areas constrained by shallow bedrock are less likely to be developed due to the cost to remove these features to accommodate building development. Steep slopes also present challenges to creating the "pads" on which buildings can sit – larger building pads on steeper slopes will require more earthwork to accommodate the building. Soils can be deep and loamy and suitable for agricultural use, while wet soils can be indicative of wetlands which are unsuitable for development, and regulated by outside agencies. The following describes geologic, topographic and soil conditions in the unincorporated Town of Monroe.

Inset - Bedrock outcrop along East Mombasha Road.

Geology can be defined as the science that deals with the earth's physical structure and substance, its history, and the processes that act on it**. Bedrock** is the parent material for the unconsolidated surficial material and soils laying atop it– bedrock is classified as igneous, sedimentary, or metamorphic.[5] Bedrock that extends up out of the land's surface is an outcrop. A visit to the unincorporated area of Monroe makes it obvious that the underlying bedrock controls the topography and terrain of large portions of the community. It also adds to the Town's community character, where bedrock and surficial boulders and rocks have been used to build the many stone walls which line Monroe's roads.

The geologic complexity of the Highlands region and the Town of Monroe is shown in **Figure IV.B-6** and described in **Table IV.B-1**. The underlying bedrock has implications for development, in terms of its

[5] Refer to http://geomaps.wr.usgs.gov/parks/rxmin/rock.html for description of rock types.

depth, hardness, rippability, and capacity to hold groundwater. In addition, certain bedrock materials are more soluble, and constituents including pollutants can make their way more readily into the soils and underlying groundwater.

Table IV.B-1
Bedrock Lithology

Unit	Lithology	General Description
Wappinger Group	Limestone, Dolostone	Sedimentary carbonate rocks. Underlies much of the Villages of Monroe and Harriman, including adjoining unincorporated area.
Hornblende granite and granite gneiss	Granite, Granitic gneiss	Hard igneous rock mostly feldspar and quartz; gneiss is granite that has been metamorphosed through temperature and pressure. Runs in a band underlying Walton and Round Lakes.
Amphibolite	Amphibolite	Metamorphic rock that contains amphibole – little to no quartz. Runs in bands trending northeast-southwest, and partially underlies Mombasha Lake.
Sillimanite-cordierite-almandine-biotite-quartz-feldspar gneiss	Gneiss	Metamorphic rock that contains the named minerals. Generally east of East Mombasha Road and south of CR 19.
Leucogranitic (alaskitic) gneiss	Granitic gneiss, Metasedimentary rock	Light-colored, granitic, igneous rock with almost no dark minerals. In vicinity of County Route 19 and Harriman Heights Road.
Poughquag Quartzite	Quartzite, Conglomerate	Hard, non-foliated metamorphic rock which was originally pure quartz sandstone. Wedge that follows Village of Monroe southerly border and is in the vicinity of Mansion Ridge golf course.
Pyroxene-hornblende-quartz-plagioclase gneiss	Mafic gneiss	Metamorphic rock consisting of gneiss containing more mafic minerals such as magnesium and iron. Band of bedrock running below Mombasha Lake.
Undifferentiated Hamilton Group	Shale, Siltstone	Sedimentary rock that runs in a band from Bellvale Mountain to Schunemunk Mountain.
Cambrian thru Middle Ordovician carbonate rock	Carbonate rock, Melange	Sedimentary rock or sediments derived from debris of organic materials composed mainly of calcium carbonate such as shells or corals. Underlies area northeast of Durland Hill.
Austin Glen Formation (Pawlet in Vermont)	Graywacke, Shale	Sedimentary rock of dark coarse-grained sandstone containing more than 15 percent clay. Located by Orange-Rockland Lake.

Surficial geology relates to the land's form and the unconsolidated sediments that lie beneath it. **FigureIV.B.-7** presents surficial geology for the Town of Monroe. An explanation of these materials is provided in **Table IV.B-2.**

Table IV.B-2 Surficial Geology	
Name	**Description**
Bedrock	No overburden. Bedrock is at the surface at several locations, scattered throughout the Town.
Kame Deposits	Low steep sided shaped hill of stratified glacial drift, the origin of which is the accumulation of stream assorted sand gravel and till material from a retreating glacier, deposited on the land surface with further melting of the glacier. There are several kame deposits, the largest of which underlies the land area immediately north of Walton Lake.
Outwash Sand and Gravel	Sand and gravel deposited by running water from the melting ice of a glacier. Limited to a small area at the east end of the Town along the Ramapo River.
Recent Alluvium	Clay, silt, sand, gravel or similar unconsolidated detrital material, deposited during comparatively recent geologic time by a stream or other body of running water, as a sorted or semi-sorted sediment. Located along the Ramapo River at the easterly segment of the river within unincorporated Monroe.
Till	Derived from the underlyingcrystalline bedrock, are mostly stony and bouldery sands with some silt and little or no clay. Till covers most of the surface area within the Town.
Source: Geotechnical Design Manual, Chapter 3, Geology of New York State, NYSDOT, 2013. See https://www.dot.ny.gov/divisions/engineering/technical-services/geotechnical-engineering-bureau/geotech-eng-repository/GDM_Ch-3_Geology_of_NY.pdf	

According to the surficial geology map, bedrock outcrop occurs extensively in several locations within the unincorporated area. Areas include the lands on which the NYS Route 17 interchange at US Route 208 is located, a segment of Cedar Cliff Road in the vicinity of its intersection with Rye Hill Road, land between Lakes and West Mombasha Roads and to the south of Neptune Drive, and an area along Harriman Heights Road. The most significant kame deposit in the unincorporated Town underlies an area at the northerly end of Walton Lake. Outwash sand and gravel is minimal in the Town, and associated with the Ramapo River. Recent alluvium is situated in the Bailey Farm Road development area. Most of the Town is underlain by till.

Topography is a measure of the elevations found in the community. The unincorporated Town's character is formed in part by the undulating terrain, with its high peaks and low valleys, within the community. Topographic elevations are measured in relation to mean sea level (msl), and are shown in **Figure IV.B-8**.The highest point in the Town is approximately 1,361 feet above msl - this point is located at the southern tip of the Town on land that the Appalachian National Scenic Trail traverses. The lowest

points within the unincorporated area are located within the Ramapo River valley by Orange-Rockland Lake, and the easterly end of Larkin Drive. The Town's highest elevations are located at its southwest corner, and lowest elevations are generally located at the northeast corner within the valley. Elevations along the entire southern portion of the Town are steep and variable, with some steep slopes reaching up to 1,000 feet in elevation. The southwestern part of the town includes the foothills of Bellvale Mountain, west of Walton Lake. West of the Village of Monroe lies Durland Hill, with a high elevation of approximately 894 feet dominating that area and overlooking Orange and Rockland Lakes. West of Round Lake, elevations are even higher, up to approximately 940 feet. North of the Village of Monroe is Bald Hill, with an elevation of 890 feet, and north of the Village of Kiryas Joel is the southerly flank of Schunemunk Mountain, reaching elevations of close to 1,000 feet. Many of the hilltops in the Town remain undisturbed.

Slope is related to topography, and can be measured as a percent that expresses the change in elevation over a measured distance. For example, a change in elevation of 10 feet over a distance of 100 feet, would be: *10 feet divided by 100 feet = 0.1 - or a ten percent slope*. The slope of land has implications for land management. Generally, lands with slopes greater than 20 percent are considered constrained and pose challenges to development. Uncontrolled disturbance to steep slopes and vegetation on slopes can result in:

- Increased stormwater runoff, erosion, sedimentation and siltation, including to nearby streams and an increase in potential flood issues;
- decreased stability of the slope which requires significant engineered solutions, increasing the cost of development and encroaching into areas with higher degree of potential failure. In extreme cases, slope failure can result in loss of property and life.

The slope ranges within the unincorporated Town are shown in **Figure IV.B-9**. As is evident from the map, the steepest slopes are associated with the hillsides located along the southern, western and northern borders of the Town – the hills, ridges, and steeply sloping hillsides are indicative of terrain within the Highlands region. While many of the properties in the southerly portion of the Town are in public ownership and protected as open space, other areas of the Town, especially along the western and northern boundaries of the unincorporated area, are susceptible to development.

While the Town regulates grading activities and ensures that proper soil erosion and sediment control measures are implemented, the Town's land use regulations do not set a strong policy statement of avoiding the slopes in order to preserve them undisturbed. Slope protection regulations offer a number of benefits, including but not limited to:

- Reducing the possible loss of life and property related to poor development practices applied to steep slope areas by minimizing the potential for slope collapse;
- Reducing erosion, sedimentation onto properties and nearby streams, and related downstream flooding; and

- Conserving energy by avoiding unnecessary slope stabilization and construction activities.

Soil has been defined as "a natural body comprised of solids (minerals and organic matter), liquid, and gases that occurs on the land surface, occupies space, and is characterized by one or both of the following: horizons, or layers, that are distinguishable from the initial material as a result of additions, losses, transfers, and transformations of energy and matter or the ability to support rooted plants in a natural environment".[6]Soil characteristics have a strong relationship to land use suitability. Every land use, whether it involves the construction of roads or buildings, or production of agriculture crops or forestry, is affected by soil characteristics. The ability of the land to accommodate a land use and infrastructure that serves it is influenced by the suitability of soils to accommodate these activities. The United States Department of Agriculture, Natural Resources Conservation Service (NRCS), manages a web-based system called "Web Soil Mapper" where soil types for a particular area can be viewed. The Soil Mapper provides detailed characteristics and limitations of each soil type for different categories such as road and building construction, agricultural and silvicultural use. The Survey ranks the soils from slight to severe; severe soil limitations are not insurmountable, but reflect the need to come up with engineered solutions to overcome soil limitations. Soils reflect an inherent level of suitability to unsuitability for particular uses. **Figure IV.B-10** illustrates the 50 soil mapping units found within the Town, which is useful for general planning purposes. However, the soil survey should not be used in lieu of detailed soil testing during the review of site-specific development plans. Generally, there are three major soil associations within Monroe.

The **Mardin-Erie** association is located generally in the northern two-thirds of the Town. This major soil association can be described primarily as gently sloping and moderately well drained to somewhat poorly drained. Formed in glacial till deposits derived from sandstone, shale and slate, this soil association has generally severe limitations for septic systems due to wetness, slow percolation, presence of large stones, and in some cases, steep slopes.

The **Hollis-Rock Outcrop** association is generally located in the southern third of the town. These soils are found in mountainous side slopes and uplands. It is described as fairly shallow soil lying over areas of hard schist, granite, and gneiss rock outcrops, and is predominately sloping to moderately steep, somewhat excessively drained. This soil association has severe limitations for both building sites and septic systems due to slope and shallow depth to bedrock.

The **Arnot-Swartswood-Hollis** association is found in a small area located in the northwestern edge of the town. This soil is described as ranging from shallow to deep over sandstone, gneiss, and schist, and also is predominately sloping and somewhat excessively drained. Slope, wetness and slow percolation severely limit use for septic systems, and building site development limitations are moderate to severe due to slope, frost action and wetness.

[6] *Soil Taxonomy, A Basic System of Soil Classification for Making and Interpreting Soil Surveys, 2002.*

Within the Town, soils that are shallow over bedrock are particularly constrained. **Figure IV.B-11** illustrates the soil pattern based on depth to bedrock. If the depth to bedrock range is "0" inches to "10" inches, the soils are identified as "10" inches on the map. These soils are associated with the Hollis-Rock Outcrop association. Development is constrained, as there is limited area for septic systems, shallow bedrock limits the ability to install pipes for utilities, and there is greater potential to require blasting to accommodate development. Development within these areas have been avoided in the past, as it drives up the cost of development and there are locations throughout the Town and County to accommodate development without such disturbances.

As indicated in the 2005 Plan Update, most soil types contain an abundance of fine particles. As per the NYSDEC website, soil particles can vary greatly in size, and soil scientists classify soil particles into sand, silt, and clay. Clay particles are smaller than 0.002 millimeters (mm) in diameter, silt particles are from 0.002 to 0.05 mm in diameter, sand ranges from 0.05 to 2.0 mm and particles larger than 2.0 mm are called gravel or stones. When suspended in water, fine particles tend to remain in suspension for a long period of time, over a period of several days or even weeks, and the particles are very difficult to filter out or otherwise remove from the water. Therefore, strict erosion and sediment control measures are critically important in the town to protect water quality and the health of local water bodies. This is particularly important in steeply sloped areas, where storm water velocities are greater and disturbances can result in significant impacts.

2. Ecology

The Town of Monroe is ringed by several significant publicly held parks, including Sterling Forest State Park to the south, Harriman State Park to the east, and Schunemunk Mountain to the north. Portions of Sterling Forest and Harriman state parks extend into the unincorporated area of the Town. Numerous studies and environmental analyses have been published, documenting the rich ecology of the region. This Comprehensive Plan Update focuses on the broad ecological communities that dominate the Town. Animal species do not observe artificial boundaries; although the narrative below describes species within the Town's parkland, these species can be expected to be present on adjoining private properties as well.

a. Federal Studies

The study, "Significant Habitats and Habitat Complexes of the New York Bight Watershed" (U.S. Fish and Wildlife Service, 1997) provides a synopsis of the ecological characteristics of the Highlands region for general planning purposes. According to the study:

> *"…the core habitat of the Highlands region contains continuous and relatively unfragmented forests, higher elevation ridges, and networks of relatively undisturbed wetlands in the valleys. The Highlands forest is dominated by upland hardwood forest types on the ridges and valley slopes, and forested wetlands in the valleys. The most common upland forest type is the dry-mesic*

(dry to moderately moist), mixed-oak forest dominated by red (Quercus rubra), black (Q. velutina), and white (Q. alba) oaks with lesser numbers of white ash (Fraxinus americana), red maple (Acer rubrum), sugar maple (Acer saccharum), chestnut oak (Quercus prinus), scarlet oak (Q. coccinea), hickory (Carya spp.), American beech (Fagus grandifolia), and tulip tree (Liriodendron tulipifera). Flowering dogwood (Cornus florida) and maple-leaved viburnum (Viburnum acerifolium) are dominant understory trees and shrubs, with hop hornbeam (Ostrya virginiana), ironwood (Carpinus caroliniana), and sassafras (Sassafras albidum) also present. Another common forest type, occurring primarily in ravines or cool north-facing slopes, is the mesic (moderately moist), hemlock-hardwood forest dominated by eastern hemlock (Tsuga canadensis) with red maple, sugar maple, yellow birch (Betula lutea), sweet birch (B. lenta), American basswood (Tilia americana), American beech, white ash, and tulip tree. The understory shrub and herbaceous layer is generally sparse under the hemlocks, with the exception of rhododendron (Rhododendron maximum) thickets in some places. A recent infestation of the hemlock wooly adelgid (Adelges tsugae) has killed many of the hemlocks in the Highlands and will likely result in a major change in the forest community in these areas. Another, more xeric (dry), forest type found on steep slopes and dry ridgetops is the chestnut oak forest with dominance by chestnut oak and associated species including scarlet, white, black, and scrub (Quercus ilicifolia) oaks, pitch pine (Pinus rigida), sweet birch, and hickories, with a shrub layer of heaths, including blueberries (Vaccinium spp.), mountain laurel (Kalmia latifolia), and black huckleberry (Gaylussacia baccata). On the exposed ridgetops, a pitch pine-scrub oak community is found, dominated by pitch pine with lesser numbers of sweet birch, red maple, gray birch (Betula populifolia), serviceberry (Amelanchier spp.), chestnut, scarlet, and white oaks, and a shrub layer of scrub oak in exposed areas, black huckleberry and various other shrubs in protected areas, and grasses in open areas. Unvegetated rock faces and outcrops are found on all the ridges in the Highlands and talus slopes typically occur at the bases of steep cliffs.

In the valleys there are numerous forested wetlands; commonly, these are red maple swamps dominated by red maple with black gum (Nyssa sylvatica), ashes (Fraxinus spp.) and yellow birch, a shrub layer of highbush blueberry (Vaccinium corymbosum), speckled alder (Alnus rugosa), spicebush (Lindera benzoin), buttonbush (Cephlanthus occidentalis), swamp azalea (Rhododendron viscosum), and winterberry (Ilex verticillata), and groundcovers of skunk cabbage (Symplocarpus foetida), ferns, and mosses. Other less common forested wetlands found in the Highlands include hardwood-conifer swamps with red maple and eastern hemlock as co-dominants with a rhododendron understory, and floodplain forests along the rivers dominated by a variety of hardwood species…"

The ecological significance of this area is directly related to its size and its contiguity. Species populations in the Highlands are indicative of undisturbed forest and wetland habitats and include wood turtle (Clemmys insculpta), timber rattlesnake (Crotalus horridus), red-shouldered hawk (Buteo lineatus),

barred owl (Strix varia), warblers and thrushes, black bear (Ursus americanus), bobcat (Lynx rufus), and native brook trout (Salvelinus fontinalis). The Highlands regional study conducted by the U.S. Forest Service estimated that roughly 50% of the area between the Delaware and Hudson Rivers, or about 500,000 acres, is important habitat based on the presence of species that are endangered, threatened, or of special concern.

The Highlands and Sterling Forest in particular, a portion of which is located within the southern portion of the unincorporated area, has gained prominence as an important breeding ground and stop over for neotropical migrant bird species. The study states:

> *"For thousands of years, the ridges of the Highlands have been used as a visual guideline for songbirds and raptors during spring and fall migrations, with the forests and wetlands providing food and resting places for the migrants. The forests, wetlands, and successional habitats of the Highlands support about 150 species of breeding birds. Many of these species are generally associated with relatively unfragmented, undisturbed forest interior habitats. Examples include wood thrush (Hylocichla mustelina), ovenbird (Seiurus aurocapillus), and hooded warbler (Wilsonia citrina) which breed in the mesic forests, black-throated green warbler (Dendroica virens) and black-throated blue warbler (Dendroica caerulescens) which prefer the hemlock forests, Louisiana waterthrush (Seiurus motacilla) which breeds in riparian areas, and barred owl (Strix varia) and red-shouldered hawk (Buteo lineatus) which prefer the large wooded swamps. The New York State Breeding Bird Atlas indicates a thriving population of cerulean warbler in the deciduous forests of the Highlands, one of the few concentrations of this species in the state.*
>
> *Golden-winged warbler (Vermivora chrysoptera), another rare breeder in the region, is locally common in the successional forests of the Highlands. The Highlands support 24 of the 29 middle and long-distance migrant birds whose numbers have declined significantly in the Northeast, as indicated by analysis of the breeding bird survey, and 26 of the 35 long-distance migrants ranked in a recent Partners in Flight study as of highest concern in the Northeast. These migrants include both successional and forest-nesting species."*

According to the study, there are 19 raptor species that utilize the Highlands seasonally or year-round, ten (10) of which breed in the Highlands region, including the regionally rare Cooper's hawk (Accipiter cooperii), northern goshawk, sharp-shinned hawk (Accipiter striatus), red-shouldered hawk, northern harrier (Circus cyaneus), short-eared owl (Asio flammeus), long-eared owl (Asio otus), barred owl, common barn-owl (Tyto alba), and, northern saw-whet owl (Aegolius acadicus).

At least 45 species of amphibian and reptile species, including several rare species, have populations in the Highlands. Among them is the timber rattlesnake, a regionally rare and vulnerable species listed as threatened in New York. Its populations in the Highlands are an important stronghold for this species in the region, and include at least 30 known den sites in New York. Den sites tend to be in or near wooded

rocky ledges with southern exposures. According to the study, important concentration areas occur in Sterling Forest and adjacent ridges. Copperhead snakes (Agkistrodon contortrix) cohabit many of the den and basking sites of the timber rattlesnake. The wood turtle is found in or near riparian habitat throughout the Highlands, especially near deep, low gradient streams in the spring and winter and, generally, in more terrestrial habitats in the summer. Amphibians in the Highlands include regionally rare salamanders such as the blue-spotted (Ambystoma laterale) and four-toed (Hemidactylium scutatum) salamanders, as well as eastern spadefoot toad (Scaphiopus holbrookii) and several populations in Harriman State Park of northern cricket frog (Acris c. crepitans), which constitute some of the northernmost known occurrences of this species.

According to the study, over 40 species of mammals, including several large and free-roaming mammal species, occur in the Highlands. Bears are generally found in the forested regions, specifically in the swamps and lowland forests. Dens occur in both wetlands and upland areas and almost all bear locations are within 650 feet of wetlands. Den site locations are generally greater than 1,600 feet from roads and occupied dwellings. Male bears have average home ranges of 70 square miles. Abandoned iron mines provide winter hibernacula for several species of bats, including the federally listed endangered Indiana bat, the species of concern small-footed bat, northern long-eared bat (Myotis septentrionalis) which is now federally and state protected, little brown bat (M. l. lucifugus), eastern pipistrelle (Pipistrellus subflavus), and big brown bat (Eptesicus fuscus). The federally listed endangered Indiana bat is known to occur at three abandoned mines in the Highlands. They include hibernaculum in close proximity to the Town's northern and southern borders.

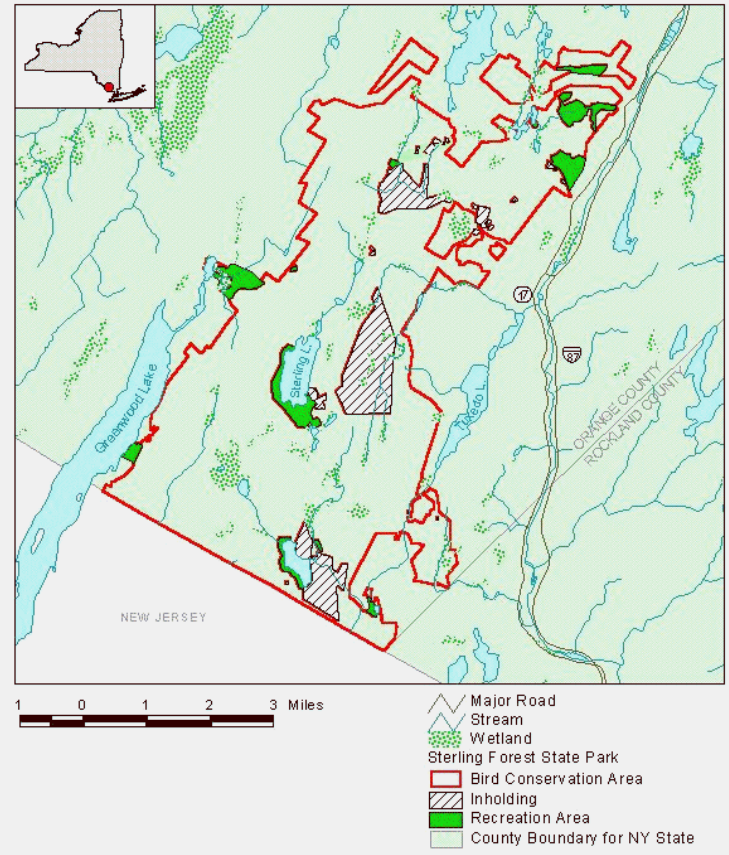
b. National Audubon Society Important Birding Area

The National Audubon Society has designated Sterling Forest and Harriman State Parks as an Important Birding Area (IBA). The IBA supports a community of forest breeders, including the Sharp-shinned Hawk, Cooper's Hawk, Northern Goshawk, Red-shouldered Hawk, Broad-winged Hawk, Northern Flicker, Eastern Wood-Pewee, Acadian Flycatcher, Least Flycatcher, Yellow-throated Vireo, Brown Creeper, Winter Wren, Blue-gray Gnatcatcher, Hermit Thrush, Wood Thrush, Blackthroated Blue Warbler, Cerulean Warbler, Black-and-white Warbler, Worm-eating Warbler, Ovenbird, Louisiana Waterthrush, Hooded Warbler, Scarlet Tanager, Rose-breasted Grosbeak, and Purple Finch. Additional at-risk species supported at this IBA include the Osprey (possible breeder), Bald Eagle (winters, eight individuals in 2003 and three in 2002), American Woodcock (probable breeder), Whip-poor-will (breeder), Olive-sided Flycatcher (possible breeder), Blue-winged Warbler (confirmed breeder), Golden-winged Warbler (confirmed breeder), and Prairie Warbler (confirmed breeder).[7]

[7] *http://netapp.audubon.org/iba/Site/853*

c. Sterling Forest Bird Conservation Area

To further emphasize the importance of Sterling Forest State Park and its environs as important ecological habitat for neotropical migrants, New York State designated Sterling Forest as a Bird Conservation Area (BCA) in October 2001. The BCA encompasses portions of the Towns of Tuxedo, Warwick and Monroe and consists of approximately 16,833 acres.[8] Within Monroe, the designation includes lands on the west and east side of Mombasha Lake, and lands south and east of Arrow Lake.



Inset - Sterling Forest BCA

As described at the NYSDEC website, the Sterling Forest BCA is part of Sterling Forest State Park. A comprehensive inventory of species conducted by the New York Natural Heritage Program indicates that most of the Park is covered by ecological communities that have statewide significance or of such quality that they should be protected as significant examples within New York State. The Park has considerable biodiversity including a diversity of bird species. Criteria that were met for designation of the park as a BCA include: migratory concentration site; diverse species concentration site; individual species concentration site; species at risk site; and a bird research site (ECL §11-2001, 3.e-h). Birds identified within the park include Peregrine Falcon (endangered), Pied-billed Grebe (threatened), Least Bittern (threatened), American Bittern (special concern), Osprey (special concern), Sharp-shinned Hawk (special concern), Cooper's Hawk (special concern) Northern Goshawk (special concern), Red-shouldered Hawk (special concern), Common Nighthawk (special concern), Whip-poor-will (special concern), Red-headed Woodpecker (special concern), Horned Lark (special concern), Golden-winged Warbler (special concern), Cerulean Warbler (special concern), and Yellow-breasted Chat (special concern). Numerous other species contribute to the diversity of birds within the BCA including Broad-winged Hawk, Acadian Flycatcher, Least Flycatcher, Yellow-throated Vireo, Brown Creeper, Winter Wren, Hermit Thrush, Worm-eating Warbler, Blue-winged Warbler, Black-throated Blue Warbler, Pine Warbler, Ovenbird, Louisiana Waterthrush, Hooded Warbler, Canada Warbler, Scarlet Tanager, Rose-breasted Grosbeak, Orchard Oriole, and Purple Finch.

[8] *http://www.dec.ny.gov/animals/31936.html*

d. Significant Species

In 2016, the NYSDEC Natural Heritage Program and the U.S. Fish and Wildlife Service were consulted to determine whether rare, threatened, endangered, or species of special concern are present in or in close proximity to the Town.

According to the NYSDEC Natural Heritage Program, rare and state-listed animals or plants, and significant natural communities, occur within or in very close to the Town of Monroe. Most of the area occupied by these species and communities have been documented within state, federal, or municipal recreation lands (including Mary H. Harriman Memorial Park). In addition, the entire Town of Monroe is within one (1) mile or less of documented hibernacula (winter hibernation locations) of the Northern Long-eared Bat (Myotis septentrionalis), which is a state and federally listed "threatened" species. Since these bats may travel five miles or more from documented winter locations, bats are likely to be present in Monroe's forested areas. Other species documented in the Town are presented in **Table IV.B-3.**

Table IV.B-3
Significant Species and Natural Communities – Natural Heritage Program

Location	Common Name	Species Name	State Listing
Ramapo River at Mary H. Harriman Memorial Park	Dusky Dancer	Argia translata	Unlisted; critically imperiled
Sterling Forest and Harriman State Parks and/or Appalachian Trail lands within the Town of Monroe. *Also occursinareasadjacenttothepubliclands.	Timber Rattlesnake*	Crotalus horridus	State Threatened
	Rough Avens	Geum virginianum	State Threatened
	Glaucous Sedge	Carex glaucodea	State Threatened
	Pitch Pine-Oak-Heath Rocky Summit	Community	
	Appalachian Oak-Hickory Forest*	Community	
	Chestnut Oak Forest*	Community	
	Hemlock-Northern Hardwood Forest*	Community	
Additional species occurring in Sterling Forest and Harriman State Parks and/or Appalachian Trail lands just south of Town of Monroe, and could also occur within the southern portion of Town of Monroe	Northern Long-eared Bat (hibernaculum)	Myotis septentrionalis	Threatened
Additional species occurring in the Town of Blooming Grove near the Town of Monroe and could also occur within the northern portion of Town of Monroe	Indiana Bat (hibernaculum)	Myotis sodalis	Endangered
	Northern Long-eared Bat (hibernaculum)	Myotis septentrionalis	Threatened

Source: NYSDEC Natural Heritage Program, 2016.

A U.S. Fish and Wildlife Service IPaC Trust Resources Report was prepared to identify potential species within the Town of Monroe that are listed in the federal database. The report results are listed in **Table IV.B-4** below.

Table IV.B-4 Significant Species - USFWS		
Common Name	**Species Name**	**Federal Listing**
Dwarf Wedgemussel	Alasmidonta heterodon	Endangered
Bog (=muhlenberg) Turtle	Clemmys muhlenbergii	Threatened
Small Whorled Pogonia	Isotria medeoloides	Threatened
Northern Long-eared Bat (hibernaculum)	Myotis septentrionalis	Threatened
Indiana Bat (hibernaculum)	Myotis sodalis	Endangered
Northern Long-eared Bat (hibernaculum)	Myotis septentrionalis	Threatened
Species of migratory birds potentially be affected by activities in this Area:		
American Bittern (Breeding)	Botaurus lentiginosus	Birds of Conservation Concern
Bald Eagle (Year round)	Haliaeetus leucocephalus	
Black-billed Cuckoo (Breeding)	Coccyzus erythropthalmus	
Blue-winged Warbler (Breeding)	Vermivora pinus	
Canada Warbler (Breeding)	Wilsonia canadensis	
Fox Sparrow (Wintering)	Passerella iliaca	
Golden-winged Warbler (Breeding)	Vermivora chrysoptera	
Least Bittern (Breeding)	Ixobrychus exilis	
Louisiana Waterthrush (Breeding)	Parkesia motacilla	
Olive-sided Flycatcher (Breeding)	Contopus cooperi	
Peregrine Falcon (Breeding)	Falco peregrinus	
Pied-billed Grebe (Year-round)	Podilymbus podiceps	
Prairie Warbler (Breeding)	Dendroica discolor	
Purple Sandpiper (Wintering)	Calidris maritima	
Red-headed Woodpecker (Breeding)	Melanerpes erythrocephalus	
Rusty Blackbird (Wintering)	Euphagus carolinus	
Short-eared Owl (Wintering)	Asio flammeus	
Upland Sandpiper (Breeding)	Bartramia longicauda	
Willow Flycatcher (Breeding)	Empidonax traillii	
Wood Thrush (Breeding)	Hylocichla mustelina	
Worm Eating Warbler (Breeding)	Helmitheros vermivorum	
Source: US Fish and Wildlife Service, 2016.		

e. Ecological Habitat

The Town has not commissioned a specific, comprehensive ecological habitat map for the unincorporated area. Thus, for purposes of this baseline inventory, data prepared by the United States

Geological Survey (USGS) in association with the Gap Analysis Program have been used to document habitats. The map legend is based on NatureServe's Ecological Systems Classification(http://www.natureserve.org/publications/usEcologicalsystems.jsp). A gap analysis is used in conservation planning to identify gaps in conserved lands (e.g., protected open space) where significant plant and animal species and their habitat or important ecological features occur. The data can serve as a basis for decisionmaking, e.g., determining land with highest ecological value in a conservation subdivision, improving the effectiveness of protected areas so that these areas provide the best value for conserving biological diversity. The boundaries of protected areas may be designed to include 'gaps' containing significant populations of wildlife species that can enhance the long-term survival of a larger population of species, or to include a diversity of wildlife species or ecosystems that merit protection but are inadequately represented in an existing protected network. The above sources are used for general planning purposes, as the Town has not commissioned a comprehensive inventory of ecological habitat found within it. Site-specific analyses conducted for development applications and other purposes should utilize the document entitled "Ecological Communities of New York State" (2nd edition, 2014, Edinger et al), published by the NYSDEC Natural Heritage Program.[9]

Figure IV.B-12 presents the ecological systems identified in the USGS Gap Analysis Program. A description of the various habitat types can be found by using the viewer.[10] In addition, for those interested in conducting additional research regarding a particular species and whether it may be present in a given area, the Gap Analysis Program (GAP) Species Viewer is available for planning purposes.[11]

Table IV.B-5 provides an estimate of habitat type within the unincorporated Town. The Gap Analysis Program data demonstrates that the unincorporated Town's environment is still largely forested. In 2011, approximately 7,232 acres, or 70 percent of the unincorporated land area of the Town, consisted of four major forest types. Forest descriptions are taken from the Nature Conservancy's Conservation Gateway.

Table IV.B-5
Land Use Ecological Systems in the Unincorporated Area

Ecological Systems	Acres
Appalachian Hemlock-Hardwood Forest	2,804.17
Central Appalachian Oak and Pine Forest	1,676.41
Central Appalachian Pine-Oak Rocky Woodland	973.64
Central Interior and Appalachian Floodplain Systems	36.25
Central Interior and Appalachian Riparian Systems	74.95
Cultivated Cropland	94.07

[9] *http://www.dec.ny.gov/docs/wildlife_pdf/ecocomm2014.pdf*
[10] *http://gis1.usgs.gov/csas/gap/viewer/land_cover/Map.aspx*
[11] *http://gapanalysis.usgs.gov/species/viewer/*

Table IV.B-5 Land Use Ecological Systems in the Unincorporated Area	
Ecological Systems	**Acres**
Developed, High Intensity	8.23
Developed, Low Intensity	312.24
Developed, Medium Intensity	37.58
Developed, Open Space	1,385.96
Disturbed, Non-specific	2.45
Harvested Forest - Grass/Forb Regeneration	8.67
Harvested Forest-Shrub Regeneration	0.22
Laurentian-Acadian Floodplain Systems	4.23
Laurentian-Acadian Northern Hardwoods Forest	9.34
Laurentian-Acadian Pine-Hemlock-Hardwood Forest	0.22
Laurentian-Acadian Swamp Systems	5.34
North-Central Interior and Appalachian Rich Swamp	166.57
North-Central Interior Wet Flatwoods	2.45
Northeastern Interior Dry-Mesic Oak Forest	1,777.82
Open Water (Fresh)	677.41
Pasture/Hay	217.50
Ruderal forest	0.22
Total	**10,275.94**
Source: US Geological Survey, Gap Analysis Program (GAP). August 2011. National Land Cover, Version 2. Note: For a description of each classification, see: http://usnvc.org/explore-classification/	

Appalachian Hemlock-Hardwood Forest, approximately 27 percent of the unincorporated area, consists of sugar maple, American beech, and yellow birch, sometimes mixed with, and sometimes dominated by, eastern hemlock. Northern red oak and white oak occur commonly, but do not dominate. Black cherry, black birch, white pine, and tulip tree are typical on nutrient rich or historically disturbed sites. This forest system is broadly defined, and is the only one to occur in at least parts of all 13 states of the Northeast and Mid-Atlantic. It is the dominant forest type in the central and northern part of its range (Allegheny Mountains northward through central New England).

Northeastern Interior Dry-Mesic Oak Forest, is an oak-dominated, mostly closed canopy forest that occurs as a matrix (dominant) type through the central part of our region. Oak species characteristic of dry to mesic conditions (e.g., red, white, black, and scarlet oak) and hickories are dominant in mature stands. Chestnut oak may be present but is generally less important than other oak species. Red maple, black birch, and yellow birch may be common associates. Heath shrubs are often present but not well developed. Local areas of limy bedrock, or colluvial pockets, may support forests that reflect the richer soils. With a long history of human habitation, many of the forests are mid-successional, in which pines

(typically Virginia or white) or tulip tree may be codominant or dominant.

Central Appalachian Oak and Pine Forest, which occupies approximately 16 percent of the unincorporated area, is a mixed forest or woodland of pitch pine and/or Virginia pine mixed with dry-site oaks (primarily scrub oak, scarlet oak, and chestnut oak). Red pine and shortleaf pine may also occur. The vegetation is patchy, with woodland as well as open portions, or even sparse cover on dry rocky hilltops and outcrops.

Central Appalachian Pine-Oak Rocky Woodland is a mixed forest or woodland of pitch pine and/or Virginia pine mixed with dry-site oaks (primarily scrub oak, scarlet oak, and chestnut oak). Red pine and shortleaf pine may also occur. Some areas have a fairly well-developed heath shrub layer. The vegetation is patchy, with woodland as well as open portions, or even sparse cover on dry rocky hilltops and outcrops.

The significance of preserving existing woodland has been elevated with the increased awareness of climate change. Cornell University's Climate Change website describes the importance of forested lands as the world experiences the worsening effects of climate change, and their own susceptibility to this change: "*One great concern is the continued ability of forests to absorb excess carbon dioxide from the atmosphere and store it. Trees are one of our best defenses against worsening climate change as they are effective storage units for carbon, the most common greenhouse gas causing global warming.*" The United Nation's Climate Summit 2014 resulted in the New York Declaration on Forests, a non-legally binding political declaration wherein world leaders, including the United States, endorsed a global timeline to cut natural forest loss in half by 2020, and strive to end it by 2030. It also calls for restoring forests and croplands of an area larger than India. Meeting these goals would cut between 4.5 and 8.8 billion tons of carbon pollution every year – about as much as the current emissions of the United States.

The Town's forested areas, in addition to the carbon sequestration benefits, provide: wildlife habitat; stabilize soils; slow storm water runoff; control noise pollution; aid in cleansing the air by intercepting airborne particles and pollutants such as carbon monoxide, sulfur dioxide, and nitrogen dioxide; lower surrounding air temperature through respiration and by providing shade; act as wind breaks to reduce the effects of wind; and help to increase real estate value by beautifying a property and the surrounding neighborhood. The aesthetic values of forests and large specimen trees are also extremely important and highly valued by Town residents.

Clearing of woodlands for development and other purposes fragments the forest, affects its habitat value, and has been implicated in the decline of migratory songbirds in the region. Many species require large areas of intact forest habitat. Forest fragmentation results in a reduction in habitat diversity due to invasion by invasive species, and increased wildlife mortality, predation, and parasitism. Wildlife mortality rates are higher when habitats are fragmented.

Inset - Mature tree along Harriman Heights Road.

Individual trees are also important within the Town. The 2005 Plan Update distinguished between large "specimen" trees and even-aged stands that have matured in unmanaged forest. Many of the most highly valued mature trees are those that grow in open settings, such as isolated trees in the middle of an old field, near an old house, or rows of trees that have been planted to line an estate driveway. Trees that grow along old fence-lines, stone walls and field edges achieve their full form as they have limited competition for sunlight and resources - the classic form of a tree species is only achieved in the open. Such trees are notable and often the object of strong personal attachments.

The Town of Monroe established tree protection provisions by adopting Article XX "Trees and Subdivision Process" in Chapter 57 of the Town Code in 1989. The intent of the law was to ensure that the greatest number of trees possible were preserved and left standing before, during and after the subdivision, site plan, and construction process, and to ensure where clearing is needed, that a comparable number of newly planted trees were placed. In the 2005 Plan Update, it was recognized that adjustments to the law were needed. Care needs to be taken to evaluate areas proposed for preservation of natural vegetation so that healthy, stable and attractive stands are preserved. Where this could not be achieved, more extensive clearing may be undertaken if done in conjunction with more extensive re-vegetation and replanting plans, with the understanding the temporary visual impacts of the clearing will be mitigated over a longer period of time. In general, concern has been expressed that clearcutting is occurring prior to a developer having all development approvals, or in advance of the submission of an application, and the Town's environment is subsequently diminished.

3. Groundwater Resources

Groundwater can be defined as the water found underground in the cracks and spaces in soil, sand and rock. It is stored in and moves slowly through geologic formations of soil, sand and rocks called aquifers.

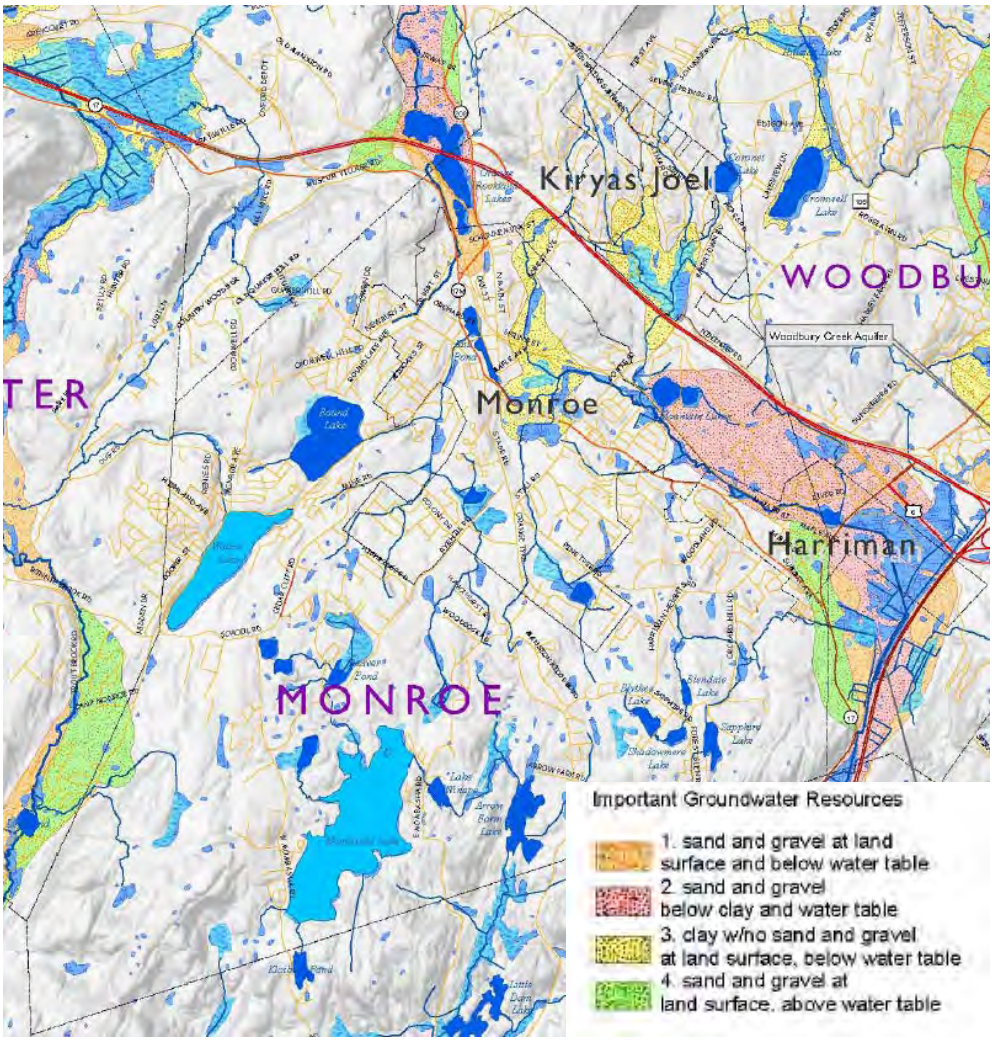
Leggette, Brashears & Graham, Inc. (LBG) was retained by the Town of Monroe in October 1999 to complete a Comprehensive Town-Wide Ground-Water Supply Plan for the Town of Monroe, New York. The intent of the study was to develop a comprehensive ground-water development plan to meet existing and future water-supply. Ground water in the Town is developed from two aquifer types; sand and gravel aquifers and bedrock aquifers. The sand and gravel aquifers are the most prolific in the southeastern Orange County. Although not as prolific as sand and gravel aquifer units, the bedrock

aquifers in the study region are utilized for development of domestic water to some larger municipal public water supplies, which produce in excess of 1 million gallons per day (mgd). According to this study, the bedrock aquifers in southeastern Orange County are a dependable and suitable ground-water supply source for developing high-yielding wells.

The study examined existing community water supply systems, both public and private, and also included then-proposed community water supply systems, some of which have been completed, and others of which are either pending in modified form, or are inactive. It discussed different aquifer types and their suitability as a groundwater source for developing high-yield wells. This study included the consideration of groundwater availability and groundwater recharge, which differs according not only to the type of aquifer (unconsolidated sand and gravel or consolidated bedrock), but also the bedrock type. The study included a detailed bedrock map for the Town, which is an important tool not only to evaluate potential water volume supply issues, but also groundwater quality protection issues such as concerns for acid drainage that can result from blasting amphibolite bedrock, which is prevalent generally in the southern areas of the Town. Guidelines to address such blasting-related groundwater issues have been developed and will be applied by the Planning Board as part of the environmental review process for new land uses.

The Town-Wide Groundwater Supply Plan identified and mapped locations that were considered to be the most promising locations for drilling high-yield bedrock wells. Although the supply plan did note that the potential yield of a favorable well site could only be determined by drilling and subsequent testing, the locational information could be used to protect potential future supply sources.

There are historically "water-poor" areas of the Town where residents have reported difficulty with well yields. Residents have had to re-drill or deepen old wells, to drill new wells, replaced pumps that have burned out, or installed in-home storage capacity in an effort to provide for their private water supply. In some parts of the Town, particularly the southern half where the bedrock unit is gneiss, granite, and granitic gneiss, individual well yields can be very low in places with few subsurface joints, fractures, and weathering. Other factors intrinsic to the bedrock can affect well development and productivity, such as in highly fractured limestone-dolostone and conglomerate formations, where the bedrock is so fractured as to produce turbulent water and sediment, and where the borehole can even collapse. While the Town-Wide Groundwater Supply Plan does list some measures that can be taken to try stabilizing incompetent bedrock units, it notes that they are not always successful and yields from such wells typically decrease.



Inset - Unconsolidated Aquifers in Monroe

The Town adopted requirements aimed at ensuring the development of specific onsite well information prior to land use approvals, which are set forth in the subdivision regulations. A specific well drilling and testing schedule was adopted, along with requirements for monitoring adjacent wells. The length of the pump test and the data collected are used to determine whether there is unacceptable storage depletion of the aquifer as well as to determine whether there is any influence on neighboring wells. The data collected provides a much higher level of information regarding the aquifer, and has already prevented lots with insufficient wells from being approved. According to the 2005 Plan Update, measures to promote groundwater recharge and to reduce or avoid impervious areas should be encouraged in order

to protect groundwater balance.

It is important to acknowledge that a portion of the Town is within the Ramapo River Aquifer Basin, which is a **federally designated sole source aquifer** (SSA) established under the Safe Drinking Water Act (SDWA). The aquifer is delineated in detail on the U.S. Geological Survey Open File Report 82114, Geohydrology of the Valley Fill Aquifer in the Ramapo and Mahwah Rivers Area Rockland County. New York, Scale 1:24,000. The SSA includes the aquifer recharge areas defined as the entire Ramapo River Basin, which encompasses all streamflow source areas including the Ramapo River headwaters near Monroe, New York. Because the US EPA has determined that contaminants introduced in any of these areas have the potential to adversely affect the Ramapo River Basin Aquifer Systems, the designated Sole Source Aquifer includes the aquifer recharge areas and streamflow source areas encompassed by the Ramapo River Basin boundaries.

The most recent study evaluating the characteristics of the aquifer system within the Town of Monroe is the "Hydrogeology of the Ramapo River-Woodbury Creek, Valley-Fill Aquifer System and Adjacent Areas in Eastern Orange County, New York", by Paul M. Heisig and published by the United States Geological Survey. The report documents the potential to extract groundwater from the aquifer system associated with the Ramapo River, including its central section which is situated within the Town of Monroe. There is little discussion regarding the potential for various land uses to impact groundwater within this aquifer system. According to the NYSDEC, the most productive aquifers consist of unconsolidated deposits of sand and gravel that occupy major river and stream valleys or lake plains and terraces. Development and growth has occurred over many of these aquifers because they typically are flat areas that are suitable for development and generally provide an ample water supply. Development, coupled with the high permeability of these deposits and shallow depth to the water table, makes these aquifers particularly susceptible to contamination from point sources such as landfills and nonpoint sources such as urban and agricultural runoff. The area of the Town on the north side of Harriman, where Meadow Glen and the Harriman Commons have been constructed over this aquifer.

4. Surface Water Resources

a. Watersheds and Streams

Surface water resources are illustrated in **Figure IV.B-13**. Surface water resources within the Town include lakes, ponds, and streams. The Town's logo – "The Lake Region" - emphasizes the many waterbodies found throughout the Town which form part of its unique community character. **Figure IV.B-14** illustrates the subwatersheds within the Town of Monroe. A watershed is an area of land where all of the water that falls within it drains to a common outlet. The color coding indicates the common watershed of which each subwatershed is a part. The watersheds are as follows:

Table IV.B-6 Watersheds within Monroe		
	SubWatershed	Drains to
Satterly Creek	Satterly Creek	Moodna Creek and Hudson River
Orange and Rockland Lake		
Indian Kill	Indian Kill	Indian Kill Reservoir to Ramapo River
Mombasha Lake	Ramapo	Ramapo River
Monroe Ponds		
Round Lake		
Ramapo 1		
Harriman		
Orchard Hill		
Arrow Park		
Walton Lake	Seely Brook	Cromline Creek to Moodna Creek to Hudson River
Dug Road		
Bull Mill		
Youngs Brook 1		
Youngs Brook 2		
Trout Brook 1	Trout Brook	Seely Brook to Cromline Creek to Moodna Creek to Hudson River
Trout Brook 2		
Source: 2005 Town of Monroe Comprehensive Plan Update, updated to 2016.		

The Ramapo River flows south into the Mahwah River, which drains to the Passaic River. From there, it enters Newark Bay and the Atlantic Ocean. All other subwatersheds within the Town drain to the Moodna Creek, which drains in a northeasterly direction to the Hudson River. The Hudson River drains to the Atlantic Ocean.

A Watershed Management Plan (2010) was prepared by the Orange County Water Authority for the Moodna Creek Watershed. A portion of the unincorporated Town of Monroe is within the Trout Brook subwatershed which contributes to the Moodna Creek. The management plan cites that water quality sampling within the basin resulted in a determination that the best water quality is below the outlet to Walton Lake, a drinking water supply. The plan notes that in general, the primary factors that influence water quality include the presence and structure of riparian vegetation, percent impervious surface of the watershed or subwatershed (areas with a high percentage of impervious surfaces are associated with low water quality), discharges of inadequately-treated wastewater, soil or groundwater contamination, and siltation. The Management Plan notes that research from the Center for Watershed Protection demonstrates that water quality generally begins to degrade when the impervious cover in a watershed exceeds ten percent (10%). Degradation can occur at lesser impervious surface levels due to a variety of factors, such as contributions by specific point sources of pollution, and likewise good water

quality can be found in watersheds with impervious covers exceeding fifteen percent. Maintaining imperviousness below fifteen percent (15%) is a goal of many watershed planners, according to the Plan. To protect the receiving streams that contribute to the Moodna Creek, the Plan recommends an audit and update of local codes to promote Low Impact Development (LID) techniques. LID techniques are a set of design principles and tools for preventing increased flooding and increasing infiltration and natural stormwater treatment. Key goals in this approach are to minimize the creation of new impervious surfaces, reduce the footprint of new development projects, maximize preservation of natural areas, maximize onsite infiltration of water into the ground, and reduce discharges of stormwater directly to streams or other surface water bodies.

The Management Plan indicates that comprehensive and sustainable approach to watershed planning must integrate water quantity issues – recharging groundwater and maintaining flow in streams – with more effective water quality protection. A conclusion of the Plan is that conventional approaches to water-related infrastructure rely heavily on engineering that ignores some basic underlying principles of watershed hydrology. The result has been that, for many years, engineers have focused on moving water away to try and solve drainage and pollution problems - this "Big Pipe" paradigm is expensive to construct, and moves water outside of a watershed, depleting it of the water upon which local streams and watersheds depend. A major factor affecting groundwater, stream flow, wetlands, and other elements of a healthy watershed is the creation of impervious surfaces which result in runoff and decrease infiltration benefits. This is a particular challenge for the unincorporated area, not just that within the Moodna Creek watershed, especially given the fact that it is home to two surface water supply systems.

According to the 2005 Plan Update, within the Town's subwatersheds are more than 77 lakes and ponds that dot the town's landscape. Streams and other surface drainage courses that are tributaries and sub-tributaries to the Ramapo River or the Moodna Creek. These include a combination of perennial (year-round) and intermittent (seasonal) streams. Streams and riparian areas provide vital habitat for fish, amphibians, birds and reptiles, and are integral to clean water and erosion control. Bacteria and fungi living on rocks and sediment in a stream uptake and transform excess nitrogen and phosphorous into less harmful forms. Excess nitrogen provides fuel for harmful algal blooms, which depletes water of oxygen, leading to fish kills and dead zones in waterbodies downstream. Small streams assist in flood prevention by absorbing rainwater and snow melt and recharging groundwater which can be the primary source for a community's water supply system. Riparian buffers are vegetated areas that protect water resources from nonpoint source pollution, provide bank stabilization and aquatic and wildlife habitat. Streams and their associated riparian buffers provide natural beauty and maintain wildlife corridors.

All waters in New York State are assigned a letter classification that denotes their best uses. Letter classes - A, B, C, and D - are assigned to fresh surface waters. Best uses include: source of drinking water, swimming, boating, fishing, and shell fishing. The letter classifications and their best uses are described

in regulation 6 NYCRR Part 701. **Table IV.B-7** summarizes best uses and **Figure IV.B-13** provides the classification of waters within the Town.

Table IV.B-7
Water Quality Classifications

Classification	Description
AA	A source of water supply for drinking, culinary or food processing purposes; primary and secondary contact recreation; and fishing. The waters shall be suitable for fish, shellfish and wildlife propagation and survival.
A	A source of water supply for drinking, culinary or food processing purposes; primary and secondary contact recreation; and fishing. The waters shall be suitable for fish, shellfish and wildlife propagation and survival.
B	The best usages of Class B waters are primary and secondary contact recreation and fishing. These waters shall be suitable for fish, shellfish and wildlife propagation and survival.
C	The best usage of Class C waters is fishing. These waters shall be suitable for fish, shellfish and wildlife propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.
D	The best usage of Class D waters is fishing. Due to such natural conditions as intermittency of flow, water conditions not conducive to propagation of game fishery, or stream bed conditions, the waters will not support fish propagation. These waters shall be suitable for fish, shellfish and wildlife survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.
(T)	Waters that provide habitat in which trout can survive and grow within a normal range on a year-round basis, or on a year-round basis excepting periods of time during which almost all of the trout inhabiting such waters could and would temporarily retreat into and survive in adjoining or tributary waters due to natural circumstances.
(TS)	Trout spawning waters are trout waters in which trout eggs can be deposited and be fertilized by trout inhabiting such waters (or connecting waters) and in which those eggs can develop and hatch, and the trout hatched therefrom could survive and grow to a sufficient size and stage of development to enable them to either remain and grow to adult trout therein, or migrate into and survive in other trout waters. When these conditions exist or have been met a water may be classified as a trout spawning water.

Source: 6 NYCRR Part 701, Classifications – Surface Waters and Groundwaters, 2016.

The Town has a number of high water quality streams and surface waters. Walton Lake and Mombasha Lake are drinking water sources and classified as “A". Mombasha Lake serves the Village of Monroe and adjoining areas in the unincorporated Town, and Walton Lake supplies potable water to the Village of Chester. The Village of Chester is allowed to draw 0.8 million gallons per day, but the Village is only allowed to use water from Walton Lake as long as the level of the lake does not drop more than three (3) feet below a set marker/pin. The Town of Monroe has informally monitored the water level in Walton

Lake.

At least two streams are considered trout production streams. Streams and small water bodies located in the course of a stream with a classification of AA, A, or B, or with a classification of C with a standard of (T) or (TS) and higher are collectively referred to as "protected streams," and are subject to the stream protection provisions of the NYSDEC Protection of Waters regulations. The NYSDEC regulates activities within 50 feet of any regulated stream. However, the NYSDEC does not protect disturbances to lesser and intermittent streams, which may be equally important to protecting water quality and recharging groundwater supplies.

According to the NYSDEC, stormwater runoff is generated when precipitation from rain and snowmelt events flows over land or impervious surfaces such as paved streets, parking lots and rooftops and does not seep into the ground. Consequently, it accumulates and transports chemicals, nutrients, sediment or other pollutants and debris. If the runoff is not captured or it is discharged without first being treated, it can adversely affect water quality in the receiving lakes, rivers and estuaries.

The impact from stormwater runoff increases as the amount of impervious surfaces in a community increase. Urban stormwater runoff is identified as a major source in 37% of all waterbodies assessed as impaired in New York State. In another 40% of impaired waterbodies, urban stormwater runoff is a contributing source (though not the most significant source). In addition, for 35% of the waters with less severe minor impacts or threats, urban stormwater runoff is noted as a major contributing source of impact. The impact is especially significant, when stormwater runoff enters surface waters used for drinking water supplies.

The Federal Clean Water Act requires states to periodically assess and report on the quality of waters in their state. Section 303(d) of the Act also requires states to identify “Impaired Waters”, where specific designated uses are not fully supported. For these Impaired Waters, New York must consider the development of a Total Maximum Daily Load (TMDL) or other strategy to reduce the input of the specific pollutant(s) that restrict waterbody uses, in order to restore and protect such uses. In 2016, none of the surface waters in the Town were classified as Impaired Waters.

A more recent evaluation of water quality in the Town was conducted by the Orange County Water Authority (OCWA) in 2013. OCWA has been monitoring the water quality of streams within the County since 2004. The authority’s monitoring program has been designed as a comprehensive, county-wide assessment of ambient water quality in streams, using the stream biomonitoring methods developed by the NYSDEC’s Stream Biomonitoring Unit. All monitoring work referenced in the report entitled “Elevated Specific Conductance Levels of an unnamed tributary of the Ramapo River Town of Monroe, NY” (February 2013)was performed by Watershed Assessment Associates, LLC (WAA) as part of the OCWA’s Stream Water Quality Biomonitoring Project. As described in the report, biomonitoring involves the collection and analysis of benthic macroinvertebrate communities to assess overall water quality, which

is then expressed as a numerical value ranging from 0 to 10, called a Biological Assessment Profile (BAP) score. Biomonitoring also includes measurement of certain chemical and physical attributes found in and along streams, such as specific conductance, pH, temperature, dissolved oxygen, stream width and depth, and other parameters.

Specific conductance is an indicator of land use effects within a watershed and is routinely measured during stream biomonitoring. Specific conductance (SC) is a measure of electrical conductance (µmhos/cm). Macroinvertebrate and fish communities may be negatively impacted by increases in developed land area and SC can be used as a proxy. NYSDEC has designated specific conductance concentrations exceeding 800 µmhos/cm as a level of concern and that biological impairment is expected to occur at this level.

Station 4089_005 was surveyed through OCWA's Stream Water Quality Biomonitoring Project from 2005 – 2009 and then again in 2012. This station is located within the unincorporated area, above where the stream passes under Bakertown Road, just west of its intersection with Old Country Road. Survey results, based on the benthic macroinvertebrate community structure for all years have indicated "Moderately Impacted" water quality. Specific conductance readings obtained during these years show a dramatic and steady increase in specific conductance levels. As of September 2012, specific conductance levels at station 4089_005 continued to substantially exceed the NYSDEC's level of concern (800 µS/cm). The Kiryas Joel wastewater treatment plant was implicated as the primary source of specific conductance. Ultimately, in 2014, a consent decree was entered to address a complaint made by the U.S. Environmental Protection Agency (EPA) against the Kiryas Joel Poultry Processing Plant. In the consent decree, the processing plant, as the defendant, admitted:

- between September 2008 and March 2010, and again on March 18, 2012, the plant took inadequate steps to prevent spills of untreated wastewater from the KJPPP's pretreatment facility, located off Bakertown Road, from overflowing into storm drains that discharged to waters of the United States.
- From at least August 2007 to the present, activities conducted at the Poultry Plant have included poultry slaughtering and processing operations regulated by Sector U of the MSGP, promulgated by the State of New York. As dischargers of stormwater associated with industrial activity, Defendants were required to apply for an individual permit or seek coverage under a promulgated stormwater general permit under 40 C.F.R. §§ 122.26(a)(1)(ii), (b)(14), and
- From at least 2008 until May 1, 2011, the Plant failed to obtain coverage under the stormwater general permit and, at various times, took inadequate steps to prevent stormwater associated with their industrial activities from discharging into storm drains and storm sewers that ultimately discharged to waters of the United States.
- At various times between January 2008 and April 2011, the Plant discharged wastewater containing excess concentrations of pollutants, known as Carbonaceous Biochemical Oxygen Demand, Total Suspended

Solids, and Fats, Oils, and Grease, into the Kiryas Joel POTW[12] that were a cause of the POTW violating its Clean Water Act permit.

The consent has required that the plant implement an emergency plan to mitigate these issues, and reduce pollutants, including salts, which were found to be polluting "waters of the United States". Of particular concern with regard to surface waters within tributaries that contribute to the Ramapo River flows is that these waters also recharge the underlying groundwater system which is used as a drinking water supply for downstream users. As mentioned previously under Groundwater Resources, unconsolidated aquifers are particularly susceptible to pollutant intrusion.

b. Freshwater Wetlands

Freshwater wetlands are addressed here under this Surface Water Resources section, but importantly also represent sensitive ecological habitat. **Figure IV.B-13** illustrates the locations of freshwater wetlands. Wetlands shown on the map have been identified from two sources: the NYSDEC, and the U.S. Fish and Wildlife Service. The United States Fish and Wildlife Service publishes a series of National Wetland Inventory (NWI) maps that illustrate the location of smaller wetland systems - these wetlands are typically regulated by the ACOE.As defined by the U.S. Army Corps of Engineers(ACOE) and U.S. Environmental Protection Agency, freshwater wetlands are "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Wetlands generally include swamps, marshes, bogs, and similar areas.

Wetlands are some of the most productive ecosystems, and provide nesting, spawning, and breeding habitat for a diverse variety of wildlife and plants. They perform vital ecosystem services, such as water filtration and storage, which can assist in reducing flood impacts and improve water quality by absorbing pollutants and reducing turbidity. Additionally, wetlands provide groundwater discharge; assist in maintaining base flow in streams and rivers and support ponds and lakes. They also provide opportunities for recreation, education and research, and provide natural open space. There may be additional smaller wetlands within the Town which are also regulated. At the time any development application is submitted before the Town, they are reviewed for the presence of wetlands. One indicator of potential additional wetland locations are hydric soils (**Figure IV.B-15**). A hydric soil is a soil that is, "formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part". Hydric soils are one of three parameters that must be present to be regulated by the U.S. Army Corps of Engineers, along with hydrology and hydrophytic vegetation.

The NYSDEC and the U.S. Army Corps of Engineers (ACOE) regulate activities that occur within or adjacent to freshwater wetlands. NYSDEC-designated wetlands are generally 12.4 acres and larger and are

[12] *POTW – Publicly Owned Treatment Works.*

regulated by both the NYSDEC and ACOE. There are 16 NYSDEC wetland complexes within or partially within the unincorporated area. There are many potentially ACOE wetlands present. Note that NYSDEC designated wetlands are also regulated by the ACOE.

NYSDEC regulates activities in freshwater wetlands and in the associated 100-foot adjacent areas in order to prevent or minimize impairment of wetland functions. Wetlands are categorized by the types of vegetation present. The regulations identify classifications of uses, procedures for conducting activities in wetlands and requirements for conducting activities in wetlands. The NYSDEC regulates activities within the wetland itself, and a 100-foot adjacent area immediately surrounding a wetland. The ACOE determines wetlands based on vegetation, soils and hydrology, and regulates activities within the wetland – it does not regulate an adjacent area.

Regulated activities which require a permit from the NYSDEC include but are not limited to: construction of buildings, roadways, septic systems, bulkheads, dikes, or dams; placement of fill, excavation, or grading; modification, expansion, or extensive restoration of existing structures; drainage, except for agriculture; and application of pesticides in wetlands.

Development activities should minimize disturbances to freshwater wetlands, and buffers provided to protect these ecologically important habitats. Activities that may occur within a NYSDEC or ACOE wetland require permits, and may be prohibited to the extent that alternatives to a proposal would eliminate the need to disturb a wetland.

Importantly, freshwater wetlands are regulated at the local level in accordance with Chapter 56, Wetlands, of the Code of the Town of Monroe.

Recently proposed developments before the Planning Board have divided wetlands among the lots of the subdivision. As with the drainage features in a drainage district, it is difficult for the town to protect wetlands that are on private property. The 2005 Plan Update recommended that wetlands be maintained in single ownership to the maximum extent. This single ownership would preferably be a special district, or a homeowner's association with deed restrictions, to ease the administrative burden of oversight and protection of the wetland.

c. Floodplains

The National Flood Insurance Program ("NFIP") was established with the Federal legislature's adoption of the National Flood Insurance Act of 1968. The NFIP is a program that enables property owners in participating communities to purchase flood insurance as protection against flood losses, while requiring State and local governments to enforce floodplain management regulations that reduce future flood damages. By law, the Federal Emergency Management Agency ("FEMA") can only provide flood insurance to those States or communities that adopt and enforce floodplain management regulations that meet or exceed minimum NFIP requirements.

The NFIP requirements apply to areas mapped as Special Flood Hazard Areas ("SFHA") on Flood Insurance Rate Maps ("FIRMs") issued by FEMA. The SFHA is the area that would be flooded by the "base flood" (defined as the flood that has a 1 percent chance of occurring in any given year; also known as the "100-year flood") – it is also referred to as the 100-year floodplain. The NFIP requirements include but are not limited to:

- Elevation of new and substantially improved residential structures above the base flood level.
- Elevation or dry floodproofing (made watertight) of new or substantially improved non-residential structures.
- Prohibition of development in floodways, the central portion of a riverine floodplain needed to carry deeper and faster moving water.

The FEMA Flood Insurance Rate Maps that provides coverage within the unincorporated Town of Monroe have an effective date of August 3, 2009 and are available for review at an interactive map available online and sponsored by FEMA[13]. The FEMA floodplains are also shown in **Figure IV.B-16**. The 100-year floodplain encompasses many of the lakes and streams that feed these lakes. Sapphire, Blythea, Shadowmere, Blendale, Arrow, Winape, and Mountain lakes, and various tributaries all have floodplains associated with them. Activities within the floodplain are regulated locally in accordance with Chapter 27B, Flood Damage Prevention. A floodplain development permit is required for all construction and other development that is undertaken in areas of special flood hazard in the Town of Monroe. The purpose of these regulations is to protect residents and property owners from increased flood hazards by ensuring that new development is constructed in a manner that minimizes its exposure to flooding. In some communities, land use regulations do not allow any residential dwellings to be constructed in the floodplain – the Town of Monroe has no such regulations.

[13] http://fema.maps.arcgis.com/home/webmap/viewer.html?webmap=cbe088e7c8704464aa0fc34eb99e7f30&extent=-74.26989410644521,41.30937834551419,-74.10372589355481,41.3519161400565

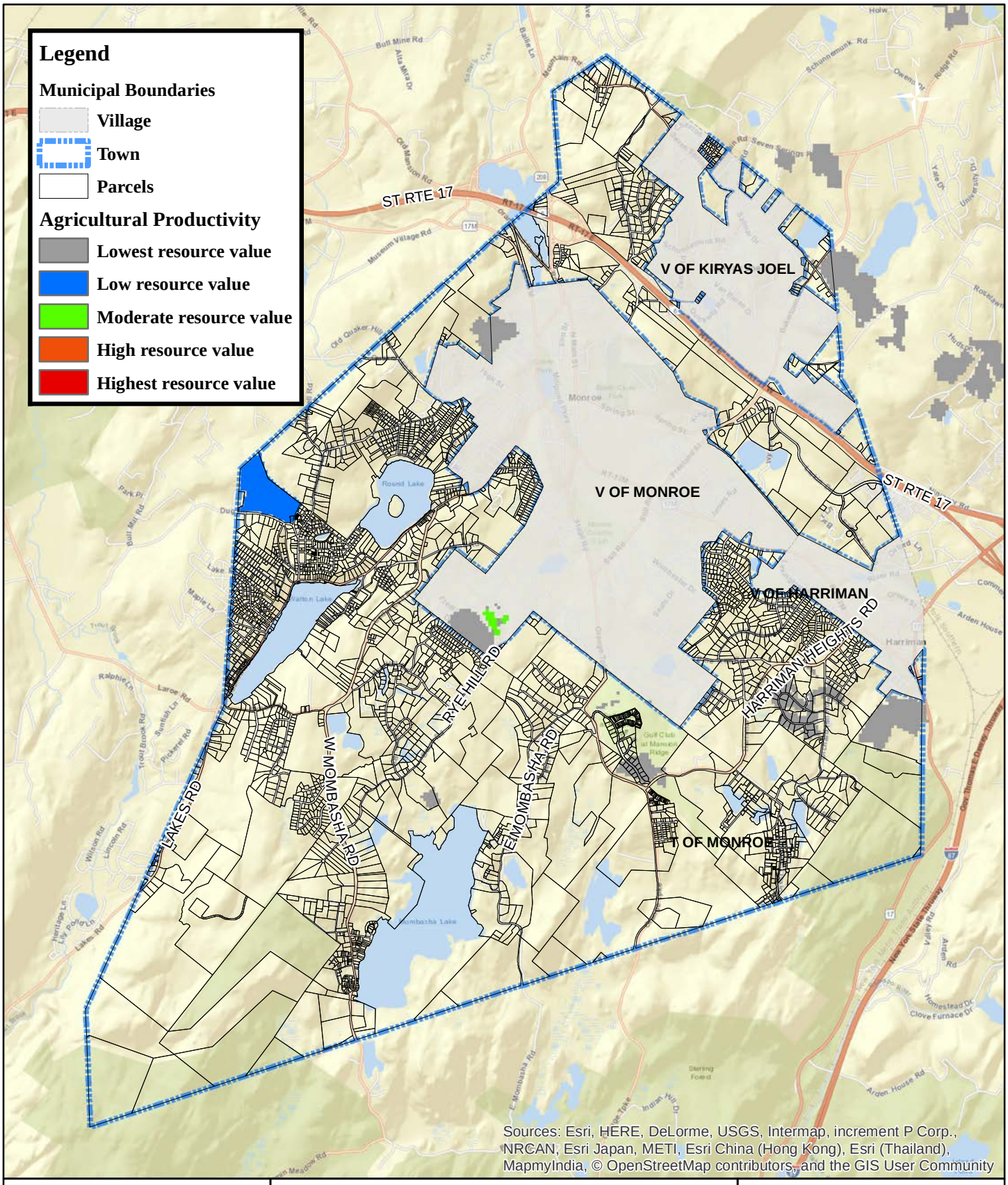


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Figure IV.B-1 Highlands Assessment - Agricultural Productivity

Sources: ESRI Web Mapping Service;
Highlands Assessment, Rutgers; NPV GIS Library
Scale: 1 inch = 4,500 feet

Town of Monroe

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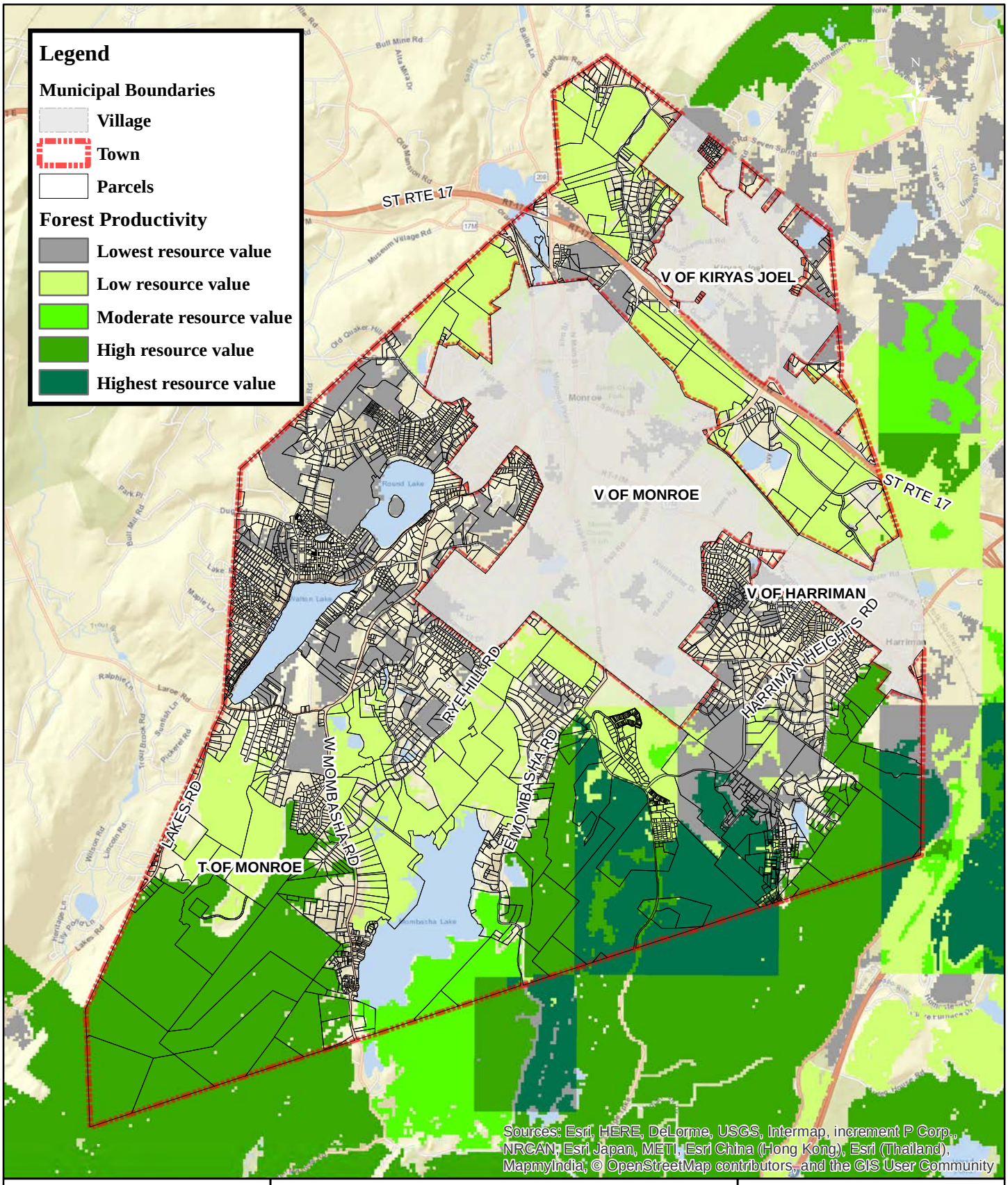

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Figure IV.B-2 Highlands Assessment - Forest Productivity

Sources: ESRI Web Mapping Service; Highlands Assessment, Rutgers; NPV GIS Library
Scale: 1 inch = 4,500 feet

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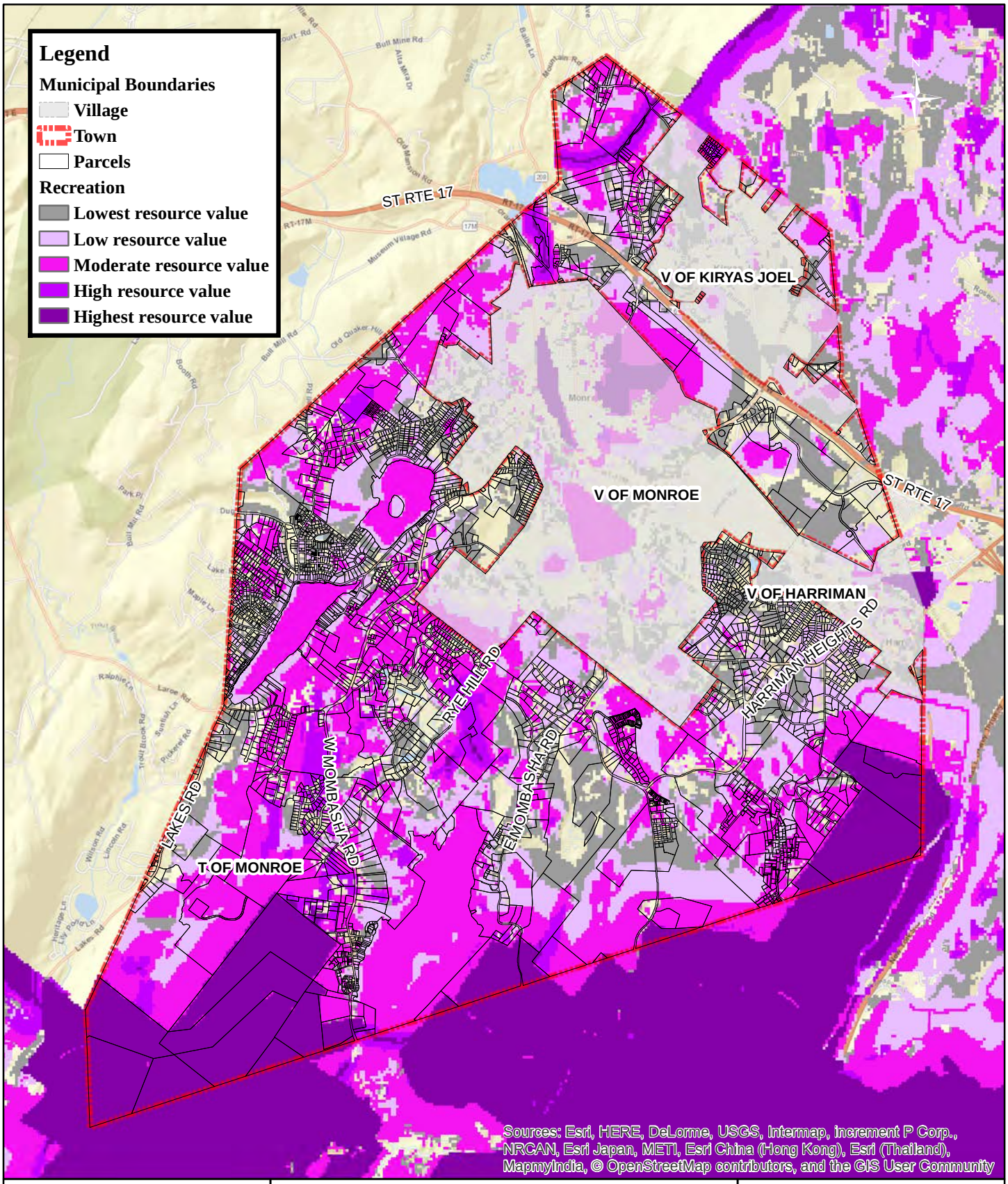

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Figure IV.B-3 Highlands Assessment - Recreation

Sources: ESRI Web Mapping Service; Highlands Assessment, Rutgers; NPV GIS Library
Scale: 1 inch = 4,500 feet

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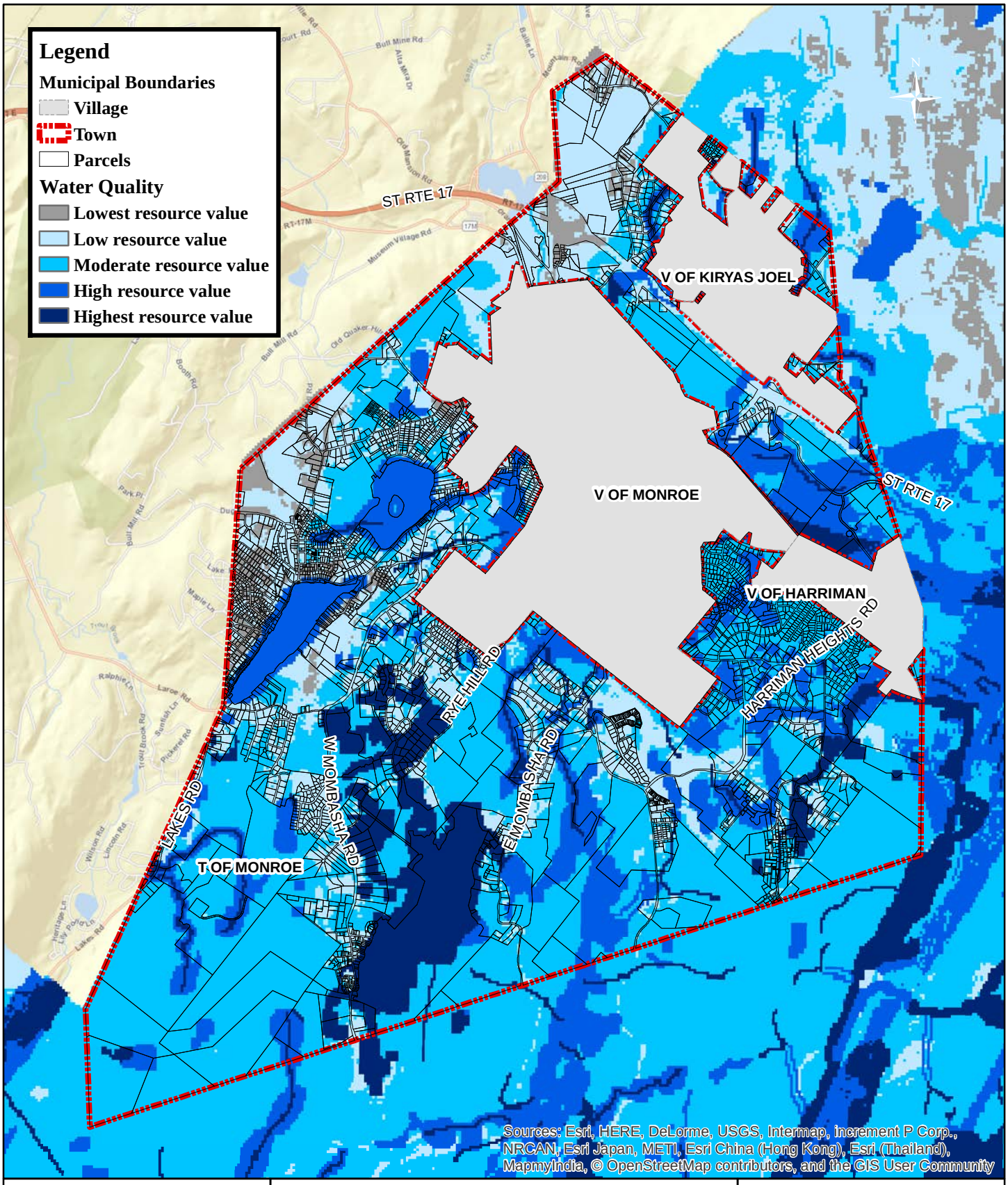

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Figure IV.B-4 Highlands Assessment - Water Quality

Sources: ESRI Web Mapping Service; Highlands Assessment, Rutgers; NPV GIS Library
Scale: 1 inch = 4,500 feet

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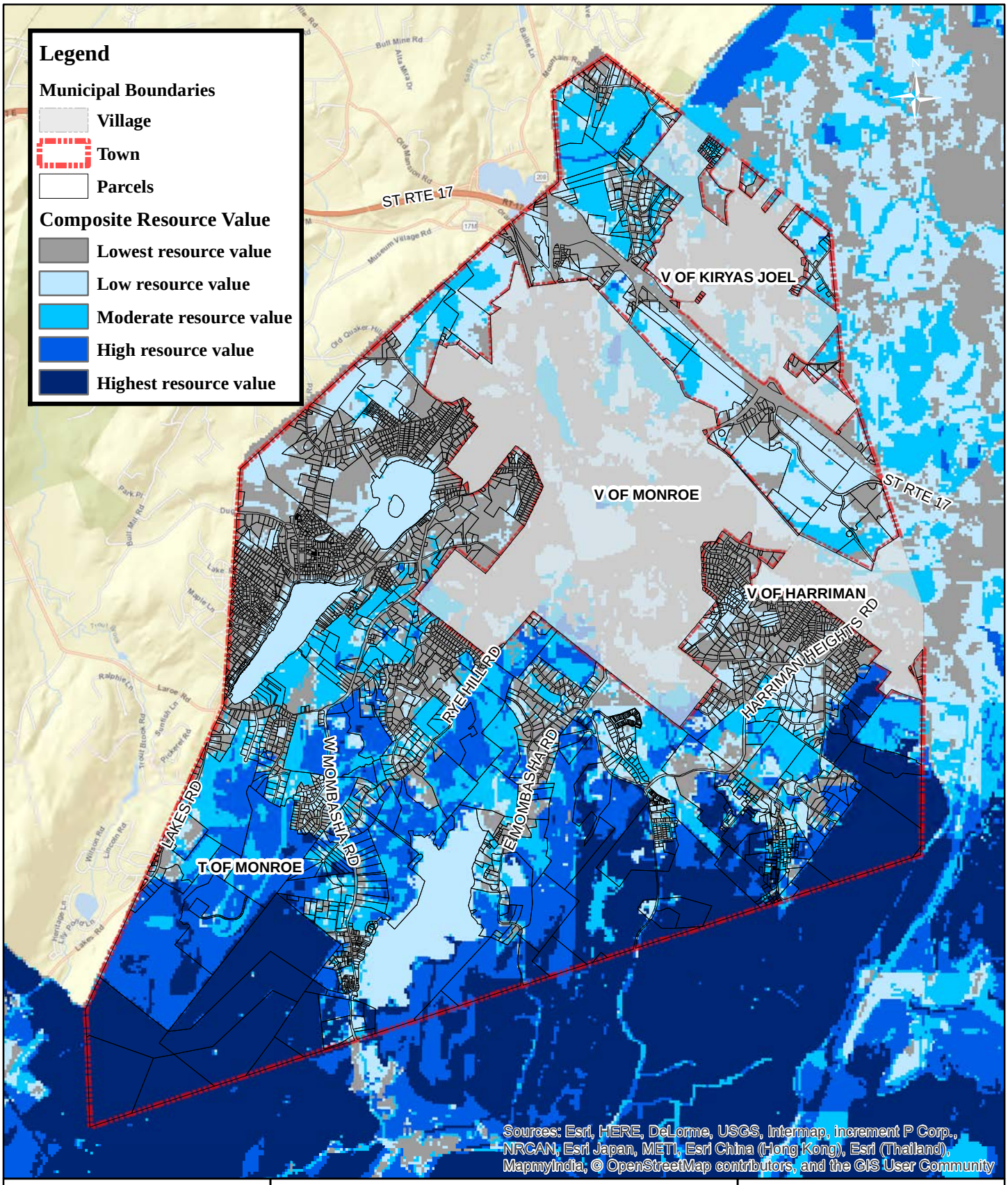

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Figure IV.B-5 Highlands Assessment - Composite Resources

Sources: ESRI Web Mapping Service; Highlands Assessment, Rutgers; NPV GIS Library
Scale: 1 inch = 4,500 feet

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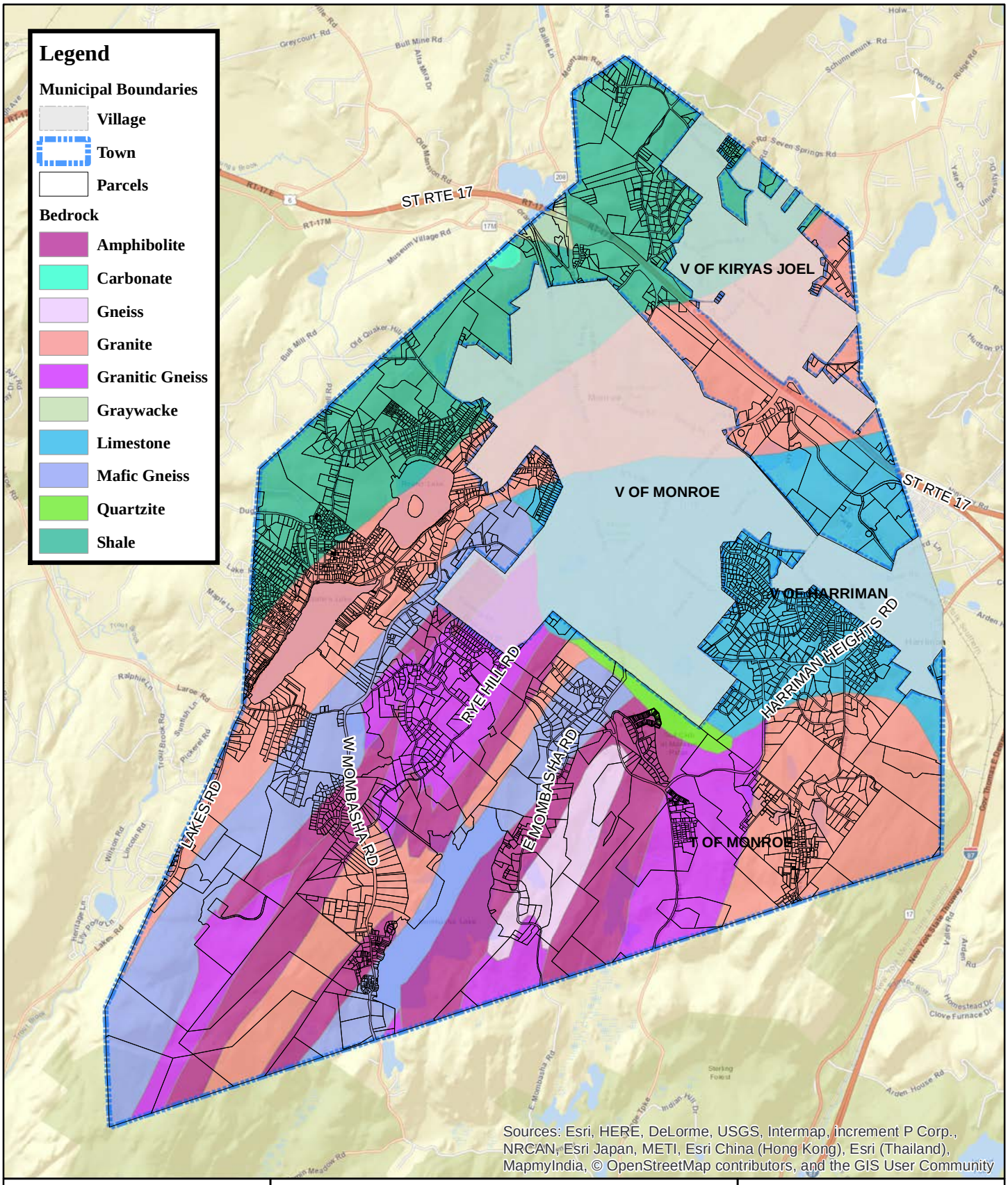

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Figure IV.B-6
Bedrock

Source: ESRI Web Mapping Service; USGS; NPV GIS Library
Scale: 1 inch = 4,500 feet

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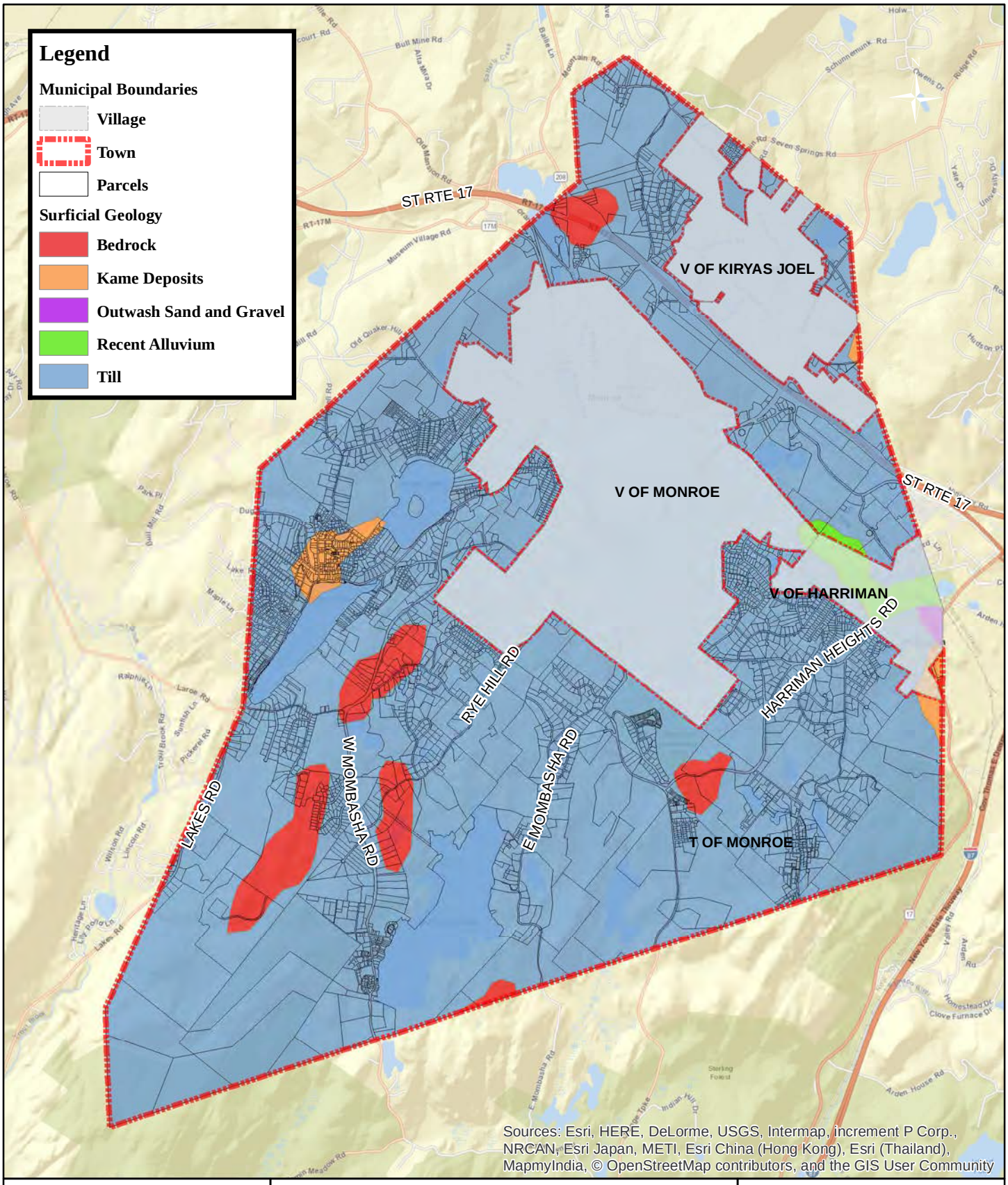

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Figure IV.B-7
Surficial Geology

Source: ESRI Web Mapping Service;
NYS Museum; NPV GIS Library
Scale: 1 inch = 4,500 feet

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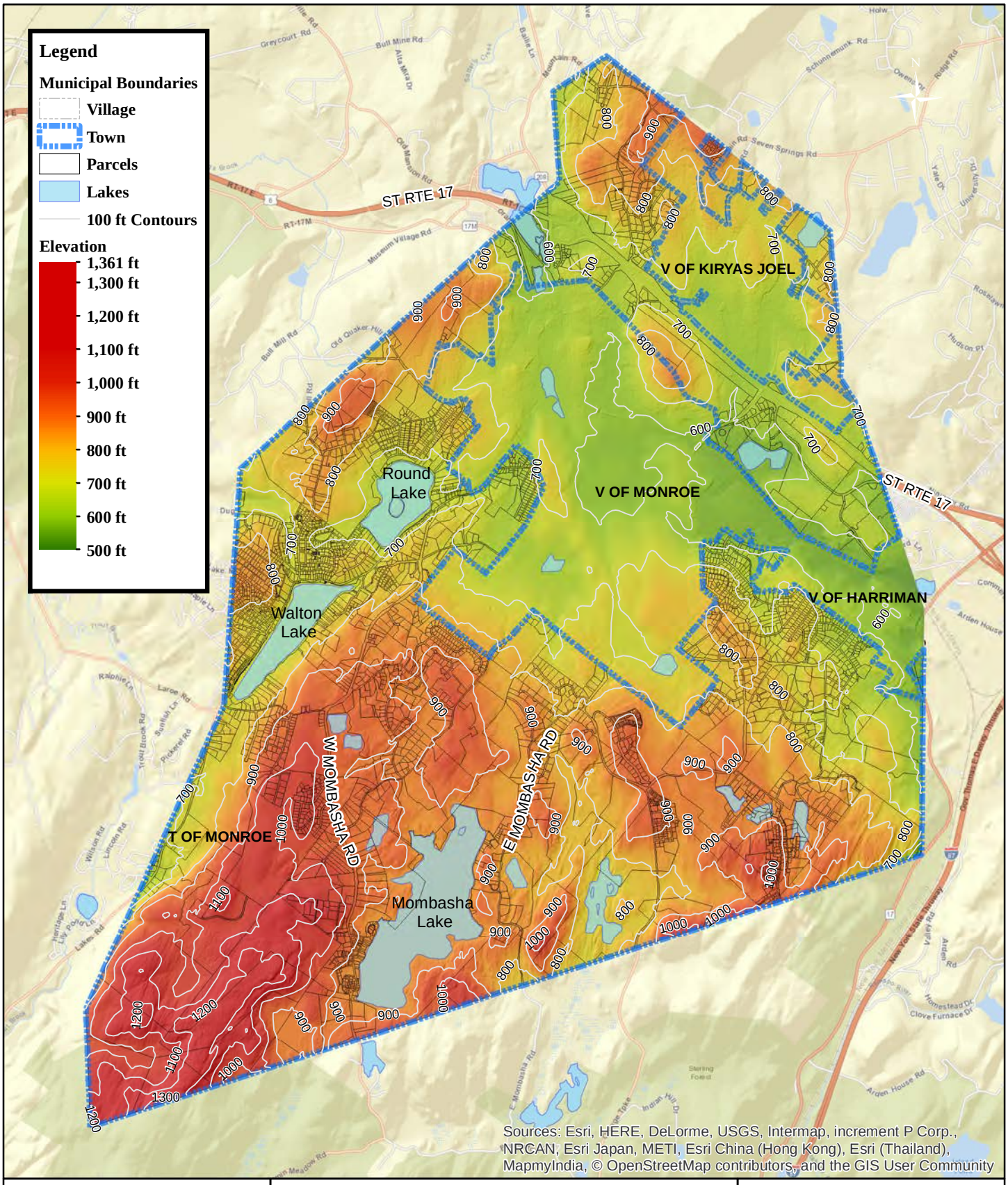

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Figure IV.B-8
Elevations

Source: USGS National Map Sandy 2013;
Town of Monroe GIS Data; NPV GIS Library
Scale: 1 inch = 4,500 feet

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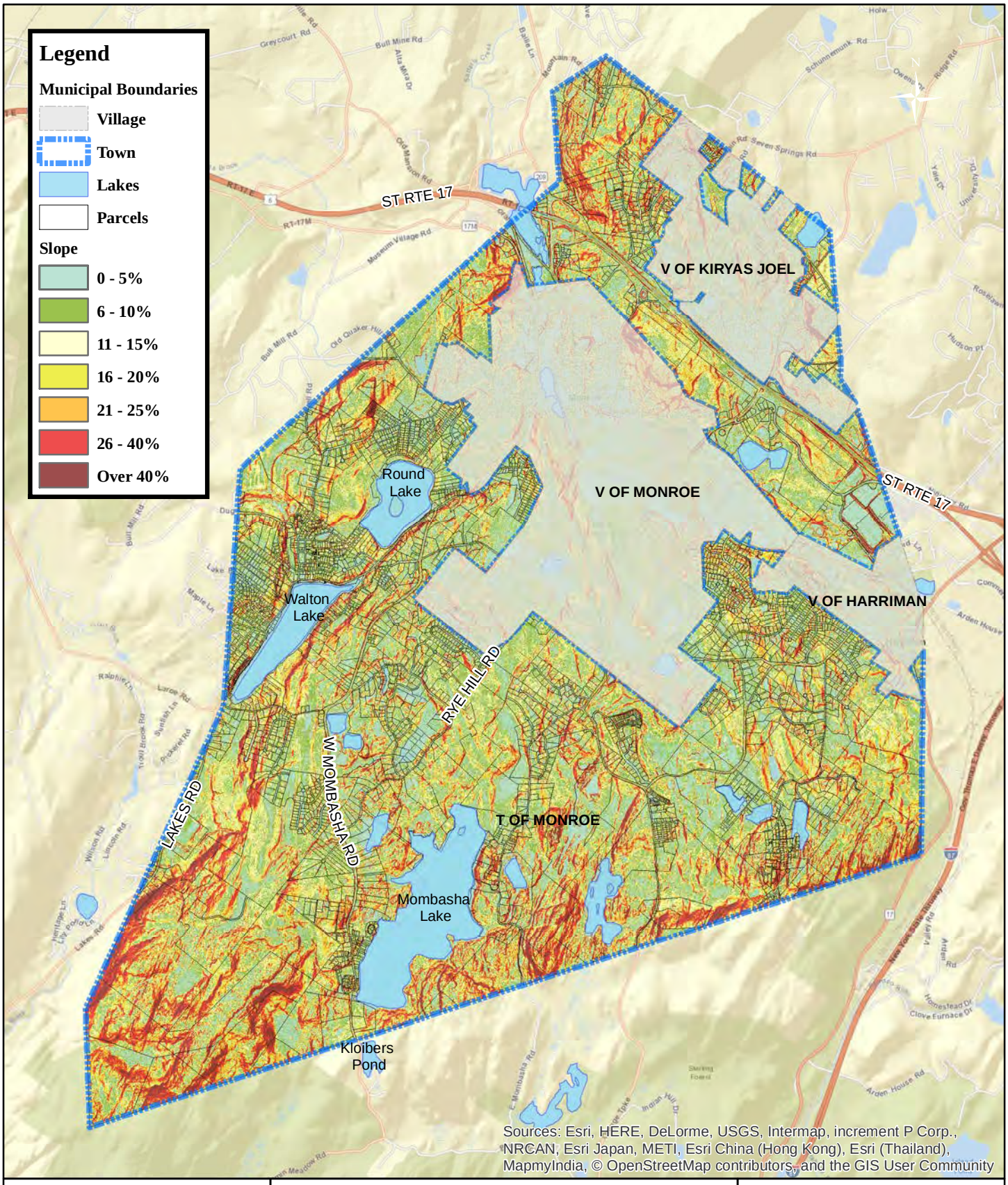

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Figure IV.B-9
Topographic Slope **Ranges**

Source: ESRI Web Mapping Service;
NPV GIS Library; USGS National Map Sandy 2013
Scale: 1 inch = 4,500 feet

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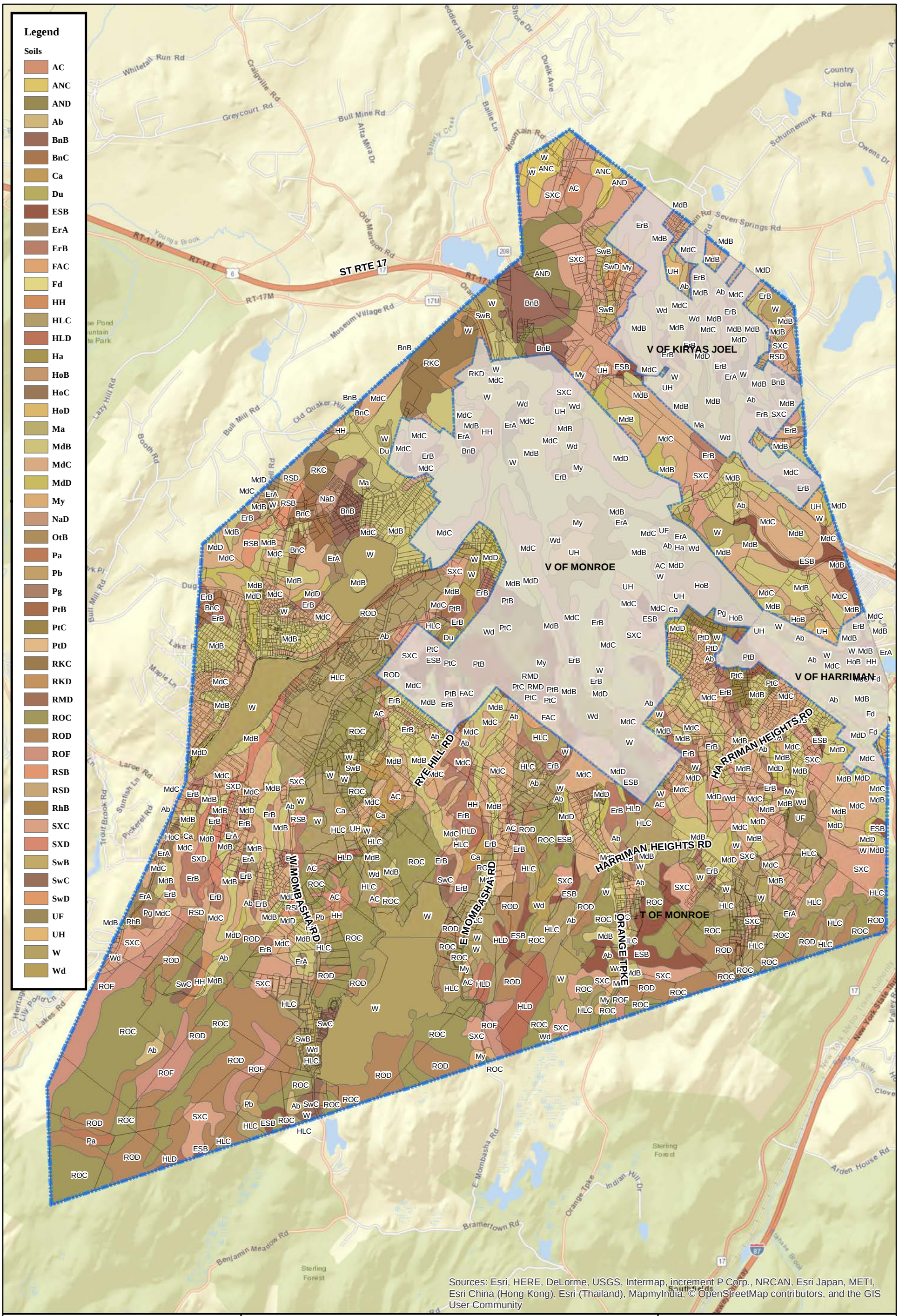

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Figure IV.B-10
Soil Types

Source: ESRI Web Mapping Service;
NPV GIS Library; USGS
Scale: 1 inch = 3,000 feet

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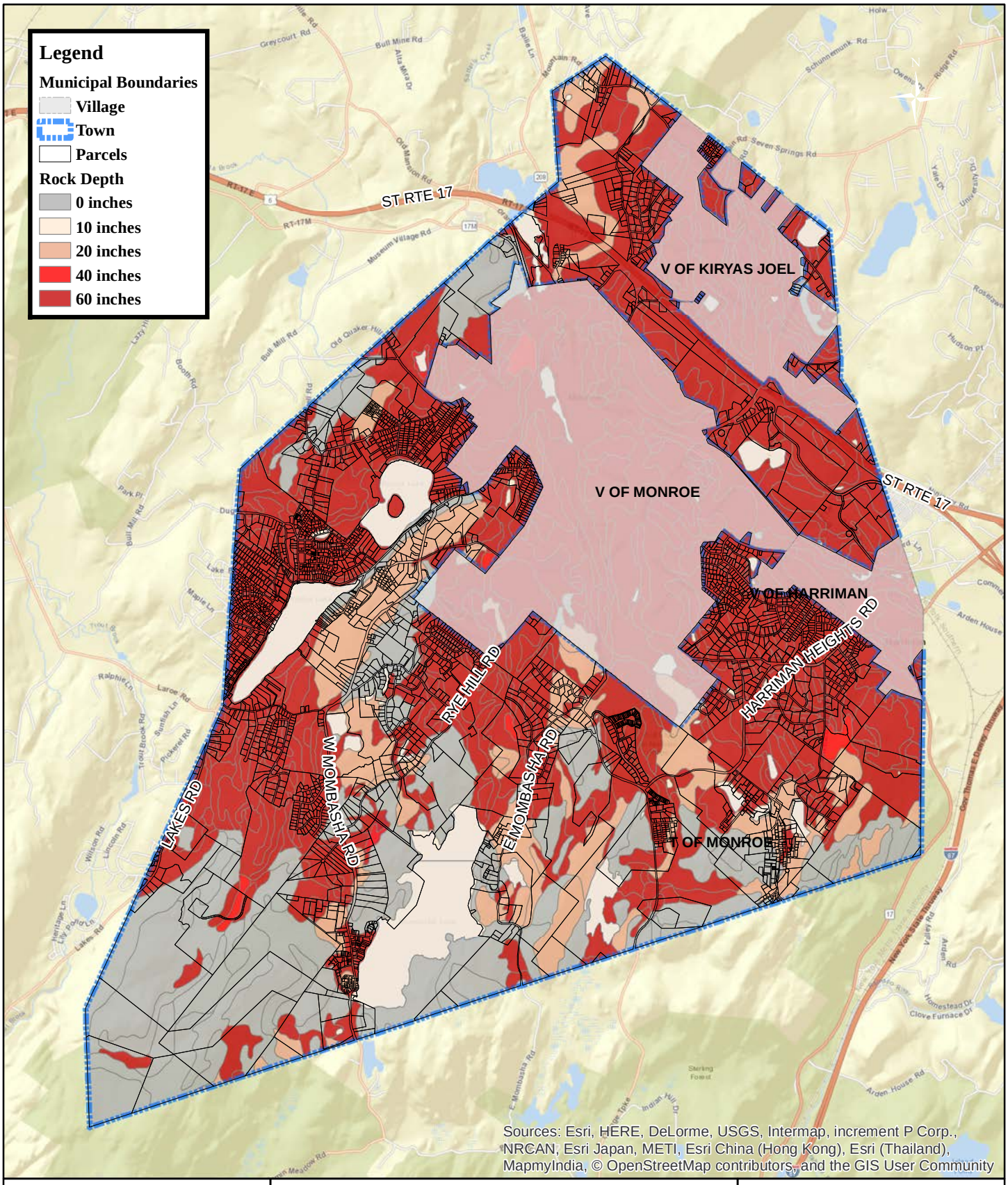

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Figure IV.B-11
Rock Depth

Source: ESRI Web Mapping Service;
NPV GIS Library; Orange County GIS
Scale: 1 inch = 4,500 feet

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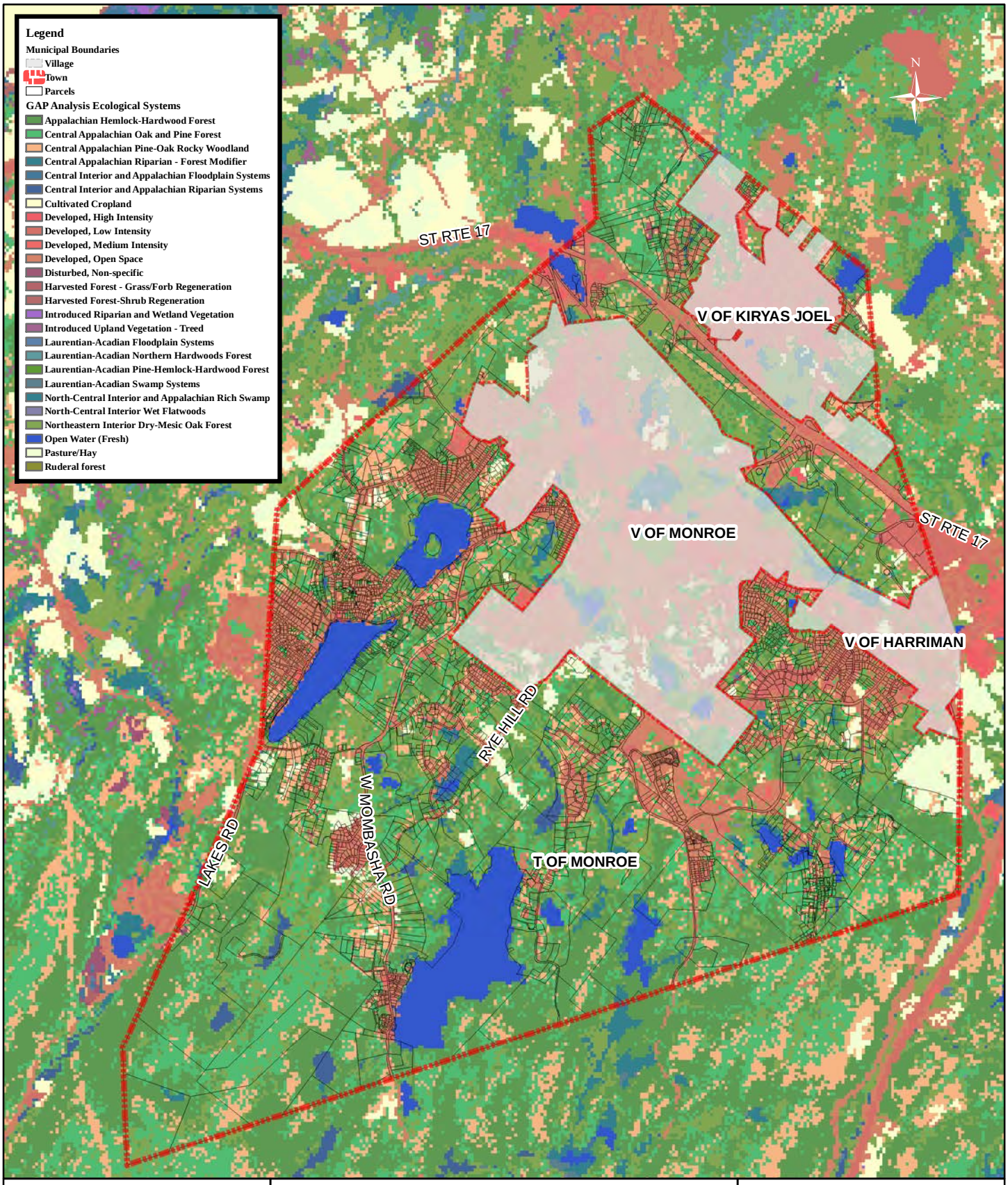

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Figure IV.B-12 National GAP Analysis Land Use Ecological Systems

Sources: Orange County GIS; USGS National GAP Analysis Program; NPV GIS Library
Scale: 1 inch = 4,500 feet

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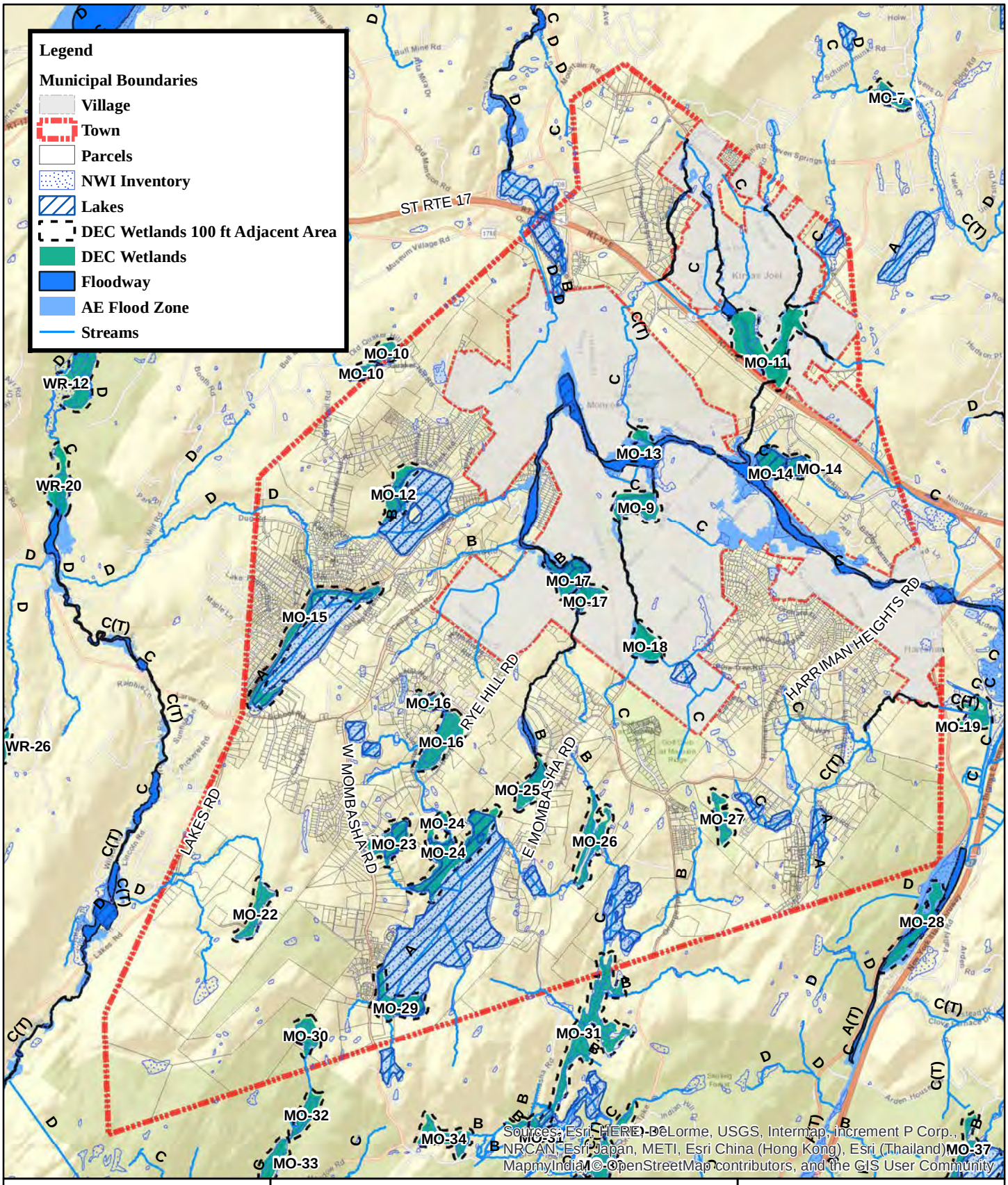

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Figure IV.B-13
Water Resources

Source: ESRI Web Mapping Service;
NPV GIS Library; Orange County GIS
Scale: 1 inch = 4,500 feet

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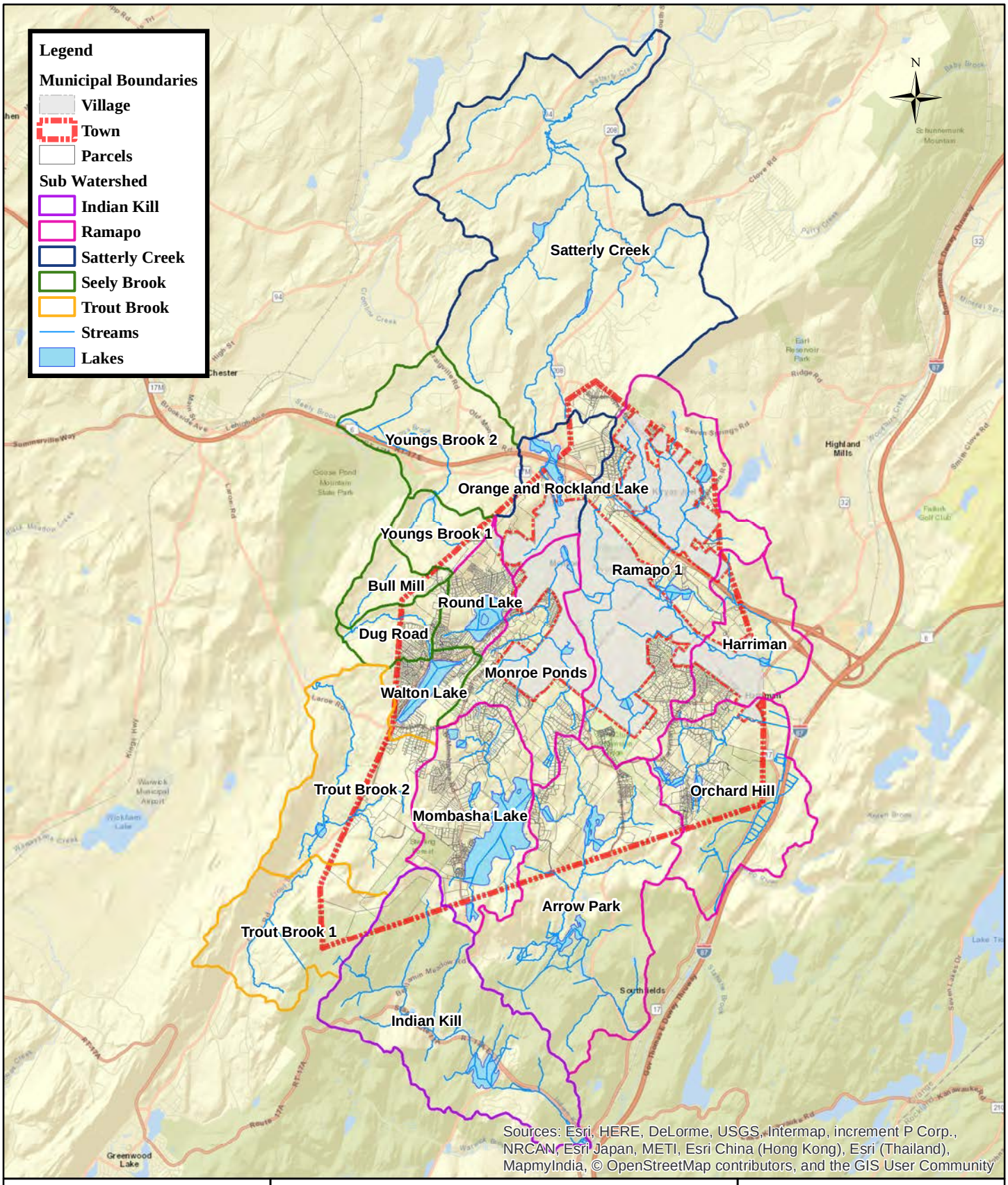

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Figure IV.B-14
Watersheds

Source: ESRI Web Mapping Service;
NPV GIS Library; Orange County GIS
Scale: 1 inch = 8,500 feet

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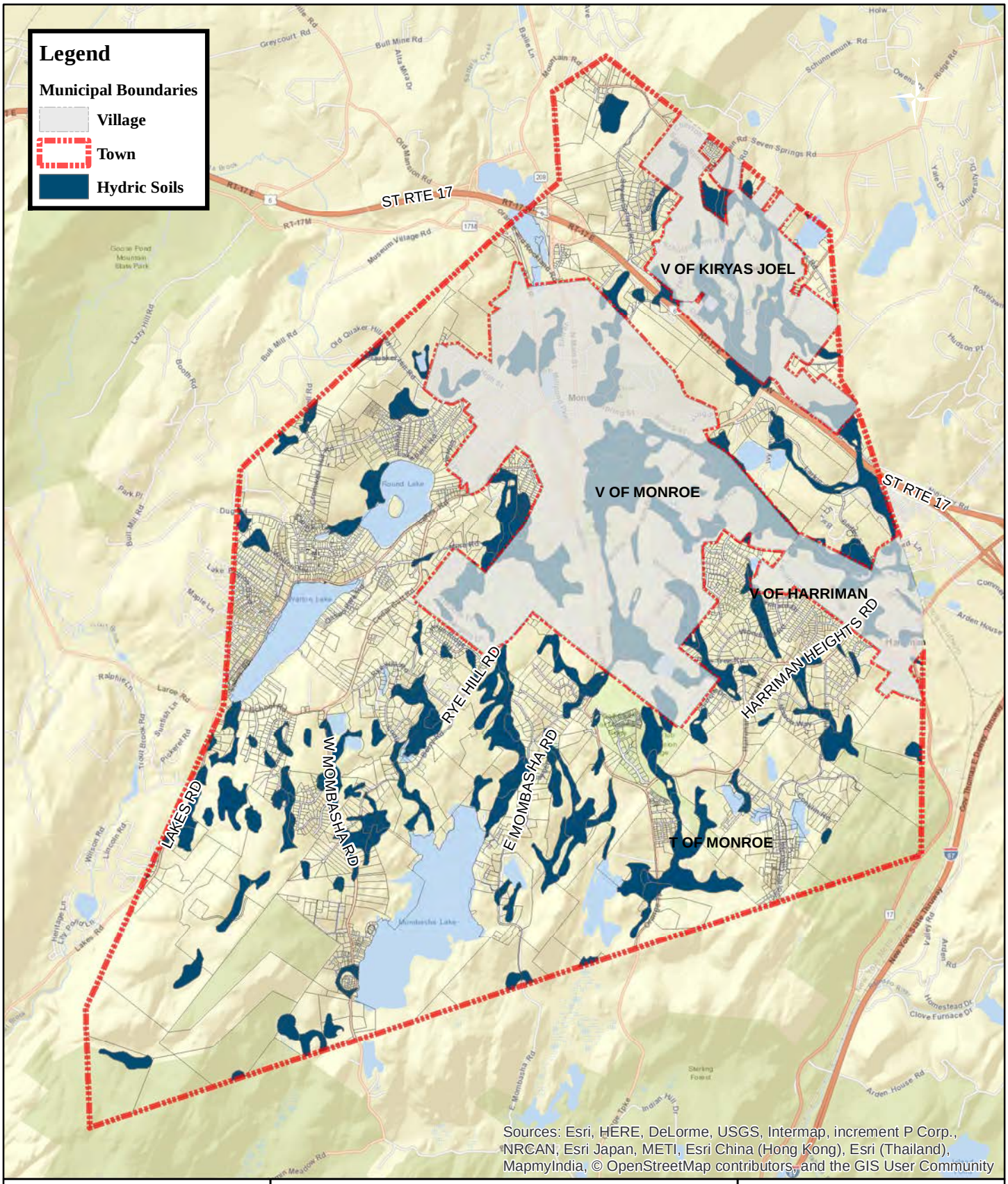

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Figure IV.B-15
Hydric Soils Map

Source: ESRI Web Mapping Service;
NPV GIS Library; USDA; Orange County GIS
Scale: 1 inch = 4,500 feet

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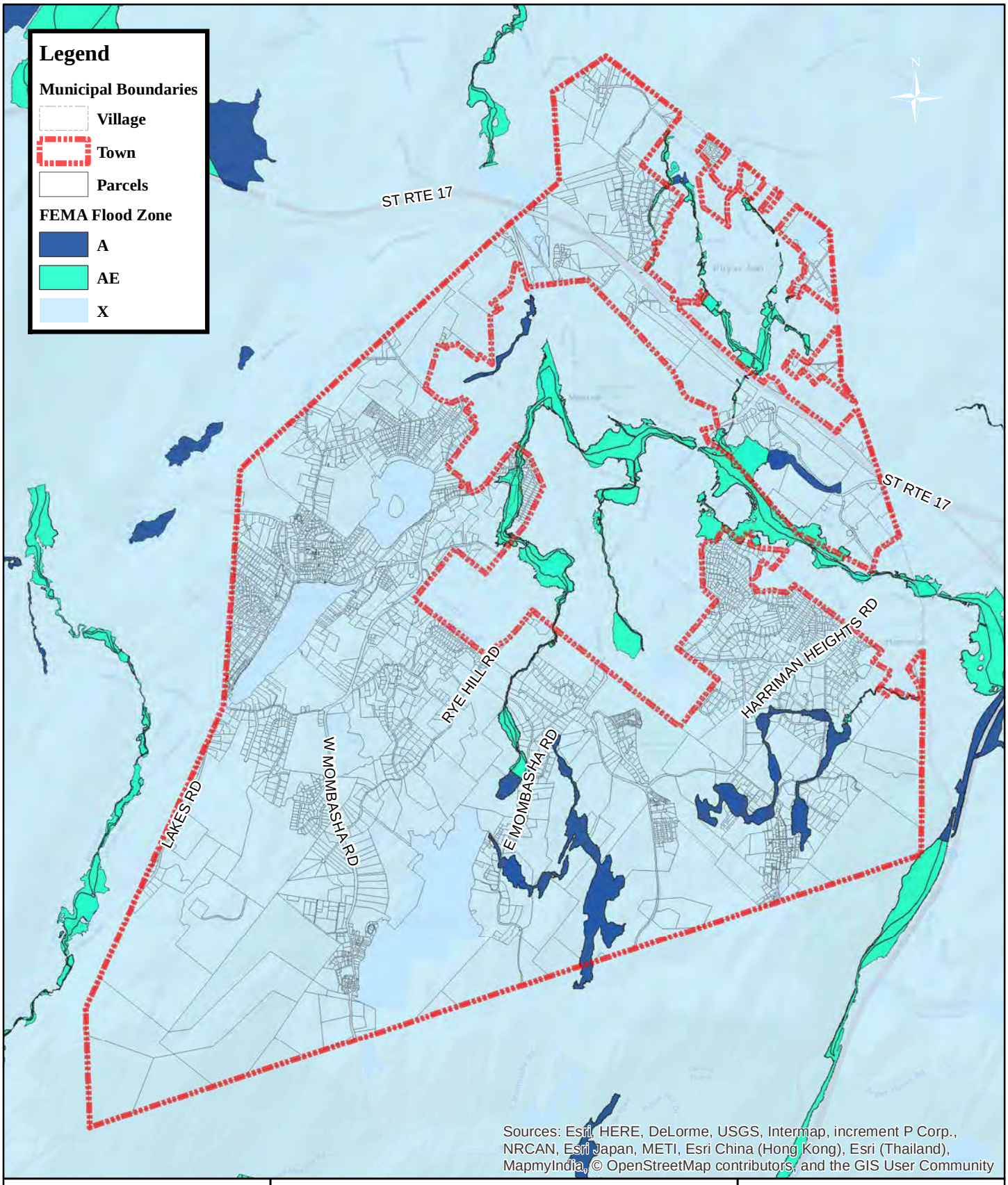

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Figure IV.B-16
Floodplains

Sources: ESRI Web Mapping Service; Orange County GIS; NPV GIS Library; FEMA
Scale: 1 inch = 4,500 feet

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C. LAND USE AND ZONING

1. Existing Land Use Pattern

The existing land use pattern in the Town of Monroe is shown in **Figure IV.C-1**. The land use pattern was determined by using the land use classification codes that are provided in the Town tax assessment roll. The land uses were further grouped into categories to better illustrate the broad patterns in the Town and compare them with the Town's land use regulations. For example, the land use classification codes include apartments in the broad "commercial" category. However, for purposes of this analysis, apartments are identified separately as multifamily dwellings, to illustrate the distribution of housing within the Town.

Table IV.C-1
2015 Unincorporated Area Land Use

Land Use Category	# of Parcels	Total Acres	Percent of Total
Vacant	761	2,516.30	24.5
Forest and Open Space	53	2,094.23	20.4
Recreation	17	418.44	4.1
Education, Cultural and Health Facilities	42	327.43	3.2
Cemeteries	4	9.23	0.1
Community Facilities	7	8.29	0.1
Agriculture	2	58.29	0.6
Residence, 1 Family	2,636	2714.76	26.3
Residence, 1 Family w Accessory Apt	65	61.31	0.6
Residence, 2- and 3-Family	28	26.18	0.3
Residence, Seasonal	28	279.82	2.7
Residences, Multiple	46	165.87	1.6
Residences, Multifamily	10	103.01	1.0
Residence, Mixed Use	1	0.91	0.1
Retail and Commercial	33	105.62	1.0
Warehouse, Distribution, Industrial	4	42.07	0.4
Transportation/Utilities, Except Water Supply	32	134.60	1.2
Water Supply	33	631.95	6.1
Unknown	20	8.81	0.1
Transportation and Utility Rights of Way (not parcels)	--	582.64	5.6
Total	**3,822**	**10,289.77**	**100.00**

Source: Town of Monroe Real Property Assessment Roll, 2016.

Vacant Land

Vacant land encompasses approximately 24.5 percent of all properties within the unincorporated Town and are privately owned. Several parcels identified as vacant are the subject of various development proposals, and which are at various levels of subdivision or site plan application review by the Planning Board. This is further discussed in the Section "Development Potential".

Forest and Open Space; Recreation

Forested lands and open space are predominantly located in the southerly portion of the unincorporated area. These lands are protected, and in various ownerships, including but not limited to:

- Palisades Interstate Park Commission;
- State of New York;
- National Park Service;
- Town of Monroe;
- Village of Monroe;
- Open Space Conservancy;
- Scenic Hudson Land Trust

The National Park Service owns lands on which the Appalachian Trail travels, or adjacent to the Trail to provide a visual buffer from developed properties. The Palisades Interstate Park Commission owns land associated with Harriman State Park, and the State of New York owns lands associated with Sterling Forest State Park. A number of properties surrounding Mombasha Lake are owned by the Town of Monroe and the Village of Monroe, and have been acquired for water supply protection purposes. The island in Round Lake is included in this category. This land use category encompasses approximately 20 percent of the land in Monroe, and is concentrated in the southerly area of the Town. **Figure IV.C-2** shows the location of major forest and open space parcels. Open space may be used for passive recreational activities, including wildlife observation, walking, biking, and canoeing.

Recreational lands include both public and private facilities. Approximately 418 acres are within the recreational land use category. Properties include but are not limited to: Round Lake; Town of Monroe parkland including properties at Orange and Rockland Lake and Mombasha Park; Smith's Clove Park, owned by the Village of Monroe; Village of Kiryas Joel parkland located along Larkin Drive; and the Mansion Ridge Golf Course. These properties are larger in size, and the Town does not have pocket parks serving individual subdivisions. This is discussed in more detail under community facilities and services. **Figure IV.C-2** shows those recreational lands located within the unincorporated area.

According to the 2005 Plan Update, the Town acquired 107 acres of vacant land for approximately $1,500,000 in 2004. These acquisitions are all within the Mombasha Lake watershed, accomplishing dual goals of protecting the environment and obtaining land suitable for active recreation. The 2005 Plan Update noted that acquisition of the 107 acres to develop active recreational facilities is easier and less costly compared with using the Monroe landfill site, which has also been a potential location for active recreation. The following describe active and passive recreational sites within the unincorporated area.

Alex Smith Pavilion: Historically, the Alex Smith Pavilion has been a Town-maintained boat launch and picnic facility on Round Lake. In 2003, the Town Board initiated a program to provide paddleboat rentals for Town residents at the Alex Smith Pavilion. The program was expanded in 2004 to include kayaks and rowboats. The extent of its future use is being studied at this time.

Former Markay Property: The Town purchased the 17.6-acre parcel in 2004. The site now includes play fields and a walking trail.

Former Casper Orlando Property: The Town purchased a parcel of 40.3 acres that abuts 96.4 acres owned by the Town of Monroe on the northwest shore of Mombasha Lake. This site becomes part of a network of publicly owned lands bordering Mombasha Lake and is important for watershed protection purposes. A trail network is present on the property.

Faber Farm: The Town negotiated a living trust with the owners of this 19.8-acre property located on the northwestern end of Mombasha Lake. In conjunction with other Town owned lands, this site will become part of the parkland network in the unincorporated Town.

Former Mansion Ridge Property (O'Neil Mine Tract): As part of the Mansion Ridge subdivision and site plan, the former 131-acre O'Neil Mine tract was given to the Town of Monroe in lieu of parkland fees. The site has a deed restriction allowing passive recreation only. The site fronts on Orange Turnpike, but public access is via a right-of-way within the Bayberry Drive subdivision.

Heritage Trail: The Heritage Trail is a popular recreation and bike trail between the Villages of Goshen and Monroe. A trailhead is located within the unincorporated area at the park and ride lot by Orange and Rockland Lakes.

Appalachian National Scenic Trail: A segment of the Appalachian National Scenic Trail (AT) extends through Warwick, Monroe, and Tuxedo, before entering Harriman and Bear Mountain State Parks and leaving Orange County. A total of 307.6 acres of land in Monroe includes the AT and surrounding lands in the southwestern corner of the town. The trail is described in further detail in the Historic and Scenic Resources Section.

Palisades Interstate Park: The Palisades Interstate Park (PIP) extends between the States of New York and New Jersey along the west bank of the Hudson River. The steep rock formations overlooking the banks of the Hudson River resembled columnar fortifications called palisades, hence these cliffs became known as the Palisades. The Palisades Interstate Park extends from Fort Lee, New Jersey into New York State's Harriman State Park and Bear Mountain State Park. It includes not only a network of developed park sites, docks, boat launches, trails, and historic sites and ruins, but also a wildlife sanctuary. Portions of the Long Path, a 326-mile trail extending from the George Washington Bridge to the outskirts of Albany, run through the park. The 2005 Plan Update stated that the Long Path does not travel through the Town; in fact, the Trail passes through the northern area of the unincorporated area. The PIP is administered by the Palisades Interstate Park Commission (PIPC), which also administers other state parklands and Revolutionary War-era historical sites in the Hudson River Valley.

Sterling Forest: In 1990, the Towns of Monroe, Tuxedo and Warwick were confronted with the potential development of Sterling Forest, an 18,000-acre tract of land located in the Passaic River Basin. Sterling Forest Corporation (SFC) proposed to develop this land into some 14,500 housing units, 6.1 million square feet of office/research and development space, 750,000 square feet of retail space and hotels, plus schools, parks, and community infrastructure. Former Sterling Forest Corporation lands are now state parkland, and part of Sterling Forest State Park.

Education, Cultural and Health Facilities

This is a broad land use category, which includes uses such as schools, places of worship, health and cultural uses. A fair amount of acreage is dedicated to this land use category in proximity to the intersection of Harriman Heights Road and Sapphire Road. In this location, there are several facilities including the Sapphire Elementary School, the Ananda Ashram Yoga Center, the Pallottine Sisters of the Catholic Apostolate facilities, Greystone Programs, and a Kingdom Hall for Jehovah's Witnesses. Other smaller properties are scattered throughout the Town, including group homes, Hudson Valley DDSO, Hamaspik of Orange County, several places of worship, and Vyoel Moshe Beis Rochel of Kiryas Joel.

Cemeteries

Four parcels are identified as cemeteries in the unincorporated Town. Three of the parcels are associated with the Kiryas Joel cemetery located on the east side of Raywood Drive. A small cemetery is also located east of and adjoining the Village of Kiryas Joel along Bnai Yoel Drive. There are other historical cemeteries located within the Town, but these cemeteries are included on parcels with other principal uses and do not show up in the cemetery land use category. The Town of Monroe regulates cemeteries in accordance with Chapter 25, Cemeteries, of the Town of Monroe Code. Additional cemeteries referenced in that section include:

Cemetery	Location
Webb Cemetery	East Mombasha Road
Cromwell Cemetery	Cromwell Hill Road and Jonas Road
Frederick Cemetery	Colony Road and Mine Road
Native American Cemetery	Rt. 17M near Brooks Pond
Compton/Corwin Cemetery	Harriman Heights Road
King Cemetery	Mine Road and Cedar Cliff Road
Unnamed Cemetery	Lakes Road and Osseo Park Road

Community Facilities

Although the unincorporated area of Monroe is well served by community facilities and services, only a limited number of the service provider's facilities are actually situated in the unincorporated area. Properties in this use include but are not limited to the NYS Police Barrack at Nininger Road, frontage property on Lakes Road containing the access to the Trout Brook Engine & Fire Company in Chester, and Lakeside Fire Company along West Mombasha Road. Community facilities are discussed in a separate section of this Baseline Inventory.

Agriculture

Two adjoining properties within the Town are included in the agricultural land use category, according to the tax roll. These parcels are associated with El Dorado Farms, an equestrian center with approximately 58 acres in the Town. The farm extends into the Town of Chester.

Residential

Approximately 3,352 acres, or 32.6 percent of the Town's total land area is in residential use. The dominance of this land use in the unincorporated area gives rise to the Town's characterization as a "bedroom" community. Residential uses within the unincorporated Town of Monroe are primarily single family detached dwellings. Land occupied by seasonal residences constitute the second highest amount of acreage, with approximately 280 acres in this land use. Multiple residences, i.e., lots that contain multiple individual dwellings, account for 166 acres of land area.

Multifamily (multiple) dwellings are situated on parcels that encompass 103 acres. Multifamily[14] developments include Mansion Ridge (50 fee simple townhomes) Meadow Glen (198 condominium townhomes) along Bailey Farm Road, Lamplight Village (82 rental units) off of Old Country Road, Harriman Hills along Heritage Drive (80 condominium units), Berwyn Road, Cromwell Hill Commons (80 condominium units), several smaller apartment buildings along Rye Hill Road, and a small condominium complex at 6 Israel Zupnick Drive.

The Town's assessment roll identifies single family dwellings as a separate distinct use. According to the latest tax assessment roll, there are approximately 65 single family dwellings that contain an accessory apartment. However, based on supplemental data provided by the Building Inspector, there are an additional 21 parcels which contain dwellings that have been issued accessory apartment permits that are not identified on the tax assessment roll. The locations of the 86 accessory apartments known within the Town are shown in **Figure IV.C-3**. As discussed in the 2005 Plan Update, the 1990 Master Plan Review Committee recognized the need for affordable apartments, and the need to provide for diverse housing options. In 1991, the Town Board amended the zoning regulations to allow accessory apartments in owner-occupied, one-family residential structures. Because the accessory apartments are restricted to contain no more than two bedrooms, these are truly accessory uses, and home occupations are forbidden in the accessory unit. The intent of this law was to achieve two principle benefits: (1) to enable older residents to "age in place" if they chose, without the need to maintain a large house that was mostly un-used; and (2) provide needed rental space for a small household. Specifically, the preamble to Article VII of Chapter 57 which regulates accessory apartments, states:

> *"It is the specific purpose and intent of this section to allow an accessory apartment within one-family detached residential structures in all one-family residence districts in order to provide the opportunity and encouragement for the development of* ***small rental housing units*** *designed, in particular, to meet the special housing needs of* ***single persons and couples****. It is the further purpose and intent of this provision to allow the more efficient use of the Town's housing stock, to provide* ***economic support for existing resident families of limited income*** *and to preserve and protect property values." [emphasis added]*

[14] Multifamily dwellings are defined as three or more dwellings per building, which can be townhomes or flats.

At the time of the 2005 Plan Update, this provision of the Code had received limited use. The 2005 Plan Update did recommend revising the accessory apartment provisions to specify a reasonable size limit for the units and bedrooms in order to further original intent of the drafters. These revisions were never implemented. The need for these revisions continues. Recent permit data indicates that accessory apartments are, in fact, being constructed without size limitations. Large accessory apartments combined with a single family home often times appears as a two family dwelling. The large size can threaten the character of the single family neighborhood.

Two and three-family dwellings are found scattered throughout residential neighborhoods in the Town. A few concentrations of two family dwellings exist, including within the Raywood/Mountainview Drive neighborhood adjoining the Village of Kiryas Joel.

A significant amount of acreage within the Town is occupied by seasonal residences. Properties include but are not limited to Arrow Farms, Lake Mombasha Camp, the cottages at Rosmarins, and the Cromwell Road Associates cottages along Cromwell Hill Road, which extend into the Town of Chester.

As described in the 2005 Plan Update, there is a wide diversity of housing types within the unincorporated area:

- the bungalows within the lakeside communities that have been renovated for year-round use – many of these date to the 1920s;
- raised ranch-style dwellings (bi-levels) built in the 1960's and '70's;
- single family dwellings and multifamily dwellings within Mansion Ridge overlooking the private golf course with views to the Schunemunk Mountains;
- multifamily dwellings at smaller complexes such as Cromwell Commons;
- townhouses at Meadow Glen.

Concern has been expressed that the residential developments constructed in recent years do not "fit" into the landscape to the extent prior subdivisions did. While woodlands dominate older residential subdivisions and the parcels on which a dwelling may sit were not clearcut, newer developments appear to be designed in a manner where significantly more grading has occurred to flatten the landscape and fit larger building pads. In some instances, a subdivision may be located on former agricultural property so there is not extensive pre-existing treed vegetation on the parcel. However, in other instances, this is not the case. To the extent that the Town desires to preserve its woodland character, revisions to Chapter 57 and the Town's subdivision regulations are necessary in order to integrate existing woodland into the overall residential subdivisions. This will help to fit future subdivisions with the prior land uses and neighborhood character.

Pre-existing Subdivisions: Under Section 57-39D of the Zoning Chapter, subdivision maps filed or in receipt of final plat approval prior to September 3, 1954, where lots contain less acreage than required under the current zoning, allowed the construction of a single family dwelling, provided the lot is a minimum of 7,500 square feet in area and 75 feet in lot width, with reduced side (28 feet total), front

and rear (not less than 30 foot) yard setbacks. Under Section 57-39-E, lots either filed or in receipt of un-expired preliminary approval or final approval prior to the effective date of the zoning[15], but after September 3, 1954, requiring less acreage than required under the current zoning, houses are allowed to be built as long as the lot contains 15,000 square feet in area and 100 feet in lot width.

New York State Town Law protects filed subdivision maps from the effects of zoning changes for a period of three years from the date of filing. Sections 57-39D and E have provided additional protection beyond what is required by Town Law, and the 2005 Plan Update recommended that these provisions be reconsidered. The lands to which these Sections may be applied are located primarily in the areas of the Town now zoned as SR-10 and SR-15. These lands are located in and around the old summer bungalow colonies that existed around parts of Mombasha Lake, Round Lake and Walton Lake, and the paper lots in question are in most cases wholly undeveloped land lying on non-existent "paper" streets, some on steep slopes, feeding into substandard roads that lack drainage and/or central water supplies. In many cases, these paper streets are owned by corporations that have been defunct since the 1940s, further complicating any efforts to resolve their status. These areas contain most of the old neighborhoods of Town where there are very small lots or combinations of lots. Dwellings in these neighborhoods are former seasonal cottages that have been winterized for permanent use.

The subdivision pattern for some of these original bungalow communities such as the original Walton Lake Estates created narrow strips of land only 20 feet wide. The original intent was to allow flexibility to homeowners, so that they could buy as many or few parcels as they wanted to create their own building lot meeting their particular housing need. But there were many problems in areas where this strip pattern was followed, not least of which was that odd strips of land could be left behind after the "building lots" were constituted, and these leftovers were wholly unsuitable for residential use. Accordingly, the 2005 Plan Update recommended that these regulations be revised to encourage lot mergers and limit development on unsuitable lots. The land use map, which illustrates vacant land, shows the pattern of vacant parcels found with the older seasonal bungalow communities.

Residential Values and Trends: The 2005 Plan Update relied on housing values and data relevant to the early 2000s. At the time the 2005 Plan Update was written, the national economy was still in the midst of a housing boom, and real estate market values had skyrocketed. The Comprehensive Plan's recommendations, and discussion regarding affordable housing, were predicated on these trends. Within the exurbs of New York City, the demand for housing was further driven by persons seeking housing outside New York City and its immediate urban areas subsequent to the terrorist attack of September 11, 2001. As described in the 2005 Plan Update:

> *"Affordable housing is becoming an increasing concern within the region. Both the market-driven effects of the September 11, 2001 terrorist attacks in New York City and the combination of high*

[15]June 7, 1965.

prices and low supply in New York City's inner suburbs make the southeastern Orange County area more attractive to high-end newcomers purchasing relatively large, expensive houses compared to the housing that the "home-grown" market would otherwise sustain. The effect on the housing market has increased concerns about the need to accommodate affordable and diverse housing for the local population and community service providers as well as senior citizens. This Plan Update 2005 addresses the need to consider ways to protect the affordable housing that already exists within the town, as well as ways to either create or encourage the creation of a new supply."

By the time the 2005 Plan Update was adopted in 2008, the residential real estate market had collapsed, and the nation entered a severe recession. Housing values plummeted, the housing inventory significantly increased due to foreclosures and high unemployment, and the conditions upon which the Plan's assumptions regarding "high end" house purchases were no longer relevant.

Inset - County Median Sales, Hudson Gateway Association of Realtors, 2016.

In 2015, housing values within Orange County were stagnant, and in some instances decreased. According to recent data published by the Hudson Gateway of Association of Realtors (HGAR - 2015), the median sales prices in Orange County are still significantly lower than the values for Westchester, Rockland, and Putnam Counties **(see inset)**. The total number of sales throughout the County has increased since 2012. However, the median sales value for all types of dwellings except cooperatives, have decreased year to year.

ORANGE COUNTY					
	ORANGE -	ANNUAL 2012 - 2015			% Change
Property Type	2012	2013	2014	2015	2014-2015
			NUMBER OF SALES		
Single Family Houses	1,866	2,243	2,204	2,746	24.6%
Condominiums	225	255	271	356	31.4%
Cooperatives	6	5	12	8	-33.3%
2-4 Family	105	131	125	174	39.2%
Total	2,202	2,634	2,612	3,284	25.7%
			MEDIAN SALE PRICE		
Single Family Houses	235,000	234,500	231,250	225,000	-2.7%
Condominiums	172,000	165,000	158,000	153,750	-2.7%
Cooperatives	61,250	61,500	42,500	56,500	32.9%
2-4 Family	80,000	116,000	100,000	87,500	-12.5%
			MEAN SALE PRICE		
Single Family Houses	253,281	251,083	252,705	244,667	-3.2%
Condominiums	185,704	172,864	163,897	159,508	-2.7%
Cooperatives	58,780	89,600	47,750	52,925	10.8%
2-4 Family	109,836	126,387	122,352	120,477	-1.5%
			END OF YEAR INVENTORY		
Single Family Houses	2,421	2,331	2,306	2,334	1.2%
Condominiums	284*	289*	232	235	1.3%
Cooperatives	na	na	8	12	50.0%
2-4 Family	na	na	191	185	-3.1%
Total	2,705	2,620	2,737	2,766	1.1%
*Includes Cooperatives					

Inset –Orange County Median Sales, Hudson Gateway Association of Realtors, 2016.

The 2005 Plan Update provided data on housing sales within the unincorporated area of the Town between 1996 and 2003. Current information on market value trends were provided by the Hudson Gateway Association of Realtors. Data were requested for the past five (5) years. Condominium[16] sales in the unincorporated Town are less than in 2003. In 2016, condominium values were at the 2002 level. Likewise, residential values have declined to 2002 values. Within the past five years, housing values are exhibiting a declining trend. Monroe, relative to Orange County, has higher average (mean) values for condominium and residential dwelling units. **Table IV.C-2** summarizes housing sale values.

Table IV.C-2
Housing Value Trends

Year	Units	Average Sale Price	% Change
Condominiums			
1996	26	$78,790	---
1997	20	$78,839	0.1%
1998	11	$98,545	25.0%
1999	12	$112,108	13.8%
2000	20	$107,912	-3.7%

[16] *A "condominium" is a single real estate unit in a multi-unit development in which a person has both separate ownership of a unit and an undivided interest in the common elements of the building and land. Purchasers of a "cooperative" buy shares in the apartment corporation allocated to a particular apartment. Ownership of the shares entitles the purchaser to a long term proprietary lease for the apartment. A townhome will appear as a single family dwelling if located on its own fee simple property, or a condominium if the townhome is located on commonly owned land.*

Table IV.C-2 Housing Value Trends			
Year	**Units**	**Average Sale Price**	**% Change**
2001	18	$114,522	6.1%
2002	19	$192,182	67.8%
2003 thru 10/03	23	$337,778	75.8%
2011	7	$245,214	-27.4%
2012	10	$216,800	-11.6%
2013	11	$273,091	30.0%
2014	14	$247,421	-9.4%
2015	10	$275,625	11.4%
2016	7	$202,571	-26.5%
Residential Sales			
1996	89	$157,973	---
1997	118	$170,325	7.8%
1998	123	$171,063	0.4%
1999	116	$188,572	10.2%
2000	123	$232,226	23.1%
2001	103	$244,278	5.2%
2002	91	$293,076	20.0%
2003	125	$361,406	23.3%
2011	70	$341,274	-15.4%
2012	75	$288,128	-15.6%
2013	82	$309,502	-7.4%
2014	83	$294,634	-4.8%
2015	83	$289,955	-1.6%
2016	38	$278,219	-4.0%
Source: 2005 Plan Update; Greater Hudson Valley MLS. Hudson Gateway Association of Realtors, 2016.			

The number of sales townwide has also declined compared to the market at its peak. This is likely a reflection of the fact that many dwellings may be "underwater", i.e., their current sales value would be less than the price it was purchased. Further, on a regional level, ready access to mortgages, including "no downpayment" types of mortgages to less than qualified households, are no longer commercially available after the recession. The "easy money" trend during the height of the housing market bubble is not anticipated to reoccur in the near future.

Affordable Housing: As part of the Business Park zoning amendments, which are intended to encourage the development of the Town's HI district, the Town Board allowed the construction of Meadow Glen. For various reasons, the Town Board entered into an agreement with the then developer, the K. Hovnanian Companies, that the developer would provide $1,000,000, for purposes of constructing affordable housing. The Town Board created a fund with these contributions. These funds have yet to be expended, and can still be made available for the construction of affordable dwelling units for seniors or

other age segments, based on a future analysis of need.

A rule of thumb is that for a dwelling unit to be considered "affordable", it should be attainable by a household earning 80% of the median income. In the unincorporated area, it is estimated that an affordable price would be available to a household earning, $85,528, or 80 percent of the Town's median income of $106,910. Based on current conventional mortgage rates of 3.875 percent, and assuming a 20 percent down payment, and 15 percent other monthly debts (debt to income ratio of 35 percent), an affordable housing unit today would have a value of approximately $271,000, using an affordability calculator available at the website, www.zillow.com. Given recent market trends, housing values are affordable, based on the present average sales prices.

Consistent with the recommendations of the Orange County Department of Planning, the Town will explore whether additional affordable housing should be mandated and included in all residential developments in the Town, or that a fee in lieu of the housing be required. In addition, the Town will also explore and consider whether affordable housing should be targeted not only to senior citizens, but other age groups (such as young professionals) that may be determined to be in need of affordable housing.

Housing Trends by Certificate of Occupancy: **Table IV.C-3** presents housing trends by type based on certificate of occupancy data. Post-recession, housing construction is approximately 20-40 percent of 2003 levels. The total number of accessory dwelling units has increased over pre-2004 levels. The construction of new single family dwellings has decreased significantly within the unincorporated area.

Table IV.C-3
Housing Trends by Certificate of Occupancy

Year	Single Family Detached Dwelling	Attached Dwellings	Accessory Apartments	Total
1990	17	22	0	39
1991	25	18	0	43
1992	19	1	0	20
1993	20	1	0	21
1994	17	0	0	17
1995	21	0	0	21
1996	21	0	0	21
1997	41	0	0	41
1998	62	0	0	62
1999	45	0	0	45
2000	59	0	0	59
2001	40	0	0	40
2002	49	45	0	94
2003	51	30	0	81
2008	28	0	1	29

Table IV.C-3 Housing Trends by Certificate of Occupancy				
2009	15	0	4	19
2010	20	0	2	22
2011	27	0	3	30
2012	13	3	4	20
2013	15	0	4	19
2014	16	3	7	26
2015	8	0	4	12
2016	5	0	10	15
Source: Town of Monroe Building Department, 2016. Note in 2016, a building moratorium was imposed in the unincorporated Town.				

Retail and Commercial

The major concentration of retail use is located within Harriman Business Park situated along Larkin Drive. Big box retailers are situated here, and the retailers located in the unincorporated area include Target and the retailers located within the same complex including but not limited to PetSmart, Best Buy, Home Goods, Old Navy, GNC, BJs Warehouse, Home Depot, and a portion of the Walmart Supercenter. A separate strip retail center that includes a standalone Outback Restaurant, as well as other small retailers, is on the north side of Larkin Drive. Other small retail businesses and strip centers are located along Route 17M. Several restaurants and commercial businesses are scattered along Lakes Road.

Warehouse, Distribution and Industrial

Few parcels (4) fall within this land use category, and only 42.07 acres are dedicated to this use, in comparison to the approximately 595 acres of the unincorporated Town zoned for Heavy Industry or Light Industry. The Superior Pack Group facilities are located along Baily Farm Road. Golden Delite Baking is located on Larkin Drive. A property located on the south side of NYS Route 17, and just west of Bakerstown Road is in the ownership of 590 County Route 105 LLC, otherwise known as Hershey's Auto. A variety of activities, including storage of commercial vehicles, occurs on this site. The fourth site is on the north side of the Quickway along Route 208, which is the location of a tile warehouse and showroom.

Transportation/Utilities, Except Water Supply

This category includes all parcels which are not otherwise identified as being related to a water supply system. This category includes utility rights-of-way, private roads which are included in a tax parcel, cell tower properties, and the former Town of Monroe landfill. They are located throughout the Town, within various zoning districts. Land located to the east of the Orange and Rockland regional center, and on the east side of NYS Route 208 extending to Seven Springs Road, is included in this category.

Water Supply

A number of parcels, totaling approximately 6.1 percent of the total land area, consist of land dedicated to water supply systems. The largest parcels encompass Mombasha Lake and Walton Lake. The Mansion Ridge water supply reservoir is also included in this category.

Unknown

This land use category includes parcels which were not yet created or missing from the tax parcel. The parcels may have been recently subdivided, and they have not yet been assigned new tax parcel numbers. These represent a very small portion of the overall land use area of the Town, less than 0.1 percent.

Transportation and Utility Rights of Way (not parcels)

This land use category includes all land areas which are not contained within tax parcels. This includes the State Route 17 (Quickway) corridor, and all public roads contained within public rights-of-way.

2. Zoning

Table IV.C-4 provides the total land area of the unincorporated Town by zoning district. **Figure IV.C-4** illustrates zoning without the underlying land use pattern; land use and zoning are presented in **Figure IV.C-5**. Note that the overlay districts are "overlaid" on top of the base zones and are "in addition" to the base zoning district, so are not included in the total land area. The regulations associated with the overlay zones are in addition to the base zoning district regulations. The majority of the Town's land area is zoned Rural Residential (RR). The two Rural Residential zones account for 71.5 percent of the land area. The three Suburban Residential zones encompass 1,853 acres, or 18 percent of the Town's land area. The Urban Residential Multifamily zone includes approximately 330 acres of land area. The Heavy Industry zoning district encompasses more land area, with 4.4 percent of the land total. The Light Industry, General Business and Waterfront Recreation zones include minor land areas of the Town. The pattern of these zoning districts reflect proximity to and availability of existing utility infrastructure, and proximity to major transportation corridors.

Table IV.C-4
Zoning Districts – Unincorporated Area

Designation	District Name	Acres	Percent
GB	General Business	88.03	0.9%
HI	Heavy Industry	448.85	4.4%
LI	Light Industry	146.48	1.4%
NB	Neighborhood Business	6.78	0.1%
RR-1.0AC	Rural Residential	3,717.37	36.1%
RR-3.0AC[17]	Rural Residential	3,647.05	35.4%

[17] Note, the RR-3.0 zoning district is also referred to in some documents as the RR-1.5 zoning district. A zoning amendment increased the minimum lot size of lands within this district from 1.5 acres to 3 acres.

Table IV.C-4 Zoning Districts – Unincorporated Area			
SR-10	Suburban Residential	362.71	3.5%
SR-15	Suburban Residential	751.45	7.3%
SR-20	Suburban Residential	738.85	7.2%
UR-M	Urban Residential Multi-Family	329.66	3.2%
WR	Waterfront Recreation	52.54	0.5%
	Total	**10,289.77**	**100.0%**
Rte 17M Buffer Overlay		138.03	1.3%
Utility Tower Overlay		170.30	1.7%
Source: Town of Monroe Zoning Map, provided by Orange County Planning Department, 2016.			

Chapter 57, Zoning, of the Code of the Town of Monroe, regulates the types of lands uses allowed within the unincorporated area of Town. The unincorporated area is mapped into a series of zoning districts, listed in **Table IV.C-4**, and each zoning district is regulated by a set of use and bulk requirements. The use requirements establish the types of uses that are allowed within the applicable zoning district. The bulk regulations establish dimensional standards which control the intensity or density of these uses and the buildings within which they may be conducted. The RR-1.5 and RR-1.0 zoning districts both allow single family detached dwellings as permitted uses; the dimensional standards require that a single family dwelling in the RR-1.5 zoning district must be located on a three acre parcel, while the same use in the RR-1.0 zoning district requires only one acre.

Table IV.C-5 provides a summary of the land uses allowed within each residential zoning district. Note that the zoning regulations define whether a use is "permitted" by right, is allowed subject to a special use permit, or is considered an accessory use or building, i.e., is accessory to the primary or principal use on the lot.

Table IV.C-5 Residential Zoning Districts – Allowable Uses						
Allowable Uses	**Zoning Districts**					
	RR-1.5	**RR-1.0**	**SR-20**	**SR-15**	**SR-10**	**URM**
Agriculture or horticulture	P	P	---	---	---	P
Church or other place of worship, parochial school, Sunday school or parish house subject to site plan approval	P	P	P	P	P	P
Municipal park or playground	P	P	P	P	P	P
Public library	P	P	P	P	P	P
Public or private school approved by the New York State Board of Regents	P	P	P	P	P	P
Single-family detached dwellings	P	P	P	P	P	P
Accessory apartments pursuant to Article VII	P	P	P	P	P	P

Table IV.C-5 Residential Zoning Districts – Allowable Uses						
Allowable Uses	**Zoning Districts**					
	RR-1.5	**RR-1.0**	**SR-20**	**SR-15**	**SR-10**	**URM**
Bus passenger waiting shelter (open)	S	S	S	S	S	S
Cemetery	S	S	S	S	S	S
Membership club	S	S	S	S	S	S
Museum or art gallery	S	S	S	S	S	S
Public or semipublic building	S	S	S	S	S	S
Public utility building or structure	S	S	S	S	S	S
Resort or residential hotel, duly licensed, on site of 50 acres or more	S	---	---	---	---	---
Livestock keeping, breeding, housing and raising on lots of 20 acres or more	S	S	S	S	S	S
Bed-and-breakfast residence	S	S	S	S	S	---
Bed-and-breakfast inn	S	S	S	S	S	---
On any lot used for a single-family detached residence, a single accessory detached residence use, subject to § 57-13A and O	S	S	S	S	S	---
Day nursery	---	S	S	S	S	---
Daycare center, with frontage on and direct access to a county highway and subject to § 57-22	---	---	---	---	---	S
Mobile home park on a 15-acre site subject to conditions contained in § 57-13L	---	S	S	S	S	S
12) Private or public golf course on sites at least 175 acres in size	---	S	---	---	---	---
Multiple dwelling group (see § 57-13D)	---	---	S	S	S	S
Medical arts building, only with direct frontage on and access to a county or state highway	---	---	---	---	S	---
Customary accessory uses and structures	A	A	A	A	P	A
Home occupation	A	A	A	A	P	---
Home professional office	A	A	A	A	P	---
Noncommercial swimming pool	A	A	A	A	P	A
Signs, pursuant to Article XIII	A	A	A	A	P	A
Private garage or parking area	---	---	---	---	---	A
Recreational facility for exclusive use of residents and guests	---	---	---	---	---	A
Source: Chapter 57, Zoning, Town of Monroe Code. P = Permitted Use S = Special Exception Use A = Accessory Use						

Table IV.C-6 lists the allowable uses within the nonresidential zoning districts.

Table IV.C-6 Nonresidential Zoning Districts – Allowable Uses					
Allowable Uses	**Zoning Districts**				
	NB	**WR**	**GB**	**LI**	**HI**
Neighborhood shopping center (1)	P	---	---	---	---
Commercial swimming pool	---	P	S	---	---
Municipal or proprietary public parking area	---	P	P	---	---
Municipal park or playground	---	P	P	P	---
Nonresidential membership club	---	P	---	---	---
Private or commercial beach in accordance with applicable watershed regulation	---	P	---	---	---
Public or semipublic building	S	P	S	---	---
Restaurant or tavern, other than a drive-in, drive-through or other fast-food facility	---	P	---	---	---
Restaurant, tavern or drive-in restaurant of permanent construction	---	---	P	---	---
Restaurant, other than a drive-in	---	---	---	S	S
Private or commercial marina	---	S	---	---	---
Public utility building or structure	S	S	S	P	P
Resort or residential hotel, duly licensed	---	S	---	---	---
Single-family dwelling conforming to RR-1.0 District requirements	S	S	---	---	---
Animal hospital or veterinary establishment	---	---	P	P	---
Breeding and boarding kennels for cats and dogs	---	---	S	---	---
Automobile sales with accessory service facilities, including repair shop	---	---	P	---	P
Bank or savings-and-loan association	---	---	P	---	---
Retail store	---	---	P		P
Business or vocational school	---	---	P	P	---
Laundry, dying or dry-cleaning works	---	---	P	---	P
Newspaper or printing establishment	---	---	P	P	P
Office or office building	---	---	P	P	P
Research institute or laboratory	---	---	P	P	P
Telephone exchange	---	---	P	---	P
Wholesale establishment	---	---	P	---	---
Workshops, personal service store or studio or shop for custom work	---	---	P	---	P
Hospital, medical arts building	---	---	P	P	S
Day-care center (see § 57-22)	P	---	P	P	P
Dwelling units over first-floor nonresidential uses	---	---	P	---	---

Table IV.C-6 Nonresidential Zoning Districts – Allowable Uses					
Allowable Uses	**Zoning Districts**				
	NB	**WR**	**GB**	**LI**	**HI**
Single-family dwelling conforming to SR-1.0 ac. District requirements (typo?)	---	---	S	---	---
Bottled gas distribution station	---	---	S	---	S
Fuel oil storage tank	---	---	---	---	S
Bus passenger waiting shelter (open)	S	---	S	S	S
Indoor sports facilities, exclusive of shooting gallery	---	---	S	---	---
Indoor pistol range	---	---	S	---	---
Indoor sports facilities	---	---	---	---	P
Filling station	---	---	S	---	
Filling station, car washing station or service station	---	---	---	---	S
Motel	S	---	S	---	---
Hotel or motel	---	---	---	S	S
Neighborhood shopping center on sites of 40,000 square feet or more	---	---	S	---	---
Theater or motion-picture theater, other than an outdoor drive-in theater	---	---	S	---	---
Warehouse	---	---	---	P	P
Nonnuisance industry	---	---	---	P	P
Sand or gravel extraction	---	---	---	S	S
Self-service storage facilities	---	---	---	S	S
Truck station or terminal	---	---	---	S	S
Building materials storage yard	---	---	---	S	S
Business parks (2)	---	---	---	---	P
Proprietary public parking garage or area	---	---	---	---	S
Adult bookstores, theaters and similar uses	---	---	---	---	S
Customary accessory uses and structures	A	A	A	A	A
Signs, pursuant to Article XIII	A	A	A	A	A
Private garage or parking area	A	A	A	A	A
Residence quarters for watchman or caretaker employed upon the premises and his family	---	---	---	A	A

Source: Chapter 57, Zoning, Town of Monroe Code.
P = Permitted Use S = Special Exception Use A = Accessory Use
(1) As part of a Neighborhood Shopping Center, municipal or proprietary parking area, personal service store or studio or shop for custom work, restaurant or tavern (non-drive through), retail, store, medical arts and office buildings are permitted.

Table IV.C-6 Nonresidential Zoning Districts – Allowable Uses					
Allowable Uses	**Zoning Districts**				
	NB	**WR**	**GB**	**LI**	**HI**
(2) In addition to the other uses allowed in the HI district, a business park may contain hotels and motels, restaurants and drinking places including drive-ins or fast food restaurants, integrated residential uses, and outdoor sports facilities.					

Allowable uses are further regulated in accordance with dimensional standards set forth in Schedule of District Regulations. **Table IV.C-7** identifies the minimum lot area for the primary uses within each zoning district. The minimum lot area to a large extent establishes the density or intensity of the residential and nonresidential land use patterns within the Town.

Table IV.C-7 Zoning Districts –Minimum Lot Areas		
Designation	**District Name**	**Minimum Lot Area**
RR-1.5AC	Rural Residential	3 acres
RR-1.0AC	Rural Residential	40,000 sf without central sewer
		25,000 sf with central sewer
SR-20	Suburban Residential	40,000 sf without central sewer
		20,000 sf with central sewer
SR-15	Suburban Residential	40,000 sf without central sewer
		15,000 sf with central sewer
SR-10	Suburban Residential	40,000 sf without central sewer
		10,000 sf with central sewer
UR-M	Urban Residential Multi-Family	40,000 sf without central sewer
		10,000 sf with central sewer
WR	Waterfront Recreation	20,000 sf
NB	Neighborhood Business	40,000 sf
GB	General Business	10,000 sf
HI	Heavy Industry	40,000 sf without central sewer
		40,000 sf with central sewer
LI	Light Industry	80,000 sf without central sewer
		40,000 sf with central sewer
Source: Chapter, 57, Town of Monroe Code.		

The density of land use in certain zoning districts is not related to the natural resources that dominate that area of the Town or whether the use is located in close proximity to the Town's major transportation corridors, which are better able to handle the traffic from higher density areas.

Interestingly, there are specific uses which require that environmental constraints be subtracted from the calculation of density – a practice which might better be applied to all properties throughout the

Town, rather than on a use by use basis, in order to relate density or intensity to those constraints or sensitive resources present on a parcel. For example, Section 57-13N regulates multiple dwelling groups within the UR-M zoning district. The regulations require that slopes in excess of twenty percent (20%) constraints be subtracted from the determination of density.

As presently drafted, there are very large incentives for developers to extend public utilities to certain zoning districts, which significantly increase the number of dwelling units which could result. In the URM district, four times as many dwellings could be constructed with sewer, and in the SR-20 zoning district, two times as many units could be developed. Thus, with the exception of the RR-1.5 zoning district, all areas of the Town, whether intended to actually be "rural" or not, as the name of the zoning district would imply, could be developed at more suburban and even urban densities.

3. Property Valuation Trends

Assessed valuation for the unincorporated area is reported in the Town Real Property Assessment Roll published at the end of June, and is based on the taxable status of properties on March 1st of the reported year. Within the 2005 Plan Update, the assessed valuation was categorized in a manner which cannot be readily replicated. However, the Tax Assessor was able to provide municipal reports on assessed value for 2005 and 2015 based on property class code, a more reliable way in which to make future comparisons. As shown in **Table IV.C-8**, since 2005, approximately 114 parcels were added to the unincorporated area of the Town of Monroe. The unincorporated area's assessed value increased by approximately $6,375,543, or an average of $55,926 per additional parcel.

The assessed value is the basis on which property taxes are calculated. The formula for calculating the assessed value is:

"Market Value" x "Level of Assessment" = "Assessed Value"

The level of assessment is the percent of market value used to calculate a property's assessed value. When a municipality has not gone through a comprehensive reassessment process in many years, the assessed values are a significantly lower percentage of market value than for municipalities that regularly conduct reassessments. The assessed value divided by market value is the equalization rate. The equalization rate can be used to convert assessed value into market value, in order to compare changes over time in market value.

The average assessed value in the town over a ten year period has been stagnant. Overall, the assessed value has increased by $6,375,543, or by $63,755 annually since 2005, even though 114 parcels were added to the tax roll. Based on average market value per parcel, the average value of property within unincorporated Monroe has dropped, from $321,421 to $288,838 per parcel. Likewise, total market value in the Town of Monroe has decreased by $98,122,729, or by $98,122 annually.

Table IV.C-8 Market and Assessed Valuation Trends					
Description	**2005 Assessed Value (in dollars)**	**Parcels**	**2015 Assessed Value (in dollars)**	**Parcels**	**Parcel Change**
Agricultural	168,500	3	150,900	2	-1
Residential/NonCondo	156,817,600	2,617	164,206,136	2,760	+143
Residential Condo	12,265,200	394	1,338,900	414	+20
Residential	1,173,900	15	116,400	1	-14
Vacant Land	9,569,100	873	7,160,776	746	-127
Commercial	15,000,500	41	14,894,200	46	+5
Recreational	1,097,600	4	1,036,800	7	+3
Community Services	16,333,000	21	14,979,700	98	+77
Industrial	695,100	1	492,500	2	+1
Public Services	5,983,186	39	8,988,069	42	+3
Park and Forest Land	664,700	14	729,448	18	+4
Other	0	0	0	0	0
Total Assessed Value	**219,768,386**	**4,022**	**226,143,929**	**4,136**	**+114**
Market Value	**1,292,755,211**	**--**	**1,194,632,482**	**--**	**--**
Average Assess Value Per Parcel	54,642	--	54,677	--	--
Average Assessed Value Per Parcel	321,421	--	288,838	--	--
Taxable	194,002,800	3,863	201,288,212	3,960	+97
State Owned Land	674,000	15	729,348	17	+2
Special Franchise	2,875,786	6	6,149,793	7	+1
Utilities/Non-Ceiling RR	1,881,500	21	1,448,776	20	-1
Ceiling Railroad	0	0	0	0	0
Wholly Exempt	20,334,300	117	16,527,800	132	+15
Total Assessed Value	**219,768,386**	**4,022**	**226,143,929**	**4,136**	**+114**
Equalization Rate	.17	--	.1893	--	--
Market Value	1,292,755,211	--	1,194,632,482	--	--
Change in Market Value	--	--	-98,122,729	--	--
Source: Town of Monroe Tax Assessor, 2016.					

The difference between assessed value and taxable assessed value, is accounted for by exemptions that have been granted to property owners. The amount of an exemption varies from partial exemptions, such as those granted to veterans and 485-b exemptions granted to commercial properties, to whole exemptions, such as those granted to schools, state owned property, municipal property and property owned by religious organizations. A history of taxable assessed value for the Town Outside Villages (TOV) is presented in the following table. However, as mentioned previously, the taxable assessed value does not tell the whole story as overall market value may be increasing or

decreasing within the Town depending on changes in the level of assessment, reflected by the equalization rate. As is evident from **Table IV.C-9**, the taxable assessed value has shown little change over the past ten years. Although beyond the scope of the Comprehensive Plan Update, it is important to note that the ability to fund the Town's operations is dependent on the Town's taxable value. In an environment where taxable value is largely stagnant and only increasing slightly, large increases in the municipal budget will result in tax increases.

Table IV.C-9
Taxable Assessed Value Trends

Year	Taxable Assessed Value	Annual Percent Change
1990	$139,823,702	---
1991	$140,819,329	0.7%
1992	$141,524,446	0.5%
1993	$141,572,076	0.0%
1994	$142,327,425	0.5%
1995	$142,414,361	0.1%
1996	$144,034,441	1.1%
1997	$144,982,226	0.7%
1998	$148,221,527	2.2%
1999	$152,262,688	2.7%
2000	$157,874,449	3.7%
2001	$165,639,253	4.9%
2002	$168,666,409	1.8%
2003	$177,695,040	5.4%
2004	$185,277,400	4.3%
2005	$194,002,800	4.7%
2015	$201,288,212	0.375%*

* - This percent represents the annual average increase in taxable value between 2005 and 2015.

4. Existing Residential Development Potential

Current zoning and land use regulations applied to the amount of vacant or underutilized land can be used to determine the residential development potential within the unincorporated area. This Plan Update also considers the major projects presently before the Planning Board. For purposes of this analysis, the existing development potential considered the buildout of projects which have already received some form of land use approval, and vacant land. In addition, the vacant land analysis considered whether or not the proposed project was within the existing Orange County Sewer District No. 1, as the density of residential development is higher within areas served by central sewer. It is acknowledged that there are additional large lot parcels which may be occupied presently by a single

family dwelling or other use, which could be redeveloped. While it is acknowledged that this would increase development potential within the unincorporated area, it is speculative to determine buildout for these parcels at this time.

Figure IV.C-6 illustrates properties that are the subject of major land use applications which have received some form of approval and **Table IV.C-10** lists them. Many of which have received either preliminary or final approval and have been before the Planning Board. **Figure IV.C-7 i**llustrates vacant land and properties with major subdivision proposals within the unincorporated area.

Various projects within the vicinity of the Rye Hill Road corridor were the subject of a DGEIS and FGEIS which evaluated the cumulative impact of the projects on infrastructure – drainage, water, sewer, and traffic. The SEQRA analysis included an estimate of potential water demand and wastewater generation created by the subdivisions, especially as the majority would rely on bedrock wells for potable water. Leggette, Brashears & Graham assumed that each subdivision would be comprised of a four-bedroom, single-family residence with a conservative water demand of 520 gpd (gallons per day) per household. This demand is based on the assumption that each bedroom in a single-family residence will demand 130 gpd of water supply. The Forest Edge subdivision was the subject of a DEIS and FEIS; that analysis evaluated an additional 55 accessory dwellings that could be constructed in the development.

It is estimated that 616 dwellings, with the majority of the lots proposed for single family detached dwellings, could be constructed within the developments listed in **Table IV.C-10**. An additional 55 accessory apartment units have been specifically examined as part of the Forest Edge development. No other subdivisions, including those along the Rye Hill Corridor, appear to have evaluated the inclusion of accessory apartments as part of the SEQRA analyses. However, as per current zoning regulations, each single family dwelling, once constructed, could also submit an application to construct an accessory apartment. This is in addition to any existing dwelling that similarly could also submit application for an accessory apartment.

Table IV.C-10
2016 Major Development Applications

Project	Section -Block-Lot	Acres	Lots or Units	Status
Bald Hill Estates	1-3-25.2 & 27.2	71	112-138 based on conditions of Stipulation of Settlement	Preliminary Conditional Subdivision Approval
Forest Edge	1-2-2, 9	24.42	55 lots for 4-bd s.f. detached dwellings; EIS studied accessory apartments	Final Conditional Subdivision Approval
BMG Monroe I, LLC formerly	3-1-8	59.5	181(Town and Village); 54 3-bd duplex (36 age restricted), 64 4-bd patio	Final Conditional Subdivision Approval

Table IV.C-10 2016 Major Development Applications				
Project	**Section -Block-Lot**	**Acres**	**Lots or Units**	**Status**
Smith Farm-Gilbert St			homes, 63 4-bd detached s.f.; 137 within Town of Monroe	
Henry Farm	29-1-29.52	134.11	65 lots for 4-bd s.f. detached dwellings; 50 age-restricted 2-bd townhomes; one commercial lot	Final Conditional Subdivision Approval
Golden Ray LLC – formerly Shea Meadows	31-1-1.11, 1.12	50.1	46 lots for 4-bd s.f. detached dwellings; cluster layout	Final Conditional Subdivision Approval
CHAB Realty – formerly Polak Farms	31-1-31, 62 & 63	150.4	49 lots for 4-bd s.f. detached dwellings; was seeking sketch of cluster plan	Final Conditional Subdivision Approval
Leva Phase I	31-1-23.12	17.9	18 lots for 4-bd s.f. detached dwellings	Final Conditional Subdivision Approval
Alpine	29-1-7.1	52.66	14 lots for 4-bd s.f. detached dwellings	Final Conditional Subdivision Approval
Fini	31-1-25.42, 27, 28	23.2	22 lots for 4-bd s.f. detached dwellings; *2 already in existence*	Phase I - Final Conditional Subdivision Approval; Ph. 2 – Preliminary
Eagle Ridge	31-1-2.4	44.7	40 lots for 4-bd s.f. detached dwellings; cluster layout	Preliminary Conditional Subdivision Approval
Rye Hill Estates	31-1-29	20.98	10 lots for 4-bd s.f. detached dwellings	Not yet approved
Total Acres	---	649	616 dwellings;	---

A simple quantification of the development potential of vacant properties was conducted, which took the overall gross area of each parcel, and divided it by the minimum lot area for the applicable zoning district – the density utilized was based on whether or not the parcel was in a sewer district. The evaluation considered how many single family dwellings could be constructed, as they are allowed by right in the residential zoning districts. Any fractional units were not included. Based on this analysis, an additional 1,780 single family dwellings could be constructed. The analysis did not consider any development that could be constructed on pre-existing noncomplying lots, as these likely would require

one or more discretionary variances. A rule of thumb is to further reduce the total development by 25 percent for inefficiencies in laying out subdivisions – this would result in a yield of 1,335 dwelling units. Thus, including the developments noted in **Table IV.C-10**, the potential buildout is estimated to be approximately 2,000 single family dwelling units. Environmental constraints were not subtracted out, as the Town's land use regulations do not eliminate these sensitive features when determining lot yield although these resources would further limit development. Beyond single family detached dwellings, several parcels in the UR-M and SR zoning districts are large enough to pursue a special use permit to accommodate multiple dwelling groups. Several parcels are also large enough within the RR-1.0, UR-M, and SR-20 to pursue a special use permit for a mobile home park. Development of multiple dwelling groups and mobile home parks would increase the buildout within the Town.

It is acknowledged that there are large lot residential and nonresidential properties which could be redeveloped. However, it would be speculative to anticipate the development of properties that are already developed with existing uses at this time.

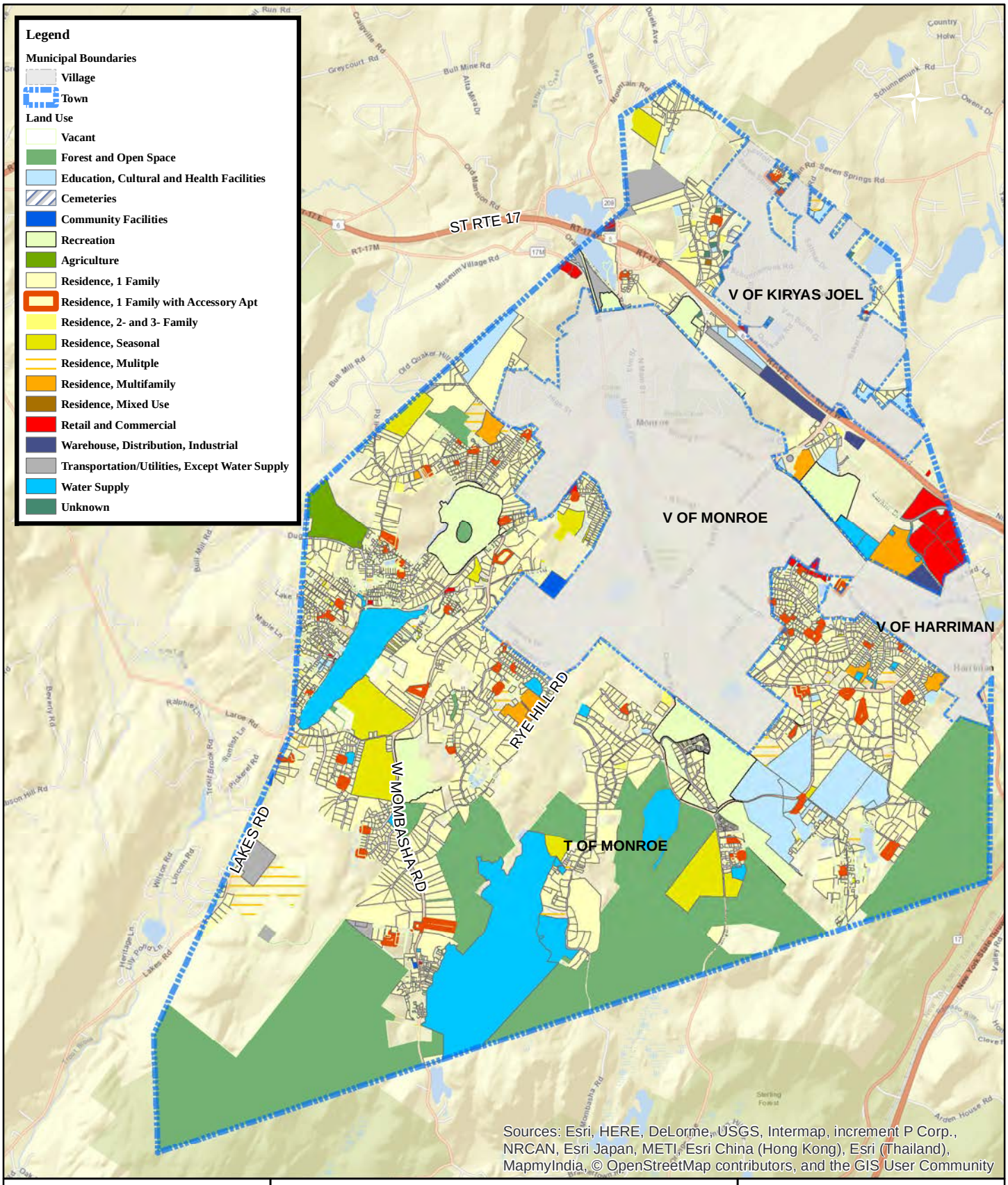

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Figure IV.C-1
Land Use

Source: ESRI Web Mapping Service;
Orange County GIS; NPV GIS Library
Scale: 1 inch = 4,500 feet

Town of Monroe

Comprehensive Plan

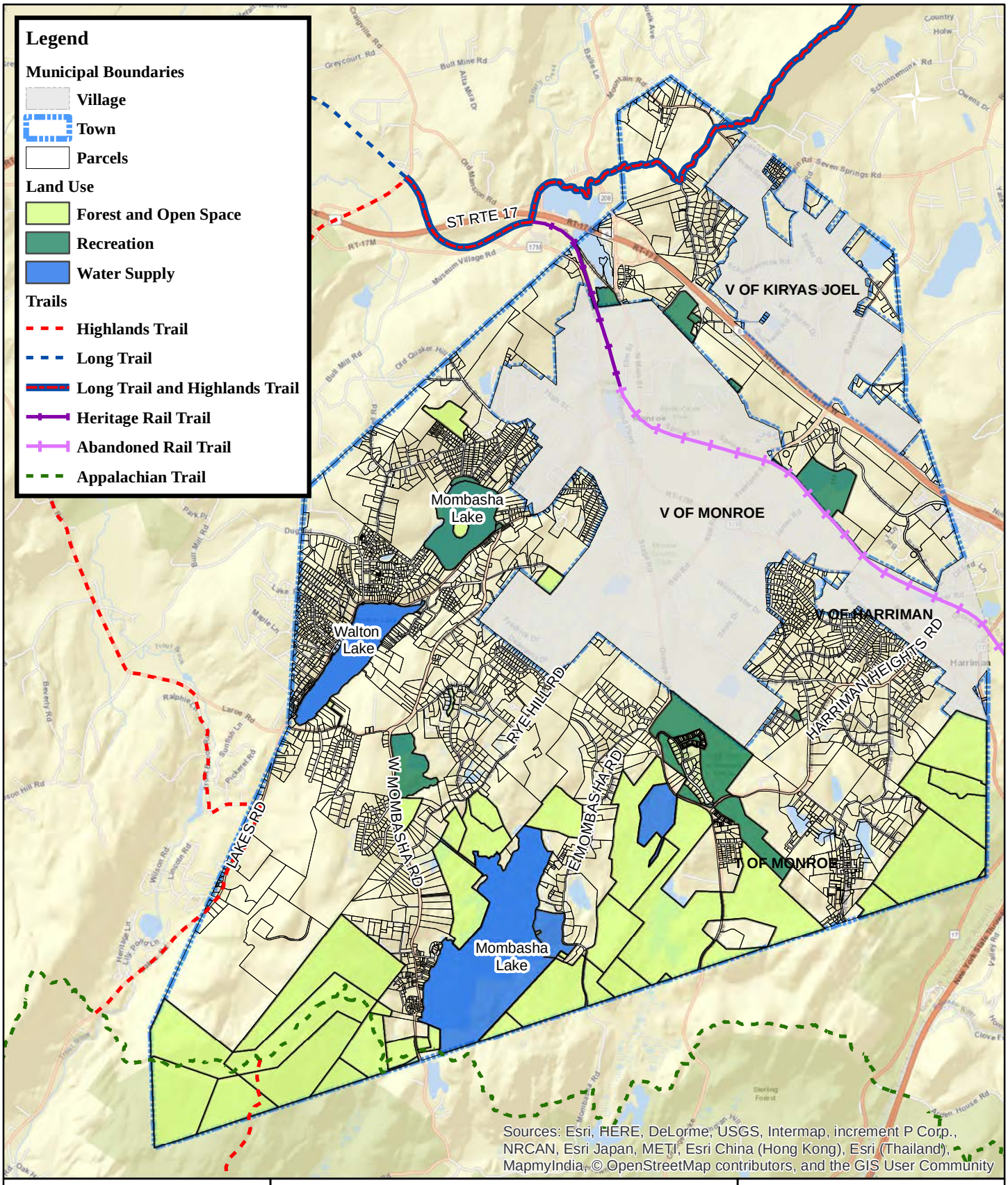

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Figure IV.C-2
Open Space and Recreation

Source: ESRI Web Mapping Service; Appalachian Trail Conservancy; NPV GIS Library
Scale: 1 inch = 4,500 feet

Town of Monroe

Comprehensive Plan

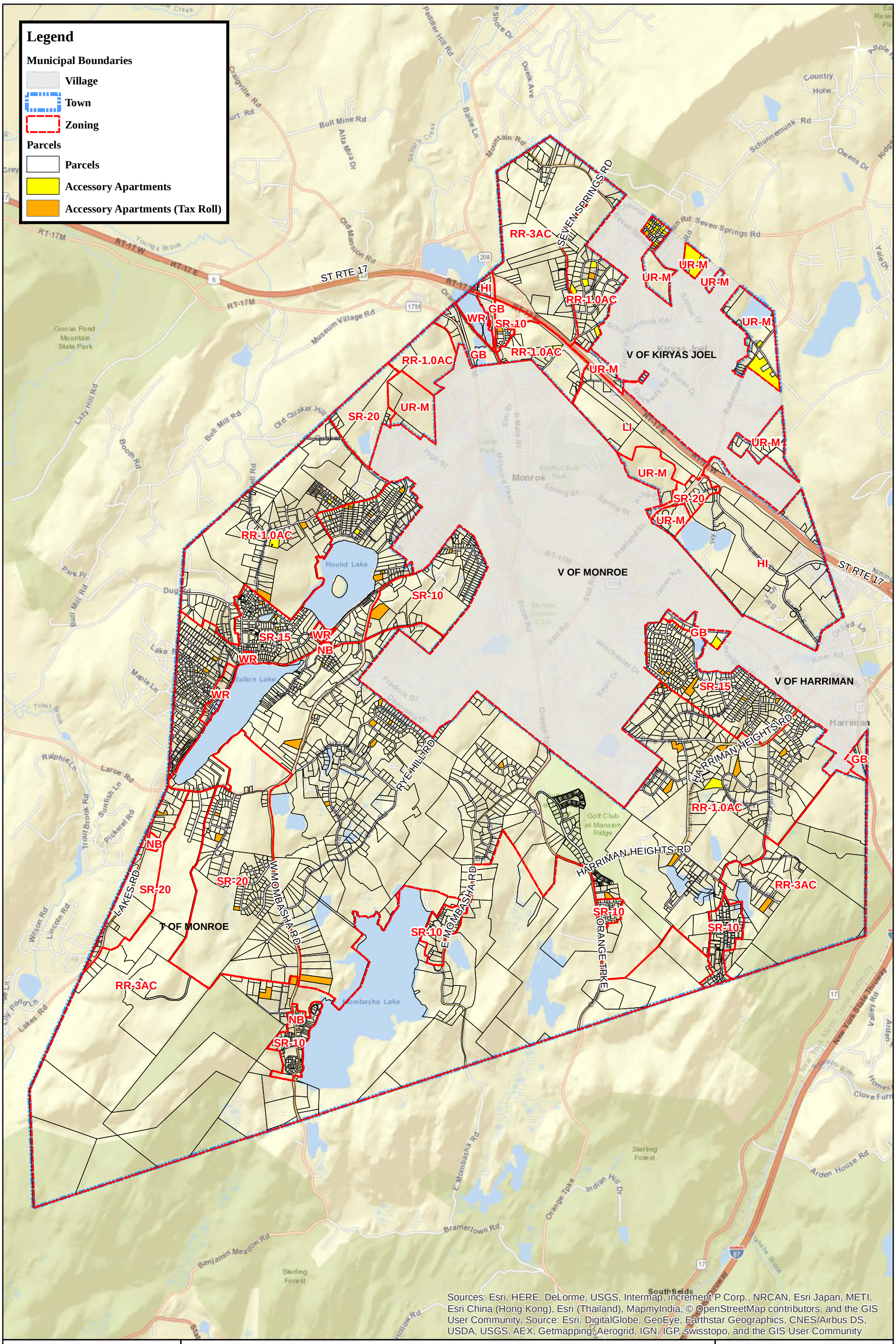

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Figure IV.C-3
Zoning **Districts** and Accessory Apartments

Source: ESRI Web Mapping Service; NPV GIS Library;
Orange County GIS
Scale: 1 inch = 3,000 feet

Town of Monroe

Comprehensive Plan

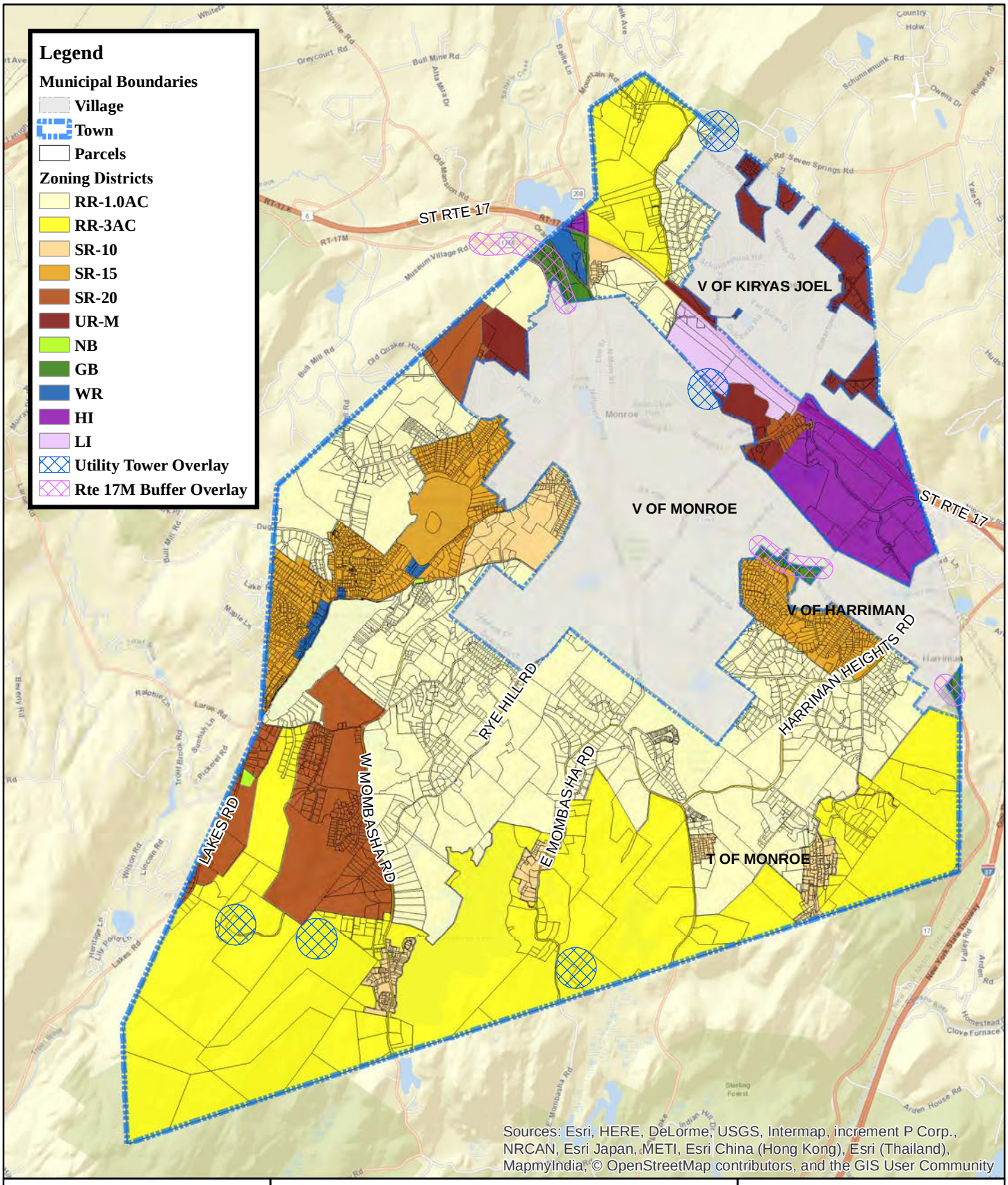

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Figure IV.C-4
Zoning **Districts**

Source: ESRI Web Mapping Service; USGS; NPV GIS Library
Scale: 1 inch = 4,500 feet

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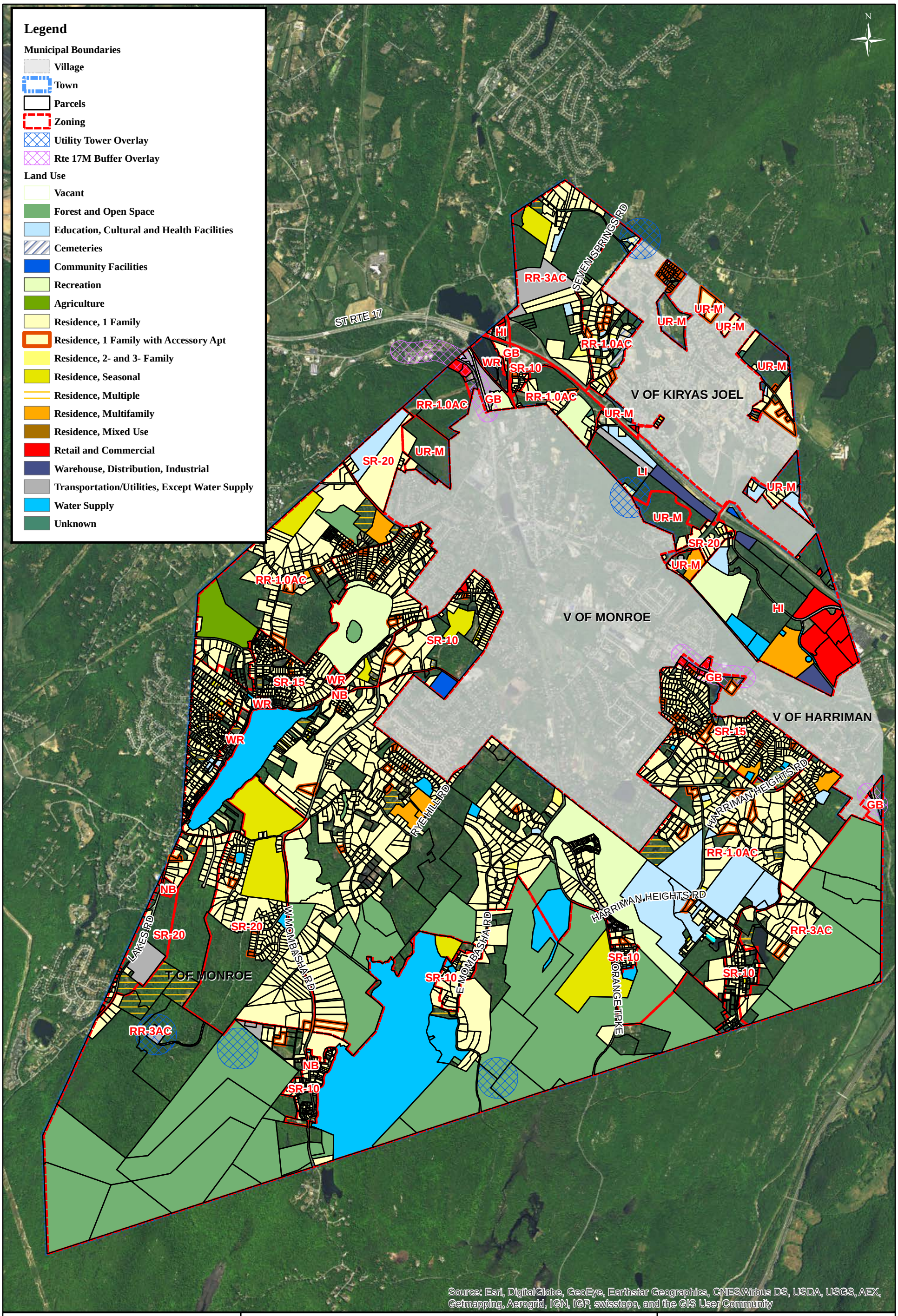

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Figure IV.C-5
Land Use and Zoning

Source: ESRI Web Mapping Service;
NPV GIS Library; Orange County GIS
Scale: 1 inch = 3,000 feet

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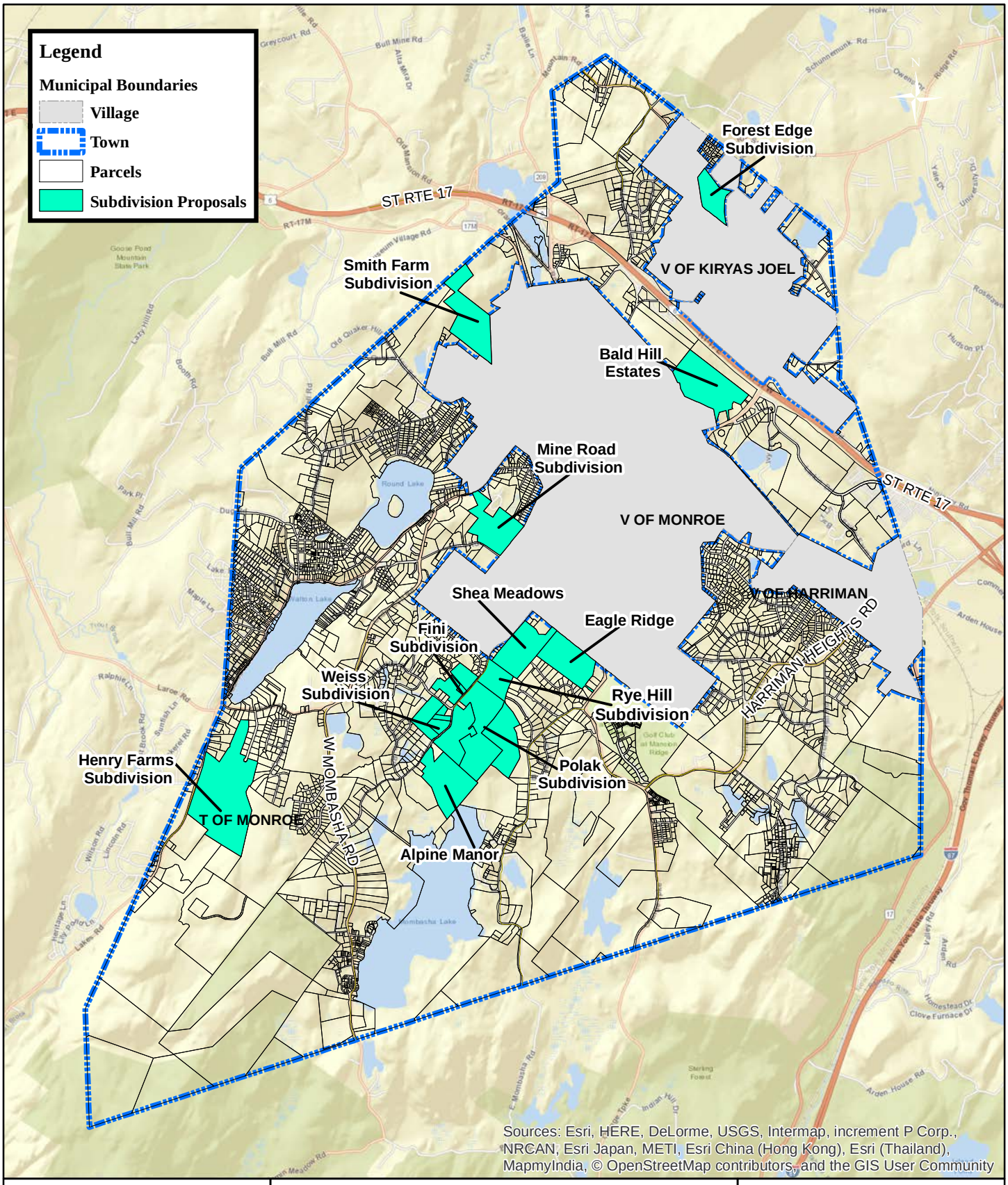

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Figure IV.C-6
Subdivision Proposals

Source: ESRI Web Mapping Service;
Monroe FEMA Mapping Update; NPV GIS Library
Scale: 1 inch = 4,500 feet

Town of Monroe

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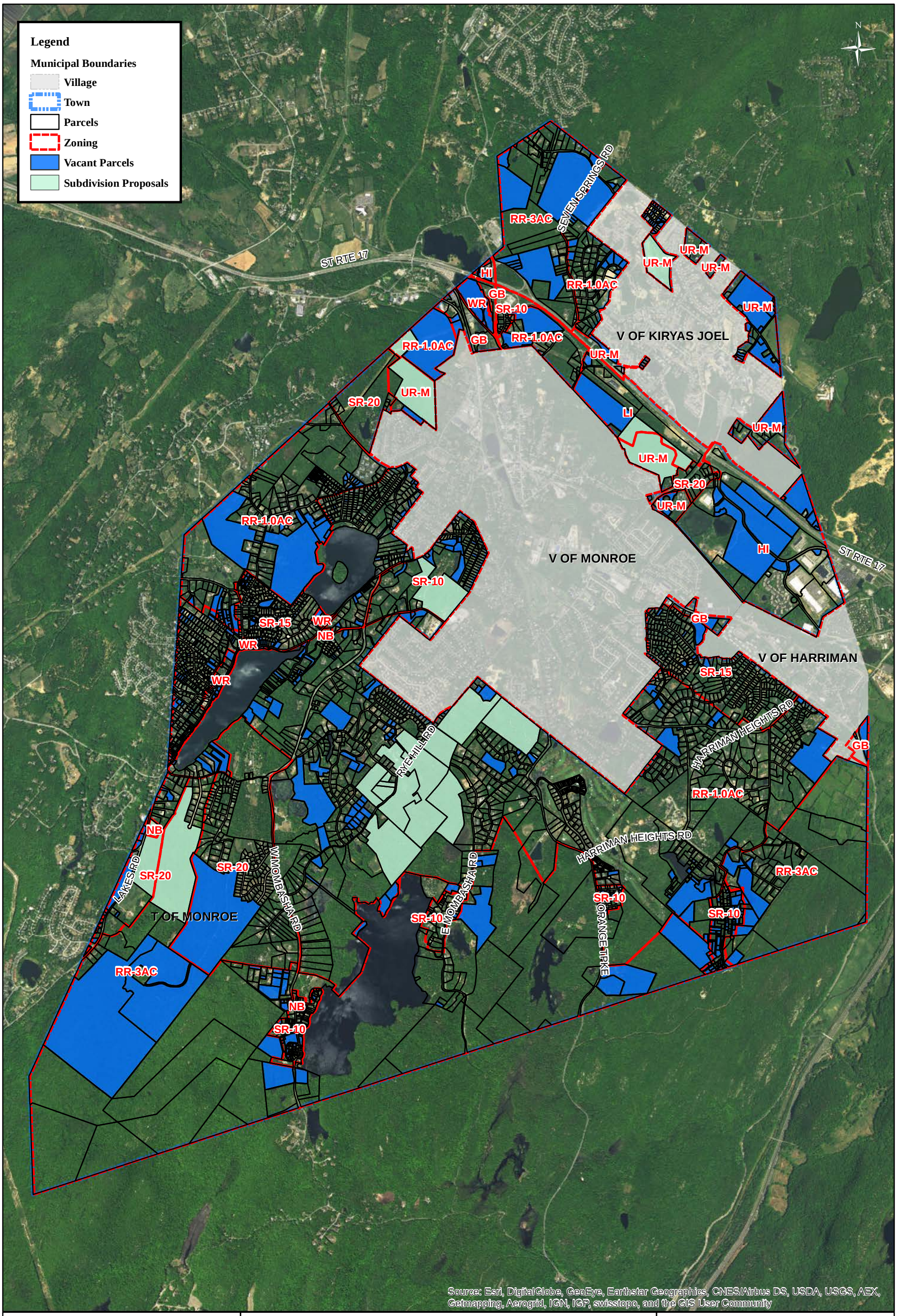

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Figure IV.C-7
Development Potential

Source: ESRI Web Mapping Service;
NPV GIS Library; Orange County GIS
Scale: 1 inch = 3,000 feet

Town of Monroe

Comprehensive Plan

D. HISTORIC AND SCENIC RESOURCES

1. Historic Resources

Historic resources help establish a community's unique character. Before the first European and colonial settlers decided to make Orange County their home, Orange County and the surrounding region was inhabited by the Minsis (Minisink), a division of the Muncee tribe, who in turn were a part of the Lenni-Lenape Indians (known as the Delaware Indians by English settlers). The Lenni-Lenape tribes lived in the region between Kingston, New York., south to the State of Delaware and spoke a dialect of the Algonquian language. In the summer they hunted and fished, and raised corn, beans, squash, and other native vegetables. Families lived in small dome shaped wigwams covered with bark or grass matting. In the winter they lived in villages surrounded by log stockades.[18] The native tribes tried to maintain a presence and an identity as a people in the face of colonialization and the pressures brought to bear on them by colonists desirous of acquiring land rights. The Minsis, having no tradition of land ownership in the sense that colonizing Europeans used it, likely were unaware of the implications of entering into agreements that would result in the forfeiture of their rights to inhabit and use the resources of the lands they had called home for perhaps thousands of years. The Clove Road, now generally NYS Route 17 between Suffern and Highland Mills, was a former trail used by the Lenni-Lenape tribes.

Orange County was organized on paper in 1683 by the English Crown, during the reign of William, Prince of Orange (for whom the land was named) yet few Europeans had settled there up until 1700. No government existed and only a handful of widely scattered white males squatted on the land. [19]As Great Britain began to colonize the area, the Crown made large grants of territory to individuals or companies. In turn, smaller grants of land were issued based on actual land surveys.

The territory comprising the present town of Monroe is part of the Cheesecock Patent granted by Queen Anne on March 25, 1707. The original derivation of the name "Cheesecock" is unclear – one source indicates it came from the Algonquin "chees" meaning "hide" or "cheessack" meaning "fur".[20]The

[18] *A Short History of Orange County N.Y. Written by: Malcolm A. Booth Sponsored by: The Orange County Chamber Of Commerce, Inc.*
[19]*Ellis, David M. et al. A Short History of New York State. Ithaca, NY: Cornell Univ. Press, 1957.*
[20] New York State Education Department, New York State Museum, 60th Annual Report, 1906.

Inset - Map of the Counties of Orange and Rockland, by David H. Burr, 1929, showing Cheesecock Patent and Lots.

Cheesecock tract was surveyed by Charles Clinton, father of George and James Clinton, and grandfather of Dewitt Clinton. The town of Monroe, which at that time was a much larger territory, was set off from the precinct of Goshen in 1764 and named Cheesecock. This name continued until 1801, when it was changed to Southfield. On April 6th, 1808, it took the present name Monroe, in honor of James Monroe, the fifth President of the United States. In 1863, the town was divided into three pieces to form the towns of Monroe, Highland and Southfield, which division is the same as the present towns of Monroe, Woodbury and Tuxedo, except that the then town of Monroe embraced a small portion of the present town of Woodbury. In 1865, the three towns were dissolved and the whole original territory restored to the town of Monroe. In 1889, it again underwent a division resulting in the present boundaries of towns of Monroe, Woodbury and Tuxedo.[21]

The Town of Monroe's growth is tied to growth of the Village of Monroe. David Smith (1701-1787) of Long Island purchased two lots from the Cheesecock patentees which became the location of the present Village of Monroe. Clinton's field book describes Lot 43 as situated on "a sudden bend of the Ramapo," at a point where a fall in the river made possible the building of a grist mill. Smith erected his home around 1741, the first structure in the village, opposite what is now the intersection of Maple Avenue

[21] *The History of Orange County, New York, Edited by: Russel Headley, Published by: Van Deusen and Elms, 1908.*

and Stage Road. This original dwelling was later subsumed within the present Federal era dwelling (315 Stage Road). In that same year he dammed the Ramapo River creating a mill pond to service a grist mill. In 1807, the road now known as Stage Road was formally incorporated as the Orange Turnpike, which served as one of the region's significant north-south thoroughfares. In his 1813 Gazetteer of the State of New York, Horatio Spafford described the town of "Munroe" (which included Tuxedo and Woodbury):

> *"It is well watered by numerous streams, and there are several ponds of 1 to 3 miles in length, which are the source of many mill streams that afford eligible sites for mills, factories, & c.... The hills, or mountains, abound with iron-ore, and with wood for coal; and these circumstances, connected with the advantages for water works, have induced a vigorous prosecution of such combined facilities in the manufacture of iron. There are now 3 furnaces, 5 bloomeries, a rolling and slitting-mill, an extensive manufactory of nails, and an anchor-works. These various works employ from 400 to near 500 men, and make a market for much of the surplus products of agriculture in this and adjacent towns."*[22]

Monroe and the surrounding communities played their part in the nation's history. Monroe's growth was influenced by the discovery of iron ore within the Highlands region and establishment of various ironworks to extract the iron ore, and convert it into a variety of products. Perhaps the most well-known company to operate within the area was the Sterling Iron and Railway Company. Early records indicate the original name of the firm was the Sterling Forge and Furnace Company. In 1736, Cornelius Board and Timothy Ward obtained 150 acres of the Sterling tract and built a bloomery and forge, turning out the first iron made at Sterling which is south of Blue Lake now in the Town of Warwick. The ownership of the ironworks seems to have been shared by a number of individuals, including William Smith, James Burling, William Hawxhurst (a road in Monroe carries this name), and Abel Noble. The Sterling Iron and Railway Company, which was headquartered in Ramapo (Rockland County), New York, operated under various names from 1736 until 1923. The 1760s saw a period of expansion at the ironworks with such products as pig and bar iron, cart, wagon and chair spindles, anchors, teakettles, skillets, pots, refined iron, and potash being produced. The first furnace at Sterling was erected in 1751 and a year later, Abel Noble and his father, William, constructed a forge near the furnace, producing their first anchors in 1753. In October 1758, William Hawxhurst and Abel Noble signed articles of co-partnership regarding the manufacturing of iron at Sterling and most likely Noble and Hawxhurst had a financial interest in the company. It was also around this time that the first of the Townsend family became affiliated with the Sterling Ironworks. The ironworks provided the Continental Army with arms and ammunition and supplying anchors for Navy warships. Peter Townsend agreed to produce an iron chain for the Continental Army. The chain was to be placed across the Hudson River at West Point and was to serve as a barrier to British vessels. The chain was laid in place on April 30, 1778.

[22] *http://www.livingplaces.com/NY/Orange_County/Monroe_Village/Village_of_Monroe_Historic_District.html*

The Sterling furnace in Lakeville was abandoned between 1804 and 1808, and a new furnace at Southfield was constructed and also controlled by the Townsend family. The Southfields Iron Works, the remnants of which are located at the base of Orange Turnpike, was constructed in and around 1806 and it produced the first blistered steel. It was shut down in 1887.

By 1797, control was mostly in the hands of Townsend family. The Sterling Ironworks were granted rights of incorporation by the New York State Legislature on April 1, 1814, and shortly thereafter, Peter Townsend completed construction of a cannon foundry on the Sterling site. On April 1, 1864, the property was sold to the Sterling Iron and Railway Company, which had been formed to assume control of the ironworks. By 1890, the business had begun to falter and in 1892 there was a reorganization of the company. Edward H. Harriman acquired a significant amount of stock in this company and by 1896, acquired all of the stocks. In 1918, all the holdings of the company were leased to Ramapo Ore Company. There was a brief flurry of activity at Sterling during World War I but it ceased with the war's end and on July 1, 1923, all operations ceased.[23] Lands that remained part of the Sterling Forest property at the southern end of the existing unincorporated area are now in the ownership of New York State, having been acquired for open space.

Mines in Monroe supplied the ore for these manufacturers. The Clove furnace in Arden, New York, was a longtime smelting site for iron ore mined from nearby veins. It was built in 1854 by Robert and Peter Parrott, who also owned and operated numerous mines in the area, known collectively as the Greenwood Iron Works. Together with the Greenwood Furnace (1810), located approximately one half mile east of Clove, these two furnaces produced iron which supplied the Parrott's West Point Foundry at Cold Spring, New York. The foundry produced the Parrott Rifle (cannon) utilized by the Union army during the Civil War.[24] By 1866, fortunes had changed, and the property (7,683 acres) on which the Greenwood Iron Works was located, was in receivership. In 1866, the property was purchased by E.H. Harriman.

[23] *New York State Library Historical Notes, at http://www.nysl.nysed.gov/msscfa/sc14069.htm.*
[24] *Orange County Historic Society, at http://www.orangecountyhistoricalsociety.org/OCHS/v2014/CloveFurnace.html*

Inset - Map Excerpt showing Conklin Road extension to Greenwood Iron Works, from Orange County Atlas, 1875, Andreas, Baskin & Burr.

The Town's roadway network reflects in part its relationship to these early industrial centers, as evidenced on various historic maps. For example, today's Conklin Road is a dead end road, but once extended to Greenwood Iron Works, that area now known as the Arden hamlet in Tuxedo. Maps also show the extent to which properties were under the control of the Parrot or Harriman families, and illustrate the locations of the former mines. Clove Mine is located along Mine Road, next to the Senior Center property. The Mount Basha (Mombasha) Minewas accessed from Cedar Cliff Road; the O'Neil Mine was located at the end of an extension of Harriman Heights Road, on the west side of Orange Turnpike. Maps also show the change in ownership, with Clove Mine on property owned by E.H. Harriman.

Inset - Map Excerpt showing mine locations, from Orange County Atlas, 1875, Andreas, Baskin & Burr.

Today, the remnants of the various mine sites still dot the landscape, and several of the mines are on land owned by the Town. Piles of tailings, abandoned mine pits and shafts are present. Although not shown on the map excerpts, the Forshee Mine, one of the four mines within the unincorporated area, is on Town land to the south of the Faber Farm.

In "Vanishing Ironworks of the Ramapos", author James A. Ransom refers to the mines within the unincorporated

area as the "Greenwood" group of mines that supplied the Greenwood furnace. They are described as follows:

> *"Clove or Wilk's Mine – About two miles north of the Forshee mine and 1 1/2 miles south of Monroe is the Clove. It was opened about 1797. By 1838 the workings were over 500 feet in length and evidently extended over a still larger area in all directions…The Parrots owned the mine from 1839 to 1885, using the ore at their Greenwood and Clove furnaces…*
>
> *Forshee Mine – The mine can be found 21/2 mile south west of the O'Neill mine. It was acquired by the Parrotts about 1839 to help supply their Greenwood furnace. The main working was an open pit about 400 feet long, and 50 feet deep…The mine was closed about 1874, but was reopened in January of 1880, and worked until June when it was abandoned….*
>
> *O'Neil or Nail Mine – The openings of this mine were located 3-miles southeast of Monroe, New York, and about 2 1/2 miles west of Arden, at a spot 41/2 miles from Route 17 along the old Orange Turnpike at Southfield. It was probably used by James Cunningham to help supply his Greenwood furnace during the War of 1812. In 1823, Gouverneur Kemble, the proprietor of the West Point foundry, leased the mine. "*

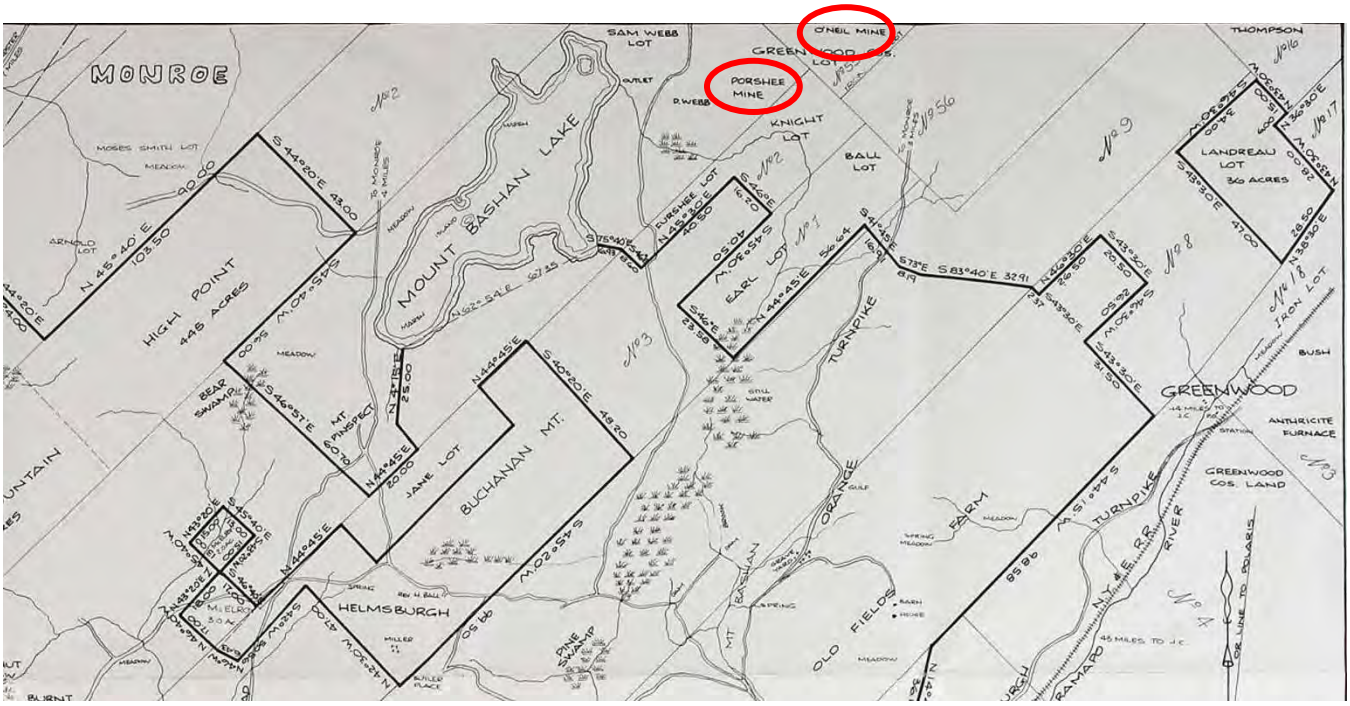
A description of the Mombasha mine is not provided, although it is noted in the Ransom book and is likely part of the Greenwood groups of mines.

Ironically, the mines within the Town of Monroe were not situated on the Sterling Forest property acquired by New York State for state parkland. Several of the mine sites remain on private property.

The dimensions of the areas which were disturbed as a result of mining and associated activities is significant. Although the mine sites themselves may not be significant in terms of acreage, the forested lands that were cleared to create the charcoal for the mines were significant. Ruttenber and Clark's 1881 *History of Orange County, NY* also noted that forest products – "lumber, firewood, hoop-poles and timber" – had formed an active industry at times, but even then noted that "Quite a portion of the town is too mountainous and rocky to be available to industrial pursuits of any kind". Thus, even over a hundred years ago, it was

Inset - Map Excerpt showing Clove Mine in ownership of E.H. Harriman, from Orange County Atlas, 1903, H.A. Mueller.

recognized that the natural limitations of the land affected its potential for use.



Inset -Excerpt of Map of The Sterling Estate - Orange County, New York, 1859, showing present area within the unincorporated Town of Monroe. Forshee and O'Neil mines are shown.

The valley areas of Town were favorable to agriculture and particularly dairy farming. Producing and selling milk became a significant business in the Town after the 1841 extension of the Erie Railroad (Newburgh Short-Cut Branch) serving Monroe allowed milk to be shipped to New York City twice a day. The surge in milk production brought new advances in local ice production for cooling the milk, and in facilities for processing and shipping. Rev. Daniel Niles Freeland's 1898 chronicle of Monroe describes three creameries in the Town, one for manufacturing fine cheese, and the other two for milk collection.

Inset - Postcard of Camp Comfort, Monroe Historical Society, 2016.

Before the turn of the 20th century, the Erie Railroad would transport city-dwellers to Monroe, where they would stay in hotels and boarding houses and enjoy the Town's many lakes. Agricultural properties

were converted to summer resorts, both for the public, and as retreats for the wealthy who wanted to be relieved of the hot New York City summers by spending time at country homes. Camp Comfort and its cooperative still exists along the east shore of Mombasha Lake.

Inset - Postcard of Hotel Monte Carlo, Walton Lake, Monroe Historical Society, 2016.

Concentrations of summer bungalows, cottages and summer camps developed. Later, property owners winterized the small cottages and bungalows. A review of tax records indicates that many of the former summer cottages are nearly 100 years old. An account of a couple and how they met, posted in Newsday, referred to Monroe in the 1940s as the "Greek Alps", where many of the resorts drew Greek Americans from the city. The Monte Carlo, formerly the Idle Hour Inn, was one such resort located along Walton Lake.

There are numerous existing historic buildings that remain within the unincorporated area, which pre-date the 1900s. The 2005 Plan Update included an Appendix A, which listed various historic properties within the unincorporated area. One of the issues is that the 2005 Plan Update do not have specific addresses for the properties, the names of some of the dwellings are not based on a personage that the Historian would be familiar with, or the properties do not appear on historic maps. To the extent the properties could be confirmed, they are so noted in **Table IV.D-1**. **Figure IV.D-1** illustrates the location of these properties.

Table IV.D-1
2005 Plan Update – Appendix A Historic Properties

No.	Name	Approximate Location	Status
1	Raso	Rt. 17M and Orchard Drive	Demolished – Quik Chek*
2	Vernon's Barn	228 Seven Springs Mountain Road	1-1-25.1
3	O'Gorman House	50 Edward Place - Lake Manor	3-2-19
4	Dean/Cromwell House	9 Cromwell Road	7-1-24
5	Walton Lake Schoolhouse	134 School Road	9-6-4
6	Edwin Conklin	2 Berry Road	31-1-19.1
7	Post House	247 Harriman Heights Road	24-1-68.13
8	Post Barn	Harriman Heights Road; 3 Country Court	24-1-68.23

Table IV.D-1 2005 Plan Update – Appendix A Historic Properties			
No.	**Name**	**Approximate Location**	**Status**
9	Dr. Holthuysen House	2 Pine Tree Road (identified as Harriman Heights Road)	24-1-44.11
10	Lewis Orchard Hill Farm House	481 Orchard Hill Road	24-2-49
11	Braymar	214 Cromwell Hill Road	7-1-99.1
12	Monroe View	31 Owen Drive	3-1-10
13	Heaton House	Walton Lake; 11 Heaton Road	10-4-2
14	Bull (Lakeside Farms)	Walton Lake; 482 Lakes Road	13-3-23
15	Crane House	24, 25, 26 Straus Lane; Quaker Hill Road	3-1-19.2
16	Neuhaus (El Dorado Farms)	El Dorado Farm Road off of 235 Dug Road	7-1-20.11
17	Blain (Hain Club)	Hain Drive and Scenic Drive	41-2-7.32 – remains of structure
18	Camp Comfort	Water Plant Road	31-1-11
19	Next to Gleason House	20 Pine Tree Road (Gleason House is 30 Pine Tree Road)	24-1-47
20	Emanuel House (Bernhard Schmid Grandview Farmhouse)	46 Pine Tree Road	24-1-49
21	Caren House	1371 Orange Turnpike	31-1-3
22	Berry House (Nancy See)	87Berry Road	29-1-7.3
23	Webb	1363 East Mombasha Road	31-1-18.2
24	Checkerboard Inn	1292 Orange Turnpike Mansion Ridge Golf Course	31-1-55.22
* Structure demolished – property is not shown on the map. Source: 2005 Town of Monroe Plan Update; Jim Nelson, Town Historian, NP&V, LLC, 2016.			

Inset - Pre-1900s Residence on Pine Tree Road

Table IV.D-2 provides a list of properties which have structures which date to this early time period. In addition, numerous early buildings dating to the early 1900s still exist today – these properties are shown in **Figure IV.D-1**. Many of the pre-1900 dwellings are former farm houses which are reminders of the Town's agricultural history. It is important to understand that at present, there are no regulations which would protect these dwellings from demolition. Further, even those buildings and structures listed on the National Register or eligible for listing are not protected. The only means by which a building can be afforded some protection is to enact a local landmark law.

Table IV.D-2
Pre-1900 Buildings in Unincorporated Monroe

Tax Parcel No.	Address	Year Structure Built
1-1-38	55 Via Lapari Rd	1880
1-1-79	444 St Rte 208	1890
1-3-26.1	45 Old Country Rd	1870
1-3-31	21 Old Country Rd	1840
1-3-36	650 Co Rte 105	1843
3-2-01	63 Quaker Hill Rd	1860
3-2-19	50 Edward Pl	1875
7-1-20.11	235 Dug Rd	1870
7-1-24	9 Cromwell Rd	1728
7-1-81.3	259 Cedar Cliff Rd	1870
7-1-88	224 Mine Rd	1870
7-2-15	102 Cedar Cliff Rd	1808
7-2-27.21	40 Hala Dr	1870
7-2-50	132 Cedar Cliff Rd	1870
9-6-4	134 School Rd	1853
10-4-02	11 Heaton Rd	1830
13-1-27	8 Lake Ave	1890
13-3-32.3	7 Yankee Ct	1880
13-8-3	25 Catskill Ave	1870
24-1-42	314 Harriman Heights Rd	1878
24-1-43	315 Harriman Heights Rd	1874
24-1-44.11	2 Pine Tree Rd	1780

Table IV.D-2 Pre-1900 Buildings in Unincorporated Monroe		
Tax Parcel No.	**Address**	**Year Structure Built**
24-1-47	20 Pine Tree Rd	1840
24-1-63	81 Pine Tree Rd	1880
24-1-68.13	247 Harriman Heights Rd	1861
24-1-72	140 Harriman Heights Rd	1850
24-1-76.1	326 Orchard Hill Rd	1880
24-1-93	1885 St Rte 17M	1870
24-2-49	481 Orchard Hill Rd	1859
31-1-3	1371 Orange Turnpike	1810
31-1-18.2	1363 E Mombasha Rd	1810
41-2-30	15 Mapes Lane	1887
Source: Orange County Real Property, Image Mate Online, 2016.		

Inset - Checkerboard Inn National Register Historic Site, 2016.

Figure IV.D-2 presents designated archaeological and historic resources within the unincorporated Town of Monroe that are identified in the New York State Historic Preservation Office's (SHPO) database. Only one property in the unincorporated Town is listed on the National or State Registers of Historic Places, although there are numerous buildings, structures and locations which would be determined eligible. The Checkerboard Inn, also known as the Migel Residence, is owned by the Town of Monroe, and located on the Mansion Ridge property next to the clubhouse. It has stunning views of the valley over to the flanks of Schunemunk Mountain. The Checkerboard Inn, also known as the Forshee-Jenkins House, was originally built as a house, but was converted to an inn when the Orange Turnpike, an early toll road, opened in 1802.In the 20th century, it was expanded to serve as a family cottage for the family of a New York silk merchant, Moses Migel. Between 1790 and 1810 the main block of the building was built in a vernacular local style for a local farmer, Bernard Forshee. In 1802 the Orange Turnpike was routed past the house. A segment of the road bed remains just to the east of the house. After a stint as an inn, New York City silk merchant Moses Charles Migel bought the property and surrounding lands to create Greenbraes Farm, a 230-acre estate. Orange Turnpike was realigned to allow him to construct other building on the property next to

the home. The entire former Migel Estate was developed into the current Mansion Ridge complex and the Inn was donated to the Town. The Town's intent has been to convert the home into a Town Museum. At this time, the Town's artifacts are being stored within the senior center at the Historian's offices.

Figure IV-D.2 also identifies locations within the Town that are considered "archaeologically sensitive". Cultural resource investigations within these areas have a higher probability of encountering prehistoric, i.e., pre-European settlement, artifacts, associated with the Native American tribes.

In the 2005 Plan Update, it was reported that a list of historical properties and features would be made available on the town's website and updated from time to time. The listing, in addition to historic houses, would also include other structures of historic interest including but not limited to old stone farm outbuildings. All of these features are an important part of the Town's historical landscape and will require consideration in the course of any land use reviews. The list is yet to be added to the Town website.

As per the public workshop conducted for this comprehensive planning effort, the following additional properties, within the unincorporated Town of Monroe, were recommended for formal historic recognition and designation: Walton Lake School; Lime Kiln; Area of Maple Knolls and surrounding area; Mines along Mine Road and Cedar Cliff; Shea Farm Compound which dates to the 1800s, and includes a unique fieldstone silo; Faber Farm; Reynolds House; Mary Crest; Ice House Pond; Smith Farm; Island at Round Lake. Additional materials were submitted and are on record with the Town Clerk in support of the Shea Farm compound being designated a local historic resource. The structures on the Shea Farm Property are an excellent example of the domestic architecture of the 19th century. In addition, the contributions of the Shea family to the town of Monroe and New York State have been notable, including Sheriff John S. Shea and Judge William P. Shea, who served the community. The farm itself is surrounded by a stone fence, which is punctuated by two stone pillars at the entrance to the gravel driveway. The date of construction of the farmhouse has not been established, but the hand-hewn beams and stone steps of the original portion of the structure indicate that it is of considerable age. A striking building associated with the complex is a rare fieldstone silo, covered by a shake shingle roof. The fieldstone silo is one of only a few known to exist and along with other structures on the property, is historically significant to the local community.

Others were identified, but they are located in the Village of Monroe and the Town does not have jurisdiction over these properties.

2. Scenic Resources

Natural and cultural assets of a community that are visually appealing are identified in this Plan as scenic resources. Scenic resources help form an impression of a community, i.e., its community character. Scenic resources can encompass a variety of landscapes, natural environments and man-made

structures. The Town has not conducted a comprehensive scenic resource inventory of the community. This Comprehensive Plan Update engaged the public in an open house session where the public was allowed to define the resources which lend Monroe its sense of place. Scenic resources can take the form of the following:

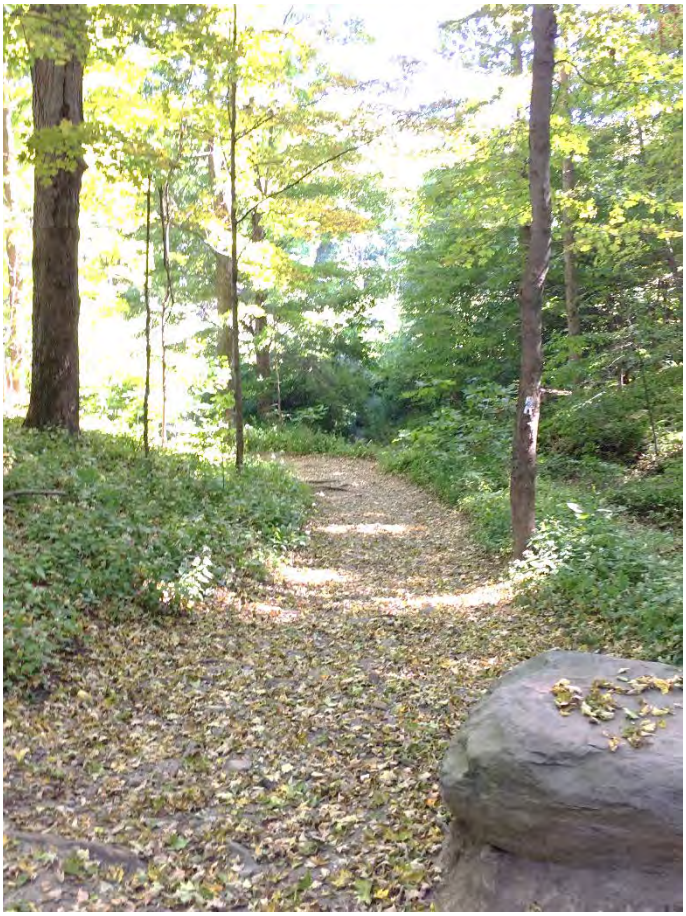
- Viewsheds, which encompass a variety of scenic resources within a viewshed. For purposes of the Plan, important scenic views are those that are visible from public properties or roads;
- Roads and trails, which travel through scenic settings or from which scenic vistas are visible;
- Heritage areas, including locations which include resources important to Monroe's history and sense of place, including but not limited to historic buildings, stone walls, specimen trees, mined areas and other places identified by Monroe's residents; and
- Natural areas, including lakes, ridgelines and hillsides, rock outcrops.

The following sections describe the major scenic assets within the unincorporated area.

a. Trail Viewsheds

Figure IV.C-2 shows the location of the major trail assets within the unincorporated area.

Appalachian National Scenic Trail



The Appalachian National Scenic Trail (AT) is an approximately 2,180-mile public footpath that travels through the "*scenic, wooded, pastoral, wild, and culturally resonant lands of the Appalachian Mountains*". It was conceived in 1921by regional planner Benton MacKaye, who devised the proposal for "An Appalachian Trail: A Project in Regional Planning". It was built by private citizens, and the trail which extends from Maine to Georgia was completed in 1937. It was the National Trails System Act that called for state and federal purchases of the corridor that contain the trail, and it was not until 2014 that the corridor was completed. It is managed by the National Park Service, U.S. Forest Service, Appalachian Trail Conservancy, state agencies and volunteer associations.

The Trail is used by through-, section- and day-hikers. In the Monroe area, the Trail's proximity to the New York metropolitan area puts it within

reach of a large population of users. The AT is particularly vulnerable to external threats, including impacts to the scenic and cultural resources surrounding the trail. Also, trail hikers can unknowingly bring exotic species onto the trail, which can then spread to adjoining parklands and negatively impact habitats located there. AT management goals include efforts to document the location of exotic species within natural areas along the Trail. **FigureIV.D-3** identifies the viewshed which may be visible along segments of the Appalachian Trail. The trail crossing at West Mombasha Road in the unincorporated area is unmarked.

The Long Path

The Long Path and Highlands Trail are coterminous in Monroe and travel through the northern corner of the unincorporated area. The path is of regional significance. According to the New York-New Jersey Trail Conference website, it extends 357 miles from the 175th Street subway station in New York City to John Boyd Thacher State Park near Albany. The Long Path connects many of the state's parks, preserves, and state forest lands In Monroe, the trail appears to travel over property owned by Orange and Rockland, and proceeds to Seven Springs Road, where it enters Gonzaga Park. It heads in a northerly direction to Schunemunk Mountain. **Figure IV.D-3** identifies the viewshed which may be visible along segments of the Long Path. The trail crossing at Seven Springs Road is unmarked.

In general, the experience along segments of the trail system can be marred by development which is inconsistent with the open, undeveloped natural trail experience. **Figure IV.D-3** illustrates the potential viewshed which may be visible from the Town's major trails which are elevated above the landscape, and which may have significant and extensive views of the surrounding landscape. The visibility of these areas depends on season, i.e., whether there is intervening vegetation which blocks views from these trails. In addition, visibility varies depending on the season, and whether leafs are on or off trees. During "off-leaf" season, e.g., winter, the trails are less utilized.

Heritage Trail

The Orange County Heritage Trail is at present an approximately 11.5 mile linear rail trail that extends from Goshen to Monroe, over the right-of-way of the former Erie Railroad. When completed, it will extend from the City of Middletown to the Village of Harriman. There are several access points within Monroe, and walking, biking, and rollerblading are permitted activities. The Heritage Trail within Monroe passes mostly through Village of Monroe; a small segment, between Route 17M and Orange and Rockland Lake Road, passes through the unincorporated area.

b. Scenic Roads

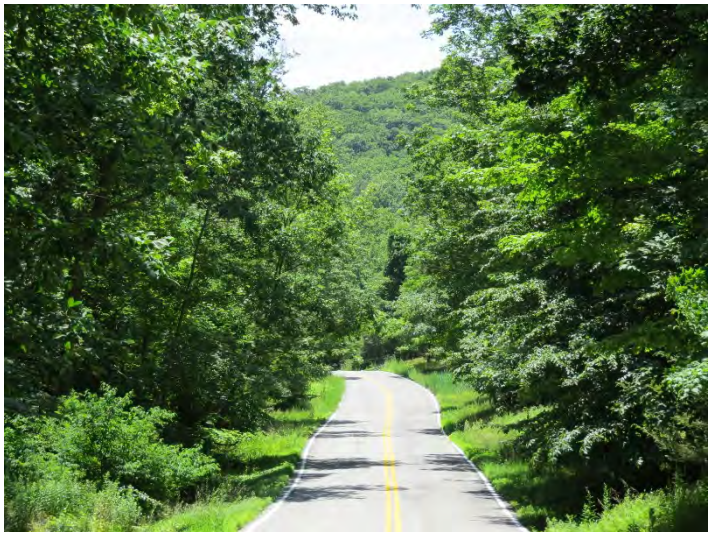
The Town's 1998 Master Plan Update referenced the importance of scenic resources, and noted the need to protect the viewsheds visible from public roads which encompass the Town's scenic water bodies and wooded mountains. The Plan's goal was to protect these views from disturbances that include wide swaths of cuts and fills made from the introduction of new roads and driveways, and from

impacts of highly visible structures including overhead utility lines.

Inset - View of Harriman Heights Road and stone entry pillar

As stated in the 2005 Plan Update, the character of the Town which is visible from the existing streetscape is loved and valued by existing residents. The roadside view of wooded lands, streams and ponds, rock outcrops and old stone walls interspersed with field openings and small houses tucked into the woods is a treasured part of the Town's community character.

For example, scattered throughout the town, as reminders of existing or former estates and farms, are stone pillars that mark the entry ways into these properties which should be preserved.



Inset – East Mombasha Road as it travels through state parkland

Based on community participation results, scenic roads include (the following received over 50 percent rating in the public survey):

- Orange Turnpike (85.3%)
- Lakes Road (78.5%)
- Rye Hill Road (73.1%)
- East Mombasha Road (71.3%);
- West Mombasha Road (70.3%);
- Cedar Cliff (67.7%);
- Harriman Heights Road (67%);
- Pine Tree Road (58.8%)
- Berry Road (58%);
- School Road (57%);
- Seven Springs Mountain Road (53.4%)
- Cromwell Hill Road (51.3%).

Several gateways into the Town pass through conservation lands and parkland, which create the sense of a Town with a rugged, forested and secluded feel. Lakes Road, East and West Mombasha Roads, and Orange Turnpike all pass through wooded state parkland, Orange County Land Trust property, and other protected lands as they enter the Town. Route 17, Route 6 and the Thruway pass through lands of the Palisades Interstate Park Commission. Major gateway roads into the unincorporated area include NYS Route 17, West Mombasha Road, Orange Turnpike, and Lakes Road.

Insert - Orange Turnpike entering the unincorporated Town of Monroe

The policy of this Plan is to try to preserve the existing scenic viewsheds within the sparsely settled areas of the Town, to the greatest extent practicable. The 2005 Plan Update recommended measures such as clustering, single-loading portions of new roads so that scenic views remain intact, planting or retention of wooded buffer strips and hedgerows, particularly along existing roads or on upper elevations of a site facing an existing road, and minimizing curb cuts onto existing roads. Where an existing road affords a view of a lake or pond, care should be taken to avoid blocking it with a structure or other barrier wherever possible. Clustering of development, even if it only involves minor changes to a plan, can and should be used to protect visual amenities. Where new features are added, such as new storm water management basins, design requirements should be imposed so that they will serve as visual amenities in addition to fulfilling intended engineering functions.

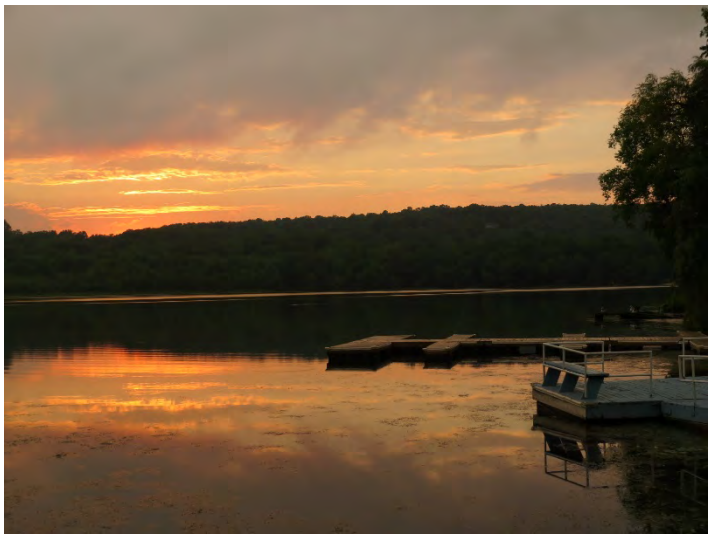
c. Heritage Areas

Heritage areas include those areas that remind the community of its unique history. Heritage areas would include, but are not limited to:

- Former farms, such as the Faber Farm which is now protected;
- Mines and associated infrastructure;
- Historic roads and their rural character, especially those identified on local history maps.

While the viewsheds visible from the Town's "historic" roads in the unincorporated area have been greatly altered, there may be segments which are still relatively undisturbed by modern conventional development which could be preserved to protect the existing character in that area. Within the Town, the roads which show up on historic maps, such as the 1875 Burr map, include: Orange Turnpike, West Mombasha Road, East Mombasha Road, Lakes Road, Rye Hill Road, Berry Road, Mine Road, School Road, Harriman Heights Road, Orchard Hill Road, Pine Tree Road, Post Road, Quaker Hill Road, Cromwell Hill Road, Dug Road, Seven Springs Road, Seven Springs Mountain Road, Bakertown Road, Acres Road, Schunemunk Road, and Forest Road. Several segments of these roads no longer follow their original alignment. Many of the Town's pre-1900 buildings front to these roads, which also are typically the major collector and arterial roads serving the Town.

d. Natural Areas



Inset - Round Lake at sunset

Certain natural features in the Town have been identified as quintessential elements of the Town's community character, and which define the Town's sense of place. The most significant scenic assets within the Town are its many lakes; the Town's tag line is the "Lake Region". Named lakes include: Round, Walton (historically known as Long Pond), Mombasha, Sapphire, Blythea Lake, Shadowmere, Blendale, Winape, Arow, and Orange and Rockland lakes. USGS quadrangle maps from 1902 illustrate that Mombasha, Walton, Round, and Orange and Rockland lakes were already in existence. Other lakes within the town were impounded later and created from low-lying marshes and streams. By 1935, Shadowmere, Blendale, Sapphire, Winape, Mountain, Coronet, and Arrow lakes had been created. Other smaller lakes continued to be created, as elements of bungalow communities, and seasonal camps. Several smaller lakes have silted in and are reverting to freshwater wetlands.

The other major natural asset within the Town are the high points and ridgelines that are visible from public roads and other public spaces. Very few of the ridgelines within the Town are named. The only named hill with the unincorporated area is Bald Hill. Ridges and elevations are shown in **Figure IV.D-4**. The 2005 Plan Update recommended that these assets be preserved in as natural a state as possible. The higher elevations within the unincorporated area are particularly visible from the Appalachian National Scenic Trail. Approximately 88.3 percent of survey participants favored protecting ridgelines.

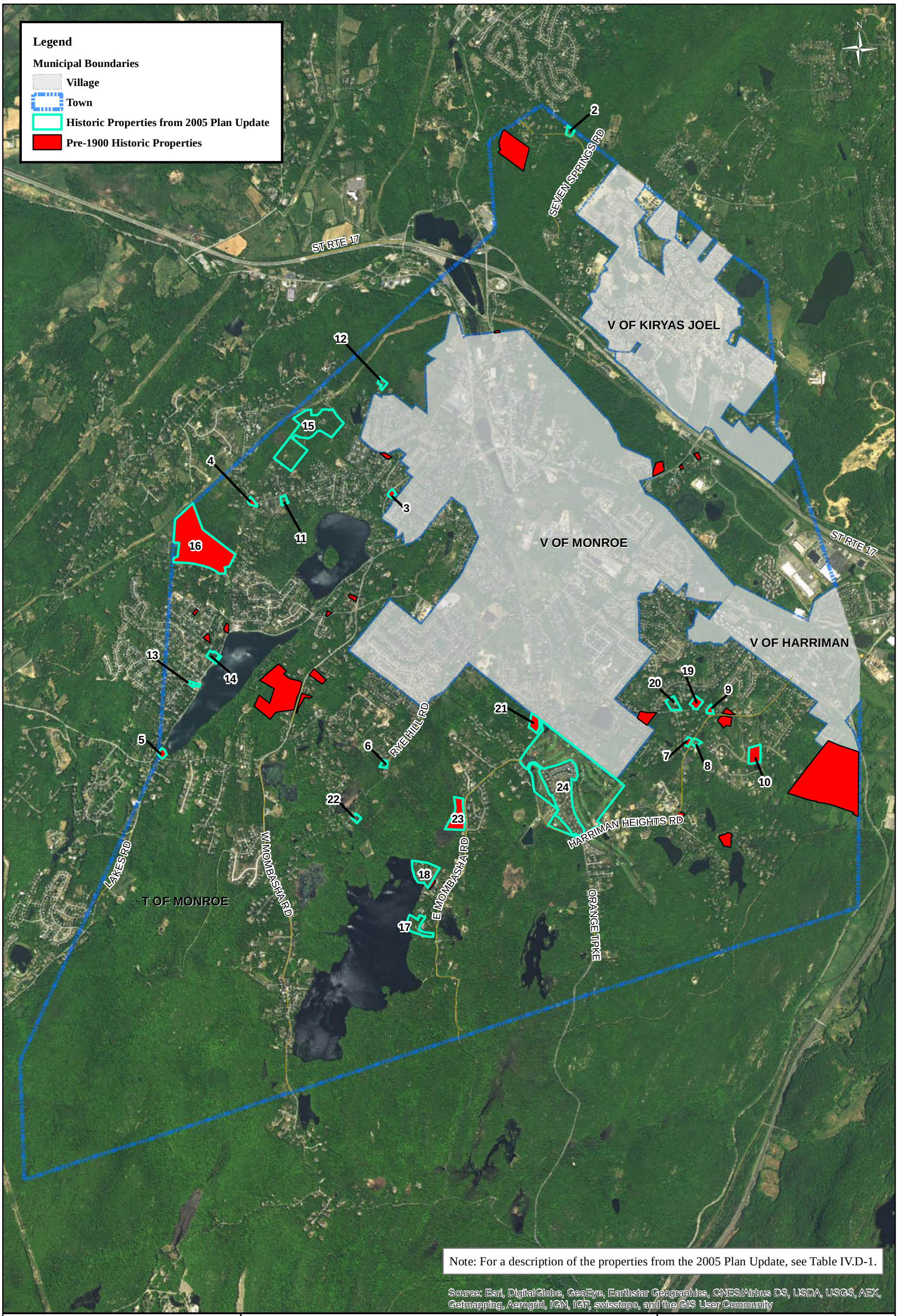


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Figure IV.D-1
Historic Resources

Source: ESRI Web Mapping Service; NPV GIS Library; Orange County GIS; Monroe 2005 Plan Update
Scale: 1 inch = 3,000 feet

Town of Monroe

Comprehensive Plan

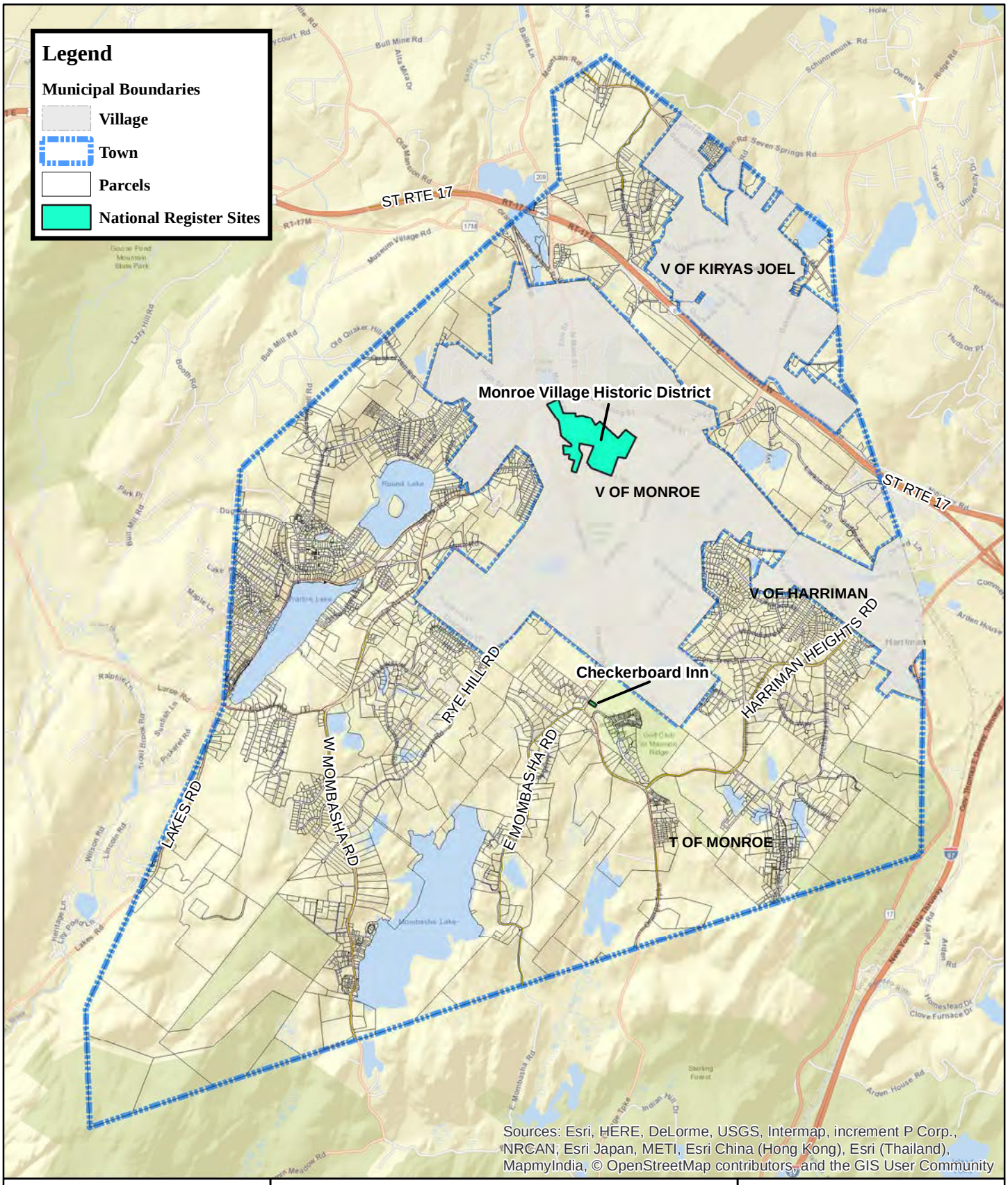

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Figure IV.D-2
Cultural Resources

Source: ESRI Web Mapping Service;
CRIS; NPV GIS Library
Scale: 1 inch = 4,500 feet

Town of Monroe

Comprehensive Plan

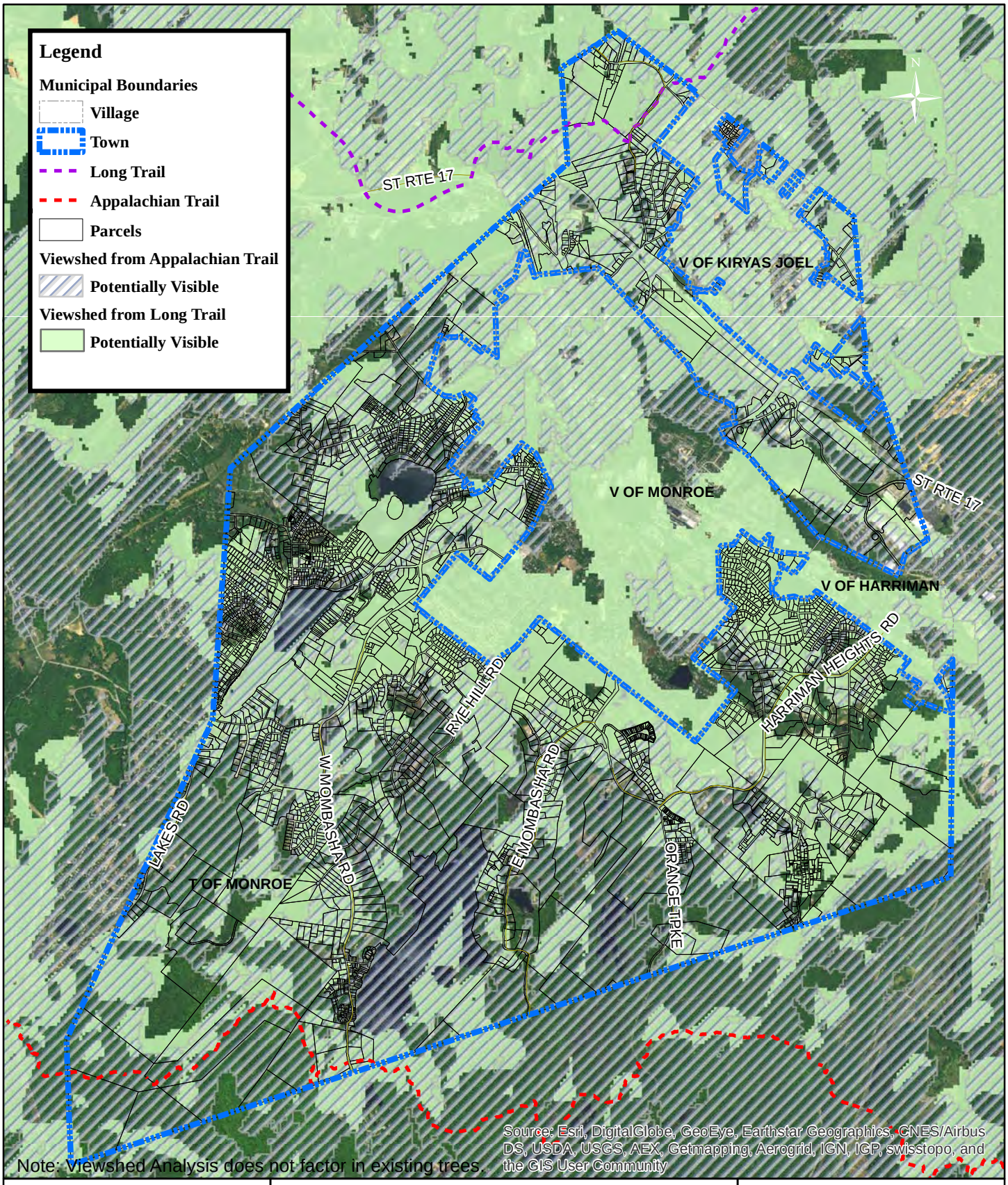

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Figure IV.D-3 Viewshed from Appalachian and Long Trails

Source: USGS National Map;
Town of Monroe GIS Data; NPV GIS Library
Scale: 1 inch = 4,250 feet

Town of Monroe

Comprehensive Plan

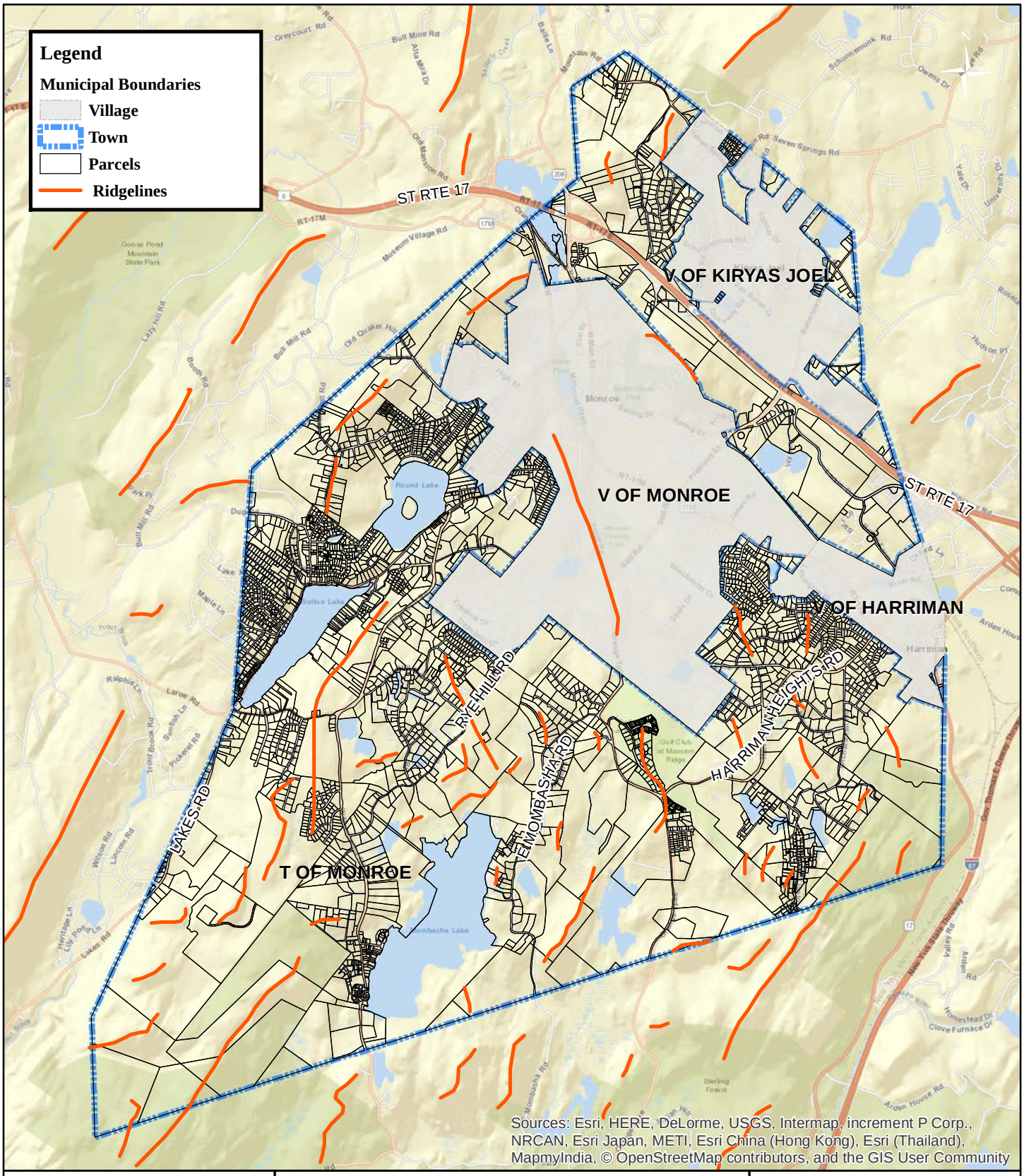

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Figure IV.D-4
Ridgelines

Source: ESRI Web Mapping Service; Ridge lines estimated from USGS 1 meter DEM
Scale: 1 inch = 4,500 feet

Town of Monroe

Comprehensive Plan

E. UTILITIES

The ability to accommodate development, and the density and intensity of same, depends in part on whether centralized wastewater treatment and water supply systems are available, or can be extended into an area. Large portions of the Town of Monroe are served by centralized facilities. It is important that the availability of these facilities does not become the primary "driver" of land use decision making, First, the Town's citizenry must decide how it wants to grow, and the type of community that it wants to aspire to, as set forth in its vision of the community, and then make decisions related to the availability of utilities that are consistent with that vision.

1. Wastewater Facilities

The major impetus to the development that has occurred in the Town of Monroe is the availability of centralized wastewater infrastructure and treatment. The availability of wastewater treatment, and properties located in sewer districts must be understood, since the Town's land use regulations allow higher densities of development when a property is served by central sewer.

a. Orange County Sewer District No. 1 and Moodna Basin Commission

According to the report entitled "Orange County Sewer District No. 1 Flow Management Plan[25], the Orange County Sewer District No. 1 (OCSD) was established by Orange County Legislative Resolution No. 38 of 1970[26].The OCSD encompasses: the Villages of Kiryas Joel, Harriman and Monroe, and a portion of the Town of Monroe within the Ramapo Basin, according to the Plan – the specific area that the district encompasses is described in the resolution.[27] The Orange County Commissioner of Public Works is the district's administrative head. In 1974, the Harriman Wastewater Treatment Plant (HWWTP) was constructed to serve the district, and had a treatment capacity of 2 million gallons per day (mgd). The State Pollutant Discharge Elimination System (SPDES) permit that is required to allow discharges of treated wastewater flow from the plant into "waters of the United States" is held by Orange County. The Orange County Sewer District No. 1 area is shown in **Figure IV.E-1**.

In 1978, the OCSD entered into Intermunicipal Agreements (IMAs) with additional municipalities to provide wastewater treatment to development in those communities. They are: the Towns of Blooming

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[25]*Orange County Sewer District No. 1 - Flow Management Plan Sterling Environmental Engineering, P.C., July 31, 2012. Preparation of the flow management plan was per the direction of the NYSDEC, as the Harriman Wastewater TreatmentPlant (HWWTP) had exceeded the 95 percent design flow for the plant.*

[26] *The resolution contained in the Management Plan includes only even numbered pages.*

[27]*The 1978 IMA does not include the Village of Kiryas Joel. However, the area that comprises the Village was within the unincorporated area which was included within the OCSD service area.*

Grove and Woodbury; the Villages of South Blooming Grove, Woodbury; and the Moodna Basin Joint Regional Sewerage Board (MBJRSB) communities of the Town and Village of Chester, and an additional area within the unincorporated Town of Monroe not already within the OCSD. The additional areas served under the IMAs are referred to by the district as "satellite municipalities". The satellite communities are also commonly referred to as the Moodna communities, as they were part of a study group named the Moodna Joint Regional Sewerage Board that participated in the Moodna Basin Wastewater Facilities Planning Program. The area included in the "Moodna" sewer service area is shown in **Figure IV.E-2**. Sewer districts which have been established for taxing purposes, are shown in **Figure IV.E-3**.

Pursuant to the IMA, the Moodna communities financed and constructed a 2 million gallons per day expansion to the HWWTP which resulted in a plant with a combined capacity of 4 million gallons per day – 2 mgd allocated to the Moodna communities, and 2 mgd to the OCSD district area. The basis for the expansion and extension of service to these communities was that the Moodna Basin Wastewater Facilities Plan had concluded that the most cost-effective solution to sewering the Moodna communities would be expansion of the HWWTP and connection to same. In Monroe, Orange County leased the expansion site to the MBJRSB and in turn, the Board leased the expansion back to Orange County. Orange County is responsible for operation and maintenance of the combined plant; the Moodna communities and properties within the district reimburse the County for these services. In 1988, the Flow Management Plan reports that the 1978 IMA with the satellite communities was amended to reallocate the 4 mgd between the two entities. For the satellite communities, the properties that are served by the OCSD are located within town sewer districts, and the infrastructure is owned and maintained by the municipalities.

The 1998 allocation as per the IMA set forth in **Table IV. E-1**.

Table IV.E-1
Harriman Wastewater Treatment Plant Flow Allocation

Entity	1998 Limits (gpd)	2016 Limits (gpd)	March 31, 2016 flows (gpd)	Remaining Available Balance
Orange County Sewer District 1	1,985,000	3,590,000	2,403,171	1,186,829
Blooming Grove (Village of South Blooming Grove)	490,000	490,000	250,705	239,295
Chester (Town)	410,000	410,000	257,750	152,250
Monroe	133,000	133,000	175,698	(42,698)
Woodbury (Village of Woodbury)	635,000	1,030,000	717,667	312,333
Chester (Village)	347,000	347,000	389,925	(42,925)
Total	**4,000,000**	**6,000,000**	**4,194,916**	**1,805,083**

Source: OCSD Flow Management Plan, Appendix C, 2012; Flow Report, 2016.

According to the Flow Management Plan, the HWWTP experienced numerous and significant operational problems resulting in capacity shortages and SPDES permit violations, and the imposition of a moratorium by the NYSDEC which remained in effect until 1997. In 2000, Orange County entered into a lease agreement with the Village of Kiryas Joel, pursuant to which the County leases capacity from the Village wastewater treatment plant to augment the HWWTP. The 2000 lease agreement indicated that the OCSD would lease 485,000 gallons per day (gpd) of excess capacity. The Village's plant is operated by the OCSD. Further, in 2006, the HWWTP was expanded by an additional 2 mgd, which raised its total design flow to 6 mgd. In 2009, the County and the Village of Kiryas Joel extended their lease agreement. The lease agreement notes that the total capacity of the Kiryas Joel plant is 970,000 gallons per day.

Current flows to each jurisdiction as of 2016 are presented in **Table IV.E-1**. At the time the Flow Management Report was written (2012), Orange County was negotiating to expand the OCSD boundary to incorporate the municipal satellite communities into a single legal entity. However, this has not yet occurred. Among the reasons is several municipalities do not support the administrative organization of the OCSD, wherein all decisions are made by the Orange County Legislature, without the municipalities directly involved in decisionmaking regarding the plant.

As per **Figure IV.E-1,**the Town of Monroe on the north side of the Quickway, including the incorporated Village of Kiryas Joel, is included in the District except for that area generally to the west of the Seven Springs Road intersection with Mountain Road. As mentioned previously, the entirety of the Villages of Harriman and Monroe are likewise within the OCSD. Properties that front to Route 208 within the unincorporated area are not in the OCSD, except that the neighborhood by Jane Court and Oreco Terrace are within the district. Several properties along Quaker Hill Road are within the district, and the line extends south to roughly follow Cromwell Hill Road. The district includes the neighborhood in and around Interlochen Parkway. The district also includes properties to the north of Mine Road, and with frontage on West Mombasha Road generally up to Haight Road. It then generally follows the rear property lines of properties on Rye Hill Road (the segment that runs west-east and intersects with West Mombasha and Berry Roads). The line extends from the intersection of Rye Hill Road with Berry Road, to include properties along East Mombasha Road to the north of Bell Road. It then follows East Mombasha Road, with the properties on the west side included in the district. It follows Orange Turnpike to Harriman Heights Road, where it includes Mansion Ridge. It includes properties with frontage on the easterly side of Harriman Heights Road, heading north where the boundary eventually follows the boundaries for the Village of Harriman. Although much property is included within the district, not all of the properties in the district are connected to the HWWTP.

The Towns of Monroe and Chester, and the Village of Chester, formed the Moodna Basin Joint Operation and Maintenance Commission (Moodna Basin Commission) in 1982, an entity that is separate and apart from the satellite communities identified previously. The intent of the agreement was to set up an

organization that would maintain certain wastewater infrastructure already in existence in the municipalities. The sewer lines and pump stations are maintained by the Joint Commission, and the flow is treated at the HWWTP. The areas within the Town of Monroe that are maintained by this Joint Commission are older subdivisions which include the Walton Lake Park and Walton Lake Estates area, Horizon Heights subdivision (Neptune and Orion Drive area off of West Mombasha Road), Monroe Hills (Carol and Laura Drive area off of School Road, but refers also to newer developments to the south along West Mombasha Road, including Jenna Drive and Rosemarie Lane area), and Mombasha Lake (Lakeview Drive) area. The agreement was amended in 2001, which took into account the operation and maintenance of additional sewered areas, including Arden Forest (on either side of Harriman Heights Road near the Village/Town southerly boundary) in Monroe.

Master Plan policies in the past have not favored privately owned central sewer systems, also referred to as "package plants". This policy was based on experience in the Town with "package plants" built during the 1970's. Poorly run or inadequate facilities failed, leading to severe problems and giving impetus to the drive to create the consolidated sewer district in existence today. The 2005 Plan Update indicated that a few small private systems still operated, such as those of the Apostolate Sisters and former St Patrick's school facility, which discharges to Blythea Lake. The New York State Department of Environmental Conservation regulates such facilities.

According to the 2005 Plan Update, Mansion Ridge is the only recent development in the Town of Monroe with a privately owned central sewer system. This system was specifically designed with a lagoon to hold the treated effluent for use in golf course irrigation as an integral part of that project. At the time of the approval of plant, adjoiners were concerned about the odor that might be created, along with concerns about unplanned releases of untreated wastewater. Such concerns make the public resistant to siting new private central sewer systems. However, the Mansion Ridge plant helps to recharge groundwater "in place". By using the discharge for irrigation instead of discharging to surface streams outside the project's watershed, local groundwater recharge can take place, helping to reduce the consumptive well-water use from the site. The2005 Plan Update recommended that the policy of discouraging "package plants" be continued until the Town has a minimum of five (5) years of experience with the Mansion Ridge system operating at full capacity. No specific report of the experiences of the plant's operation has occurred.

b. Septic Systems

According to the 2005 Plan Update, the majority of residences in the unincorporated area rely on septic systems. As described above, limited areas of the Town are within the boundaries of municipal sewer treatment districts, and even within these districts, not all lands have direct access to a sewer main. Some areas in the Moodna Sewer Service Area have septic tanks for separating solids and are served by

smaller mains that only carry liquid effluents. Therefore, the district periodically pumps the septic tanks for users in these parts of the district.

The 2005 Plan Update emphasized the need to ensure that the effluent from septic systems were properly treated to ensure and protect groundwater quality. The benefits of septic systems is that the recharge the underlying groundwater from which individual wells draw water supply for consumption.

The 2005 Plan Update describes how the Town's policies towards in-ground septic systems have changed over the years, and the reasons for those changes. The Town's 1965 report "The Community of Monroe – a Governmental Analysis and a Plan for its Future" noted a policy of discouraging septic system due to failing and inadequate private septic systems, as household water use patterns had changed – more bathrooms were installed, and water use for clothes washers, dishwashers, and other appliances increased consumption. Seasonal cottages that had formerly been used intermittently over the summer were converted for permanent occupancy. Small, poorly designed systems in low-permeability soil could not accommodate the new wastewater generation patterns, and widespread septic system failures took place. It was against this background of need that central sewer systems were introduced to the Town. With generous federal subsidies promoting the construction of central systems, in-ground septic systems were discouraged at that time. Essentially, sewer service areas and sewer districts within the Town were developed to address problems existing at the time, and to protect the Town's lakes, especially those that serve as potable water supplies, from future degradation. Areas in the watersheds of Mombasha Lake and Walton Lake, and areas with existing failing septic systems or failed "package" sewer plants were included in the sewer districts. The sewer district areas did not reflect pro-active planning of where high density land uses should be located so much as they reflected a response to where the then-existing nodes of density and septic problems existed or where major water resources needed protection.

In regard to water-sewer supply balance, some land uses within the Town are projected to generate water use deficits in cases where sewer use is coupled with individual on-site wells. Where sanitary wastewater is discharged to a sewer, it is not available for local groundwater recharge in the area where the well water is being withdrawn. Instead, groundwater is directed to the sewer and discharged into streams carrying the flow out of the area. Where ground water withdrawals exceed recharge, it is termed "water mining". Water use deficits were a particular concern of the 2005 Plan Update, and the consumptive use of well water in areas where centralized sewers are used calls for careful re-consideration of the role of sewers and sewer discharge practices in land use policy.

2. Water Supply

Located within the unincorporated Town of Monroe are various surface and groundwater water supply systems that serve not only the Villages within the Town but users within the unincorporated area and

adjoining communities.

A report entitled "Comprehensive Town-wide Ground-Water Supply Plan, Town of Monroe"[28], describes the potable water supply systems in the Town. According to the report, the Village of Monroe supplies water to the Town of Monroe Water Districts 1, 7, 8, 10, Round Lake Park and Lake Manor. The Village of Harriman supplies water to Arden Forest, Carriage Hill Estates, Orchard Hill Vista, Harriman Hill Condominiums, and a number of homes on Edgewood Drive and Harriman Heights Road. The three Villages within the Town - Monroe, Harriman and Kiryas Joel - also maintain their own public water-supply sources to supply their respective communities, some of which are located in the unincorporated area. As mentioned previously, these systems include Mombasha Lake and Walton Lake. Three privately-owned public water-supply systems serve Lamplight Village, Cromwell Hill Commons and Arrow Park. The report, prepared in 2001, preceded the completion of several projects, including Harriman Business Park, Smith Farm (Gilbert Street), Mansion Ridge, and other developments. Water districts, as per the Town Assessment Roll, in the Town of Monroe are shown in **Figure IV.E-4**.

According to a 2012 Water Master Plan and Rate Study[29], the Village of Monroe owns, operates and maintains a potable water system consisting of a surface water source, Mombasha Lake, a surface water treatment plant, a series of groundwater wells with disinfection facilities, potable water storage, and a distribution system that includes three pump stations to provide system pressure. The Village water system provides potable water to approximately 3,109 accounts, including 2,209 residential connections and 385 commercial accounts within the Village. An additional 515 accounts provide water service to properties in the adjacent Town of Monroe through individual and bulk accounts. Annually, the Village sells approximately 348,496,815 gallons of water to these customers.

The Village is permitted by the New York State Department of Environmental Conservation to draw water from Mombasha Lake for its potable water system. Mombasha Lake is a large natural lake that was impounded to increase its capacity. The Village owns the real property surrounding and underlying the Lake. A number of hydrogeological studies have been prepared over the years to evaluate the safe yield capacity of the Lake. Each study has used a basic and simple methodology. The Lake has a very small watershed, and as a result of using watershed based analysis, the hydrogeological studies have resulted in a determination that the Lake's safe yield is restricted to 2.15 million gallons per day (mgd).

The Lake's level is monitored closely by the Village under a wide range of seasonal conditions (e.g. wet and dry weather; average and peak withdrawals) and despite a wide range of recharge and withdrawal patterns, the Lake's level has fallen no more than two feet even under very dry conditions. Given the lack of significant level fluctuations in the lake level, it is believed that the lake is likely fed by groundwater in addition to runoff from its watershed. It is not uncommon for similar water bodies to be

[28] *Prepared by Leggette, Brashears & Graham, Inc. (April 2001)*
[29] *Delaware Engineering, 2012.*

supplied in large part by springs.

The Water Master Plan had recommended that the Village conduct a hydrogeological analysis that takes into account the Lake's potential to be fed by groundwater as the Village desire to evaluate an increase in capacity for the purpose of water sales outside the Village limits. However, based on discussions with the Village of Monroe DPW Superintendent, the Village feels that there is adequate water to serve existing customers and those developments which have already been approved to connect to the system – the Village is not looking for additional customers at this time.

Mombasha Lake water is treated at a treatment plant that utilizes conventional rapid sand filters with Leopold filter blocks at the base. The original plant utilized three rapid sand filters for treatment. In 1999, two additional rapid sand filters were added by lengthening the building that houses the treatment equipment. The total approved treatment capacity is presently 2.1 million gallons per day.

Walton Lake supplies water to the Village of Chester water system which was established in 1892. According to the Village of Chester water department, this water supply is still in use today and has a NYSDEC permit to withdraw up to 800,000 gallons per day. Water from the lake is filtered. The filtration system building is located along Lakes Road in the unincorporated area.

As described in the 2010 Orange County Water Master Plan, reservoirs are the among the water bodies most worthy of protection due to the reliance on them for potable water. The need for protection is greatest in areas where water supply watersheds for reservoirs reside in adjacent communities, as is the case with the Village of Chester and Walton Lake in the Town of Monroe. There is a need to reconcile Town planning efforts with source water protection initiatives both within Towns as well as across Town boundaries. This applies to wellhead protection initiatives as well.

Figure 5. Selected Reservoirs and their Subbasins

Management of watersheds is the most fundamental step in protecting drinking water resources. Protecting these resources is not only in our best interest ecologically, but is also ultimately more cost-effective. The Trust for Public Land's "Protecting the Source"(2004) report used data from across the country to correlate increases in development of a drinking water supply's watershed with increases in the cost of treating that water to make it potable. This increase in cost is due to the fact that increasing development within a watershed will enhance the likelihood that surface or groundwater contamination will occur, which in turn leads to higher treatment costs to remove the contaminants. Land protection is therefore typically among the highest priorities in a reservoir watershed management plan, alongside the strategic application of land use controls and best management practices. The County Water Master Plan recommends that watershed management plans be created for all reservoirs, with priority given to those reservoirs with documented impairments or that are under development pressures. These priority reservoirs specifically include:

- Walton Lake (Town of Monroe) serves the Village of Chester and is located in a highly developed area of the County. Existing residential development, especially on the west side of the lake, could compromise water quality if not carefully regulated or monitored.
- Mombasha Lake (Town of Monroe) serves the Village of Monroe and, like Walton Lake, is also located in a highly developed area of the County. Existing residential uses combined with the

potential development of unprotected vacant land within the Lake's watershed could compromise the water quality of this important reservoir.

As of 2011, new state water supply laws were enacted which require permits for any potable and non-potable water withdrawal system having the capacity to withdraw 100,000 gallons per day (gpd) or more of surface water, groundwater, or combination thereof. "Capacity" is the total withdrawal of all sources for a facility, independent of how they are plumbed or their designation, such as for redundancy, etc. Capacity is determined by summing the maximum potential withdrawal of all the water source(s), not by the typical or actual withdrawal. In addition to permits, an Annual Water Withdrawal Report must be filed each year. The NYSDEC Environmental Navigator shows the locations of all water systems with a water withdrawal permit meeting the above parameters within the Town of Monroe. They are listed in **Table IV.E-2**.

Table IV.E-2
Water Withdrawal Permits

Program ID	Facility Name	Withdrawal Category	Withdrawal Type
WWR0000756	Horizon Heights (Monroe Water District #2)	Public Water Supply	Groundwater
WWR0001837	Mansion Ridge Golf Club	Recreational - Golf Course	Groundwater; Surface Water
WWR0001022	Monroe Hills Water District	Public Water Supply	Groundwater
WWR0001023	Monroe,Village	Public Water Supply	Groundwater; Surface Water
WWR0000381	Cromwell Hill Commons	Public Water Supply	Groundwater
WWR0000864	Kiryas Joel, Village	Public Water Supply	Groundwater
WWR0000711	Harriman, Village	Public Water Supply	Groundwater

Source: NYSDEC Environmental Navigator, 2016.

The private water systems include two that service multifamily dwelling units at Lamplight Village (two bedrock wells serve it on an alternating basis) and Cromwell Hill Commons (two bedrock wells on an alternating basis), as well as a system for Arrow Park, which operates a single well.

According to the 2005 Plan Update, the Town's experience with privately owned water systems had not been good. More recent regulatory requirements for public water supply systems, e.g., wellhead protection, are significantly different than requirements from several decades ago, when the privately owned systems were developed. The previous inadequate standards, coupled with poor operational and maintenance practices led to ongoing problems for the customers of the private systems. Such problems are often followed by requests from district users to acquire the private system. Acquiring a system and resolving its problems can be an expensive proposition, and the Town's policy has been to avoid taking over privately owned systems.

The Town of Monroe has six (6) active municipal water districts which are maintained by an outside contractor retained by the Town. In addition, parcels which contain supply wells or water supply system

infrastructure are identified in the land use map**.** Two of these districts are serviced by wells:

- The former Zadoff Private Water Company serving homes on Carol Drive, Laura Drive and Sylvia Lane was recently acquired by Town water district Number 12 (Monroe Hills).
- The Horizon Heights Water District off of West Mombasha Road is serviced by two wells. It was identified formerly as the Sterling Manor Water District #2, Sterling Manor 1965. The wells are located at the corner of Neptune Drive and West Mombasha Road.

Other areas in the Town are serviced directly by connections to either Village of Monroe or Village of Harriman water systems. The Village of Monroe supplies Water Districts 1, 7, 8, and 10, as well as Round Lake Park and Lake Manor. The Village of Harriman provides water for Arden Forest, Carriage Hill Estates, Orchard Hill Vista, Harriman Hill Condominiums, and some homes on Edgewood Drive and Harriman Heights Road.

As noted in the section on Groundwater Resources, the Town of Monroe has a policy of obtaining water rights from all new developments. This allows the Town to provide for potential long-term future needs and emergencies, as well as to plan for existing and future identified needs. For example, the Henry Farms water system, which is contained in the existing un-developed Water District #5, has the capacity to provide water to the newly formed Town Water District #12, which needs an additional supply source. Henry Farms will offer this water system with its excess capacity to the Town. Also, the Orchard Hill subdivision has offered an identified potential well site to the Town, and RD Management has offered water from two wells in the Harriman Business Park. While it is has been the Town's policy to obtain water rights from new developments, the 2005 Plan Update cautioned that in areas where multiple high-volume uses are competing for the same groundwater resource, the act of reserving a potential well site will not fully protect the capacity. State approval agencies will not "reserve" the capacity of the well where no use is pending. The Town of Monroe had studied the feasibility of interconnecting the existing water supply system but the wide geographic distribution of the existing systems made their inter-connection prohibitively expensive.

The Comprehensive Town-Wide Groundwater Study noted that "approximately 85% of water withdrawn from the aquifer from an onsite well would be returned to the ground-water system by onsite septic-system leach fields." The statement conveys the important contribution that properly treated septic system discharges make to localized aquifer recharge. This is important in the Town outside the villages, because a majority of the existing homes use leach fields.

3. Stormwater

As per the NYSDEC's website, stormwater is water from rain or melting snow that doesn't soak into the ground but runs off, eventually flowing into nearby watercourses. It flows from impervious surfaces, including rooftops, pavement, bare soil, and other surfaces which do not allow the stormwater to

percolate into the ground. As it flows, stormwater runoff collects and transports pollutants that accumulate on these surfaces to surface waters. The combined concentrations of contaminants that drain from developed areas can threaten the water quality of water bodies, which in turn can degrade the quality of drinking water which are recharged by these water bodies, as well as damage habitats for species that depend on clean water for survival. Pollutants carried by stormwater can also affect recreational uses of water bodies by making them unsafe for wading, swimming, boating and fishing. Typical pollutants in stormwater runoff include:

- Nutrients such as phosphorus and nitrogen that promote the overgrowth of algae, deplete oxygen in the waterway and be harmful to other aquatic life.
- Bacteria from animal wastes and illicit connections to sewerage systems that make nearby waterbodies unsafe for wading, swimming and the propagation of edible shellfish.
- Oil and grease from automobiles that causes sheen and odor and makes transfer of oxygen difficult for aquatic organisms.
- Sediment from construction activities that clouds waters and interferes with the habitat of living things that depend upon those waters.
- Careless application of pesticides, herbicides and fertilizers that affect the health of living organisms and cause ecosystem imbalances.
- Litter that damages aquatic life, introduces chemical pollution, and diminishes the beauty of a community's waterways.

The U.S. Environmental Protection Agency's Stormwater Phase II Rule (part of the regulations established by the federal Clean Water Act) established an MS4 stormwater management program that is intended to reduce the quantity of pollutants that stormwater picks up and carries into storm sewer systems during storm events such as those listed above.

In 1990, EPA promulgated rules establishing Phase I of the National Pollutant Discharge Elimination System (NPDES) stormwater program which required operators of "medium" and "large" MS4s, generally serving populations of 100,000 or greater, to implement a stormwater management program as a means to control polluted discharges from these MS4s. The Stormwater Phase II Rule extends coverage of the NPDES stormwater program to certain "small" MS4s but takes a slightly different approach to how the stormwater management program is developed and implemented.[30]

The Phase II Rule automatically covers on a nationwide basis all small MS4s located in "urbanized areas" (UAs) as defined by the Bureau of the Census (unless waived by the NPDES permitting authority), and on

[30] *EPA Stormwater Phase II Final Rule, Small MS4 Stormwater Program Overview, rev. December 2005.*

a case-by-case basis those small MS4s located outside of UAs that the NPDES permitting authority designates. Portions of the unincorporated Town of Monroe are regulated under Phase II rules. Operators of regulated small MS4s are required to design their programs to:

- Reduce the discharge of pollutants to the "maximum extent practicable" (MEP);
- Protect water quality; and
- Satisfy the appropriate water quality requirements of the Clean Water Act.

Implementation of the MEP standard requires the development and implementation of best management practices and the achievement of measurable goals to satisfy each of the six minimum control measures. A small MS4 stormwater management program as a program comprising six elements that, when implemented in concert, are expected to result in significant reductions of pollutants discharged into receiving waterbodies. The six MS4 program elements, termed "minimum control measures," are:

- Public Education and Outreach Distributing educational materials and performing outreach to inform citizens about the impacts polluted stormwater runoff discharges can have on water quality.
- Public Participation/Involvement Providing opportunities for citizens to participate in program development and implementation, including effectively publicizing public hearings and/or encouraging citizen representatives on a stormwater management panel.
- Illicit Discharge Detection and Elimination Developing and implementing a plan to detect and eliminate illicit discharges to the storm sewer system (includes developing a system map and informing the community about hazards associated with illegal discharges and improper disposal of waste).
- Construction Site Runoff Control Developing, implementing, and enforcing an erosion and sediment control program for construction activities that disturb 1 or more acres of land (controls could include silt fences and temporary stormwater detention ponds).
- Post-Construction Runoff Control Developing, implementing, and enforcing a program to address discharges of post-construction stormwater runoff from new development and redevelopment areas. Applicable controls include measures such as protecting sensitive areas (e.g., wetlands) or the use of structural BMPs such as grassed swales or porous pavement.
- Pollution Prevention/Good Housekeeping Developing and implementing a program with the goal of preventing or reducing pollutant runoff from municipal operations. The program must include municipal staff training on pollution prevention measures and techniques (e.g., regular street sweeping, reduction in the use of pesticides or street salt, or frequent catch-basin cleaning).

Within the Town, town roads have storm drainage systems along the sides of the roads consisting of curbs and storm drains, culverts and swales. The Town highway department maintains these systems. County and state roads have similar drainage systems that are maintained by the county and state highway departments. At present, there are now 13 drainage districts in the Town, which are as follows:

- The Links;
- Hy Vue (as ppears on the assessment roll);
- Mombasha;
- Arden Forest;
- Carriage Hill;
- Lake Manor;
- Hilltop;
- Twin Lakes;
- Cromwell Meadows;
- Orchard Hills;
- Leva;
- Ridgetop Estates;
- Vintage Vista; and
- Fini.

In 2007, the Town Board adopted Chapter 33, Storm Sewers, in order to regulate non-stormwater discharges to the municipal separate storm sewer system (MS4) to the maximum extent practicable as required by federal and state law. The chapter establishes methods for controlling the introduction of pollutants into the MS4 in order to comply with permitting requirements for Municipal Separate Storm Sewer Systems. The MS4 program requires submission of an annual report to disclose how the community has achieved objectives related to the six program elements.

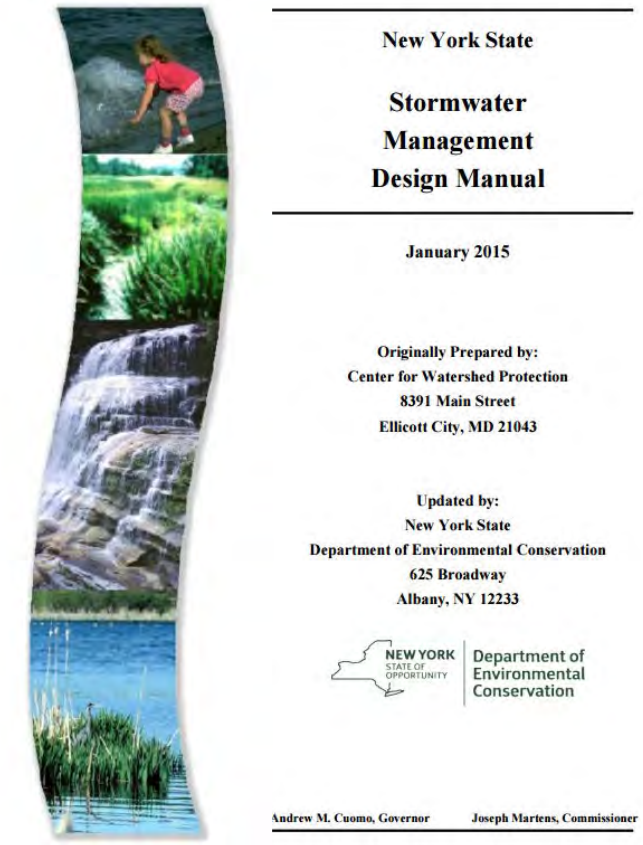
The 2005 Plan Update included the following recommendations:

- As part of MS4, the Town must catalog, identify and assess all of its municipal drainage system components to monitor, maintain and improve them as needed, as part of an ongoing program to track municipal utility infrastructure.
- The educational component of this program could be aided by the efforts of the Conservation Commission.
- It is the policy of this Plan that there shall be coordination between the Planning Board and the Town Engineer tracking the MS4 area expansion on a project-by- project basis and in its entirety as large projects are approved.
- Under GASB-34 (Government Accounting Standard Board-34) the Town will be required to develop an inventory of all drainage features. In conjunction with MS4 the Town will be required to develop a maintenance schedule for all 12-inch diameter or larger drainage sumps. The Town's GIS could be used to catalog these features will help to satisfy the new regulations. Locating these drainage features in the villages and the Town will help the Planning Board evaluate drainage plans in future developments.

Consistent with other pollutant discharge elimination system regulatory requirements, certain developments within the Town, depending on the amount of disturbance proposed and impervious

surface coverage being introduced, require installation of stormwater management structures that control both the water quantity and quality of stormwater runoff. In the past, the conventional method of meeting this requirement was construction of a storm water management retention or detention pond, extended detention ponds, and sedimentation basins. The Town has established several municipal drainage districts to administer storm water management facilities that serve subdivisions. The cost of maintenance is charged to the property owners within the district. Recommendations in the 2005 Plan Update assumed the inevitability of these basins to address stormwater management, and thus it recommended that these facilities be designed and constructed in a way that enhances the surrounding area:

- be designed to appear like naturally appearing ponds, avoiding the need for fencing, and their location should take existing land uses into consideration.
- address the need to ensure that these facilities can be reliably accessed for periodic inspection and maintenance. Direct access to a municipal road should be provided so that permanent accessibility is assured.



- address maintenance and ownership as well as access to the facilities. Single ownership – whether on property that is part of a Town drainage district or under the ownership of a homeowner's association - must be provided so that the facility can be properly protected. Formation of Town drainage districts is encouraged as the most reliable means to ensure routine maintenance of drainage systems. It is unfair for an individual private property owner to bear the responsibility for maintaining a drainage facility that benefits an entire neighborhood.

The 2005 Plan Update recommended that Low Impact Drainage Solutions (LIDS) be encouraged where practical, so that the use of storm water management basins can be avoided if not required or needed. Solutions include bio-swales or rain gardens that disperse the drainage management over the land on individual lots instead of concentrating it in a central detention basin.

As of January 2015, development applications that require state permits are required to follow the New York State Stormwater Management Design Manual which takes a holistic approach to stormwater management by emphasizing resource protection, water quality treatment, flow volume control, and maintenance cost reduction. As set forth in the 2015 Manual, the term green infrastructure includes a

wide array of practices at multiple scales to manage and treat stormwater, maintain and restore natural hydrology and ecological function by infiltration, evapotranspiration, capture and reuse of stormwater, and establishment of natural vegetative features. Adherence to the 2015 Manual is consistent with the 2005 Plan Update recommendations.

On a regional scale, green infrastructure is the preservation and restoration of natural landscape features, such as forests, floodplains and wetlands, coupled with policies such as infill and redevelopment that reduce overall imperviousness in a watershed or ecoregion. On the local scale green infrastructure consists of site- and neighborhood-specific practices and runoff reduction techniques. The practices result in runoff reduction and or establishment of habitat areas with significant utilization of soils, vegetation, and engineered media rather than traditional hardscape collection, conveyance and storage structures. Some examples include green roofs, trees and tree boxes, pervious pavement, rain gardens, vegetated swales, planters, reforestation, and protection and enhancement of riparian buffers and floodplains.

This 2017 Plan Update is intended to address the broader scale approach to stormwater management design through the preservation and restoration of the natural landscape features, so that hardscape and large scale engineered practices, which are inconsistent with the character of the Town's landscape, are avoided to the maximum extent practicable.

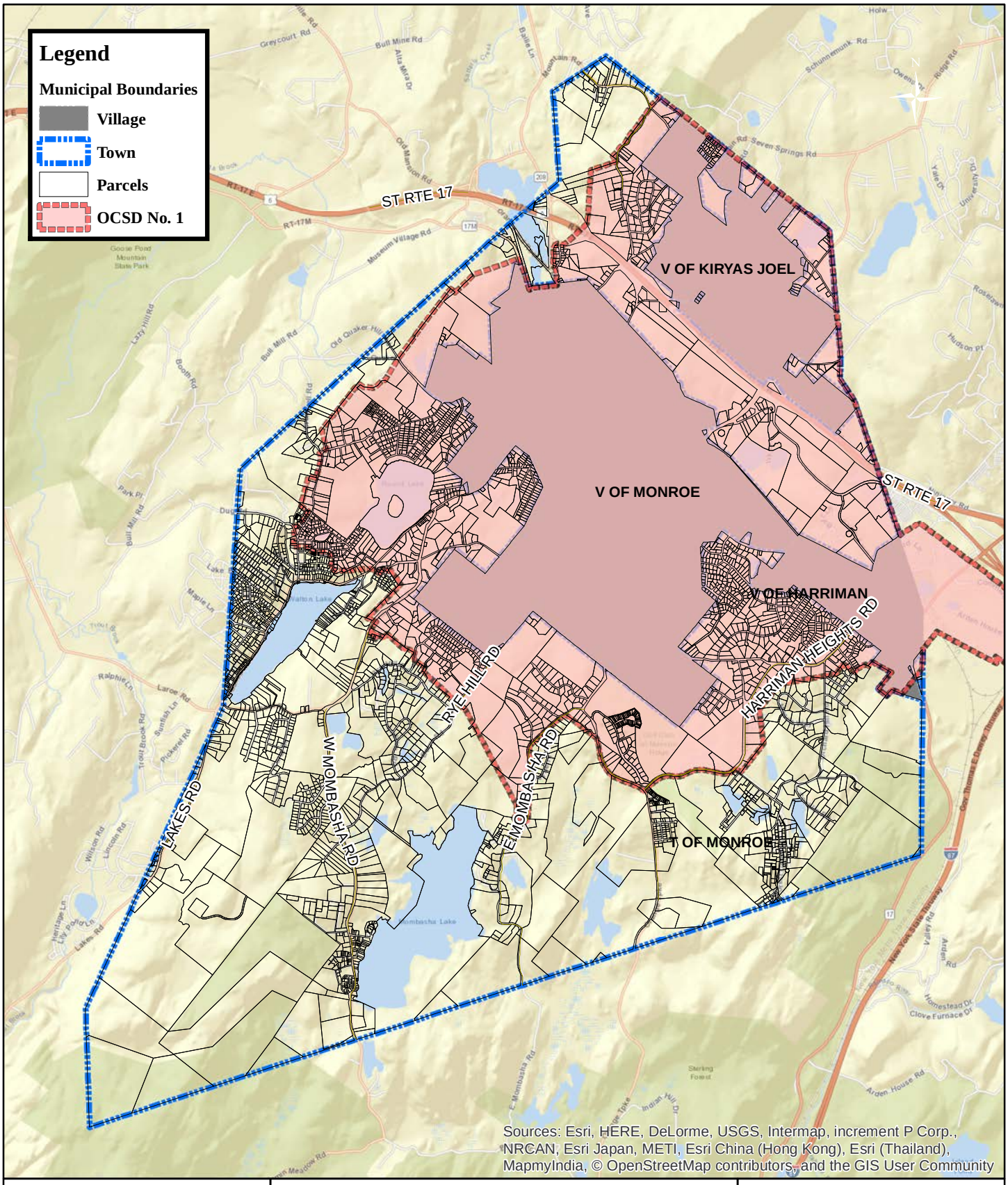


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Figure IV.E-1
Orange County Sewer District **No. 1**

Sources: ESRI Web Mapping Service;
Orange County GIS; NPV GIS Library
Scale: 1 inch = 4,500 feet

Town of Monroe

Comprehensive Plan

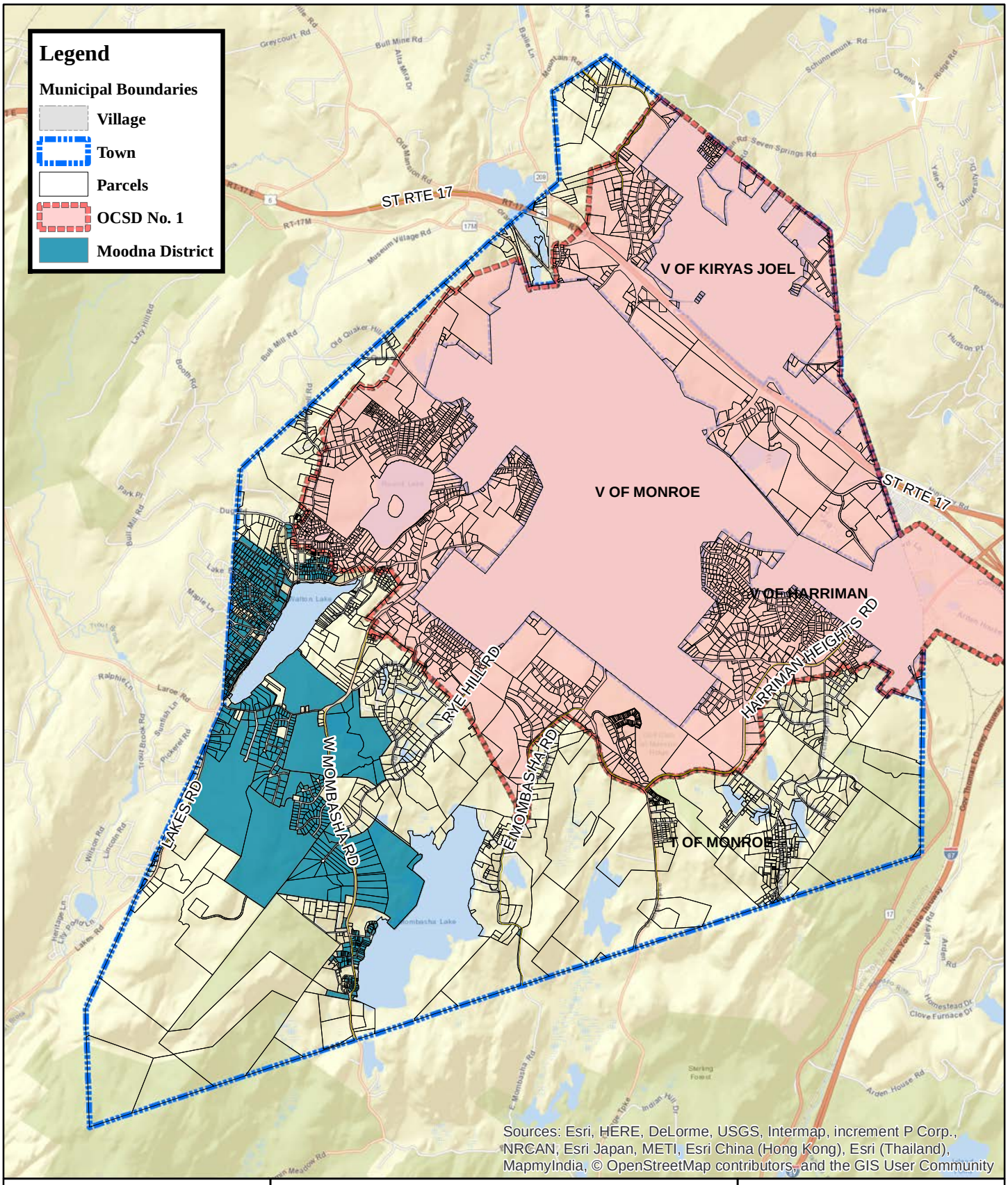

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Figure IV.E-2
OCSD No.1 & Moodna **Service Area**

Sources: ESRI Web Mapping Service;
Orange County GIS; NPV GIS Library
Scale: 1 inch = 4,500 feet

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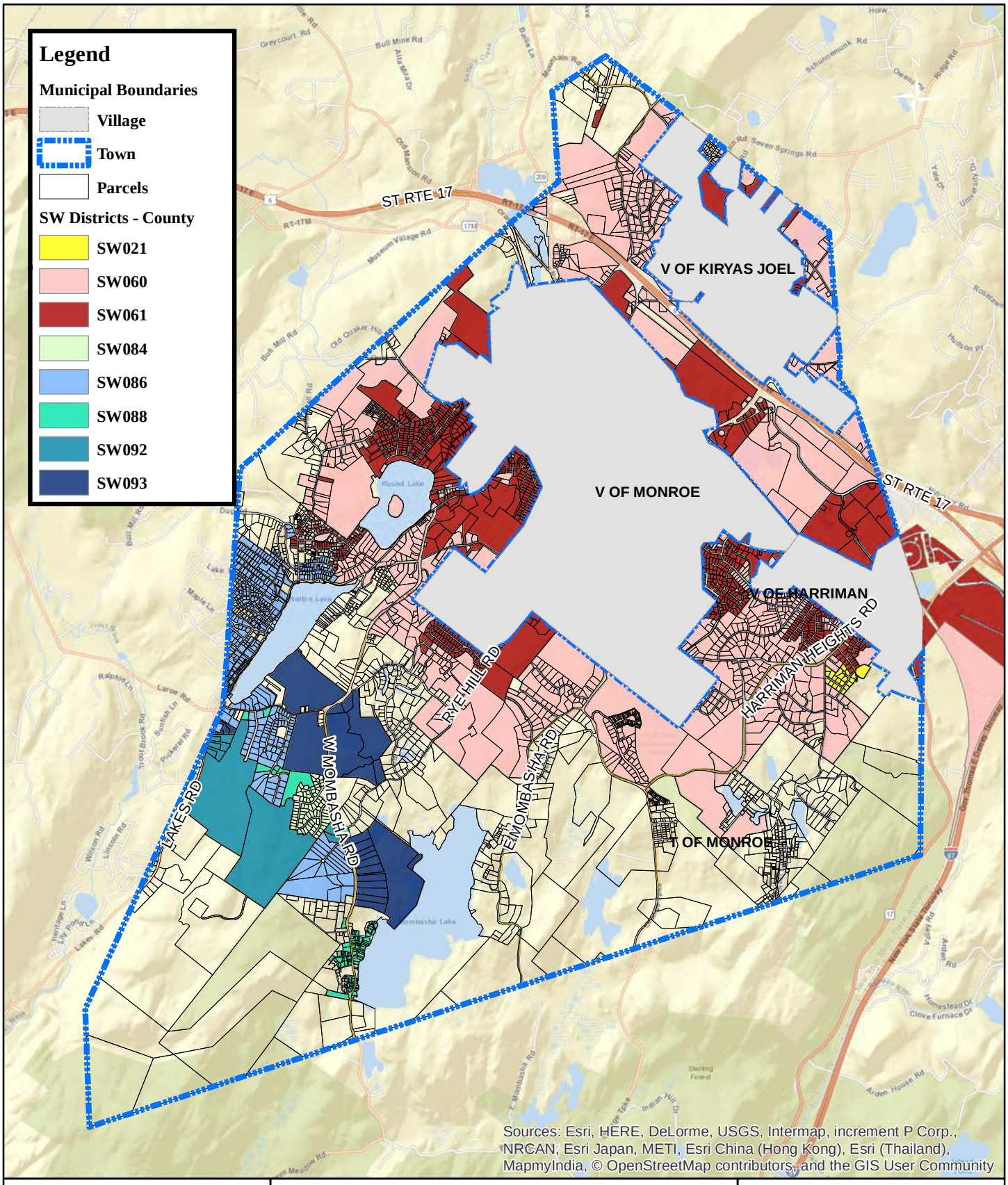

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Figure IV.E-3
Sewer **Taxing** Districts

Source: ESRI Web Mapping Service;
NPV GIS Library; Orange County GIS
Scale: 1 inch = 4,500 feet

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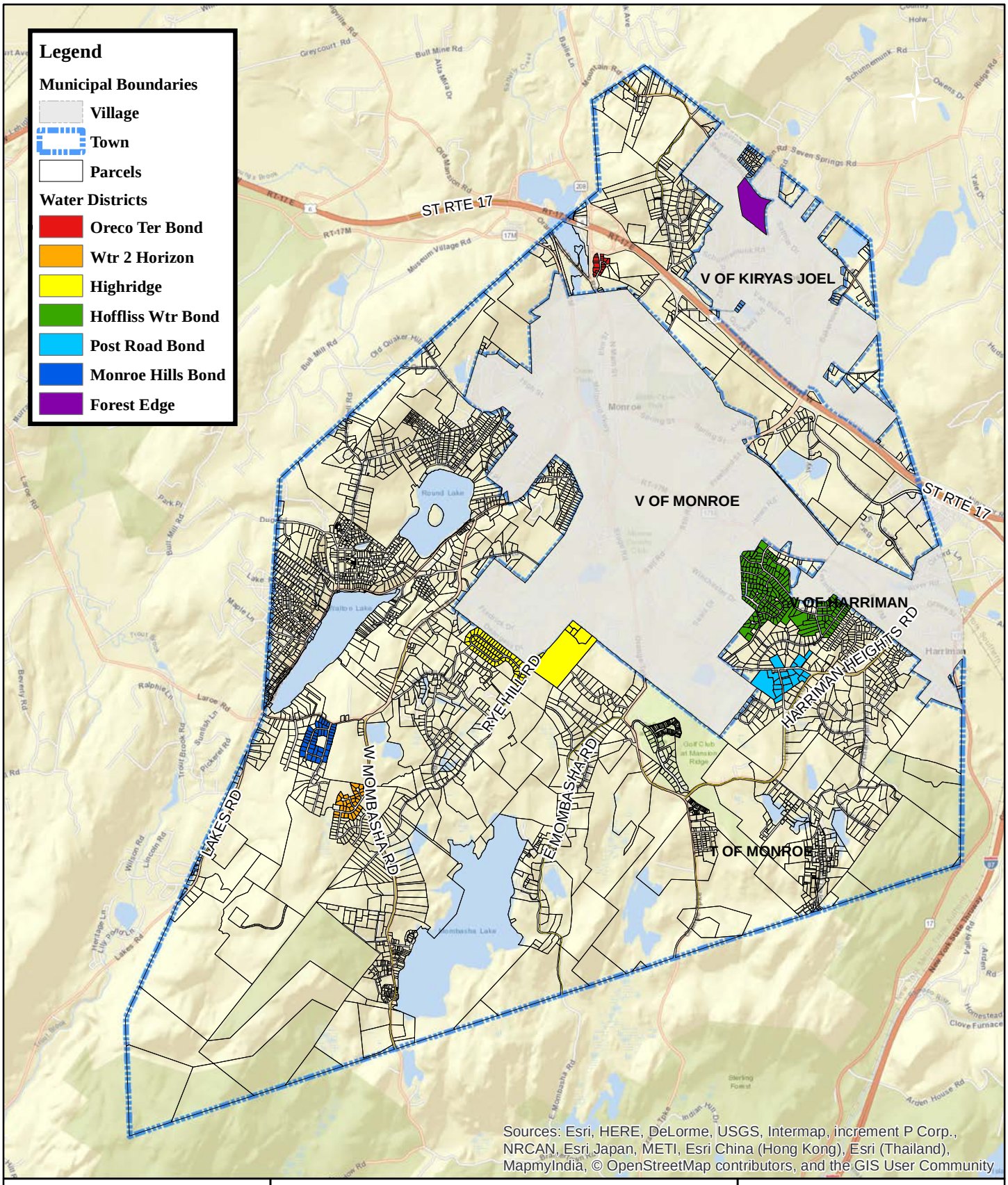

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Figure IV.E-4
Water Districts

Source: ESRI Web Mapping Service;
Town of Monroe GIS Data; NPV GIS Library
Scale: 1 inch = 4,500 feet

Town of Monroe

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F. TRANSPORTATION

The Town is strategically located at the junction of a major interstate transportation system and served by mass transportation facilities. In the Town of Monroe, the major connector roads reflect the Town's physiography, with the major connector roads winding north-south along the base of major ridges while most of the east-west connections lying in the more moderate valley areas, closer to the Village of Monroe. Since the 2005 Plan Update was adopted, the Quickway has been designed as the future Interstate Route I-86. A redesign of Interchange 16 is underway.

1. Transportation Planning

a. Southeastern Orange County Traffic and Land Use Study

In 2004, the Southeastern Orange County Traffic and Land Use Study was prepared for the Orange County Department of Planning by AKRF. The purpose of the Plan was to address current and future transportation needs due to rapidly increasing populations within some towns and villages. Specifically, the towns of Blooming Grove, Monroe, and Woodbury had experienced population increases over 21 percent for the ten years prior to the study. As populations increase, vehicular trips increase, which often require expanded road capacity to alleviate traffic congestion. The northern section of the Town of Monroe was included in the study because of a significant increase in residential subdivisions and commercial developments and some of the highest densities within the study area were found in the Town and Village of Monroe and the Village of Kiryas Joel. Specific recommendations contained in the Study that would affect the transportation systems operating within and surrounding the Town of Monroe including:

- Update the Town Comprehensive Plan and land development regulations;
- Focus development towards the Village of Monroe;
- Use the Official Map language of New York State Town Law §270;
- Incorporate access management language into the zoning code and plan review standards to properly manage driveway spacing, shared parking, rear access between adjoining properties, and interconnections between commercial properties for pedestrians;
- Establish a Transportation Improvement District (TID) to finance transportation Improvements. This recommendation was designated as a high feasibility project;
- Reduce residential density on lands outside the Village of Monroe. Adopt Conservation

Subdivision regulations and Transfer of Development Rights to minimize future traffic congestion and encourage pedestrian trips;

- The Study also recommended actions for specific sites such as rezoning certain parcels, developing design guidelines, adding landscaped medians, and reducing curb cuts.

Although the Town updated its comprehensive plan, few recommendations were implemented.

b. Complete Streets

On August 15, 2011, the Senate Bill S5411A regarding "Complete Streets" was signed by the Governor which amended the highway law to add Section 331. The Complete Streets addition was intended to achieve a cleaner, greener transportation system and to consider the needs of all users including pedestrian, bicyclists, motorists, users of public transportation, and citizens of all ages and disabilities. This law requires that all state, county, and local transportation projects that are undertaken by the State Department of Transportation, and projects that receive federal and state funding, are subject to this law and must utilize complete street design features in planning, design, construction, reconstruction, and rehabilitation of streets. The legislation is intended to provide health benefits from increasing active forms of transportation while decreasing congestion and air pollution.

Complete Streets are designed and operated to enable safe access for all users of roads. The New York State Department of Health compiles data related to traffic accidents and injuries by county. Within Orange County, motor vehicle traffic injuries were the leading cause for injury related deaths, the second leading cause for injury related hospitalizations, and the third leading cause for injury related outpatient emergency room visits for residents. Between 2005 and 2007, there were 41 fatalities annually due to traffic related injuries, including five pedestrians. Additionally, there was an annual average of 341 hospitalizations and 4,090 emergency department visits due to traffic crash related injuries.[31] By incorporating Complete Streets practices in appropriate locations, the Town of Monroe can attempt to increase safety and reduce injuries on local roads.

Complete Streets are inclusive designs that consider the needs of all users rather than heavily focusing on motorists and there are many different techniques that can be utilized to create complete streets. Some examples of complete street techniques include sidewalks, bike lanes, wide paved shoulders, special bus lanes, accessible public transportation stops, frequent and safe crosswalks, median islands, curb extension, road diets, and roundabouts. Complete Street design is a sustainable practice that can improve safety, encourage walking and bicycling which can improve health, lower transportation costs by providing more cost-effective options, and create strong and livable communities.

[31] https://www.health.ny.gov/statistics/prevention/injury_prevention/traffic/county/orange/orange_co_res_fs.pdf

https://www.health.ny.gov/statistics/prevention/injury_prevention/traffic/county/orange/orange_co_leading_causes.pdf

c. NYS Route 17 Conversion to I-86[32]

There is a 130-mile long segment of NYS Route 17, known as the Quickway, which operates between I-81 in Binghamton and I-87 in Harriman. A segment of the Quickway is located within the unincorporated area. The Quickway was designed in the late 1940s and early 1950s to address congestion, inadequate roadways, and car accidents. In the 1950s and 1960s, attempts were made to include the Quickway in the Interstate Highway System in order make the project eligible for up to 90% federal funding. However, these proposals were always met with resistance and were never approved. New York State proceeded with construction and in 1969 the last section of the Quickway was opened. In Orange County, the Quickway carries approximately 50,000 vehicles per day (AADT). In the 1990s, there was once again interest in converting the Quickway to I-86 and this time there was support from local, state, and federal officials. Parts of the Quickway have already been converted and other sections must be updated prior to conversion.

2. Commuting Patterns

The U.S. Census Bureau collects data on commuting or "journey to work" characteristics, including the "means of transportation to work." While the trip to work does not encompass all travel trips made by people within the unincorporated area, the data can assist in understanding the modal preferences and patterns of people within one of the largest users of transportation: commuters. **Table IV.F-1** below shows commuting data from the 2009 and 2014 American Community Survey 5-Year Estimate for the Town of Monroe.

According to the 2009 and 2014 ACS 5-Year Estimates, the most common means of transportation for commuting trips was to drive alone. In 2009, the percentage of Monroe residents driving alone to work was 62.3% and in 2014 the percentage decreased to 58.4%. Although the percentage of people driving to work alone decreased the most by nearly 4%, the majority of residents still drove alone to work in 2014.

The percentage of Monroe residents commuting to work by utilizing public transportation, bicycling, or walking to work remained relatively the same between 2009 and 2014, with estimated changes between +/- 0.2 percent. In 2014, the percentage of residents utilizing public transportation as a method of commuting was approximately 12 percent (the third largest category) and the percentage walking to work was 8.9 percent (the fourth largest category), while the percentage using a bicycle was the smallest segment at 0.4 percent.

The remaining categories of carpool, work-at-home, and other means of transportation all increased between 2009 and 2014. The percentage of residents carpooling to work increased about 2.3 percent

[32] *http://www.nycroads.com/roads/I-86_NY/*

from 11.0 percent in 2009 to 13.3 percent in 2014. Other means of transportation remained applicable to only a small portion of the population but increased from 1.6 to 2.3 percent in 2014. The amount of residents that worked from home increased by approximately one percent between 2009 and 2014. Overall, the data indicates a slight shift away from driving to work alone and small increases in carpooling and working from home, while public transportation, walking, and cycling to work remained the same.

Table IV.F-1
Means of Transportation to Work

Means of Transportation	2009 ACS 5-Yr Est.	2014 ACS 5-Yr Est.	Difference
	Percentage	Percentage	
Drove alone	62.3%	58.4%	- 3.9%
Carpooled	11.0%	13.3%	+2.3%
Public Transportation	12.2%	12.0%	-0.2%
Bicycle	0.2%	0.4%	+0.2%
Walk	9.1%	8.9%	-0.2%
Other Means	1.6%	2.3%	+ 0.7%
Worked at Home	3.7%	4.8%	+ 1.1%
Total	*100.1%*	*100.1%*	-

Source: 2009 5-Year ACS, 2014 5-Year ACS

The American Community Survey collects data regarding residents' travel time to work and this data is recorded in the ACS five-year estimates. The travel time to work data for Monroe is shown in **Table IV.F-2.** Within Monroe, the average travel time to work decreased from 36.9 minutes in 2009 to 33.3 minutes in 2014 (a change of 3.6 minutes). In 2009, a commute time over one hour was the most common commute time with nearly 25 percent of residents, followed 10 - 19 minutes (19.5%), 30 – 44 minutes (18.2%), less than ten minutes (16.0%), 20 – 29 minutes (11.6%), and finally 45 – 60 minutes (10.2%). According to the 2014 ACS estimate, the most common commute time was 10 – 19 minutes, which represented nearly 28 percent of the population of Monroe. The 10 – 19 minute category is followed by over 60 minutes (21.1%), 30 – 44 minutes (17.3%), less than ten minutes (16.1%), 20 – 29 minutes (10.0%), and 45 – 60 minutes (21.1%). In 2014, the travel time to work in Monroe could be characterized as a large amount of short trips (approximately 28% of trips were between 10 and 19 minutes) and a large amount of long trips (approximately 21% of commuting trips were over one hour).

Between 2009 and 2014, a commute time of less than ten minutes remained relatively stable at approximately 16 percent and the 30 – 44 minute category decreased slightly by about 0.9 percent. The largest change and the only category will a large increase between 2009 and 2014 was observed in the 10 – 19 minute category (8.4 percent increase). The remaining categories of 20 – 29 minutes, 45 – 60 minutes, and over 60 minutes all decreased slightly between 2009 and 2014. As methods of

transportation and commuting change, it is expected that changes will occur with regards to commuting time. Additionally, commuting time is a reflection of where employment is found and can be useful to include when examining job opportunities and locations.

Table IV.F-2
Travel Time to Work

Travel Time	2009 ACS 5-Yr Est.	2014 ACS 5-Yr Est.	Difference
	Percentage	Percentage	
Less than 10 minutes	16.0%	16.1%	+0.1%
10 – 19 minutes	19.5%	27.9%	+ 8.4%
20 – 29 minutes	11.6%	10.0%	-1.6%
30 – 44 minutes	18.2%	17.3%	- 0.9%
45 – 60 minutes	10.2%	7.7%	-2.5%
Over 60 minutes	24.6%	21.1%	- 3.5%
Total	100.1%	100.1%	-
Mean travel time (minutes)	*36.9*	*33.3*	*- 3.6 minutes*
Source: 2009 5-Year ACS, 2014 5-Year ACS			

3. Roads

a. NYS DOT Functional Classification

There are approximately 155 miles of roads within the Town of Monroe, including the segments of roads within the Villages that are within the Town boundaries. In New York, roads are grouped into "functional classes" by the New York State Department of Transportation according to the level and character of service they provide. A roadway's classification defines its importance within the overall network and is used to determine which roads are eligible for federal funding under the Federal Highway Administration Surface Transportation Program. The New York State Department of Transportation (NYSDOT) prepares Functional Class Maps for the entire state roadway system. Within the system, there are six classifications of roads: Principal Arterial Interstate, Principal Arterial Expressway, Principal Arterial, Minor Arterial, Major Collector, Minor Collector, and Local. However, within Monroe there is only a combination of Principal Arterial Expressways, Major Collectors, Minor Arterial, and Local roads. All roadway classifications are Federal Aid eligible, except for Local roads. Additionally, the NYSDOT Functional Class Maps also classify urban areas; the entire Town of Monroe is within a designated urban area. Approximately 76 percent, or nearly 119 miles of the roads in the Town, are classified as local roads. **Table IV.F-3**below and **Figure IV.F-1, NYS DOT Functional Classifications,** indicate the hierarchical classification and location of roads within the Town, including the villages.

Table IV.F-3 Townwide Functional Classification of Roads		
Functional Class	**Miles**	**Percent**
Principal Arterial Expressway	2.84	2%
Major Collector	22.68	15%
Minor Arterial	11.11	7%
Local	118.87	76%
Total	***155.50***	100%
Source: NYSDOT, 2016.		

Principal Arterial Expressways: In the northeast section of the Town of Monroe, there is a small segment of Route 17, a State Highway, which is classified as a Principal Arterial Expressway. State Highway 17 continues both east and west of the Town of Monroe. However, east of the town, Route 17 becomes US Route 6. This Route is primarily two lanes in both directions with a median dividing the highway and fairly wide shoulders. There is one interchange within the Town of Monroe providing access onto Route 17 near the northwest Town boundary.

Major Collector: Within the Town of Monroe, the majority of non-local roads are classified as Major Collectors (approximately 22.68 miles or 15% of total roads). In the northern section of the Town (north of Route 17), segments of Seven Springs Road, Mountain Road, Forest Road, Acres Road, Bakertown Road, and Highland Road/CR 105 are classified as Major Collectors. South of Route 17, examples of Major Collectors include Lakes Road, School Road, Rye Hill Road, Berry Road, West Mombasha Road, Orange Turnpike, Still Road, Stage Road, Main Street, and Harriman Heights Road.

Minor Arterial: The majority of the Minor Arterial Roads are clustered within the Village of Monroe, including Spring Street (CR 105), State Route 17M, and segments of Lake Road (CR5). Outside of the Village of Monroe yet still within the Town of Monroe, segments of Lake Road (CR5) and State Route 208 are classified as minor arterials.

Private Roads: Private roads are local roads that are not owned by the Town or any other governmental body. These are found in the older lakefront recreational communities such as Lake Sapphire and Osseo Park. The older private road systems are often very narrow with road bases that are not constructed to current standards. When damage occurs these private roads, maintenance is an issue, as the responsibility of maintenance may no longer reside in any organization, e.g., a lake or homeowner association which is defunct. In those instances, requests are sometimes made of the Town to take over these "substandard" roads. Several newer residential communities have built private roads including Mansion Ridge and Meadow Glen. The Smith Farm/Gilbert Street development proposes private roads. However, where the Planning Board approves private roads it requires them to be built to Town road specifications to provide safe and adequate access for the long term.

Often the history of private roads in Monroe has been that, after a significant number of dwellings are built on the private road, the residents petition the Town to form a road district, upgrade the road to Town specifications and have the Town accept it as a Town road. Examples are Lakeview Drive and Lower Hillside Road districts. There are several neighborhoods that have explored the conversion of their private road to a Town road.

Highway System Interchanges and Access Points*:* NY State Route 17 (United State Highway Route 6) runs throughout Monroe in between the Village of Kiryas Joel and the Village of Monroe for approximately 2.8 miles. Near the western boundary of Monroe is an interchange between State Route 208 and State Route 17. State Route 208 travels north outside of the Town and south through the Village of Monroe where it becomes Route 17M. Route 17M travels east throughout the Villages of Monroe and Harriman until it converges with Route 17 near the eastern boundary of the Town of Monroe. Just east of the Town of Monroe, Route 17 has an interchange with Interstate 87, which continues north and south of the town.

Touring Routes*:* Within the Town of Monroe, US 6 is designated as a touring route for the Federal (US) Route Number System and NYS Route 17 and NYS Route 17M are designated as touring routes for the State (NY) Route Number System. These roadways have been designated as touring routes because they travel through areas of cultural and natural significance.

b. Road Jurisdiction

The New York State Department maintains a database of the length of all public roads by jurisdiction – statistics are available for road lengths within the unincorporated area. According to 2015 statistics, the Town owns and maintains 39.57 miles of road. In addition, there are 14.97 centerline miles of County Roads within the Town, 5.07 miles of state highways, and 2.84 miles of federal highways (of which 2.84 miles overlaps with New York State jurisdiction). **Table IV.F-4** provides the breakdown of mileage for roads and highways within the Town of Monroe (outside villages).

Table IV.F-4
Unincorporated Area Road Jurisdiction

Jurisdiction	Route No.	Name	Length (in Miles)
Town Road	---	Various	39.57
County Road	5	Lakes Rd	3.81
	19	Orange Turnpike	2.04
	40	Freeland St	.11
	44	Mountain Rd	.54
	44	Seven Springs Rd	.71
	64	Dunderberg Rd	.87
	71	Harriman Heights Rd	2.01
	91	Cedar Cliff Rd	1.53
	91	West Mombasha Rd	2.19

Table IV.F-4 Unincorporated Area Road Jurisdiction			
Jurisdiction	**Route No.**	**Name**	**Length (in Miles)**
	105	Spring St	.46
	105	Bakertown Rd	.31
	105	Highland Rd	.39
New York	208		1.07
	17		2.99 (2.84 overlap with U.S Route 6)
	17M		1.01
U.S.	6		2.84
		Total	**59.61**
Source: NYSDOT, 2016.			

c. NYS DOT Traffic Data

One factor that contributes to the determination of a roadway's classification is its average daily traffic volume. The NYSDOT's Engineering Division collects traffic volume data for 8,000 – 10,000 locations per year, including several road segments within the Town of Monroe. The AADT estimation process allows the user to be 95% confident that the estimated AADT is within +/- 10% of the actual value. The traffic counts, or estimated Annual Average Daily Traffic (AADT), for these roads was last updated in 2014 and are shown in **Figure IV.F-2, NYS DOT Average Annual Daily Traffic Count**.

Approximately 37.83 miles of roads within the Town of Monroe have estimated AADT values associated with them. By far, the segment of Route 17/US 6 within the Town of Monroe between the Village of Monroe and the Village of Kiryas Joel experiences the highest levels of traffic with an AADT of more than 60,000 trips, which is significantly higher than the traffic levels for the rest of the Town. Other roads with significant levels of traffic include segments of Route 17M, Freeland Street, Spring Street, and Bakertown Road, which have AADTs between 10,000 and 25,000 cars. Segments of Orange Turnpike, Harriman Heights Road, NY 17M, Lakes Road, Stage Road, Still Road, Spring Street, North Main Street, Forest Avenue, Gilbert Street, Highland Road, Dunderberg Road, and the Route 17/US 6 Route 208 Exit all have an AADT between 4,000 and 10,000. Sections of Mountain Road, Seven Springs Road, Cromwell Hill Road, Cedar Cliff Road, School Road, Rye Hill Road, West Mombasha Road, Orange Turnpike, and North Main Street are within the AADT range of 1,500 to 4,000. A few roads are classified into the 1-1,500 AADT range including parts of South Main Street, Berry Road, Quaker Hill Road, and Seven Springs Road. The remaining roads within the Town do not have associated Annual Average Daily Traffic estimates.

4. Passenger Rail Service

The Town of Monroe does not contain any passenger railroad stations. However, the Harriman Train

Station is located within the adjoining Village of Woodbury, along NYS Route 17. The station is handicap-accessible, and located on the MTA Metro-North Railroad Port Jervis Line. The Port Jervis line serves areas in New York that are west of the Hudson River and parts of New Jersey. Customers traveling from the Harriman Train Station can make local stops in New York or transfer trains at Secaucus to take New Jersey Transit to New York Penn Station. Additionally, customers can transfer at the Hoboken Terminal and use the NY Waterway to travel to the World Financial Center in New York or utilize bus service to travel to other destinations in Manhattan. The station has been designed to accommodate 746 parking spaces.

5. Bus Transportation

The Coach USA ShortLine Bus provides service mainly from the Park-Ride on Route 17, with some trips from the ShortLine Terminal at Mill Pond Parkway within the Town of Monroe. The Shortline bus operates daily and provides services to locations in New York, New Jersey, and Pennsylvania. The ShortLine bus operates two services into Manhattan: the ShortLine Bus Network and the GWB/Eastside Manhattan Commuter Service. The ShortLine Bus Network operates out of Park-Ride on Route 17 and the ShortLine Terminal on Mill Pond Parkway and provides weekday and weekend services throughout the day. The GWB/Eastside Manhattan Commuter Service operates out of the Park-Ride at Route 17 in Monroe and provides services to ten locations in New York City. The bus operates primarily on weekday mornings to provide bus transportation for commuters.

New York State Department of Transportation and Orange County sponsor the Main Line of Orange County bus route. This route provides services between Middletown, Goshen, Chester, Monroe, and Harriman as well as popular shopping and healthcare locations.

The Town of Monroe operates a Dial-a-Bus service to provide affordable transportation within the Town of Monroe, including the Villages of Monroe, Harriman, and Kiryas Joel. The Dial-a-Bus provides on demand services where residents can call to schedule a ride to locations within the Town and Villages. They also offer a daily fixed express bus route that provides transportation to shopping destinations including Shoprite, Stop and Shop, Walmart, Target, Kohl's, Woodbury Commons, Village of Monroe, North Main Street in Monroe, and the Village of Harriman.

Monroe Bus Corporation is a charter bus company that provides bus transportation out of Monroe and Brooklyn, New York. They provide passengers buses with drivers which are frequently utilized for transportation to sporting events, museums, shopping centers, amusement parks, and vacation locations.

Monsey Trails operates bus services between the Village of Kiryas Joel, Monsey, and New Square. There are approximately nine buses operating out of Kiryas Joel with departure times ranging from early morning commuting hours to 10:30 at night.

6. Air Transportation

Stewart International Airport, located in New Windsor NY, is the closest major airport to Monroe. The airport is approximately 15 miles from Monroe and about a one-half hour drive. The land for the airport was given to the City of Newburgh in 1930 and then transferred to the federal government. In the 1980s, passenger airline service began at Stewart International Airport and in 2007 the Port Authority took over operations at the airport. Currently, Stewart International Airport includes services from Allegiant, American Airlines, JetBlue Airways, Delta Connection, and Independent Helicopters.

Additionally, Randall Airport is located within Orange County in Middletown and about 17 miles away from the Town of Monroe. It is a public use airport and according to the FAA, it is designated as a relief airport. Finally, the Orange County Airport is located about 17 miles north or a half hour drive from the Town of Monroe in Montgomery. The Orange County Airport is a public airport that seeks to meet the current and future needs of corporate business aviation and general aviation.

7. Pedestrian Systems

The Heritage Trail is approximately 11.5 miles and extends from the Town of Goshen to the Town of Monroe along the right-of-way of the former Erie Railroad line. The trail consists of paved segments for biking, skating, and wheelchair accessibility. Within the Village of Monroe, there is an access point and parking lot for the trail located at the Park and Ride Lot B. The Heritage Trail passes through numerous natural and cultural resources including a bird/wildlife sanctuary, historic landmarks, streams, as well as shopping and dining opportunities.[33]

Sidewalks or pedestrian footpaths are not present in all parts of the unincorporated Town. Most, if not all, recently approved roads incorporate sidewalks on at least one side. The policy for requiring sidewalks in outlying smaller subdivisions is questionable, as residents are not necessarily using the sidewalks, and they end up being costly to maintain. Sidewalks, or less formal pathways, are useful where they link neighborhoods to adjoining neighborhoods, or link to major destinations, e.g., a school. For small subdivisions that are located in the rural areas of the Town, sidewalks may not be necessary. Rather, striped bicycle lanes may be more appropriate.

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[33] http://www.nynjtc.org/book/9-heritage-trail-orange-county-rail-trail

http://www.traillink.com/trail/heritage-trail-(aka-orange-heritage-trail).aspx

http://www.orangecountynyparks.com/heritage-trail/

https://www.dot.ny.gov/portal/pls/portal/MEXIS_APP.DYN_BIKE_TRAIL_DETAIL_MAIN.show?p_arg_names=p_trail_id&p_arg_values=180

In the 2005 Plan Update, it was recognized that many of the charming older existing roadways within the Town have reduced pavement, right-of-way width, and other design requirements. The need to add formal sidewalks should be balanced with the desire to protect the aesthetics of the streetscape, which is a key component of community character. Sidewalk and pedestrian path policies, like all other land use policies in the Town, involve a weighing and balancing of multiple goals and interests.

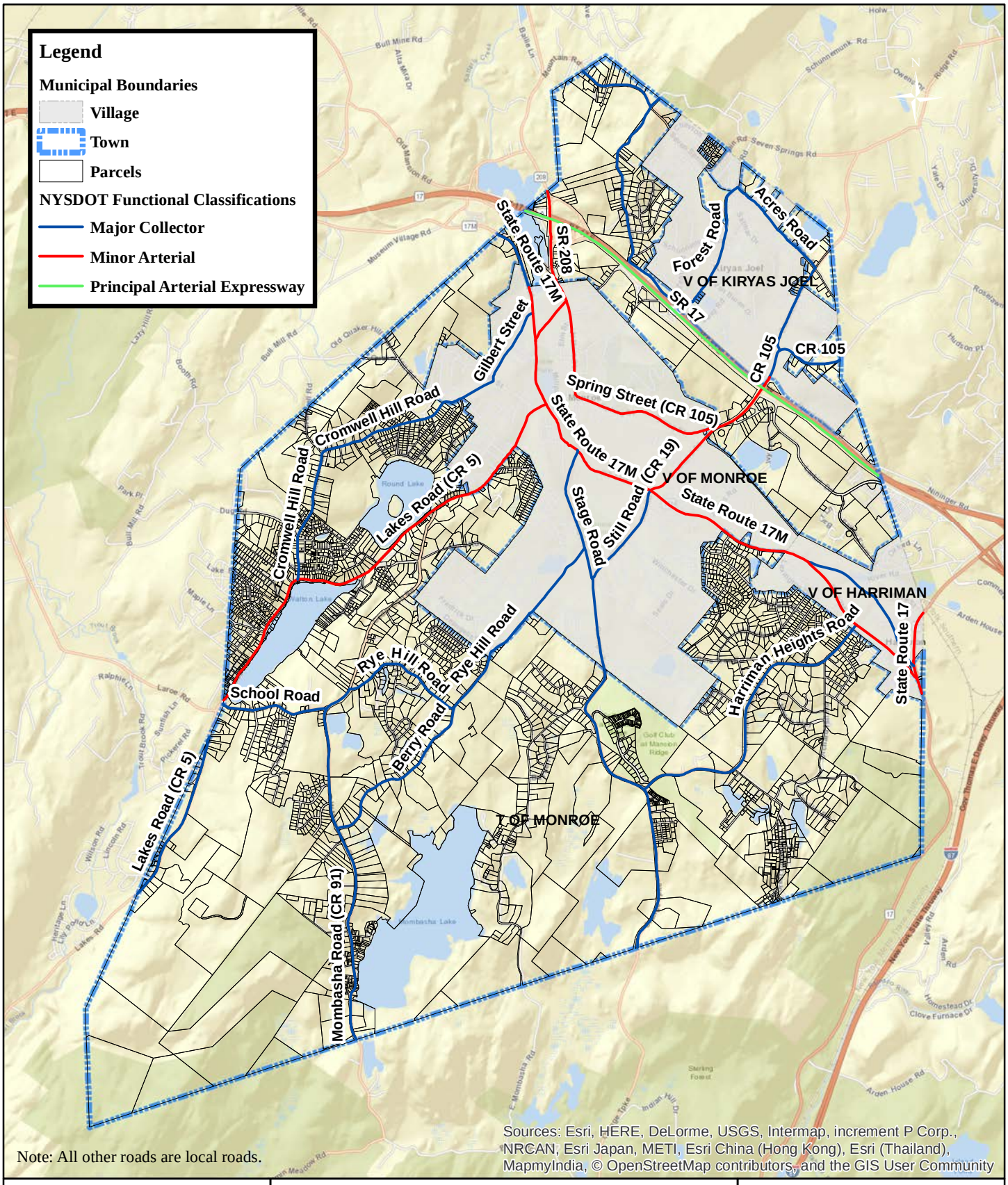

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Figure IV.F-1
NYS DOT Functional Classifications

Source: ESRI Web Mapping Service;
NYS DOT; NPV GIS Library
Scale: 1 inch = 4,500 feet

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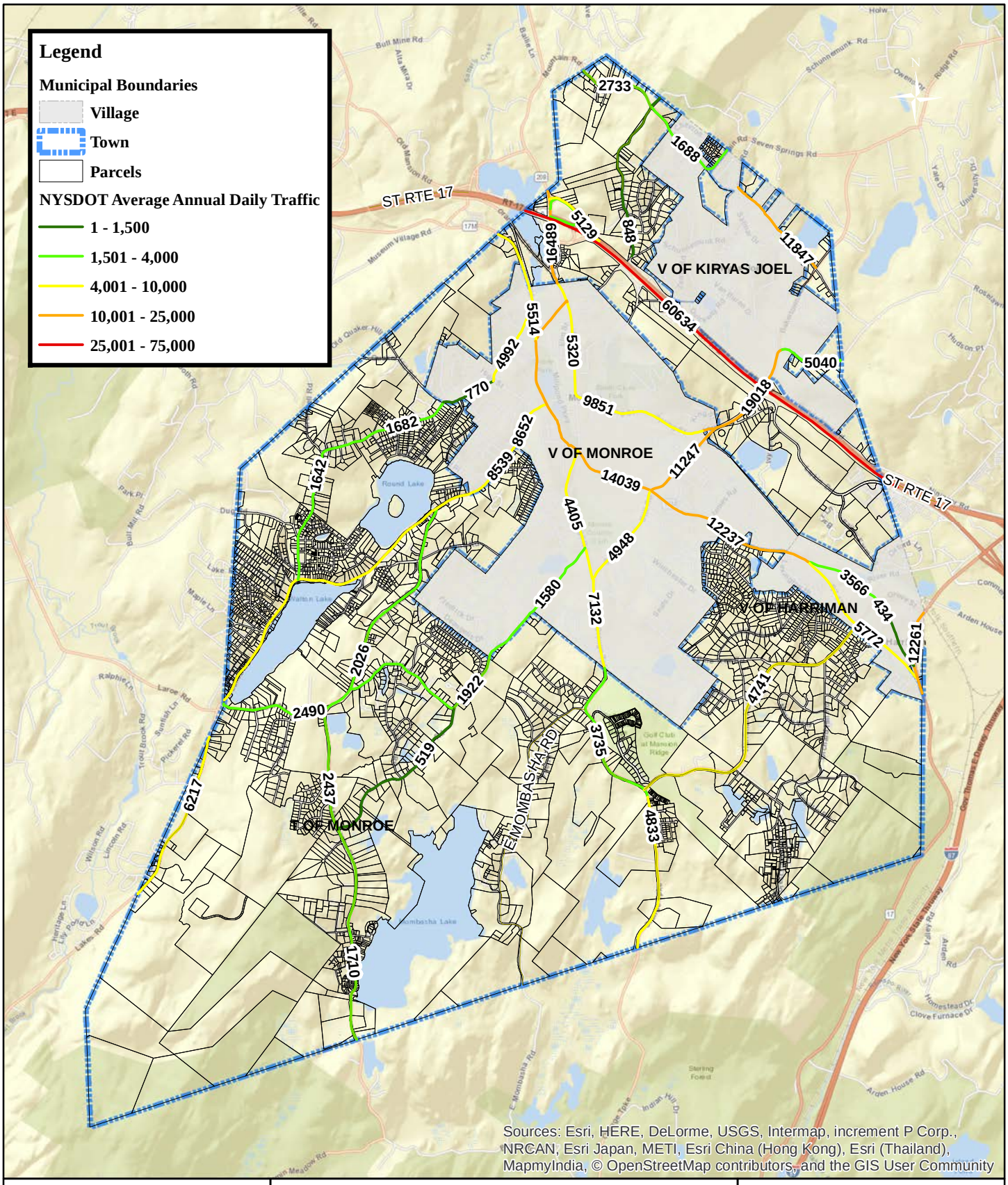

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Figure IV.F-2
NYSDOT AADT

Source: ESRI Web Mapping Service;
NYS DOT; NPV GIS Library
Scale: 1 inch = 4,500 feet

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G. COMMUNITY SERVICES AND FACILITIES

Town of Monroe residents, businesses, and landowner are well served by a comprehensive system of facilities and services, provided by governmental employees and volunteers, which collectively add and relate to the quality of life in this community. Some services at the Town level are provided to all landowners in Monroe, both within the incorporated and unincorporated areas. Other services are provided to residents within the unincorporated area only. Besides Town government, services are administered by various districts, including school, fire and ambulance, and several services are provided from regional agencies, e.g., state police protection and state and county roadway maintenance. The Town strives to ensure that all residents are served adequately by programs and facilities which are considered to be basic necessities or essential services, including police and fire protection and emergency services. A purpose of this Plan Update is to solicit input into those services which residents and businesses believe are important to maintain the quality of life they sought when they decided to locate to the Town of Monroe. Community service providers that provided services to the unincorporated Town of Monroe are shown in Figure IV.G-1.

1. Town Governmental Services

Town government has the responsibility of providing for the basic operations of the Town. There are certain services, such as tax assessment, that are provided by the Town to the Villages as well as the unincorporated parts of the Town outside the Villages, while other services provided by the Town, such as building, planning and zoning administrative support, are provided to property owners within the unincorporated area. The Town primarily provides the same services as it provided at the time the 2005 Plan Update was prepared. Townwide services include but are not limited to:

- A court system, with local Town justice courts and associated operations.
- A Tax Assessor and department, which values properties for tax assessment purposes, and collects County and Town property tax revenues.
- Tax collector;
- Dog shelter;
- Town Clerk's office, which issues local permits and various licenses such as hunting, fishing, dog, and marriage, and maintains records and documents.
- Planning and supervising elections, preparing polling places, ballot boxes, and voting machines.
- A parks department, which oversees, maintains and plans programs at the Town's' recreational facilities.
- Dial-a-Bus service.
- A Comptroller office, for monitoring budgets and finances associated with Town services and ensuring contracts for Town functions are in accordance with applicable legal requirements.

Services provided to property owners within the unincorporated area include but are not limited to:

- A Building and Maintenance Department and Building Inspector, that provides building code and fire safety inspections and administer the NYS Building and Fire Codes, as well as enforce Town Code requirements.
- A Planning Board and Zoning Board of Appeals administer local land use and other regulations of the Town outside the Villages.
- The Department of Public Works oversees, maintains local infrastructure, services and programs related to roads, drainage systems, water systems, sewer systems.

The Town owns numerous properties and buildings for the administration and provision of Town services as described below

a. Town Government

Town Hall was formerly located within the Village of Monroe, on Stage Road adjacent to Monroe Village Hall. The former Town Hall building was constructed in 1979 and is 2,100 square feet. At the time the 2005 Plan Update was prepared, the document noted there was a severe need for more Town office space "*as the current facilities are quite cramped*." Services provided at Town Hall included, at that time, the Town's administrative functions including the Town Clerk, Building Department, Planning Board office and Town Supervisor's office. In 2015, the Town Board relocated some of the administrative offices to the Eitz Chaim Synagogue located at 1465 Orange Turnpike within the Village of Monroe (tax roll identifies the property as 2 Reynolds Road), where it leases space from the congregation.

The former Town Hall at 11 Stage Road is vacant, and its disposition is yet to be determined. Town Hall was closed based on the need to remediate mold within the basement level of the building. Documents and records stored in the basement were removed from the building in 2015 and are being restored.

The DeAngelis Meeting Hall was the Town Hall prior to its location at 11 Stage Road. The meeting hall is situated at 15 Lake Street in the Village of Monroe's central business district. According to real property data, the building dates to 1912. This building contains 4,200 square feet of gross floor area and houses the building department and office of the tax assessor. It also provides meeting space. Parking facilities are located to the rear of the building, and on-street parking is available along Lake Street.

The Town courts are also located at the DeAngelis Meeting Hall. The second floor contains offices, judge's chambers, a courtroom, and juror's room. The building was constructed in 1930 and there is no elevator, so the facilities are not handicapped accessible. This means that the court must be held downstairs in the DeAngelis meeting room when accessibility is needed. The Town formerly prosecuted cases in the Village of Monroe. However, the Village established its own court facilities in 2007, reducing the total caseload in the Town Courts. The 2005 Plan Update indicated that the Town Courts still

required improved space due to the physical limitations of the existing facility. .

The Town highway facility is located at 87 Mine Road on an approximately 10.8-acre tract of land opposite the Monroe-Woodbury Central School District bus barns. The site houses the Town highway barn and offices, along with the Dial-a- Bus facility, and the Town's dog shelter. The 2005 Plan Update noted that the Town's dog shelter had been repaired and was adequate to meet current needs. Since the 2005 Plan Update, The Town highway facility now includes a joint salt storage barn shared by the Town and the County, which improved the efficiency of County road maintenance by reducing mileage traveled for salt supplies when needed.

The Town's Senior Center is also located at 87 Mine Road, constructed in the late 1990's at the site of the Town highway facility. The facility provides space for a wide range of senior programs, benefiting the Town's senior community. This facility is used extensively by a host of programs including nutrition, exercise, and health clinics as well as recreational and educational programs. In addition, the function room at the senior center is used as a meeting space for the Town. The Town Historian's office is located on the lower level of the building.

The former Monroe Cinema, now the Town of Monroe Arts and Civic Center (TMACC), is located at 24 Millpond Parkway in the Village of Monroe. The Town of Monroe bought the multiplex theater at auction for $880,000 for the original purpose of consolidating municipal offices and providing community cultural programs. At the time it was purchased, the Town had anticipated relocating the Town Hall functions at 11 Stage Road, and court functions at the DeAngelis Meeting Hall, to this building. In part, the intent was to relocate the Town's court in the theater as it had elevator access. Between the time of its purchase and its reopening, the Town Board determined that it was not feasible to utilize the building for Town Hall purposes, and reopened the space in 2015 as an arts and civic center where it continues its use as a movie theater, and also is used to hold municipal meetings, lectures, and rental space for civic and other events. At this time, the disposition of the building is being decided by the Town Board. It is expected that the building will be leased to a cinema operator, or possibly sold to be used for that purpose.

b. Emergency Services

Monroe Joint Fire District: At the time the 2005 Plan Update was written, fire protection services were provided by three separate fire companies. The formation of a Town-wide Joint Fire District was being explored, in part to provide efficiencies in service, volunteer manpower, and possibly reduce the amount of equipment required to provide service by a unified fire district. In 2011, the three fire companies serving the Town of Monroe (Mombasha Fire Company, Harriman Engine Company, and Lakeside Fire and Rescue Company) merged to create the Monroe Joint Fire District. All personnel serving the fire district are volunteers; it is estimated that there are 110-120 volunteers. The three fire companies respond together for calls within the unincorporated Town and the Villages of Monroe and Harriman; it

does not respond to medical calls. By combining resources, the Monroe Joint Fire District is able to provide a wide range of fire and rescue services as part of a consolidated Department. The Monroe Joint Fire District is administered by an elected five-person Board of Fire Commissioners. The stations located within the Town are listed in **Table IV.G-1**. Only the Lakeside Fire & Rescue Company fire station is located in the unincorporated area. The Monroe Fire Department is part of the Orange County Mutual Aid plan - Designation: 28 - Battalion 5. At this time, the Harriman Engine Company anticipates constructing a new four bay firehouse. At some point in time, it is anticipated Station 1 will need to be expanded, although there is sufficient room on the property to expand in place. Dispatches for service are made through Orange County 9-1-1 service. The fire district has a policy of not bonding for equipment, i.e., it saves the funds to pay for the equipment outright. The fire companies operate with the same equipment that were listed in the 2005 Plan Update, except that Harriman and Lakeside each have a new engine, and Mombasha replaced its engine tanker. The fire district is also anticipating delivery of a new 100-foot ladder truck, which is necessary to provide emergency access to the schools in the district, as well as the large commercial businesses in the Town. The fire district responds to approximately 600 calls annually, and the number of calls has been increasing. According to Commissioner Sullivan, the fire district has one of the best ISO ratings, which keeps homeowner insurance premiums low. The fire district has expressed it would be beneficial for the land use boards to transmit plans on a regular basis to the district for its input on fire access. The one particular issue that the district indicates needs to be addressed is better monitoring of home occupations. Individuals are operating businesses from home, some of which have involved on-site storage of chemicals. This is an issue for firefighters that do not know what to anticipate in fighting a fire. Kiryas Joel is served by its own fire company.[34]

Table IV.G-1
Fire District Firehouse Locations

Fire Company	Station	Location
Mombasha Fire Company	1	526 St Rte 17M, Village of Monroe
	1A	406 N. Main St, Village of Monroe
Harriman Engine Company No. 1	2	2 S. Main Street, Village of Harriman
Lakeside Fire & Rescue Company	3	147 W Mombasha Rd, Town of Monroe
Source: Monroe Joint Fire District Website, 2016.		

Ambulance: The Monroe Volunteer Ambulance Corps (MoVAC) serves the unincorporated area of the Town of Monroe, and the Villages of Harriman and Monroe. This includes responses to emergencies which may occur on the major state highways that traverse the Town. At this time, there are approximately 45 active volunteers and the MoVAC provides basic life support (BLS) service. Like most volunteer ambulance organizations, it is a challenge to maintain the level of volunteers, given the extensive amount of training that they must undergo as state certification requirements continue to

[34] *Interview with Commissioner Sullivan, Monroe Joint Fire District, July 2016.*

expand. The ambulance district also pays for a paid crew to be on call. According to the agency's website, the MoVAC has been in service since 1947. It operates three (3) Type I ambulances, and one (1) BLS first response vehicle. The Ambulance service responds to over 1,400 calls for 9-1-1 emergencies per year. Approximately 60 percent of all calls are to dwellings; the remaining calls are from commercial uses. For example, many of the calls are received from Walmart. The station is used by Mobile Life Service to support their paramedic operation. Kiryas Joel will provide backup paramedic service support when necessary. The cost to expand to include full time paramedic service would be on the order of $150,000-$200,000, to be able to fund the necessary equipment and pay salaries. Response time is immediate between 6 AM to 6 PM, and is approximately 8-12 minutes at other times of the day; Orange County dispatches calls for assistance. The ambulance crews typically transport to Orange County Regional Medical Center in Wallkill, Good Samaritan Hospital in Suffern, or St. Anthony's in Warwick. The Monroe Volunteer Ambulance District is a member of the Hudson Valley Regional Emergency Medical Services Council (HVREMSCO), as well as the Orange County EMS Council. All of the medical personnel are certified by the NYS Department of Health at an EMT-Basic level certification or higher and are certified to perform CPR Basic Life Support techniques and to use an AED. The facility also regularly hosts training events, including for police personnel and firefighters. The facility also has 50 cots, its own generator, and can shelter victims in the event of an emergency. MoVAC's facility is located within the Village of Monroe at 100 Ramapo Street (Route 17M) just south of Stage Road. The present building was constructed in 2007 and Captain Lenahan has indicated the facility is adequate. It was constructed with six bays. In terms of service, the MoVAC does have difficulties accessing dwellings in the winter due to delays in snow plowing, especially on County roads.[35] Kiryas Joel is served by its own ambulance service.

Police Protection: Police protection is provided by the New York State Police and the Orange County Sheriff's office. The unincorporated area of the Town of Monroe is not served by its own local police. Police protection for the unincorporated Town is provided by the New York State Police. In 1995, the Town purchased the building on Nininger Road used by the New York State Police, upgraded the facilities and leased it to the State of New York on a long-term basis. There have been constant improvements to the site, most recently when an area was prepared for a future helipad for emergency transport purposes.

c. Recreational Facilities

This discussion focuses on active recreational facilities that serve the Town. For a broader discussion of open space and recreation, refer to the Land Use and Zoning section of the baseline inventory.

Former Monroe Municipal Landfill: It has been contemplated for some time that the former Monroe landfill, once capped and closed, could be used for active recreational facilities. In January 2015, a report entitled "Closed Landfill Redevelopment Preliminary Feasibility Study" (prepared by Barton & Loguidice)

[35] *Information as per interview with Captain Lenahan, July 26, 2016.*

was released to the Town Board, evaluating the potential reuse of the Town's former landfill located on the east aside of Lakes Road, south of the road's intersection with Camp Monroe Road. Per a closure report by Sterling Environmental Engineering, P.C. (2003), the landfill property consists of 23 acres with approximately 8.6 acres of unlined landfill area within the property. It was used reportedly as a construction and demolition waste (C&D) landfill between 1972 and 1986. As part of the closure plan, the landfill area was capped in 2008. The site is in final closure with a grass vegetative cover in topsoil over a 12-inch protective soil barrier layer and a 40 mil[36] high density polyethylene cap. Post closure monitoring and maintenance is ongoing. The Town maintains the site by cutting the grass to prevent the formation of woody vegetation on top of the landfill cap. The southern back corner of the property is used as a seasonal mulch and composting area. The Feasibility Study investigated the redevelopment potential of the landfill for several uses:

- recreational ball fields;
- a photovoltaic (PV) farm to generate electricity to sell on the grid;
- other possible energy opportunities;
- redevelopment of a portion of the site into a municipal solid waste transfer station to provide solid waste services to the Town, and generate income.

The Study concluded that each use was viable, and all uses had benefits, and challenges to overcome for the landfill to be reused in the manner studied. Additional studies and evaluations were recommended prior to selection of the preferred use. At this time, the Town is pursuing its use for a solar landfill.

Smith's Clove Park: Smith's Clove Park is located at 133 Spring Street in the Village of Monroe and is the primary active recreational facility for unincorporated Town residents. As per the Monroe Joint Park and Recreation Commission brochure, the Village of Monroe and the unincorporated Town formed a ten member volunteer Board on June 21, 1966, to administer activities at the park. Five members are appointed by the Town Board and 5 members appointed by the Village Board and serve as the Monroe Joint Park & Recreation Commission. All operations of the Park is overseen by this Board and funding is provided exclusively by tax money from Village of Monroe residents, those in the unincorporated Town of Monroe and some usage fees. Smith's Clove Park is made up 80 acres of developed and undeveloped land housing: (3) pavilions, rest rooms, parking lots, a skate park, hiking trails, a fitness course, an illuminated football field, (2) minor and (1) illuminated major league baseball field, (3) illuminated basketball courts, (3) age specific playgrounds, (3) illuminated handball courts, (2) indoor racquetball courts, (2) illuminated tennis courts, (1) illuminated roller hockey rink, (1) illuminated softball field, a dog park, a volleyball court, a pond to skate, a hill to sleigh ride and a 2,600 square foot recreation building complete with an activity room, a game room and a multi-purpose room. The facility operates year round from 7 AM to 11 PM, providing a place for area leagues to play and practice, preschool programs, ongoing morning, after school and weekend classes for kids and adults, holiday events, sporting events,

[36] *A mil is one thousandth of an inch.*

a summer camp, community events such as movie nights, winter activities, arts and crafts, and nature appreciation activities. The board maintains a website at www. smithsclovepark.org.

A mix of public, volunteer and private youth programs and services exist to serve the needs of the community's children and youths. The Monroe-Woodbury School District offers enrichment programs, and the Monroe Free Library offers children's programs, including but not limited to children's book discussion groups, summer reading programs and more. Children of Town residents can choose to participate in league baseball, softball, football and soccer programs organized and run by community volunteers. There are active Boy Scout and Girl Scout troops for all ages.

d. Public Educational Facilities

The unincorporated Town of Monroe is located entirely within the district boundaries of the Monroe-Woodbury Central School District, which also serves large portions of the Towns of Woodbury, Blooming Grove, Chester and Tuxedo, as well as the Villages of Harriman and Monroe. **Table IV.G-2** lists the school facilities that serve the district.

Table IV.G-2
Monroe-Woodbury CSD School Facilities

Name of School	Grades	Address
Sapphire Elementary	K-1	159 Harriman Heights Road, Monroe
North Main Elementary	2-5	212 North Main Street, Monroe
Smith Clove Elementary	K-1	21 Smith Clove Road, Woodbury
Pine Tree Elementary	2-5	156 Pine Tree Road, Monroe
Central Valley Elementary	2-5	45 Route 32, Woodbury
Monroe-Woodbury Middle	6-8	199 Dunderberg Road, Woodbury
Monroe-Woodbury High	9-12	155 Dunderberg Road, Woodbury
Source: Monroe Central School District Website, 2016.		

The MWCSD is managed by a Board of Education. The responsibilities of the BOE are as follows:

- Establishing district policies
- Developing an annual budget for public approval
- Serving as employing agent for the district
- Approving curriculum
- Maintaining the school buildings
- Acting as a communication link between residents and the superintendent.

Enrollment data were obtained from the New York State Department of Education for grades K through 12 and are presented in **Table IV.G-3**. According to the District's website, 6,890 students were enrolled during the 2015/2016 school year. The 2016-2017 adopted school budget is $164,817,836, which

represented a 2.21 percent spending increase over the prior school year's budget. The school district's current bond rating is Aa3, the highest rating in the District's history, according to an audit prepared in October 2015, which provides detailed data regarding the District's finances.[37]

Table IV.G-3
Monroe-Woodbury CSD Enrollment Trends

Name of School	2005-2006	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Sapphire Elementary	395	360	336	348	370	328
North Main Elementary	611	625	589	585	558	556
Smith Clove Elementary	693	588	586	568	526	526
Pine Tree Elementary	849	891	888	874	833	870
Central Valley Elementary	683	630	590	613	603	576
Monroe-Woodbury Middle	1,752	1,731	1,770	1,682	1,670	1,671
Monroe-Woodbury High	2,399	2,331	2,275	2,285	2,300	2,364
Total	7,382	7,156	7,034	6,955	6,860	6,891

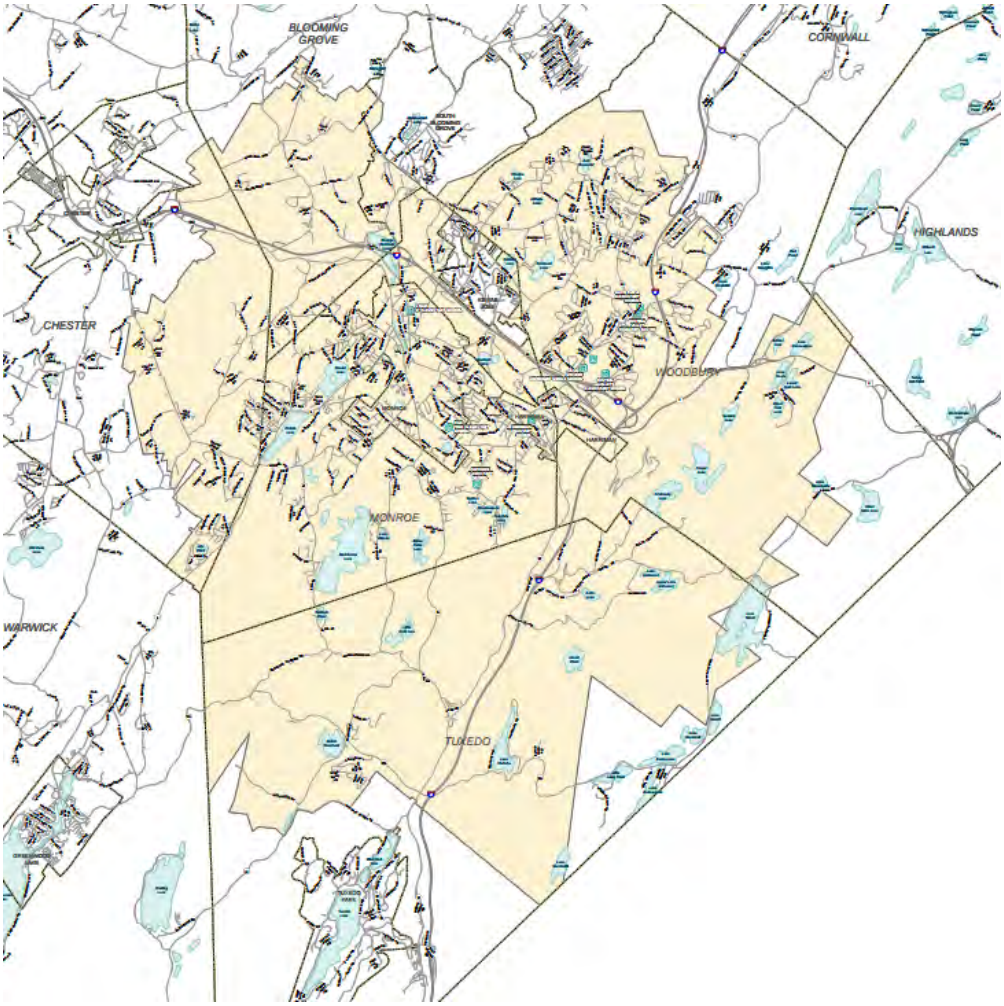
Source: NYS Education Department, 2016. Monroe-Woodbury Central School District Website, 2016.

Over the past ten years, the District has declined in total enrollment, by approximately 491 students or 6.7 percent. Of the schools within the Town of Monroe, Sapphire and North Main Street Elementary have experienced declining enrollments. However, the Pine Tree Elementary enrollment has increased in the past ten years.

As per the 2005 Plan Update, the March 2003 Monroe Woodbury Special Bond Issue Newsletter reported projected that growth of the K-12 enrollment would reach 7,755 by the 2005-2006 school year, growing to 8,542 by the 2012-2013 school year. As can be seen, the District did not achieve that growth projection. Like the Town's population, growth was likely slowed as a result of the national recession.

It should be noted that the Village of Kiryas Joel is served by its own school district, the Kiryas Joel Village Union Free School District. According to the New York State Education Department, there were a total of 150 special education students served by the school district in 2015-2016 in grades K through 12. The majority of non-special education students in the Village attend religious schools.

[37] *See http://mw.k12.ny.us/wp-content/uploads/2016/04/16_04-Audit-Report-June-30-2015.pdf*



A small percentage of students in the Monroe-Woodbury School District attend private schools. It should be noted that the enrollment figures for the Monroe Woodbury School District do not include these pupils. It should also be noted that the Monroe-Woodbury School District is required to provide transportation options to students living within the District but attending private schools.

Inset - Monroe Woodbury School District boundary, prepared by Orange County GIS.

e. Library Services

The Monroe Free Library is a Free Association Library, an independent entity free of government ownership; the present library is located at 44 Millpond Parkway within the Village of Monroe. The library association began operation in 1908, organized by the "Friends for the Establishment of a Free Circulating Library in Monroe Village". After moving several times over the years, in 1958, land was purchased with endowment funds and a building that was half the size of the present building was completed in 1960. The Monroe Free Library had approximately 2,800 square feet in 1960 when it was built; the library was expanded to approximately 5,600 square feet in 1984. In 2014, the library underwent major renovation and improvements to expand it by 2,300 square feet.

The library is administered by a Board of Trustees and is a 501(c)3 charitable organization. According to the 2014 tax filing for the library, there were 21 employees and six (6) volunteers. The New York State legislature, upon petition by the library association, passed legislation allowing a public referendum on the November ballot each year to approve a library budget. In 1998 residents in the Town had the opportunity to vote on the library budget for the first time. As a result of the public referendums, library funding has increased from $260,000 in 1997 to $1,264,325 in 2016.

Most of the library's funding pays for administrative staff salaries and benefits. A portion of the funding also pays to supplement the library's circulation, adding not only more books, but increasing the audio books and videos collections, and adding DVD and CD collections to the circulation. Another result of the funding increase has been the addition of many community programs, including but not limited to children's pre-school, after school and summer programs, adult and children's book discussion groups and internet classes.

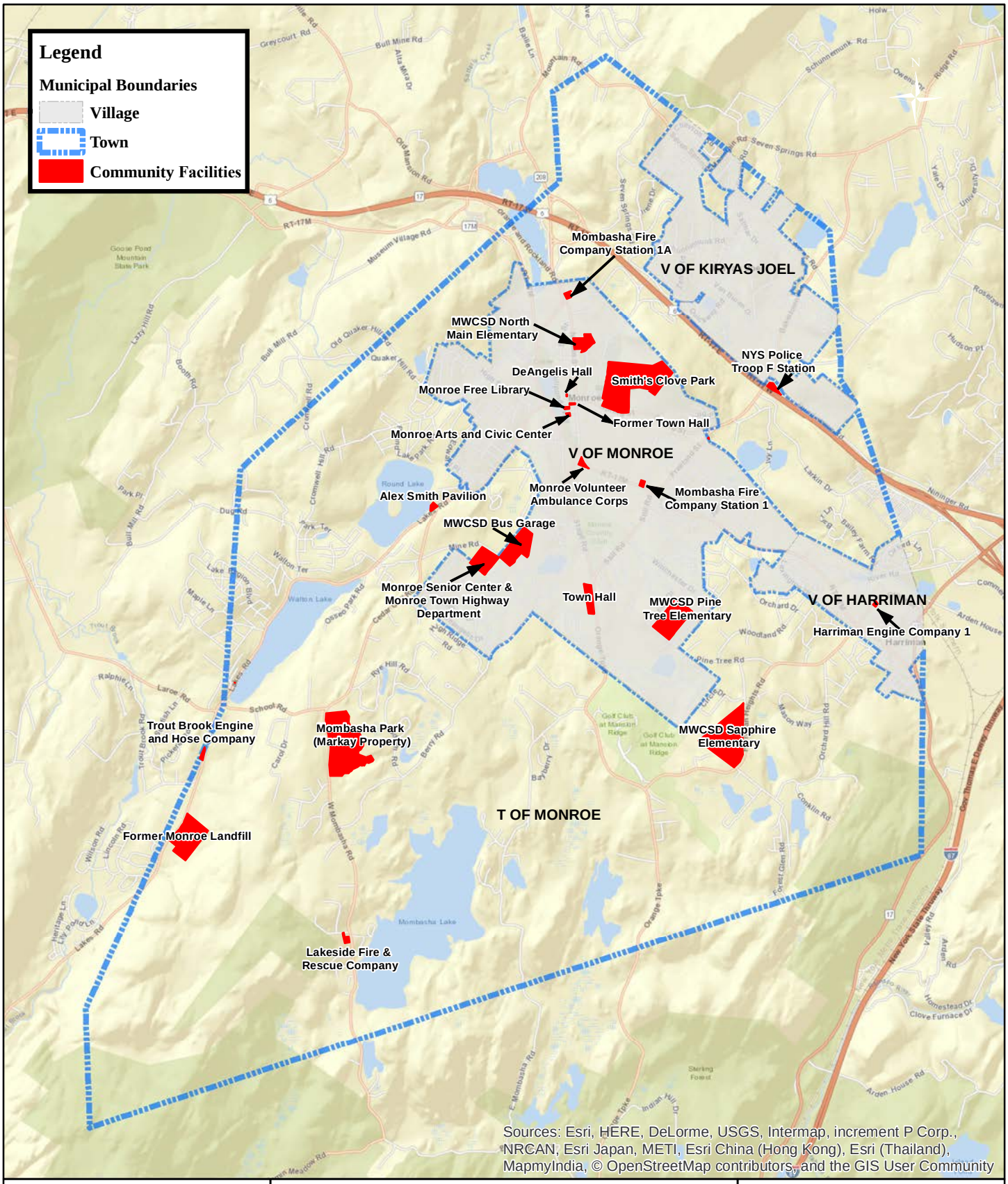


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Figure IV.G-1
Community Facilities

Source: ESRI Web Mapping Service;
Orange County GIS; NPV GIS Library
Scale: 1 inch = 4,500 feet

Town of Monroe

Comprehensive Plan

V. IMPLEMENTATION MATRIX

The following is a summary of the implementation measures recommended in the 2017 Plan Update. The matrix below includes three time horizons: short, medium, and long-term. In the context of this Plan Update, which will require review within five (5) years, short-term measures are those that should be implemented within one (1) year of the Plan's adoption, medium-term are measures to be implemented within three (3) years, and long-term are measures to be adopted within five (5) years of its adoption. The implementation measures which are the highest priority are designated with an "Imm" next to the timeframe.

IMPLEMENTATION MATRIX	**Time Frame**
Conceptual Land Use Plan	
Revise Zoning Map to be Consistent with the Conceptual Land Use Plan	1-*Imm*
Adopt Revisions to Accessory Apartment Regulations	1-*Imm*
Update Use Tables to be Consistent with the Conceptual Land Use Plan	1-*Imm*
Environmental Framework	
Adopt cluster subdivision regulations	1-*Imm*
Establish minimum amount of undeveloped land within developments	1-*Imm*
Allow solar installations accessory to residential and nonresidential land uses	1
Redevelop the Town landfill for a solar farm	5
Acquire parcels for open space protection	5
Prohibit clearcutting and amend Chapters 44 and 46	1
Adopt Tree Preservation Law	1-*Imm*
Adopt net density environmental regulations	1-*Imm*
Adopt stream protection regulations	1
Adopt a watershed protection overlay	1-*Imm*
Adopt terrain adaptive provisions	1
Adopt biodiversity study requirements	1
Adopt provisions to assess impact on Ramapo River Sole Source Aquifer	1
Update Chapter 56 to address wetland buffer regulations	1
Community Character Framework	
Adopt local historic preservation law	1
Create historic preservation board, or give planning board authority, to regulate activities affecting designated historic resources	1
Develop a plan for rehabilitation and occupancy of Checkerboard Inn	5
Require the preparation of cultural resource surveys	1
Establish Architectural Review Board, or give the planning board authority to conduct architectural review.	1
Develop Scenic Road standards	1
Develop architectural design guidelines for commercial corridors	3
Adopt a Ridgeline Protection Overlay	1-*Imm*

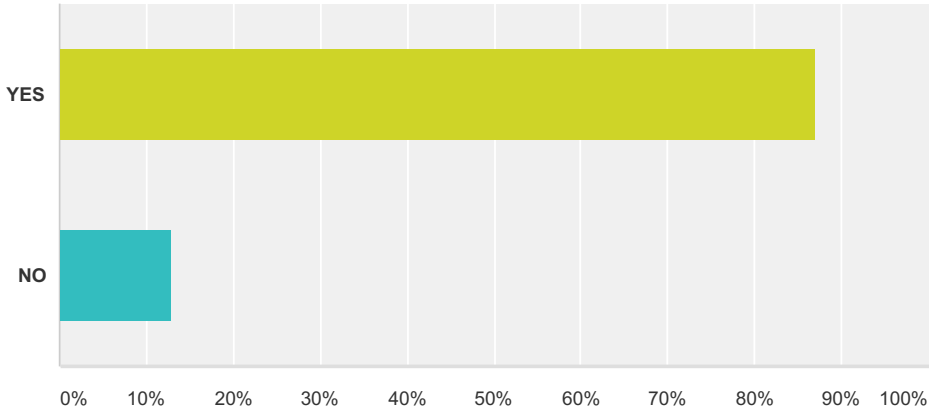
Establish standards for viewshed analysis	1
Develop and adopt architectural design guidelines	3
Adopt landscape design standards	1
Adopt landscape design standards	1
Adopt adaptive reuse provisions	1
Infrastructure Framework	
Create standard to extends sewer and water in manner consistent with the Plan Update	1
Work with transportation agencies to mark trail crossings	3
Plan and Map an interconnected trail system	3
Develop an interconnected trail system	5
Review road specification standards and encourage private road subdivision standards	1
Review road specifications and adjust them to reflect development locations and density of development	3
Establish a formal town role in decisions related to the OCSD	5

APPENDIX A

RESULTS OF PUBLIC SURVEY

Q1 Do you believe this overall Vision Statement is still relevant and appropriate?

Answered: 355 Skipped: 9

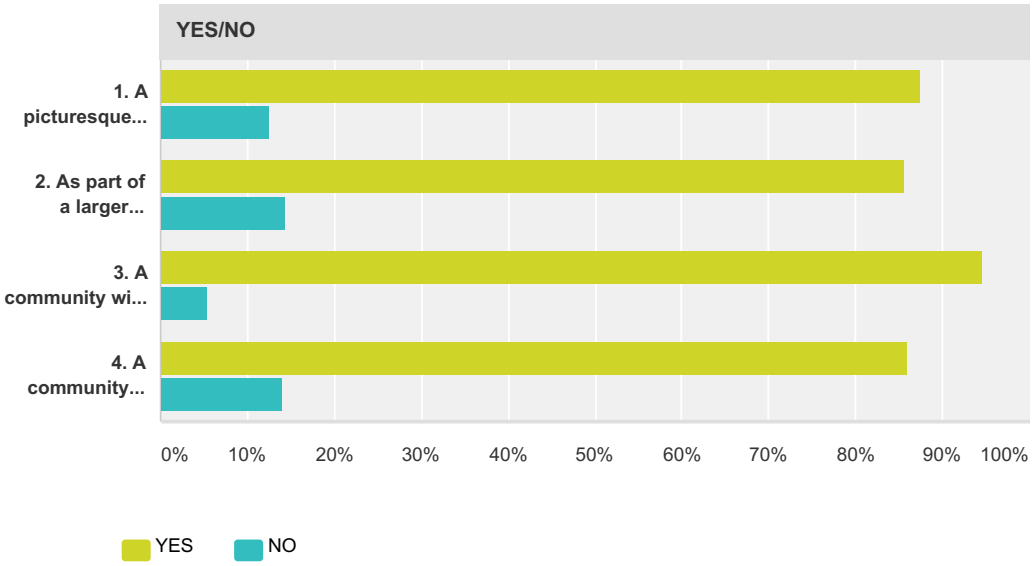


Answer Choices	Responses	
YES	**87.04%**	309
NO	**12.96%**	46
Total		**355**

Note that comments regarding specific persons or personal attacks, inappropriate comments, and comments that are not related to the questions in the survey were deleted.

Q2 Of the four items listed in the Town of Monroe Vision today, please indicate whether or not each should be included in a new vision statement:

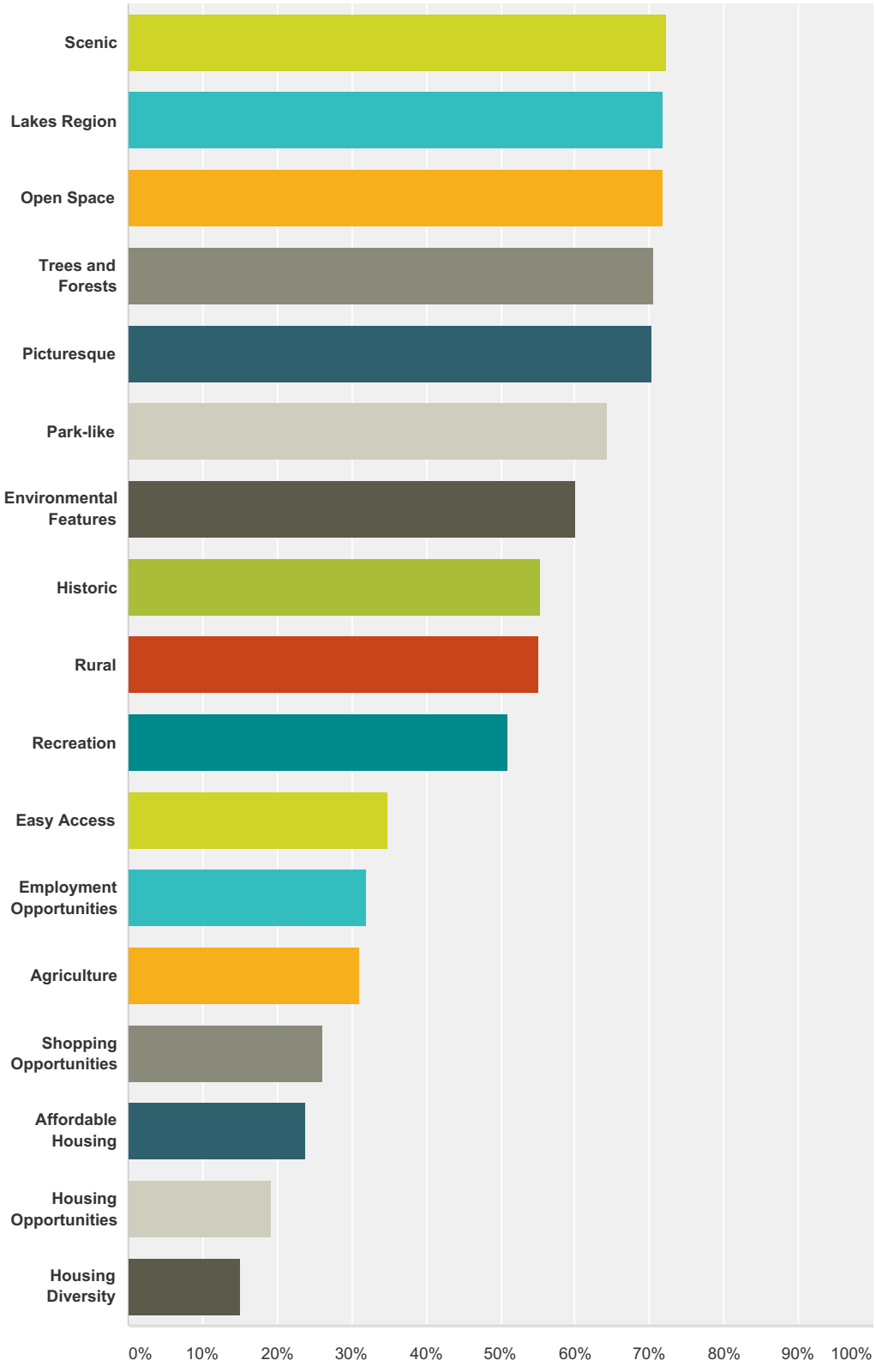
Answered: 354 Skipped: 10



YES/NO	YES	NO	Total
1. A picturesque community...	**87.46%** 300	**12.54%** 43	343
2. As part of a larger ecosystem...	**85.51%** 295	**14.49%** 50	345
3. A community with residential neighborhoods...	**94.49%** 326	**5.51%** 19	345
4. A community conveniently located...	**86.01%** 295	**13.99%** 48	343

Q3 What priority words do you believe should be included in the Vision Statement (select all that apply – these are in alphabetical order):

Answered: 361 Skipped: 3



Answer Choices	Responses	
Scenic	**72.30%**	261
Lakes Region	**71.75%**	259

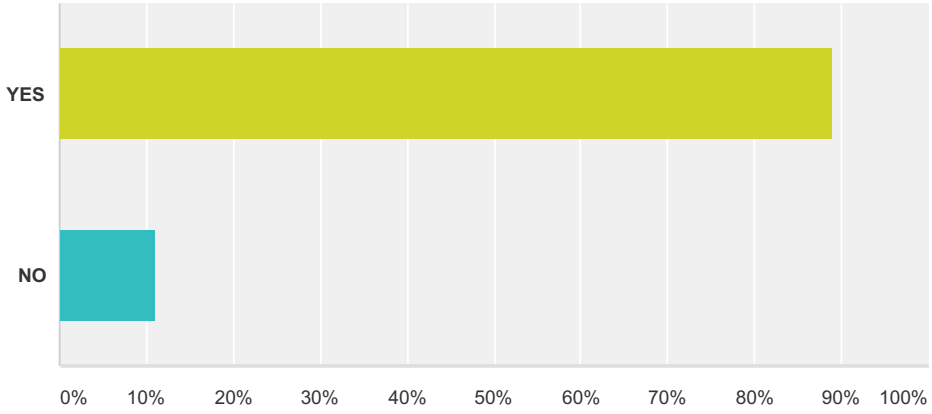
Open Space	**71.75%**	259
Trees and Forests	**70.64%**	255
Picturesque	**70.36%**	254
Park-like	**64.27%**	232
Environmental Features	**60.11%**	217
Historic	**55.40%**	200
Rural	**55.12%**	199
Recreation	**50.97%**	184
Easy Access	**34.90%**	126
Employment Opportunities	**31.86%**	115
Agriculture	**31.02%**	112
Shopping Opportunities	**26.04%**	94
Affordable Housing	**23.82%**	86
Housing Opportunities	**19.11%**	69
Housing Diversity	**14.96%**	54
Total Respondents: 361		

	Other (please specify)
	trees and forests
	housing for seniors
	Senior Housing
	senior affordable housing more convenient senior transportation
	Plan smart for growth by allowing easiely residential building of 1 or 2 families on 1 acre lots, and wide roads
	The uncontrolled and unregulated growth of the past 10-20 years have mightily challenged the hope that such a vision will ever again be realized. Without the vision, guts and integrity of a committed leadership team, Monroe may likely become yet another built-out, sprawled, degraded NYC suburb; victim to it's own lack of *effective* planning.
	Superior education not controlled by any one group!
	A town board that serves ALL of the citizens who choose to live in Monroe, A transparent government, and a planning and zoning board that chooses to follow the laws with an absolute minimum of issuing variances.
	Sadly the town of Monroe has lost so much of what made it great
	Without traffic congestion
	Please stop the over development spillover from KJ
	No noise/light pollution Sustainable, smart growth No unconstitutional self-segregation allowed
	I have been leaving in the Monroe Woodbury area for about 30 years and I love that we have so much at our finger tips yet the scenic views and cozy town. I hope we can continue with that mindset and not become over populated with condensed housing everywhere.
	Please stop the overdevelopment of Monroe. Put an end to large housing developments and protect whatever open space we have left.
	green
	High density housing is the antithesis of this vision statement
	TREES and WILD LIFE

	no annexation, protection of MW school district
	- encourage business growth in the downtown area (retail, dining, entertainment) - tax friendly for business and community - diverse, inclusive, supportive
	schools
	Keep Monroe scenic, future development is not the answer for our community, no more residential building
	water conservation, right now wells are low, what to do with sewerage?
	Primarily single family housing. Zoning and permits should reflect that core value.
	We need high density housing to reflect the needs of more than 50% of the population in the Town of Monroe. We need more commercial area to promote competition and increase the availability of commercial space.
	safe
	Stop with the high density housing and maintain the beautiful area that once was. You're ruining our town with all the extra traffic and taking away the ecosystem of animals.
	sustainable growth
	Cultural
	Watersheds, State Parks
	I believe the Town Of Monroe is over built now. We need more open space, preserve the tree's, rural atmosphere and characteristic's... We take this away and were just a town. I have grown up and currently live in Monroe. I have seen so much change. This should remain a town, NOT a city..... Why can't the Town of Monroe be buying larger parcels for open space, like they are doing in our surrounding communities. Warwick is a good example. There is a fine line between progress and destruction... We've been on the path of destruction for too many years.. Time to correct this.
	I would like to see the more of a concern for the wild life and their habitats, so much building is harming their habitats, and it is very sad.
	Tremendous school system Academic rigor Athletic prowess
	The beauty of monroe has been covered by mass development and the torn down forest and mountain in certain villages of Monroe.
	With the inexorably rise of the KJ population, Monroe and Orange County will be forever changed
	Home town feel;
	Thriving downtown Economic Development
	The area should not be turned into a city with high density housing that causes pollution and environmental destruction.
	Lakes to remain pristine for kayaking, swimming, boating... Not to have gaudy duck/ swan paddle boats and water trikes traveling about. Plain paddle boats would not take away from the beauty of the lakes.
	A combination of rural and suburban that offers the benefits of both with easy access to the services and convenience available in more developed areas.
	Inclusive. Welcoming to all.
	Monroe has become congested enough, if we allow massive building without the roadways it would be a disgrace.
	Crowded, crooked, ethnically segregated
	Not to exceed in population that goes beyond local natural resources
	Sense of community Quality public education
	Roads and traffic lights causing back ups already.
	Not another town within a town!
	Protected open space
	Diverse culture

Q4 The previous Comprehensive Plan Update prioritized the preservation of land as open space for a variety of purposes such as recreation, environmental benefits, and scenic rural character. Do you believe that open space preservation should be an objective in this Plan Update?

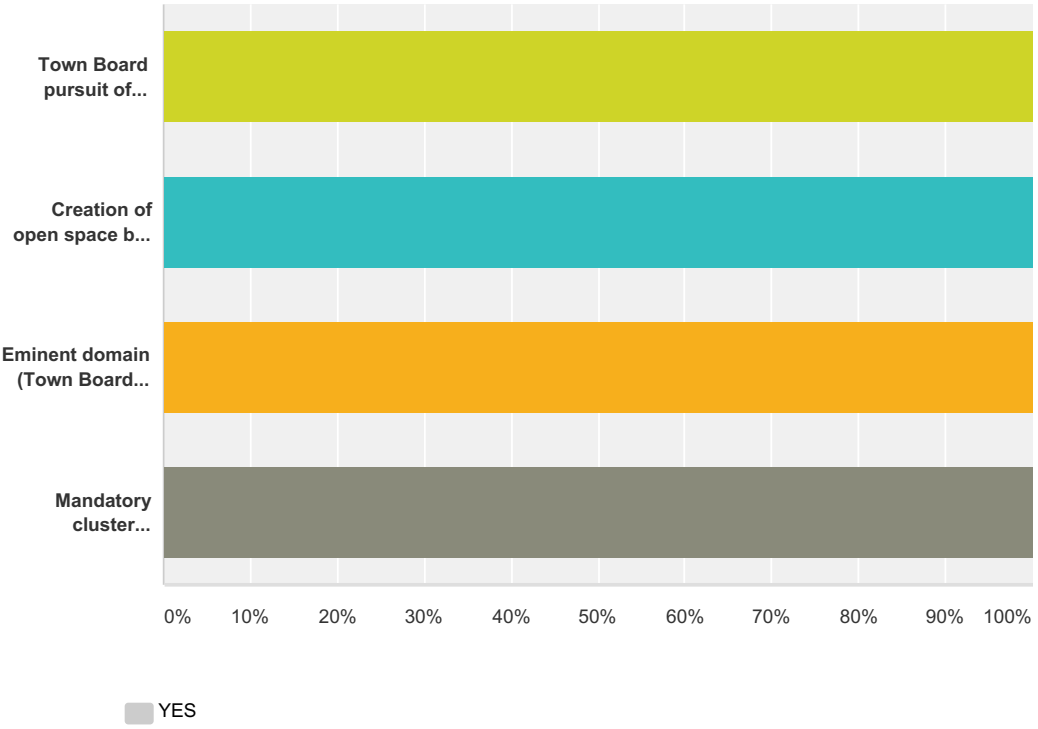
Answered: 335 Skipped: 29



Answer Choices	Responses	
YES	88.96%	298
NO	11.04%	37
Total		335

Q5 A community can preserve the open character of a community using a variety of methods. Please check all that you believe the Town should utilize to achieve this objective:

Answered: 309 Skipped: 55



	YES	Total Respondents
Town Board pursuit of grants (obtain grants through various organizations):	**100.00%** 275	275
Creation of open space bond (Town Board will pass a bond and would acquire property)	**100.00%** 247	247
Eminent domain (Town Board condemns the land and pays the owner fair market value)	**100.00%** 127	127
Mandatory cluster subdivision development (Planning Board sets the maximum # of lots/dwellings that can be constructed in accordance with zoning, requiring the lots be reduced in size, and that a minimum % of the property be preserved as open space.	**100.00%** 201	201

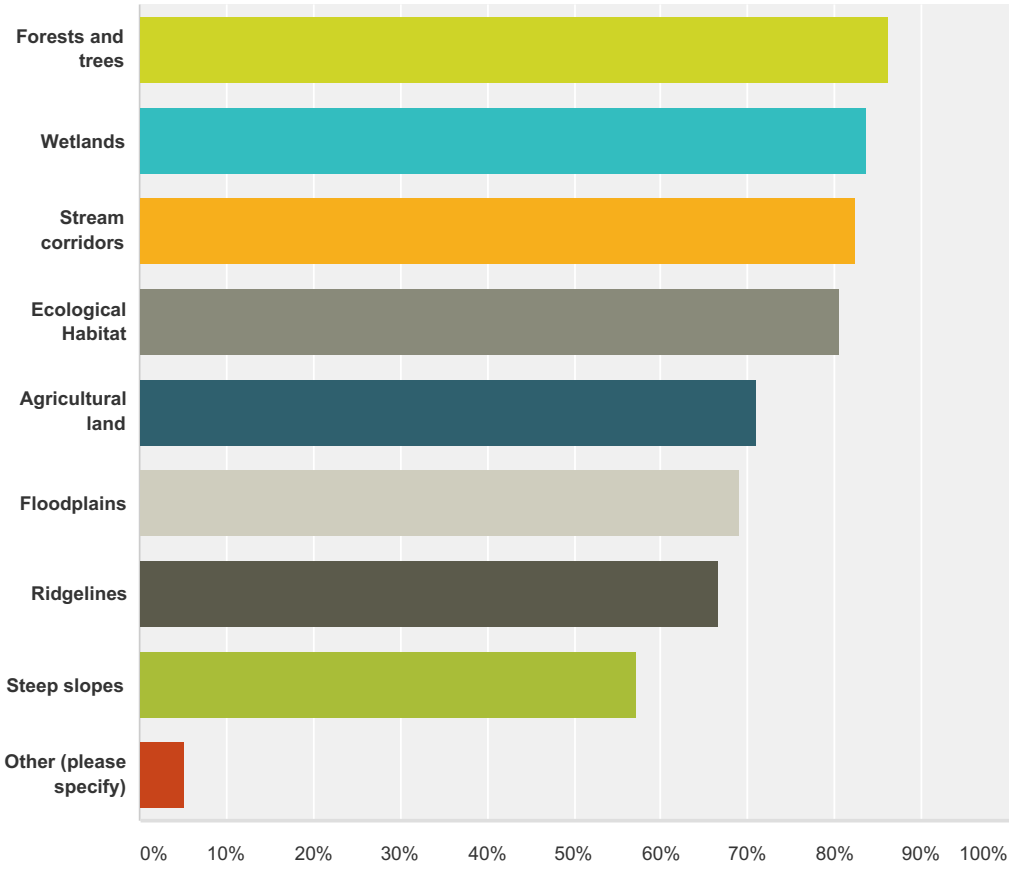
	Other Options (please specify)
	Single family homes, no accessory apartments
	None
	None
	Conservation subdivision is only useful if a regional and town-focused conservation plan exists and is enforced. Otherwise, greed and stupidity will not doubt continue to rule the day.
	How about just enforcing the existing zoning laws and not giving anymore variances?! These developers should understand the regulations when they purchase land.

	Maintain low density residential zoning.
	Lot sizes be 1 acre + and tree preservation
	Large lots and tree preservation
	In the spirit of the past practices of the town, a finite number of accessory apartments should be allowed each year - completely based on the availability of water, sewer, traffic and the conditions and accessibility of roads that abut high density housing projects. This was done with county sewer permits in the 1990s. Conditional approvals should never be granted unless all current environmental impact studies are done and judgment rendered by experts in the field.
	No more multi family dwellings! No more large developments when so many existing homes sit vacant from foreclosure. Protect our rural and agricultural lands. Give tax breaks to farmers to make it more economically viable for them to work the land.
	I would go even stricter with subdivision laws and prevent any further development of any housing other than one family dwellings.
	75 % of the property be preserved as open space
	COMMUNITY VOLENTEER GROUPS
	stop high density housing and accessory apartments, keep open space open but not for ball fields
	no clustering, no accessory apartments
	no cluster development, no apartments, no 2 family plus homes
	enough is enough
	amount of freshwater available for use, wells in areas are low or dry, where does all the massive sewerage go?
	Zoning needs to be well developed in accordance with this value of primarily developing single family housing. There needs to be an inforcement plan with fines and possible dismantling of construction should there be a violation. In our community accessary apartments need to be limited or removed.
	no cluster housing, no accessory apartments - enforce existing laws
	No more building! There is no need for more development.
	The town needs to be cognizant of the Village of Monroe, which sits in the center of the Town. High density housing projects currently surround and threaten to encapsulate it.
	no clusters being abused wet lands squeezing extra housing and then saying we left open land
	No more developments... We have very little open space now. It should be preserved. Building lots should be larger with a certain percentage of the lot remaining wooded. If people want to build, the we need them to build homes not houses... Cluster housing still does not protect all our resources and certainly not traffic. Eminent domain is criminal... Look who determines the value!! Very unfair!
	I would like to see protected green spaces including undisturbed forests. However, the Town Board should never be allowed to sell any of the properties once they are purchased with Bonds or Taxpayers' monies.
	This phrase "Mandatory cluster subdivision development" and it's use here is unclear to me.
	Write a tree code.
	Least amount of blacktop paving and/or cement on a property as ground water needs to be able to penetrate and replenish the water supply.
	Businesses should build with the character of the town in mind
	None !
	Zoning should mean something. Regulations should be followed not ignored.
	Cluster developments are an imperative, especially in the areas surrounding Kiryas Joel. Also in this area, minimum lot size should be changed to half an acre, with a reasonable footprint and setbacks to preserve semi-rural character.
	The business section around the ponds and the poor contrition of sections of 17M distract from the character and charm of the rest of the town. It really would be nice to revamp these areas to complement the highlights of the rest of the area.

	The Town of Monroe, like other municipalities in Orange County, should help fund the purchase of development rights to conserve private lands (in conjunction with the landowner via conservation easements).	
	Prevent multi family housing by zoning against it	

Q6 What resources do you believe should be preserved as undisturbed open space to the maximum practicable extent? (in alphabetical order)

Answered: 320 Skipped: 44

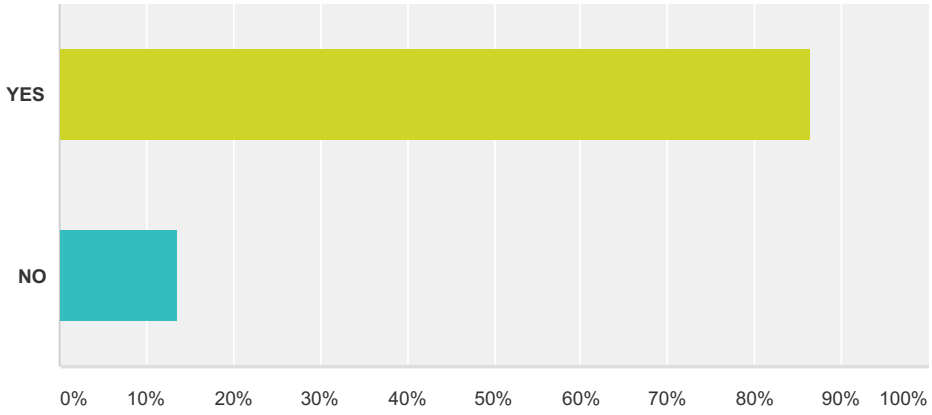


Answer Choices	Responses	
Forests and trees	**86.25%**	276
Wetlands	**83.75%**	268
Stream corridors	**82.50%**	264
Ecological Habitat	**80.63%**	258
Agricultural land	**70.94%**	227
Floodplains	**69.06%**	221
Ridgelines	**66.56%**	213
Steep slopes	**57.19%**	183
Other (please specify)	**5.31%**	17
Total Respondents: 320		

	Other (please specify)
	trees
	Lot size with building square footage maximum not to exceed 2,500 to 3,000 sq. ft.
	Nothing
	Additional (inventoried): historical, cultural, scenic and water resource features (aquifers, etc....)
	Historical sites including mines
	Historical sites
	Lakes
	Habitat for wildlife.
	Open spaces.
	CODE ENFORCEMENT
	fresh water, preserve the freshwater wells, no plans for all the sewerage
	Drinking water aquifers
	Park lands, hiking trails
	Meadows, animal habitats
	Properties contiguous with other protected lands.
	Streams and rivers

Q7 Scenic roads in the community are those roads which appear on historic maps of the Town that date to the 1800s, and that many in the Town believe are scenic. Do you believe activities which would occur within view of a scenic road should be reviewed to ensure that scenic qualities of the road or view visible from a scenic road should be protected, including limiting disturbance of woodland or vegetation and stone walls at the road edge?

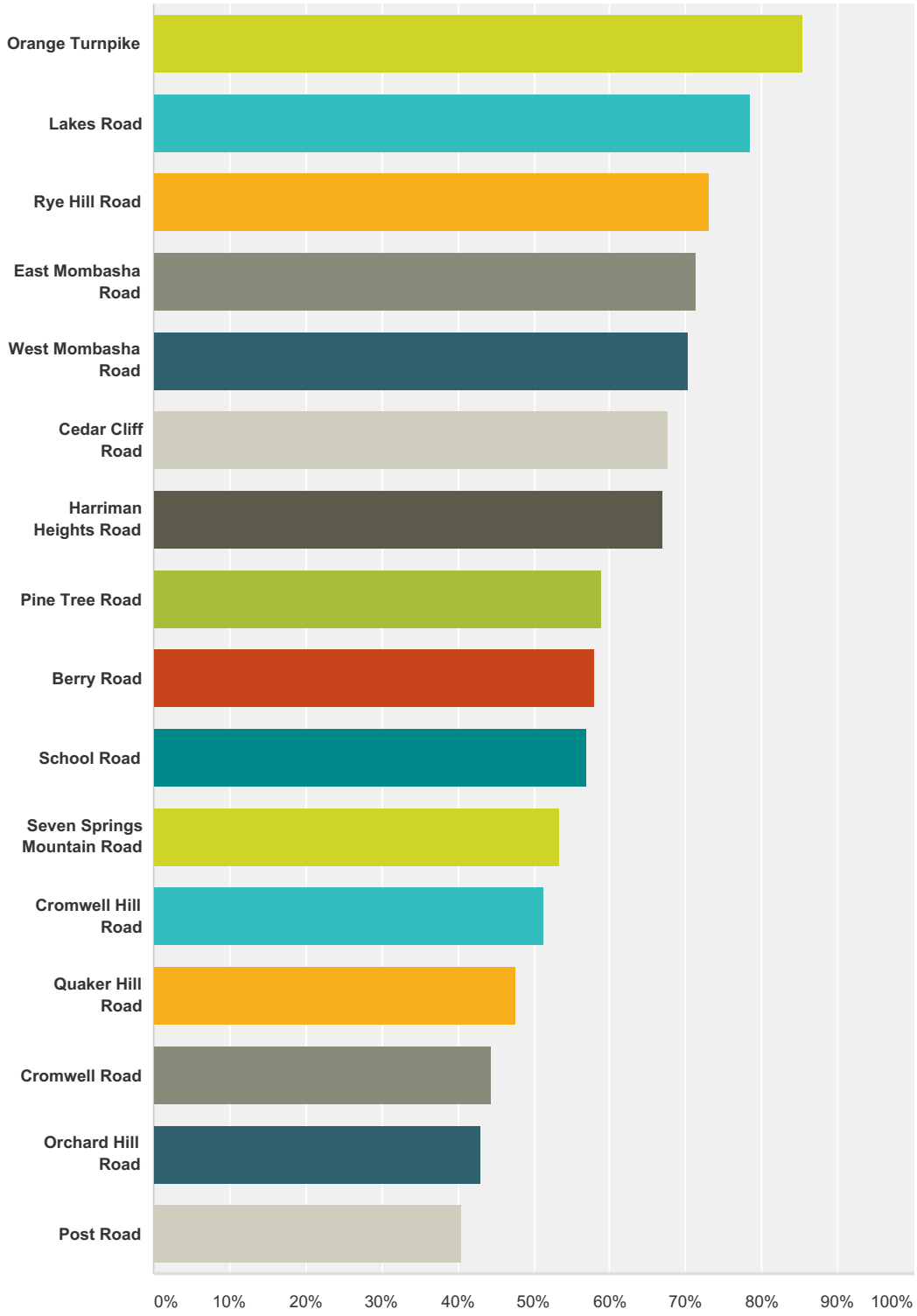
Answered: 316 Skipped: 48



Answer Choices	Responses	
YES	**86.39%**	273
NO	**13.61%**	43
Total		**316**

Q8 Which road, or portion of these older road(s), do you believe is (are) scenic (these are presented in alphabetical order)?

Answered: 279 Skipped: 85



Answer Choices	Responses

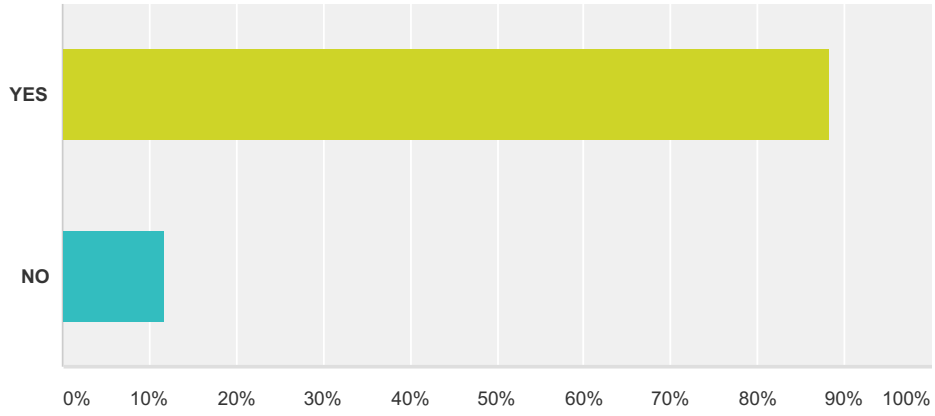
Orange Turnpike	**85.30%**	238
Lakes Road	**78.49%**	219
Rye Hill Road	**73.12%**	204
East Mombasha Road	**71.33%**	199
West Mombasha Road	**70.25%**	196
Cedar Cliff Road	**67.74%**	189
Harriman Heights Road	**67.03%**	187
Pine Tree Road	**58.78%**	164
Berry Road	**58.06%**	162
School Road	**56.99%**	159
Seven Springs Mountain Road	**53.41%**	149
Cromwell Hill Road	**51.25%**	143
Quaker Hill Road	**47.67%**	133
Cromwell Road	**44.44%**	124
Orchard Hill Road	**43.01%**	120
Post Road	**40.50%**	113
Total Respondents: 279		

	Other (please specify)
	None
	Rye Hill Road between Berry to Mombasha
	None
	None
	None
	None
	sorry; only familiar with those checked.
	Ludlam road. Margaret road
	Round Lake Park
	Clove Road (South Blooming Grove)
	I believe the list is longer than what is provided in the survey.
	None of these
	RYE HIL RD BETWEEN BERRY RD AND MOMBASHA RD
	not sure. New to the area and dont know all the road names
	Sunset Heights
	Orange Turnpike, Saphire Road, Circle Drive, Larkin Drive, Spring Street, Forest Road, Schunemunk Road
	I'm not familiar with all the roads but I believe in this area all roads should be scenic
	I'm not sure if any of these are "scenic" but they are all too small for major developments, except for Orange Turnpike. And disturbance of woodlands/etc should be a priority for all of these listed roads.

	Dug road
	Stage road
	They all should be preserved
	Stage Rd
	Mine Road

Q9 A ridgeline is a long area typically at the top of a hill or mountain from which the land surface drops away steeply on one or two sides, such as a bluff or precipice. The prior Comprehensive Plan Update recommended that ridgelines be protected, and that the extent of disturbance to them, and the visibility of development within a ridgeline area be minimized to the maximum extent. Do you support this objective?

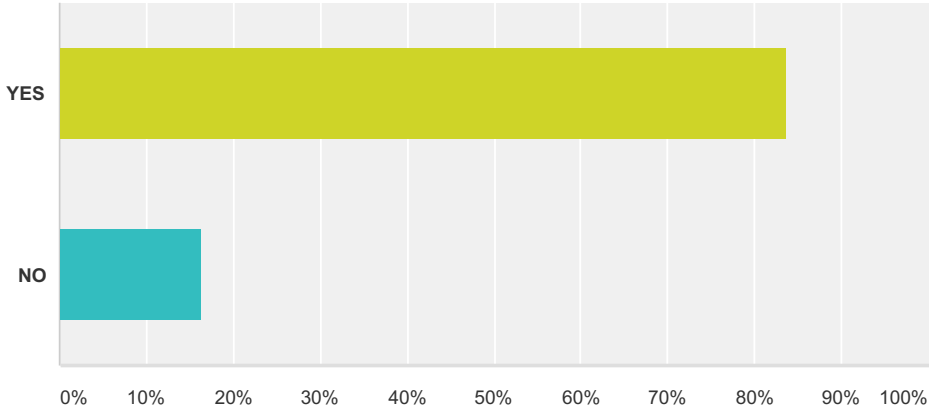
Answered: 315 Skipped: 49



Answer Choices	Responses	
YES	**88.25%**	278
NO	**11.75%**	37
Total		**315**

Q10 An Architectural Review Board, or an existing board tasked with architectural review, can be established to review a project to ensure that the buildings, structures, and landscaping are designed to meet standards which are intended to improve and enhance the community's visual character. Do you believe that nonresidential and multi-family residential developments (except single-family detached dwellings) should be reviewed and approved?

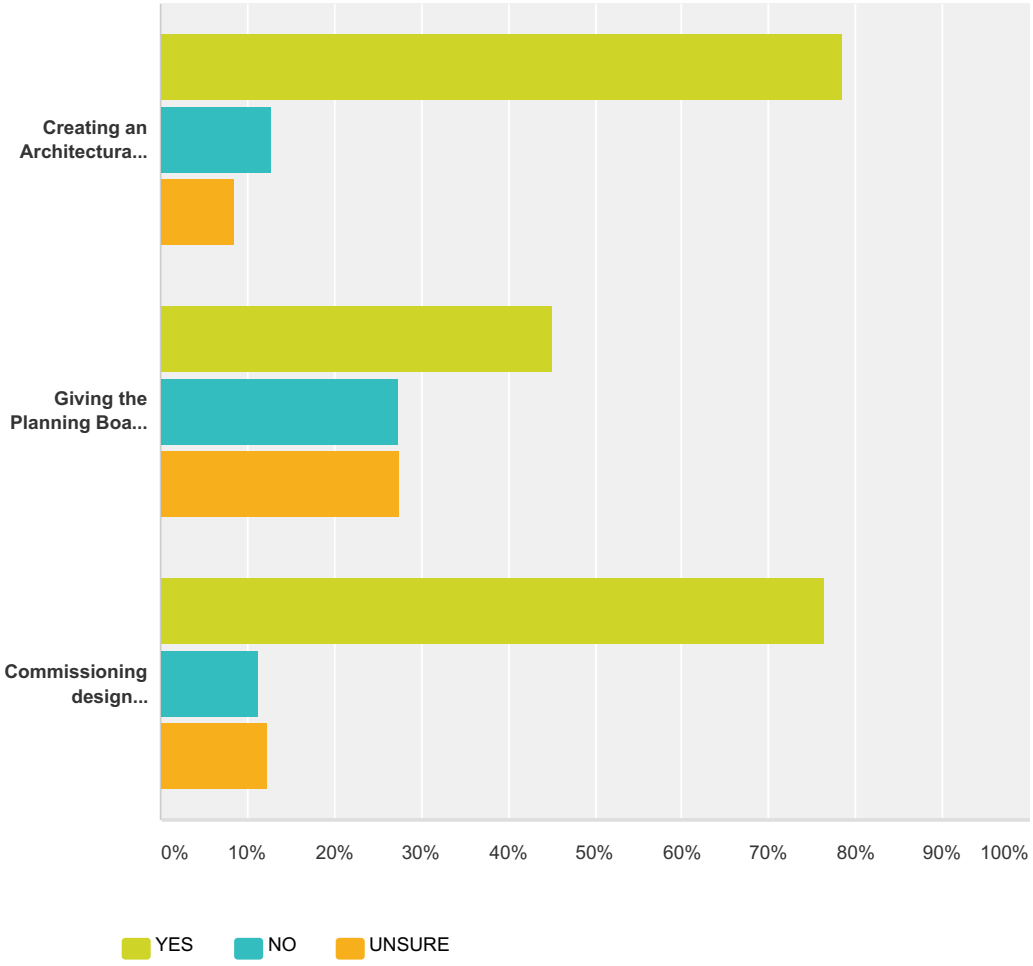
Answered: 312 Skipped: 52



Answer Choices	Responses	
YES	**83.65%**	261
NO	**16.35%**	51
Total		**312**

Q11 Would you support the Town Board:

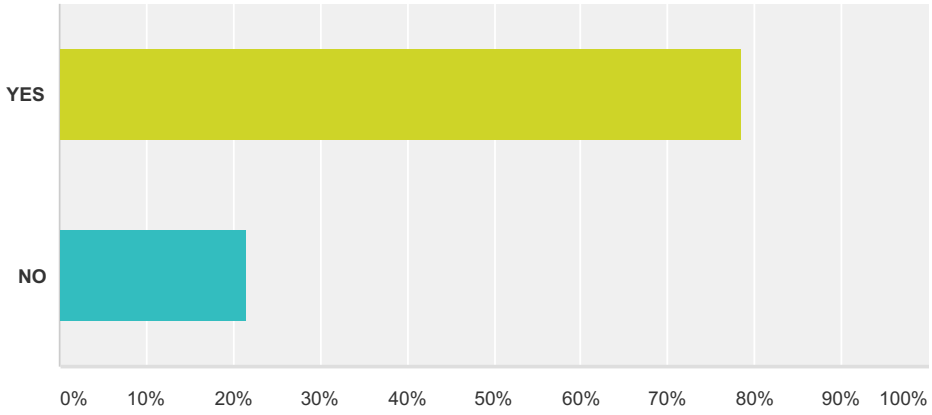
Answered: 314 Skipped: 50



	YES	NO	UNSURE	Total
Creating an Architectural Review Board?	**78.59%** 246	**12.78%** 40	**8.63%** 27	313
Giving the Planning Board the authority to perform architectural review?	**45.02%** 140	**27.33%** 85	**27.65%** 86	311
Commissioning design guidelines that the board could use in the review of projects?	**76.45%** 237	**11.29%** 35	**12.26%** 38	310

Q12 A Historic Preservation Board, or an existing board tasked with historic review, can be established to review a project to ensure that the buildings, structures, and landscaping are designed to protect the historic resources in the Town, including historic buildings, farm buildings and structures, and historic mine properties. Do you believe that activities that would either alter or demolish historic properties should be reviewed and approved?

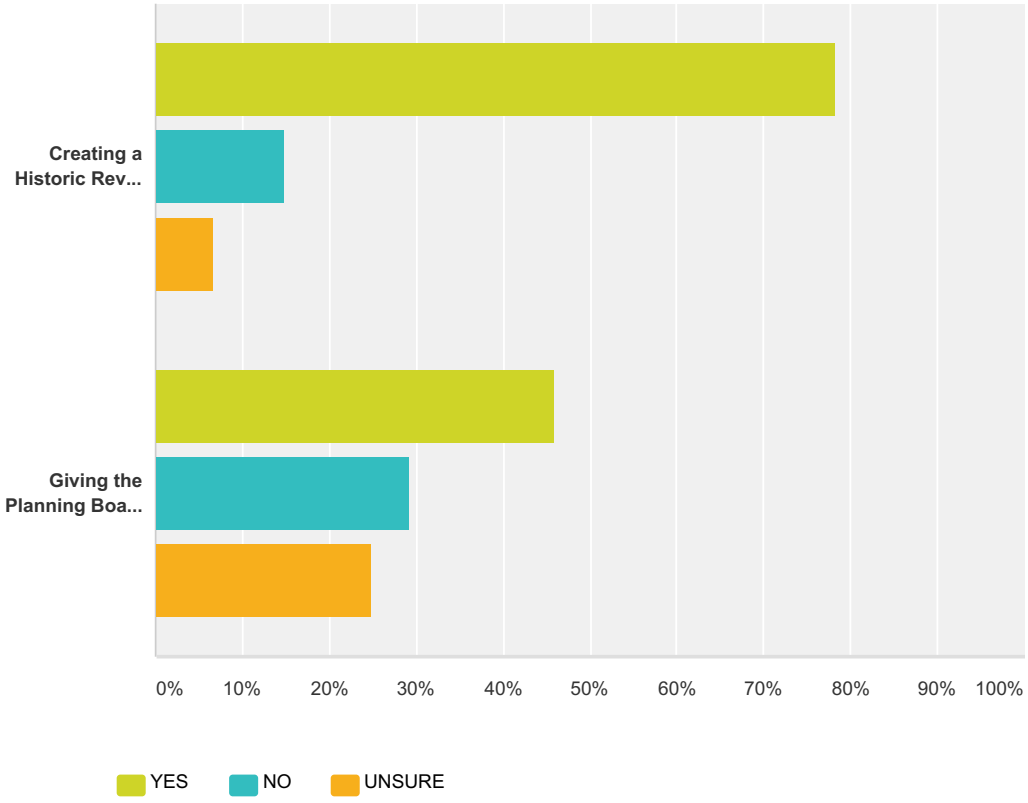
Answered: 308 Skipped: 56



Answer Choices	Responses	
YES	**78.57%**	242
NO	**21.43%**	66
Total		**308**

Q13 Would you support the Town Board:

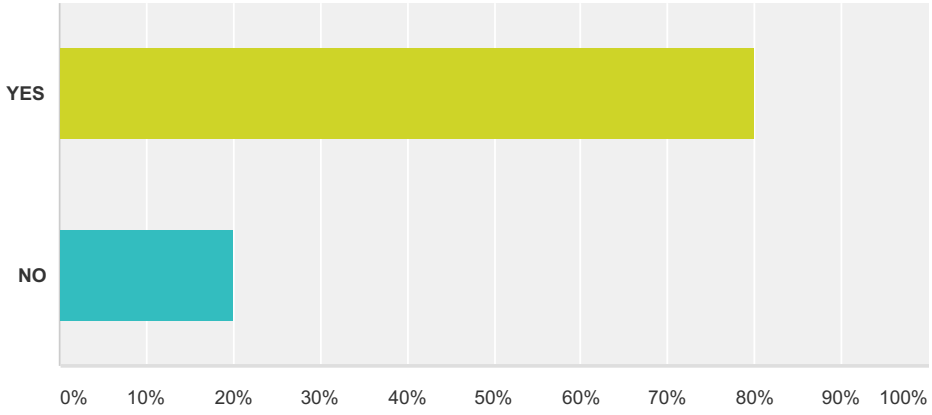
Answered: 312 Skipped: 52



	YES	NO	UNSURE	Total
Creating a Historic Review Board?	**78.39%** 243	**14.84%** 46	**6.77%** 21	310
Giving the Planning Board authority to perform historic review?	**46.03%** 139	**29.14%** 88	**24.83%** 75	302

Q14 Would you support allowing the adaptive reuse of historic buildings, wherever they are located? Adaptive reuse would allow, for example, a historic dwelling to be redeveloped for an office, provided it met certain standards and was reviewed and approved by the Planning Board.

Answered: 303 Skipped: 61



Answer Choices	Responses	
YES	79.87%	242
NO	20.13%	61
Total		303

Q15 What do you believe are the three most significant issues that the Town needs to address immediately and within the next five years? (Write your response in the boxes below)

Answered: 266 Skipped: 98

Answer Choices	Responses	
Issue 1:	**100.00%**	266
Issue 2:	**93.98%**	250
Issue 3:	**86.09%**	229

	Issue 1:
	Housing Shortage
	Housing Shortage
	water
	zoning changes
	housing
	housing
	proof of ID at elections
	senior housing
	senior housing
	traffic
	open space
	Faster & Easier review of planning board
	Better road system
	Housing
	Housing shortage
	Housing shortage
	Housing Shortage
	Housing Shortage
	Immediately halt overbuilding and change zoning laws to prevent overbuilding - town has completely lost its identity. Multi-family dwellings are completely inappropriate for a historic, rural town.
	Housing Shortage
	Housing Shortage
	affordable housing
	Sufficient regular and affordable housing
	not to allow mulitidwellings that tax our natural resources

	Effective leadership (with a spine) who is willing to lead and implement a shared (sustainable) vision
	Annexation
	Subdiving land. If someone wants to buy 100 acres, let them buid their house on it and be done.
	Preventing overcrowding/preserving the rural feel of the community
	Planning the grow of Monroe (building wise)
	Dense development
	There is only one main issue: stopping the foul urbanization of any more areas of this (or nearby) towns.
	The Town of Monroe needs to sell the frivolously purchased movie theater so that the losses from this poorly considered investment can be halted as soon as is possible.
	Stop building massive multifamily structures that will eventually bankrupt water ,sewer, highway and municipal services.
	Overpopulation
	Extend the moratorium
	Zoning
	Too much building, reducing open space
	Over population
	KJ Overbuillding
	Multifamily housing should not be allowed to be built in area which is made up of mostly single family homes. It would ruin the character of the of the surrounding area
	Updating the tree code, collecting park fees from developers
	water/sewer
	Property taxes
	Roads
	housing
	Preserving green space
	Restrict multi family dwellings
	Eliminate plans to build mass housing
	The irresponsible granting of final conditional approval to about 500 single family homes in several different developments based on Environmental Impact Studies that are over 10 years old when the purposes of such development did not come close to the level of building that it is today - without doing a current study to see how the resources are going to be developed - and what affect the taking of water and need for sewer and traffic will have on the citizens who already live in close proximity to these properties.
	Annexation
	Demolition of the natural beauty of the area by over building
	Preservation of environmental standards.
	Make downtown more attractive to different businesses & customers from Monroe & surrounding areas.
	Over development of every open parcel of land
	over development
	Over development
	No annexation
	Preserve forest and natural rural charcter
	Stop clear cutting of trees

	To much building
	Environmental protection
	Illegal work done without permits filed. Building inspectors need to get out there and find out if he jobs people are doing are permitted and if not fine them and make them get appropriate permits.
	over developement
	preserve open space
	Expansion of multiple housing
	Multi family dwellings
	Protecting our open spaces
	Overdevelopment is a major problem. We keep building housing developments when so many houses are vacant from foreclosure. Our property values are tanking and we keep stripping away our natural resources for more developments that we don't need.
	Overpopulation
	Traffic and infrastructure, bridges and roads
	Stop the amount of building
	Not allowing ok to continue to annex land we won't do this for other towns why do we only with them
	Overdevelopment
	responsible growth
	Uncontrolled growth of high density housing
	Rapid overdevelopment of the land
	Unregulated and unsustainable growth
	restrict high density housing
	Preserving zoning
	Annexation of KJ
	Increase monitoring and defending building and planning codes
	Affordable housing
	High density housing
	Approving multifamily.
	enforced accessory apartment laws, true size of family should be stated during SEQRA
	stop annexation
	over development
	maintaining open space
	business development
	The number of developments going up and who they are being target for
	high density housing
	accessory apartments
	over population
	over development/overuse of natural resources
	Deforestation due to overpopulation
	accessory housing
	annexation

	perserving the community look and feel.
	Continued population growth effecting everything from traffic, available water use, school overcrowding etc.
	unbridled growth, Larkin Drive no more none ratables should be allowed, SEQRAs should be updated if development plans are not started within 3 years
	no North Monroe, no annexation
	Need for high density housing
	over building with planning
	accessory apartments and high density housing
	water/sewer
	overdevelopment
	too much real estate development, overpopulation issues
	Overpopulation
	Preserve existing zoning of minimum acreage.
	Halting Unsustainable housing growth
	High density housing
	Property taxes
	To many construction sights both residential and commercial are going up
	Over development
	Open space
	accessory dwelling law
	High density housing
	Growth
	Stop tree cutting.
	Development on Gilbert Street
	Preservation of natural resources
	Unsustainable growth
	Unbridled growth
	Traffic
	new housing developments (e.g. on Gilbert Street near shoprite)
	Tree Code
	get rid of accessory apts
	Residential Growth
	Protecting natural resources
	Stop loopholes allowing developers to build accessory apartments not for intended purpose
	prevention of excessive housing development with abolition or strong curtailment of accessory apartments and loopholes that are found to be abused or manipulated for unintended purposes
	They need to curtail the amount of residential housing projects until environmental issues are addressed
	Housing over development. Stop the accessory apartmant.
	Over development
	Water

	Water
	Dealing with overpopulation (including rush hour traffic plans)
	no accessory apts please
	Housing
	Controlled, transparent, sustainable growth
	Maintain current zoning codes/further tighten up current zoning codes to keep Monroe green and rural.
	Water/sewer capacity
	Commercial Buisness and Zoning
	Encouraging smart, limited growth to increase our tax base
	traffic
	The clear cutting of trees for building needs to stop.
	preventing over development
	No annexation
	Over population
	Overdevelopment
	Traffic
	Over crowding and large developments
	The amount of growth versus environmental impact
	Eliminate mass housing developments
	Infastructure (roads to handle population)
	Well, obviously to realize a way that the Town and the Village of Kiryas Joel can exist side by side in some sort of harmony without impacting the many aspects of the Town that keep it somewhat rural.
	High density housing
	The overdevelopment of the land.
	Preservation of Single Family Homes
	Infrastructure
	Scenic Preservation
	Annexation
	over building, both residential and commercial
	Clear cutting wooded areas needs to stop - enforcing a TREE CODE!
	Proper zoning for overdeveopment
	Annexation
	Not to over build.
	preserving open space
	Maintaining the rural quality of our land
	Overdevelopment
	Traffic
	Preservation of Rural/Suburban character of the area
	Traffic
	Loss of rural character

	Review of all new housing sub divisions
	Over building
	preserve the rural character of the area
	Deny any multi family housing
	Be inclusive. All parks in the town should be open to all people. Not just town residents, ALL people. NO PRIVATE PARKS. You could start by removing the residency requirement signs at Airplane Park, and residency IDs required at Smith Clove.
	Preserving the area i.e. Land, animal habitats
	Environmental
	Overdevelopment
	Stp the growth of high density housing. Not only will it bring more traffic to the area but will disturb wild life and senic views.
	over growth
	Preserving open spaces
	Tree code
	Historic Preservation
	live peacefully with its neighbors
	Stricker rules regarding accessory apartments
	Over development
	Explosive development of multi family homes
	High density wood frame dwellings
	Maintaining monroes beauty
	Water
	Preserving the rural character of the town
	Annexation
	Repeal the accessory apartment law in its entirety.
	Building growth
	Overdevelopment
	Over-building ,weak building codes and lack of code enforcement
	Repel or modify the accessory apartment law
	Restrict over-development
	Multiple family dwellings
	Responsible residential/housing growth
	High density housing
	Bring more business into Monroe pond region.
	Over-development of land
	Rezoning in the areas surrounding KJ to accommodate growth
	over development and the impact on resources
	Density

	Stopping KJ from utilizing our resources.
	Preserve the look and feel of our country setting.
	Overdevelopment/population
	Preservation of open space
	High Density Housing
	Building of high density housing should not be allowed
	Urban sprawl
	Over building
	Restrain development
	Repeal the accesary apartment law
	Visual character of buildings
	Protection of rural character of our region
	Open space, cutting too many tress
	Population growth
	Accessorry apartments
	Overbuilding, over expansion
	No high density housing
	Taxes
	Overdevelopment
	to stop over building
	Stop multi family developements
	Over development
	Overpopulation
	Over development
	Open space preservation
	Softening of enforcement on properties abutting Village of KJ
	Keeping open space
	Sustainable growth
	Housing
	Unsustainable growth
	Loss of critical wildlife habitat and ecologically-significant lands
	Uncontrolled growth
	Stabilize taxes
	Corruption
	Over development
	Zoning enforcement
	Water conservation
	Multi family homes
	The progressive decline of property value.
	annexation
	assist in fixing traffic problems that are resulting from KJ, Woodbury Commons, and other growth

	Open space
	Maintaining the rural nature of the community.
	Unsustainable Growth
	Limit large residential development
	Issue 2:
	Housing Shortage
	Housing Shortage
	sewer
	create alliances with surrounding Orange County communities
	building code
	recreation
	roads
	roads need to be wider
	curtail more building
	senior housing
	water/sewer
	Easier review of residential developments
	Upgrade the beauty of the lakes
	Employment opportunities
	Shopping shortage
	Housing shortage
	Housing Shortage
	Housing Shortage
	Implement incentive system to bring businesses back to Monroe; way too many vacant non-residential buildings
	Housing Shortage
	Housing Shortage
	more multi family projects in some areas
	Parks and recreation areas
	Sprawl, (leading to: habitat degradation, overcrowding, poor air quality, traffic, lessened quality of life)
	Updating the center of town
	Ensuring that additional building does not overstress our water supply and sweer system, l
	Enhance the life and activities in downtown Monroe
	Stripping of the land for development
	Related to the above, the establishing of a ward voting system to give a balanced representation and nullify the distortive effect of bloc votes.
	Zoning needs to be protected to ensure protection of open space, forested land, low density housing, and the rural character of the setting.
	A town wide water authority to take control of distribution of water supplies and ditribution.

	Corruption
	Protect the trees
	Water
	Require larger lots to prevent overcrowding
	Aggressive expansion. There is construction everywhere. What happened to the trees?
	the town and village need to work together not like the north against the south
	Vacant stores
	Modifying the accesory apartment law!!
	preservation of open space as well as providing recreation
	Traffic
	Housing
	infrastructure
	Restrict multi family dwellings
	Preserve open space
	Encourage commercial buildings to be occupied
	The irresponsible spending of huge amounts of money - on the theatre, the renting of the new town hall, and the waste of the rest rooms at Mombasha Park just to name a few places WITHOUT so much as any public participation regarding the functions and purposes of these places and the public's input in creating business plans.
	Employment
	Establishing a fair and regulated local government
	Preservation of home values
	Reduce taxes without affecting our schools. Have big businesses pay their fair share of taxes making it easier for residents of Monroe.
	Crumbling roadways, Gilbert street is falling apart
	infrastructure (roads, water, sewer)
	Firmer zoning laws with larger minimum building lots
	NO new town of North Monroe
	Tight control of development
	Ensure responsible sustainable growth
	Over congestion of roadways
	Stop the massive buildings especially with accessory apartments especially when there's enough real estate on the market.
	over developement
	protect natural resourses
	Loss of scenic views and property
	Ensuring that are zoning codes are followed and enforced
	Please protect our natural and rural settings. We have so much natural beauty in this town that deserves to be preserved. The development above the golf course is such an eyesore. We should not be building on ridgelines, wetlands, wilderness areas, or natural open spaces.
	Overdevelopment
	Preserve Open space, parks
	Not adhering to zoning codes and enforcing such codes

	KJ expansion and resultant conversion of single family homes into rentals
	saving ecosystems
	Preservation of water quality
	lack of public transportation
	address & preserve water access
	Preserving zoning
	overdevelopement on Gilbert Street
	High density multifamily housing does not belong in the rural character of our town
	Honest politicians, no corruption
	CREATE JOINT EFFORTS WITH SSURROUNDING COMMUNITIES.
	Environmental violations
	Children friendly houses
	only rate-able in the bus. zones (no schools, churches, playgrounds), a 3-5 year life span on approved zoning permits
	protect school districts
	traffic
	getting grants for open space
	growth in line with controlling resources
	over development
	cluster homes
	uncontrolled building
	clear cutting land/need a tree code
	Too many multi family housing and commercial buildings (esp Medically based)
	better code enforcement
	annexation
	improving our town center - It looks very run down
	Preservation of natural resources
	tree code not part of new code, protect ground water
	fresh water and updated sewer
	Protect individual property rights without subjective interference from any governmental body
	tree code
	better code enforcement
	clear cutting trees
	sewer/water issues
	abuse of accessory apartment laws
	zoning in KJ
	Get rid of the attached dwelling zoning.
	Preserving open spaces
	Maintaining open space/ animal habitats
	Over development

	get a light by quick chek
	Lose of trees
	Land preservation
	Ecology
	preservation of viewsheds
	Sewage systems
	Housing
	Protect water.
	Closure of loopholes or elimination of Accesory Apartment building
	Preservation of resources
	Employing/appointing/commissioning responsible people who are accountable and able to oversee arduous tasks competently, honestly , and fairly .
	preservation of open space
	Accessory apts
	get rid of high density housing
	Lack of rateables
	sustainable growth
	Protection of green space/wetlands/trees/endangered species
	prevention of excessive commercial development (example route 7M corridor over development)
	They need to make sure that sewage and water usage issues are addressed
	preserve open space
	Traffic and road use including speed limits and vechicle weight limits
	Parks
	Sewer
	Keeping the area a rural escape
	protect school district
	Population growth
	Preservation of the rural nature of Monroe
	Must have codes addressing asthetics in Monroe. So much beauty, being ruined. No rules It's like the Wild West.
	Resolving community conflict
	Development of Park Land
	Preventing clear cutting of land for development
	overbuilding
	Traffic is getting worse and worse with all the building and construction.
	keeping population in check
	Lower taxes
	Over burden sewers
	Overuse of natural resources
	split away from kj
	Zoning

	Tree codes, trees are cut down without replacement	
	Keeping Monroe with open space and suburban feel	
	Sewer and water issues	
	Sewer and Water	
	How can the Town work with the Village productively to create a thriving downtown area. The Town has its head in the sand if it believes it's an independent unit of the villages within it.	
	Protecting the environment	
	Annexation of the unincorporated part of Monroe into a village.	
	Continued Encroachment of KJ	
	overcrowding with increased housing development	
	Natural/Wild life Preservation	
	Water quality	
	damage to ecosystems, wildlife,and loss of green spaces	
	Presering historical character in new non-residential buildings	
	let the area stay scenic	
	Over development	
	Preserve	
	stop high density housing	
	Water	
	Energizing downtown commerce	
	Too much development	
	Ridgeline/viewshed disturbances	
	Entertainment	
	Traffic	
	Revitalization of downtown Monroe	
	Increasing stable and sustainable development to the town	
	clean clearing of property to build...no trees left	
	stop the local goverment corruption that is influenced by special interest groups	
	Survey roadways for any additional housing	
	Monitoring building opportunities	
	Environmental	
	Insufficient water systems	
	Fix some the raods that are in bad shape.	
	Increase in traffic	
	wild life preservation	
	Preserving rural character	
	Protecting open space	
	More preservation of open space	
	Preserve the rural areas	
	Needs to address roadways and alternate routes around town	

	Blatent disreguard for State and Local laws and codes	
	Saving our environment...water,	
	Sewage	
	Preserving sufficient open space	
	Limit the amount and kind of housing that is developed	
	Ensure that zoning laws are adherred to on a strict and unbiased basis.	
	Traffic	
	Infrastructure	
	Retaining semi-rural character	
	The continuous land grap threats from villages in the town.	
	Scenic preservation	
	Development without concern for infrastructure support	
	Preserving environment	
	Clear cutting of trees	
	Taxes are too high	
	Septic and water maintenance issues	
	Restrict the ability of developers to build "cookie cutter" neighborhoods - like Prestwick Gardens	
	traffic	
	Visual beautification / maintenance	
	Stopping KJ from building in the town of Monroe.	
	Put residents first! Stop the building of segregated communities.	
	Inappropriate use of funds	
	Over development	
	Water	
	Building of roads that will change landscape near highways and decrease property values.	
	Growth in population	
	Review all zoning rules	
	Property up keep	
	Poor planning/over development	
	Traffic	
	Traffic	
	Roads and traffic	
	Traffic studies	
	Preserve the trees, vistas, environment everyone moved here for	
	Annexation	
	Hire more building inspectors	
	protect the overall character of the town	
	Save trees	
	Water supply	
	Scenic preservation	

	Infrastructure	
	Environmental protection	
	Loss of undeveloped land (changing rural character)	
	No clear cutting of land	
	Protecting our water	
	A small tax base due to people departing.	
	Safeguarding water resources	
	Zoning	
	Prevent the demise of the community	
	Malfeasance	
	Destroying trees and land.	
	Infrastructure	
	Traffic	
	The transparency of use of tax dollars.	
	overpopulation.	
	No multi dwellings	
	Ensuring that development is ecological and environmentally sound.	
	Traffic	
	Encourage small businesses to locate in Monroe	
	Issue 3:	
	Housing Shortage	
	Housing Shortage	
	roads	
	put our government on notice as to our mission	
	preserve town borders	
	senior	
	traffic	
	Cromwell and Lakes Road need a light	
	quality of life in Monroe	
	keeping the Town rural	
	high density housing/square footage restrictions	
	Arrest people who disturb any town board meetings	
	Lower Taxes	
	Pedestrian sidewalks	
	Housing shortage	
	Housing Shortage	
	Housing Shortage	
	DO SOMETHING to bring business to downtown/lakes area -- it could be a fantastic, scenic center for shopping/business, but it has become a depressing, run-down eyesore.	

	Housing Shortage
	Housing Shortage
	change the accessory apartment to a legal duplex in all zoning ditricts
	Commercial/shopping areas (i.e. sales tax revenue and economy boosters)
	Uncontrolled growth
	Campaign signs
	Minimizing the environmental impact of new buildings/housing
	Create a comprehensive plan for Monroe future
	Environmental impact on our land and waterways that comes with development.
	A tree code needs to be made with serious consequences for violations of the code.
	Acquisition of parkland with the thought of access to old people. Possibly with some kind of water park. We don't need any more ball fields.
	Supporting small businesses
	Designate more parklands
	Sewer
	No tax write-offs for religious reasons
	Revitalizing the business district of the town. A lot of empty store fronts
	open space make zoneing for building larger like warwick did need to improve the infrastructure
	Smart downtown growth
	Modifying the accesory apartment law!!
	protect ridgelines
	Too many vacant storefronts. What's the reason behind that?
	taxes
	Control building
	Careful traffic reviews for ALL projects
	The lack of transparency at town hall - the public has a right to know how our money is being spent and it is my view that when folks FOIL certain items they are prevented from getting this information. The public has a right to know where all of its hard earned taxpayer monies are going - and has a right to have a say in how it is spent.
	Taxes
	Over population of the area
	Preservation of the quality Monroe-Woodbury School system
	Have affordable summer recreational actives for residents & out of towners (Like the row boats at round lake)
	Major traffic issue on lakes road and high street intersection
	traffic
	Management of vacant properties
	no high density housing
	Traffic mitigation
	Buy land in town to preservation
	Maintaining a suburban/rural community
	Lower the taxes Bc for what we get in the town and the schools they are way too high
	over developement
	maintain sizable lots

	Taxes	
	Tree code	
	We have to protect farmlands and make it attractive for farmers to work the land. Right now, it's not economically viable for farmers to own their land and farm it without living in abject poverty. That must change.	
	People are leaving this area for fear of depreciating home values with everything on the news. It's imperative people feel our leaders will ensure this does not happen	
	Decreasing property values	
	water issues	
	preservation of open space	
	Considering green energy sources for public buildings	
	address sewer capacity	
	update of all water districts	
	Litter, trash and unsightly high density housing	
	Equal for all residents, including the KJ people	
	FORMALLY ADVISE THE COUNTY AND ALBANY OF OUR EXPECTATION FOR OOUR COMMUNITY Maintaining current zoning and boundaries	
	ground water protection, remove cluster development until open space can truly be protected	
	protect home values	
	protecting nature/open space	
	controlling traffic growth	
	tax incentives to support business growth	
	The environmental violations to address in KJ	
	open space being destroyed	
	high density bonus, tree code	
	code enforcement	
	protect our schools	
	Traffic and road conditions we are now stuck with since # 1 & 2 have never been addressed	
	overpopulation due to high density housing	
	annexation	
	getting your arms around what is being developed in our community and making sure its being develped within our core values and community vision	
	Preservation of open space	
	enforce code on accessory apartments, must hire new code enforcement monitors to constantly monitor what is going on with the 91 existing accessory apartments	
	no high density housing	
	Increase the speed of approval processing thereby saving property owners unnecessary expenses	
	code enforcement	
	water, sewer, trees	
	KJ violations that threaten the environment	
	preserve water and sewer resources	

	sustainability of KJ	
	Preserve the environmental beauty of the area.	
	Increasing parkland	
	Stop building	
	School preservation	
	get sidewalks and lighting	
	Traffic congestion	
	Growth	
	tree code revisions	
	Drainage	
	Traffic	
	Limit development.	
	Serious Road development for alleviating overcrowding	
	Illegal and unsustainable land grabs	
	Force business owners, who hold on to defunct buildings , to either use them as intended or sell . Example : the old Kmart building .	
	overdevelopment	
	traffic isuses in the town of Monroe and around	
	Code enforcemenet	
	have houses spred out larger lots, stop grandfathering everyone and giving in to developers	
	making sure building is done to code	
	Stricter zoning to prevent over-development	
	Maintaining the once rural and charming character of our community with conscious intent toward maintaining more open space, non developed areas for future appreciation and spiritual well being	
	fair transparent goverment. weed out the corruption.	
	water & wet lands protection	
	Amenities (keeping businesses & please, please attract a better grocery store)	
	Housing density and traffic implications	
	Revitalize trails in hiking spots and parks	
	no high-density housing	
	Industry	
	Environmental resource preservation	
	Complete end to clearcutting for developers. Today. Make it far less profitable to develop land by implementing extremely strict tree code. Taken from a village on LI where I grew up: § 172-6. Penalties for offenses. A. Each large tree, small tree, shrub or groundcover removed, cut down, destroyed or substantially altered in violation of this chapter shall be a separate violation. B. The Mayor, Village Tree Warden, Building Inspector, Highway Commissioner, or Code Enforcement Officer shall stop all tree work and/or construction activity on any premises where a violation of this chapter has occurred, and the Building Department shall be prohibited from issuing any certificate of occupancy or additional permits for construction at the property or permitting work to resume unless and until there has been complete compliance with the provisions of this chapter. C. Any person committing an offense against any provision of this chapter, or any rule, regulation or specification promulgated hereunder shall, upon conviction, be punishable for each violation by a fine in the amount of $250 for each caliber inch, or part thereof, of tree and $250 for each shrub or ground covering plant; and/or imprisonment for a term not exceeding 15 days. In addition, such person shall be required to replace, in kind, each and every large tree or other protected vegetation removed, cut down or destroyed. In the event a large tree was so large and mature that it cannot be replaced, the court may require the planting of multiple trees.	

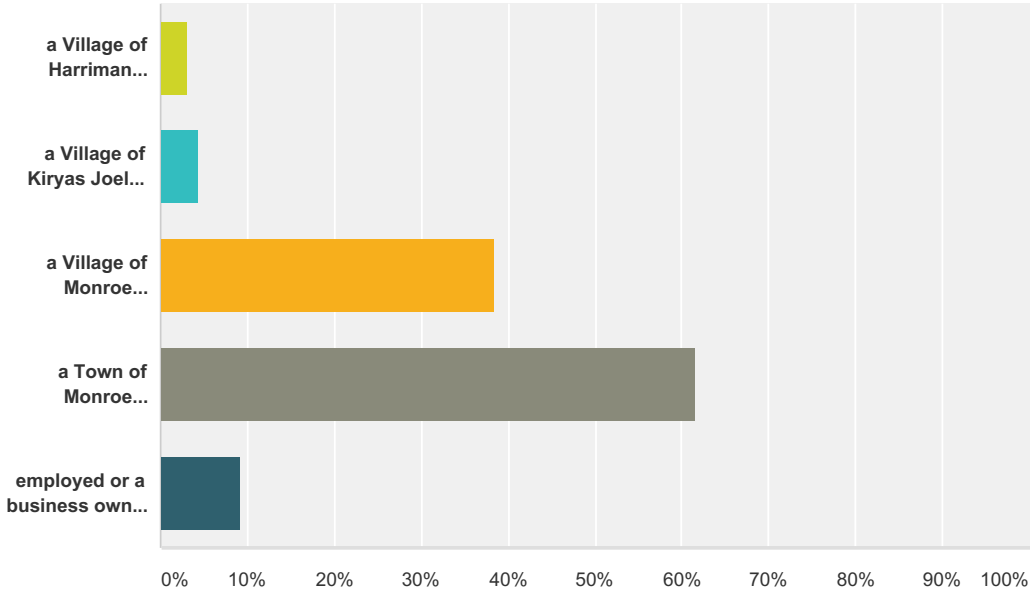
	Separating the Town of Monroe from KJ into two independent towns	
	Infurstructure upgrades and water system upgrades	
	recreation	
	We need to be more mindful of how all the building is affecting the habitats of the local animals in the area.	
	preserving environment	
	No urban housing	
	Over population	
	Preservation of environmental beauty	
	stop the devide	
	Open spaces	
	Preserving open land and parklands	
	Eliminating the ability to build high density housing and draining all natural resources	
	Invest the towns tax money to Services and park land to tax paying community members	
	Preservation of MW school district without taxing its members to the hill	
	The Town needs to create a comprehensive plan that envisions full build-out. Otherwise, the Town will continue to be chipped away into a hodge-podge of housing, open space, and commercial. I know we can't be as pro-active as Warick - we are too far gone - but we can preserve what we have in an intelligent way.	
	Lowering taxes	
	Planning and zoning board members with experience	
	Plummeting Property Values and Skyroketing Taxes	
	too much commercial development	
	Town Resources	
	Preservation of historical land and structures	
	traffic	
	Support buisness opportunities in village/town	
	Sewer capacity	
	Not permit outside towns to control Monroe	
	addressing pollution and environmental destruction	
	To carefully monitor building. It should be specified exactly what will be built on a specific piece of property.	
	Maintenance of rural character	
	Sprawl	
	Anger	
	Environmental impacts of unsustainable development	
	Enforcing building code	
	Creating quality of life initiatives for residents (more sidewalks, street fairs, parks, etc.)	
	traffic	
	protect the school district	
	Protect woods and forests	
	Environmental	
	Snow removal on county roads.	
	Home owners should be accountable for the apperence of their house and property.	

	Environmental concerns
	Ensuring that water and sewage resources are not adversely impacted
	tightening up our zoning
	widen the busy roads and intersections
	Cut down on high density housing
	Preserve the waterways
	Sewer and water issues
	Uncontrolled unplanned growth and unrealistic population explosion of a closed theocratic community.
	We are polluting our environment with too much housing!
	High Density Housing
	attracting ratables
	prohibit any one group of residents from demanding special treatment
	Purchase remaining open space along Rye Hill Road to prevent high density development.
	Water supply
	Traffic
	Environmental protection
	Ban high density housing
	Maintenance of rural character of town
	Preserving rural character
	separate kj from Monroe
	Road repair/maintenance
	Eliminate "fees in lieu of parkland" - Park land MUST be included in new developments. No more payoffs
	reinvigorating the local economy
	Traffic
	Stopping the many expansions of housing communities and integrating many new housing communities into the town or village of Monroe.
	Stop the land grabs.
	sewer capacity
	Traffic
	Solicitation of home owners to sell their properties at over market value price to gain more land to build
	Destruction of woodland to create multifamily homes
	Review all environmental laws to assess compliance
	Traffic and commercial vehicles on local roads
	Protection of natural resources
	Overpopulation
	Land preservation
	Tree code
	Stop the planning and zoning boards from having total control over every aspect of anyone who wants to build
	Review laws such as moose laws and amend laws to be more specific. Such as prohibiting roosters and chickens in residential neighborhoods.

	small business incentive to come to Monroe and fill in the "zombie stores"
	Save open space
	Traffic
	Pleasant neighborhoods
	Preservation
	Quality of parks/recreation
	Haphazard commercial aesthetics (signage guidelines, property upkeep)
	Stop multifamily housing.
	Protecting our environmen
	Traffic
	Unsustainable growth
	Land protection
	Update recreational space for children
	Flooding.
	Reduce multi family housing
	Zoning
	Establish a Recreation Department.
	overdevelopment
	Continue to focus on revitalizing the main street
	Agriculture
	Bringing together this divided town with policies that help everyone, not just a few.
	Community bonding
	Preserve the picturesque community

Q16 Please check all that apply. I am:

Answered: 297 Skipped: 67



Answer Choices	Responses	
a Village of Harriman resident.	**3.03%**	9
a Village of Kiryas Joel resident.	**4.38%**	13
a Village of Monroe resident.	**38.38%**	114
a Town of Monroe resident.	**61.62%**	183
employed or a business owner in the Town of Monroe.	**9.09%**	27
Total Respondents: 297		
