

**Town of Ramapo  
Comprehensive Plan Amendment for the  
Northeast Ramapo Development Plan and  
Comprehensive Plan Update of Town-wide Existing  
Conditions and  
Code Amendments for Northeast Ramapo**

**DRAFT GENERIC ENVIRONMENTAL IMPACT  
STATEMENT (DGEIS)**

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# DRAFT GENERIC ENVIRONMENTAL IMPACT STATEMENT (DGEIS)

FOR THE

**Town of Ramapo**

**Comprehensive Plan Amendment for the Northeast Ramapo Development Plan and  
Comprehensive Plan Update of Town-wide Existing Conditions and  
Code Amendments for Northeast Ramapo**

**Project Location:**

**TOWN OF RAMAPO, ROCKLAND COUNTY, NY**

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## Executive Summary

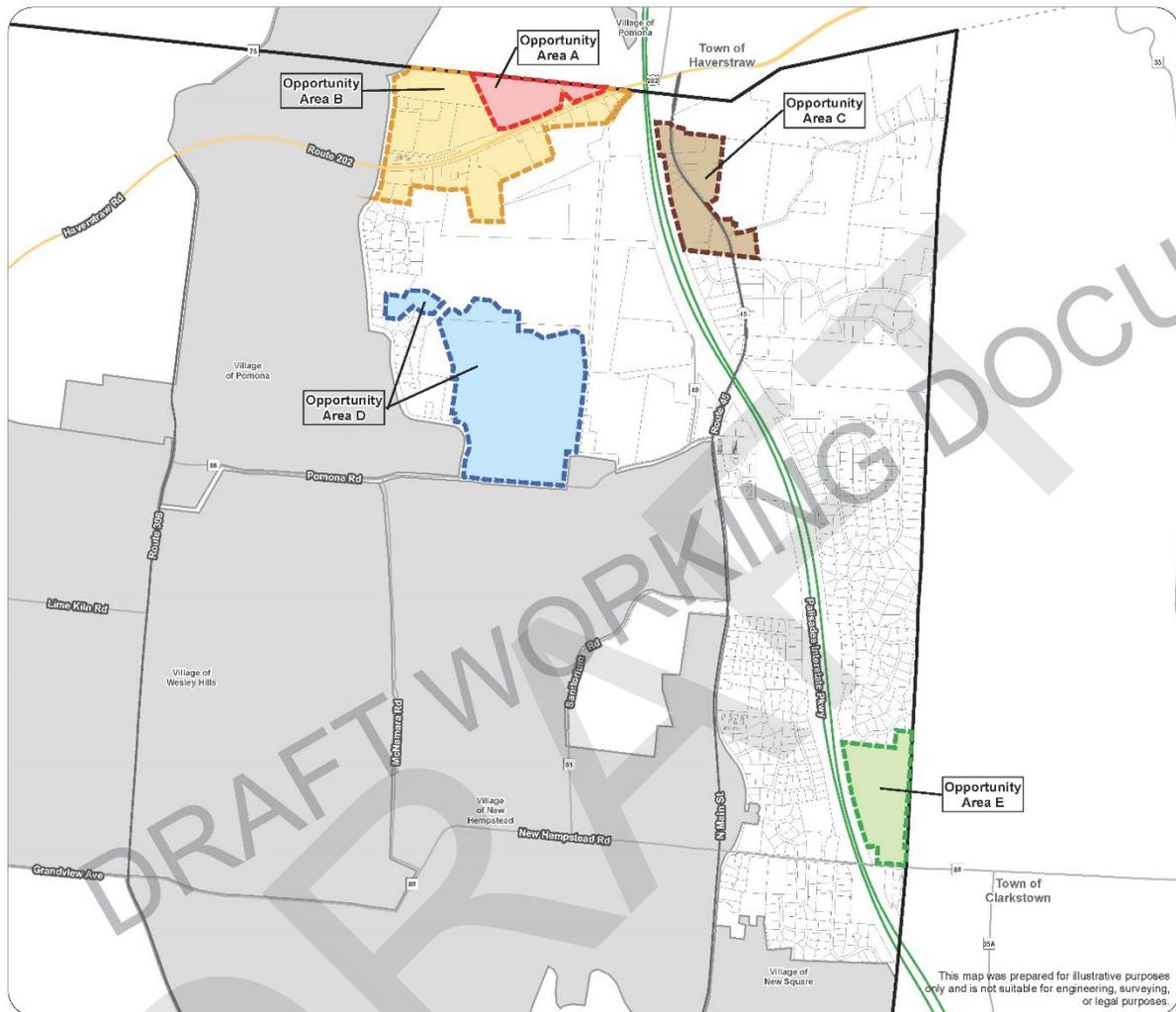
The Northeast Ramapo Development Plan (NRDP) is set within the framework of a Draft Generic Environmental Impact Statement (DGEIS). This NRDP/DGEIS sets forth future steps to achieve the vision for Northeast Ramapo. The NRDP complements, strengthens, modernizes, and supports the current 2004 Comprehensive Plan, while delving deeply into the Northeast area. While the goals of the 2004 Comprehensive Plan are still relevant Town-wide, more contemporary and area-specific strategies are outlined for Northeast Ramapo to assist in achieving the desired vision and goals. The NRDP/DGEIS may be incorporated into the existing 2004 Town-wide Comprehensive Plan as the Town continues to advance and reevaluate additional regions within the Town.

The overall goals outlined in the 2004 Comprehensive Plan are as follows:

- Preservation of open space and scenic and environmental resources such as water bodies, wetlands, floodplains, aquifers, steep slopes, and scenic viewsheds.
- Addressing of the Town's needs and providing for a diversity of housing opportunities for a growing and changing population.
- Maintaining for the quality of life in the Town by enhancing and preserving the character of Ramapo's neighborhoods and commercial corridors, maintaining the high quality of community services and facilities provided to Town residents, and providing an integrated and efficient transportation network.
- Promoting a balanced pattern of land use that encourages the concentration of future development in areas with adequate infrastructure and facilities, so as to make efficient utilization of the transportation network and infrastructure to preserve the Town's environmental and scenic resources, and to provide opportunities in areas of the Town most appropriate for such development.

The NRDP/DGEIS seeks to achieve these goals by proposing and assessing land use regulations that facilitate development within key Opportunity Areas where a majority of future new growth is planned to occur. The proposed Opportunity Area footprints will be targets for placemaking and are intended to serve the needs of a growing community. The intent is to establish new integrated neighborhoods with a mix of uses that are close to major existing roads or provide for opportunities for additional needed neighborhood services near existing residential neighborhoods. The proposed Opportunity Areas are illustrated within **Figure 1** below.

**Figure 1 – Northeast Ramapo Proposed Opportunity Areas**



Future development within these key Opportunities Areas will be guided by new proposed zoning amendments within Northeast Ramapo:

- **Commercial Corridor (CC)** – This new proposed zoning district is intended to create an area of focused, walkable mixed-use development allowing for a greater mix of commercial activity while supporting residential. Similar to the existing MU-2 district, the CC district encourages a greater commercial split with up to 70% of the proposed use as commercial and up to 30% residential. This zoning district is proposed within Opportunity Areas A and B, along the U.S. Route 202 corridor.
- **Neighborhood Shopping (NS)** – This zoning district already exists within the Town of Ramapo. The intention of this zoning district is to allow for neighborhood commercial uses to support existing residential areas. The NRDP/DGEIS proposes to apply this zoning district within Opportunity Area C, at the northern end of State Route 45.

- **Flexible Overlay Planned Unit Development (FOPUD)** – This new proposed floating zone is intended to provide flexibility for future growth that considers options for new residential, commercial, mixed uses and amenities in which economies of scale or creative architectural or planning concepts may be utilized by the developer without departing from the spirit and intent of Chapter 376 (Zoning). Proposed development with this zone is intended to be respectful of the existing environment, make efficient use of the land and meet a set of design criteria. This zoning tool is intended to be utilized on lands of 20 acres or more that are not publicly owned, which may include Opportunity Areas A, D and/or E.

The NRDP/DGEIS does not propose zoning amendments outside of the Opportunity Areas. The full Action is further described within **Section 2.0**.

The purpose of the DGEIS is to evaluate the potential and cumulative impacts of potential future development within Northeast Ramapo. The Findings Statement that results from the Draft and the Final GEIS will allow the Town to reasonably and fairly determine the impacts associated with anticipated future growth and any mitigation that is prescribed, including a mitigation fee schedule to pay for planned improvements required as a result of the anticipated growth. The DGEIS will assist in the establishment of a capital improvements program for the Town, using a 20-year horizon for planning improvements required as a result of the anticipated growth. Such fiscal mitigation steps should continue to apply “fair share” principles in allocating such costs among benefited users also recognizing the additional municipal revenues to be generated by such future development.

To evaluate the impacts of the potential zoning on future development within Northeast Ramapo, two separate buildout analyses (one under existing and two under potential zoning changes) were completed. The buildout analyses evaluated all lands currently assessed as vacant or identified as underutilized. Undevelopable areas were removed from the analysis which included environmentally constrained and conserved lands. The buildout analysis is further described within **Section 8.0**.

The potential zoning buildout analysis was calculated for two development scenarios. Option A evaluated the buildout of Opportunity Area A under the Commercial Corridor Zoning, while Option B evaluated the buildout of Opportunity Area A using estimated commercial area and dwelling units provided by the property owner for a proposed project. The development scenarios evaluated for the proposed action are summarized within Table 1 below.

Under the Existing Buildout Scenario, the additional non-residential development within Northeast Ramapo is estimated to be 439,618 sqft. The number of additional dwelling units is estimated to be 381.

Under the Potential Zoning Buildout Scenario – Option A, non-residential development within Northeast Ramapo is estimated to increase by more than 390,000 sqft over the Existing Buildout Scenario, from 439,618 to 831,271. The number of dwelling units is anticipated to increase by 717 over the Existing Buildout Scenario from 381 to 1,098.

Under the Potential Zoning Buildout Scenario – Option B, the additional non-residential development within Northeast Ramapo is estimated to be comparable to the Existing Buildout Scenario at 410,941. The number of dwelling units for this development scenario is estimated to increase by 809 over the Existing Buildout Scenario from 381 to 1,190.

**Table 1 Summary of Buildout Scenarios**

	Non-Residential Area (sqft)	Dwelling Units
Existing Zoning Buildout	439,618	381
Potential Zoning Buildout – Option A	831,271	1,098
Potential Zoning Buildout – Option B	410,941	1,190

The current Town wide population is anticipated to increase as a result of migration into the Town and future development. The impact of the future development on the Town population under existing and proposed zoning was evaluated Town wide and within Northeast Ramapo. An estimate of new residents and new school-aged children was calculated using the Town wide average of 3.58 residents per household<sup>1</sup>. An estimate of the new residents and additional school-aged children for the development scenarios are presented below within Table 8.1-4. Fiscal impacts relating to the anticipated population growth and increase in school aged children are further detailed within **Section 6.10 Fiscal Impacts**.

**Table 2 Impact of Development Scenarios on Population**

	Existing Zoning	Potential Zoning - Option A	Potential Zoning - Option B
Potential New Dwelling Units	381	1,098	1,190
Estimated New Residents	1,363	3,928	4,260
Estimated New Public School-aged Children	108	312	339

It is anticipated that public utility infrastructure including public water, sewer and stormwater will be expanded to accommodate future development and redevelopment. The expansion of these municipal utilities as a result of development has the potential to drive continued growth within Northeast Ramapo. Please refer to **Section 6.5 Utilities** for a detailed description of specific impacts and mitigation.

<sup>1</sup> Appendix G: Economic and Fiscal Impact Analysis

The proposed action is anticipated to necessitate improvements to the existing transportation infrastructure in Northeast Ramapo in order to meet the increase in traffic volumes at full buildout. Infrastructure improvements may include signal and circulation improvements at key intersections, additional pedestrian facilities as well as public transit connections. Please refer to **Section 6.6 Transportation** for a detailed description of specific impacts and mitigation.

The proposed action will provide significant additional tax revenue to the Town of Ramapo upon full buildout, as is discussed in **Section 6.10 Fiscal Impacts**. This additional tax revenue could be utilized to provide new, improved or expand existing public services. How these additional tax revenues would be specifically utilized would be determined by the Town Board.

Development pursuant to potential code amendments would occur such that adverse temporary and permanent environmental impacts will be minimized, avoided, or mitigated to a degree possible in accordance with applicable laws and regulations. Potential impacts and mitigation are detailed within **Section 6.0**. Adverse impacts that have been identified that cannot be minimized, avoided, or mitigated include the following:

- The conversion of vacant land to developed land within Opportunity Areas.
- Removal of existing vegetation as a result of development.
- Increase in impervious surfaces.
- Increase in population and school-aged children.
- Additional need for public services (including extension or expansion of municipal water, sewer and stormwater infrastructure)

While these impacts are unavoidable, the potential code amendments will help to meet the demand of additional housing while creating centers of concentrated commercial development to support residential needs. They are anticipated to maintain the existing community character by focusing on key areas of growth while limiting suburban sprawl. The focused areas of development will create a more walkable community with expanded access to public and retail services to meet the needs of a growing population.

This NRDP/DGEIS examines the potential impacts and proposed mitigation for a range of topic areas. The following tables provide a summary of potential impacts and mitigation. For more detail regarding specific impacts and mitigation, refer to **Section 6.0**.

**Table 3 Summary of Potential Impacts**

Topic	Potential Impact
<b>Geology, Soils and Topography</b>	<ul style="list-style-type: none"> <li>• Soil disturbance.</li> <li>• Potential slope disturbance.</li> </ul>

	<ul style="list-style-type: none"> <li>• Potential increase in sedimentation and runoff.</li> <li>• Potential bedrock disturbance during construction.</li> </ul>
<b>Water Resources</b>	<ul style="list-style-type: none"> <li>• Alteration of stormwater drainage patterns due to increase in impervious surfaces.</li> <li>• Potential increase in erosion and stormwater runoff.</li> <li>• Potential impacts to groundwater.</li> </ul>
<b>Ecological Resources – Habitats, Flora and Fauna</b>	<ul style="list-style-type: none"> <li>• Potential loss of vegetation.</li> <li>• Potential disturbance of wildlife habitat.</li> </ul>
<b>Parks, Recreation, and Open Space</b>	<ul style="list-style-type: none"> <li>• Potential loss of vegetation and undeveloped land</li> <li>• Increase in pedestrian facilities.</li> </ul>
<b>Historic and Archeological Resources</b>	<ul style="list-style-type: none"> <li>• No anticipated significant adverse impacts to historic or archeological resources are anticipated.</li> <li>• Potential visual impacts in proximity to the Scenic Road District and Palisades Interstate Parkway.</li> </ul>
<b>Community Services</b>	<ul style="list-style-type: none"> <li>• No anticipated significant adverse impacts related to socio-demographic, housing &amp; economic considerations.</li> <li>• No significant adverse impacts to schools anticipated.</li> <li>• Potential increase in emergency service demand.</li> </ul>
<b>Utilities</b>	<ul style="list-style-type: none"> <li>• Increased demand on municipal potable water system and municipal sanitary sewer system.</li> <li>• Lower per capita energy use anticipated.</li> </ul>
<b>Transportation</b>	<ul style="list-style-type: none"> <li>• Additional roadway, pedestrian and signaling improvements at key intersections, including road widening may be necessary.</li> <li>• Additional public transit connections may be necessary.</li> </ul>
<b>Zoning and Development Program</b>	<ul style="list-style-type: none"> <li>• Changes in land use or intensity as result of proposed zoning.</li> </ul>
<b>Community Character</b>	<ul style="list-style-type: none"> <li>• Development is anticipated to limit suburban sprawl through focused development.</li> <li>• Potential visual impacts from additional development.</li> </ul>
<b>Climate Change</b>	<ul style="list-style-type: none"> <li>• Overall impacts of focused development and increased pedestrian facilities anticipated to result in lower per capita energy use and greenhouse gas emissions.</li> </ul>
<b>Fiscal Impacts</b>	<ul style="list-style-type: none"> <li>• Net positive impact on economy as a result of new households and commercial development.</li> <li>• Anticipated increase in jobs as a result of new commercial development.</li> <li>• Net positive fiscal impact anticipated.</li> <li>• Increase in school age children attending public school.</li> <li>• Net positive fiscal impact on East Ramapo CSD.</li> </ul>

**Table 4 Summary of Proposed Mitigation**

Topic	Proposed Mitigation
<p><b>Geology, Soils and Topography</b></p>	<ul style="list-style-type: none"> <li>• Compliance with NYSDEC Stormwater regulations including sediment and erosion controls during and after construction.</li> <li>• Discouragement of development on slopes greater than 15%.</li> <li>• Geotechnical investigations in areas with shallow depth to bedrock.</li> <li>• Compliance with Town Code Chapter 104 if blasting is required.</li> <li>• Additional mitigation for Opportunity Area A:               <ul style="list-style-type: none"> <li>○ Subgrade improvement program as necessary.</li> <li>○ Compliance with mitigation described in existing approved GEIS, SEIS and FEIS for proposed project.</li> </ul> </li> <li>• Additional mitigation Opportunity Area D:               <ul style="list-style-type: none"> <li>○ Perform supplemental geotechnical engineering study during design phase.</li> <li>○ Perform additional test pits, borings as necessary to confirm depth to groundwater.</li> </ul> </li> </ul>
<p><b>Water Resources</b></p>	<ul style="list-style-type: none"> <li>• Coordination with NYSDEC, USACOE to confirm boundaries and jurisdiction of regulated waterbodies and wetlands.</li> <li>• Compliance with Town Code Chapter 237, SWPPP and NYSDEC SPDES General Permit for Construction Activity. Stormwater management controls designed to avoid net increase in off-site discharge from existing conditions.</li> <li>• Compliance with Rockland County Drainage Agency if development in proximity to County Regulated Streams.</li> <li>• Compliance with Town Code Chapter 96 if applicable.</li> <li>• Additional mitigation for Opportunity Area A:               <ul style="list-style-type: none"> <li>○ Compliance with mitigation described in existing GEIS, SEIS and FEIS for proposed project.</li> </ul> </li> <li>• Additional mitigation Opportunity Area D:               <ul style="list-style-type: none"> <li>○ Development of the site to be carried out in a manner to avoid the discharge of dredged or fill material into the delineated waters.</li> <li>○ Stream crossings subject to approval by USACOE to minimize or prevent impacts to regulated waters.</li> <li>○ Site design to include the maintenance or enhancement of vegetive buffers in proximity to waterbodies, streams, and wetlands where feasible</li> </ul> </li> </ul>
<p><b>Ecological Resources – Habitats, Flora and Fauna</b></p>	<ul style="list-style-type: none"> <li>• On site surveys to confirm presence of significant habitats, threatened and/or endangered species.</li> </ul>

<p><b>Parks, Recreation, and Open Space</b></p>	<ul style="list-style-type: none"> <li>• Future development to include preservation of forested areas where practical and the construction of lawns and landscaping that provide green space.</li> <li>• Development is anticipated to result in an overall improvement in pedestrian connections from the current condition.</li> </ul>
<p><b>Historic and Archeological Resources</b></p>	<ul style="list-style-type: none"> <li>• Compliance with Town Code Chapter 215 for development in proximity to the Scenic Roads District. Additional plantings or visual buffers may be required.</li> </ul>
<p><b>Community Services</b></p>	<ul style="list-style-type: none"> <li>• Potential increase in emergency services staffing.</li> </ul>
<p><b>Utilities</b></p>	<ul style="list-style-type: none"> <li>• Improvements to municipal water and sewer systems will be completed in coordination with the local utilities as needed.</li> <li>• Coordination with O&amp;R for new connections as needed.</li> <li>• Encouragement of energy efficient building design.</li> </ul>
<p><b>Transportation</b></p>	<ul style="list-style-type: none"> <li>• Coordination with jurisdictional agencies including NYSDOT, Rockland County and the Town of Ramapo for improvements to transportation infrastructure as identified in <b>Section 6.7</b>.</li> <li>• Compliance with ADA guidelines for improvements to pedestrian infrastructure.</li> <li>• Public transportation improvements to be completed in consultation with Transport of Rockland.</li> </ul>
<p><b>Zoning and Development Program</b></p>	<ul style="list-style-type: none"> <li>• Future development to adhere to the uses and bulk requirements defined within the Town’s zoning regulations, as may be amended.</li> <li>• Future development to be reviewed through appropriate application process (PUD, Site Plan, Special Use Permit, etc)</li> </ul>
<p><b>Community Character</b></p>	<ul style="list-style-type: none"> <li>• Visual impacts mitigated through site plan review and building architecture.</li> </ul>
<p><b>Climate Change</b></p>	<ul style="list-style-type: none"> <li>• Promotion of economic development that aligns with NY State goals for greenhouse gas reduction.</li> <li>• Town participation in NY Climate Smart Communities Program.</li> </ul>
<p><b>Fiscal Impacts</b></p>	<ul style="list-style-type: none"> <li>• Positive fiscal and economic impacts anticipated. No mitigation required.</li> </ul>

## 1.0 Overview and Purpose

The Northeast Ramapo Development Plan (NRDP) is set within the framework of a Draft Generic Environmental Impact Statement (DGEIS). This NRDP/DGEIS sets forth future steps to achieve the vision for Northeast Ramapo. The NRDP complements, strengthens, modernizes, and supports the current 2004 Comprehensive Plan, while delving deeply into the Northeast area. While the goals of the 2004 Comprehensive Plan are still relevant Town-wide, more contemporary and area-specific strategies are outlined for Northeast Ramapo to assist in achieving the desired vision and goals. The NRDP/DGEIS may be incorporated into the existing 2004 Town-wide Comprehensive Plan as the Town continues to advance and reevaluate additional regions within the Town.

The purpose of the Town of Ramapo (Town) Draft Generic Environmental Impact Statement (DGEIS) is to evaluate the potential and cumulative impacts of potential future development in Northeast Ramapo arising from the proposed changes to the zoning on the Town's environment. The Town environment is comprised of different facets, such as natural systems, buildings, transportation networks, water, sewer and stormwater infrastructure, community services, community character, population, and recreational resource base. This DGEIS provides the Town with an opportunity to evaluate major issues of growth; be proactive in guiding future development; maintain preferred levels of public service; and to preserve a high quality of life for Town residents.

The Findings Statement that results from the Draft and the Final GEIS will allow the Town to reasonably and fairly determine the impacts associated with anticipated future growth and any mitigation that is prescribed, including a mitigation fee schedule to pay for planned improvements required as a result of the anticipated growth. The DGEIS will assist in the establishment of a capital improvements program for the Town, using a 20-year horizon for planning improvements that may be required, or preferred as a result of the anticipated growth. Such fiscal mitigation steps should continue to apply "fair share" principles in allocating such costs among benefited users also recognizing the additional municipal revenues to be generated by such future development.

Preparation of an area-wide DGEIS, inclusive of mitigation fees, provides the following benefits:

- Allows for the identification of the cumulative impacts of growth that cannot be ascertained from site-specific Environmental Impact Studies.
- Provides a growth management tool to protect important community resources and to plan for orderly growth.
- Identifies potential major growth impacts that may be inconsistent with community character and vision.
- Eliminates the inequitable scenario whereby impacts are not evaluated cumulatively and eventually thresholds are crossed as a result of growth, requiring major improvements at a high cost to the (final) developer and the community.
- Addresses the potential social, environmental, and economic impacts that additional development may cause to residents.

## Comprehensive Plan

A comprehensive plan is a document prepared for a community, county, or specific area which establishes an overall plan and recommended actions relevant to the current and future needs of that area. In the early 2000s, the Town decided to undergo this planning process because:

- The Town's planning documents were outdated and did not clearly identify the community's conditions and vision, nor did it contain specific initiatives to help achieve that vision;
- The Town Board wanted to have a vision, plan, and guidelines for the community to refer to when addressing potential uses and proposed zoning actions within the Town; and
- The Town wanted to be more pro-active in dealing with regional and inter-regional issues, protecting its resources, and planning for community and/or service needs.

The primary mission of the Town's 2004 Comprehensive Plan was to provide a balance between the need to accommodate anticipated population growth and the need to preserve the quality of life and natural resources that make Ramapo a special place to live. This policy document has outlined the Town's vision for the future of the unincorporated Town of Ramapo since 2004. The Plan focuses on protection of the Town's natural resources, current and long-range growth and development that is compatible with the Town's quality of life, and provides guidance to decision makers, residents and organizations.

Specifically, the 2004 Comprehensive Plan intended to provide an outline for the community's future and contains the goals and objectives applicable to various subject matters ranging from quality of life, natural resources, community services, and housing. Housing in particular has guided public and private decision making in the short and long term. In addition, the 2004 Comprehensive Plan identified numerous specific planning recommendations and implementation strategies which the Town, residents, businesses, property owner and/or organizations have initiated to help achieve the future vision for Ramapo. In particular, the Plan focused on uses (e.g. residential or commercial) and density of development in unincorporated Ramapo. The benefits resulting from the Plan were, and continue to be, the achievement of a set of established goals and objectives contained in the document.

The overall goals outlined in the 2004 Comprehensive Plan are as follows:

- Preservation of open space and scenic and environmental resources such as water bodies, wetlands, floodplains, aquifers, steep slopes, and scenic viewsheds.
- Addressing of the Town's needs and providing for a diversity of housing opportunities for a growing and changing population.
- Maintaining the quality of life in the Town by enhancing and preserving the character of Ramapo's neighborhoods and commercial corridors, maintaining the high quality of community services and facilities provided to Town residents, and providing an integrated and efficient transportation network.
- Promoting a balanced pattern of land use that encourages the concentration of future development in areas with adequate infrastructure and facilities, so as to make efficient utilization of the transportation network and infrastructure to preserve the Town's environmental and

scenic resources, and to provide opportunities in areas of the Town most appropriate for such development.

Due to similar reasoning, and to continue sound community planning practices, the 2020 update, approximately 15 years after the adoption of the 2004 Comprehensive Plan, is intended to update the Plan's Town-wide inventory and undertake strategic focus on Northeast Ramapo. The update to the Plan assesses the progress toward the 2004 Plan's outlined goals and evaluates the soundness of the 2004 Plan's indicated strategies to achieve those goals in the Northeast area. Additionally, as changes have occurred Town-wide in the ensuing 15 years, new strategies to achieve those goals are explored.

One important aspect is the preparation and inclusion of an updated, Town-wide inventory that presents a general reflection of the Town's current resources. The inventory was compiled and is attached as an appendix. The inventory covers a wide range of topics including demographics, housing, zoning, natural resources, parks and recreation, transportation, municipal resources, land use, schools, and community services. This is a Town-wide compendium that does not focus strictly on Northeast Ramapo. The inventory should not be considered as an exhaustive, comprehensive list of all resources within the Town of Ramapo. Instead, it is meant as a general reflection and update of the Town's resources and the Town's needs within each category.

## Northeast Ramapo Development Plan (NRDP)

The Northeast Ramapo Development Plan (NRDP) was also prepared as a strategic update to the 2004 Comprehensive Plan, as amended. This Development Plan complements, strengthens, modernizes, and supports the 2004 Comprehensive Plan, while delving deeply into the Northeast area. Whereas the goals of the 2004 Plan are generally still relevant Town-wide, more contemporary and area-specific strategies are outlined for Northeast Ramapo to assist in achieving the desired vision and goals. It is important to note that the NRDP is not a replacement planning document and that the 2004 Comprehensive Plan is retained as the Town's major planning document. The Northeast Ramapo Development Plan will be merged into the existing 2004 Comprehensive Plan to act as a supplementary addendum to the 2004 plan and to serve as a guide for development in the Northeast area of unincorporated Town. Although it presents its own visions, goals, and planning strategies for the unincorporated Northeast, these facets of the plan are designed to function within the broader scope of the existing Comprehensive Plan.

The concept of Opportunity Areas for potential growth is used to advance the goals of the Northeast Ramapo Development Plan to achieve its overall vision. Planning strategies and growth development are planned within these Opportunity Areas to achieve stable, sustainable growth within the Northeast area. Opportunity Areas are planned as pedestrian-scaled developments with mixed-use infrastructure that can accommodate future growth within a Main Street-like structure.

## Need

In order to make this Plan Update unique to, useable in, and implementable for the Town, a variety of community-wide factors are considered, and needs are identified which guide the strategic recommendations herein.

The update provides design, development, and programming prescriptions for the entire Northeast area. However, the focus of the NRDP/DGEIS is on the five Opportunity Areas. The NRDP does not propose zoning amendments or land use tools for land located outside of the Opportunity Areas. Land outside the Opportunity Areas includes the Ramapo Stadium, the County Office Campus, and the extensive residentially zoned R-35 lands (and some lands zoned R-40 and R-80).

The Opportunity Areas are the last five remaining, underutilized, and largely vacant areas in Northeast Ramapo. The Opportunity Areas are shown on Figure 2-1 in **Section 2.0**. Potentially given increasing development pressure, the time is now to plan for desirable and beneficial uses that will serve the community and region. This is achieved by high quality design and community enhancement. Diverse housing needs will be met, and multi-modal transportation options associated with small scale mixed use will work to avoid congestion common with unplanned development. A combination of proposed new zoning and land use tools, such as the inclusion of a Flexible Overlay Planned Unit Development, are considered within the Opportunity Areas to allow for greater flexibility to support future growth needs while still respecting the community character of Northeast Ramapo.

The DGEIS provides environmental assessment and documentation regarding the project through examining types and characteristics of potential environmental impacts. It also identifies and evaluates mitigation which can be applied as part of the Action and in conjunction with future land development. This aids program implementation by helping to eliminate or reduce potential undesirable effects. The DGEIS provides reasonably detailed descriptions of base environmental conditions for each subject element. This enables presentation of realistic depictions of the current state of the environment along with identification of important aspects of associated environmental variables and the setting. Based on the proposed development strategies, there is examination of the types, degrees, and dimensions of impacts that may arise. Finally, there is identification of mitigation measures that have been initially identified which can be used to reduce or eliminate the potential for adverse environmental effects from future development.

## Benefits

The Comprehensive Plan Amendment and Town-Wide Existing Conditions Inventory supplies the Town with a current inventory of the Town's resources. A product of the Inventory process is that through identifying gaps in Town resources, these gaps can potentially be addressed in the Plan itself and assist in achieving the goals and vision of the Plan. The benefit to performing a Town-wide Inventory, as opposed to an inventory of only the Northeast area, is that it will be attached to the 2004 Comprehensive Plan as an appendix and can thus serve as a reference document for the entire Town. The Town will then have at its disposal a current reflection of the Town's resources that can be used for future planning and development projects.

The Opportunity Areas that act as the focal point of the Northeast Ramapo Development Plan will increase fiscal benefits to the Town and to Rockland County and in turn will work to finance needed community infrastructure.

Urban sprawl is common in the unincorporated Town and its adjacent communities. Detriments of sprawl include depletion of greenfields and forested lands, increased community funded infrastructure expenses

through road, utility transmission, water and sewer lines, and increases in reliance on vehicle travel as compared to walking or public transit options. Concentrating growth as described within this Plan will decrease costs associated with these factors.

Population will inevitably increase in Rockland County. However, planned development utilizing smart growth concepts will seek to ensure population growth is managed in a sustainable and beneficial manner. This is to be achieved by new and innovative land-use codes, community design principles, well considered parking allowances and restrictions, location of specific uses, and higher density development clustering. The Town will serve as a model in community planning and development for adjacent towns and villages, Rockland County, and the entirety of the suburban New York City metro area.

DRAFT

## 2.0 Description of the Proposed Action

The DGEIS for the Northeast Ramapo Development Plan will present and assess a plan with strategies for future land use, investments, and management of growth in Northeast Ramapo. This planning effort (the “Action”) will:

1. Present the Northeast Ramapo Development Plan consisting of proposed development strategies for this unincorporated part of Town and the related environmental impact analysis of these strategies.
2. Generate a Town-wide Existing Conditions Inventory Report (Inventory Report).
3. Develop Town Code amendments to implement the Northeast Ramapo Development Plan.

The focus of the Northeast Ramapo Development Plan is 3.4 square miles within Northeast Ramapo, as shown within the Overview Map in Figure 2-1. Northeast Ramapo is a part of 31.6 square miles of the unincorporated Town area and 62.2 square miles of Town area inclusive of villages. Northeast Ramapo borders the Villages of Pomona and New Hempstead to west. The north edge is the border with the Town of Haverstraw. On the eastern edge is the municipal boundary with Town of Clarkstown; and on the southern border is the Village of New Square. The DGEIS will address potential impacts outside of Northeast Ramapo as appropriate but is generally focused on the 3.4 square miles within Northeast Ramapo.

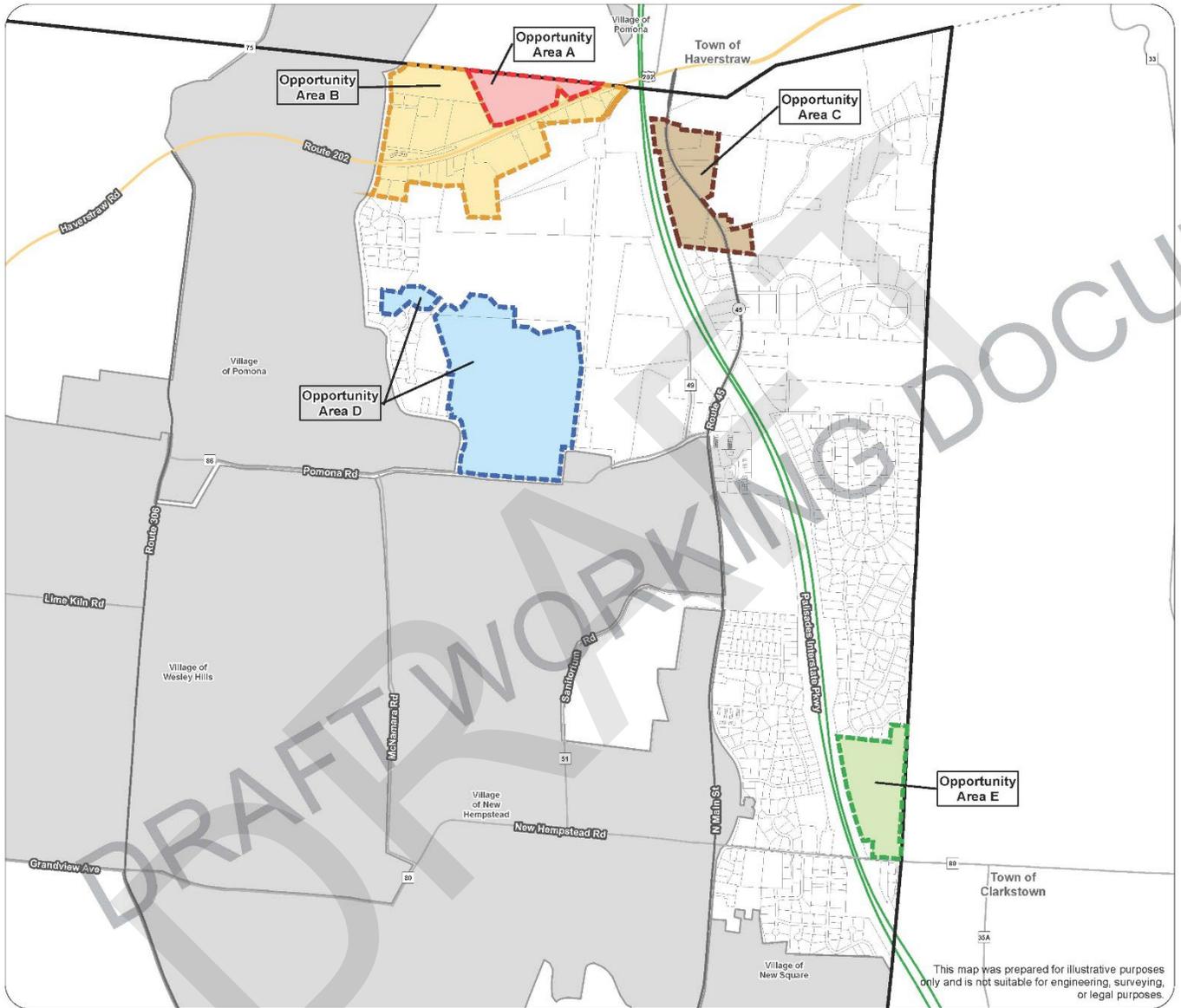
The Northeast Ramapo Development Plan will propose a vision with goals and comprehensive planning strategies for this area. The Plan will propose and assess land use regulations that facilitate development within Opportunity Areas where a majority of future new growth is planned to occur. The proposed Opportunity Area footprints will be targets for placemaking and are intended to serve the needs of a growing community. The intent is to establish new integrated neighborhoods with a mix of uses that are close to major existing roads or provide for opportunities for additional needed neighborhood services near existing residential neighborhoods. The following Opportunity Areas are proposed herein:

- **Opportunity Area A:** North side of US Route 202 adjacent to Town of Haverstraw boundary. See also Appendix L.
- **Opportunity Area B:** Both sides of US Route 202 extending from the Palisades Parkway to North and South Camp Hill Road.
- **Opportunity Area C:** Both sides of State Route 45 from South Mountain Road north to Old Route 202.
- **Opportunity Area D:** The former Minisceongo Golf Course (also referred to as Millers Pond), which fronts on Pomona Road (County Route 86). See also Appendix M.
- **Opportunity Area E:** The Gracepoint Gospel Church site on New Hempstead Road (County Route 80).

The NRDP/DGEIS does not propose zoning amendments outside of the Opportunity Areas. Future development within these key Opportunities Areas will be guided by new proposed zoning amendments within Northeast Ramapo:

- **Commercial Corridor (CC)** – This new proposed zoning district is intended to create an area of focused, walkable mixed-use development allowing for a greater mix of commercial activity while supporting residential. This zoning district is proposed within Opportunity Area B, along the U.S. Route 202 corridor.
- **Neighborhood Shopping (NS)** – This zoning district already exists within the Town of Ramapo. The intention of this zoning district is to allow for neighborhood commercial uses to support existing residential areas. The NRDP/DGEIS proposes to apply this zoning district within Opportunity Area C, at the northern end of State Route 45.
- **Flexible Overlay Planned Unit Development (FOPUD)** – This new proposed floating zone is intended to provide flexibility for future growth that considers options for new residential, commercial, mixed uses and amenities in which economies of scale or creative architectural or planning concepts may be utilized by the developer without departing from the spirit and intent of Chapter 376 (Zoning). Proposed development with this zone is intended to be respectful of the existing environment, make efficient use of the land and meet a set of design criteria. This zoning tool is intended to be utilized on lands of 20 acres or more which may include Opportunity Areas A, D and/or E. See Appendix K for the draft local law.

Figure 2-1 below illustrates the location of the proposed opportunity areas within the Northeast Ramapo Corridor.



### **3.0 Format/ Contents of DGEIS**

This DGEIS contains requisite content. The provisions of the SEQRA Regulations 6 NYCRR Part 617.8 through 617.10, guide formulation of the DGEIS. This DGEIS assembles identified relevant and material facts and is intended to be analytic but not encyclopedic.

This DGEIS contains a concise description of the Action; its purpose, public need and benefits, and the location/ setting with a discussion of areas that may be affected. It will identify Involved and Interested agencies; required permits and approvals; and review frameworks. It will also present alternatives with sufficient detail to enable generic comparative assessments.

The DGEIS will analyze the potential for significant adverse impacts. Proposed mitigation will be introduced and described in terms of possible effects within the subject-level narratives. The DGEIS will also document public engagement and input used in forming and evaluating the DGEIS. Sources of information are clearly identified.

A generic Buildout Analysis for Northeast Ramapo has been prepared as part of the DGEIS. It will analyze the potential effects of future growth permitted under the alternative strategies presented for Northeast Ramapo, as well as current zoning. The Buildout Analysis will characterize possible environmental effects that could occur under proposed land development policies as well as per existing policies. The Buildout Analysis can also be used to examine ways to mitigate the potential impacts of growth.

A Fiscal Impact Analysis has also been prepared to evaluate economic and fiscal impacts of the proposed potential development in the Town and public school district. A Traffic Impact Analysis has also been prepared to evaluate potential impacts of growth at thirty-two identified intersections within Northeast Ramapo and close to the study area.

Alternative development strategies for Northeast Ramapo are summarized in Section 7.0. Each alternative is not mutually exclusive of others. In other words, one or more of the alternatives, or variations thereof, could be implemented after completing the SEQR and Comprehensive Plan update.

The DGEIS includes the Town-wide Existing Conditions Inventory Report and corresponding maps within Appendix A. The baseline features (or elements) of the report includes: Town history; demographic profile; natural resources; land use; zoning; housing; open space; parks & recreation; historic & cultural resources; municipal government services; public works and public services; community services; schools; transportation; and community & economic development. The Town-wide Existing Conditions Inventory Report utilizes known available and reasonably current secondary source information and describes basic existing conditions descriptions at the Town-wide level. The Town-wide Existing Conditions Inventory Report is referenced within the evaluations of how proposed development could generically influence the Northeast Ramapo environment.

## 4.0 Procedural History

The Town Board conducted the following steps per SEQRA Regulations 6 NYCRR Part 617 regulations:

- On February 27, 2019, the Town Board:
  - Completed Part 1 of a Full Environmental Assessment Form (EAF)<sup>1</sup>.
  - Preliminarily classified this Project as a Type 1 Action.
  - Adopted a resolution causing distribution of a Notice of Intent to be Lead Agency.
  
- On July 11, 2019 Town Board adopted a resolution that:
  - Adopted a resolution that confirmed Town Board as Lead Agency and issued a Positive Declaration requiring the preparation of an environmental impact statement (EIS) which for this Action will be in the form of a Generic EIS (GEIS).
  - The Town Board, consistent with 6 NYCRR Part 617.8, reviewed and posted a Draft Scoping Document for public review, along with the notice of the public scoping meeting. The notice was distributed to the identified Involved and Interested entities and it was published in the Environmental Notice Bulletin, Town Newspaper of Record, and the Town's website. The notice was posted at Town Hall with the Proposed Scoping Document available for review at the Town Clerk's office, the Department of Building, Planning & Zoning, the Town Library and the Town's website.
  
- On August 19, 2019, the Town Board conducted a Public Scoping session that:
  - During the Scoping Session public input was obtained on the Draft Scoping Document. A subsequent period of written public comment occurred as part of the scoping process from July 11, 2019 – September 13, 2019. All public comments received are found in **Appendix I**.
  
- On January 20, 2021, the Town Board held a special workshop and adopted by resolution the Final Scoping Document. This Final Scoping Document was subsequently distributed to all Involved and Interested entities and posted to the Environmental Notice Bulletin (ENB) and the Town website. See **Appendix H** for documentation. (Note: The gap in time between the public scoping session and adopted final scope is the result of careful consideration of public comments received as well as a disruption in the process resulting from the COVID-19 pandemic.)

<sup>1</sup> The basis for Project/ Action Classification as Type I is addressed within the July 11, 2019 Draft Scoping Document.

The next steps in the SEQRA process will be:

- On \_\_\_\_\_, 2021, the Town Board determined that the DGEIS was adequate with respect to its scope and intent for the purpose of commencing public review.
- Public Comment Period and Public Hearing on the DGEIS was held on \_\_\_\_\_.
- Preparation of a Final GEIS on \_\_\_\_\_.
- Preparation of Findings Statement on \_\_\_\_\_.

It is the responsibility of the Lead Agency to oversee GEIS completion. While no agency other than the Town Board is able to approve or directly undertake this Action, through the coordinated review process, multiple municipalities, agencies, organizations and the public will have an opportunity to comment on the Action. This includes Rockland County Planning which, per NY State General Municipal Law §239-m, will be formally referred a submission of the GEIS, proposed Comprehensive Plan Amendments and proposed Code Amendments.

Based on the anticipated Final GEIS and Findings Statement, it is probable that the Lead Agency and/or other land use permitting and approval entities could use the SEQRA documentation for subsequent SEQRA administration. That may involve the review of individual land development applications which meet Type I or Unlisted Action thresholds, or it could encompass Town Code change(s) which are determined to be consistent with an adopted Northeast Ramapo Development Plan/FGEIS and Land Use/Zoning Map.

## 5.0 Input Obtained

The DGEIS will address the potential for significant adverse environmental impacts of the Proposed Action that are reasonably anticipated and identified as well as address proposed mitigation measures. Comments received at the scoping session and during a variety of public engagement activities were directly considered. Highlights of those activities are identified below.

**Opinion Survey** – A public survey was conducted between February and April 2019. The survey was available both online as well as through a hard copy postcard. A total of 565 surveys were completed.

**Design Charrette** – A public design charrette was held at the Rockland Boulder’s Baseball Stadium November 27 - 30, 2018 to share ideas and help plan the future. A variety of events took place:

- A charrette kick-off and hands-on design session - November 27, 2018
- Open design studio – November 28 – 30, 2018
- Open House – November 29, 2018

**Stakeholder Meetings** – Two (2) meetings were held early in the process to gather input from key stakeholders and shape the effort. Meetings were held on November 28, 2018 and December 19, 2018.

**Work in Progress Presentation** – A work in progress presentation was held on January 23, 2019 to inform the community of the input and results of the design charrette activities.

### **Scoping Session – August 10, 2019**

Scoping focused the DGEIS through identification of the potentially significant adverse impacts which the DGEIS will analyze. There were adjustments made to the level and organization of the scope of analysis based on that input. The written comments were received and a Scoping Session transcript is available to the public and also filed in the Town Clerk’s Office. Feedback from prior public outreach initiatives, including survey opinion research, were also considered in formulation of the Final Scoping Document. Significant comments incorporated into the Final Scoping Document include but are not limited to:

- Housing choices and affordability;
- Concern for growth management, water resource management/protection and conservation of resources;
- Recreation options and open space preservation;
- High taxes and fiscal impacts;
- Traffic congestion; and
- Fire protection and safety of community.

The scoping process aided in the identification of reasonable alternatives and potential mitigation measures. One main public comment raised was that there should be a Town-wide comprehensive plan update; however, since the Town is quite large in terms of size and population and has diverse locational needs, the Lead Agency determined there to be better capacity to plan and evaluate the potential for impacts using a part-Town DGEIS that analyzes different areas of Town at a time. The town-wide existing conditions Inventory Report is organized such that it will be possible to use the Inventory Report for subsequent planning initiated for other parts of the Town.

In addition, since review of the proposed action is generic and broader than a site or project specific action, it is not fully possible at this time to evaluate all potential impacts related to future land development. Potential for such impacts will be considered during future, site-specific regulatory-based reviews.

**Town Board Updates** – Updates regarding the DGEIS process occurred at the following Town Board meetings and the public was encouraged to provide comments:

- January 27, 2021
- February 10, 2021
- February 24, 2021
- March 10, 2021
- March 22, 2021
- April 14, 2021
- April 28, 2021
- May 26, 2021

**Project Webpage** – A dedicated webpage for the project was created on the Town’s website. The webpage is continuously updated with information such as the Town Board update, Frequently Asked Questions, draft documents and maps, and past documents. The webpage also includes a comment form to encourage continuous public input and feedback. Public comments received through the project webpage were shared with the Town Board for consideration throughout the process.

## 6.1 Natural Resources

### 6.1.1 Geology, Soils & Topography

This section describes the geological conditions of Northeast Ramapo. It covers generalized soils, topography, and the potential for erosivity and sedimentation with a focus on locations that could be affected by zoning amendments.

Information herein is derived from data on the U.S. Dept. of Agriculture's Natural Resources Conservation Service Web Soil Survey (USDA Soil Survey) and the 1990 Soil Survey of Rockland County, NY, (SCS 1990). To assist in evaluating topography and slopes, refer to **Appendix A, Comprehensive Plan Update Town-wide Existing Conditions Report, Map 4 Northeast Ramapo – Slope and Terrain Map**. The map depicts slope gradients in the following categories: 0 to 14.9%, 15-24.9% and over 25%. The slope gradients depicted are not based on field slope angle measurements and were instead derived using GIS software and a digital elevation model based on remote sensing data for NY State. Therefore, the map is not a substitute for slope angles determined by field measurements. Where applicable, future projects undergoing pre-development analysis must calculate slope gradients in the field through industry-accepted practices to obtain site-specific measurements.

Where readily available, relevant geo-technical information from a previous Planning Board review and proposed projects are also used in this analysis. That includes information related to the review of a project located at 1618 US Route 202 (Opportunity Area A) (see Appendix L), as well as a project first conceptually proposed in 2018 for the former Minisceongo Golf Course (Opportunity Area D) (see details in Appendix M), however no land use application has been submitted. For the remainder of Northeast Ramapo, detailed, site-specific soils or geotechnical evaluations have not been used. Where and when applicable, future projects will need to conduct site-specific analysis to confirm subsurface conditions as well as topography.

Potential restrictions imposed by existing soils, geology, and topographic conditions are evaluated herein, including limitations of and suitability for construction. If there is potential for significant impacts, there is discussion of possible ways to mitigate such impacts.

Since potential soil erosion and ground disruption during construction can influence water or air resources, this section also focuses on ways to manage soils onsite during construction. Stormwater including surface runoff, and post-construction stormwater management practices, as well as aquifer information are primarily addressed in other portions of the NRDP/DGEIS (**Section 6.1.2 Water Resources** and **Section 6.5.2 Water Utilities**).

#### 6.1.1.1 Northeast Ramapo Existing Conditions

##### Topographic Features

The Town is located within two distinct physiographic provinces. The western part of the Town lies within the New England Province, while the eastern portion lies within the Piedmont Province. New England

Province is considered a northward extension of the larger Appalachian mountain chain. In contrast, the Piedmont Province consists of broad valleys and low hills.

Within Northeast Ramapo, elevations range from 200 to over 700 feet above mean sea level. The most dominant topographic feature is South Mountain in the northeast corner of the Town. It is associated with the County's Gurnee Park and the protected 239-acre South Mountain County Park. The remainder of Northeast Ramapo includes localized areas of steep slopes in excess of 25%.

### Existing Regulatory Framework

Town zoning regulations require the deduction of acreage having certain constraints such as slopes over 25% when calculating minimum lot areas. Specifically, pursuant to § 376-42, "Special bulk requirements" of the Zoning Code, not more than 50% of any land with (unexcavated) slopes over 25% shall be counted towards meeting the minimum lot area. However, slopes over 25% are minimal within Northeast Ramapo, and are not anticipated to significantly impact future development.

### Soils

Soil types in Northeast Ramapo have been identified using the U.S. Department of Agriculture's Natural Resources Conservation Service Web Soil Survey (WSS or Web Soil Survey). Descriptions of soils are taken from the Soil Survey of Rockland County (SCS 1990). The predominant soils in Northeast Ramapo (and their Hydrological Soil Group) include Wethersfield (C), Catden muck (B/D), Yalesville (B) and Alden silt loam (C/D). Additional soils found within Northeast Ramapo include Watchaug, Charlton, Cheshire, Hinckley, Holyoke, and Riverhead Series.<sup>1</sup>

The Soil Conservation Service defines the Hydrologic Soil Groups (HSGs) as follows:

- Type A Soils: Soils having a high infiltration rate and low runoff potential when thoroughly wet. These soils consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a moderate rate of water transmission.
- Type B Soils: Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained, or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.
- Type C Soils: Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.
- Type D Soils: Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist of chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.
- Type B/D and C/D Soils: Soils assigned to a dual hydrologic soil group have soil characteristics that are represented by both classes. The first letter represents what the soils act like when they are drained and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

<sup>1</sup> Appendix C: Northeast Ramapo USDA Soils map and Web Soil Survey

The largest soils series found within Northeast Ramapo is the Wethersfield Series, making up approximately 52% of soils. Wethersfield Series consist of very deep, well drained soils formed in reddish glacial till derived mainly from Triassic sandstone, shale, and conglomerate. These soils are on smooth ridges and uplands and range from 0 to 25% slopes. Wethersfield soils are found throughout Northeast Ramapo.

The second largest series is Catden at approximately 10%. It consists of very deep, poorly drained soils formed in highly organic materials. In Northeast Ramapo, Catden soils are exclusively found within Mount Ivy Swamp.

The Yalesville Series, making up almost 7% of the soils in Northeast Ramapo consists of moderately deep, well drained soils formed in glacial till and found on slopes ranging from two to 25%. Within Northeast Ramapo, Yalesville soils are primarily found along South Mountain Road and in the vicinity of the proposed Gospel Opportunity Area.

Making up approximately 6.5% of soils in Northeast Ramapo, the Alden Series consist of very deep, poorly drained soils in depressional areas of till plains and bedrock-controlled uplands. The soils are formed in glacial till and an 18- to 40-inch-thick layer of material washed from adjacent areas. Slopes are generally less than 1%. Alden soils are found along the South Branch of Minisceongo Creek (also referred to as SBMC), other streams and depressional areas.

**Table 6.1-1 Northeast Ramapo Soils Details**

Soil Name	Acres in Northeast Ramapo	Percent of Soils in Northeast Ramapo	Depth to Bedrock (approx.)	Depth to Water Table (approx.)	Erosion Potential	Surface Runoff	Slope
Ad-Alden silt loam	144.2	6.50%	>60"	1 ft. above surface to 6" below (Nov. to June)	None slight to	Slow or ponded	<1%
Ca-Carden muck	220.0	10.00%	>60"	1 ft. above surface to 6" below (Sept. to June)	Subject to wind erosion	Ponded	<2%
CeC-Charlton fine sandy loam	28.8	1.30%	>60"	>6 ft.	Medium	Rapid	8-15%
CeD-Charlton fine sandy loam	4.1	0.20%	>60"	>6 ft.	Severe	Very rapid	15-25%
CrB-Cheshire gravelly fine sandy loam	0.3	0.00%	>60"	>6 ft.	n/a	Medium	2-8%
HcA-Hinkley gravelly loamy sand	7.2	0.30%	>60"	>6 ft.	Slight	Slow	0-3%
HoD-Holyoke-Rock outcrop complex, hilly	41.5	1.90%	10-20"	>6 ft.	Severe	Rapid	15-25%
HoF-Holyoke-Rock outcrop complex, very steep	80.8	3.70%	10-20"	>6 ft.	Ver severe	Very rapid	25-50%
NcA-Natchaug muck	1.9	0.10%	0-6 ft.	>6 ft.	n/a	n/a	0-2%

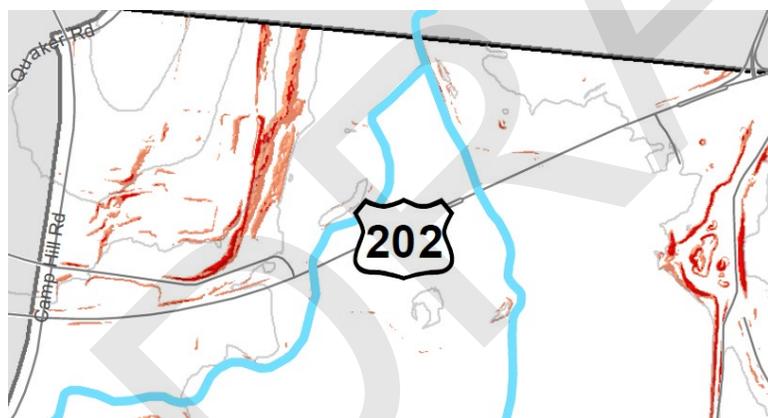
PnB-Paxton fine sandy loam	13	0.60%	>60"	1.5 to 2 ft. (Feb. to April)	Moderate	Medium	2-8%
PnC-Paxton fine sandy loam	33.5	1.50%	>60"	1.5 to 2 ft. (Feb. to April)	Moderate	Medium	8-15%
Pt-Pits, gravel	11.4	0.50%	n/a	n/a	n/a	n/a	n/a
Pv-Pits, quarry	5.8	0.30%	n/a	n/a	n/a	n/a	n/a
Ra-Rippowam sandy loam	18.4	0.80%	>60"	1.5 below the surface (Sept. to June)	None	Slow	
ReB-Riverhead fine sandy loam	34.2	1.60%	>60"	>6 ft.	Moderate	Medium	3-8%
ReC-Riverhead fine sandy loam	12.6	0.60%	>60"	>6 ft.	Moderate	Rapid	8-15%
ReD-Riverhead fine sandy loam	9.6	0.40%	>60"	>6 ft.	Severe	Rapid	15-25%
Ur-Udorthents, refuse substratum	35	1.60%	n/a	n/a	n/a	n/a	0-35%
Us-Udorthents, smoothed	0.5	0.00%	n/a	n/a	n/a	n/a	6-15%
Uw-Udorthents, wet substratum	15.6	0.70%	n/a	n/a	n/a	n/a	6-15%
Ux-Urban land	60.3	2.70%	n/a	n/a	n/a	n/a	6-15%
W-Water	2.9	0.10%	n/a	n/a	n/a	n/a	6-15%
Wc-Watchaug fine sandy loam	115.9	5.30%	>60"	1.5 to 2.5 ft. (Nov. to April)	Slight	Slow	0-3%
WeB-Wethersfield gravelly silt loam	686.9	31.20%	>60"	1.5 to 2.5 ft. (Feb. to April)	Slight	Medium	3-8%
WeC-Wethersfield gravelly silt loam	349.1	15.80%	>60"	1.5 to 2.5 ft. (Feb. to April)	Moderate	Medium	8-15%
WeD-Wethersfield gravelly silt loam	77.9	3.5%	>60"	1.5 to 2.5 ft. (Feb. to April)	Severe	Rapid	15-25%
WuB-Wethersfield-Urban land complex	22.3	1.00%	>60"	1.5 to 2.5 ft. (Feb. to April)	Moderate	Medium	2-8%
WuC-Wethersfield-Urban land complex	20.6	0.90%	>60"	1.5 to 2.5 ft. (Feb. to April)	Severe	Rapid	8-15%
YaB-Yalesville sandy loam	37.9	1.70%	20-40"	>6 ft.	Slight	Slow	2-8%
YaC-Yalesville sandy loam	97.9	4.40%	20-40"	>6 ft.	Moderate	Medium	8-15%
YaD-Yalesville sandy loam	12.2	0.60%	20-40"	>6 ft.	Severe	Rapid	15-25%
<b>Totals for Northeast Ramapo (Approximate)</b>	<b>2,202</b>	<b>100%</b>	---	---	---	---	---
Source: 1990 Soil Survey of Rockland County, <a href="http://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/new_york/NY087/0/Rockland.pdf">www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/new_york/NY087/0/Rockland.pdf</a> , <a href="https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx">https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx</a>							

## Existing Conditions for Opportunity Areas

### *Opportunity Area A*

Opportunity Area A covers approximately 26 acres of vacant land on the North side of US Route 202, west of the PIP and adjacent to Opportunity Area B. It is bounded to the east by Quaker Road, on the north by the Town of Haverstraw municipal boundary, and to the west by parcels 33.05-2-6 and 25.17-2-1.

Opportunity Area A has generally level topography as much of it was heavily disturbed through prior mining. The topography in this area is predominately flat, dominated by slopes of 0-5%. Localized areas of steep slopes up to 29% are present along the east side of the SBMC as shown in Figure 6.1-1 below. Additional areas of slopes exceeding 15% are present along the northeastern boundary of the site along the US Route 202/ PIP ramp. There are no prominent or unique geologic or topographic features on the site. Opportunity Area A is underlain primarily by three soil types: Pits, gravel (which is found in the central portion of area), Hinckley gravel loamy sand (found on the eastern boundary), and Carlisle muck (found along the western boundary)<sup>2</sup>. Carlisle muck is associated the NYSDEC-regulated freshwater wetland (known as the “Mount Ivy Swamp”) and the SBMC. “Urban land” is also located on the site and is associated with the former auto repair facility in the adjacent parcel (Tax ID 33.06-1-2) along US Route 202 and within Opportunity Area B. Soils classified as Urban land include areas where at least 50% of the surface is covered by buildings, parking lots, or other impervious surfaces.



*Figure 6.1-1 – Excerpt from Map 4 Northeast Ramapo – Slope and Terrain Map within Appendix A, showing steep slopes within Opportunity Areas A and B*

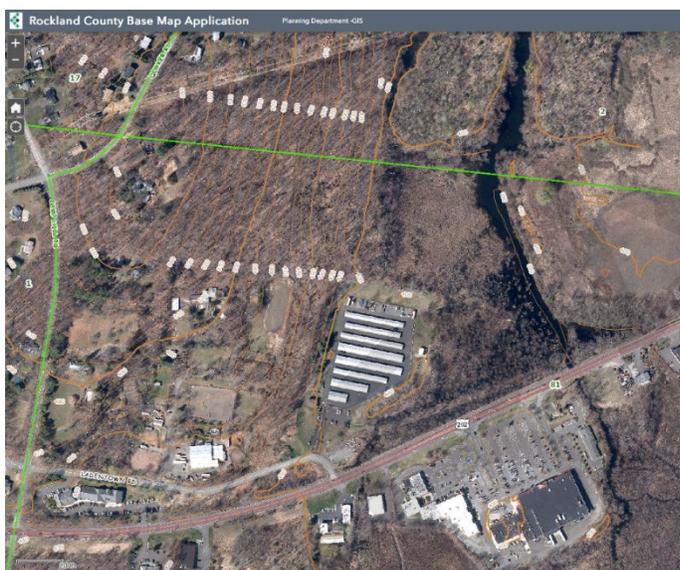
Available geotechnical evaluations for Opportunity Area A indicate groundwater was encountered at depths ranging from 1 to 10 feet across the site<sup>2</sup>. Bedrock was not encountered on the site with the deepest boring extended to 82.5 feet. It was determined that clean fill would be required in select areas to support the proposed development due to the presence of highly compressible organic material. In addition, miscellaneous fill material was found on the site which presented further development constraints and need for clean fill<sup>2</sup>.

<sup>2</sup> 2006 Draft Environmental Impact Statement for Minisceongo Park, dated November 8, 2006 (Source to be verified)

The fill layer is described as consisting of brown to greenish brown course to fine sand and silty sand with varying amounts of silt, gravel, cobbles, boulders, and construction and demolition debris. The layer is some 2 to 13 feet in thickness and is thickest on the western portion of the site. Site debris from the previous automotive repair facility exists on the site, including construction and demolition materials containing asphalt, concrete, and bricks, along with metal, wood, cut stone and roofing shingles. Soil samples were collected during the environmental reviews for semi-volatile organic compounds, metals, pesticides, and PCBs and was submitted as required to the New York State Department of Health<sup>3</sup>.

### *Opportunity Area B*

Elevations within Opportunity Area B range from over 560 feet in the Northwest region of the district to 410 feet in the Northeastern area of the district as shown in Figure 6.1-2 below. The change in grade becomes more pronounced on the north side of US Route 202 and west of the South Branch of Minisceongo Creek. Slopes within the Opportunity area are predominately 0-10%. Slopes in excess of 15% account for approximately 7 acres with a maximum slope of 45%. The majority of steep slopes are located west of the SBMC and north of US Route 202 as shown in Figure 6.1-1 in the above section.



*Figure 6.1-2 - 50' and 10' Contour Intervals Extending from Approximately 560' elevation in the west to 400' elevation near the Creek's bank (Source: Rockland County GIS Base Map Application)*

There are ten (10) soil types present within Opportunity Area B. The predominant soil types are Paxton fine sandy loam (PnB, PnC), Urban Land (Ux), Carden muck (Ca), and Udorthents, wet substratum (Uw) as shown in Figure 6.1-3 below.

<sup>3</sup> 2006 Draft Environmental Impact Statement for Minisceongo Park, dated November 8, 2006 (Source to be verified)



Figure 6.1-3 – Hydrologic Classification of Soil Units within Northeast Ramapo, Opportunity Areas A and B (Source: USDA WSS)

Soils classified as Paxton fine sandy loam (PnB and PnC) occur in the western area of Opportunity Area B, covering approximately 45 acres. Paxton fine sandy loam is a very deep, strongly sloping and well-drained soil generally found on hills on uplands, with slopes between 8 - 15% (PnC) and 2 – 8% (PnB). The depth to bedrock is more than 60 inches and depth to the water table is 1.5 to 2.0 feet (February to April). Both surface runoff and the erosion hazard are considered moderate. These soils are of HSG Type C and have a slow rate of water transmission.

Paxton fine sandy loam soil is also found in a narrow undeveloped area along the south side of US Route 202 between 1507 US Route 202 and Camp Hill Road. This area is relatively level and close to NYSDEC jurisdictional wetlands. While runoff is not a major concern, the proximity to wetlands must be considered for future development.

South of the Paxton fine sandy loam soils on the south side of US Route 202 is Wethersfield gravelly silt loam (WeB). Within these soils, bedrock is expected at a depth of over 60 inches, with groundwater between 1.5 and 2.5 feet between February and April. With Wethersfield soils, the potential for erosion and runoff is limited and slopes are generally between 3 and 8%. The area is vacant, abuts a tributary of SBMC and is in close proximity to Mount Ivy Swamp. As such, future development here will be located in Paxton fine sandy loam soils (discussed above) as there is limited upland suitable for development based on the presence of tributary and wetlands.

Soils classified as Carden muck (Ca) cover approximately 23 acres within the proposed Commercial Corridor district. These soils are predominantly found within the Mount Ivy Swamp wetland area that occupies large areas north and south of US Route 202. As such, these areas are not currently developed, and no future development is anticipated. These soils are of HSG Type B/D and have a slow to moderate rate of water transmission.

Soils classified as Udorthents, wet substratum (Uw) primarily occur to the north and south of US Route 202 along the western most portion of the South Branch of Minisceongo Creek (SBMC). This includes lands occupied by the Ramapo Mini Storage (105 Ladentown Rd.) north of US Route 202, along with the veterinary office (1545 US Route 202) and the adjacent radio station parcel on the south side. This soil type consists of poorly drained to very poorly drained soils that have been altered mainly by filling. Due to the development limitations of Uw soils, future development in this area should involve subsurface investigations to determine if soils need to be replaced or augmented to accommodate new construction.

Soils classified as Charlton fine sandy loam (CeD) occur to the north of Ramapo mini storage. This soil type is known to have slopes between 15 to 25% and are very deep and well drained. These soils are of HSG Type B and have a moderate rate of water transmission. Surface runoff is very rapid and the erosion hazard is listed as severe, especially on steeper slopes. Future development in this area will need to consider the impacts of the soils erosivity and steep slopes both during and after construction.

Pacesetter Park shopping plaza (1581 US Route 202) and the adjacent Ramapo Plaza on the south side of US Route 202 have Urban land (Ux) soils. Slopes in this area are minimal as the property has been previously developed. Wetlands associated with Mount Ivy Swamp surround the Ux soils to the east, south and west. These Ux soils are suitable for redevelopment, within the footprint of the existing built environment.

Just east of Ramapo Plaza are two vacant lots (including one owned by Rockland County) and the Mount Ivy All American Dinner. Soils in this area are classified as Hinckley loamy sand (HcA) which are typically deep, nearly level, (0 to 3% slopes) excessively drained. This soil is non-hydric, with the depth to groundwater being more than 6 feet, and bedrock at more than 60 inches below the ground surface. Surface runoff is listed as slow, and the erosion hazard is listed as slight. Future development is not expected to have concerns related to slope or erosion.

### *Opportunity Area C*

Opportunity Area C is primarily comprised of Wethersfield gravelly silt loam (WeB, WeC) which covers approximately 25 acres as shown in Figure 6.1-4 below. These soils are of HSG Type C and have a slow rate of water transmission. Charlton fine sandy loam (CeC) covers approximately 13 acres in the district. These soils are of HSG Type B and have a moderate rate of water transmission. Depth to bedrock appears over 60 inches in this area, while depth to groundwater is shallow and presumed to be located between 1.5 and 2.5 feet from November to April, with shallow depths also expected at other times of the year.



Figure 6.1-4 – Hydrologic Classification of Soil Units within Northeast Ramapo , Opportunity Area C (Source: USDA WSS)

In addition to these soil types, the northeastern portion of the district is comprised of Holyoke – Rock outcrop complex soils (HoF, HoD) which covers approximately 8 acres. These soils are of HSG Type D and have a very slow rate of water transmission. Depth to bedrock is between 10 to 20” in this area, while depth to groundwater is deep and presumed to be greater than 6 feet from November to April.

The majority of the Opportunity Area has slopes between 3 and 8%, with steeper slopes as part of the PIP alignment. Slopes not associated with the PIP increase to the north and northwest and are primarily associated with South Mountain, with isolated areas of slopes in excess of 25% as shown in Figure 6.1-5 below.

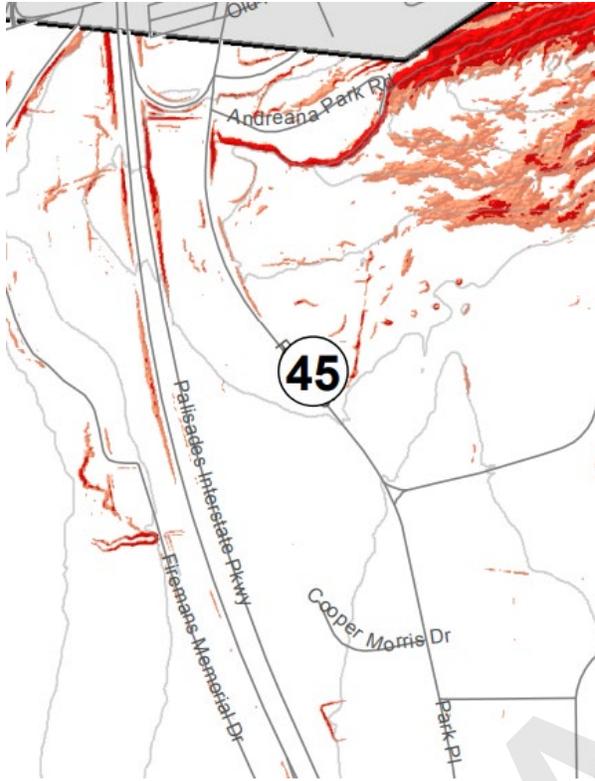


Figure 6.1-5 - Excerpt from Map 4 Northeast Ramapo – Slope and Terrain Map within Appendix A, showing steep slopes within Opportunity Area C

The erosion hazard on slopes of 3 and 8% is slight, while the runoff potential is considered moderate. Areas with slopes ranging from 8 and 15% have a moderate potential for erosion and runoff while areas with slopes exceed 15% have severe erosion potential as well as potential for rapid runoff.

The majority of development potential along State Route 45 is located north of Cooper Morris Drive along the west side of State Route 45 and north of Orchards at Concklin on the east side of State Route 45. Slopes in this area are minimal although shallow groundwater should be expected.

#### *Opportunity Area D*

Within Opportunity Area D, a private mixed-use development referred to as Millers Pond is proposed, although no land use application has been submitted. The following analysis is based on the USDA Soil Survey/WSS as is used above, as well as limited supplemental evaluations provided as part of the proposed Millers Pond development project.

The location overlain by Opportunity Area D has a history of prior disturbance dating to the 1880s. One major past use includes the Happy Valley School. More recently, the site was a golf course. Construction of the course involved significant, widespread earthwork and fill operations. The course extended across the SBMC's west bank where there is a generally landlocked and isolated upland which hosted part of a golf hole. On the opposite side, there is also a former railroad right-of-way east of the golf course.

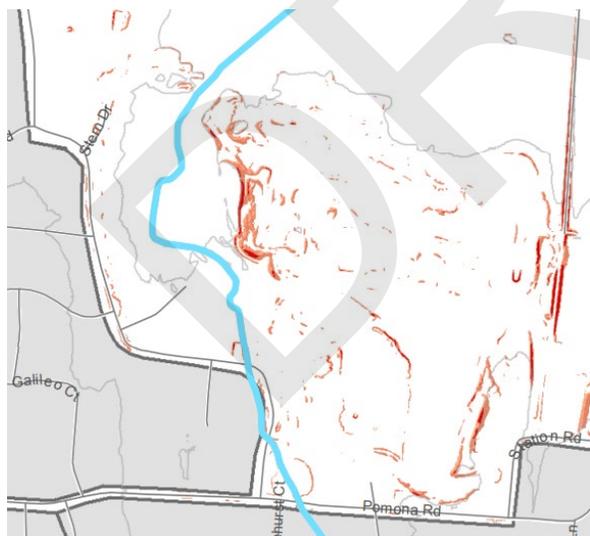
A geotechnical investigation<sup>4</sup> conducted for the site included the results of subsurface explorations included 12 test borings extending to depths of 11 to 27 feet below the ground surface. Fill from golf course construction was encountered in borings to the north and east of the central wetlands, while shallow weathered rock and bedrock was encountered in borings in the southern half of the site<sup>5</sup>.

Based on geotechnical analysis, surface cover material generally consisted of 3 to 6 inches of rootmat and topsoil. Fill material was encountered in 9 of 12 test borings to depths of about 2 to 6 feet north and east of the central wetland. Typically, a natural sand stratum, consisting of tan-brown to red-brown, fine to coarse grained sand, containing up to 50% gravel, was encountered in the test borings to depths of approximately 8 to 27 feet<sup>5</sup>.

Weathered rock was generally encountered in borings in the southern portion of the site and ranged between 2 feet to 25 feet below the ground surface. Rock was encountered below the weathered rock at depths ranging from 15 to 20 feet below the ground surface<sup>5</sup>.

Depths of groundwater varied from about 15.3 feet to 17 feet. According to the geotechnical investigation, due to the geologic conditions of the project site, it is assumed that groundwater is likely to be present along the soil-to-rock interface. It is understood that changes in groundwater will occur naturally due to seasonal variations, precipitation, surface runoff and other factors<sup>5</sup>.

The site's topography is predominately gentle and rolling though there are isolated areas of slopes in excess of 15% throughout the site along with areas exceeding 25%. The majority of the steeply sloped areas on the site were established when the golf course was graded and include the edges of tees and greens. One primary concentration of slopes over 25% is found along the northwestern border of the site where grades extend down towards a pond, wetlands and the SBMC. Additional concentrations of slopes in excess of 25% are located along the eastern and southeastern site borders as shown in Figure 6.1-6 below.



*Figure 6.1-6 - Excerpt from Map 4 Northeast Ramapo – Slope and Terrain Map within Appendix A, showing steep slopes within Opportunity Area D*

<sup>4</sup> GZA GeoEnvironmental of New York. Preliminary Geotechnical Engineering Report – Mount Ivy Estates. July 17, 2017.

<sup>5</sup> GZA GeoEnvironmental of New York. Preliminary Geotechnical Engineering Report – Mount Ivy Estates. July 17, 2017.

The Millers Pond project sponsors are currently evaluating the site's existing conditions and the potential for environmental impacts. The Town received a concept design plan from the agents for Millers Pond. It provides existing context, including wetland area limits and identifies surface features like existing walls and golf course greens, as well as a base map which illustrates the layout of existing buildings, parking and circulation areas, adjacent streets and rights of way.

Adjacent to Opportunity Area D is the 2.8 acre 'American Legion' property, west of the Golf Course and immediately west of the entrance into Mt. Ivy Park along the former rail right of way/ berm. Here soils are predominantly WeB along with some classified as Ux. The grades on this site are generally level and there is likely a high-water table, at least on a seasonal basis.

### *Opportunity Area E*

Opportunity Area E covers approximately 43 acres along the PIP, north of New Hempstead Road. Elevations slope down towards Buena Vista Road, away from higher elevations by Peach Tree Road and the PIP's northern edge. With the exception of existing buildings congregated by New Hempstead Road and an overhead transmission line at the northwest corner, the rest of Opportunity Area E is vacant.

Depth to bedrock in the majority of Opportunity Area E appears greater than 60 inches, while groundwater may be found as shallow as 1.5 to 2.5 feet from November to April. Shallow depths to groundwater may also exist at other times of year and may present development constraints that would need to be addressed during the design of any future development.

Based on soils data from USDA Soil Survey/SCS 1990, Opportunity Area E primarily consists of very deep and well drained gravelly silt loam Wethersfield Series soils (WeB, WeC and WeD) as shown in Figure 6.1-7 below. There is an unnamed stream along the eastern portion of Opportunity Area E which contains Alden silt loam (Ad), a deep and very poorly drained soil.

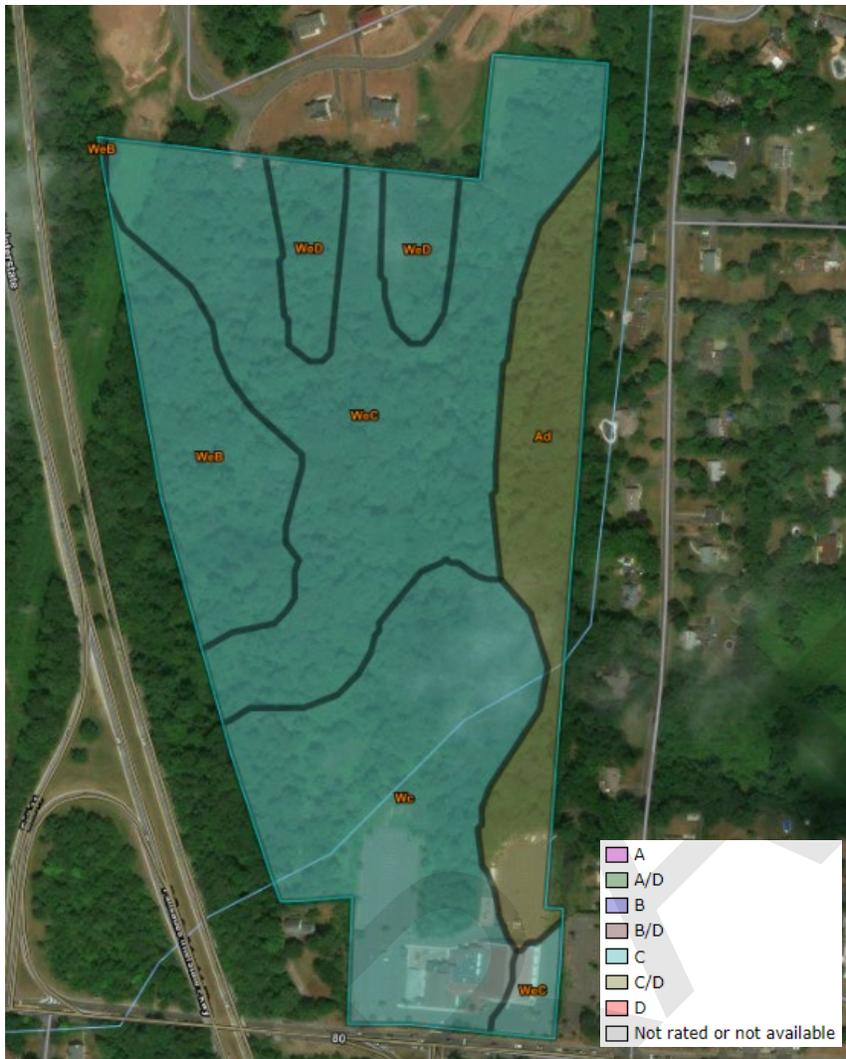
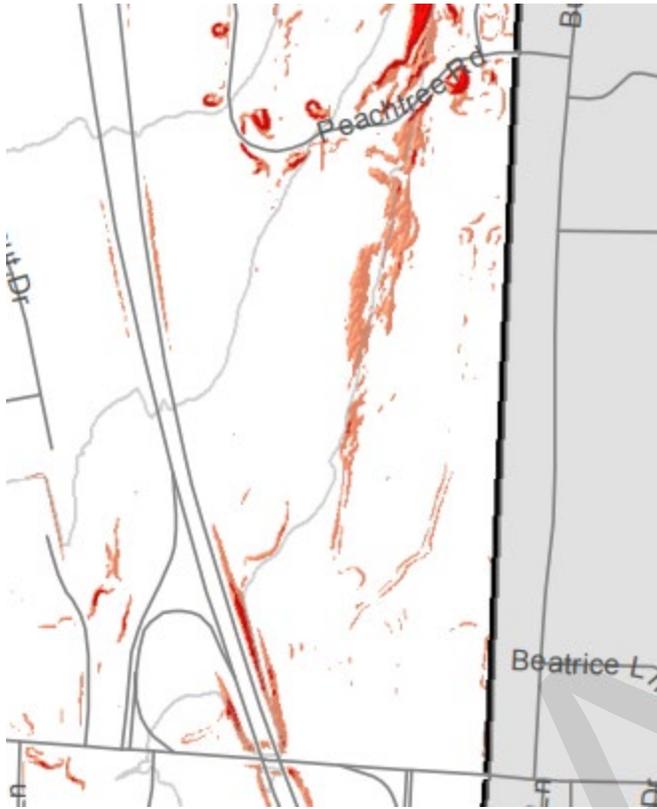


Figure 6.1-7 – Hydrologic Classification of Soil Units within Northeast Ramapo , Opportunity Area E (Source: USDA WSS)

Opportunity Area E slopes down in elevation from the northwest to southeast and is dominated by slopes ranging from approximately 3 to 15% as shown in Figure 6.1-8 below. Slopes exceeding 15% associated with a slightly elevated shelf running north-south are found in the middle of Opportunity Area E. The erosion hazard is slight on soils with slopes between 3 to 8% and moderate on those between 8 and 15%. On slopes in excess of 15%, the erosion hazard is listed at severe. Surface runoff potential on the shallower slopes is listed as medium, while it is listed as rapid on slopes in excess of 15%.



*Figure 6.1-8 - Excerpt from Map 4 Northeast Ramapo – Slope and Terrain Map within Appendix A, showing steep slopes within Opportunity Area E*

### **6.1.1.2 Potential Impacts**

Potential zoning changes evaluated for the Opportunity Areas within Northeast Ramapo are anticipated to result in future development and redevelopment. Potential impacts of development to the geology, soils and topography are discussed within this section. Since the precise location of future development is not known, these impacts are discussed generically for the Northeast corridor. Additionally, impacts related to specific proposed projects are also discussed.

#### General Potential Impacts for Geology, Soils and Topography

Future development and redevelopment within the Opportunity Areas may result in impacts to geology, soils and topography.

Localized soil and slope disturbance as a result of construction and may include clearing, excavation, and grading. It is anticipated that excavated soils will be either stored and reclaimed or disposed of according to New York State Department of Environmental Conservation (NYSDEC) regulations (NYSDEC, 2016a) and

as required by the Stormwater Pollution Prevention Plan (SWPPP) prepared for a future project. In addition, future projects must comply with the Town of Ramapo Stormwater Management Requirements<sup>6</sup>.

Localized areas of steep slopes are present within Northeast Ramapo, as discussed in **Section 6.1.1.1**. Development in proximity to these areas may result in impacts related to sedimentation and erosion.

Shallow depths to groundwater may be present within Northeast Ramapo. Future land use should anticipate groundwater and conduct geotechnical investigations to assess site specific conditions. If shallow depths to groundwater cannot be avoided, development will need to incorporate appropriate infrastructure and building design considerations. Additionally, the importation of clean fill may be required to raise surface elevations to provide more conducive development conditions.

Localized areas with shallow depths to bedrock are present within Northeast Ramapo. Any development or redevelopment within these areas may require rock removal or blasting during construction. These measures will need to be conducted in accordance with Town and State regulations.

Soils with potential for runoff and erosion are present within Northeast Ramapo. Geotechnical investigations may be necessary to determine if infill soils are needed to accommodate future construction. Future projects will need to implement preventative and mitigation measures for erosion control that will meet or exceed those specified in State and Local Stormwater Management regulation.

### Specific Potential Impacts for Geology, Soils and Topography

Potential impacts specific to projects proposed within Opportunity Areas A and D are discussed below.

#### *Potential Impacts - Opportunity Area A*

The project **proposed** within Opportunity Area A is anticipated to result in approximately **XXX acres** of soil disturbance. Localized soil and slope disturbance as a result of construction and may include clearing, excavation, and grading. It is anticipated that excavated soils will be either stored and reclaimed or disposed of according to New York State Department of Environmental Conservation (NYSDEC) regulations (NYSDEC, 2016a) and as required by the SWPPP, and in accordance with the Town of Ramapo Stormwater Management Requirements<sup>7</sup>.

According to the DEIS for the project, groundwater was found at depths ranging from one to ten feet across the site<sup>8</sup>.

The previous environmental reviews indicated soil erosion during construction would be related in part to the amount of disturbance to slopes greater than 20%, which make up less than one percent of the entire property that extends into Haverstraw. The DEIS states that the project would result in minimal impacts to slopes due to the flatness of the site and limited areas of slopes in excess of 20%.<sup>9</sup>

<sup>6</sup> [Town of Ramapo Code § 237](#)

<sup>7</sup> [Town of Ramapo Code § 237](#)

<sup>8</sup> [2006 Draft Environmental Impact Statement for Minisceongo Park, dated November 8, 2006 \(Source to be verified\)](#)

<sup>9</sup> [2009 Supplemental Environmental Impact Statement for Minisceongo Park \(Source to be verified\)](#)

### *Potential Impacts - Opportunity Area D*

The project proposed within Opportunity Area D is anticipated to result in approximately 94 acres of soil disturbance during construction<sup>10</sup>, however no land use application has been submitted. Localized soil and slope disturbance as a result of construction may include clearing, excavation, and grading. It is anticipated that excavated soils will be either stored and reclaimed or disposed of according to New York State Department of Environmental Conservation (NYSDEC) regulations (NYSDEC, 2016a) and as required by the SWPPP, and in accordance with the Town of Ramapo Stormwater Management Requirements<sup>11</sup>.

A geotechnical investigation was conducted at the project site. Recommendations from the investigation are identified based on geotechnical investigations and a generic spatial layout of construction activity. It is noted that a supplemental geotechnical engineering study should be performed at the site during the design phase, after final grading plans and structural loading estimates are completed. The supplemental study should include enough borings to determine the depth to bedrock and bearing strata for foundations<sup>12</sup>.

The report indicated the presence of weathered rock at depths of 2 feet or more at the project site. Rock removal/disturbance may be necessary during construction. However, selection of the final foundation system will depend upon the results of a supplemental geotechnical investigation, the configuration of the proposed structures, finished floor grades, and final site grades.

Depths of groundwater at the site varied from about 15.3 feet to 17 feet. According to the geotechnical investigation, due to the geologic conditions of the project site, it is assumed that groundwater is likely to be present along the soil-to-rock interface. Additional test pits or borings may be needed to confirm the feasibility to situate and utilize stormwater management practices, during construction, as well as in the post-construction stage.

### **6.1.1.3 Proposed Mitigation**

Mitigation measures are proposed to alleviate potential impacts from future development and redevelopment. Since the location and scale of future development is not known, these mitigation measures are discussed generically for the Northeast corridor. Additionally, impacts related to specific proposed projects are also discussed.

#### General Proposed Mitigation

The following mitigation measures and standards are proposed to address potential soil erosion and sedimentation impacts associated with future development and redevelopment in Northeast Ramapo:

**NYS Standards and Specifications for Erosion and Sediment Control:** All grading, erosion and sediment control practices, and waterway crossings shall meet design criteria set forth in the most recent version of the “New York Standards and Specifications for Erosion and Sediment Control”. For the design of post-construction structures, the technical standards detailed in the publication “New York State Stormwater

<sup>10</sup> Millers Pond Base Plan for Concept Design, March 9<sup>th</sup>, 2016

<sup>11</sup> [Town of Ramapo Code § 237](#)

<sup>12</sup> GZA GeoEnvironmental of New York. Preliminary Geotechnical Engineering Report – Mount Ivy Estates. July 17, 2017.

Management Design Manual” published by the New York State Department of Environmental Conservation (NYSDEC) must be followed.

**Clearing and grading** shall be substantially confined to the designated construction footprints. Clearing, except what is necessary to establish sediment control devices, will not begin until all sediment control devices have been installed. Clearing and grading techniques that retain natural vegetation and drainage patterns, as described in the most recent version of the NYS Standards and Specifications for Erosion and Sediment Control, will be used to the satisfaction of the Town.

**Silt fencing** shall be installed on all downslope edges and along the edges of all waterbodies including the SBMC and associated tributaries and wetlands. Immediate stabilization of newly graded slopes shall be required with straw mulch covering and/or staked mesh netting where necessary. Use of hydro-seeding and other methods for rapid establishment of landscaping are recommended.

**Soils and Slope Disturbance:** As future development will impact soils, there is the potential for adverse impacts related to erosion, especially in areas with steep slopes. Pursuant Section 5.1.4 of the NYS Stormwater Management Design Manual, redevelopment on slopes of 15% or greater should be avoided, if possible, to limit potential erosion, excess stormwater runoff and potential degradation of surface water. Excess grading should be avoided on slopes, as should flattening of hills and ridges. Where possible, steep slopes should be kept in an undisturbed natural condition to help stabilize hillsides and soils. The Design Manual further states that on slopes greater than 25%, no development, re-grading, or stripping of vegetation should be considered.

**Shallow Depth to Groundwater:** Based on soil types, shallow depths to groundwater may be present and as a result, fill may be required to provide sufficient separation for construction. Prior to any development in locations with this possible condition, geotechnical investigations are recommended to fully understand substrates, including depths to groundwater and suitability for construction. It is essential to have a clear understanding of the soils and groundwater characteristics as it is germane to the design of foundations as well as stormwater systems. If future projects require excavation into the subsoil, these excavations should be at shallower depths than the established groundwater elevations.

**Shallow Depth to Bedrock:** Any blasting required for rock removal must be conducted in accordance with applicable Town and State regulations including Town Code Chapter 104, “Blasting and Explosives”. Per Chapter 104, a permit is required for the use of explosives. The permit holder must notify the Fire Inspector, in writing, at least 48 hours in advance of blasting and must specify the location and intended time. All property owners within a radius of 750 feet from the blasting site must be notified by the permit holder at least 48 hours in advance as well. The permit holder shall also be responsible for placing signs at the intersections nearest to the blasting location and providing access to all properties within 600 feet of the blast site within 24 hours before blasting.

**Temporary Measures During Construction:** Several temporary structural practices are recommended during construction, as applicable, to mitigate any potential impacts and should follow the criteria set forth in the “New York State Standards and Specifications for Erosion and Sediment Control” Manual. Material stockpiles including topsoil that is stored temporarily should be contained and stabilized at the end of each workday. Excavated and embankment areas should be graded to facilitate drainage and to allow runoff to be intercepted by ditches with silt barriers or collected in settling basins to limit potential sedimentation. Sediment traps, inlet protection, swales, berms, and energy dissipaters shall be installed, as necessary, to

minimize soil and sediment from leaving the project site. Temporary mulching and seeding shall be conducted to limit and control the exposure of soil. Required measures shall be employed to prevent blowing of dust or sediment from the site. Stabilized construction entrances including wheel wash down areas and anti-tracking pads should be maintained throughout construction to minimize off-site migration of sediment off sites. The construction entrance should be stabilized with crushed stone to prevent soil and debris from being carried onto roads. Any track out from the site shall be cleaned and maintained daily.

Other Stabilization Measures shall be initiated as soon as practicable in portions of a project site where construction activities have temporarily or permanently ceased. In no case shall stabilization efforts exceed more than 14 days after such activity has temporarily or permanently ceased, unless otherwise exempted. If seeding or other vegetation erosion control method is used, it shall be established within 14 days or the project sponsor may be required to re-seed the site or use a non-vegetative option. Special techniques that meet the design criteria outlined in the most recent version of "Standards and Specifications for Erosion and Sediment Control" shall be used to ensure stabilization on steep slopes or in drainage ways. Techniques that divert upland runoff past disturbed slopes shall be employed.

Maintenance of erosion control measures is recommended to include the removal of accumulated sediment and trash from all control structures and basins, with repair or replacement of damaged swales, diversions, silt fencing, hay bales, and reseeded where necessary. Phasing shall be required on all sites disturbing greater than five acres unless a 5-acre waiver is sought from NYSDEC.

**Compliance with Stormwater Regulations:** Projects that involve ground disturbance over one acre will need to comply with requirements established by the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity – GP-0-20-001, as may be amended, and prepare a SWPPP. Stabilization of any project site shall also comply with conditions or requirements of the Town, County and State.

### Specific Proposed Mitigation

The following mitigation measures and standards are proposed to address potential soil erosion and sedimentation impacts associated with projects proposed within Opportunity Areas A and D.

#### *Proposed Mitigation - Opportunity Area A*

For the project proposed for Opportunity Area A, mitigation measures shall include those described in the General Mitigation section above, as well as mitigation measures described below.

For a project proposed within Opportunity Area A, the following project-specific best management practices (BMPs) are proposed as part of the erosion control plan<sup>13</sup>:

- Divert clean runoff - from off-site or stabilized areas will be accomplished through surface swales and erosion control barriers in order to keep clean water clean.
- Time grading and construction to minimize soil exposure:

<sup>13</sup> 2009 Supplemental Environmental Impact Statement for Minisceongo Park (Source to be verified)

- To the extent practical, development will be phased to limit the area of disturbed soil at any particular time.
- One phase of construction, for example, will be temporarily stabilized prior to commencing with the subsequent phase so that the preceding phase is substantially complete prior to beginning the next one.
- Retain existing vegetation wherever feasible:
  - Silt fencing will be used to physically define the limits of work.
  - Wooded and wetland areas not to be developed (regraded), will be retained in the existing condition until the developed areas are completed and stabilized.
  - Substantial buffers of existing vegetation also will be provided along the perimeter of the site and near existing wetland areas.
- Stabilize disturbed areas as soon as possible:
  - In areas where work will not occur for periods longer than 15 days, soil will be stabilized by seeding or mulching.
  - Following completion of grading, level areas will be immediately seeded/ mulched.
  - Sloped areas, such as fill slopes may be seeded or stabilized depending upon weather conditions at the time of carrying out work.
- Minimize the length and steepness of slopes:
  - The steepness and length of slopes will be designed to minimize runoff velocities and to control concentrated flow.
  - Where concentrated (swale) flow from exposed surfaces is expected to be greater than 3 feet per second, haybale or stone check dams will be installed in the swale.
  - Check dams will be placed so unchecked flow lengths will not exceed 100 feet.
- Maintain low runoff velocities:
  - To protect disturbed areas from stormwater runoff, haybale diversion berms and/or soil diversion berms and channels will be installed wherever runoff is likely to traverse soils.
  - Rough grading for the temporary and permanent swales and ponds will take place.
  - The swales will direct runoff so that it can be checked or impounded.
- Trap sediment onsite and prior to reaching critical areas such as wetlands:
  - Silt fences, hay bale check dams, filter strips, ponds, sediment traps (in areas where no ponds are proposed) and catch basin filters will be used to impound sediment-carrying runoff and/or to filter the runoff as it flows through an area.
  - Silt fencing, augmented by haybale barriers installed upgradient of silt fencing will be used wherever land disturbance occurs within 100 feet of onsite NYSDEC wetlands.
  - A stabilized construction entrance will be installed at a single construction entrance to prevent construction vehicles from tracking soil onto public roads.
  - All temporary erosion control devices installed prior to commencing construction.
  - Permanent stormwater management systems installed in conjunction with construction.
- Establish a thorough maintenance and repair program - erosion control measures will be inspected frequently, particularly prior to and following storms, and repaired as needed to ensure they function properly.
- The responsibility for monitoring and maintenance of any Erosion Control Plan and attendant practices shall be assigned and detailed in the project specifications and construction drawings.

### *Proposed Mitigation - Opportunity Area D*

For the project proposed for Opportunity Area D, mitigation measures shall include those described in the General Mitigation section above, as well as mitigation measures described below.

For a project proposed within Opportunity Area D, the following project-specific best management practices (BMPs) are proposed:

- A supplemental geotechnical engineering study should be performed at the site during the design phase, after final grading plans and structural loading estimates are completed. The study should include enough borings to determine the depth to bedrock and bearing stratum for foundations<sup>14</sup>.
- Shallow spread foundations are recommended to support proposed buildings. Ground improvement techniques may be required in areas where new structures will be supported on existing fill soils.
- Waterproofing of all below grade foundation and cellar walls and floor slabs to reduce potential for water infiltration is recommended.
- Cuts and fills should be balanced, to minimize the disposal of excess soil off-site. This should be done in accordance with applicable local, State, and Federal regulations. If rock excavation is required, suitable rock excavation techniques include mechanical excavation with hydraulic hammer/ breakers, drilling and chemical splitting, and/or controlled blasting.
- Should any blasting be required, it must be conducted in accordance with applicable regulations including Town Code Chapter 104, "Blasting and Explosives".
- Comply with Town Code Chapter 237 and State Standards including the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity – GP-0-20-020. For projects seeking to disturb more than 5 acres of soil at one time, sponsors are required to obtain prior written authorization from the regulating MS4, which is the Town, for such waiver. It is encouraged for the owner to submit as early as possible a construction phasing plan showing a sequence of activity, as well as the proposed construction-stage management practices.
- Work should occur, as possible, on the southern perimeter of the site during months when leaves are on trees. This can help provide for attenuation of sounds that inevitably will emanate from construction, presuming the largest existing population is south of here.

## 6.1.2 Water Resources

This section details existing conditions for water resources in and by Northeast Ramapo, including surface waters, floodplains, and wetlands, along with their associated regulatory management and protection requirements. Using a watershed-based discussion provides for analysis of plans and identification of resource protection strategies which are based on area- and site-level conditions and context. That generic discussion relies on descriptions of the patterns and features within these watersheds consisting of

<sup>14</sup> GZA GeoEnvironmental of New York. Preliminary Geotechnical Engineering Report – Mount Ivy Estates. July 17, 2017.

wetlands and streams, land use, infrastructure like of stormwater systems, and the groundwater environment. Additionally, it is supplemented by consideration of features like the patterns of vegetation, soils and topography.

A broader existing conditions summary is followed by an evaluation of the potential for impacts on water resources related to the adoption of the Northeast Ramapo zoning amendments. This includes analysis of each Opportunity Area identified in the proposed code. It also considers possible future site-specific developments within Opportunity Areas A and D.

### **6.1.2.1 Northeast Ramapo Existing Conditions**

As depicted in **Appendix A, Comprehensive Plan Update Town-wide Existing Conditions Report, Map 5 Watersheds Map**, the Town is located within two primary watersheds, the Lower Hudson and the Hackensack-Passaic. These primary watersheds include five (5) sub-watersheds, with the Peekskill Hollow Creek (PHC Watershed) the only corresponding sub-watershed within the Lower Hudson Watershed in Northeast Ramapo. The remaining four sub-watersheds are located within the primary Hackensack-Passaic Watershed: Ramapo River; Saddle River; Hackensack River; and the Wanaque River sub-watersheds. The PHC Watershed and the Hackensack River-Hackensack-Passaic Watershed (HRHP Watershed) cover Northeast Ramapo. Refer to **Appendix A, Comprehensive Plan Update Town-wide Existing Conditions Report, Map 6 Hydrological Constraints Map** for graphic depictions that match the following existing conditions review.

#### Peekskill Hollow Creek-Hudson River Watershed (PHC Watershed)

The PHC Watershed occupies the western half of Northeast Ramapo and also overlays the Villages of New Hempstead, Pomona and Wesley Hills. The watershed covers approximately 4.6 square miles within the Town. Within the PHC Watershed are portions of Opportunity Areas A, B, and D as well as the western majority of Opportunity Area C.

#### *Surface Waterbodies within the PHC Watershed*

The primary surface water resource within the PHC Watershed and Northeast Ramapo is the perennially flowing and non-navigable South Branch Minisceongo Creek (SBMC) and associated non-navigable minor tributaries. The SBMC originates in the Village of New Hempstead to the south and is a NYS Class C Waterbody. The primary use of Class C waters is fishing as these waters are suitable for fish, shellfish and

wildlife propagation and survival. The water quality of NYS Class C waters is also suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.<sup>15</sup>

NYS Class C waterbodies, unless navigable, are generally not subject to NYSDEC jurisdiction. The SBMC is therefore, not subject to NYSDEC jurisdiction. However, there are wetlands associated with the SBMC which are subject to NYSDEC jurisdiction and discussed below under “Wetlands within the PHC Watershed.”

Upon entering the Town of Ramapo, the SBMC flows to the north. It crosses under Pomona Road, which forms a border between Northeast Ramapo and the Village of New Hempstead, where it flows into Opportunity Area D. From there it flows northerly into the Mt. Ivy Wetlands and Samuel G. Fisher Mount Ivy Environmental Park where it then reaches Opportunity Area A and B. The Creek continues north into the Town of Haverstraw and heads east where it becomes Minisceongo Creek before emptying into the Hudson River. Figure 6.1.2.1 depicts the SBMC. The SBMC becomes a Rockland County Regulated Stream (pursuant to Rockland County Code Chapter 846, “Stream Control Act-Rockland County.”) once it enters the Mount Ivy Swamp wetland. Figure 6.1.2.2, depicts the regulated segment of the SBMC.

Two unnamed tributaries associated with the SBMC are non-navigable NYS Class C Waterbodies and not subject to NYSDEC jurisdiction. As shown on Figure 6.1.2.2, one stream originates in the northwest from the Village of Pomona. This stream flows northeast, crossing under Camp Hill Road, approximately 800 ft. south of the intersection of Camp Hill Road and US Route 202. The stream continues in a northeasterly direction toward Opportunity Area B just west of Pacesetter Park Shopping Center. This stream segment then flows under US Route 202 and eventually merges with the SBMC at Opportunity Area A, near the border of Town of Haverstraw.

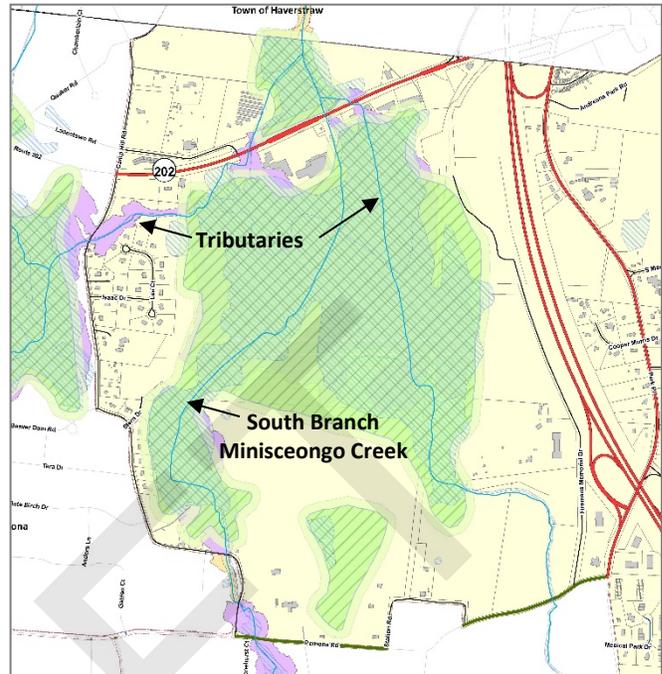


Figure 6.1.2.1 Excerpt from Map 6 Hydrological Constraints Map within Appendix A

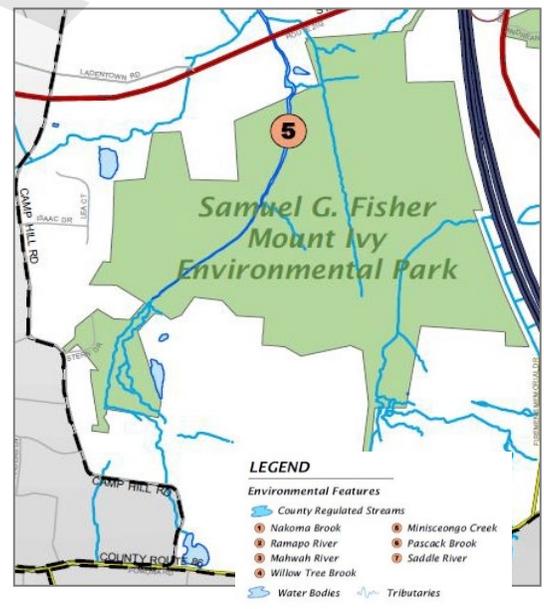


Figure 6.1.2.2 South Branch Minisceongo Creek – County Regulated Stream  
Source: Rockland Co. Department of Planning, GIS. Sept. 2008

<sup>15</sup> NYSDEC Water Quality Standards and Classifications. <https://www.dec.ny.gov/chemical/23853.html>

The second tributary of SBMC originates in the Village of New Hempstead just south of the Palisades Credit Union Park. It flows north through the large wetland complex in and around Samuel G. Fisher Mount Ivy Environmental Park. This tributary also discharges into the SBMC on the northern side of US Route 202 within Opportunity Area B.

Within Opportunity Area D, there are six streams, with four distinct stream reaches, along with the SBMC which are under the jurisdiction of the US Army Corps of Engineers (USACOE). The streams are identified on a NYSDEC Wetland Delineation map prepared for a proposed project and include streams 2, 3, 4, 5 and 6<sup>16</sup>. USACOE jurisdiction on the property was confirmed in a letter dated September 20, 2018, from the US Army Corps of Engineers (USACOE) to Peter Torgersen, a consultant for the Millers Pond project.<sup>17</sup>

There are no lakes in the PHC Watershed, but there are several ponds. The largest pond, at 6.3 acres, is located outside of Northeast Ramapo in New Hempstead. There are additional ponds associated with the SBMC as it flows north before coming into the FMGC, but these are also outside of Northeast Ramapo.

Within Opportunity Area D, there are three ponds. The largest, at 0.9 acres, was created when a 17 foot, concrete gravity dam was installed on the SBMC. According to the NYSDEC, this dam is referred to as the "Minisceongo Golf Course Dam," with State ID: 196-5197. The dam is not rated and has a Hazard Description of "Low Hazard Dam." The Hazard Description denotes the downstream hazard potential of a dam failure.<sup>18</sup> A second pond, covering 0.8 acres, is located along the northwestern border of the site, adjacent to NYSDEC Wetland TH-16. A third, 5,000 square foot pond, which is not regulated, is on the northwest side of the property, but east of the SBMC. Refer to the Millers Pond Wetland Map for additional pond location information<sup>16</sup>.

Outside of Opportunity Area D, there are several ponds including a one-acre pond located northeast of Lee Court, south of Opportunity Area B. Another pond within the PHC Watershed, less than half an acre in size, is located within Eugene Levy Memorial Park along State Route 45. No surface waterbodies are present within Opportunity Area C.

#### *Wetlands within the PHC Watershed*

The largest NYSDEC jurisdictional wetland in both the Northeast Corridor and the PHC Watershed is a 270-acre, Class 1 wetland, referred to as Wetland TH-16. This wetland, which overlies Samuel G. Fisher Mount Ivy Environmental Park, is often referred to as the Mount Ivy Swamp. Wetland TH-16, is subject to both NYSDEC and USACOE jurisdiction, and is found within the southern edge of Opportunity Area B. The wetland has been identified and delineated on the Millers Pond Wetland Map. The SBMC runs through this wetland and connects to wetland TH-13 on the north side of US Route 202.

NYSDEC Wetland TH-13 (a Class 2 Wetland), is present within Opportunity Area B and abuts the north side of US Route 202 within Opportunity Area A. This wetland was delineated in June 2005 during the review of a proposed project known as Minisceongo Park located at 1618 US Route 202. The delineation was conducted per both USACOE and NYSDEC guidelines. For the Opportunity Area A and extending to lands in the Town of Haverstraw, the delineation identified 13.4 acres of wetlands, including NYSDEC and

<sup>16</sup> Millers Pond Wetland Delineation Map, Atzl, Nasher & Zigler, P.C. (AN&Z), September 4, 2018 – See Appendix M

<sup>17</sup> Rosita Miranda, Chief, Western Sect., Dept. of Army, NY District, Corps of Engineers, letter to Peter Torgersen, Sept. 20, 2018. – See Appendix M

<sup>18</sup> NYSDEC DECinfo Locator Map. <https://gisservices.dec.ny.gov/gis/dil/> Accessed July 7, 16, 2020.

USACOE jurisdictional wetlands. The portions of Wetland TH-13 is identified as Wetland A in the 2005 delineation and is the only wetland with permanent surface water in this area.<sup>19, 20</sup>

**Appendix A, Comprehensive Plan Update Town-wide Existing Conditions Report, Map 6 Hydrological Constraints Map** depicts NYSDEC Wetland TH-13 on both the eastern and western side of the SBMC for the extent of Opportunity Area A. However, the 2005 delineation demonstrated that, with the exception of a triangle-shaped area between the SBMC and the eastern tributary along US Route 202, Wetland TH-13 is located exclusively on the western side of the SBMC. However, the wetland is present on both sides of the SBMC within the Town of Haverstraw.

During delineation efforts, it was determined that areas of wetlands within the proposed project site were less frequent than the NWI mapping indicates and as depicted in Hydrological Constraints Map. NWI mapped wetlands were identified as Wetlands B and C in the 2005 delineation and are located along the northern boundary of the property. Prior to any future development within Opportunity Area A development site, the wetland boundaries may need to be re-delineated and surveyed.

Two Freshwater Forested/Shrub Wetlands are present within the Herb Reisman Sports Complex north of the intersection of Park Avenue and State Route 45. This area is outside of the proposed Opportunity Areas.

A NYSDEC jurisdictional wetland located within Opportunity Area D is a 20-acre, Class 2 wetland with a reference ID of TH-31. This forested/shrub wetland is located in the southcentral portion of the site and identified as Wetland "E" on the Millers Pond Wetland Map. Within this NRDP/DGEIS it is also termed the central wetland at the Millers Pond site.

An additional wetland, labeled as Wetland "A" on the Millers Pond Wetland Delineation Map is located along the eastern side of Opportunity Area D. The wetland is approximately 0.1 acres in size subject to USACOE jurisdiction only.

No wetlands are present within Opportunity Area C.

#### *Floodplains within the PHC Watershed*

Floodplains provide a significant amounts of flood resilience and their continued protection is imperative. Specifically, floodplains accommodate temporary storage of flood water, reducing flood peaks and erosion potential. They also reduce sediment loads, filter nutrients and impurities and help moderate water temperature. Floodplains are present throughout Northeast Ramapo with some located within proposed Opportunity Areas.

Locations of 100-year floodplains are depicted **Appendix A, Comprehensive Plan Update Town-wide Existing Conditions Report, Map 6 Hydrological Constraints Map** as Flood Zones A and AE. These Special Flood Hazard Areas (SFHAs) are generally coterminous with the NYSDEC jurisdictional wetlands and stream (riparian) corridors. Locations indicated as Flood Zone A are areas base flood elevation depths are not shown, while AE refers to areas where base flood elevations are available.

In the southern portion of the PHC Watershed, the 100-year floodplain is associated with the SBMC and begins in New Hempstead just south of Northeast Ramapo. The 100-year floodplain associated with the

<sup>19</sup> Tim Miller Associates, Inc., "Minisceongo Park Supplemental EIS." Feb. 6, 2009. Sect. 3.3 Ecology & Wetlands.

<sup>20</sup> Tim Miller Associates, Inc., "Minisceongo Park Draft EIS." Nov. 8, 2006. Sect. 3.3 Ecology & Wetlands.

SBMC continues north into Opportunity Area D where it generally aligns with NYSDEC Wetland TH-16, the Mount Ivy Swamp.

A 100-year floodplain is also associated with Wetland TH-15, the Class 2, 77-acre wetland on the west side of Camp Hill Road. This floodplain is also associated with a tributary of the SBMC that flows east and into the Wetland TH-16, before flowing north and under US Route 202 where it joins the SBMC within Opportunity Area D.

The 100-year floodplain is present within Opportunity Area B. Beginning on the southern side of US Route 202, the floodplain surrounds the Pacesetter Park Shopping Center to the west, south and east. Heading east, the 100-year floodplain surrounds the gas station at 1618 US Route 202 and the western and southern portions of the Ramapo Plaza shopping center. To the west of the Pacesetter Park Shopping Plaza, the animal hospital and kennels located at 1545 US Route 202 along with the adjacent radio station appear to be located within the 100-Year floodplain. The floodplain, on the southern side of US Route 202, primarily follows the boundaries of NYSDEC Wetland TH-16.

On the northern side of US Route 202, within Opportunity Area B, the 100-year floodplain extends east along and parallel to US Route 202 for approximately 1,600 ft. beginning at the entrance to Ladentown Road. This section of the floodplain is associated with the two SBMC tributaries that cross under US Route 202. The remainder of the 100-year floodplain on the northern side of US Route 202 continues to follow the SBMC tributaries and the approximate boundaries of NYSDEC Wetland TH-13 that continues into Haverstraw.

No floodplains are present within Opportunity Area C.

### [Hackensack River-Hackensack-Passaic Watershed \(HRHP Watershed\)](#)

The HRHP Watershed covers the southern and northeastern sections of Northeast Ramapo outside the PHC Watershed including Opportunity area E, as well as a small portion of Opportunity Area C.

#### *Surface Waterbodies within the HRHP Watershed*

Beginning in the northern section of the HRHP watershed within the Orchards of Concklin, there is a 1.0-acre pond as well as a 0.2-acre pond. Both ponds and their associated streams are outside of the proposed Opportunity Areas. According to NYSDEC's ERM, there is an unnamed Class C Stream that flows southeast from an area near the ponds. It discharges into a Class C(T) Stream which is part of the West Branch of the Upper Hackensack River System that flows northeast into the Town of Clarkstown and eventually into Lake Lucille.

A second unnamed stream within the HRHP Watershed originates near Gessner Terrace and the PIP. However, it is also outside of the proposed Opportunity Areas. This stream has a C(T) Classification, indicating that it may support a Trout (T) population, which therefore makes it subject to NYSDEC jurisdiction. This stream flows northeast across Concklin Road and eventually into Lake Lucille in Clarkstown.

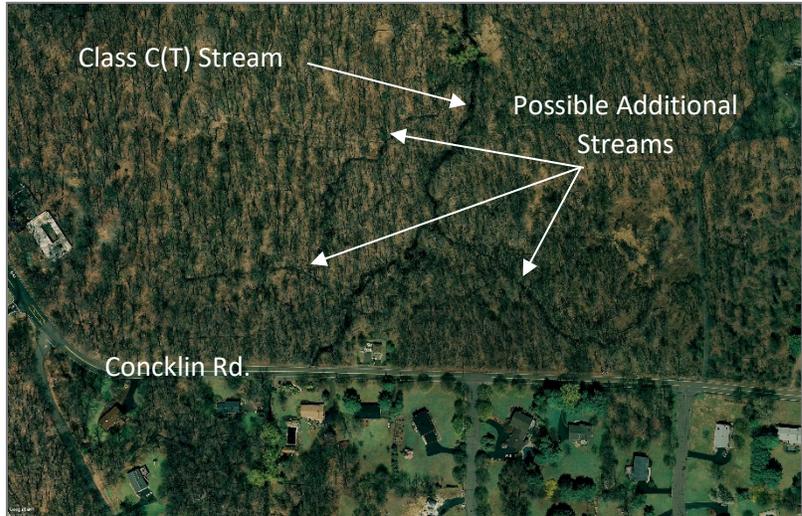


Figure 6.1.2.3 Additional Potential Streams

Source: Google Earth, April 2007 Data

The stream flows into a roughly 0.1-acre pond within parcel 33.15-1-10,

which is subject to NYSDEC jurisdiction. Continuing north, the stream flows through a second pond, 0.5-acres in size, just north of Dogwood Lane. An unnamed Class C Stream originating on the Orchards at Concklin discharges into this Class C(T) Stream, north of Dogwood Ln.

Based on a review of aerial photography provided by Google Earth dated April 2007, additional small, unclassified tributaries of the Class C(T) Stream may also be present North of Concklin Road, outside of the proposed Opportunity Areas. Refer to Figure 6.1.2.3, for the locations of these potential streams.

A third unnamed stream within the HRHP watershed originates at an approximate 0.3-acre pond near Conway Court. This Class C stream flows southeast, crossing under the PIP and heading northeast along the eastern side of Opportunity Area E and eventually into the Town of Clarkstown.

### *Wetlands within the HRHP Watershed*

Just northeast of the intersection of State Route 45 and South Mountain Road is a NWI secondary source mapped, forested/shrub wetland approximately 2.2-acres in size. This wetland is located on the northwestern border of the Orchards at Concklin, adjacent to Opportunity Area C. While NYSDEC does not have jurisdiction over this wetland, USACOE jurisdiction is unknown.

Within the Orchards of Concklin property, outside of the proposed Opportunity areas, there is a 1.0-acre NWI mapped forested/shrub wetland that runs through the center of the property and which is associated with the Class C(T) Stream. This wetland does not appear to be under NYSDEC Jurisdiction and USACOE jurisdiction is unknown. Due to the presence of the Class C(T) Stream within the bounds of the wetland, any development within this area should coordinate with NYSDEC to confirm jurisdictional status.

An 8.6-acre forested/shrub, NWI mapped wetland is located within Opportunity Area E and is associated with a Class C stream. The wetland is located along the eastern border of the property and does not appear to be under NYSDEC Jurisdiction. USACOE jurisdiction is unknown.

### *Floodplains within the HRHP Watershed*

The only 100-year floodzone in the portion of the HRHP Watershed that overlies Northeast Ramapo originates between Gessner Terrace and the PIP. It is associated with the unnamed Class C(T) Stream that flows north into Clarkstown before connecting with Lake Lucile. This floodzone is located outside of the proposed Opportunity areas.

### *Aquifers*

Within the Town, there are three sole source aquifers: Highlands Aquifer, Ramapo River Aquifer and the Ridgewood Area Aquifer. All three are located predominantly outside of Northeast Ramapo, however Primary and Principal Aquifers are present within Northeast Ramapo. Locations of Principal, Primary and Sole Source Aquifers are depicted in **Appendix A, Comprehensive Plan Update Town-wide Existing Conditions Report, Map 7 Aquifers Map**. A detailed description of each can be found within **Appendix A, Comprehensive Plan Update Town-wide Existing Conditions Report**.

A primary aquifer is present in the north western area of the corridor along the boundary of the Village of Pomona. The primary aquifer covers approximately 28 acres within the study area from south of Isaac Drive north to Ladentown Road.

A principal aquifer with a yield of 10-100 gallons per minute is present on State Route 45, adjacent to the border with the Town of Haverstraw and in proximity to Mount Ivy Trailer Park Avenue. The principal aquifer covers approximately 4 acres within the study area.

Local protection of groundwater and well fields was established through Town Code Ch. 96, 'Aquifer & Well Field Protection Zone Law'. An official Aquifer & Wellhead Protection Zone Map, from May 2004, by FP Clark Associates, identifies the Aquifer and Well Field Protection Zones (96-4). Figure 6.1.2.4 is an excerpt covering Northeast Ramapo which shows the location of public wells, including SUEZ wells (blue dots) and community wells (stars). Portions of Opportunity Areas C and D are located within an Aquifer and Well Head Protection Zone.

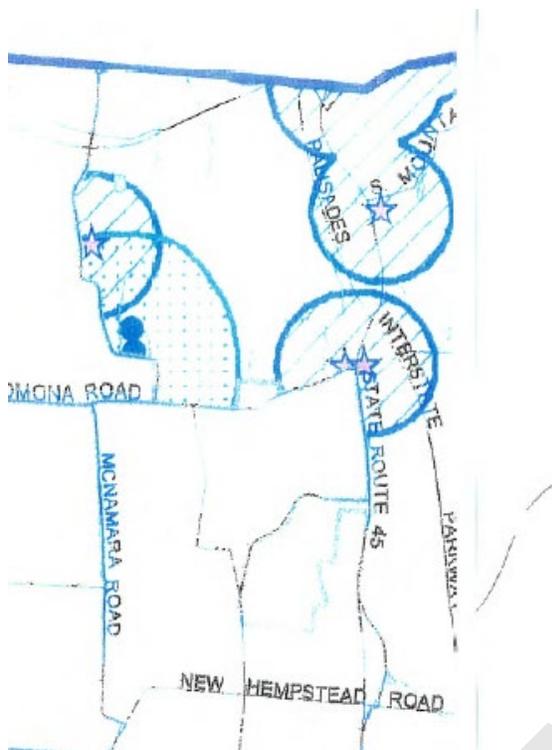


Figure 6.1.2.4 - Excerpt of Aquifer & Well Head Protection Zone Map Displaying Northeast Ramapo

Aquifers are examined further within **Section 6.5.2 Water Utility/Drinking Water**.

### Water Quality & Impaired/TMDL Waterbodies

The Federal Clean Water Act requires states to periodically assess and report on the quality of its waters. Section 303(d) of the Act also requires states to identify 'Impaired Waters', where specific designated uses are not fully supported, and for which the State must consider the development of a Total Maximum Daily Load (TMDL), or other restoration strategy, to reduce the input of the specifically identified pollutant(s) that are considered to be impacting each particular waterbody and that restrict waterbody uses, in order to restore water quality and protect such uses. Such waterbodies are included on the Section 303(d) List. According to the Final 2018 NYS Section 303(d) List<sup>21</sup>, the Upper West Branch of the Hackensack River and tributaries (1501-0009) are listed as impaired waterbodies. A class C(T) stream associated with this waterbody is located east of the PIP and north of Conklin Road, outside of the Opportunity Areas.

### Impervious Coverage

In Northeast Ramapo, the pattern of land use and the area of impervious surfaces associated with buildings, roads, and infrastructure are influenced by and relate to natural conditions, including topography, surface waters, and the characteristics and layouts of other environmental resources. Rockland County GIS Planimetric Data, sourced to 2007, depicts a spatial pattern of features including buildings, paved roads, driveways, parking lots, and sidewalks. The respective footprints of each of these

<sup>21</sup> [https://www.dec.ny.gov/docs/water\\_pdf/section303d2018.pdf](https://www.dec.ny.gov/docs/water_pdf/section303d2018.pdf).

features identifies places which are likely existing impervious surfaces. It can be a basic tool used to understand characteristics and qualities land cover.

Understanding levels and trends around imperviousness is important to understanding how rainfall may intersect with land surfaces. Depending upon the structure and extent of impervious surfaces, the rate of impervious coverage may influence recharge of water tables as well as patterns of surface water flows and water quality. According to the 2007 Rockland County Planimetric data, there is an estimated 227 acres of impervious surfaces in Northeast Ramapo which accounts for approximately 10% of the overall area. Additional development has occurred since 2007. Building coverage within Northeast is shown in **Appendix A, Comprehensive Plan Update Town-wide Existing Conditions Report, Map 1 Northeast Ramapo**.

Within Opportunity Areas A and B, near US Route 202, existing impervious surfaces are primarily associated with roadways and non-residential uses as can be seen in Figure 6.1.2.5. The largest areas of impervious coverage occur within the Pacesetter Park shopping center, Ramapo Mini Storage and the Mt Ivy Shopping Center.



*Figure 6.1.2.5– Impervious Coverage within Opportunity Areas A and B (Source: Rockland County GIS Mapper Planimetric Data)*

Within Opportunity Area C, along State Route 45, impervious coverage is associated with a mix of roadways, residential and non-residential uses including the Orchards of Conklin as shown in Figure 6.1.2.6.



Figure 6.1.2.6 – Impervious Coverage within Opportunity Areas C (Source: Rockland County GIS Mapper Planimetric Data)

Within Opportunity Area D, impervious coverage is localized to the southern part of the parcel and is associated with the clubhouse and parking area of the former Golf Club depicted below in Figure 6.1.2.7.

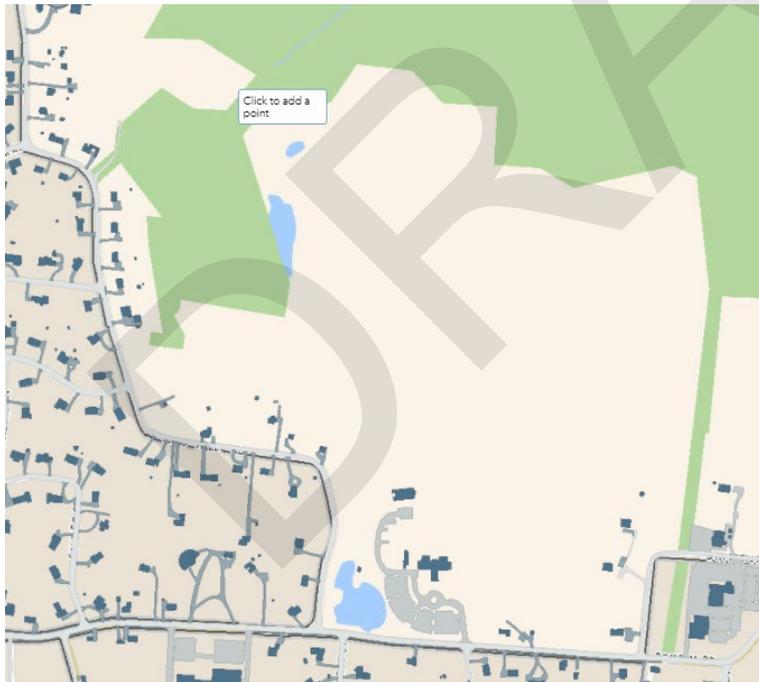


Figure 6.1.2.7 – Impervious Coverage within Opportunity Area D (Source: Rockland County GIS Mapper Planimetric Data)

Finally, within Opportunity Area E, impervious coverage is localized to the southern part of the area. The cover is associated with the building and parking area of the former Gracepoint Gospel Fellowship school shown in Figure 6.1.2.8.



Figure 6.1.2.8 – Impervious Coverage within Opportunity Area E (Source: Rockland County GIS Mapper Planimetric Data)

## Existing Regulatory Framework

### *Surface Waterbodies*

Rockland County Regulated Streams: The County regulates certain streams pursuant to Rockland County Code Chapter 846, “Stream Control Act-Rockland County.” According to the County Regulated Streams Map, the SBMC is the only county-regulated stream in Northeast Ramapo. The regulated portion of the SBMC begins where it enters the Samuel Fisher Mount Ivy Environmental Park, just north of the FMGC.<sup>22</sup> As a County stream, any alterations to the creek’s channel including construction or maintenance of new and existing structures within 100 feet of the established channel lines, associated floodplain or wetland (established pursuant to the provisions of the Act) may be subject to review and approval by Rockland County Drainage Agency. The primary purpose of the Stream Control Act is the alleviation of recurring flood

<sup>22</sup> [http://rocklandgov.com/files/6413/3588/9401/Cty\\_Reg\\_Ram\\_Letter\\_Size.pdf](http://rocklandgov.com/files/6413/3588/9401/Cty_Reg_Ram_Letter_Size.pdf). Accessed June 25, 2020

damage to public and private property as well as the prevention of impacts to public health and safety resulting from floods. Review and approval by the Rockland County Drainage Agency may be necessary for future work in Opportunity Areas A, B and D.

#### *Town of Ramapo Stream & Watercourses Law*

Town Code Chapter 240, “Streams & Watercourses,” was established to manage the intensity and extent of runoff and surface flows and to manage potential for flooding, through proper drainage design and placement. It includes Minimum Control Measures such as post-construction stormwater design, which is discussed herein, as well as construction-stage erosion and sediment control (which discussed within **Section 6.1.1 Geology, Soils and Topography**). Approval requirements for jurisdictional actions are assigned to the Town Engineer for review upon a referral from the Planning Board, while other permits are secured per the Engineer’s discretion.

#### *NYS Protection of Waters Program*

Per NYS Environmental Conservation Law (ECL) Article 15, all State waters are provided a class and standard designation based on existing and expected best usage of each body or waterway segment. Classifications are used to define NYSDEC jurisdiction and a need for permits. Specifically, streams and small water bodies in the course of a stream are classification as AA, A, B, or C while a standard of (T) or (TS) is used in reference to a “protected stream”. Waters with these standards are subject to the stream protection provisions of the Protection of Waters regulations. Small ponds and lakes with a surface area of 10 acres or less, located within the course of a stream, are considered to be part of the stream and are subject to regulation under the stream protection category of Protection of Waters. The only known NYSDEC jurisdictional stream in Northeast Ramapo is the unnamed Class C(T) stream that originates near Gessner Terrace and the PIP and flows North east into Clarkstown.

#### *Freshwater Wetland Regulations (NYS & Federal)*

State-mapped freshwater wetlands 12.4 acres in size or larger come under jurisdiction of NYSDEC pursuant to Article 24 of ECL, the “NY State Freshwater Wetlands Act.” Smaller wetlands may be protected under Article 24 if they are registered as of unusual local importance. Almost any activity which may adversely impact the natural values of jurisdictional wetlands require NYSDEC approval. This same standard also extends over a 100 foot “adjacent area” or “buffer” around each jurisdictional wetland which is also regulated for its protection. NYSDEC classifies wetlands from Class 1 (which provide the most benefits) to Class 4 (fewer benefits), based on the ecological services a wetland provides, such as storing flood waters and providing wildlife habitats. The layouts of Article 24 wetlands are described above by watershed, but the wetlands shown within **Appendix A, Comprehensive Plan Update Town-wide Existing Conditions Report, Map 6 Hydrological Constraints** are approximate. Their locations are derived from digital sources, so they have not been officially field-verified. One exception is the wetland boundaries depicted on the Millers Pond Wetland Map, which have been officially confirmed by both USACOE and NYSDEC. Wetlands subject to NYSDEC jurisdiction may also be subject to USACOE jurisdiction.

Section 404 of Clean Water Act: Wetlands that are not officially mapped by the NYSDEC may be protected under federal law. At the Federal level, jurisdictional Waters of the United States (which includes wetlands) are regulated by the USACOE under Section 404 of the Clean Water Act. Section 404 authorizes the USACOE to issue permits for the discharge of dredged or fill material into the waters of the United States, which includes wetlands. The location of waters of the United States are physically determined through the jurisdictional determination process. USACOE reviews proposed projects involving the potential discharge

of dredged or fill material into waters and/or vegetated wetlands of the US, to determine if the project may meet the Section 404(b)(1) Guidelines. Within Opportunity Area D, USACOE jurisdiction has been confirmed for five principal wetland areas, four distinct stream reaches (including the SMBC) and two ponds. These water resources are identified on the Millers Pond Wetland Map discussed in detail above.

While there is no official USACOE jurisdictional map for wetlands and waterbodies, US Fish & Wildlife Service's National Wetlands Inventory (NWI) program provides detailed data on the location, abundance, characteristics, and distribution of wetlands in the US. The boundaries of NWI wetlands should be considered approximate. While some USACOE jurisdictional wetlands are mapped by the NWI program, not all NWI wetlands are subject to USACOE jurisdiction. Likewise, there may be USACOE jurisdictional wetlands that are not on NWI maps. NWI resources are depicted with their own icons within **Appendix A, Comprehensive Plan Update Town-wide Existing Conditions Report, Map 6 Hydrological Constraints**. Coordination with both NYSDEC and USACOE is necessary to confirm official boundaries and respective jurisdictions when a development site contains wetlands and surface water bodies.

### *Floodplain Management*

Ramapo Town Code Chapter 149, "Floodplain & Flood Hazard Management Law," designates 100-year floodplains as Special Flood Hazard Areas as identified on Flood Insurance Rate Maps (FIRMs) by the Federal Emergency Management Agency. These areas are also characterized in the March 3, 2014 Flood Insurance Study (FIS) of Rockland County. The Town Building Inspector grants or denies floodplain development permits in accordance with the standards in Town Code Chapter 149.

### *Stormwater Management*

As a regulated jurisdiction under the Clean Water Act, the Town is required to have procedures in place that foster the protection of water quality. Specifically, the Town must have a Storm Water Management Program (SWMP, or stormwater program) that outlines how the jurisdiction will operate its Municipal Separate Storm Sewer System (MS4) and promote protection of surface water quality. The Town's stormwater management is guided by Town Code Chapter 237, "Stormwater Management and Sediment and Erosion Control." The Town is currently operating under MS4 Permit GP-0-15-003, has an SWMP, and annually reports on metrics associated against it.

Within the Town, all Land Development Activities (LDA) (as is defined in Chapter 237) that are subject to review and approval by the Town Board, Planning Board and/or Zoning Board of Appeals under subdivision, site plan, and/or special permit regulations, shall be reviewed subject to the standards in Chapter 237. It defines a LDA as the clearing, grading, excavating, soil disturbance or placement of fill that results in land disturbance of equal to or greater than one acre, or of total land area that is part of a larger common plan of development or sale, even though multiple separate and distinct LDA may take place at different times on different schedules. Projects subject to Chapter 237 must submit a SWPPP.

Under the current version of Chapter 237, LDAs must include construction-stage Best Management Practices, as well as water quantity and quality controls (post-construction stormwater runoff controls) in the SWPPP in the following situations: (1) LDAs that involve the discharging of a pollutant of concern to either an impaired water identified on the NYSDEC 303(d) list of impaired waters or a total maximum daily load (TMDL) designated watershed for which pollutants in stormwater have been identified as a source of impairment; (2) Stormwater runoff from a LDA disturbing five or more acres; and (3) Runoff from a LDA disturbing between one and five acres of land during the course of a project, exclusive of the construction of single-family residences and construction activities at agricultural properties.

### *U.S. Environmentally Sensitive Area (ESA)*

According to Rockland County Sewer District (RCSD) #1, sewer connections for development on parcels containing an Environmentally Sensitive Area (ESA) are subject to the ESA Grant Condition Waiver Program. As such, a property owner must seek a waiver from the Environmental Protection Agency (EPA), Region 2. Parcels that contain wetlands subject to state and federal jurisdiction and/or 100-year floodplains are considered ESAs. The intent of this program is to confirm that new development does not adversely impact wetlands and/or floodplains that make up an ESA. RCSD is the responsible party for seeking waivers from the EPA when presented with an owners request for new connections on parcels containing an ESA.

### *Aquifer and Well Field Protection Zone*

Town Code Ch. 96, 'Aquifer & Well Field Protection Zone Law' was established to protect the Town's watersheds. An official Aquifer & Wellhead Protection Zone Map, from May 2004, by FP Clark Associates, identifies an Aquifer and Well Field Protection Zone (96-4). Figure 6.1.2.4 above is an excerpt covering Northeast Ramapo. It shows the locations of public wells, including SUEZ wells (blue dots) and what are termed herein as "Community Wells" (stars).

There are expressly prohibited activities listed in Town Code Chapter 96-5 that covers activities like disposal of toxic chemicals, industrial sludge, and radioactive materials. Other excluded activities include applications of pesticides and herbicides which shall be used only by NYSDEC permit, and salt stockpiles not enclosed to prevent seepage/ runoff.<sup>23</sup>

This law's 'Intent and legislative findings', part 96-2, paraphrased, indicates it is desirable to prevent the introductions of materials that pose a threat to the watershed. It goes on to note that "With the advent of onsite stormwater runoff control systems, there is a potential to introduce these materials to the watershed if drainage facilities are not designed to prevent potential contamination."

In the Aquifer & Well Field Protection Zone Code<sup>24</sup>, regulated activities extend to activities like fuel dispensing, auto maintenance, and direct disposal of wastewater (not to a sewer). These are only allowed after Planning Board site plan approval or Building Inspector regulation within small-scale development which does not rise to the level of Planning Board review. Additionally, these also require a review by the Town DPW. As there are multiple ways in which regulated activities can impact groundwater, these are provided with Aquifer & Well Field Protection Zone standards upon which regulated activities are reviewed against site plans in order to avoid water quality impacts. Collectively, these standards prevent degradation of groundwater by avoiding disruptions of subsurface flows, avoiding the introduction of contaminants or toxic materials, or the removal of soils or stone which are vital to aquifer function.

### **6.1.2.2 Potential Impacts**

Potential zoning changes evaluated for the Opportunity Areas within Northeast Ramapo are anticipated to result in future development and redevelopment. A comparison of buildout under existing and proposed zoning is discussed. Potential impacts of development to the surface waters, wetlands, flood zones, and aquifers are examined within this section. Potential impacts due to increased impervious surfaces and

<sup>23</sup> [Town of Ramapo Code Law Chapter 96-5](#)

<sup>24</sup> [Town of Ramapo Code Law Chapter 96-6](#)

stormwater runoff are also discussed. Since the location of future development is not known, these impacts are discussed generally for the Northeast corridor. Additionally, impacts related to specific proposed projects are also discussed.

### Comparison of Buildout under Existing and Proposed Zoning

Current zoning is discussed in detail within Section 6.7, which reviews the zoning regulations in Northeast Ramapo including the description of districts as well as zoning standards and regulations.

As discussed in Section 6.7, a full buildout under existing zoning is estimated to add approximately 440,000 square feet of additional nonresidential area including commercial and institutional uses within Northeast Ramapo. Of this additional nonresidential area, approximately 74% is concentrated within Opportunity Area A, which is currently zoned MU-2. MU-2 is a mixed-use district which requires a minimum of 50% residential and up to 50% commercial, with a maximum building height of 45ft.

A full buildout under existing zoning is estimated to result in an additional 381 dwelling units. Of these additional units, the majority (66%) are concentrated within the current MU-2 district (Opportunity Area A).

Under proposed zoning, a full buildout is anticipated to add approximately 411,000 square feet of additional nonresidential area. This is 7% less than what is estimated from a full buildout under existing zoning.

Under proposed zoning, a full buildout is estimated to result in an additional 1190 dwelling units, which is substantially more than anticipated to occur under current zoning. The majority of these dwelling units (73%) are concentrated within Opportunity Area A (236) and Opportunity Area D (634) in which there are specific projects proposed for multifamily housing.

Current zoning laws can influence the introduction of impervious surfaces through requirements and limitations for development coverage and density. This influence is challenging to define and quantify, particularly since Town Code Chapter 237, "Stormwater Management & Sediment & Erosion Control", is seen as having a more direct influence on specific site conditions when it applies.

### General Impacts

Due to the presence of wetlands, surface waters and flood zones within Northeast Ramapo, the potential exists for direct and/or indirect impacts to these areas as a result of future development. Impacts are dependent on the location and scale of the proposed development.

In general, construction activities associated with development may result in the removal of vegetation and increased soil erosion or otherwise create a source of stormwater discharges that may lead to siltation or other degradation of receiving water bodies.

The introduction of additional impervious surfaces due to increased development has the potential to alter stormwater drainage patterns. Additionally, the introduction of impervious surfaces may influence the quality of stormwater runoff compared to a prior undeveloped or less developed condition. An increase in the concentrations of contaminants, including local MS4 defined "Pollutants of Concern", can be seen during precipitation events directly in and downstream of areas being developed.

The highest concentration of wetlands and surface waters within Northeast Ramapo are located east of the PIP, north of Pomona Road and are associated with the Samuel Fisher Mount Ivy Environmental Park

and the SMBC. Potential impacts from development and redevelopment in this area may include soil disturbance, increased sedimentation and erosion, the removal of vegetation, impacts to water quality, and an increase in stormwater runoff. Any development occurring within 100 feet of a regulated freshwater wetland will be subject to permitting through NYSDEC and USACOE. Depending on the level of disturbance, project specific mitigation measures may be required.

As discussed in **Section 6.1.2.1**, two aquifers are present within Northeast Ramapo. In addition, portions of Opportunity Areas C and D are located within an Aquifer and Well Head Protection Zone. Any development in these areas has the potential for impacts to groundwater including material release, decreased quality of shallow groundwater and potential increase in constituent releases from developed land uses. Additionally, an increase of impervious cover can limit groundwater recharge, thus decreasing the available amount of groundwater.

### Specific Impacts

Potential impacts specific to projects proposed within Opportunity Areas A and D are discussed below.

#### *Potential Impacts - Opportunity Area A*

A project proposed within Opportunity Area A involves the potential phased development of commercial and multifamily housing. The proposed development would add approximately 19,000 square feet of nonresidential area and 236 additional dwelling units.

The proposed project is located within proximity to NYSDEC regulated freshwater wetland and 100-year flood zone. Based on the Supplemental SEQRA findings statement<sup>25</sup>, the project is expected to preserve the NYSDEC regulated wetland and buffer in its entirety. Additionally, due to the previous disturbance of the project area, the SEIS established that there would be limited impacts from disturbance to wetlands under the proposed plan.

Based on the current site plans<sup>26</sup> and supplemental SEQRA findings statement<sup>27</sup>, this project is anticipated to result in 28 acres of impervious coverage. Any impacts associated with an increase in stormwater runoff are expected to be mitigated through soil and sediment control measures as outlined in an approved Stormwater Pollution and Prevention Plan (SWPP).

The SMBC is located along the western boundary of the Opportunity Area and is a County regulated stream. Any alterations to the creek's channel or within 100 feet of the established channel lines, associated floodplain or wetland may be subject to review and approval by Rockland County Drainage Agency.

<sup>25</sup> Minisceongo Park, Supplemental SEQRA Findings Statement, Town of Ramapo Planning Board, Adopted August 21, 2018

<sup>26</sup> Minisceongo Park, Phase 1 Concept Plans, January 13, 2012

<sup>27</sup> Minisceongo Park, Supplemental SEQRA Findings Statement, Town of Ramapo Planning Board, Adopted August 21, 2018

### *Potential Impacts - Opportunity Area D*

A project proposed within Opportunity Area D involves the potential phased development of commercial and multifamily housing. The proposed development would add approximately 40,000 square feet of nonresidential area and 634 additional dwelling units. See generally Appendix M.

As described within **Section 6.1.2.2** there are several USACOE regulated streams within Opportunity Area D. NYSDEC jurisdictional wetlands TH-16 and TH-31, and one USACOE wetland are also within the Opportunity area. Any development in proximity to these wetlands is subject to NYSDEC and USACOE regulations and approvals.

Development proposed within Opportunity Area D would increase the impervious coverage. Additional impacts may include soil disturbance, increased sedimentation and erosion, the removal of vegetation, impacts to water quality, and an increase in stormwater runoff.

The site plan for the proposed project identifies up to two crossings of a USACOE jurisdictional stream which has the potential to impact the regulated water source.

### **6.1.2.3 Proposed Mitigation**

The proposed zoning changes are not anticipated to authorize or encourage any adverse impacts on surface waters. Wetlands, streams, ponds, lakes and other surface waters are protected by federal, State, County and local laws, rules and regulations. Additionally, the proposed zoning changes are not anticipated to authorize or encourage development within a floodplain. Future development will be required to comply with federal, State and local regulations including the Flood Damage Prevention Law - Town Code Chapter 149.

#### General Mitigation

When a development site contains wetlands and surface water bodies, coordination with both NYSDEC and USACOE is necessary to confirm accurate wetland and water body boundaries that are reflective of current site conditions as well as respective jurisdictions. Mitigation for impacts to regulated wetlands and surfaces waters will be conducted in accordance with NYSDEC and USACOE. These requirements will be established by the agency having jurisdiction during future permitting efforts for the project.

Any development occurring within 100ft of a County Regulated stream may be subject to review and approval by Rockland County Drainage Agency.

Sewer connections for development on parcels containing an Environmentally Sensitive Area (ESA) are subject to the ESA Grant Condition Waiver Program. As such, a property owner must seek a waiver from the Environmental Protection Agency (EPA), Region 2, and provide documentation to ensure that access to sewer service would cause no adverse impacts on plants or animals within an ESA. Parcels that contain wetlands subject to state and federal jurisdiction and/or 100-year floodplains are considered ESAs.

All Land Development Activities (LDA) (as is defined in Town Code Chapter 237) that are subject to review and approval by the Town Board, Planning Board and/or Zoning Board of Appeals under subdivision, site plan, and/or special permit regulations, shall be reviewed subject to the standards in Chapter 237. These activities may include the clearing, grading, excavating, soil disturbance or placement of fill that results in

land disturbance of equal to or greater than one acre, or of total land area that is part of a larger common plan of development or sale, even though multiple separate and distinct LDAs may take place at different times on different schedules. Projects subject to Chapter 237 must submit a SWPPP.

Under the current version of Chapter 237, LDAs must include construction-stage Best Management Practices (BMPs), as well as water quantity and quality controls (post-construction stormwater runoff controls) in the SWPPP in the following situations: (1) LDAs that involve the discharging of a pollutant of concern to either an impaired water identified on the NYSDEC 303(d) list of impaired waters or a total maximum daily load (TMDL) designated watershed for which pollutants in stormwater have been identified as a source of impairment; (2) Stormwater runoff from a LDA disturbing five or more acres; and (3) Runoff from a LDA disturbing between one and five acres of land during the course of a project, exclusive of the construction of single-family residences and construction activities at agricultural properties.

The State Pollutant Discharge Elimination System (SPDES) program controls point source discharges to groundwater, as well as surface waters, during and post construction. Compliance with SPDES design and permitting requirements, as well other applicable local, State, and federal rules and regulations regarding petroleum and chemical storage, will be required for applicable project to effectively mitigate potential groundwater impacts.

Development occurring within an Aquifer or Wellfield Protection Zone should adhere to local regulations described in Town Code Ch. 96, 'Aquifer & Well Field Protection Zone Law'.

Future project sponsors are required to prepare and implement a fully conforming SWPPP that provides for the requisite stormwater quality and quantity controls both during construction and as part of the permanent stormwater facilities. Stormwater discharges will be conveyed to an existing system that has the capacity to handle the volume of water without expansions or extensions. In addition, future development is expected to incorporate Green Infrastructure techniques outlined in the "New York State Stormwater Management Design Manual" as appropriate (see Table 6.1-2 below).

Additional procedures and Best Management Practices for future projects are located within **Appendix D**.

Table 6.1-2 Green Infrastructure Techniques for Runoff Reduction <sup>28</sup>	
Practice	Description
Conservation of Natural Areas	Retain the pre-development hydrologic and water quality characteristics of undisturbed natural areas, stream and wetland buffers by restoring and/or permanently conserving these areas on a site.
Sheetflow to Riparian Buffers or Filter Strips	Undisturbed natural areas such as forested conservation areas and stream buffers or vegetated filter strips and riparian buffers can be used to treat and control stormwater runoff from some areas of a development project.
Vegetated Swale	The natural drainage paths, or properly designed vegetated channels, can be used instead of constructing underground storm sewers or concrete open channels to increase time of concentration, reduce the peak discharge, and provide infiltration.

<sup>28</sup> New York State Stormwater Management Design Manual, Chapter 5: Green Infrastructure Practices

Tree Planting / Tree Pit	Plant or conserve trees to reduce stormwater runoff, increase nutrient uptake, and provide bank stabilization. Trees can be used for applications such as landscaping, stormwater management practice areas, conservation areas and erosion and sediment control.
Disconnection of Rooftop Runoff	Direct runoff from residential rooftop areas and upland overland runoff flow to designated pervious areas to reduce runoff volumes and rates.
Stream Daylighting	Stream Daylight previously-culverted/piped streams to restore natural habitats, better attenuate runoff by increasing the storage size, promoting infiltration, and help reduce pollutant loads.
Rain Gardens	Manage and treat small volumes of stormwater runoff using a conditioned planting soil bed and planting materials to filter runoff stored within a shallow depression.
Green Roofs	Capture runoff by a layer of vegetation and soil installed on top of a conventional flat or sloped roof. The rooftop vegetation allows evaporation and evapotranspiration processes to reduce volume and discharge rate of runoff entering conveyance system.
Stormwater Planters	Small landscaped stormwater treatment devices that can be designed as infiltration or filtering practices. Stormwater planters use soil infiltration and biogeochemical processes to decrease stormwater quantity and improve water quality.
Rain Barrels and /Cisterns	Capture and store stormwater runoff to be used for irrigation systems or filtered and reused for non-contact activities.
Porous Pavement	Pervious types of pavements that provide an alternative to conventional paved surfaces, designed to infiltrate rainfall through the surface, thereby reducing stormwater runoff from a site and providing some pollutant uptake in the underlying soils. When designed in accordance with the design elements in section 5.3.11, the WQv for the contributing drainage area is applied towards the runoff reduction

Specific Mitigation

Mitigation specific to projects proposed within Opportunity Areas A and D are discussed below.

*Proposed Mitigation - Opportunity Area A*

For the project proposed for Opportunity Area A, mitigation measure shall include those described in the General Mitigation section above, as well as mitigation measures identified within the proposed project **DGEIS, SEIS, and FEIS**.

### *Proposed Mitigation - Opportunity Area D*

For the project proposed for Opportunity Area D, mitigation measures shall include those described in the General Mitigation section above, as well as mitigation measures described below.

The presence of wetlands within the proposed project site has been determined through a wetland delineation provided by the USACOE. According to documentation from the USACOE, development of the site should be carried out in a manner to avoid the discharge of dredged or fill material into the delineated water. Any activities proposed for the site that involve discharges must be authorized by the USACOE prior to initiation of the proposed work.<sup>29</sup>

Pond 1 in the front of proposed project site is established by a concrete dam regulated by NY State and assigned a Safety Hazard Rating of "A" (a "Low Hazard" rating).\* NYSDEC defines this hazard as follows:

"A dam failure is unlikely to result in damage to anything more than isolated or unoccupied buildings, undeveloped lands, minor roads such as town or county roads; is unlikely to result in the interruption of important utilities, including water supply, sewage treatment, fuel, power, cable or telephone infrastructure; and/or is otherwise unlikely to pose the threat of personal injury, substantial economic loss or substantial environmental damage." 6 NYCRR §673.5(b)(1)

At the point of construction design submission, if required by NYSDEC, an engineering analysis submitted which provides a best-practice based analysis of its structural characteristics as outlined in 6 NYCRR §673.13 should be undertaken and included in application documentation<sup>30</sup>.

The project location is in proximity to an Aquifer or Wellfield Protection Zone and should adhere to local regulations described in Town Code Ch. 96, 'Aquifer & Well Field Protection Zone Law'.

The site plan for the proposed project identifies up to two crossings of a USACOE jurisdictional stream which has the potential to impact the regulated water source. Depending on location of crossing and site design, development may be subject to approval by USACOE to minimize or prevent impacts to regulated waters.

Site design should include the maintenance or enhancement of vegetive buffers in proximity to waterbodies, streams and wetlands where feasible.

<sup>29</sup> Rosita Miranda, Chief, Western Sect., Dept. of Army, NY District, Corps of Engineers, letter to Peter Torgersen, Sept. 20, 2018.

<sup>30</sup> See DEC website: <https://www.dec.ny.gov/pubs/109457.htm> Site ID 196-5197 Minisceongo Golf Course Dam

## 6.1.3 Ecological Resources – Habitats, Flora & Fauna

This section will describe eco-regions overlaying the Town, its ecology, and general wildlife habitats. This includes known significant plant and animal species and communities/ habitats identified as present in Northeast Ramapo and their assigned conservation status. In addition, known factors and threats that influence these plant and animal habitats will be identified, including BMPs available for aiding their potential conservation and management.

No field studies have been conducted as part of this ecological resources evaluation, nor were site- or area-specific tree inventories or habitat studies conducted as part of this NRDP/DGEIS. Where applicable, documentation from past or current development projects have been used to supplement the existing conditions evaluations and impact analysis for particular locations. **Section 6.1.2 Water Resources** discusses existing wetlands and streams. This section and the **Water Resources Section** recognize that wetlands and adjacent areas provide an ecological role and a source of habitat, so there is discussion of ways to conserve and/ or enhance various wetland/ riparian resource areas.

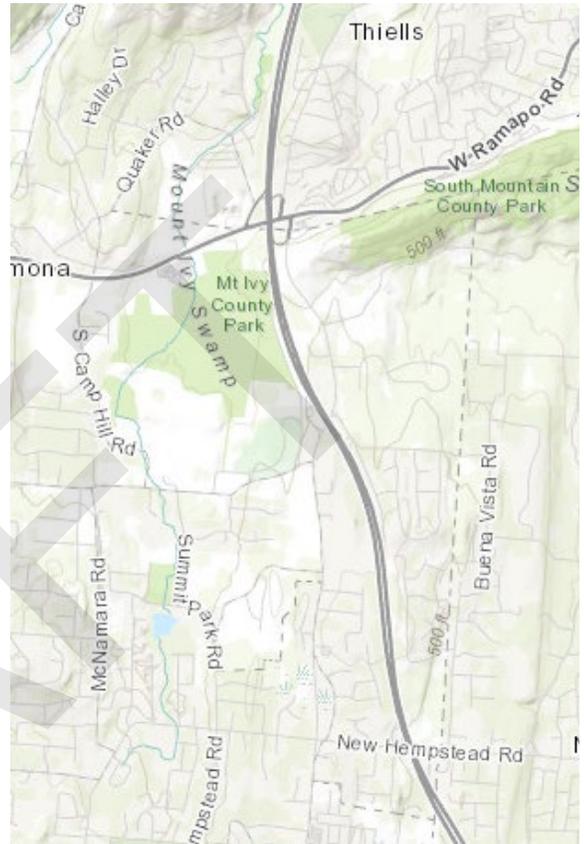


Figure 6.1.3.1 - Area Around Northeast Ramapo as Depicted on Topographic Map Using NYSDEC Environmental Resource Mapper.

### 6.1.3.1 Existing Conditions

#### Ecoregions

The Town is located within two primary ecoregions: Hudson Highlands (Highlands) and Triassic Lowlands (Lowlands). The Highlands ecoregion forms a low portion of the Appalachian Mountains connecting the mid-Appalachians with the Berkshires and Green Mountains in New England. Western Ramapo, west of the Mahwah River, is within the Highlands. This area has seen limited development with the majority of the area being conserved, including Harriman State Park. The Lowlands ecoregion occurs in Rockland County and on Staten Island between the Highlands and Hudson River Palisades. In Ramapo, the lowlands ecoregion is generally located east of the Mahwah River, an area that has seen significantly more development than Western Ramapo. Northeast Ramapo is primarily located within the Lowlands ecoregion with the exception of South Mountain which is a distinct upland.

#### Hudson Highlands

Soils in the Highlands are shallow, rocky, and highly acidic. As a result, the region is mostly forested by transition hardwoods, with Appalachian oak-hickory on drier sites and northern hardwoods and hemlock on north slopes and moist sites.<sup>31</sup> The large contiguous areas of undisturbed forests and wetland habitats within the Highlands accommodates a diverse population of species including wood turtle, timber rattlesnake, red shouldered hawk, barrel owl, warblers and thrushes, black bear, and bobcat. The rare

<sup>31</sup> USEPA Region 2, et al. [http://ecologicalregions.info/data/ny/NY\\_front.pdf](http://ecologicalregions.info/data/ny/NY_front.pdf)

cerulean warbler has a thriving population in the deciduous forests of the Highlands, one of the few concentrations of this species in the state.<sup>3233</sup>

### *Triassic Lowlands*

The Lowland ecoregion, which Northeast Ramapo is predominantly located in, is characterized by undulating plains underlain by erodible Triassic sandstones and shales and covered by glacial drift. The native vegetation in much of this region has been replaced by urban and suburban development, but early survey records indicate that forests were dominated by white, red, and black oaks, with American chestnut and hickory also common. Agriculture was prominent, but farms now only make up 1% of the New York State portion of this ecoregion. A few remaining farms in Rockland County produce specialty crops such as fruits, vegetable, and nurse stock<sup>34</sup>. The Orchards of Concklin is one remaining major agricultural operation in Northeast Ramapo.

### Ecology & Wildlife Habitats

The ecology of Northeast Ramapo has been influenced by the built environment, agriculture, and other human involvement. When compared to Northeast Ramapo, lands west of the Mahwah River have seen significantly less development and the ecology, as a result, has been less impacted. This largely due to the western portion of Ramapo's mountainous terrain. Conversely, Northeast Ramapo is characterized by built environments varying from lower to high density residential and commercial. Additionally, it contains a wide range of natural habitats including the uplands of South Mountain, lowland fields and forests found in the valleys, and aquatic habitats associated with the South Branch of Minisceongo Creek (SMBC) and its adjacent floodplains and wetlands. Various plant and animal species found in these areas have been identified as protected or sensitive.

### Significant Plant and Animal Species and Communities/Habitats

According to the US Fish & Wildlife Service (USFWS), there are two species identified as threatened or endangered under the Endangered Species Act within Northeast Ramapo. The two species highlighted are: the northern long-eared bat (NLEB) and the bog turtle.<sup>35</sup> Based on the most recent data on 'Occurrences' available from the NYS Natural Heritage Program (NYNHP), there are confirmed winter habitats for NLEB within the unincorporated portions of Ramapo, including Northeast Ramapo.<sup>36</sup> Additionally, according to USFWS, there is the potential for bog turtles to exist within Northeast Ramapo.

According to consultation documentation from the New York Natural Heritage Program (NYNHP), there are two important plant species/ communities found in Northeast Ramapo: Torrey's Mountain Mint and Rocky Summit Grassland.<sup>37</sup> Torrey's Mountain Mint is listed as "Endangered" in NY State while Rocky Summit Grassland is not listed but is considered a "High Quality Occurrence of Uncommon Community Type." No

<sup>32</sup> Hudson River Estuary, Wildlife and Habitat Conservation Framework. Pg. 76  
[www.dec.ny.gov/docs/remediation\\_hudson\\_pdf/hrebcf.pdf](http://www.dec.ny.gov/docs/remediation_hudson_pdf/hrebcf.pdf)

<sup>33</sup> According to the NY State Open Space Conservation Plan, 2016, by the NYS DEC, page 102, one broader area of open space overlaying part of Northeast Ramapo is the Palisades Ridge, which is a part of Rockland Riverfront Communities Open Space. The Palisades Ridge is treated as distinct from the Highlands. The Palisades Ridge terminates at Gurnee County Park and it ranges in altitude from 500 to 700 feet, extending east up South Mountain and Hi Tor and it contains important wildlife habitat areas on it, as well as some Class A inland wetlands around it.

<sup>34</sup> USEPA Region 2, et al.

<sup>35</sup> US Department of the Interior, Fish and Wildlife Services Field Office, December 18, 2018.

<sup>36</sup> [www.dec.ny.gov/docs/wildlife\\_pdf/nlebtowns.pdf](http://www.dec.ny.gov/docs/wildlife_pdf/nlebtowns.pdf). Accessed June 15, 2020.

<sup>37</sup> NYSDEC, Division of Fish and Wildlife, New York Natural Heritage Program, December 26, 2018.

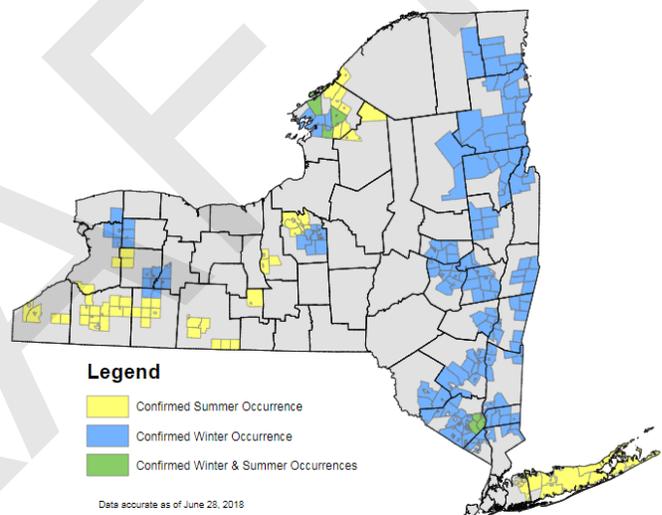
other protected plant or animal species have been identified within Northeast Ramapo. Full documentation provided within **Appendix A, Comprehensive Plan Update Town-wide Existing Conditions Report**.

As discussed in the **Section 6.1.2 Water Resources**, and **Section 6.5.2 Sewer Utilities**, there is an Environmentally Sensitive Areas (ESA) provision imposed upon Rockland County Sewer District #1 (RCSD1). In order to ensure that access to sewer service does not allow for the potential degradation of important resource areas, the US Environmental Protection Agency (EPA) requires applicants of development projects to provide documentation that the project would cause no adverse impacts on plants or animals within an ESA. While RCSD1 does not maintain precise, up to date, or detailed maps of possible ESAs, there are required screenings performed to identify possible impacts which are described herein.

**Northern Long-Eared Bat – Federal & NYS Status: Threatened.**

According to the USFWS and NYNHP, the northern long-eared bat (NLEB) is identified as both a Federal and State Threatened species. NLEB hibernate in caves or mines during winter, which are referred to as hibernacula. The NLEB are found throughout New York State and utilize a diversity of forest habitats for roosting, foraging and raising young. Specifically, trees with peeling bark, crevices, and cracks during, as well as in bridges and man-made structures may be utilized by NLEB for roosting or rearing young.

As stated above and depicted in Figure 6.1.3.2, there is evidence of winter occurrences for NLEB in Northeast Ramapo. However, no additional information was provided by NYNHP regarding NLEB. USFWS states that NLEB habitat may occur within the boundaries of Northeast Ramapo. While it is anticipated the winter habitat is likely within the mountainous regions of west Ramapo, there is the potential for Northeast Ramapo to be within range of the bats summer occurrences.



**Figure 6.1.3.2 Northern Long-Eared Bat Occurrences by Town**

Source: <http://www.dec.ny.gov/animals/106090.html>

Locations in Northeast Ramapo that include clusters of intact forest include:

- The northwest corner of Opportunity Area A;
- Vacant lots within Opportunity Area C.
- Portions of Opportunity Area D,
- The rear and a significant part of Opportunity Area E;

NYSDEC states that removal of trees from the landscape is not considered harmful unless bats are within trees during the time they are harvested or removed from the landscape and has specific guidelines identifying removal procedures.<sup>38</sup>

### Bog Turtle – Federal Status: Threatened, NYS Status: Endangered

The bog turtle is listed by the USFWS as Threatened and by NYNHP as Endangered. Bog turtle is New York's smallest turtle, reaching maximum length of 4.5 inches. Distinctive features include a bright yellow or orange blotch on each side of its head/ neck.

Bog turtles are a semi-aquatic species, preferring habitats with cool, shallow, slow-moving water, deep soft muck soils, and tussock-forming herbaceous vegetation. In New York, bog turtles are generally found in open, early successional type habitats such as wet meadows or open calcareous boggy areas generally dominated by sedges or sphagnum moss. Similar to other cold-blooded or ectothermic species, bog turtles require habitats with a sufficient solar penetration for basking and nesting.<sup>39</sup> Extant populations are known from small portions of six nearby counties in the lower Hudson River Valley: Columbia, Dutchess, Putnam, Ulster, Orange, and Sullivan Counties.<sup>40</sup>

Primary threats to bog turtles are loss or degradation of habitat and illegal collecting. In New York, development and natural succession are the main contributors to habitat degradation. Development, especially roads, residential, commercial construction inhibits the species' ability to move to new, potential habitat. Consequently, new populations are not being established as old sites deteriorate. Collection of the bog turtle without a permit is prohibited. Contamination by pesticides, agricultural run-off and industrial discharge may negatively affect the bog turtle and its habitat directly. Contaminants may also accumulate in or adversely affect the turtle's invertebrate food supply.<sup>41</sup>

Wetlands exist in Northeast Ramapo, including but not limited to in Opportunity Areas A, D, and E. While there is no available documentation demonstrating the presence of bog turtle habitat within Northeast Ramapo, due to the proximity of known occurrences in neighboring counties, a Phase 1 bog turtle habitat survey will likely be necessary for projects anticipated to impact wetlands. Additionally, both NYDEC and federal permitting would likely be required for such activities.

### Rocky Summit Grasslands – NYS Status: High Quality Occurrence of Uncommon Community Type

Identified as "High Quality Occurrence of Uncommon Community Type" by NYNHP, Rocky Summit Grasslands are known to exist on South Mountain in Northeast Ramapo. Rocky Summit Grasslands are grassland patches that occur on rocky outcrops, summits with thin soil, and exposed slopes of hills, often the product of fires<sup>42</sup>. These grasslands can be found in Gurnee and South Mountain County Parks as well as in High Tor State Park.<sup>43</sup> Due to their location within these uplands, the potential for adverse environmental impacts related to the potential zoning changes evaluated are not anticipated.

<sup>38</sup> <http://www.dec.ny.gov/animals/106713.html>. Accessed June 2020

<sup>39</sup> <https://www.dec.ny.gov/animals/7164.html>. Accessed June 16, 2020.

<sup>40</sup> <https://guides.nynhp.org/bog-turtle/>. Access June 16, 2020.

<sup>41</sup> <https://www.dec.ny.gov/animals/7164.html> Accessed June 16, 2020.

<sup>42</sup> <https://guides.nynhp.org/rocky-summit-grassland/> Accessed July 20, 2020.

<sup>43</sup> Hudson River Estuary Wildlife and Habitat Conservation Framework, Pgs. 38-39

### Torrey's Mountain Mint – NYS Status: Endangered

According to NYNHP, records indicate Torrey's Mountain Mint, which is "Endangered" in NY State, is present within Northeast Ramapo. Specifically, Torrey's Mountain Mint has been found on or around South Mountain in the northeastern area of Northeast Ramapo. Typical habitat for this plant is open, dry areas, including cedar barrens, rock summits, trails, and roadsides<sup>44</sup>. This species is generally not anticipated to be found outside of the already preserved Gurnee and South Mountain County Parks; therefore, no adverse environmental impacts on the plant are not expected as a result of the potential zoning changes evaluated.

### Existing Conditions – Opportunity Areas

#### *Existing Conditions for Ecology: Opportunity Areas A and B*

The primary ecological resource within Opportunity Areas A and B is the SBMC. As described in Section 6.1.2 Water Resources, the SBMC and its associated tributaries flow south through the center of the district toward Mount Ivy Swamp. Areas adjacent to the tributaries are identified as wetlands by the NYSDEC, and National Wetlands Inventory. Refer to **Appendix A, Comprehensive Plan Update Town-wide Existing Conditions Report, Map 8 Northeast Ramapo Hydrological Constraints Map** for a depiction of the spatial extent of the SBMC, tributaries, wetlands, and flood zones.

Within Opportunity Area A, the Draft Environmental Impact Statement (DEIS), dated November 8, 2006 (2006 DEIS), prepared for proposed Minisceongo Park project did not identify the three main criteria for suitable bog turtle habitat by the wetlands on or immediately adjacent to the site.<sup>45</sup> The 2006 DEIS described the present upland as old field habitat of marginal value to wildlife, as it consists of formerly mined areas of poor soils and low plant diversity. It identified areas around the SBMC with its wetlands, Carlisle muck soils and wetland buffer zones as providing a more diverse plant community. Additionally, the DEIS stated the overall diversity of wildlife in the area was low and dominated by generalist species capable of tolerating human contact, including mammals like chipmunks, gray squirrels, raccoons, opossums, cottontail rabbits, deer mouse, and woodchucks.<sup>46</sup>

The wetlands within the southern portion of Opportunity Area B (south of US Route 202) generally border existing development. Recognizing this existing developed and previously disturbed character, bog turtle habitat surveys still may be required to confirm the absence of suitable habitat. Likewise, due to the presence of wetlands in the northern portion of Opportunity Area B, bog turtle habitat surveys may also be required to confirm that suitable habitat is not present here.

The remaining undeveloped portions of Opportunity Area B, outside of the wetlands, is characterized by a mix of second growth coniferous and deciduous vegetation located within a pattern of suburban development. The largest concentration of upland forested areas is found in the northwest corner of the district, bordered by Camp Hill and Quaker Roads and the Town of Haverstraw municipal boundary. Given their unique upland and mountains habitats, Rocky Summit Grasslands and Torrey's Mountain Mint are not expected in Opportunity Area B. However, it will be necessary to inventory trees in order to characterize potential NLEB habitat.

<sup>44</sup> <https://guides.nynhp.org/torreys-mountain-mint/>. Accessed July 20, 2020.

<sup>45</sup> Tim Miller Associates, Inc., "Minisceongo Park Draft Environmental Impact Statement." November 8, 2006. Pg. 3.3-7. (Source to be verified)

<sup>46</sup> Ibid at pg. 3.3-11

### *Existing Conditions for Ecology: Opportunity Area C*

According to the NYSDEC Environmental Resource Mapper, there are no wetlands or waterbodies within Opportunity Area C. The majority of land within this area is developed with commercial and residential land uses. Due to the proximity of the area to State Route 45, this area is unlikely to contain extensive valuable or unfragmented habitats, as these are situated by existing urbanized roads and adjacent streets.

Two parcels along the west side of State Route 45 are currently vacant and have the potential to be developed (1015 and 1019 State Route 45). These lands are primarily wooded and open field. There is also the potential for infill and redevelopment within the Opportunity Area.

Given their unique upland and mountain habitats, Rocky Summit Grasslands and Torrey's Mountain Mint are not expected to occur within Opportunity Area C. While NLEB summer roosting habitat has not been identified in Northeast Ramapo, the removal of trees may need to occur between November 1 and March 31, in accordance with NYSDEC requirements.

### *Existing Conditions for Ecology: Opportunity Area D*

Opportunity Area D includes the SBMC and the southern portion of the NYSDEC jurisdictional Class 1 Wetland TH-16 associated with Mount Ivy Swamp. A smaller, NYSDEC jurisdictional, 19.6-acre, Class 2 Wetland TH-31, which is termed for this discussion as the 'center wetland', is located in the southeastern part of the proposed Millers Pond site. Both are forested/shrub wetlands. A large remainder of this area is characterized by rolling forest and open grassy areas that once served as fairways, tees and greens, with a variety of tree and shrub species interspersed.

According to a letter dated September 20, 2018 from the US Army Corps of Engineers (USACOE) to Peter Torgersen, a consultant for the Millers Pond project, the area contains water resources subject to the jurisdiction of the USACOE. Water resources are identified within a NYSDEC Wetland Delineation map prepared for a proposed project. There are five principal wetland areas, four distinct stream reaches (including the SBMC), and two open water areas (ponds) on the site which are part of a tributary system and considered to be waters of the United States.<sup>47</sup> These waters are important habitats to a number of species.

There are no records of Rare or State-listed animals or plants, or Significant Natural Communities at that project site or in its immediate vicinity.<sup>48</sup> The letter also indicates that, depending upon the nature of the project and site conditions, further information from onsite surveys or other resources may be required to fully assess impacts on biological resources.

Given their unique upland and mountains habitats, Rocky Summit Grasslands and Torrey's Mountain Mint are not expected to occur within Opportunity Area D. While there are wetlands in the Millers Pond site, prior studies of the site indicate that bog turtle habitat has not been found to be present<sup>49</sup>. While NLEB summer roosting habitat has not been identified in Northeast Ramapo, the removal of trees may need to occur between November 1 and March 31, in accordance with NYSDEC requirements.

<sup>47</sup> Rosita Miranda, Chief, West Section, Dept. of Army, NY District, Corps of Engineers, letter to Peter Torgersen, Sept. 20, 2018.

<sup>48</sup> Heidi Krahling, Environmental Review Specialist, NYSDEC, Division of Fish and Wildlife, New York Natural Heritage Program, letter to Audrey Vogel, Kimley-Horn, June 1, 2020.

<sup>49</sup> Appendix M, page 287

### *Existing Conditions for Ecology: Opportunity Area E*

Opportunity Area E is primarily forested by deciduous vegetation with pockets of coniferous trees with the exception of developed areas along New Hempstead Road and cleared areas along the existing electric utility easement in the northwest. The area is surrounded by suburban development to the north, south and east and the PIP in the west, which itself contains a thin but mostly uniform 115-foot-wide forest width.

As depicted within **Appendix A, Comprehensive Plan Update Town-wide Existing Conditions Report, Map 8 Northeast Ramapo Hydrological Constraints Map**, and according to NYSDEC Environmental Resource Mapper, this Opportunity Area includes an unnamed stream and an associated 8.6 acre National Wetland Inventory (NWI)-mapped freshwater emergent wetland.<sup>50</sup> As a result of having roads and suburban development on all sides, the ecological diversity of the Opportunity Area is considered relatively limited. However, it is recognized that natural value and higher biodiversity is presumed to center on and around the stream corridor with its contiguous wetland and its immediately adjacent upland.

The stream, with a NYS Classification of “C”, flows to the north, crossing through the southern portion of the site before running parallel to the eastern boundary of the Opportunity Area. This stream does not appear to be under the jurisdiction of NYSDEC due to its classification. The freshwater emergent wetland is associated with the stream and located along the eastern boundary. USACOE of jurisdiction is currently unknown.

Given their unique upland and mountains habitats, Rocky Summit Grasslands and Torrey’s Mountain Mint are not expected to occur within Opportunity Area E. Due to the presence of wetlands within the Opportunity Area, bog turtle habitat surveys may be required confirm that suitable habitat is not present. While NLEB summer roosting habitat has not been identified in Northeast Ramapo, the removal of trees may need to occur between November 1 and March 31, in accordance with NYSDEC requirements.

### **6.1.3.2 Potential Impacts**

While future development was identified within the Full Environmental Assessment Form (EAF) as having a potentially moderate to large impact on plants and animals, through the thorough evaluation documented within this DGEIS, it is anticipated that any adverse impacts would be minimized through mitigation measures discussed below.

Future development in Northeast Ramapo has the potential to result in the removal of existing vegetation and wildlife habitat which may cause the displacement of common, threatened, or important species which occupy these locations.

USFWS Information for Planning and Conservation (IPaC) system reported the presence of two federally threatened species within the Northeast Area: The Bog turtle and Northern Long-eared bat (NLEB)<sup>51</sup>.

Future projects should verify the presence of threatened and endangered species at time of site design through coordination with USFWS. Additional verification should be completed by visiting the IPaC site at regular intervals during project planning and implementation for updates to species lists and information.

<sup>50</sup> <https://gisservices.dec.ny.gov/gis/erm/>. Accessed June 17, 2020.

<sup>51</sup> US Department of the Interior, Fish and Wildlife Services Field Office, December 18, 2018.

Based on the most recent data on ‘Occurrences’ available from NYNHP, there are confirmed winter habitats for NLEB within the unincorporated portions of Ramapo, including Northeast Ramapo<sup>52</sup>. Additionally, according to NYNHP, two important plant species/communities have been documented in Northeast Ramapo: Torrey’s Mountain Mint and Rocky Summit Grassland.<sup>53</sup> Torrey’s Mountain Mint is listed as “Endangered” in NY State while Rocky Summit Grassland is not listed but is considered a “High Quality Occurrence of Uncommon Community Type.”

As discussed in **Section 6.1.2**, wetlands and surface waters are present within Northeast Ramapo. Future development has the potential to impact these resources and may include vegetation removal, increased erosion, sedimentation and stormwater runoff.

### 6.1.3.3 Proposed Mitigation

Future applications for site plan and subdivision review must comply with existing zoning requirements. Bulk area requirements are specified by use and are described within the Town Zoning Code Table of General Use Requirements<sup>54</sup>. The Table of Bulk Requirements<sup>55</sup> in regulation 376-41, specifies by use group the requirements for: minimum lot area, lot width, setbacks, setbacks, required minimum frontage, development coverage, floor area ratio (FAR), as well as maximum building height. Adherence to these requirements is anticipated to mitigate the impact on vegetation.

Depending on the nature of the project and the conditions present at the project site, further information from on-site surveys or other sources may be required at time of site design to fully assess impacts on biological resources.

A USFWS Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, USFWS suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12. Endangered Species Consultation Handbook<sup>56</sup>.

Certain birds are protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. Future development that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and implement appropriate conservation measures.

An evaluation of potential summer roosting habitat for NLEB may need to be completed and where applicable, tree removal should occur between November 1 and March 31 to avoid potential NLEB impacts.

<sup>52</sup> [www.dec.ny.gov/docs/wildlife\\_pdf/nlebtowns.pdf](http://www.dec.ny.gov/docs/wildlife_pdf/nlebtowns.pdf). Accessed June 15, 2020.

<sup>53</sup> NYSDEC, Division of Fish and Wildlife, New York Natural Heritage Program, December 26, 2018.

<sup>54</sup> [Ramapo Zoning Law § 376-31 - General Use Requirements](#)

<sup>55</sup> [Ramapo Zoning Law § 376-41 - Table of Bulk Requirements](#)

<sup>56</sup> <http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Coordination with NYNHP and USFWS may be required for future projects depending on their location, scale and type.

To confirm there will be no adverse environmental impacts on NYS-listed animals or plants, significant natural communities, or federally-protected threatened or endangered species, future construction in proximity to wetlands may require a habitat assessment to determine if bog turtle habitat is present.

DRAFT

## 6.2 Parks, Recreation & Open Space

This section analyzes parks and recreation facilities and supply in Northeast Ramapo. The section examines recreation service using descriptions of recreation assets in the Inventory, comparing these with recreation standards in order to discuss existing needs in Northeast Ramapo. The buildout analysis is used to extrapolate future recreation needs that could accompany residential population growth. There is also examination of the impact of potential future development related to open space, recreation assets, and civic space. This is accompanied by discussion of measures proposed to advance a beneficial mix of parks and open spaces that will reinforce quality community form and support a healthy community environment.

### 6.2.1 Existing Conditions

#### 6.2.1.1 Existing Town & County Parks

The Comprehensive Plan Update Town-wide Existing Conditions Report (**Appendix A**) identifies and describes various public recreation assets existing in the Town. There are 45 Town-owned parks, 16 Village parks, 11 County parks, and one State Park within the Town. These recreational resources, as well as open spaces are mapped within **Appendix A, Comprehensive Plan Update Town-wide Existing Conditions Report, Map 12 Parks, Recreation and Open Space**. Table 6.2-1: 'Parks & Recreation Classifications'<sup>1</sup> identifies: address, ownership, acreage, 'recreation category', as well as the types of attributes available for each park or facility within the Town.

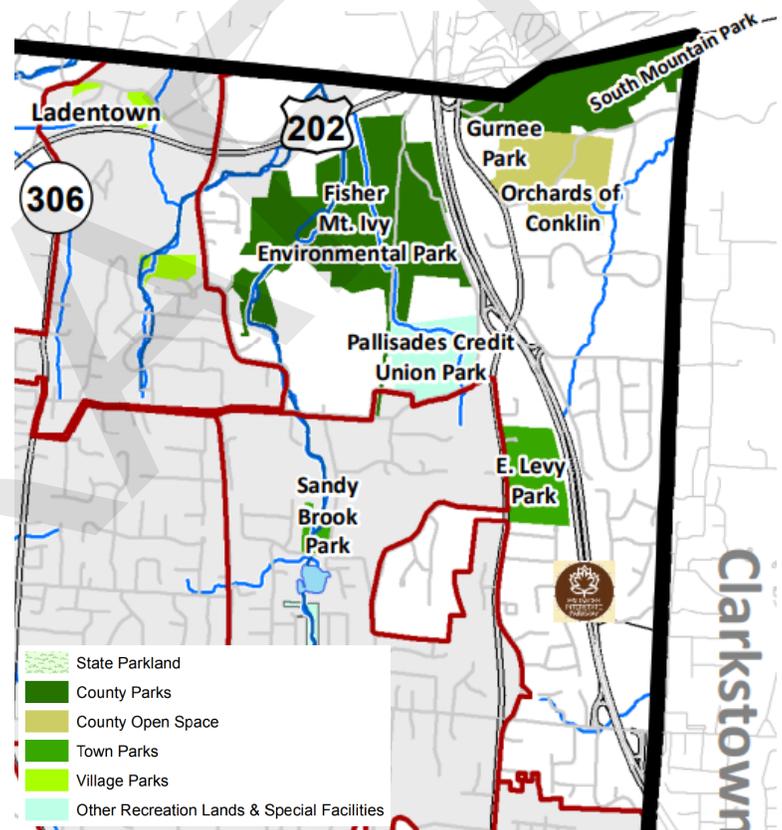


Figure 6.2-1 Excerpt from Map 12 Parks, Recreation & Open Space within Appendix A, showing existing parks, recreation and open space resources within Northeast Ramapo.

<sup>1</sup> Appendix A, Comprehensive Plan Update Town-wide Existing Conditions Report

Table 6.2-1. Parks & Recreation Classifications & Service Criteria Summary Matrix

Record Number	Property Information						Recreation Property Classifications				Rec. Service Criteria (Attributes Onsite)			
	Address (General)	Multiple Parcel (Y/N)	Property Name	Location	Ownership	Acres	Neighborhood Level	Community Level	Regional Parks	Special Facilities	Playgrounds	Sports Playing Field(s) Courts (basketball, tennis, etc.)	Pools	Non-Motorized Trails
1	15 Bon Aire Cir.		Commons at Bon Aire Park	Suffern (V)	Commons at Bon	2.07	X				X	X	X	
2	20 Fourth St.		Hillburn Veterans Park	Hillburn (V)	Hillburn (V)	2.10	X							X
3	220 Route 17	Y	Hillburn Youth Center	Hillburn (V)	Hillburn (V)	3.50	X				X	X	X	
4	1-10 Provident Bank Park Dr.	Y	Palisades Credit Union Park	Unincorporated Ramapo	T/O Ram LDC	60.25			X			X		
5	19 Senator Levy Dr.	Y	Kathryn Gorman Ponds	Montebello (V)	Montebello (V)	22.20	X							X
6	Seven Lakes Dr (generally)		Harriman State Park	Unincorporated Ramapo	NYS Parks	9,897.53		X	X					X
7	6A Beaver Dam Rd.		John Vanden Hende Park	Pomona (V)	Pomona (V)	15.83	X				X		X	
8	22 & 30 Ladentown Rd.	Y	Ladentown	Pomona (V)	Ramapo (T)	9.43	X							
9	20 Besne Pkwy.		Besen Park	Airmont (V)	Ramapo (T)	3.49	X				X		X	
10	200 Cherry Ln.		Camp Scuffy	Airmont (V)	Ramapo (T)	24.10			X	X	X	X	X	X
11	16 Capitol Ln.	Y	Capital Park	Chestnut Ridge (V)	Ramapo (T)	7.87	X							
12	229 Route 59		Challenger Center	Airmont (V)	Ramapo (T)	0.60			X					
13	60 Grotke Ln.		Children's Park of Ramapo	Chestnut Ridge (V)	Ramapo (T)	36.15		X		X	X	X		X
14	59 Campbell Ave.		Clark Recreation Area	Airmont (V)	Ramapo (T)	21.62		X			X	X	X	
15	12A Cottage Ln.		Cobblestone Farm Park	Unincorporated Ramapo	Ramapo (T)	5.53	X							
16	20 Dawn Ln.	Y	Dawn Lane	Airmont (V)	Ramapo (T)	11.78	X							
17	924-930 Route 45		Eugene Levy Mem. Park & Herb	Unincorporated Ramapo	Ramapo (T)	56.36		X		X	X	X	X	X
18	679 New Hempstead Rd.		Fairway Park	New Hempstead (V)	Ramapo (T)	21.59	X							
19	25 Annette Ln.		Fred Rella Fields	Airmont (V)	Ramapo (T)	10.88		X			X	X		
20	10 Straut Dr.		Handwerg Park	New Hempstead (V)	Ramapo (T)	5.92	X							
21	15 Liberty Rock Rd.		Harmony Hill/ Jacob Sloat House	Sloatsburg (V)	Ramapo (T)	1.84			X					
22	131 Blauvelt Rd.	Y	Harry Reiss Park	Unincorporated Ramapo	Ramapo (T)	0.91	X				X			X
23	115 Tome Valley Rd.	Y	Joseph T. St. Lawrence Rec. Center	Unincorporated Ramapo	Ramapo (T)	47.83		X		X	X	X	X	X
24	536 Haverstraw Rd.		Kings Gate	Montebello (V)	Ramapo (T)	10.49	X							
25	21 N. Lorna Ln.	Y	Lorna Lane Park	Airmont (V)	Ramapo (T)	13.39	X				X		X	
26	148 W Maple Ave.	Y	Manny Welder Park-aka Viola Town	Kaser (V)	Ramapo (T)	47.14		X				X	X	X
27	150 Cherry Ln.	Y	Mill Creek Park	Airmont (V)	Ramapo (T)	12.82	X							
28	80 Lime Kln Rd.	Y	Mitch Miller	Wesley Hills (V)	Ramapo (T)	153.26		X						
29	31 Margaret Ann Ln.	Y	Orchard Hill Park	Uninc. Ramapo/ Montebello	Ramapo (T)	44.18	X				X	X	X	
30	10 Jean Ln.	Y	Pine Brook Farms Park	Chestnut Ridge (V)	Ramapo (T)	22.96	X							
31	44 Skylark Dr.		Polpean Heights	Wesley Hills (V)	Ramapo (T)	7.04	X							
32	1152 Haverstraw Rd.		Ramapo Equestrian Center	Unincorporated Ramapo	Ramapo (T)	55.67	X			X				X
33	7 Rustic Dr. Monsey	Y	Rustic Brook Tennis Club	Airmont (V)	Ramapo (T)	7.78				X				
34	448 Saddle River Rd.		Saddle River Pool	Airmont (V)	Ramapo (T)	13.22		X				X	X	
35	9 Sandy Brook Dr.		Sandy Brook Town Park	New Hempstead (V)	Ramapo (T)	12.09	X				X			X
36	23A Sky Meadow Rd.		Sky Meadow	Unincorporated Ramapo	Ramapo (T)	5.61	X							
37	179 Spook Rock Road		Spook Rock Golf Course	Montebello (V)	Ramapo (T)	159.89			X					
38	171 Spook Rock Road		Spook Rock Swimming Pool (GC lot)	Montebello (V)	Ramapo (T)	0.2	X					X	X	
39	81 Yorkshire Dr.		Stonegate Park	Suffern (V)	Ramapo (T)	5.11	X							X
40	62-66 N Main St.		T/O Ramapo Cultural Arts Center	Spring Valley (V)	Ramapo (T)	0.18			X					
41	319 Haverstraw Rd.		T/O Ramapo Senior Center	Montebello (V)	Ramapo (T)	5.18			X					
42	3 Carol Dr. Suffern		Ward Ling Park	Montebello (V)	Ramapo (T)	6.44	X							
43	121 Willow Tree Rd.	Y	Willow Tree Town Park	Wesley Hills (V)	Ramapo (T)	15.25	X							X
44	118A Rock Hill Rd.	Y	Unknown	Unincorporated Ramapo	Ramapo (T)	1.61	X							
45	12 Long Meadow Dr.		Unknown	Airmont (V)	Ramapo (T)	2.64	X							
46	16A Stella Dr.		Unknown	Unincorporated Ramapo	Ramapo (T)	4.30	X							
47	26 Willow Tree Rd.		Unknown	Wesley Hills (V)	Ramapo (T)	0.27	X							
48	28 Lancaster Ln.		Unknown	Chestnut Ridge (V)	Ramapo (T)	21.09			X					
49	410 Route 306		Unknown	Wesley Hills (V)	Ramapo (T)	5.14	X							
50	43 Mallory Rd.		Unknown	Unincorporated Ramapo	Ramapo (T)	0.87	X							
51	47 Fessler		Unknown	New Hempstead (V)	Ramapo (T)	0.69	X							
52	9 (& 91A) Regina Rd.	Y	Unknown	Airmont (V)	Ramapo (T)	15.68	X							
53	25 Municipal Plaza	Y	Burlingham (Eleanor) Mem. Park	Sloatsburg (V)	Rockland Co.	44.06			X	X				
54	Johnsontown Road (generally)	Y	Dater Mountain Nature Park	Unincorporated Ramapo	Rockland Co.	348.30			X					X
55	W. Maple Ave. (generally)		Erickson Park (Pete Erickson Farm)	Unincorporated Ramapo	Rockland Co.	27.42			X					
56	Andreanna Park Rd (generally)		Gurnee Park	Unincorporated Ramapo	Rockland Co.	22.31			X					X
57	Oxford Drive (generally)		Kakiat Park	Unincorporated Ramapo	Rockland Co.	377.60			X					X
58	Saddle River Rd. (generally)		Monsey Glen	Unincorporated Ramapo	Rockland Co.	25.42			X					X
59	NYS Route 202 (generally)		Samuel G. Fisher Mt. Ivy Env. Park	Unincorporated Ramapo	Rockland Co.	272.65			X					X
60	Monsey Heights Rd. (generally)		Schwartz Memorial Park	Airmont (V)	Rockland Co.	10.49			X					
61	S. Central Hwy (generally)	Y	South Mountain Park	Unincorporated Ramapo	Rockland Co.	94.71			X					X
62	Tome Valley Rd. (generally)	Y	Wrightmans Plateau	Unincorporated Ramapo	Rockland Co.	587.82			X					X
63	101 Tome Valley Rd.		H. Pierson Mapes Flat Rocks County	Unincorporated Ramapo	Rockland Co.	1.00			X					X
64	31 Sterling Av.		Brookstreet Park	Sloatsburg (V)	Sloatsburg (V)	1.80	X			X			X	
65	100 Trooper Robert V Conklin Dr.	Y	Sloatsburg Community Fields	Sloatsburg (V)	Sloatsburg (V)	24.52		X			X	X	X	X
66	50 Memorial Dr.		Brooklands Park	Suffern (V)	Suffern (V)	7.30	X						X	
67	38 Chestnut St.	Y	Chestnut Street Park	Suffern (V)	Suffern (V)	0.23	X			X				X
68	20 Sylvan Way		Clark Osborne Hockey Rink	Suffern (V)	Suffern (V)	5.24	X				X	X	X	X
69	80A Lonergan Dr.		Donna Hallet Park	Suffern (V)	Suffern (V)	1.72	X							
70	17A Parkside Dr.	Y	Foxwood Pond	Suffern (V)	Suffern (V)	11.64	X							
71	100 E. Maltbie Ave.		Harmony Park	Suffern (V)	Suffern (V)	6.23	X							
72	1 W. Maltbie Ave.	Y	Suffern Athletic Fields	Suffern (V)	Suffern (V)	20.68		X				X	X	
73	109 Wayne Ave.		Suffern Horton Field & Memorial Pool	Suffern (V)	Suffern (V)	12.93		X		X	X	X	X	X
74	91 Yorkshire Drive		Yorkshire Drive Park	Suffern (V)	Suffern (V)	3.21	X							X
75	37 Lime Kln Rd.		Greg Sikorsky Children's Park	Wesley Hills (V)	Wesley Hills (V)	13.01	X			X				X

Northeast Ramapo contains five existing, programmed public parks that are displayed in Figure 6.2-1. None of these parks are within a proposed Opportunity Area:

- Eugene Levy Memorial Park/ Herb Reisman Sports Complex (56.4 acres) – Town-owned;
- South Mountain County Park (94.7 acres) – County-owned;
- Gurnee Park (22.3 acres) - County-owned;
- Samuel G. Fisher Mount Ivy Environmental Park (272.7 acres) County-owned; and
- South Mountain County Park (94.7 acres) - County-owned.

**Eugene Levy Memorial Park/ Herb Reisman Sports Complex** is the Town's core park in Northeast Ramapo. It has walking paths, playground, athletic courts/ fields and appurtenances, plus the Town Parks & Recreation Department maintenance facility is based there. The park covers 2.6% of Northeast Ramapo and combined with the aforementioned three county parks, these collectively comprise 446.1 acres (20.3% of Northeast Ramapo).

**South Mountain Park**, owned by Rockland County, stretches the northern border of Northeast Ramapo along the Palisades escarpment. The park totals 239 acres, 95 of which are within the Town of Ramapo. Entrance to the park is from South Central Highway within the Town of Clarkstown. The park provides access to the Long Path trail, a 358 mile public recreation trail running from New York City to John Boyd Thatcher Stat park near Albany, New York.

**Gurnee Park**, is a 22 acre park owned by Rockland County. The park is located on Andreanna Park Road off of State Route 45 in Northeast Ramapo. The park is adjacent to western boundary of South Mountain Park and north of Opportunity Area C. The park provides access to the Long Path trail.

**Samuel G. Fisher Mount Ivy Environmental Park** is a 273 acre natural area owned by Rockland County. The park is accessed from Firemens Memorial Drive north of Pomona Road. The park is adjacent to Opportunity Area B to the north and Opportunity Area D to the south. The park is primarily marsh land and is a NYSDEC protected wetland area. The park provides access to a recreational trail along the former Lackawanna railroad bed.

**The Palisades Credit Union Park (PCUP)** is also located in Northeast Ramapo. PCUP covers 60.2 acres and is owned by the Ramapo Local Development Corporation. This NRDP/DGEIS qualifies this as a limited-use, 'specialized facility'. It does not examine any changes or improvements to this property but does discuss and include current uses.

In addition to these parks, the Orchards of Conklin are also located within Northeast Ramapo. The Orchards of Conklin cover 95 acres and are owned by Rockland County. The land was preserved through

the Rockland County Open Space Acquisition Program<sup>2</sup>. The land is currently the site of an active farm and bakery which produces a variety of agricultural goods and offers apple picking in the fall.

Other recreation assets, cultural resources, and open spaces exist within and adjacent to Northeast Ramapo. There is recreation infrastructure at schools, other Town-owned land, State Parkland adjacent within High Tor State Park, Pomona's Van den Hende Park off Camp Hill Road, as well as nature preserves in adjacent Clarkstown.

### 6.2.1.2 Other Select Town-Owned Lands

The Town owns seven parcels directly within Northeast Ramapo. Based on a review of Town data available online and desktop research these parcels are currently vacant and include:

- **96 Camp Hill Road:** This 7.3 acre property on the northeast corner of Ladentown and Camp Hill Roads was purchased in 2009. It contains an uninhabited single-family house and appurtenances including a pool and sheds.
- **42 Hoover Lane:** A 3.2 acre parcel (PID 42.20-2-2), just north of the Village of New Square, backs-up against the Palisades Parkway. This vacant site is somewhat inaccessible since Hoover Lane cul-de-sac serves a small set of single-family homes. This area is not proposed for FBC coverage, which means the neighborhood will remain Zoned R-35.
- **Stryker Properties (98, 30 Conklin Road):** The Town owns two vacant lots abutting Conklin Road and a third on State Route 45 (1020 State Route 45).
- **58A & 48A South Mountain Road:** Two vacant parcels owned by the Town in the northeast at 58A and 48A South Mountain Road lie south of South Mountain Road. There are 34 acres of open land within these adjacent lots (58A is 18.1 acres and 48A is 15.9 acres) which are in RR-80 Zone. Lot 58A contains the former and derelict residence of Mary Mowbray-Clarke, a notable historic personage (see Historic Resources).

### 6.2.1.3 Palisades Interstate Parkway

Approximately three miles of the Palisades Interstate Parkway (PIP) passes through Northeast Ramapo. The Palisades Parkway is a State designated Scenic Byway<sup>3</sup>. Completed in 1962, the PIP is significant from a historic and transportation perspective. The PIP is currently listed on the National Register of Historic

<sup>2</sup> [Rockland County Open Space Acquisition Map](#)

<sup>3</sup> [Palisades Scenic Byway \(ny.gov\)](#)

Places and is also a national landmark. The PIP has also been designated by the United States Department of Transportation as a National Scenic Byway.

#### 6.2.1.4 Public Parks & Public Lands Beyond Northeast Ramapo

In addition to the aforementioned High Tor State Park, additional public lands were identified within ½ mile of the Northeast area. Parks within Clarkstown are not included, as Town residency is required for their use, except for Davenport Preserve, which their website lists as open to the public.

- **Ladentown Property:** Approximately 0.2 miles west of Northeast Ramapo, at 30 Ladentown Road, the Town of Ramapo owns a 7.1 acre vacant open lot. The lot has frontage along US Route 202.
- **Village of Pomona John Van den Hende Park:** Village-owned 16 acre Van den Hende Park is located off Beaver Dam Road. This neighborhood park serves as a nature area recreation facility. There are two asphalt tennis courts adjacent to a small open lawn and a playground, constructed in summer 2020. The parks location just off Camp Hill Road's mid-section between US Route 202 and Pomona Road, makes it accessible to the northeastern study area. Facilities here may serve nearby residents, although they are not specifically town owned assets.
- **Village of Pomona Secor Park:** Owned by the Village of Pomona, Secor Park is located north of the Town of Ramapo along Secor Court. This 3.6 acre park is nature-oriented, with a pond, path and bridge and benches.

#### 6.2.1.5 SCORP Needs Assessment for Rockland County

The '2020-2025 NYS Statewide Comprehensive Outdoor Recreation Plan' (SCORP) by New York State Office of Parks, Recreation & Historic Preservation (OPRHP), is the recreation plan for New York State. Through this evaluation Ramapo is provided guidance for recreational planning. SCORP presents standardized (benchmarked) information identifying the relative extent of need for various recreation offerings by evaluating the recreation need across a set recreation facility types for every county sub-region within New York.

The SCORP's Table 3.1 'Relative Index of Need' (RIN), pages 54-55, analyzes a ratio of demand to supply for 15 recreation categories. Recreation needs are defined at the County-level and per a population basis using an evaluation scale that ranks needs from 1-10. Higher numbers indicate greater need. According to its ranking scale, a value greater than three (3) mean there is an existing need to augment the supply of that particular type of recreation facility or space.

For 11 of 15 categories, Rockland County scores at level five (5) or above, indicating there often is an average or greater than average need for many types of recreation offerings. Some key categories identified as having this level of need for an increased supply or presence in Rockland County are:

- Bicycling (8);
- Court Games (7);
- Space for Parks (5);
- Swimming (5); and
- Field Sports (5).

Considering other types of outdoor recreation, per the SCORP, Rockland area also demonstrates need for boating (8); snowmobiling (8); and hunting (6) options. There is also need for fishing access (5) and space for downhill winter sports (5). Some of these types of recreational offerings are seasonal, while others, like boating, snowmobiling or hunting, seem best provided at a regional/county level. Yet, a need for parks, court games, swimming, and field sports facilities can be managed at the local level within the Town and in the Northeast are. The SCORP presents an objective rationale for promoting an enhanced supply for recreational offerings like these. Overall, the RIN assessment is a balanced tool that may be used for qualifying and quantifying the types of recreation demand that exist in the Town. It is one source of information used to define possible recreation supply improvements to target in the Town.

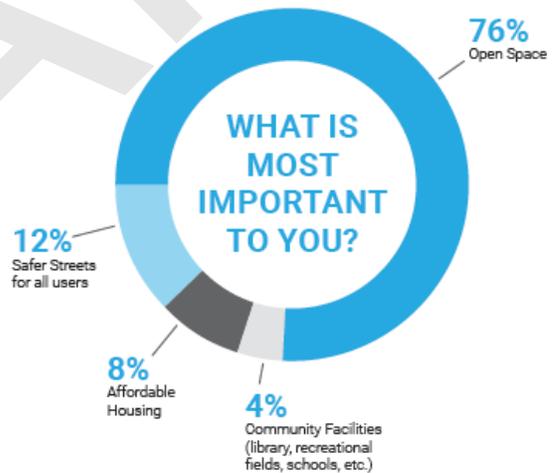
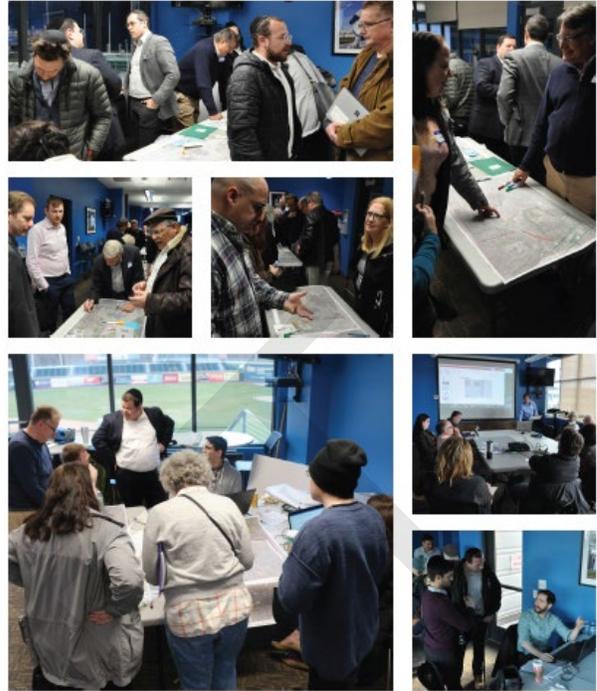


Figure 6.2-2 - Polling Data from Charrette 'Open House' Nov. 29, 2018

### 6.2.1.6 Town-Wide General Recreation Needs Statement

While there are extensive parks Town-wide, an examination of the layout of Town-owned parks at a Town- and Northeast Ramapo-scale exemplify that substantial parts of the Northeast area are isolated from recreation lands. This means there are relatively long distances which often must be traveled, particularly on foot, to get to various recreation offerings. While the degree lessens when considering a distribution

of parks/ recreation facilities of any type of ownership, including County-owned parks, this still remains to be the case for many parts of Northeast Ramapo.

Public outreach conducted in 2018 for the project's kick-off and leading up to and during a State Environmental Quality Review Act-based Scoping Session for this NRDP/DGEIS conducted in August 2019, identifies community interests related to recreation development. People articulated interests in having an availability of parks, playgrounds, and open space in the Northeast area. They also expressed concern for how Town-owned vacant properties existing in Northeast Ramapo will be utilized.

A public opinion survey administered in early 2019 collected feedback on preferred development patterns and on perceptions of cost of housing and livability (**Appendix I**). Residents are concerned about housing availability and factors influencing affordability. The survey showed strong support for future designs of places and buildings which possess visual character. Presented with choices in terms of alternative appearances and patterns of development, respondents routinely opted for depictions of walkable green spaces and pleasing architecture and community form.

Sentiments expressed by participants at a four-day, multi-event 'Designing in Public' Project Charrette held on in November 2018 confirms that people value open spaces and the Northeast's appearance. Considering the future, there was emphasis on preservation of green and open space and concern for managing character and livability. The input received on recreation supported improved walkability and a trails network (and to an extent bike paths) as well as retained open space. In a direct poll of attendants of one large public meeting, when asked to choose among four priorities, 76% saw preservation and enhancement of open space as most important. Meanwhile, 4% were focused on community facilities (which included recreational fields in its definition)<sup>4</sup>.

Discussion below considers this context plus the supply of parks or open spaces situated around Northeast Ramapo. It delves into population standards and it analyzes different types of recreation resources in defining needs that could evolve over the next 20 years and that strategies which can be used to supply a variety of recreation and open space opportunities for a growing community.

### **6.2.1.7 Existing & Future Demographic Profiles Affecting Northeast Ramapo Recreation Planning**

Overall, Northeast Ramapo's existing population is relatively older. Over 20% of residents within Northeast Ramapo as of 2018 are 65 years or older. Within all of Unincorporated Ramapo, residents 65

<sup>4</sup> At the Charrette Open House, November 29, 2018, participants were asked which of the "big ideas" presented were most important to them. Besides the two choices 'open space' and 'community facilities', 12% of participants chose "safer streets for all users" and 8% selected "affordable housing".

years or older only account for 9.8% of the population<sup>5</sup>. Within Northeast Ramapo there were an estimated 2,298 persons in 2018, compared with 44,629 persons in the Unincorporated Town, representing 5.1% of Unincorporated Town population<sup>5</sup>.

An aging population has different recreation needs and interests than a younger on-average population. This includes a need for more accessible facilities, as older age groups tend to have higher rates of mobility impairments<sup>6</sup>. Also, based on a survey of persons ages 65 to 85, OPHRP found this group is less interested in highly active physical pursuits. Rather, they prefer opportunities to relax in parks, walk, and pursue other passive activities<sup>7</sup>.

This is one source of support for investing-in non-motorized off-road linear trails, like ‘multi-use trails’, nature, or hiking trails that could be established in or around Northeast Ramapo, including within the County’s Mt. Ivy Park unimproved rail trail right of way, or other possible locations, like in or by State Route 45. This NRDP/DGEIS construes that promoting trails, including some segments of universally accessible trails, as well as complete streets, can benefit existing residents and future users.

Yet, as discussed in sections covering future development, with housing and population growth in Northeast Ramapo, the age-profile will shift towards younger age profiles as time progresses. People are presumed to seek walkable, complete streets, but there will also be sustained and even increasing demand for outlets for active recreation. As discussed below, one possible way to establish a diverse recreation supply is to promote the establishment of community centers, gymnasiums, or other indoor facilities which can provide quality spaces for recreational pursuits. These can complement outdoor elements that are a crucial part of a quality overall supply of parks, recreation and open space options.

### **6.2.1.8 Recreation Needs Analysis for Northeast Ramapo**

The core Town ‘community-level’ park in Northeast Ramapo is currently Eugene Levy/ Reisman Park. This considers the combined extent of local and regional parks (including the PIP), orchards, undeveloped open lands, proximity to additional state or local parks as well as preserves adjacent to and near unincorporated northeast Ramapo.

At a more granular level, there is a somewhat limited supply of recreation options in Northeast Ramapo, considering there are not multiple dispersed ‘Neighborhood-level parks’, such as with playgrounds. In discussing the ‘Land Use Plan’, potential for ‘Mixed-use’, and advantages of “neo-traditional” design principles, the current 2004 Comprehensive Plan, pages D-15 to D-16, notes that creating a more livable

<sup>5</sup> Appendix A, Comprehensive Plan Update Town-wide Existing Conditions Report, Figure 1

<sup>6</sup> NYS SCORP, page 14.

<sup>7</sup> Ibid.

and less sprawling pattern of development, would be brought forth at a location like on US Route 202 when most dwellings are within a five-minute walk of a center, and there are desirable features like small playgrounds in every neighborhood with streets that are relatively narrow and shaded by rows of trees.

Yet, while much of the northwestern part of the Northeast Area is not near Town-designated parkland, there are extensive open areas/ passive recreation options nearby, including Regional-level parks, with Harriman State Park's perimeter roughly one mile west. More specifically, within Northeast Ramapo, three County facilities provide varied upland and lowland hiking and nature viewing opportunities:

- Large open spaces and opportunities for walking/ hiking (and perhaps mountain biking) in the County-owned Mt. Ivy Environmental Park, which is adjacent to the existing Mt. Ivy hamlet core, generates an option for the workforce and residential populations around there.
- Gurnee Park and South Mountain Park sites represent excellent places for hiking and passive recreation. They augment choices available nearby in Mt. Ivy Environmental Park. Also, unimproved flat land at Gurnee Park can be used for cultural activities like outdoor performances.
- Proximity to Palisades Credit Union Park which is a source of limited-access playing fields for organized scholastic and non-scholastic sports leagues. There are also community events held here, plus people walk and bicycle the parking lots outside the sporadic major events.
- There is a Village of Pomona neighborhood-level Van den hende Park close to Camp Hill Road on Beaver Dam Lane in Pomona.
- There are scenic and passive resources, like Conklin Orchards, in the character-rich north-northeast area at the toe of South Mountain centering around South Mountain Road, plus just outside this corner of Town in Clarkstown is High Tor State Park and Davenport Preserve (91 acres) on Saw Mill Road (with a 443 Buena Vista Road address).
- A nearly two mile Town of Haverstraw 'Fitness Trail' in Mount Ivy just outside Ramapo on the north side of US Route 202, the PIP, and Mount Ivy Road extends further in a former rail right of way northeast to almost Rosman Road in Haverstraw.

In terms of specialized facilities, there is not a publicly-owned non-school gym or community center or an outdoor or indoor public pool in the vicinity. The Stadium is specialized as a place for high school baseball tournaments, professional baseball viewing, and as a venue sports events like road races and other civic gatherings like 4<sup>th</sup> of July fireworks. However, this public facility provides limited service.

## 6.2.2 Potential Impacts

Zoning changes proposed for the Opportunity Areas within Northeast Ramapo are anticipated to result in future development and redevelopment. Potential impacts of development to the open space resources

are discussed within this section. Since the location of future development is not known, these impacts are discussed generically for the Northeast corridor.

Future development and redevelopment within Northeast Ramapo may result in the loss of some existing undeveloped space. These impacts may include the removal of vegetation and conversion of vacant land into developed land.

It is anticipated that any future development will include preservation of forested areas where practical and the construction of lawns and landscaping that provide green space. Additionally, the incorporation of walkways and streetscapes that improve walkability will encourage pedestrian activities.

Walking and bicycling as active transport can serve as an aspect of recreation. The Town's existing 2004 Comprehensive Plan identifies expansion of walking and biking trails as a necessary and desired travel option. The improvement of existing pedestrian infrastructure in future areas of development will support quality of life and pedestrian safety.

Commercial Corridor zoning, proposed within Opportunity Area B along US Route 202, encourages a mix of commercial and residential development. The new district is intended to create an area of focused, walkable mixed-use development allowing for a greater variety of commercial activity while supporting residential uses.

The Neighborhood Shopping District, proposed within Opportunity Area C, is intended to allow for neighborhood commercial uses, on a scale consistent with existing development in the area. The district is intended to support existing residential areas by allowing for a greater variety of services which may include local convenience stores, groceries, offices, and laundromats.

The Flexible-Overlay Planned Unit Development (FOPUD) is a new floating zone that is intended to provide flexibility for future growth that considers options for new residential, commercial, mixed uses and amenities in which economies of scale or creative architectural or planning concepts may be utilized by the developer. The FOPUD is intended to minimize the impacts of suburban sprawl, more efficiently use land, and encourages site design to include a network of active spaces. Proposed development with the FOPUD is intended to be respectful of the existing environment, make efficient use of the land and meet a set of design criteria. This zoning tool is intended to be utilized on non-public lands of 20 acres or more, potentially within Opportunity Areas B, D and/or E. The flexible nature of the FOPUD will provide opportunities for the development of additional open space resources which may include parks, trails and pedestrian connections. Incorporation of these elements will be addressed at time of site plan review. Development consistent with the proposed zoning is anticipated to result in an overall improvement in pedestrian facilities from the current condition.

The current Town wide population is anticipated to increase as a result of migration into the Town as well as future development within the proposed Opportunity Areas. An estimate of the new residents resulting from the proposed zoning changes is 3,928 - 4,260 at full buildout. This is further discussed within **Section 6.10 Fiscal Impacts**. Based on these projections, it is anticipated that there will be a greater need for recreational opportunities than what has already been identified.

Additionally, a project proposed within Opportunity Area A includes the enhancement of existing pedestrian resources through additional sidewalks and crosswalks within the project site along US Route 202.

A project proposed within Opportunity Area D will include the construction of new pedestrian resources through additional sidewalks and crosswalks within the project site. The proposed project includes plans for the construction of a non-residential recreation space within the site. The recreational space will primarily serve the residents within the development.

### 6.2.3 Proposed Mitigation

While future development and redevelopment within Northeast Ramapo may result in the loss of some existing undeveloped space, including the removal of vegetation and conversion of vacant land into developed land, it is anticipated that any adverse impacts would be minimized through mitigation measures discussed below.

Mitigation measures are proposed to alleviate potential impacts from future development and redevelopment on current open space resources. Since the location and scale of future development is not known, these mitigation measures are discussed generically for the Northeast corridor.

Future applications for site plan and subdivision review must comply with existing zoning requirements. Bulk area requirements are specified by use and are described within the Town Zoning Code Table of General Use Requirements<sup>8</sup>. The Table of Bulk Requirements<sup>9</sup> in regulation 376-41, specifies by use group the requirements for: minimum lot area, lot width, setbacks, setbacks, required minimum frontage, development coverage, floor area ratio (FAR), as well as maximum building height. Adherence to these requirements is anticipated to mitigate the impact on open space.

<sup>8</sup> [Ramapo Zoning Law § 376-31 - General Use Requirements](#)

<sup>9</sup> [Ramapo Zoning Law § 376-41 - Table of Bulk Requirements](#)

Applications for future subdivision must comply with the current Town Subdivision Regulations. The Subdivision Regulations identify requirements for incorporation of recreation spaces including minimum percentages by zoning district, frontage and as well a dimension requirements<sup>10</sup>.

The proposed Flex-Overlay PUD zoning district encourages site design to include a network of active spaces. Design criteria for a PUD plan also includes creating streetscapes that encourage pedestrian activity. The Town Board may also require parks, recreation and/or open space conditions before approval of the PUD plan.

In general, development consistent with the proposed zoning is anticipated to result in an overall improvement in pedestrian facilities from the current condition and so mitigation is not required.

Additionally, it is recommended that any future development limit tree cutting, enhance vegetation buffers where feasible and be consistent with the visual character of the surrounding area.

Any development in proximity to the Scenic Road District, which includes the Palisades Interstate Parkway (PIP), US Route 202, Camp Hill Road, and South Mountain Road is not permitted without Town Planning Board Approval. Development in these areas should be compliant with Town Code Chapter 215 which provides extensive area and site level recommendations for how the pattern, form, and appearance of development can occur. The Town may require additional plantings or buffering to protect key scenic views.

### **6.2.3.1 Recreation Needs and Proposed Greenprint**

Based on the SCORP analysis described within the above section 6.2.1.5, there often is an average or greater than average need for many types of recreation offerings within Northeast Ramapo. Key categories identified as having this level of need for an increased supply or presence in Rockland County include bicycling, court games, parks, swimming and field sports. Additionally, the current Town wide population is anticipated to increase as a result of migration into the Town as well as future development within the proposed Opportunity Areas. Based on these projections, it is anticipated that there will be a greater need for recreational opportunities than what has already been identified.

In order to help meet these needs, a Greenprint is proposed to reinforce the landscape which will complement the development occurring in the proposed Opportunity Areas. A Greenprint is a linked system of open space and natural areas, such as wetlands, forests, existing parks, preserved land, and multiuse paths or trails that establish and connect the Northeast's natural and cultural features and

<sup>10</sup> Ramapo Subdivision Regulations Article IV §44 - Reservations for parks, playgrounds and recreation areas

character. The accompanying **Figure 6.2-3 Greenprint Map** illustrates, at a conceptual level, future linkages, and connections to existing open space, parklands, trails, and the proposed Opportunity Areas.

Elements of the Greenprint include the establishment of multimodal connections along key roadways and gateways including Camp Hill Road, US Route 202, South Mountain Road, Pomona Road, Conklin Road, and New Hempstead Road. Additionally, there are opportunities to establish trail linkages through existing public and open space lands such as through South Mountain County Park.

In addition to recreation benefits, efforts to bolster the Greenprint could deliver natural systems support, benefit community resiliency, and enhance the overall character of the area. As development occurs, the Town of Ramapo can also examine additional ways to link open space and recreational resources through site plan review. Additional discussion of the Greenprint is included in **Section 7.0 Alternatives**.

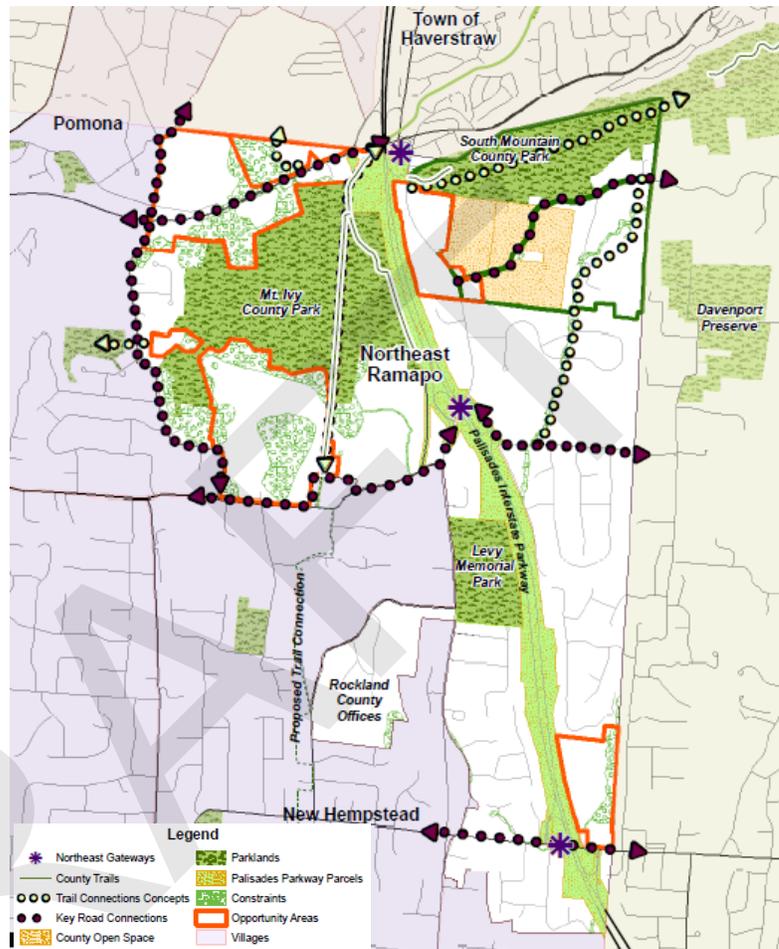


Figure 6.2-3 – Proposed Greenspring Map. Source: LaBerge Group

## 6.3 Historic & Archeological Resources

This section analyzes historic and potential historic resources, such as districts, sites, or buildings, potential environmental impacts and recommended mitigation measures for historic, cultural and scenic resources in Northeast Ramapo. Resources are based on correspondence from the NYS Office of Parks, Recreation & Historic Preservation (OPRHP) provided on March 1, 2019<sup>1</sup>.

### 6.3.1 Existing Conditions

#### Historic Resources

OPRHP, in the March 1, 2019 correspondence, provided a list of Listed and Eligible National Register resources in the Town. Resources on the National Register are also on the New York State Register of Historic Places. OPRHP noted that the State's database of historic resources is continually being updated and that such list may not include all historic built structures that are potentially eligible for listing on the National Register of Historic Places. Understanding the limitations of the information provided by OPRHP, additional information was obtained through the online OPRHP Cultural Resource Information System (CRIS) along with ongoing and past regulatory reviews in Northeast Ramapo.

OPRHP also stated they were unable to comment on potential impacts to historic resources based on the type of inquiry performed on behalf of the Town. Project-specific information is necessary for formal determinations. Future projects carried out according to the proposed zoning amendments may require OPRHP review if state and/or federal approvals and/or funding are involved.

The following historic resources are present within Northeast Ramapo:

#### State and National Register Properties:

- English Church and Schoolhouse, 484 New Hempstead Rd, New City, NY 10956
- Palisades Interstate Parkway (PIP)

#### Properties Eligible for Listing:

- 96 Camp Hill Road Property
- Orchards of Concklin, 2 S Mountain Rd, Pomona, NY 10970

#### Archeological Resources

OPRHP recommended a Phase IA Archeological background and sensitivity assessment report be prepared and submitted to assist their review regarding potential for impacts to archeological resources. Due to the

<sup>1</sup> Appendix A: Comprehensive Plan Update Town-wide Existing Conditions Report, Appendix A: Correspondence

scale of the Northeast Ramapo project area, the Town determined that a Phase IA screening like this would be unnecessary for the purposes of generically evaluating potential impacts on historic and cultural resources of the proposed NRDP and zoning amendments using a DGEIS. Site-specific archeological information will need to be generated and evaluated on an individual site-specific basis for future land disturbing projects that require OPRHP sign-off. Except for situations where existing OPRHP determinations have been made, as defined herein, this GEIS will not address the potential for impacts to archeological resources.

## Scenic Roads

The Town has identified Scenic Roads Districts to protect the scenic resources along key roadways. Landscape-level planning and conservation is provided for within Town Code Chapter 215, which establishes 10 road corridors in the unincorporated Town as Scenic Road Districts. In Northeast Ramapo this includes the PIP, US Route 202, Camp Hill Road, and South Mountain Road. The Districts encompass lands within 1,000 ft. from the centerline of each designated road. Construction or material alternation of principal or accessory uses in the Scenic Road District are not permitted unless a proposed project receives approval from the Planning Board (or Building Inspector, whichever is applicable pursuant to law). This section provides extensive area and site level recommendations for how the pattern, form, and appearance of development can occur so that it meshes with the requirements in Chapter 215.

The intent of the Scenic Road Law is to preserve the Town's historic resources, stone walls, other natural features, and scenic views from its roadways and other public areas by channeling new development onto lands which are not as scenic and historically significant. Development proposed in sensitive scenic areas will need to be consistent with the law's objective of maintaining the areas existing scenic character to the greatest extent practicable.

Projects in a Scenic Road District are held to additional requirements. To grant approval, the Town must find that the important scenic and natural features of a site will be substantially preserved. Also, projects must be architecturally compatible with surrounding structures. When practicable, all structures shall be sited and clustered in a way to avoid or minimize the obstruction of the District's scenic views.

If necessary, front, side and rear yard setbacks may be doubled for structures and parking areas if there are historic or scenic resources which are to be protected. Where applicable, existing vegetation, plant specimens, landforms and water features found in front yards, should be preserved. The Town may require additional plantings or buffering to protect key scenic views, including views of historic properties and landscapes, among other standards. Additionally, vegetative cutting shall be limited to maintain it as a screen for structures viewable from the road, parks, and other public views in Scenic Road Districts.

The following scenic roads are present within Northeast Ramapo:

### Town-designated Scenic Roads

- Palisades Interstate Parkway (PIP)
- South Mountain Road

- Camp Hill Road
- US Route 202

## Opportunity Area A

The potential historic and cultural impacts within Opportunity Area A was previously evaluated through a project specific SEQRA evaluation. Referred to as the Minisceongo Park project, a 53-acre site partially within the proposed Opportunity Area A (a portion of the proposed project site is within the Town of Haverstraw). The site is located just west of the PIP and fronts along the northern side of US Route 202. It is bounded to the east by Quaker Road, on the north by the Town of Haverstraw municipal boundary, and to the west by the edges of areas adjacent to the wetland buffers and floodplain on the west side of the Minisceongo Creek.

With respect to potential archeological resources, the Minisceongo Park SEQRA documents indicate that the project site was significantly disturbed by previous mining activities. As result, any prehistoric artifacts would have been removed, disturbed, or destroyed through the excavation activities. A cemetery was located at the southeast corner of that project site straddling the Ramapo/ Haverstraw Town line near the current intersection of US Route 202 with the PIP access road. The graves were relocated prior to mining activities occurring on this portion of the project site.<sup>2</sup> Based on a September 2, 2005 letter referenced in both the Minisceongo Park DEIS and FSEIS, OPRHP determined that the proposed Minisceongo Park project would have no impact on archaeological resources and therefore, no further analyses were warranted.<sup>3</sup>

The Minisceongo Park DEIS also assessed the potential impacts to the Registered PIP. Site evaluations were conducted to determine if the formerly proposed project would be visible from the PIP. According to the Minisceongo Park FEIS, the maximum building height proposed for the Minisceongo Park project within in the Town was 45 feet, or 4 stories and no building was to exceed 200 feet in length.<sup>4</sup>

At the time of environmental reviews, existing vegetation limited visibility of this site from the PIP, except when viewed from the US Route 202 overpass where there is no vegetation. The Minisceongo Park DEIS indicated that existing overpass guardrails blocked views of the site for most passengers. Also, it stated that at the point where vegetation allows visibility of the site, motorists traveling southbound along the PIP are already past the site, further reducing potential views. Likewise, that site was not readily visible to northbound motorists and at that time, there were limited gaps in the tree line traveling northbound at the overpass where the site may be glimpsed. This view was described as limited and not prolonged.<sup>5</sup> According to a November 1, 2005 letter from OPRHP, the Minisceongo Park project would not result in any adverse impact on properties in or eligible for inclusion in the State and National Registers, including

<sup>2</sup> Tim Miller Associates, Inc., "Minisceongo Park Draft EIS." November 8, 2006. As submitted to Town Board. Pg. 3.6-2 to 3.6-3.

<sup>3</sup> Ibid at pg. 3.6-4.

<sup>4</sup> Tim Miller Associates, Inc., "Minisceongo Park Final Supplemental Environmental Impact Statement." Nov. 20, 2009. Pg. 1-3.

<sup>5</sup> Tim Miller Associates, Inc., "Minisceongo Park Draft EIS." November 8, 2006. Pg. 3.6-4.

the PIP.<sup>6</sup> It is presumed that current vegetation and the guardrails will provide similar screening, but this should be verified in the field for future applicable projects.

## Opportunity Area B

Based on information provided by OPRHP and supplemented by the OPRHP CRIS, there is only one property listed on the State and National Registers of Historic Places within Opportunity Area B, the PIP. However, the property located at 96 Camp Hill Road on the western side of the Opportunity Area B was determined to be eligible for listing on the State and National Registers of Historic Places Registers.

Immediately outside Opportunity Area B is the Village of Pomona Village Hall, which is eligible for listing on the State and National Registers of Historic Places Registers. That building, formerly referred to as Camp Hill School, is at the northwest corner of the intersection of US Route 202/ Camp Hill Road. The building was erected as a rural two-room schoolhouse for a district in East Ramapo in the 1920s and continued to function as a school until the early 1960s.

### 96 Camp Hill Road Town-owned Property (Eligible for National Register)

The Town-owned property located at 96 Camp Hill Road on the western side of the Opportunity Area B was determined to be eligible for listing on the State and National Registers of Historic Places Registers on December 12, 2018.<sup>7</sup>

The property at 96 Camp Hill Road, (SBL 33.05-2-3) was purchased by the Town in 2009. Situated at the northeast corner of Camp Hill and Ladentown Roads, the site contains a vacant single-family dwelling, pool, cabana, and two sheds. The lot is 7.3 acres and is characterized primarily by open lawn with a mix of coniferous and deciduous vegetation along Camp Hill and Ladentown Roads as well as the property's northern and eastern boundaries. There is 700 feet of frontage along Camp Hill Road and 445 feet of frontage along Ladentown Road. Frontage along Camp Hill Road is defined by a low, stone wall along the property line and a tree line that becomes more open on the northern section of the property. Due to the vegetation along Ladentown Road, there are no views into the property. The low stone wall is apparent in places along Ladentown Road, particularly by the intersection with Camp Hill Road.



State/National Register Eligible Property at  
96 Camp Hill Road

An appraisal of 96 Camp Hill Road was conducted for the Town in 2017 for the purpose of estimating market value. Based on the appraisal, the single-family dwelling, pool, cabana, and two sheds were

<sup>6</sup> Ibid

<sup>7</sup> NYS OPRHP Response Letter, 19PR00997/2018095, March 1, 2019 and OPRHP Cultural Resource Information System (CRIS). Accessed 4-23-2020.

described as dilapidated and in poor overall condition.<sup>8</sup> Despite the property's dilapidated condition, OPRHP determined in 2018 that it is eligible for listing on the State and National Registers of Historic Places Registers. No additional information on the justification for this determination is currently available via CRIS.



Camp Hill Road – Looking north along 96 CHR.

In general, the State and National Registers of Historic Places Registers recognize all aspects of New York's diverse history and culture. Eligible properties must represent a significant historic theme (e.g., architecture, agriculture, industry, transportation) and they must be intact enough to illustrate their association with the structure. Properties must usually be more than 50 years of age to be considered for listing.<sup>9</sup>

When properties are listed or eligible, alterations that involve state or federal funds, and/or when state or federal permits are required, there must be prior review and approval by OPRHP's State Historic Preservation Office (SHPO). Thus, it is important to understand that 96 Camp Hill Road is considered eligible and the prospects of it being formally listed. Future coordination with SHPO is suggested to assist the Town in preparing future details for a long-term development program at this site.

### Town Designated Scenic Roads:

The PIP, US Route 202, and Camp Hill Road are all Town Designated Scenic Roads in or adjacent to the Opportunity Area B. The PIP, listed on the State and National Registers of Historic Places which is located adjacent to the eastern side of the Opportunity Area, is also a National Historic Landmark, a designated NYS Scenic Byway as well as a National Scenic Byway. A 2002 Corridor Management Plan gives guidance for curating the unique 1950/1960s feel and integrity of this parkway, like stone arched bridges, forested buffers, landscaped medians, scenic views, and other attributes of this linear route and resource.

US Route 202 has a mix of retail, office and other non-residential development on either side of Mount Ivy Swamp. Most of the existing development is located on the south side of and visible from US Route 202. The northern side is less developed with only filtered views and includes the Minisceongo Park site.

The northern side of Camp Hill Road in Opportunity Area B includes an office complex between Ladentown Road and US Route 202 (1540 Ladentown Road). Scattered houses, including the State and National Registers of Historic Places eligible property at 96 Camp Hill Road, are found north of Ladentown Road. There are also various nondescript existing structures like at the self-storage site viewable by the easterly intersection of US Route 202/ Ladentown Road, and a large riding stable building to the north.

<sup>8</sup> Valuation Plus, Inc. Appraisal of Real Property - 96 Camp Hill Road Appraisal. October 4, 2017. Pg. 9

<sup>9</sup> <https://parks.ny.gov/shpo/national-register/documents/FAQaboutStateNRinNYS.pdf>. Accessed May 15, 2020.

## Opportunity Area C

Opportunity Area C is adjacent to the PIP and located within are three Archaeologically Sensitive Areas. According to the OPRHP CRIS, no information is available regarding these three Archeologically Sensitive Areas. Two properties in Opportunity Area C are located on South Mountain Road, a Town-Designated Scenic Road. Furthermore, Orchards of Concklin located within Opportunity Area C was determined to be eligible for listing on the State and National Registers of Historic Places Registers.

Immediately outside the Opportunity Area located further east on South Mountain Road in the Town of Clarkstown, is a collection of structures referred to as the Henry Varnum Poor House. The property was added to the National Register in 2007, and contains the “Crow House,” woodshop and garage, pigment-grinding mill, studio kiln, entrance bridge, and terraced garden. While the property is located in Clarkstown, it was purchased by the Town in 2007.

### Palisades Interstate Parkway (State and National Register Property; Scenic Road)

Views from both the north and southbound lanes of the PIP towards the western portion of Opportunity Area C are non-existent due to an existing vegetative buffer. Development in this area consists of medical offices and a multi-family residential development. Views from both the north and southbound lanes of the PIP towards the northern section of Opportunity Area C are also non-existent due to existing vegetation. The vegetative buffer narrows approaching the US Route 202 overpass where State Route 45 comes close to the PIP. A majority of Opportunity Area C is in the PIP’s 1,000-foot buffer thus governed more closely by PIP New York State Scenic Byway Corridor Management Plan. Land uses along State Route 45 in the northern section of Opportunity Area C is primarily residential, agricultural at Concklin Orchards, and commercial.

### South Mountain Road (Town-Designated Scenic Road)

South Mountain Road is a Town-designated Scenic Road located in the northeast corner of the Town that provides unmatched scenic views of Concklin Orchards, South Mountain, and rolling hills of Northeast Ramapo. Less than 1,000 feet south of South Mountain Road, development is primarily residential, with the Orchards of Concklin to the west and a farm and garden center located to the north though it does not front on South Mountain Road. Existing vegetative buffers and topography ensures the farm and garden center site on State Route 45 is not viewable from South Mountain Road.

South Mountain Road connects State Route 45 to North Little Tor Road in the Hamlet of New City (Town of Clarkstown). Along South Mountain Road, there are several areas of importance from a historical perspective, including farmsteads, agricultural fields associated with Orchards of Concklin, the Mary Mowbray-Clarke property, and the Henry Varnum Poor House property. The Orchards of Concklin fields have been determined eligible for listing on the State and National Registers while the Henry Varnum Poor House property is Town-owned and formally listed on the National Register (Listed in 2007).

There are two dwellings with historic features at the intersection of South Mountain Road and State Route 45, located within the Opportunity Area, and referred to herein as ‘South Mountain Road Farmsteads’.

There is currently no information from OPHRP in regard to these features and a review of limited available OPHRP documentation does not appear to show them as part of the Orchard defined as eligible.

The building on the north side of South Mountain Road is on a privately owned, one-acre lot surrounded bounded by Concklin Orchards on the north, south, and east and State Route 45 on the west. The house is a wooded exterior, circa 1826 colonial farmhouse with traditional craftsmanship. A 3+/- acre vacant parcel is located across State Route 45 to the west with bordering residential development. The farmhouse on the south side is part of the Orchard and has attractive cornices, window fenestration, and an appealing porch.

Both structures are emblematic of an agrarian neighborhood that evolved here around the 1800's and represent significant historical charm. As a result, there should be an emphasis on enhancing the landscape around them. Substantial future development in the vicinity of these structures should include site and architectural designs to complement these buildings and their settings.

### Orchards of Concklin (Portion Eligible for National Register)

A prominent farm in the Town is the Orchards of Concklin, located on both sides of South Mountain Road. The orchard has a history of food production in Rockland County dating back to the original purchase of the land in 1711. The property has seen continuous ownership/operation by the same family since its purchase spanning 11 generations. A previous development proposed for the site in the late 1980s resulted in a long-term lease between the Concklin family and Rockland County for the continued operation of the farm on the County land. A total of 94.5 acres of agricultural land has been preserved by Rockland County. The orchard's buildings, including a farmstead house on the south side of South Mountain Road, along with some surrounding lands remain privately-owned. The northern part of the orchard bordering South Mountain County Park were determined to be eligible for National Register listing in late 1988 or early 1989 by OPRHP.<sup>10</sup> Any future development along State Route 45/ South Mountain Road will need to take this eligibility listing into consideration in addition to the fact that South Mountain Road is a Town-Designated Scenic Road.

### Mary Mowbray-Clarke Property

An additional property with historic and cultural significance within Opportunity Area C, but not listed or identified as eligible is the Mary Mowbray-Clarke property. The property, once referred to as Brocken, is located at 48 & 58A South Mountain Road. The site is characterized by dense woodlands and has limited accessibility due to its location on the winding South Mountain Road. The Town of Ramapo purchased Brocken in 2005.

Mary Mowbray-Clarke was a landscape architect by trade and best known for designing the Dutch Gardens outside the Rockland County Courthouse in the mid-1930's. In addition, Mary Mowbray-Clarke

<sup>10</sup> NYS OPRHP Response Letter, 19PR00997/2018095, March 1, 2019 and OPRHP Cultural Resource Information System (CRIS). Accessed 4-23-2020. Note that the prior description references documentation provided to Laberge Group by OPRHP in 2018. An Inventory Form downloaded from OPHRP's CRIS website March 2020 submitted to OPRHP in 1988 does not show a date for the Determination.

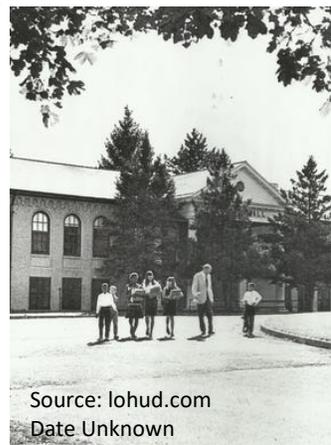
also had considerable influence on the rise of modern art in America. Her property in the Town of Ramapo was the principal meeting location for a multitude of artists living in what became an informal artist colony along South Mountain Road. The surrounding natural scenery was an important influence for artists working and living along South Mountain Road such as Kurt Weill, Maxwell Anderson, and Henry Varnum Poor.

While Brocken is not listed on the National Register of Historic Places, the site is a component of Rockland County's and South Mountain Road's vibrant artistic and cultural legacy and worthy of recognition. Currently the property is in a state of disrepair and it does not appear feasible for the structure to be fully restored.

## Opportunity Area D

A major part of Opportunity Area D is four parcels grouped at 110-112 Pomona Road (County Route 8). The project, which the owners refer to as Millers Pond, proposes redevelopment with townhouses, multi-family residential units, commercial uses, and recreational amenities. Previously, this site was home to the Happy Valley School which served children in-need. After it closed, the property was repurposed as the Minisceongo Golf Course, which is no longer operational. Remnants of earlier uses are still evident on site, including former stone water towers and the former main school building.

Happy Valley School, an orphanage and school for disadvantaged children, was originally run by the Five Points House of Industry. In the 1920s, Five Points House of Industry came into possession of the site which became the new home of the School. The site was transformed into Happy Valley Farms as the operation expanded and later to the Happy Valley School for Disadvantaged Children. During that period, many of the site's buildings were constructed as part of the school and farm operations. Most original buildings on the property have long since been removed. At its peak in the 1940s-50s, the farm had 60 pigs and 4,000-5,000 chickens. In 1969, the site was taken over by Greer Woodycrest Group and became a school for mentally handicapped children before becoming Crystal Run Village, also a youth school/home.<sup>11</sup>



Jessup Hall at Happy Valley School

The former main building of Happy Valley School served as the golf course clubhouse before its closure. The former clubhouse/school building is only partially visible from Pomona Road as it is setback approximately 315 feet from the road. The architectural features of the building are generally neo-classical in style – particularly its back and sides which illustrate symmetrical rounded windows and a pediment roof and columns centering the back side of the structure. The façade retains symmetry with rounded windows, an arched entranceway, and striking pilasters, although it moves away from the strict neo-classical system of the rest of the building. A set of stone steps with handrails leads to the entrance from the parking lot.

<sup>11</sup> Phase 1A Report, dated October 1991. Hartgen Archeological Associates, Inc. See Appendix M.

## Past and Current Cultural Resource Assessments

A portion of Opportunity Area D was subject to a SEQRA review which involved cultural resource assessments and archeological data recovery in the early 1990s, when the golf course was being planned. These investigations consisted of the following evaluations:

- Phase 1A Report, dated October 1991, including a Phase 1A investigation of existing buildings<sup>12</sup>
- Phase IB identification survey dated 1991<sup>13</sup>
- Phase II testing of two Native American archeological sites, dated April 1992<sup>14</sup>
- Phase III Data Retrieval Investigation, March 1994, conducted at one archeological test site

The reports were submitted to OPRHP as part of the SEQRA consulting process at the time. The fieldwork focused on areas that were proposed for direct impact from the golf course construction. Ultimately, most of the property was covered with fill as an archaeological resource conservation measure. An unnamed cemetery was also located on the former school property. It too was protected from disturbance as part of the golf course construction.

It is presumed the school building and associated structures were not eligible for listing on the State and National Registers of Historic Places Registers at the time the golf course project was going through its permitting process. The golf course eventually received necessary approvals, including OPRHP signoff, and was constructed in the mid-1990s. Many of the former school buildings were removed as part of establishing the golf course.

Applicants of the Millers Pond project have recently coordinated with OPRHP to obtain determinations of potential historic and cultural impacts related to their proposed project. A Phase IA due diligence assessment was conducted in support of the project's SEQRA analysis. A Phase IA due diligence assessment CRIS Project Notification, Attachment 01\_Phase IA was submitted to OPRHP on December 20, 2019 (see Appendix M). The Phase IA provides a summary of the previous historic and cultural evaluations conducted as part of the golf course environmental review along with an assessment of the remaining buildings and structures. In total, the Phase IA identified 8 numbered buildings, along with the cemetery, two stone water towers, a tennis court, swimming pool, three wood causeways and stone retaining walls. With the exception of the current clubhouse, the two stone water towers, and the cemetery, none of the buildings, structures, or existing golf course features are proposed to be retained. Photographs of all buildings and structures were included in the Phase IA, along with graphics depicting their locations.

The Phase IA observed that the previous reports conducted in support of the golf course SEQRA review investigated or documented disturbance within the current boundary of the Millers Pond project site. Those reports were accepted by OPRHP at that time, and therefore, no further archeological

<sup>12</sup> By Hartgen Archeological Associates, Inc.

<sup>13</sup> By Collamer & Associates

<sup>14</sup> By Hartgen Archeological Associates, Inc.

investigations are being recommended. The Phase 1A indicates that an inventory and assessment of the remaining buildings should be conducted by a qualified architectural historian.<sup>15</sup>

OPRHP provided a response to the Phase IA dated January 15, 2020. OPRHP Response #1 states that OPRHP concurs with the Phase IA Memo's recommendation that no additional archeological investigations are necessary in advance of the proposed project. OPRHP Response #1 also states that the preservation of Site 08704.000055, which was subject to the 1994 Phase III data retrieval investigations, is not necessary from a regulatory standpoint. The previous Phase III data retrieval excavation mitigated the adverse impact to the site and further archeological excavation and/or site preservation is not necessary.

On Jan. 21, 2020, OPRHP requested more data on the clubhouse (Unique Site Number [USN] 08704.000380), to assist in their evaluation. The clubhouse was evaluated, and the result submitted to OPRHP via "Memorandum Project 20PR00125: Miller's Pond/Minisceongo Golf Course Redevelopment, Response to Request 1/21/2020," on March 22, 2020. OPRHP reviewed that supplement and stated in an April 16, 2020 letter that no properties, including archeological and/or historic resources, listed in or eligible for the NYS and National Register of Historic Places will be impacted by the proposed Millers Pond project.

### Adaptive Reuse of the Clubhouse/School Building

The Millers Pond mixed-use project plans to preserve and incorporate the former Happy Valley School/ Clubhouse building. It is proposed for the lower level of the building to be dedicated to homeowner association amenities. The main level, including center space with vaulted ceilings, will initially be used for sales and marketing. The balance of the main level, including a dining room, kitchen and outside deck, may be converted to a restaurant. The remainder of the building will be dedicated to property management and developer support staff along with space for homeowner association events.



Former Happy Valley School/Clubhouse

<sup>15</sup> CRIS Project Notification, Attachment 01\_Phase 1A Memorandum to NYS OPRHP, "Phase 1A Due Diligence Memo." Carol S. Weed, M.A. December 20, 2019.

## Water Towers and Cemetery Existing Conditions

As previously stated, the Millers Pond owners have indicated their intent to preserve the clubhouse, two stone water towers and the cemetery. Tower 1 is located in the northern-central area of the property, approximately 1,500 feet northwest of Tower 2. Tower 2 is located in the southeastern portion of the property, approximately 200 feet from Station Road. According to the 1991 Phase 1A Report, the water towers were constructed in the early 1900s as part of the farming operation.

While Tower 1 appears in better condition than Tower 2 as Tower 2 has had a portion of its eastern wall (or at least its façade) partially collapse. As such, both structures will need to be secured to prohibit unrestricted public access. In addition, a formal conservation strategy should be prepared regarding how features would be maintained and preserved. This strategy should address future site-specific development both during and after construction and how the features would be integrated into the landscaping and building arrangements that are specified as part of a detailed adopted regulatory framework.

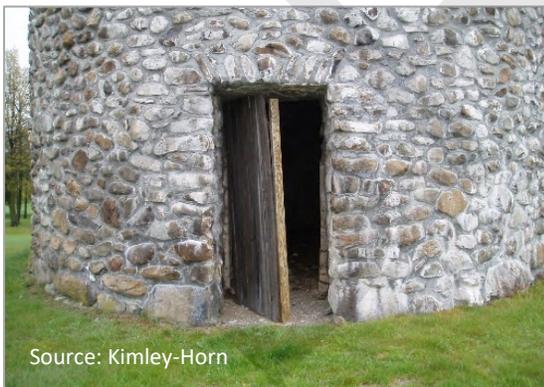
Both structures are extremely unique to the landscape and are irreplaceable symbols of the property's history. Tower 2 should be restored to a condition consistent with Tower 1. Once stabilized and restored, informational panels are recommended to be installed near each structure to celebrate their uniqueness and history. Furthermore, they should be integrated with recreational areas, trails, and internal roads to the maximum extent possible. Decorative fencing around each tower may be necessary to prevent future vandalism, though this is not desirable. A long-term maintenance strategy should also be prepared for each tower. This would address future cosmetic and structural issues, how to maintain the surrounding grounds, and formally establish/ identify a legal structure and funding, such as for homeowner association curation.



Tower 1 Looking Northwest



Tower 2 Partially Collapsed East Wall



Tower 1 Open Door

The cemetery is located 500 feet southeast of Tower 1 and surrounded by rock walls. Additionally, the cemetery is bordered to the north and south by existing cart paths. According to the 1991 Phase 1A Report, an examination of the cemetery was undertaken to help determine historic significance. A total of 43 stones were identified within the limits of the cemetery, fifteen of which contain inscriptions, often illegible. Many other stones were simple unmodified stones which mark the location of graves but provide no information.



Source: Kimley-Horn

Cemetery – interior looking northeast.

Some 24 to 28 individuals appear interred in this location. Based on death dates on stones, it was determined the cemetery was used from at least 1751 until 1918. In addition, 7 of the 15 readable stones belonged to members of the Concklin family. Early dates on the stones suggest the Concklin's were the first settlers in the vicinity of the project area. The cemetery shall not be disturbed by construction activities and an OPHRP-stipulated buffer will permanently be maintain around the footprint it specified.



Source: Kimley-Horn

Cemetery – looking west at the east and north rock walls

### Camp Hill Road (Town-Designated Scenic Road)

The west edge of Opportunity Area D is contiguous to a 1,000-foot section of this Town-designated Scenic Road. Camp Hill Road offers limited filtered views of the former golf course. Frontage at the intersection of Camp Hill and Pomona Roads is characterized by tall, dense vegetative growth with nearly no shoulder. One exception is a limited, informal vehicle pull-over. Traveling north on Camp Hill Road, with the golf course property on the right, there is little visibility of the former golf course due to trees and vegetation from the road edge extending east into the golf course. A small section of guard rail fronts the road across the street from #5 Camp Hill Road, a residential property. Approaching the slight westward bend in the road heading north, there is another pull-over followed by a section of wooden fence that extends to the tight, westward turn in the road. Dense vegetative growth remains consistent, and there are occasional road sign and utility poles.

### **Opportunity Area E**

Pursuant to OPRHP and CRIS, there are no known properties listed or eligible for listing on the State and National Registers of Historic Places Registers within the proposed Opportunity Area E footprint, except for the previously discussed PIP.

Opportunity Area E, which is heavily vegetated, borders the PIP on the property's west side. The majority of this Opportunity Area is located within 1,000 of the PIP. The site itself occupies a hillside. Elevations onsite slope downwards, generally to the east, and away from the highest elevations by Peach Tree Road and the PIP, while lower elevations onsite parallel Buena Vista Road.

Views into the site from the PIP are mostly non-existent, due to the heavily vegetated right-of-way that is approximately 150 feet wide. A high voltage overhead power line that crosses over the PIP extends directly above a small area of the property, approximately 28,000 square feet. These high voltage overhead power lines that run in a northeasterly direction over the PIP and through the northwestern corner of the Opportunity Area, provide a brief glimpse of existing residential development to the north along Trails End Road/ Peachtree Road. Yet, there are no scenic views from the PIP in this area – this broader area surrounding Opportunity Area E is suitably described as suburban residential in character.

## 6.3.2 Potential Impacts

### Historic Resources

A review of historic resources indicated that there are two State and National Register properties within Northeast Ramapo, including the English Church and Schoolhouse at 484 New Hempstead Road and the Palisades Interstate Parkway. Two properties were identified as eligible for listing, including the 96 Camp Hill Road property and the Orchards of Conklin at 2 South Mountain Road. No anticipated adverse impacts to historic resources are anticipated by the Action. However, future development of the Opportunity Areas will need to take into consideration any impacts to historic resources.

### Archeological Resources

As described above, OPRHP recommended a Phase IA Archeological background and sensitivity assessment report be prepared and submitted to assist their review regarding potential for impacts to archeological resources. Due to the scale of the Northeast Ramapo project area, the Town determined that a Phase IA screening like this would be unnecessary for the purposes of generically evaluating potential impacts on historic and cultural resources of the proposed NRDP and zoning amendments using a DGEIS. Site-specific archeological information will need to be generated and evaluated on an individual site-specific basis for future land disturbing projects that require OPRHP sign-off. Except for situations where existing OPRHP determinations have been made, as defined herein, this GEIS will not address the potential for impacts to archeological resources.

### Scenic Roads

Several Town-designated scenic roads are present in Northeast Ramapo, including the Palisades Interstate Parkway, South Mountain Road, Camp Hill Road, and US Route 202. Scenic roads in Ramapo are protected by the Town's Scenic Roads Law to preserve the Town's historic resources, stone walls, other natural features, and scenic views from its roadways and other public areas by channeling new development onto lands which are not as scenic and historically significant. Development proposed in sensitive scenic areas

will need to be consistent with the law's objective of maintaining the areas existing scenic character to the greatest extent practicable. No adverse impacts are anticipated with the proposed action. However, future development projects may impact scenic viewsheds and will need to be addressed on an individual project basis in accordance with the Scenic Road Law .

### **6.3.3 Mitigation**

While proposed future development was identified within the Full Environmental Assessment Form (EAF) as having a potentially moderate to large impact on historic and archeological resources, through the thorough evaluation documented within this DGEIS, it is anticipated that any adverse impacts would be minimized through mitigation measures discussed below. Additionally, the proposed zoning changes are not anticipated to authorize or encourage development that may adversely affect a historical or archeological resource.

#### **Historic Resources**

The Action is not anticipated to result in adverse impacts to Historic Resources provided any action complies with any local and state guidance and requirements such as SHPO and OPRHP. Any impacts to historic resources related to future development activities will have to address mitigation measures on an individual project basis. Coordination with SHPO and OPRHP may be necessary depending on the location of proposed development.

#### **Archeological Resources**

The Action is not anticipated to result in adverse impacts to archeological resources. Therefore, no mitigation relative to archeological resources is necessary at this time. Any impacts to archeological resources related to future development activities will have to address mitigation measures on an individual project basis. Due to the scale of the Northeast Ramapo project area, the Town determined that a Phase IA screening would be unnecessary for the purposes of generically evaluating potential impacts on historic and cultural resources of the proposed NRDP and zoning amendments using a DGEIS. Site-specific archeological information will need to be generated and evaluated on an individual site-specific basis for future land disturbing projects that require OPRHP sign-off. Except for situations where existing OPRHP determinations have been made, as defined herein, this NRDP/DGEIS will not address the potential for impacts to archeological resources. Coordination with SHPO and OPRHP may be necessary depending on the location of proposed development.

#### **Scenic Roads**

The Action is not anticipated to result in adverse impacts to Scenic Roads provided any action complies with any local and state guidance and requirements such as the PIP management plan and Town Scenic Roads Law in Chapter 215 of the Ramapo Town Code. The intent of the Scenic Road Law is to preserve the Town's historic resources, stone walls, other natural features, and scenic views from its roadways and other public areas by channeling new development onto lands which are not as scenic and historically

significant. Development proposed in sensitive scenic areas will need to be consistent with the law's objective of maintaining the areas existing scenic character to the greatest extent practicable.

Projects in the Scenic Road District are held to additional requirements. To grant approval, the Town must find that the important scenic and natural features of a site will be substantially preserved. Also, projects must be architecturally compatible with surrounding structures. When practicable, all structures shall be sited and clustered in a way to avoid or minimize the obstruction of the District's scenic views.

If necessary, front, side and rear yard setbacks may be doubled for structures and parking areas if there are historic or scenic resources which are to be protected. Where applicable, existing vegetation, plant specimens, landforms and water features found in front yards, should be preserved. The Town may require additional plantings or buffering to protect key scenic views, including views of historic properties and landscapes, among other standards. Additionally, vegetative cutting shall be limited to maintain it as a screen for structures viewable from the road, parks, and other public views in Scenic Road Districts.

Any impacts to scenic roads related to future development activities will have to address mitigation measures on an individual project basis. Development should occur in a manner respectful of scenic resources and should include buffering and screening to reduce visual impacts. Existing vegetation should be maintained to the greatest extent possible which should be examined at the time of site plan review.

DRAFT

## 6.4 Community Services

This section describes the existing conditions related to housing, demographics and the potential impact of a growing community on community services.

### 6.4.1 Socio-Demographic, Housing, & Economic Considerations

#### 6.4.1.1 Existing Conditions

While it is important to preclude development on environmentally sensitive areas, it is just as important to identify the places that are ripe for accommodating homes and businesses. Major aspects of this section examine the need for an increased housing supply, as well as ways to diversify the housing stock in terms of both the types of housing available and its levels of affordability. It will discuss why it is desirable to counteract housing shortfalls, alter the distribution of types, mix and tenures, and affordability of housing. There is also exploration of ways to promote commercial and industrial development, bolster workforce capacity, and establish infrastructure that will help achieve the NRDP economic development goals.

The Comprehensive Plan's Inventory assembles extensive information on the local and regional population, housing and the economic base. It describes the social and economic setting and the characteristics of physical housing stock. These snapshots document forces influencing population change, like high natural growth rates, a prevalence of large size households and increases in the number of these households, and a population that will become younger on average as time progresses. It also is used in discussing other factors affecting housing needs, affordability, and market conditions.

#### Public Opinion Research

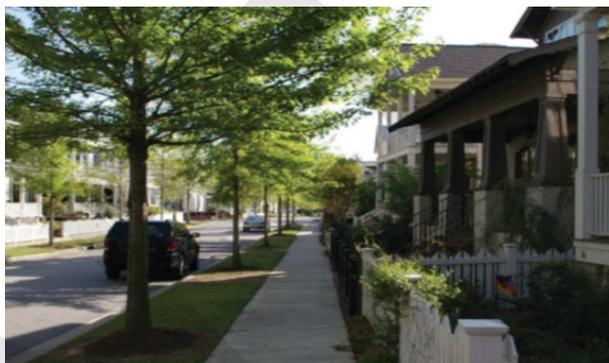
As part of Plan development, in early 2019 the Town administered a Ramapo Future community survey (**Appendix I**). There was also feedback regarding public interests related to housing and economic development in late 2018 during a multi-event Designing in Public Project Charrette. These generated the following input that is used as guidance in formulating this section.

The community survey (online and paper) asked questions about future development in the Town. A bulk of the inquiry pertained to perceptions about the community housing environment and livability. Respondents used a qualitative Likert scale, or chose their visual preference among contrasting pictures of buildings and land use, with the following findings drawn about housing and cost of living:

- There is support for housing density and mixed-use, with proximity between housing opportunities and consumer needs and services;
- There is a strong interest in varied housing choices;

- The purchase, maintenance, and upkeep of housing in Ramapo is seen as expensive;
- Future development should incorporate character and charm and be well-designed;
- The property tax burden is seen as presenting potential to stymie aspirations of new families seeking to move into Ramapo, or residents looking to downsize;
- There is support for more compact community design, with walkable green spaces and pleasing architecture versus a suburban pattern of low density and even sprawl; and
- Housing in Ramapo is perceived as higher cost compared with other nearby communities.

In terms of future economic development, people support mixed-use and proximity to services. People completing surveys were not opposed to density, which has a potential relationship to achieving cost-effective public services, since there can be some economies of scale achieved for utilities when these are delivered within more compact footprints. People also supported place-based design and incorporating character and charm within future growth.



*Figure 6.4-1 Residents preferred this type of street design for neighborhoods. Note the defining elements such as street trees, compact road design, and minimal building setbacks. (2018-Project Charrette-Keypad Polling)*

### Designing in Public Project Charrette

Held on multiple days in November 2018, the Charrette was used to garner input on “Big Ideas”. Generally, there was discussion of current factors, and/or changes residents desired. One topic explored was residents’ perception there was not follow through on management of development. Further, respondents wanted zoning laws clarified and enforcement was cited as a major concern. While commenters advocated for both smaller-scale and concentrated development, many felt trends in Ramapo are contra to their desires.

The images on the right are examples of ones people liked. When discussing quality of life, respondents mentioned community features they saw as desirable, such as increased open spaces, improved walkability, and more transport options. Similar to findings from the survey, there were visual preferences for neighborhood streets that were amenity-rich with sidewalks and street trees. Twice as many people preferred a mixed-use



*6.4-2 Over half of all respondents preferred this image and type of development over development examples that featured auto-oriented commercial development with characteristics such as wide streets, extensive building setbacks, and large-scale signage, which respondents ranked at 84% unfavorable. (2018 Project Design Charrette-Keypad Polling)*

“shopping street” environment versus as an auto-oriented strip. “Main streets” was a popular term used to identify one word that comes to mind about Northeast Ramapo in the future, but “preservation” was used most, which is interpreted as a concern that place-making and conservation must be applied to achieve compatible development and not overdeveloping in a way that detracts from livability.

Also in terms of community and economic development, feedback generated covered aspects like:

- Support for open space, trails and parks (interpreted as important to many people);
- Providing safer streets (12% cited it as most important to them in keypad polling);
- Commercial buildings and streetscapes with unique appearances;
- Protecting and improving public school resources;
- Providing better cell phone service;
- Some interest in solar power and sustainable building; and
- Support for “community facilities”, which 4% picked as most important to them.

### Local & Regional Population

The demographic profile in Appendix A describes features of population in the Town, unincorporated areas, and Rockland County. It depicts 2018 estimated population using 2010 US Census and ESRI sources. The same sources are used to define 2018 age-group distributions, rates of household formation, household sizes and distributions, household incomes and ranges. The rates of households living in poverty rely on American Community Survey (ACS) 2012-16 five-year estimates. “Ribbon data” is also used to present the estimated 2020 and five-year (2025) projected breakouts of categories of households that are Low and Moderate Income (LMI) by size in terms of number of persons occupying rental or owned housing. Using this same Ribbon information there is also stratifications of owned versus rental housing tenure types for older persons, aged 65 and above, and for all households. Meanwhile, the descriptions of existing or projected school-age population are presented under ‘Schools’ within the Inventory and addressed within **Section 6.4.2**.

### Population & Change

There is not a recitation of all information within the Inventory Report, but it is worth noting the whole of unincorporated Ramapo is growing. It is also becoming younger on average. This is influenced by patterns in the Monsey/Hillcrest sub-area, which contained an estimated 93.6% of unincorporated Town Population in 2018 per Inventory Table 3 ‘Population Trends Comparison.

Town wide median age is estimated as 29.1 years.<sup>1</sup> Since median age in the Monsey/ Hillcrest was 22.8, the aggregate median age in the whole unincorporated Town is assumed lower than the Town wide median.

<sup>1</sup> Appendix A Comprehensive Plan Update Town-wide Existing Conditions Report, Table 3

The Unincorporated Town population is diverse, but trends from 2010 to 2018 appear to show a slight decline in diversity. There was a 17.0% change from 38,160 to 44,629 total population from 2010 to 2018, while during the same term the number of people identifying as “white” increased at a slightly higher rate of 18.6%, going from 29,198 to 34,625 persons<sup>2</sup>. There was a larger percentage change in persons who identified as Hispanic Origin, at 21.2% (going from 3,582 to 4,340 persons); however, during the same time, growth in Black/ African Americans was relatively lower at 9.1% (growth of 5,744 to 6,628 persons), offsetting the growth in Hispanic Origin groups.

There were an estimated 2,298 persons in 2018 in Northeast Ramapo, compared with 44,629 persons in the Unincorporated Town. This makes the Northeast’s population 5.1% of Unincorporated Town population. Between 2018 and 2023 the following trends are expected in the Town:

- Town wide population is expected to rise by 4.7%;
- Unincorporated Ramapo population, inclusive of all sub-areas, is expected to rise 6.5%;
- Northeast Ramapo population is expected to rise by 4.1%;

It should be noted these trends are based on past population increases, particular to each respective geographic area. For example, Unincorporated Ramapo has shown a pattern of growing faster than the total population of the Town. As such, it is expected this growth trend will continue into the future.

There is not data on birth rates in the Inventory Report, but this can influence population growth, particularly in terms of the size of younger age groups. In 2010, the rate of births in Rockland County was 4.5 per 1,000 persons per the ‘NYMTC 2050 SED Forecast – Summaries & Analysis of Existing Trends & Key Factors for Forecasting’, 2018, Table 2-3. According to this table, fertility rates increased in Rockland County since 1990 by 20.3%. A growing or a high fertility rate likely points to growth potential.

The above statistics rely on historical population data. They do not consider factors such as changes in zoning related to development or allowances for greater development for property owners.

### Senior Population

Northeast Ramapo’s existing population is relatively older with 20.1% consisting of people 65 years or older in 2018, compared with 9.8% in the Unincorporated Town<sup>3</sup>. Projected Change in Population by Age Cohort, 2018-2023 shows that people aged 65+ will grow by 2,535 persons in five years<sup>4</sup>. This shows that demand for housing and other services for older persons will be sustained even while there is growth in younger age cohorts, particularly in Unincorporated Town.

<sup>2</sup> Appendix A: Comprehensive Plan Update Town-Wide Existing Conditions Report, Table 5

<sup>3</sup> Appendix A Comprehensive Plan Update Town-wide Existing Conditions Report, Figure 1

<sup>4</sup> Appendix A Comprehensive Plan Update Town-wide Existing Conditions Report, Figure 2

## Special Needs Population

This NRDP/DGEIS advances compliance with regional fair housing policy and regulations and it supports housing for all. It seeks to ensure there is a future supply of housing available for people of all ages and abilities, regardless of ability, age, income, or life situation. There is promotion of “universal design” within construction, so all possible users are maximized in their potential to more easily use such spaces.

## Household Population Characteristics

Table 8 ‘Households by Type & Size, 2010’ in Appendix A shows almost half (48.8%) of households in Northeast Ramapo consisting of 1- or 2-persons, yet, at that same point only 33.8% of all households in Unincorporated Ramapo were in small households. Ribbon Data in the Inventory Report is disaggregated, in that it breaks out rental versus ownership housing, but examining estimated rental- and owner-occupied households in Monsey/ Hillcrest, of 9,249 total households in 2019, 3,909 or 42.3% comprised five or six or more occupants<sup>5</sup>. There are significant numbers of larger households -- this is an indicator of strong demand for larger size housing units. For example, using the estimated total Households in the Unincorporated Town in 2019 (5,762)<sup>6</sup>, compared with the projected number of 6,388 households in 2024 (Appendix A Table 29), there would be 626 additional households over five years. Based on growth in households, there will be sustained demand for all sizes and tenures of housing.

## Housing

Housing profile data in the Inventory breaks out owner- and renter- occupied units in 2010 and documents changes from 2000 for the unincorporated area, the whole Town, and Rockland County. Per Appendix A Table 22, within unincorporated Ramapo in 2010, 60.2% (5,226) units were owner-occupied versus, 39.8% (3,449) renter-occupied units. Based on another source, the rental housing portion of the total estimated occupied housing mix in Northeast Ramapo in 2019 appears much lower, as Ribbon Housing data in Tables 69 and 70 in Inventory Appendix A indicates that 63 out of an estimated total of 623 households occupied rental units, which is 10.1% of households (households do not perfectly correlate with occupied units, so this is treated as an indicator).

US Census ACS data is relied on to describe the distribution of housing by number of units within a building in **Table 6.4-1**. There are significant amounts of multi-family buildings in the unincorporated Town, with some 8.1% or 755 of all 9,278 housing units contained in structures that consist of 10 to 19 units, 20 to 49 units, or 50 or more units. Based on land use and zoning patterns in Northeast Ramapo, there are few apparent multi-family units. Rather, most multi-unit structures appear to be in Monsey/ Hillcrest.

<sup>5</sup> Appendix A Comprehensive Plan Update Town-wide Existing Conditions Report, Appendix B

<sup>6</sup> Appendix A Comprehensive Plan Update Town-wide Existing Conditions Report

**Table 6.4-1: Housing Units by Units in Structure**

	Town of Ramapo		Unincorporated Part of Town		Rockland County	
	Number	Percent	Number	Percent	Number	Percent
1 unit, detached	18,313	49.4%	5,195	56.0%	60,069	57.4%
1 unit, attached	2,911	7.9%	865	9.3%	8,471	8.1%
2 units	2,748	7.4%	692	7.5%	6,687	6.4%
3 or 4 units	3,773	10.2%	1,030	11.1%	8,209	7.8%
5 to 9 units	3,234	8.7%	732	7.9%	7,618	7.3%
10 to 19 units	1,999	5.4%	325	3.5%	4,089	3.9%
20 to 49 units	1,812	4.9%	190	2.0%	3,397	3.2%
50 or more units	2,173	5.9%	240	2.6%	4,794	4.6%
Mobile home, RV, etc.	82	0.2%	9	0.1%	1,317	1.2%
<b>Total Housing Units</b>	<b>37,044</b>	<b>100.0%</b>	<b>9,278</b>	<b>100.0%</b>	<b>104,651</b>	<b>100.0%</b>

Source: U.S. Census Bureau, American Community Survey 2012-16 Five-Year Estimates.

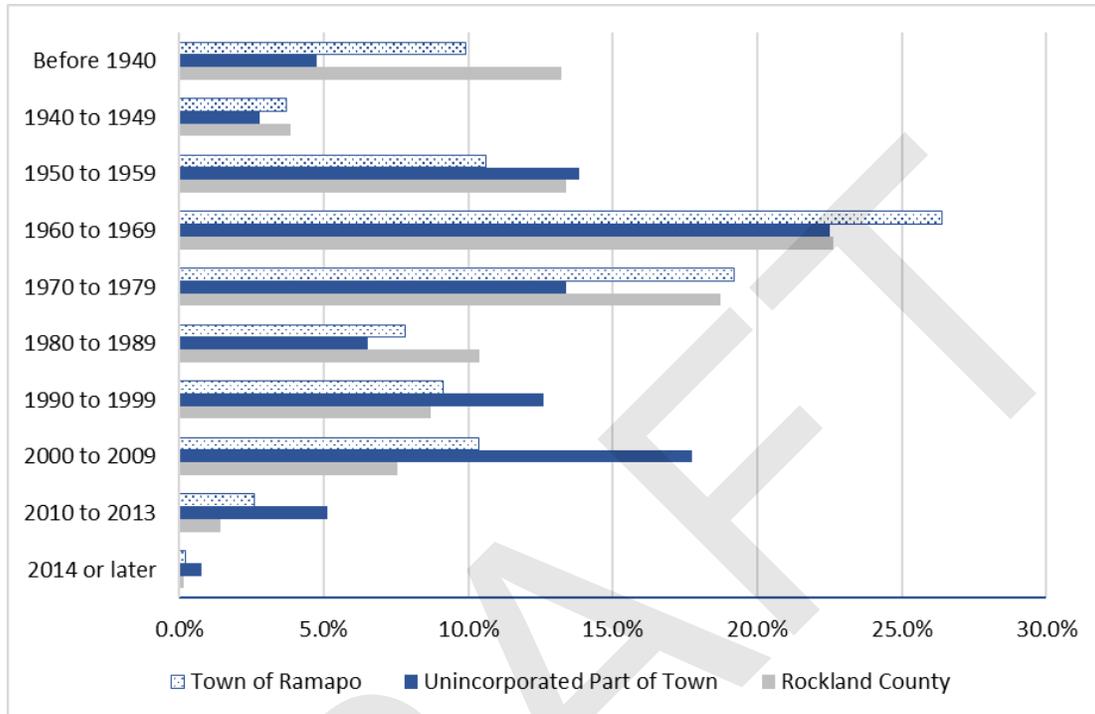
While not fully quantified, more than 1/3 of the community’s housing stock is within multi-family units -- this multi-family stock occupies relatively small land areas, as multi-family uses, per Appendix A Table 19 in the Inventory, cover 4% of total community land area (inclusive of villages). Multifamily land uses are relatively land efficient because they have relatively high floor area ratios.

As shown in Figure 6.4-3, more than half of the community’s housing stock was constructed from 1970 to 1979, or prior to then. This seems to mimic the pattern in Northeast Ramapo; yet the Inventory notes that 23.6% of housing in the unincorporated Town was built since 2000. Older housing can be a good candidate for energy efficiency upgrades.

US Dept. of Housing & Urban Development (HUD) State of the Cities Data Systems (SOCDS) statistics in Appendix A Table 31 describe building permits issued for single- and multi-family units in the unincorporated Town and each village for 2007-2017. During this 11-year period there were an average of 176 new units annually. Nearly three-quarters (74%) of these were multi-family Units. Based on an anecdotal review of recent building in Northeast Ramapo, this same pattern seems to hold, since the multi-family senior housing built on Views Way represents the largest part of new units recently

constructed, with a small relative of new single-family homes constructed in locations like by Peach Tree Road.

**Figure 6.4-3: Age of Housing Stock**



Source: U.S. Census ACS 2012-16 Five-Year Estimates

Owner-reported housing values and contract rents are presented in the Inventory Report using ACS averages for the Town. The housing cost burdens among homeowners and renters are depicted in Figures 3 and 4. Many households of all types are challenged in terms of affordability. Housing costs and affordability are highly important subjects. These topics are taken-up extensively in discussions below.

**Existing Comprehensive Plan & Housing**

The Housing section of the Comprehensive Plan Update Town-Wide Existing Conditions Report (Appendix A), articulates the housing Goal as:

*Address the Town's housing needs and provide for a diversity of housing opportunities for the Town's growing and changing population.”<sup>7</sup>*

As means to forward this Goal there are objectives (paraphrased) including:

- Providing a diverse housing supply of residential development near Town amenities, community facilities and services, and transportation;

<sup>7</sup>Appendix A: Comprehensive Plan Update Town-Wide Existing Conditions Report, Page 18.

- Allowing higher density in “appropriate”<sup>8</sup> areas;
- Promoting a range of rental and home ownership opportunities in varied densities, housing types, and prices for Town residents, especially senior citizens, singles, families; and
- Encouraging inclusion of housing to meet identified needs when large parcels are developed.

Consistent with the February 2020 Amended Comprehensive Plan, the NRDP seeks to allow for and enable the creation of a variety of housing types and sizes and differing densities. The current Comprehensive Plan dedicates the most focus to “Creation of multi-family housing districts” (page B-2). When the Plan was updated in February 2020 it was reaffirmed that the need for multi-family housing remains unfulfilled (pages B-6/ B-7 as amended). Now, the NRDP/DGEIS, in its approach to undeveloped properties (and those with limited development) is essentially following the guidance on page B-3 by creating new multi-family districts. The NRDP provides for new residential uses within a mix that will complement existing and proposed infrastructure. The NRDP presents strategies that provide for delivery of services and establish proximity to resources, while preserving open and civic spaces within and adjacent to future development. For a diverse, demographically changing, and growing community, housing opportunities for all are promoted. In accordance with the February 2020 Comprehensive Plan amendment, housing opportunities will be expanded, and the siting of development will be done in a way that it also aids preservation of quality of life within the Town.

### Existing Town Policies Supporting Assisted and Affordable Housing Developments

Current Town laws support the development of “Assisted” and “Affordable” Housing. Specifically, Town Codes codify a tax advantage for the creation of housing that is accessible to people of lower incomes. In Chapter 253 Taxation, Article IV, tax exemption allowances for Affordable Housing are outlined. The exemptions are consistent with New York State Real Property Tax Law and allow for partial local tax exemptions for Affordable Housing, which creates an incentive to develop properties of this type. Likewise, Article IX, in the same section, allows for partial tax exemptions for longer period and on a larger scale to encourage development of housing for low- to moderate- income individuals and to support the development of Assisted-living facilities. For both parts of this policy, an owner can receive this benefit through the Town Assessor using a specified application.

### Existing Housing Environment & Housing Affordability

The median estimated annual household income in 2018 within the Town was \$82,032<sup>9</sup>. This means that an average monthly gross income is roughly \$6,836.

<sup>8</sup> Ibid, Pg. B-2

<sup>9</sup> Appendix A: Comprehensive Plan Update Town-Wide Existing Conditions Report, pg 34.

Generally, the US Department of Housing and Urban Development (HUD) defines what constitutes Low and Moderate Income (LMI) households. It categorizes LMI households across a scale according to number of persons in a household in the following segments:

- “Moderate income” households are those that are 80% of the area median income (AMI) for a particular-sized household;
- “Low income” households are 50% of this AMI ; and
- “Very Low-Income households are 30% of the Area Median Income.

There are other categories of affordability established within individual communities and in which the “affordable housing” terminology varies by affordable housing program and jurisdiction. While “affordable housing” according to HUD applies to households with incomes up to 80% of AMI, often “assisted support”, “assisted” or “subsidized housing” is referred to further mean an even broader portion of housing which is made available below market rates through the influence of government policies, programs, or subsidies. Another example is “Workforce housing”, which can vary in its definition, but often is defined to comprise households with incomes up to 120% of the AMI.

There often are significant populations that are burdened in terms of their ability to afford the cost of housing, even above Moderate-Income Levels. As shown in the Inventory’s Figures 3 and 4, households paying more than 30% of monthly income for rent, or to own a home, are termed “cost burdened”. The Hudson Valley is experiencing high rates of households paying monthly rents significantly above 30% their monthly income. The Town is included and is not an exception. In fact, as discussed in the Inventory’s section on ‘Low & Moderate Incomes’, plus within its analysis of HISTA data stratifications, within unincorporated parts of Ramapo there are significantly large populations experiencing housing cost burdens. These populations are expected to grow with time. Yet, per discussions of housing affordability in the Inventory, many Rockland County residents are paying monthly rents or mortgages significantly higher than what they can afford, or they have been priced out of “affordable” housing altogether.

This is not just a local problem, and it is due to some extent to a limited supply of cost-achievable or “affordable” housing stock – this issue is a phenomenon occurring Statewide. According to Pattern for Progress, 2018, the Hudson Valley experienced the highest negative percent change (-16%) in “affordable” rentals with a decline from 64,300 units in 2012 to only 53,600 units available in 2017.

At the same time, the whole Hudson Valley is experiencing high rates of households paying monthly rents significantly higher than 30% of their monthly income. Some 85% of low-income tenant households pay monthly rents above 30% of income. Another 48% of low-income tenant households pay monthly rents over 50% of income. Per Pattern’s report, 28% of Rockland’s low-income tenants are renters -- 57% of these low-income residents pay more than 30% of income for rent. The decreasing availability of housing is contributing to an affordable housing crisis in the region.

## Housing Affordability for Young People & New Households

A further problem in the Hudson Valley is an inability of many younger persons and younger households to afford housing. Millennials are largely challenged to afford housing, as housing costs have escalated at the same time there were on-average decreases in wages across the region. Many millennials have entered the workforce as professionals during the Great Recession. However, they earn lower starting salaries than previous generations. In addition, high levels of student loan debt often impact many young Hudson Valley residents. Many in this group could be forced to look elsewhere for affordable living opportunities, if aspects of the job and housing markets do not improve.<sup>10</sup> Moreover, this was prior to the Covid-19 pandemic, which has triggered significant economic uncertainty nationwide in 2020. The topic of overcoming unaffordable housing is key to the planning efforts within Northeast Ramapo as well as for the whole town.

The cost of housing is typically the biggest monthly expense for residents across the United States. As noted above, many households are burdened with high housing costs compared with total household income. For example, one analysis of monthly gross income for Rockland County identified a rate of \$3,539, so the affordable monthly rent according to HUD was \$1,062 (30% of \$3,539).<sup>11</sup> Yet, according to Zillow, an average monthly rent in Rockland County was \$2,842. Using this model, a gap of \$1,780 exists between average affordable monthly rent and average monthly rent in Rockland County.<sup>12</sup> For a County that has experienced a 14% decrease in wages for workers aged 22-44 between 2000 and 2017<sup>13</sup>, this group may be faring worse than many other groups, with a reasonable cost of living beyond their reach.

Young professionals in Rockland County appear to be renting housing significantly more than purchasing homes. Between 2000 and 2017, homeowners under the age of 35 decreased 10% from 42% to 32%. At the same time, renters under age 35 increased 10% from 58% to 68%.<sup>14</sup> Despite the generally high costs within the regional rental housing market, and typically burdensome and unaffordable rental costs, the cost of renting is more in reach for millennials than purchasing homes.

The rising costs of both rentals and home purchases are largely responsible for 49% of residents aged 18-34 in the Hudson Valley living at home with their parents.<sup>15</sup> This number is 9% higher than the New York State average of 40.5% and nearly 16% higher than the national average of 34.5%.<sup>16</sup>

<sup>10</sup> The Math Just Doesn't Work, Pg. 2, Available at <https://www.pattern-for-progress.org/wp-content/uploads/2019/05/Young-Professionals-Issue-Brief.pdf>

<sup>11</sup> Ibid, Pg 8

<sup>12</sup> Ibid, Pg 8

<sup>13</sup> Ibid, Pg 4

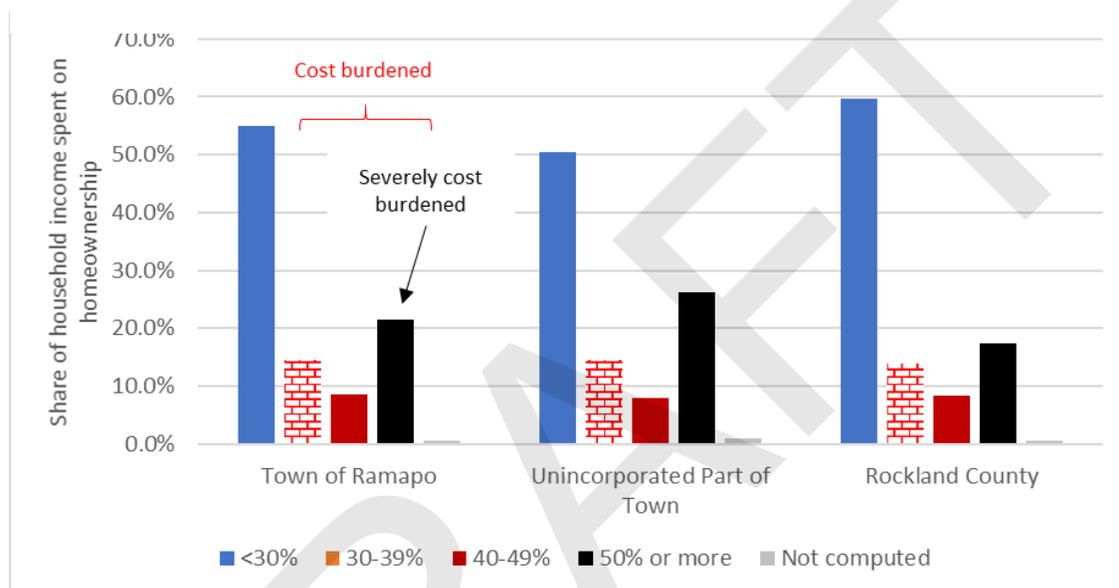
<sup>14</sup> Ibid, Pg 10

<sup>15</sup> Ibid, Pg 9

<sup>16</sup> Ibid, Pg 9

Homeownership among people under age 35 in Rockland County declined from 42% in the year 2000 to 32% in 2017. The percentage is offset by a 10% increase in renters in Rockland County under the age of 35 from 58% in the year 2000 to 68% in the year 2017. This trend suggests that home ownership in Rockland County has also become increasingly less affordable for young residents, and a turn towards renting has become necessary to achieve the desired standard of living. Due to rising population trends in Ramapo, it can be expected that a higher demand for rental housing will continue due to a lack of homeownership opportunities.

**Figure 6.4-4: Housing Cost Burden Among Homeowners**



Source: U.S. Census Bureau, American Community Survey 2012-16 Five-Year Estimates.

The lack of affordable housing for young professionals can impact the local and regional economy. As Baby Boomers age and depart the workforce, millennials should be in line to take their place. But this emerging segment of the workforce needs places to live. Population is growing in the Town, so there will be sustained high demand for the supply of housing. Providing housing in Opportunity Areas will not only supply needed housing, but if these locations are developed as vital, walkable places with a mix of amenities, these could also be the particular types of places that younger people value and choose to live, thus increasing potential to establish beneficial labor market and trade area conditions going forward.

### Need for Affordable & Moderately Priced Housing in Ramapo

The demand for more moderately priced housing is evident - the housing supply and housing market factors combined with population growth and change are constraining the housing environment. This is confirmed by the Town of Ramapo's Housing Affordability Index (HAI) of 60. An HAI of less than 100 indicates the median income is not enough to purchase a median valued home and therefore, homes are less affordable. "In these unaffordable areas, home buyers are likely to place a larger down payment or

service high interest rate loans. In other words, homeowners would be stretching their income further, putting them at greater risk of default.”<sup>17</sup>

Nearly 70% of renter households in the Town of Ramapo are cost burdened, spending 30% or more of their income on housing costs – with 40% spending 50% or more of their household income on rent. The cost burden is even greater in unincorporated parts of Town where over 75% of renter households experience a housing cost burden, and 50% are severely cost burdened spending 50% or more of household income on rent.<sup>18</sup>

### Existing & Projected Public & Private School Populations

The school-age population of persons aged five to 17 years old in the Town of Ramapo in 2018 was 32,706 (23.8%) according to 2018 ACS estimates (US Census)<sup>19</sup>. Within that group, some 24,175 (68.1%) of all students are enrolled in private schools, and 11,327 (31.9%) are enrolled in public schools.

As discussed under ‘Education’ in the Inventory, Northeast Ramapo, per ACS data, had a school-age population in 2018 of 416 persons (18%). Similar to other analyzed geographies, the number of school-age children of 5-17 within Northeast Ramapo is projected to increase through 2023. A Town-wide increase in children under five years of age from 2010-2018 is one factor suggesting that demand for community school and childcare facilities, nurseries, and educational centers will increase in conjunction with this population trend.

Considering the whole Town, population change over the last 20 years, inclusive of villages, from to 2000 to 2020 was 28%, rising to an estimated 140,000 persons. This population figure is adjusted proportionally to 2020 using a 2018 ACS estimated 2018 population of 138,585 persons, as well as a year 2000 population count from the decennial census of 108,905 persons.<sup>20</sup>

Using the above 23.8% figure for percent of school-age population and applying this rate to a 2020 projected population of 140,000 persons, would mean there is now some 33,320 persons in the 5 to 17 years old age group. If the population growth rate remains at 28%, 2040 total population will grow by 39,200 persons, to 179,200. If the cohort proportion for 5- to 17-year-olds remains the same, at 23.8%, that means the school age population will grow to 42,112 persons by 2040. Over 20 years, the increase in this cohort from 33,320 to 42,112 school-age children would represent a net increase of 8,792 persons. Divided by 20 years, there could be an increase of 440 persons each year in the 5-17 age group<sup>21</sup>.

<sup>17</sup> Esri. (n.d.) Housing affordability in the US. Retrieved 1/21/20 from:

<https://www.arcgis.com/apps/Cascade/index.html?appid=1419fe7ce70c4267a7258eb59a9a824c>

<sup>18</sup> U.S. Census Bureau, American Community Survey 2012-16 Five-Year Estimates.

<sup>19</sup> Appendix A: Comprehensive Plan Update Town-Wide Existing Conditions Report

<sup>20</sup> U.S. Census Bureau, 2000 Decennial Census

<sup>21</sup> U.S. Census Bureau, American Community Survey 2013-18 Five-Year Estimates.

### Existing Schools in or Immediately Adjacent to Northeast Ramapo

*Public schools* – Northeast Ramapo is completely overlain by the East Ramapo Central School District (ERCSD). The Inventory's Education section reviews public schools. There are no public schools directly in Northeast Ramapo, although there are two public schools nearby.

- Summit Park Elementary School is adjacent to Northeast Ramapo, on the opposite side of Rte. 45 within the Village of New Hempstead (just south of Sanatorium Road).
- Pomona Middle School, on Pomona Road, is roughly 300 feet west of Camp Hill Road, which forms one border within the northwest part of Northeast Ramapo.

Both schools serve areas broader than Northeast Ramapo alone. The public high school serving Northeast Ramapo is Ramapo High School located on Viola Road.

*Private Schools* – There are two private schools in Northeast Ramapo, both are private Jewish schools:

- Bnos Derech Yisroel Bais is located at 900 NYS Rte. 45; and
- Yaakov Chofetz Chaim of Pomona is at 44 South Camp Hill Road.

### Existing School Population Characteristics

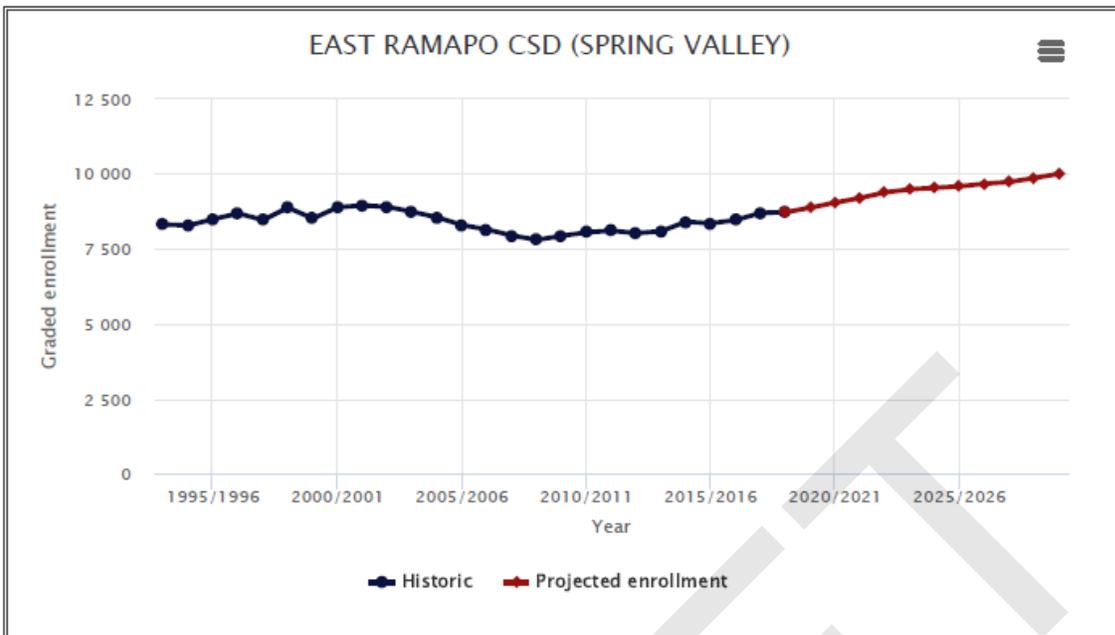
Information on area public and private schools and school populations is contained in the Inventory. ERCSD has a growing student base. Discounting the District's pre-kindergarten program (where there is a pattern for a subset of children to stop attending public schools and instead attend private school after completion of some kindergarten)<sup>22</sup>, as shown in Figure 6.4-3 illustrating 'historic' enrollment trends for the District, using an interpolation of the historic trend line, the ERCSD grew by over 1,000 students from 2007/2008-2017/18 school years.<sup>23</sup> At a recent point, growth was more rapid, with ERCSD enrolling 541 net new public students between July 2019 and October 2019 alone.<sup>24</sup> The student population growth trends within ERCSD are expected to continue. This is evidence of sustained demand for all types of schools.

Likewise, general population growth can be expected to continue. Based on U.S. Census Bureau and ESRI Business Analyst figures, Rockland County is projected to experience 3.2% population growth in the five years between 2018 and 2023 based on 2018 population estimates and 2023 population projections. This

<sup>22</sup> Experience shows that each year, year after year, an approximately 1,000 student cohort leaves direct education by the District. The effect is attributed to parents of a set of kindergarten-age children opting out of direct attendance in order to enroll these children in private religious school institutions after Pre-kindergarten.

<sup>23</sup> Cornell University Program on Applied Demographics, 'projected enrollment' as accessed 9/23/19 (robust)

<sup>24</sup> 'Large Influx of Immigrant Students Tax Districts' Resources, Challenge Educators', Lower Hudson Journal, November 12, 2019 By Gary Stern.



*Figure 6.4-5 – Source: Cornell University Program on Applied Demographics*

means there will be a rise from 328,812 residents to 339,495 residents. According to the same source, the Town is expected to experience a 4.7% population increase, from 138,585 residents to 145,089 residents<sup>25</sup>. Likewise, Northeast Ramapo is projected to increase in population over the same time by 4.7%, going from 2,298 to 2,393 persons<sup>26</sup>.

These rises appear to correspond with high rates of natural growth. Considering future levels of demand for school services, there is expected to be school-age population growth and increasing demand based on natural growth; furthermore, as development occurs in the Northeast, additions to the housing supply may also enable some population growth, since tight housing markets with high corresponding rents and purchase costs are factors which can restrict population growth, as people may choose not to move (migrate) into an area if they cannot secure housing in the fashion and level of cost they demand.

One demographic expected to grow is the proportion of Judaic households. There were 45 new Jewish private schools established during 2010-2019 within the geographic area that corresponds with ERCSD. This represented an increase of 73% in the number of schools from 2000-2009<sup>27</sup>. Such a significant increase in demand for Jewish non-secular education can be assumed to reflect an increasing Judaic population. Moreover, these are often relatively larger size households. Presuming there will be a sizable Judaic-persuasion population in the Town, and as development occurs in northeast Ramapo, it is likely that demand for Jewish educational institutions will remain high and increase.

<sup>25</sup> Appendix A: Comprehensive Plan Update Town-Wide Existing Conditions Report, pg. 25

<sup>26</sup> Ibid, pg. 26

<sup>27</sup> Ibid, pg. 190.

## Existing Comprehensive Plan & Zoning Standards for Schools

The Comprehensive Plan identifies concern for “...quality of community services within the Town, including the quality of the local school district...”<sup>28</sup> It acknowledges that schools (public and private) are an integral part of the community fabric (page C-6), and paraphrased, it promotes using zoning requirements and zoning revisions to establish a balance between the need for these type uses and minimizing impacts resulting from their placement in residential neighborhoods (pp C-6 & C-7).

As described in ‘Existing Zoning’ in the Inventory, current standards for schools fall under ‘School of General Instruction’ and ‘School of Religious Instruction’ categories. The use allowance for ‘Schools of Special Instruction’ also exists for vocational-oriented educational uses. Generally, the standards for Schools of ‘General’ or ‘Religious’ Instruction call for 30 square feet of recreation area per student, safe pick-up and drop-off regarding bussing with minimal impact on traffic, access for fire-fighting and emergency vehicles, adequate parking, and perimeter landscaping as required by the Planning Board.

Within existing zoning, there are lot sizing requirements for Schools of ‘General’ or ‘Religious’ Instruction that are scaled according to the base Zoning District. These lot size standards appear to have been adopted circa 2006 based on the current Comprehensive Plan. These type Schools can be developed in Residential Zones, so in Northeast Ramapo the minimum standard is 3.7 acres (in RR-50, RR-80 and RR-120). Since these zones cover a sizable area, significant current potential exists for developing Schools on vacant open lands, or as redevelopment of existing ‘Residential’ zoned lots.

## Economic Base

A basic economic profile in the Inventory Report defines industry employment County-wide per 2017 using Bureau of Labor Statistics data. Town-wide employment in 2015 is also presented using US Census figures, while a list of large employers in Town is based on Rockland Economic Development Corporation data for 2017. As shown in Table 30, Total Public Sector employment in 2017 comprised 14.3% of employment in the County, within Rockland County, which was second only to Healthcare & Social Assistance (20.1%) and was greater than the next highest category, Retail Trade (12.2%).

The employment mix in Northeast Ramapo was at that point not derived, but it would appear to generally correspond with this pattern, as the sectors serving as the largest employers would be expected to be retail businesses, including a major grocery store along Route 202, plus government within the County’s workforce at Sanatorium Road being a main driver.

A large portion of all commercial land use in the Town, 48.2%, was multi-family apartments. This represented 1/3 or 32.2% of all commercial land use valuation in 2017 (Inventory Table 49). In Northeast

<sup>28</sup> Town of Ramapo 2004 Comprehensive Plan, C-1

Ramapo there are disproportionately fewer multi-family uses, so anecdotally it might be expected for more of total acreage in 2017 to be Retail Services and the Category Banks and Office Buildings.

### **6.4.1.2 Potential Impacts**

#### **Socio-Demographic, Housing, & Economic Considerations**

Based on current census data, the population of Northeast Ramapo is anticipated to rise by 4.1% by 2023<sup>29</sup>, resulting in a need for additional housing opportunities. The relatively older age of the population of Northeast Ramapo with 20.1% of people 65 and old presents a need for affordable housing for seniors to be able to age in place and have access to goods and services.

The NRDP/DGEIS proposes and assesses potential land use regulations that facilitate development within Opportunity Areas where future new growth is intended to be focused. The intent is to encourage placemaking in key areas of Northeast Ramapo to facilitate compatible residential, commercial, and mixed-use development, resulting in a net benefit to the community. Proposed zoning changes within Opportunity Areas support a balanced mix of residential and business zones to encourage opportunities for employment, economic diversity, housing diversity, tax base, and goods and services for Town residents.

A buildout analysis was completed to estimate the potential growth in number of households based on possible future development. According to the buildout analysis, there is potential for an estimated 1,098 – 1,190 new dwelling units within Northeast Ramapo. It is important to note that this analysis is a full buildout – which may not occur for 20 years or longer. Further details about the build out analysis are included in Sections 6.10 and Section 8.0.

Commercial Corridor zoning, proposed within Opportunity Area B along US Route 202, encourages a mix of commercial and residential development. The new district is intended to create an area of focused, walkable mixed-use development allowing for a greater variety of commercial activity while supporting residential uses. Residential growth within the OA is anticipated to add 43<sup>30</sup> additional multi-family residences, supporting the need for rental housing. Commercial growth within the OA is anticipated to create new employment and a greater range of services. Commercial growth within Opportunity Area B is anticipated to add over 138,000 square feet of additional non-residential space<sup>31</sup>. Commercial uses may include banks, day-care centers, restaurants, medical and dental offices, and retail stores on a scale consistent with existing development. Public opinion research indicates that there is support for housing density and mixed-use development within proximity to consumer needs and services.

The Neighborhood Shopping District, proposed within Opportunity Area C, is intended to allow for neighborhood commercial uses, on a scale consistent with existing development in the area. Commercial growth within Opportunity Area B is anticipated to add over 197,000 square feet of additional commercial

<sup>29</sup> Appendix A: Comprehensive Plan Update Town-Wide Existing Conditions Report, Table 3

<sup>30</sup> Appendix B: Buildout Analysis

<sup>31</sup> Ibid.

space<sup>32</sup>. The district is intended to support existing residential areas by allowing for a greater variety of services which may include local convenience stores, groceries, offices, and laundromats.

The Flexible-Overlay Planned Unit Development (FOPUD) is a new floating zone that is intended to provide flexibility for future growth that considers options for new residential, commercial, mixed uses and amenities in which economies of scale or creative architectural or planning concepts may be utilized by the developer. Proposed development with the FOPUD is intended to be respectful of the existing environment, make efficient use of the land and meet a set of design criteria. This zoning tool is intended to be utilized on lands of 20 acres or more, potentially within Opportunity Areas B, D and/or E. The FOPUD will allow for a range uses and housing types at different price points, supporting the current demand for single- and multi-family housing. Development within Opportunity Areas B, D and E has the potential to add over 75,000 square feet of commercial space and 1,122 new residential units<sup>33</sup>.

Future development consistent with the proposed zoning is anticipated to increase the residential units within Northeast Ramapo, and as a result, the population. Future development is also anticipated to result in more diverse housing opportunities including single- and multi-family housing, meeting the needs for renter and owner-occupied housing. Future development is anticipated to provide a greater range of services, increased commercial activity, and employment opportunities to support the Town's tax base. Therefore, no adverse impacts are anticipated related to socio-demographic, housing & economic considerations.

#### **6.4.1.3 Mitigation**

As stated above, the future growth is anticipated to create a net benefit by supporting more housing opportunities for seniors and young professionals, encouraging walkable areas, and supporting the Town's tax base. Therefore, no mitigation relative to socio-demographic, housing, and economic considerations is necessary at this time.

### **6.4.2 Schools (Public & Private)**

This part examines the school-age population that could reside in Northeast Ramapo under a buildout during the 20-year NRDP/DGEIS. It extrapolates possible future land use by public and private schools. As part of considering options to facilitate and manage development of schools in the Northeast, there is an examination of the proposed zoning for schools. Through examination of potential generic growth in school buildings in square feet, and sub-areas, there is also an assessment of potential to establish school layouts that integrate with the planned mixed-use and which complement the character of Opportunity Areas.

<sup>32</sup> Ibid

<sup>33</sup> Appendix B – Draft Buildout Analysis

### 6.4.2.1 Existing School Environment

The Inventory Report's Demographic Profile and its section on Schools present data and context for understanding existing population characteristics and aspects of school's administration. Specifically, these describe two public school districts in-Town, enrollments using NY State Education Department (NYSED) statistics, and 5-year student growth estimates using the Cornell University Program on Applied Demographics data. Meanwhile, **Section 6.4.1** Socio-Demographic, Housing & Economic Considerations also presents information and analysis of the forces influencing population dynamics.

Importantly, the school environment in the Town is unique. Compared with most parts of this State, there is a high level of private schools. Most but not all are parochial, relating to some extent to religious education.

#### Existing School Population Characteristics

Information on area public and private schools and school populations is contained in the Inventory. ERCS D is the public school district overlaying the eastern half of the Town, including Northeast Ramapo.

ERCS D has a growing student base and grew by over 1,000 students between the 2007/2008 to 2017/18 school years.<sup>34</sup> At a recent point, growth appears to have been more rapid, with ERCS D enrolling 541 net new public students between July 2019 and October 2019 alone.<sup>35</sup> Student population growth trends within ERCS D are expected to continue.

This is evidence of sustained demand for public type schools, although as the discussion that follows shows, there may not be as great of growth in public schools as in private schools. Certainly, analysis of potential for school age student enrollment in Ramapo should contemplate unique dynamics in terms of early childhood/ kindergarten age enrollments. Anecdotes appear to show that all of ERCS D's pre-kindergarten program enrollees do not continue on through higher grade levels within the public schools. This is because there is indication of a pattern, whereby a large subset of children do not continue to attend public schools and instead are enrolled in private schools after completion of some early-childhood age kindergarten<sup>36</sup>.

Likewise, in the Town, general population growth can be expected to continue, which will cause growing demand for all types of schools. Based on U.S. Census Bureau and ESRI Business Analyst figures, Rockland County is projected to experience 3.2% population growth in the five years between 2018 and 2023 based

<sup>34</sup>Cornell University Program on Applied Demographics, 'projected enrollment' as accessed 9/23/19 (robust)

<sup>35</sup> 'Large Influx of Immigrant Students Tax Districts' Resources, Challenge Educators', Lower Hudson Journal, November 12, 2019 By Gary Stern.

<sup>36</sup> Experience shows that each year, year after year, an approximately 1,000 student cohort leaves direct education by the District. The effect is attributed to parents of a set of kindergarten-age children opting out of direct attendance in order to enroll these children in private religious school institutions after Pre-kindergarten.

on 2018 population estimates and 2023 population projections. This shows a potential rise from 328,812 residents to 339,495 residents. According to the same source, the Town is expected to experience a 4.7% population increase, from 138,585 residents to 145,089 residents<sup>37</sup>. Likewise, based on current trends, Northeast Ramapo is projected to increase in population over the same time by 4.7%, going from 2,298 to 2,393 persons.<sup>38</sup>

These rises appear to correspond with high rates of natural growth, meaning high birth rates. There is expected to be school-age population growth and increasing demand based on high birth and survival rates<sup>39</sup>. Also, as development occurs in the Northeast, housing supply growth may correspond with some additional population growth, since tight housing markets with high corresponding rents and purchase costs are factors which can restrict population growth, as people, like young professionals, may choose not to move (migrate) into an area, or continue to reside within a location, if they cannot secure housing in a fashion and level of cost they demand and can afford.

One demographic expected to grow is the proportion of Judaic households. There were 45 new Jewish private schools established from 2010-2019 in the geographic area corresponding with ERCSD. This represented an increase of 73% in the number of schools from 2000-2009<sup>40</sup>. Such a significant increase in demand for Jewish non-secular education can be assumed to reflect an increasing Judaic population.

Moreover, there are often relatively large average size households in Ramapo, particularly in the unincorporated area. Proprietary demographic data in the Inventory Report obtained from ESRI and Ribbon Data Demographics, shows high rates of households consisting of five or 6 or more persons. Since there appear to often be multiple children in such households, this confirms many student-age persons live in Town, plus high fertility rates among young adults as this subset ages also influences potential for growth in school-age populations within the Town. Presuming there will be a sizable Judaic-persuasion population in the Town, and as development occurs in Northeast Ramapo, it is likely that demand for Jewish educational institutions will remain high and increase.

### Existing Schools in or Immediately Adjacent to Northeast Ramapo

*Public schools* – Northeast Ramapo is completely in the East Ramapo Central School District. The Inventory's Education section reviews public schools, and its Recreation section identifies all school locations. There are no public schools directly in Northeast Ramapo, although there are two public schools are nearby:

- Summit Park Elementary School is adjacent to Northeast Ramapo, on the opposite side of Rte. 45 within the Village of New Hempstead (just south of Sanatorium Road).

<sup>37</sup> Appendix A: Comprehensive Plan Update Town-Wide Existing Conditions Report, pg 25.

<sup>38</sup> Ibid, pg. 26.

<sup>39</sup> NY State Department of Health Community Health Indicator Report, 2018

<sup>40</sup> Appendix A: Comprehensive Plan Update Town-Wide Existing Conditions Report, pg. 190

- Pomona Middle School, on Pomona Road, is roughly 300 feet west of Camp Hill Road, which forms one border of the northwest part of Northeast Ramapo.

Both schools serve areas broader than Northeast Ramapo alone. The public high school serving Northeast Ramapo is Ramapo High School located on Viola Road.

*Private* – There are private schools identified as directly located in Northeast Ramapo. Most are private Jewish schools and include, but are not limited to the following:

- Bais Yaakov Chofetz Chaim of Pomona is at 44 South Camp Hill Road;
- Bnos Derech Yisroel Bais is at 900 NYS Rte. 45;
- Grace Gospel Fellowship Church Christian Elementary school is at 384 New Hempstead Road (identified through the institution’s website);
- Yeshivah Gedolah of Ramapo at 115 Trails End.

Within 250 feet of Northeast Ramapo’s outer perimeter, nearby private schools include, but are not limited to the following:

- Ashar Adolph Schreiber Hebrew Academy of Rockland; and
- Visions Center on Blindness.

### Existing Comprehensive Plan & Zoning Standards for Schools

The 2004 Town of Ramapo Comprehensive Plan identifies concern for “...quality of community services within the Town, including the quality of the local school district...”<sup>41</sup> It acknowledges that schools (public and private) are an integral part of the community fabric<sup>42</sup>. It promotes (paraphrased) using zoning requirements and zoning revisions to establish a balance between the need for these type uses and minimizing impacts resulting from their placement in residential neighborhoods<sup>43</sup>.

As described under ‘Existing Zoning’ in the Inventory, current standards for schools fall under ‘School of General Instruction’ and ‘School of Religious Instruction’ categories. A use allowance for ‘Schools of Special Instruction’ also exists for vocational-oriented educational uses. Generally, standards for Schools of ‘General’ or ‘Religious’ Instruction call for 30 square feet of recreation area per student, safe pick-up and drop-off regarding bussing with minimal impact on traffic, access for firefighting and emergency vehicles, adequate parking, and perimeter landscaping as required by the Planning Board.

Schools generally are allowed in Residential Zones. The zoning framework for various types of schools is described in the Inventory Report. Under existing zoning, there are lot sizing requirements for Schools of

<sup>41</sup> Town of Ramapo Comprehensive Plan, 2004, pg. C-4

<sup>42</sup> Ibid, pg. C-6

<sup>43</sup> Ibid, pg. C-6, C-7

'General' or 'Religious' Instruction that are scaled according to the base Zoning District. These minimum lot sizes appear to have been adopted circa 2006 based on the Comprehensive Plan. In Northeast Ramapo, according to the spatial layout of existing zoning, there are two Use Groups that would be applicable to the siting of schools. One covers R-35 and R-40 zones and requires an 80,000 square foot lot, which equates with 1.84 acres. The other covers RR-50 and RR-80 and requires at least a 160,000 square foot lot, which equates to a minimum standard of 3.7 acres. Since these zones overlay a sizable area within Northeast Ramapo, significant current potential currently exists already for developing Schools on vacant open lands, or as redevelopment of existing 'Residential' zoned lots.

#### **6.4.2.2 Potential Impacts**

Future development within Northeast Ramapo is anticipated to add between 1,098 and 1,190 new households at full buildout<sup>44</sup>. Further discussion of this is included in Section 6.10 – Fiscal Impacts.

As discussed in the above section, the East Ramapo School District serves students in the Towns of Ramapo, Clarkstown and Haverstraw. Town-wide an estimated 10,702 or 29% of school aged children are enrolled in public school<sup>45</sup> or 0.28 per residential unit. Anticipated population growth at full buildout within Northeast Ramapo has the potential to add 312-339 new school aged children to the East Ramapo Central School District at time of full buildout, which may occur over the next 20 years. This equates to an increase of 3.54% - 3.83% in enrollment within the district as a result of full buildout<sup>46</sup>. Projections within the district are for an average annual increase of 1.5% in enrollment growth<sup>47</sup>. Over a 20-year timeframe, the expected enrollment growth as a result of new development in Northeast Ramapo is less than what is anticipated district wide.

With regard to estimated facility space per student using Wohler's study<sup>48</sup>, conversations have been initiated and are ongoing with the East Ramapo Central School District to confirm applicability. At this time, it is anticipated there is a district wide capacity from a facility standpoint to handle the additional growth in enrollment. Overall, the net fiscal impact on the ERCSD from future development is estimated to produce a net revenue of \$900,000 to \$1.94 million annually.

Town-wide estimates of school aged children not enrolled in public schools are 25,802<sup>49</sup>. This represents 71% of school aged children and an estimated 0.686 per household. Anticipated population growth at full buildout within Northeast Ramapo has the potential to add 753-816 new school aged children outside the public school system, potentially within private schools.

As discussed within Section 6.4.1, there were 45 new Jewish private schools established during 2010-2019 within the geographic area that corresponds with ERCSD. Based on the trend in applications before the Planning Board, the growth in private schools is expected to continue. An estimate of facility space per

<sup>44</sup> Appendix G - Economic and Fiscal Impact Analysis

<sup>45</sup> Ibid, Table 18

<sup>46</sup> Ibid, Table 19

<sup>47</sup> East Ramapo Central School District, Preliminary Five-Year , pg 16.

<sup>48</sup> Wohler, Art. Gross Square Feet Per Student. IssueTrak: A CEFPI Brief on Educational Facility Issues, 1995, available at: <https://eric.ed.gov/?id=ED426574>

<sup>49</sup> Appendix G - Economic and Fiscal Impact Analysis, Table 18

student was not calculated using Wohler's approach<sup>50</sup>, due to the limited applicability to private and special religious schools. However, the need for additional private school facilities can be accommodated within the proposed zoning in all opportunity areas, as well as within existing zoning districts that will remain unchanged.

Commercial Corridor zoning, proposed for Opportunity Area B along US Route 202, allows for the development of schools through Special Permit by the Town Board.

In the Neighborhood Shopping zoning district, proposed within Opportunity Area C along State Route 45, Schools of special instruction are permitted by right.

Within the FOPUD, potentially within Opportunity Areas B, D and/or E, uses permitted shall be determined by the Town Board pursuant to the Preliminary PUD Plan for that District along with any permitted accessory uses and may include schools and schools of special instruction.

Outside of the proposed zoning changes, the remaining zoning districts within Northeast Ramapo also allow for special schools. The RR-80, RR-50 and R-35 districts all allow for schools of general or religious instruction through special permit by the Planning Board.

New educational facilities are required to meeting current zoning regulations which include requirements for recreational areas, landscaping, parking and building plantings as required by the Planning Board. Development consistent with regulatory requirements is anticipated to enhance community character.

Overall, there are no direct adverse impacts to schools anticipated with the proposed action. However, future development that may occur following the adoption of the plan may result in an increase of residential housing, resulting in a potential to increase the number of school age children in Northeast Ramapo. At this time, it is anticipated there is a district wide capacity from a facility standpoint to handle the additional growth in public school enrollment. Additionally, existing, and proposed zoning allows for the opportunity for the development of additional private schools within Northeast Ramapo. Therefore, future development proposed for Northeast Ramapo is unlikely to have adverse impacts on schools. See **Section 6.10** for fiscal impacts to the ERCSD.

### 6.4.2.3 Mitigation

Mitigation related to schools must include coordination with the ERCSD to evaluate capacity needs and constraints. Future development projects will need to consider impacts to the public school district on an individual project basis to anticipate any increases in the student population. Additionally, any growth in private or public schools should take into consideration safe access for students by bus or walking at time of site plan review.

<sup>50</sup> Wohler, Art. Gross Square Feet Per Student. IssueTrak: A CEFPI Brief on Educational Facility Issues, 1995, available at: <https://eric.ed.gov/?id=ED426574>

## 6.4.3 Police

This section examines strategies for meeting police service and capital needs attributable to growth expected in Northeast Ramapo over the next 20 years. The Town Police Department's sole station is located at Town Hall on State Route 59. That facility, which presumably dates to the 1970s, eventually will require modernization. Based on a 2018 Police Chief interview, and a limited review of current Town Hall space assigned to Police, it appears the Police are managing with their existing building, although there are some space limitations. For instance, as noted in the Inventory, there are not sufficient locker rooms. Likewise, there is a limited supply of supervisory offices. As population grows in Northeast Ramapo, local leaders will need to determine whether to equip the Police with a new building, or plan for space additions or other building modifications at Town Hall to meet operational requirements and maintain current levels of service.

### 6.4.3.1 Existing Conditions

As the Inventory notes (**Appendix A**), two Villages have their own police forces. Still, Town Police operations serve all residents and businesses, inclusive of these Village forces. With this in mind, the following baseline space characterizations and metrics can be established in terms of the current level of service, which is deemed adequate, with an effort to maintain roughly proportional growth in the Police staffing ratio as population grows in the Northeast in accordance with the proposed NRDP:

- With a total Police officer staff of 106 in 2021<sup>51</sup>, and an estimated Town-wide population of 135,000, there is a ratio of one (1) police officer for every 1273 Town residents.
- Ramapo Police occupy an estimated 23,500 sq. ft., or 45% total Town Hall building area.
- About 1/3 of all external parking at Town Hall is used by the Police, or for police business. This covers employee parking, public parking, and Police vehicle/ equipment storage and/ or staging.
- There is limited potential for horizontal space expansion at the Town Hall site due to the physical size and constraints of the current lot.

Over the NRDP/DGEIS 20-year horizon, residential population in Northeast Ramapo is expected to rise by 3,928 - 4,260 residents. In order to adequately provide Police service in the Northeast, and maintain service all across Town, additional staffing, equipment and facility space will be required based on planned growth. Currently the department operates 8 sectors, increasing to 11 as needed<sup>52</sup>. Based on conversations with the Ramapo Police Department in June 2021, there would be an anticipated need for a permanent sector within Northeast Ramapo and up to 5-10 new police staffers to meet service demands attributable to full build out in Northeast Ramapo<sup>53</sup>.

### 6.4.3.2 Potential Impacts

The proposed action will not result in any immediate adverse impact to the Ramapo Police Department. However, future build out identified in the NRDP/DGEIS may result in an increase in emergency service

<sup>51</sup> Based on phone conversations with Chief Marty Reilly on June 23<sup>rd</sup>, 2021.

<sup>52</sup> Based on phone conversations with Chief Marty Reilly on June 23<sup>rd</sup>, 2021.

<sup>53</sup> Ibid

demand requiring the Town to hire additional personnel. As described above, as population grows in Northeast Ramapo, local leaders will need to determine whether to equip the Police with a new building, or plan for space additions or other building modifications at Town Hall to meet operational requirements and maintain current levels of service.

### **6.4.3.3 Mitigation**

There are no adverse impacts associated with the proposed action on police services at this time. However, as indicated above, the proposed future buildout and subsequent population increase will require at least an additional 5-10 police officers to meet emergency service demand as growth is realized. In order to adequately provide Police service in the Northeast, and maintain service all across Town, additional staffing, equipment, and facility space will be required based on planned growth. The Town will need to consider capital planning to accommodate these needs.

## **6.4.4 Firefighting /Fire Emergency Response**

### **6.4.4.1 Existing Conditions**

Northeast Ramapo falls squarely in Moleston Fire District, which is funded by a special taxing district with oversight by a Board of Commissioners. The protection provided by its Hillcrest Fire Department, which covers 36 sq. mi. across parts of Ramapo, Haverstraw and Clarkstown. Hillcrest has three stations and is the second busiest in Rockland County after Spring Valley.

Access from these three stations into Northeast Ramapo is generally direct, as all are located on State highways. One is within Ramapo, to the south within Hillcrest on Rte. 45, one is located to the southwest on NY 306 in Ramapo, and one is to the north in Haverstraw.

- Mt. Ivy Station (# 6-101), in Haverstraw, on State Route 45, is 0.75 miles north of the Northeast Ramapo's border. It provides protection for the northern part of District and, thus, is closest to US Route 202. Besides Mt. Ivy Station's direct access on US Route 45, it has easy access to the Palisades Parkway's on and off ramps just to the south (overpass clearances on the PIP have not been examined for this discussion).
- The Ladentown-Sikorsky substation (# 6-102), on State Route 306, is west of the Village of Pomona, also about 0.75 miles west of Northeast Ramapo. This makes Mt. Ivy and Ladentown-Sikorsky substations roughly equal in terms of service in Northeast Ramapo, and they both cover parts of Opportunity Areas A, B, C, and D.
- Hillcrest (#6-100) is the furthest station from Northeast Ramapo on State Route 45 roughly 1.0 mile south. This station is the Department's base of operations. Network access for this "main" station provides proximity to Opportunity Area E. The approach from Hillcrest crosses several

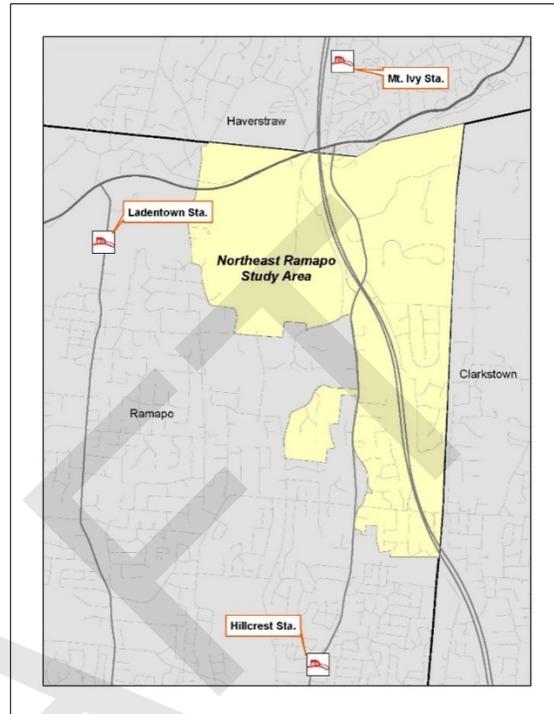


Figure 6.4-4 - Locations of Fire Stations of the Hillcrest Fire Department in Relation to Northeast Ramapo.  
Source: Laberge Group 2020.

smaller intersections, plus it involves negotiating the busy State Route 45/ New Hempstead Road intersection.

In terms of planning for effective responses from Mt. Ivy and Ladentown Stations, there are some major intersections, depending on call destinations, which may need to be traversed. Calls emanating from Mt. Ivy Station generally will enter Ramapo through the State Route 45, US Route 202 or PIP intersections. Likewise, vehicles traveling from Ladentown must negotiate the State Route 306/ US Route 202 intersection when heading north, and State Route 306/ Pomona Road intersection when going to south realms.

The most remote part of Northeast Ramapo, in terms of station distance, is north of Opportunity Area E and south of Concklin Road. **Figure 6.4-5** depicts this area is outside of a 2.0-mile radius from any station. It is not expected that this area will be impacted by significant future development, as existing zoning will be retained. Zoning in this area is expected to remain residential and experience minimal change during the next 20 years.

Additional information on Hillcrest Fire Department's stations and apparatus, as well as on other Fire Departments and Districts in Ramapo, can be found in the Inventory. A major source for data provided therein, including the apparatus listing, is the 2018 'Rockland County Fire Service Directory'.

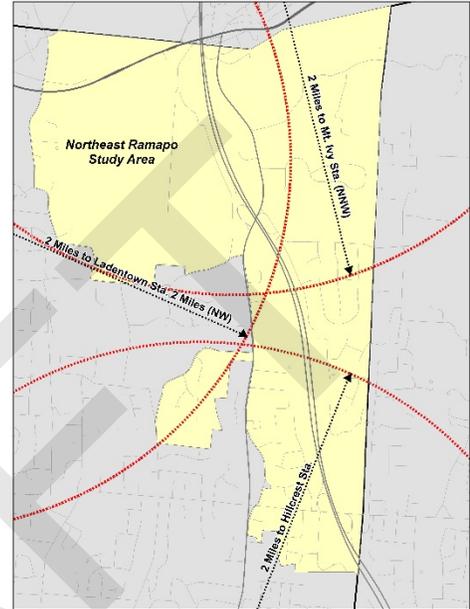


Figure 6.4-5: Two-mile Radius illustrated from each firehouse. Source: Loberge Group. 2020

### Rockland County Fire Training Facility

Rockland County's Fire Training Facility is at 35 Firemen's Memorial Drive, by Rockland Boulders Baseball Stadium to the south, and the PIP to the east. The site is a higher-order regional emergency operations center which houses training spaces for safety personnel and related services. Other uses adjacent to this Critical Facility include Mt. Ivy Environmental Park and High Tor Animal Care Center to the north, plus Hudson Valley Medical Associates Plaza in the southeast.



Figure 6.4-6 –Rockland County Fire Training Facility. Source: <https://patch.com/new-york/newcity/firefighters-remember-fallen-volunteers>

This Plan does not provide specific recommendations concerning future use or development of the Fire Training site. Yet, it does register that this Critical Facility will remain in operation for the foreseeable future. The training site is located outside of the proposed Opportunity Areas. However, new development which could occur within Opportunity Area D is within one mile of the

facility. New development in this area is not expected to negatively impact essential operations at the Fire Training Facility. Likewise, open space, including wetlands, create separation and an appropriate buffer between the Facility and Opportunity Area D. However, future residents must be aware that loud, intense noises and activities routinely happen at the Training Facility. This includes training sessions themselves as well as the coming and going of helicopters and other emergency vehicles. Redevelopment on the VFW property should provide for an enhanced landscape buffer to ensure there is some practical mitigation of potential noise that may arise from the Training Facility.

#### 6.4.4.2 Potential Impacts

The proposed action will not result in any adverse impact to emergency fire services. However, future development of the Opportunity Areas identified in the NRDP are anticipated to result in an increase in the number of housing units and commercial activity which may result in an increase in emergency service demand.

As discussed within the above sections, future growth within the Opportunity Areas is estimated through a buildout analysis for Northeast Ramapo<sup>54</sup>. Based on the Buildout Analysis, an anticipated 1,098 – 1,190 new dwelling units and between 410,941 - 831,271 square feet in new commercial growth are anticipated within the next 20 years in Northeast Ramapo. Based on these estimates, and the average Town-wide population per household, it is anticipated this growth would increase the number of residents by 3,928 – 4,260<sup>55</sup>.

Based on the anticipated population growth, the need could arise for additional fire safety equipment and staff. Correspondence with the Hillcrest Fire Department has been initiated and is ongoing to confirm impacts and potential needs for new facilities, staff and equipment.

Building height allowances within zoning can present limitations on the ability for fire safety personnel to adequately respond to an emergency. However, building height limitations identified within the proposed zoning do not exceed what is already allowed by zoning within the MU-2 district along US Route 202. Furthermore, the Commercial Corridor zoning district, proposed within Opportunity Area B, along US Route 202, restricts building heights to three stories. Building height limitations within the Neighborhood Shopping district is limited to two stories. Within the FOPUD, which could potentially be applied within Opportunity Areas B, D and/or E, maximum building height requirements restrict development to five stories. Based on the current existence of buildings with a similar scale serviced by the fire district, it is not anticipated that new apparatus would be required to adequately respond to emergencies at this time, however conversations with the Hillcrest Fire Department have been initiated and are ongoing.

Future traffic patterns and transportation impacts are explored within **Section 6.6 Transportation**. The section provides a discussion of mitigation measures, including modification of existing circulations patterns. The mitigations measures proposed are anticipated to alleviate traffic congestion as well as improve general response time for emergency vehicles.

As discussed within Section 6.6. Transportation, special events such as religious and sporting events introduce congestion and concentrated traffic volumes that can significantly impact the roadways

<sup>54</sup> Appendix B: Buildout Analysis

<sup>55</sup> Appendix G - Economic and Fiscal Impact Analysis

surrounding the locations of said events. The Town should require a site and event specific Event Traffic Management Plan (ETMP) for events within Northeast Ramapo that have the potential to create unacceptable traffic conditions. The ETMP should consider the volume of vehicular traffic and the efficient ingress and egress. Not all events will require both ingress and egress plans due to the event-specific arrival and departure patterns. The requirements for and composition of an ETMP should be determined on a case-by-case basis.

### 6.4.4.3 Mitigation

There are no immediate adverse impacts anticipated with the proposed zoning changes on fire services, therefore no mitigation measures are proposed. Impacts associated with future development projects will have to be considered on an individual project basis. Any new development would be required to comply with current regulations set forth in Chapter 144, Fire Prevention, Town Code.

## 6.4.5 Ambulance/EMS

### 6.4.5.1 Existing Conditions

The non-profit Spring Hill Community Ambulance Corp and EMS (SHCAC) operates out of 48 Brick Church Road in the Village of New Hempstead. This location is southwest of unincorporated Northeast Ramapo and is generally about 2.0 to 2.5 miles from the population centers in Northeast Ramapo. Overall, the farthest distance from the SHCAC Station to an accessible road location would be the eastern edge of South Mountain Road which is just over 3.0 miles. The characteristics of SHCAC are described, since this

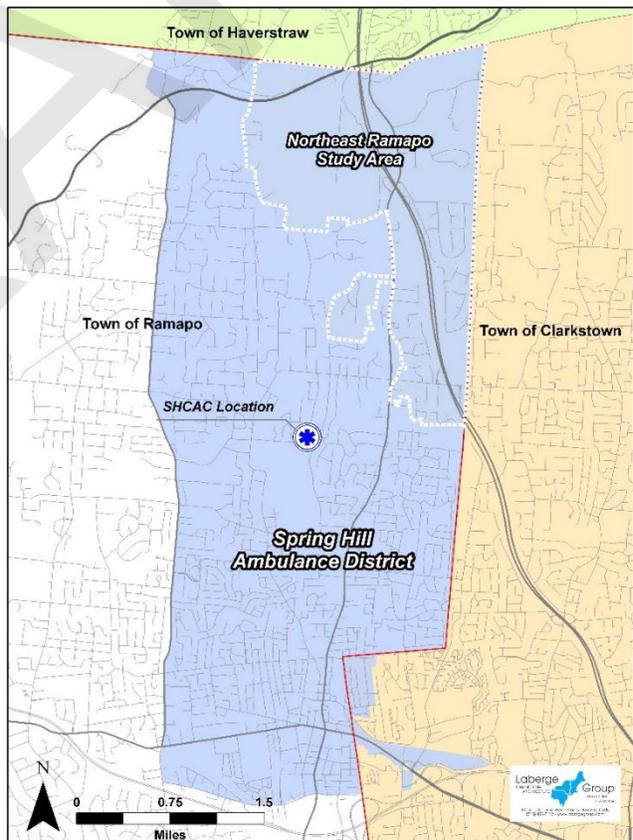


Figure 6.4-7 - SHCA Station Location and Service Area (Blue) with the Northeast Ramapo Study Area

is the primary ambulance/ emergency medical service covering Northeast Ramapo<sup>56</sup>.

SHCAC's operations occur in a one-story facility constructed in 2005 at the corner of Brick Church Road and Hempstead Road. The site has a wrap-around driveway that allows EMS vehicles to efficiently enter/ exit the site. This location has ample parking, with 50 spaces on a 95,500 sq. ft. lot. The building itself is roughly 16,500 sq. ft. This site is estimated to possess capacity for 10 or more SHCAC vehicles to operate out of this location.

According to its website, accessed in April 2020, SHCAC has eight vehicles:

- Six ambulances staffed at Basic Life Support Level
- Two flycars for emergency responses and administration

Besides covering parts of unincorporated Ramapo, SHCAC services the Villages of Kaser, New Hempstead, New Square, Pomona, Spring Valley, and Wesley Hills. SHCA's service area is shown in **Figure 6.4-7**. It shows that SHCAC District 5 overlays all of Northeast Ramapo.

### 6.4.5.2 Potential Impacts

The proposed action is not anticipated to result in any immediate adverse impacts to emergency medical services. However, future development of the Opportunity Areas identified in the NRDP/DGEIS may result in an increase in emergency service demand.

As discussed within the above sections, future growth within the Opportunity Areas is estimated through a buildout analysis for Northeast Ramapo<sup>57</sup>. Based on the Buildout Analysis, an anticipated 1,098 – 1,190 new dwelling units and between 410,941 - 831,271 square feet in new commercial growth are anticipated within the next 20 years in Northeast Ramapo. Based on these estimates, and the average Town-wide population per household, it is anticipated this growth would increase the number of residents by 3,928 – 4,260.

Based on the anticipated population growth, the need could arise for additional EMS equipment and staff. Correspondence with Spring Hill Community Ambulance Corp has been initiated and is ongoing to confirm impacts and potential needs for new facilities, staff and equipment.

As growth within the Northeast Corridor occurs, changes to traffic patterns and circulation will arise. Transportation impacts and mitigation are explored within **Section 6.6 Transportation**. The section provides a discussion of mitigation measures, including modification of existing circulations patterns. The mitigation measures proposed are anticipated to alleviate traffic congestion as well as improve general response time for emergency vehicles to optimize levels of service.

<sup>56</sup> Another EMS located near Northeast Ramapo is Hatzoloh EMS in New Square - Hatzoloh primarily services the Village of New Square, but its proximity to the northeast means they can provide support. The same is presumed to be the case for the next closest EMS, Haverstraw Ambulance Corps, at 160 Rte. 9W in the Town of Haverstraw.

<sup>57</sup> Appendix B: Buildout Analysis

### 6.4.5.3 Mitigation

There are no immediate adverse impacts anticipated with the proposed zoning changes on emergency medical services, therefore no mitigation measures are proposed. Impacts associated with future development projects will have to be considered on an individual project basis. Correspondence with the Spring Hill Ambulance District has been initiated and is ongoing.

\* Note that the Final Scoping document referred to a “Community Facilities” section in which existing and projected school aged population would be discussed. However, this topic is instead discussed within “Existing & Projected Public & Private School Populations” in the above **Section 6.4.1.1** and is further explored within **Section 6.4.2**.

DRAFT

## 6.5 Utilities

### 6.5.1 Sanitary Sewers

The separate Comprehensive Plan Inventory document describes the basic features of sanitary wastewater conveyance systems within Ramapo, as well as frameworks for wastewater management and treatment. Meanwhile, this section describes local capacities and regional sanitary sewer infrastructure in and adjacent to Northeast Ramapo and the associated policies for growth, access and operations. It also analyzes how future development scenarios relate to the provision of local and regional sewer services.

Town sanitary sewers are public, in that all abutters have equal rights to these facilities. Accordingly, the Town sewer system is defined as all pipes and appurtenances constructed, operated, and maintained by the unincorporated Town. The County sewers in Northeast Ramapo are generally downgradient of the Town's facilities which flow into the regional system owned and operated by Rockland County Sewer District #1 (RC#1). In the part of Northeast Ramapo directly within Mt. Ivy hamlet, near US Route 202, sanitary waste eventually flows into the Haverstraw Joint Regional Sewage Board's conveyance system and is processed at the Joint Board's wastewater treatment plant, although RCSD #1 does billing.

#### 6.5.1.1 Existing Conditions

##### Town Sewers

The layout of Town sanitary sewers in Northeast Ramapo generally correlates with the street grid. Typically, sewers are 8 inches in diameter, although there may be some 12-inch sections. Per correspondence with sewer agency officials, and Town and Rockland County reports, including the 2016 'Sewer Flow Metering, Modeling & System Analysis at Selected Locations in Town of Ramapo, NY', by GHD Consulting Services, page 1, the Town does not own any large diameter sewers, and it has not experienced reportable sanitary sewer overflows due to capacity issues.

Generally, the Town sanitary sewer drainage basins in Northeast Ramapo include:

- Around US Route 202 (generally going northeast).
- West of the PIP, from Camp Hill Road south of US Route 202 and by State Route 45, flows go south towards Hillcrest<sup>1</sup>.
- The east side of State Route 45, west of the PIP, flows south towards New Square and Spring Valley.
- Areas east of the PIP flow east, downgradient of a divide at the PIP.

Generally, there are Town-owned and operated sewers:

- By Ladentown Road and a segment of US Route 202, west of the main stem of the South Branch of Minisceongo Creek.

<sup>1</sup> There are some Town-owned sewers around Camp Hill Road south of US Route 202. Others around this segment of Camp Hill Road are owned by the Village of Pomona.

- On and south of Conklin Road, east of the PIP, on Gessner Terrace, Marietta, Carteret, and Wagon Wheel Drives.
- On Camp Hill Road, including a Town-owned pump station, south of the US Route 202 intersection.
- On Firemans Memorial Drive and extending south on State Route 45 south of the PIP.
- South of Levy/ Reisman Parks on and by Summit and Highview Avenues, Butternut Drive, and Old Schoolhouse Road.

An area not served by Town sewers is the South Mountain Road environment and an area in an around SkyView Acres development is only served by County sewers.

An interview with the Town’s DPW Director on 12/17/2018<sup>2</sup>, indicates the Camp Hill Road pump station (the only Town-owned lift station in Northeast Ramapo) is situated in a low topographic elevation. This duplex station, built in the late 1980s/ early 1990s, can be subject to periodic flooding during extreme weather. The lift station has been impacted by power outages which can render this facility temporarily inoperable unless a portable emergency generator is able to provide temporary support. The pump station occupies a small and constrained footprint close to the road/travel way.

Moreover, a concern expressed by the DPW Director is that excessive levels of grease and unnecessary debris, which should not be present in sanitary flows, are observed. This is an ongoing problem in Town sewers. High concentrations of grease has caused extensive staff resource allocations in order to address blockages. The Town has a ‘Cease the Grease’ campaign which promotes avoidance of dumping residential household fats, oils, and grease down drains. The DPW Director notes that Village of Pomona sewers owned by the Village upgradient (tributary) to Town sewers on Camp Hill Road appear to be a source of some grease. This causes a need to coordinate with the Village of Pomona on public works operations/ financing in order to address this avoidable problem.



Figure 1 - Campaign Image (as accessed on Town website on Oct 28, 2019).

Additional information on Town sewer facility attributes is contained within the Northeast ‘Ramapo Development Plan Sewer Analysis’, September 2020 by GHD and included in **Appendix E**. That document is discussed more below.

### Town General Plan & Sewer Policies

The Community Resources & Character element’s Goal within the existing 2004 Comprehensive Plan is to Maintain the quality of life in the Town by enhancing and preserving the character of Ramapo’s neighborhoods and commercial corridors, maintaining the high quality of community services and facilities provided to Town residents, and providing an integrated and efficient transportation network.<sup>3</sup> A specific associated objective, is to maintain the high quality utility systems that serve the residents of

<sup>2</sup> Interview by Ronald J. Laberge, P.E., Executive Vice President, Laberge Group.

<sup>3</sup> Town of Ramapo Comprehensive Plan Pg. C-2

the Town, including public water supply and sanitary sewers. The 2004 Comprehensive Plan for sewers<sup>4</sup>, for items (b) through (c) paraphrased, it goes on to say:

- The Town should identify and seek to have corrected localized problems with insufficient capacity of sanitary sewer lines, especially where located in areas of the Town that will experience an increase in population density. Developers should be required to pay/ construct their fair share for improvements to existing infrastructure proportional to the anticipated increase in ... sewage generation.
- The Town should work with developers to design land use projects that meet the existing and/or programmed capacity of the water and sewer systems in the Town.

Also, the existing 2004 Comprehensive Plan notes on that the Land Use Plan is intended to serve as a general guide for future development in unincorporated areas of Town. For the most part, it proposes that higher intensity development be located in areas that currently have a more dense or suburbanized character and contain adequate infrastructure - especially where such areas have access to mass transit, major roads, public sanitary sewers and water supply.

It goes on to note that RCSD #1 indicates it has or will be able to manage sewage treatment capacities required for the Town. It notes that:

*Increasing densities may lead to an overload of the collection system in the future since it was designed for lower densities, and the Town proposed that all applicants provide a report by a Licensed Professional Engineer that sufficient capacity exists for the applicant. In this manner, the Town can have an ongoing assessment of capacity as development proceeds and determine with the Sewer District and the developer a course of action if required. The Town is seeking to have developers pay their fair share of the improvement costs, minimizing the expense to County Sewage District No.1.*<sup>5</sup>

One other direct reference to sanitary sewers in the 2004 Comprehensive Plan that is relevant to planning Northeast Ramapo, is within discussion on selecting places for accommodating multifamily housing. The existing plan promotes using locations that are readily connectable to existing sewer and water infrastructure.

Overall, the 2004 Comprehensive Plan, which is 17 years old, is focused on implementing new sewers and advanced wastewater treatment in western parts of Town. That initiative took substantial time but did progress. Meanwhile, in addressing other areas, like the Northeast, the Plan acknowledges that existing sewer designs date to decades earlier, when current levels of development were not contemplated, as growth pressure given close proximity to New York City's core was just beginning to pick-up during the 1960s. It acknowledges that these systems will require upgrades. However, in its current form, the existing Plan does not seem to spur needed investment in sewer facilities in all places where sewer upgrades were desirable. Rather than promoting concentrated growth and placemaking in and around Ramapo's commercial and major road corridors, the effect was of seemingly disjointed and limited growth in terms of strategically located mixed-use, and in terms of facilitating upgrades to constrained sewers which could help catalyze non-residential growth in offices, industry and commercial services. Now, the Northeast

<sup>4</sup> The existing 2004 Comprehensive Plan alphanumeric codification has errors within this part.

<sup>5</sup> There is a typographic error existing in the current plan – an inference to correct it is made.

Ramapo Development Plan is being organized to meet the needs of current and future generations by addressing the elements required to provide sewer infrastructure in Northeast Ramapo that can accommodate and sustainably serve growth. The “fair share” principles embraced in the 2004 Comprehensive Plan should continue to apply to needed infrastructure improvements that result from the Northeast Development Plan.

**Town Code** - Chapter 218 Sewers<sup>6</sup> is the policy for local sewer access and operations. It covers sanitary sewage disposal, fees, sewers use and maintenance, and sewer licensing and use<sup>7</sup>. The Town DPW is the administering agency acting through its Director of Public Works.

Rockland County’s regional sewer use law, as described below, applies to systems flowing into RCSD #1. Thus, the local code generally mimics County Codes. For instance, there are requirements for all buildings/premises to connect (§218-28); provided however, per §218-13.C. (last modified in 2012), that there must be a connection only when there is now, or in the future may be, a sewer within 100 feet. Likewise, when sewers are brought to an area, adjacent properties are compelled to directly connect (218-14.E.). Overall, it appears that many Town sewer policies were updated in 2012. The code prohibits collection and disposal of flows from cellar drains or roof leaders (218-13). There are also standards regulating non-residential flows.

Local codes identify a Town Official Map, consistent with the powers of NYS Town Law §273 (the corresponding NYS land use enabling statute); however, there does not appear to be an Official Map (one was not supplied). An official map could be maintained to show details, like the locations of sewers, with definition of sewer attributes, or identification of future sewer facility spatial planning and capital investment objectives, like space set asides for layouts of new sewers or appurtenant facilities.

Nor does it appear that the Town DPW has capital project cost estimates generated for projects it identifies as needed in Northeast Ramapo, or in conjunction with growth under existing zoning, besides identifying a needed upgrade at the Town’s Camp Hill Road Pump Station. Given that many sewers were constructed 40 or more years ago, the Town should examine whether any sewer replacements might be scheduled to coincide with new planned development in order to gain construction or finance efficiencies.

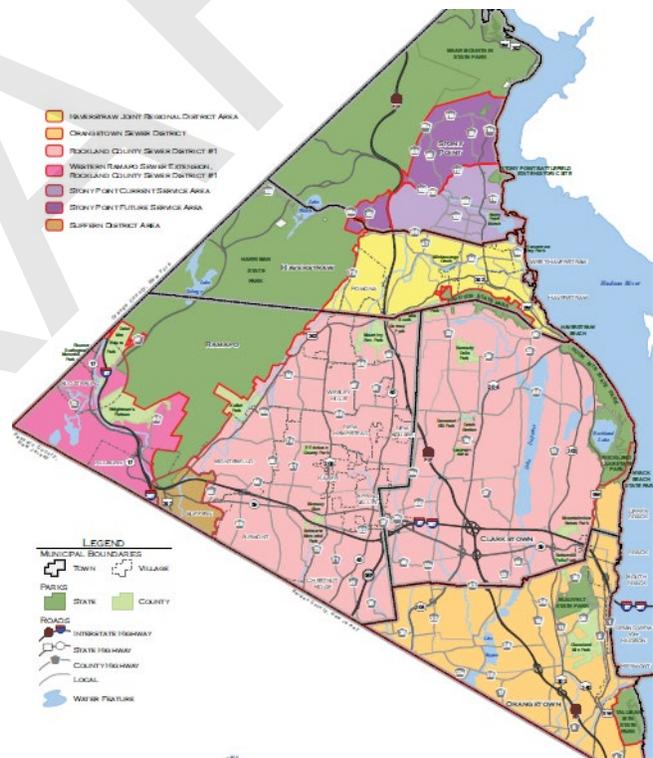


Figure 6.5-1 - Map Depicting RCSD #1 Sewer Service Area in Rockland County

<sup>6</sup> accessed Oct. 24, 2019 -- edcode360.com/11857607

<sup>7</sup> Considering Villages in-Town adjacent to Northeast Ramapo, this policy also applies to Village of New Hempstead.

## County / County Sewers

Rockland County Sewer District No. 1 (RCSD #1) was formed in 1963. RCSD #1 is governed by a Board of Commissioners which serves at the County Legislature's pleasure<sup>8</sup>.

## Sewer Service, County Physical Facilities & Conditions

RCSD #1's regulatory footprint, see Figure 6.5-1 (RCSD #1 is shaded pink and Western Ramapo Sewer Extension RCSD #1 is dark pink), includes large areas in the Towns of Ramapo and Clarkstown, including the Village of Spring Valley, and large areas east of Suffern and around the PIP. RCSD #1 operates and maintains major interceptors and pumping stations, plus all sewers in the Villages of Spring Valley and New Square.

The RCSD #1 operates two wastewater treatment plants (WWTP), termed Publicly Owned Treatment Works (POTWs). These include the Orangeburg POTW, which is the primary treatment works for flows from Northeast Ramapo, and the Hillburn Advanced Wastewater Treatment Facility, which serves western parts of Town.

Figure 6.5-2 is a 'Boundary Map' for Rockland County Sewer District #1 (2006 by RCSD #1, as supplied by RCSD #1 in NYSDEC. 2019). The District's footprint includes all of Northeast Ramapo . Generally, corresponding with the Town's system, RCSD #1 has the same sewersheds, or basins, in Northeast Ramapo.

Some County sewers in Northeast Ramapo, such as aspects located west of the PIP and by New Hempstead Road (County Route 80), correspond with the original system layout, which became operational in the 1960s. According to RCSD #1 staff, there were upgrades to the regional system in the 1980s. This included the installation of a pump station on Conklin Road in Northeast Ramapo.<sup>9</sup>

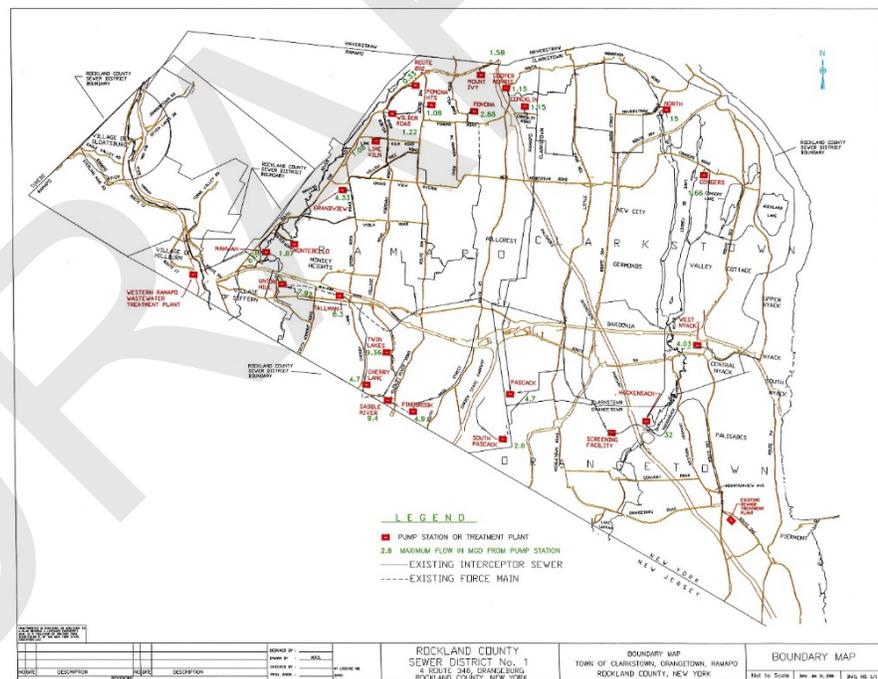


Figure 6.5-2 - 2008 RCSD #1 'Boundary Map' Showing RCSD #1 Sanitary Sewer Interceptors & Trunks Overlying Northeast Ramapo

## Orangeburg Wastewater Treatment Plant

<sup>8</sup> (<http://rocklandgov.com/departments/sewer-district-1/> - accessed 10/24/19)

<sup>9</sup> Personal Interview on October 25, 2019 by Ronald J. Laberge, P.E., Executive Vice-President, Laberge Group, with Michael Saber, P.E., Assistant Director, RCSD #1.

Most sanitary wastewater flows in Northeast Ramapo are treated at RCSD #1's wastewater treatment plant in Orangeburg. This POTW is located within the Lower Hudson Drainage Basin. The plant discharges into Sparkill Creek, a Hudson River tributary. The Orangeburg treatment plant U.S. Facility Registry Services (FRS) ID: 110019497294, is located on 4 Route 340 in the Town of Orangetown. The Plant operates under State Pollution Discharge Elimination Permit (SPDES) #NY0031895.

This POTW was built in 1968 and received a major update in 1988<sup>10</sup>. The current capacity of the Orangeburg plant is rated as 28.90 million gallons per day (mgd). The original design was 10.00 mgd.

The 2004 NYSDEC Report indicates there are no Combined Sewer Overflows (CSOs) in the collection system. The treatment plant has screening, primary settling through a mechanical cleaner clarifier, and biological treatment of high rate activated sludge with rotating biological contractors and secondary clarifiers, plus there is disinfection of waste (hypochlorite-contact; seasonal). Aerobic sludge digestion occurs with diffused aeration as well as anaerobic sludge digestion and gravity-based sludge thickening. Mechanical sludge dewatering is with belt filter press/ vacuum filter coil. Sludge disposal is through composting.

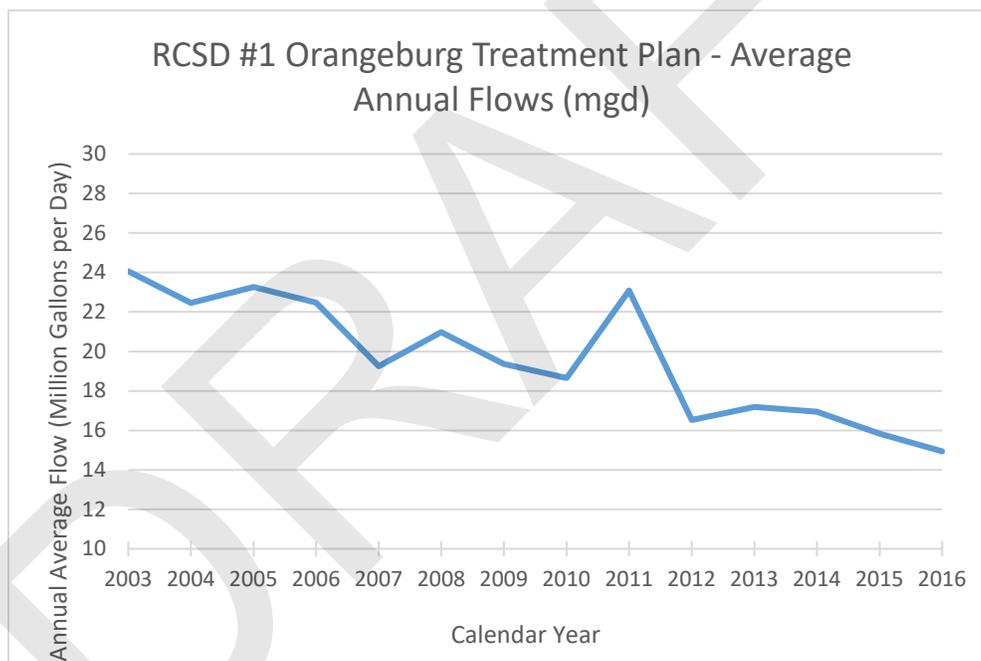


Figure 6.5-3 - RCSD #1 Orangeburg Treatment Plan – Average Annual Flows

Per RCSD #1 data supplied December 12, 2019, the Orangeburg WWTP had an average plant flow of 19.30 mgd in 2016. This means the Orangeburg WWTP used 66.8% of stated design capacity of 28.90 mgd. The average annual flow for the 14 years from 2003 to 2016 shown in Figure 6.5-3 is 19.65 mgd. Yet, as shown in Figure 6.5-3, the average annual flow managed in Orangeburg is generally declining year over year. This is not surprising given the increasing prevalence of more efficient plumbing fixtures and efforts by local and regional governments to promote conservation of water.

<sup>10</sup> NYS NYSDEC's 2004 Descriptive Data of Municipal Wastewater Treatment Plants, page 37

Not shown is data from the same source for the Orangeburg Plant’s average annual efficiency in terms of its rates of removal of Chemical Biological Oxygen Demand (CBOD) and Suspended Solids. State Pollution Discharge Elimination System (SPDES) compliance standards for the plant setout required removal rates of 85.00%. In 2016, the latest full year for which data is available, the WWTP achieved 87.33% for CBOD and 89.92% for Suspended Solids.

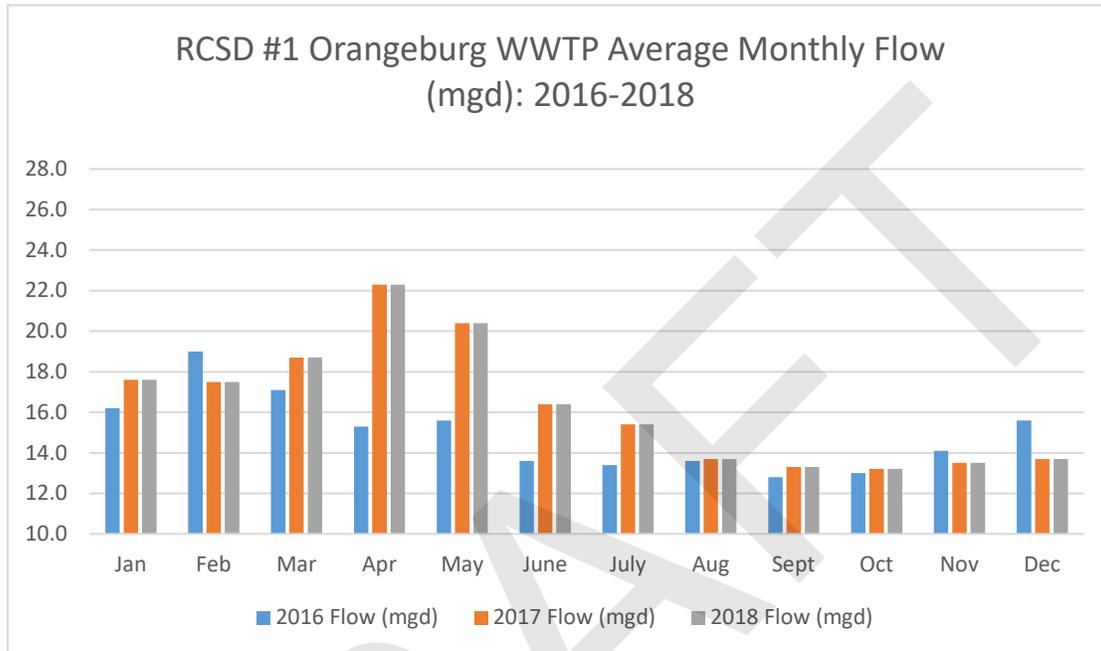


Figure 6.5-4 - RCSD #1 Orangeburg Treatment Plan – Average Monthly Flow

As per the same RCSD #1 data supplied in 2019, the minimum monthly flows are consistently low in the fall and highest in the spring months of April and May. RCSD #1 staff in October 2019 indicated that all flows are well within the plant’s permit limits.

The RCSD #1 indicated that it has or will be able to manage sewage treatment capacities required for the Town, while it did note that increasing densities may lead to an overload of the collection system in the future since it was designed for lower densities. There has not been an estimation of how much of the roughly 1.0 mgd of potential capacity identified as then available<sup>11</sup> for new development within Ramapo has been consumed since then.

US Route 202 Sub-Area & RCSD #1 & Haverstraw Sewer Facilities (Opportunity Areas A and B)

An area on US Route 202 is served by a 1.58 mgd County pump station (1980s circa) and forcemain which drains northeast into the part the Mount Ivy hamlet within the Town of Haverstraw. This means that the area in Town around US Route 202 is serviced by this County lift station at 1585 US Route 202, which sends flows into sewers operated by the Haverstraw Joint Regional Sewage Board.

<sup>11</sup> November 4 2004 correspondence by RCSD #1, 1pp, ‘Town of Ramapo Comprehensive Plan’ by Diane T. Phillips, P.E., Executive Director.

The Haverstraw Joint Regional Sewage Treatment Plant, per NYSDEC's 2004 Report, has an 8.0 mgd capacity. According to the Rockland County Comprehensive Plan, 2011, page 280, the 2009 Average Flow was 4.18 mgd (52.3% of capacity). That POTW is FRS 110019041446. The Haverstraw Joint Regional POTW (SPEDES Permit NY0028533) is at Ecology Lane in West Haverstraw, in the Town of Haverstraw. Per the 2004 NYSDEC Report, the plant is in the Furnace Brook-Hudson River watershed and it discharges to Minisceongo Creek, which flows into the Hudson River. The WWTP was built in 1971 and updated in 1977. It has aerated grit chambers, with high rate activated sludge contact stabilization/ conventional activated sludge. There are belt filter presses for mechanical sludge dewatering, with sludge disposed in a landfill.

#### Other County Sewer Attributes

Based upon information shown on RCSD #1's Boundary Map, and communications with RCSD #1, there are three (3) other RCSD #1-owned/ operated pump stations in Northeast Ramapo:

- Pomona Pump Station, on Camp Hill Road, installed in the late 1980s, is rated at 2.88 mgd. Flows enter a force main south of there and flow south in the vicinity of the South Branch of Minisceongo Creek and Summit Park Road in the Village of New Hempstead heading towards Hillcrest.
- Cooper Morris Pump Station (on northern State Route 45), rated at 1.15 mgd, manages flows going south and then east through a County sewer located in and by Twin Peaks Drive and Dogwood Lane and environments outside the Town further east. Additional features of this lift station were not supplied by RCSD #1, although a date of construction is generally thought to originate in the 1990s;
- Conklin Road Pump Station, rated at 1.15 mgd, which supports sewers that go south, and also eventually flow into sewers going east towards Lake De Forest, and then south towards Bardonia.

Based on communications with RCSD #1, no pump station upgrades are planned. However, it was noted that one focus for pump stations is ensuring that each one has an onsite electrical generator in case of a power outage<sup>12</sup>. There is a line item in the County CIP for this purpose (see discussion that follows).

Northeast Ramapo is situated on an outer edge of RCSD #1's system. RCSD #1 indicates there are not dry weather surcharges; yet, during some very large rain events, consisting of storms depositing three (3) inches or greater of rain in a short duration, there can be surcharging of sewers. This is particularly the case for more downstream locations in the system, such as where main branches merge by NYS Route 87, east and southeast of Hillcrest, and further south and east by the Clarkstown/ Orangetown border<sup>13</sup>.

RCSD #1 staff indicates there are not any RCSD #1 trunk sewer upgrades planned in Northeast Ramapo, or downstream. In terms of efforts to correct infiltration and inflow (I&I) in lines, the District attempted a relining project in one part of the system, but results were mixed. The ability to undertake this type of rehabilitation is limited in many parts of the regional system because there are seldom existing parallel lines or other redundant features which make many types of rehabilitation projects readily feasible<sup>14</sup>.

<sup>12</sup> Ron J. Laberge, P.E. Interview of RCSD #1 Asst. Director Saber, P.E., October 25, 2019

<sup>13</sup> Ibid.

<sup>14</sup> Ibid.

RCSD #1 staff does indicate that its Mt. Ivy Pump Station and forcemain could require an upgrade due to future growth<sup>15</sup>. Furthermore, RCSD #1 staff indicates that on a case-by-case basis, new developments may need to make undefined site-specific contributions towards improving nearby infrastructure when there is a nexus and demonstrable potential for an impact to the capacity of downstream infrastructure which prevents flows from such uses being accommodated until the impact is addressed.

### Rockland CIP

The County of Rockland, NY - Adopted Capital Improvement Program: 2020-2025, NYSDEC. 2019, presents 13 sewer projects classified based on the titles as a mix of transmission line (roughly 60%) versus treatment plant upgrades (40%), with expenditures proposed across five years 2020 to 2024 (no projects are shown in 2025). Within a \$20,723,000 total sewer capital budget in 2020, the largest project by cost in 2020 is #6295 Pump Station Emergency Generator Replacements at \$2,772,000. Per the CIP's, #6295 involves replacing older generators at 13 sewer pump stations in order have power during outages, with project financial leveraging assisted by the NYS Environmental Facilities Corporation.

### Other County/ RCSD #1 Sewer Policies/ Regulation

Rockland County Sewer Use Law<sup>16</sup> establishes rules and regulations governing discharges of sewage, industrial and other wastes into County sewers, and sewers tributary thereto.

**Per Section 501**, new sanitary sewers and all sewer extensions installed within the District, or areas tributary thereto, shall be designed by a professional licensed to practice sewer design in NY State, in accordance with 'Recommended Standards for Sewage Works as adopted by the Great Lakes - Upper Mississippi River Board of State Sanitary Engineers ("Ten State Standards")', the 'Construction Standards for Rockland County Sewer District No. 1 Sewers', and in conformance with all requirements of NYSDEC. Plans and specifications shall be submitted to, and written approval obtained from Rockland County Health Department, RCSD #1, NYSDEC, and all agencies having jurisdiction over same, before initiating construction. The law stipulates that designs shall anticipate and allow for flows from all possible future extensions or developments within the immediate drainage area.

**Section 602B** – This part provides for flows to go to the Joint Regional Sewer Board's plant, with treatment in Haverstraw. RCSD #1 collects Sewer Use Fees from those users and pays the Joint Regional Sewerage Board for that sewage treatment.

**Section 1314 - Capital Recovery from Industrial Users** – Provides that the District may institute recovery of costs of improvements which collect, pump, treat, and dispose of industrial discharges. Per communications with RCSD #1, within Ramapo, especially Northeast Ramapo, there is not a lot of regulated industrial flows that are part of RCSD #1's Industrial Pretreatment Program and which are subject to categorical industrial standards per federal and state Clean Water Act policies<sup>17</sup>. NYSDEC is currently evaluating renewal of the SPEDES discharge permit for the Orangeburg WWTP. There is an

<sup>15</sup> Ibid.

<sup>16</sup> Rockland County Sewer Use Law, as amended in 2010, accessed Oct. 23, 2019

[http://rocklandgov.com/files/2715/3488/0713/Rockland\\_County\\_Sewer\\_Use\\_Law\\_as\\_last\\_amended\\_in\\_2010.pdf](http://rocklandgov.com/files/2715/3488/0713/Rockland_County_Sewer_Use_Law_as_last_amended_in_2010.pdf)

<sup>17</sup> Ibid.

expectation that there could be new limits for the discharge of ammonia (NH<sub>3</sub>)<sup>18</sup>. Generally, it does not appear there are unique sources of ammonia within the regional system; rather, this is a typical byproduct of sanitary waste everywhere that is more often and more typically being managed through regulation.

**Impact Fees.** Per Section 1317 and 502A, the District has authority to impose impact fees on new development, or rezoning, in cases where this development may:

- 1) Cause enlargement of the service area of the POTW; or
- 2) Cause increased hydraulic and/or treatment demands on the POTW.

When these funds are collected, they are deposited into a special fund which is used, wherever needed, as needed, for system improvements<sup>19</sup>. The law, per linkage with Section 305, requires that a building permit will only be issued when suitable means of wastewater disposal are available. Per RCSD #1<sup>20</sup>, the current fee is one thousand eight hundred and fifty dollars (\$1,850) per each additional Unit of development.

This fee is triggered when amendments to a Comprehensive Plan and Town Code would result in Sewer Units greater than would be realized per development by-right under the original zoning regulations. As part of forming this NRDP/DGEIS, RCSD #1 was requested to identify the number of Sewer Use Units that are assigned to the Town according to the original zoning regulations, with identification of any remaining allotment. Since figures were not supplied, a general assumption of this NRDP/DGEIS is that all new development must pay a County impact fee. Per RCSD #1, the Town of Ramapo Building Department is supporting County financial administration by requiring owners of properties to submit proof that any Section 1317 and 502 County fee requirements have been met prior to issuing Town Building Permits<sup>21</sup>.

**Environmentally Sensitive Area (ESA) Grant Condition** – Federal funding assistance was received in conjunction with RCSD #1 facilities upgrades in the 1980s and RCSD #1 informed the Town, in its letter of August 5, 2019 by Joseph Lafiandra, Engineer II, that sewer connections for new development on parcels containing an Environmentally Sensitive Area (ESA), or a lot merged with an ESA lot, are subject to the US Environmental Protection Agency's (EPA) ESA Grant Condition Waiver Program. Prior to connecting to the regional sewer, RCSD #1 must seek an ESA Waiver from the EPA. Specifically, EPA Region 2 restricts grantees (in this case RCSD #1) from providing sewer connections for new developments located on parcels containing ESAs for 50 years from the date that a federal-level environmental review was completed for the wastewater facility, unless there is approval of a Waiver<sup>22</sup>.

Generally, parcels containing wetlands subject to state or federal jurisdiction and/or 100-year floodplains are considered ESAs. RCSD #1, as the federal funding recipient, is the entity ultimately responsible for applying to US EPA Region 2 for waivers on a lot-by-lot basis as projects come forward. RCSD #1 does not have jurisdictional maps; rather, its maps are used for screening for possible ESAs<sup>23</sup>.

<sup>18</sup> Ibid.

<sup>19</sup> Ron J. Laberge, P.E. Interview of RCSD #1 Asst. Director Saber, P.E., October 25, 2019.

<sup>20</sup> August 5, 2019 3-page letter plus attachments by Joseph Lafiandra, Engineer II, RCSD #1.

<sup>21</sup> Ron J. Laberge, P.E. interview of RCSD #1 Asst. Director Saber, P.E., October 25, 2019.

<sup>22</sup> Environmental Protection Agency Region 2. (2019, Oct. 14). *Environmentally Sensitive Area (ESA) Grant Condition Waiver Program in Region 2*. Retrieved from: <https://www.epa.gov/npdes-permits/environmentally-sensitive-area-esa-grant-condition-waiver-program-region-2>

<sup>23</sup> Ron J. Laberge, P.E. interview of RCSD #1 Asst. Director Saber, P.E., October 25, 2019.

A property owner/developer who would seek a Waiver request to be submitted to EPA by RCSD #1 must prepare: a detailed site plan; an ESA boundary delineation; an ESA characterization, and an evaluation of whether and how site development could affect site features and values, including a proposed mitigation plan. It is a standard requirement to receive a submittal of a pre- and post-construction erosion and sedimentation control plan for the entire site.

The standards for Waiver approval require documentation of no net loss of wetlands acreage or wetlands values. It is incumbent upon the parties to document no appreciable increase in turbidity/ sedimentation in the wetland(s)/ watercourse(s), as well as to confirm that there are not reasonable non-wetland locations on-site that can be used rather than potentially impacting wetlands. If there could be development impacts to wetland, there is cause for documenting minimized loss of wetlands and wetland values, with mitigation of any lost wetland acreage/ wetland value. There is also a prescription for no net increase in potential for downstream storm event flooding.

The Inventory Report plus the DGEIS Section 6.1 Natural Resources discuss the general locations of State-mapped wetlands and buffer, federal wetlands, and FEMA Special Hazard Flood Areas (floodplains) in Northeast Ramapo. Generally, these locations correspond with low-elevation riverine environments, such as in and by tributaries to the South Branch of Minisceongo Creek and the Hackensack River.

#### County Health Department/ Regional Oversight

The Rockland County Department of Health Environmental Health Division regulates public health matters in accordance with Rockland County Sanitary Code, Local laws, and New York State and Environmental Conservation laws. This role includes oversight of the installation of new sewer mains and monitoring of sewerage treatment plant operations. According to its website, the Department is delegated authority by NYSDEC to approve sewer extensions, plus it regulates onsite wastewater treatment using septic systems and shared private collections systems, such as condominium developments<sup>24</sup>.

#### **6.5.1.2 Potential Impacts**

This subsection examines growth in residential population and in retail, light industrial, office and institutional land uses that could be expected under existing zoning in order to compare potential sewer impacts under proposed and existing zoning. The analysis uses a preliminary existing and proposed buildout analysis, and it models how various hypothetical land uses generate sewer demands. The results were formulated by analyzing the impacts under proposed zoning. The same general uses were then used to confirm impacts under existing zoning. The modelling is technical and in order to understand the forecasting under existing zoning, it may help to review discussion for proposed zoning as well. The Northeast 'Ramapo Development Plan Sewer Analysis' is included as **Appendix E**

Note that the Sewer Analysis report utilized preliminary existing and proposed buildout scenarios. Since the report was issued, the buildout scenarios and methodologies have been further refined. The proposed zoning has been refined to be less intensive use than originally proposed. The following tables do not reflect the reduction in density. For the revised buildout scenario under existing and proposed zoning, refer to Appendix B.

<sup>24</sup> <http://rocklandgov.com/departments/health/environmental-health/wastewater/> accessed Sept. 19, 2019.

Since the original approval of the 2004 Comprehensive Plan, there has been limited residential and non-residential growth within Northeast Ramapo. In the residential sector, there was buildout of Skyview Acres subdivision, plus construction of homes on residential single-family lots at Peachtree Road (off of Buena Vista Road). The limited non-residential development that occurred, besides governmental/ quasi-governmental sector activity like the construction of Rockland Boulders Stadium, involved some new commercial and retail development centering-on locations west and south of the State Route 45 and Pomona Road intersection, where there was buildout of 'Views at Pomona' multifamily housing for older persons on Views Way (56 units), and infill at a medical office complex just south of there at Medical Park Drive.

Table 6.5-1 presents the preliminary future buildout potential under existing zoning for Northeast Ramapo, which was utilized in the Sewer Analysis report. The table shows that roughly 323 new dwelling units plus 500,392 sq.ft. of new non-residential development potential<sup>25</sup>. In order to establish a generic-level prediction of the additional increment of demand for new sewer service that could be expected from this existing zoning buildout, there is an estimation of the associated sanitary sewer flows that could arise. Note that since the report was issued, the buildout scenarios and methodologies have been further

Existing Zoning District	Lot Area Required	Residential	Non-Residential
	SQ.FT.	Units	SQ.FT.
RR-80	80,000	88	NA
RR-50	50,000	63	NA
R-40	40,000	3	NA
R-35	35,000	69	NA
RSH	0	-	-
MU-2	345,600	100	54,616
CS	40,000	-	85,478
PO	20,000	-	65,346
LO	60,000	-	48,487
PI	40,000	-	246,465
<b>TOTALS</b>		<b>323</b>	<b>500,392</b>

refined. The proposed zoning has been refined to be less intensive use than originally proposed. The following tables do not reflect the reduction in density. For the revised buildout scenarios under existing and proposed zoning, refer to Appendix B.

### Existing Zoning Residential Component

The Town requirements for sanitary sewer studies, provides sewage flow rates for design units, including residential dwellings. For determining the sewage volume from residential units, the minimum volume from each dwelling is set at 450 Gallons Per Day (GPD) per unit. This rate is assigned to apartments with

<sup>25</sup> These figures exclude the Sanatorium Road environment, where substantial County Government facilities are located, plus the Rockland Boulders Stadium property/ site, neither of which is analyzed.

three or fewer bedrooms. For Single-Family Residences, which are assumed to comprise more than three bedrooms per unit, the volume of sewage is set at 150 GPD/Bedroom.

It is reasonably expected, under an existing zoning buildout, in the Mixed-Use-2 Zone, that a buildout of new potential multifamily units will average two (2) Bedrooms per Unit, with multifamily unit sizes ranging from one to three bedrooms. Meanwhile, in all other residential single-family zones, unit sizes can be expected to average five (5) bedrooms per unit. This is based on an observation that there have been relatively large average household sizes developed recently within the Town. The presumption is backed by an observation that new single-family dwellings recently constructed in Northeast Ramapo are quite large, as confirmed by new building at Peachtree Road, which appears to consist of five, or more, bedrooms per unit. Single-family construction like this is generally characteristic of more sprawling and inefficient land use<sup>26</sup>.

An estimate of wastewater generation by future residential land uses is presented in Table 6.5-2. A potential residential buildout under existing zoning by-right totals 1,315 bedrooms with the estimated new growth occurring mostly in an area zoned MU-2 on US Route 202 (100 residential units); around Conklin Road in the R-50 zone (63 residential units); and at the Gospel site in the R-35 zoning district (45 residential units).

In a broad area around South Mountain Road, where the existing lot size requirement is 80,000 sq.ft. (1.85 acres), there is potential for roughly 15 new homes. It does not appear there is existing Town or County sewer service along South Mountain Road. Based on land use, topography, and other factors, establishing sewers around there would appear to involve a high capital cost. If this general location does not buildout with sewers, the residential flow could be 11,250 gallons less than depicted above.

### Existing Zoning Non-Residential Zoning Development Potential

Within the GHD report, there is also a generic estimate of the sanitary wastewater flow that could arise in conjunction with an existing zoning non-residential buildout. This is a rough modeling of the flows that

Type	Rate of Wastewater generation per Unit Type in GPD	Existing Zoning Attribution	Subtotal Potential Generic Wastewater Generation in GPD
<i>RESIDENTIAL</i>			
Apartment	450/ Unit	200 BRs	90,000
Single-Family Residence	150/ Bedroom	1,115 BRs	167,250
<b>Gallons per Day of Sanitary Flow</b>			<b>257,250</b>

could arise. It is based upon the Town of Ramapo Requirements for Sewer Studies, as well as rough approximations of the space that might be generated in the future for a set of non-residential land uses.

Note that since the report was issued, the buildout scenarios and methodologies have been further refined. For the revised buildout scenarios under existing and proposed zoning, refer to Appendix B.

<sup>26</sup> The estimated figure for 2018 Average Household Size within the Town that is cited in the Inventory document (page xx), is 3.66 persons. A large bedroom per unit multiplier is expected to continue within new single-family development, based on apparent strong demand for large suburban style houses and sizeable proportions of households of six to eight persons within the unincorporated Town.

As shown in Table 6.5-3, within a future existing zoning non-residential land uses buildout/ redevelopment in Northeast Ramapo, there could be generation of demand for 62,190 gallons per day of new sewer flows that would need to be conveyed and treated within local and regional sewer systems. The bulk of this part of the sewage generation is shown as attributable to uses like grocery stores, and restaurants. Overall, about 20% of the generically estimated future sanitary wastewater flow that will occur under a buildout projected under existing zoning in Northeast Ramapo is attributed to non-residential uses.

Under existing zoning, new non-residential growth would be expected to arise within areas primarily zoned for industrial and commercial development as well as in the existing mixed-use zoning district. Nearly all of the potential generic non-residential growth modeled under existing zoning would arise in and around Mt. Ivy and the non-residential zoned areas on US Route 202.

Type of Establishment (Using Table 1: Town Requirements for Sanitary Sewer Studies)	Rate of Wastewater Generation per Town Standards in GPD	Existing Zoning Attribution	Subtotal Generic Generation in GPD	Potential Wastewater Generation in GPD
<i>NON-RESIDENTIAL</i>				
Church (synagogue, etc.) <sup>27</sup>	5/ seat	-	-	-
School – Day <sup>28</sup>	15/ student	-	-	-
Factory/ Distribution <sup>29</sup>	25/ Employee/shift	544 employees		13,602
Office Building <sup>30, 31</sup>	25/ Employee	587 employees		14,669
Grocery Store <sup>32</sup>	0.27 Per sq.ft.	56,256 sq.ft.		15,189

<sup>27</sup>In existing zoning regulations, this type of use is not allowed by-right in non-residential zones. While this type use could be sited by-right in residential zones, a residential housing buildout is used as it is plausible.

<sup>28</sup>In existing zoning, this type of use is not allowed by-right in non-residential zones or in residential zones.

<sup>29</sup> All existing zoning future development potential projected for the Planned Industry Zone was assigned to the ‘Factory/ Distribution’ use. The 2015 US Energy Information Admin. Report ‘A Look at the U.S. Commercial Building Stock: Results from EIA’s 2012 Commercial Buildings Energy Consumption Survey’ collected building characteristics data for different types of commercial buildings, including the ‘Other’ category, which includes buildings like ‘laboratories’, and ‘data centers’. The average square feet per building for Other was about 16,000 (<http://www.eia.gov/consumption/commercial/reports/2012/buildstock/>). Also, per the article, ‘The Average Manufacturing Establishment Is Smaller Than You Think, and Getting Smaller’, April, 2013, by Joshua Wright (<https://www.economicmodeling.com/2013/04/24/the-average-manufacturing-establishment-is-smaller-than-you-think-and-getting-smaller/>), the average manufacturing establishment housed 35.3 jobs in 2012, according to EMSI’s 2013 dataset. Blending these two factors, for average facility size and average employees per facility, a roughly/ generically assigned ‘light industrial’ space planning average assigned for Ramapo is 453 sq.ft./employee. It is assumed all space buildout under this category will only operate one shift.

<sup>30</sup> The Planned Office Zone future buildout under existing zoning was used to define potential office space. According to Cushman & Wakefield’s Americas Blog, June 12, 2018, ‘Why Space Matters’, the national average for office space use is 194 square feet (sf) per employee.

<sup>31</sup> All existing zoning development potential for the Laboratory Office Zone and Planned Office Zone was used.

<sup>32</sup> In order to establish potential retail space demand, ½ of the future projected non-residential building space within MU2 was used and ½ of that in the Community Shopping (CS) Zone was used.

Restaurant <sup>33</sup>	40 Per Seat	563 seats	18,730
<b>Gallons per Day of Sanitary Flow</b>			<b>62,190</b>

In summary, just like for new residential uses, non-residential growth under existing zoning must receive local approvals. New land uses also need to receive approval from RCSD #1 to connect to regional sewers.

### Proposed Development/ Potential Impacts

Sewers provide a public health and community development function. Importantly, sewers can enable advantageous forms of building massing and area development which support walkable, mixed-use scale.

The Town DPW Superintendent notes that the pump station on Camp Hill Road will need to be upgraded, although there was not an indication of the capacity of this apparatus or its current flows. No other specific problems or limitations were identified in Town sewer collection lines in Northeast Ramapo<sup>34</sup>, but as noted, Town sewer forcemain upgrades may be required, depending on future flows<sup>35</sup>.

The following subsections define growth impacts in terms of projected sanitary wastewater flows in locations that may be modifying zoning. These calculations define flows expected from residential and non-residential growth in the Opportunity Areas, and in other proposed zones. There was a 'Northeast Ramapo Development Plan - Sewer Analysis' performed to analyze the impacts of planned growth on Town sewers.

Note that the Sewer Analysis report utilized preliminary existing and proposed buildout scenarios. Since the report was issued, the buildout scenarios have been further refined. The proposed zoning has since been refined to be less intensive use than originally proposed. The following discussion references the Sewer Analysis which evaluated a more intense level of development that is not expected. Additionally, the following tables do not reflect the reduction in density.

### *Potential Flow Attributable to New Planned Opportunity Area Residential Growth*

Reciting presentations earlier in the NRDP/DGEIS on the potential impacts of the proposed growth in Northeast Ramapo, according to the preliminary Buildout Analysis for Northeast Ramapo utilized for the Sewer Analysis, there is estimated to be potential for up to 2,425 future residential units. For the revised buildout scenarios under existing and proposed zoning, refer to Appendix B.

<b>Table 6.5-4 - Maximum Potential Sanitary Sewer Demand (Flow) in Gallons per Day from Future Housing within Opportunity Areas per the Proposed Zoning Buildout</b>				
Type of Residential Unit	Units Breakout	Bedroom Breakout	Rate of Wastewater Generation per Unit Type in GPD ( <i>Town of Ramapo Requirements for Sanitary Sewer Studies</i> )	Subtotal - Potential Generic Wastewater Generation in GPD
Smaller-Size Dwellings		3,370 BRs	450 gal. per Unit	690,750

<sup>33</sup> To establish potential restaurant space, ½ of future new projected non-residential building space in MU2 was used plus ½ of that projected under existing zoning in Community Shopping Zone was used. According to the 2015 US EIA Report above, 'food service' buildings, on average, are the smallest category type of commercial buildings, with just under 5,000 average square feet per unit. A generic planning figure of 5,000 sq.ft. is used for Ramapo, assuming that on average each customer seat correlates with 100 sq.ft. of total building space.

<sup>34</sup> 12/17/2018 interview of Town of Ramapo DPW Director Ted Dzurinko by Ron J. Laberge, P.E.

<sup>35</sup> Ibid.

E.g. Apartments: Use 2 or 3 Bedrooms	1,535 Units			
Larger-Size Dwellings (incl. Townhomes – Use 5 Bedrooms)	890 Units	4,450 BRs	150 gal. per Bedroom	667,500
	<b>2,425 units</b>	<b>7,820 BRs</b>		
<b>Gallons per Day of Residential Sanitary Flow</b>				<b>1,358,250</b>

As shown in Table 6.5-4, according to preliminary existing and proposed buildout scenarios, and according to the sanitary wastewater flow standards and factors for residential units assigned by the Town, there will be a baseline potential sanitary wastewater flow generation of 1,358,250 gallons per day. This flow is associated with new planned maximum residential housing buildout within the Opportunity Areas.

The factors used to define sewage flow rates are derived from the Town of Ramapo Requirements for Sanitary Sewer Studies. In it, page 1, indicates:

In determining the volume of sewage from dwelling units, the flow rate shall be 150 gallons per day per bedroom. The minimum volume of sewage from each dwelling unit shall be 450 gallons per day.

*Potential Flow Attributable to New Planned Opportunity Area Non-Residential Growth*

<b>Table 6.5-5 Opportunity Area Non-Residential Daily Flow of Sewage at Maximum Buildout (In GPD)</b>				
<b>Type of Non-Residential Land Use</b>	<b>Rate of Wastewater Generation per Town Requirements for Sanitary Sewer Studies, in GPD</b>	<b>Building sq.ft. for Type per BOA</b>	<b>Proposed Transect/ Zoning Attribution</b>	<b>Subtotal Potential Generic Wastewater Generation in GPD</b>
Church (synagogue, etc.) <sup>36</sup>	5/ Seat	200,000	4,445 seats	22,222
School – Day <sup>37</sup>	15/ Student	200,000	1,429 students	21,435
Factory/ Distribution <sup>38</sup>	25/ Employee/ Shift	795,852	1,757 employees	43,921
Office Building <sup>39</sup>	25/ Employee	795,852	4,124 employees	103,090
Shopping <sup>40</sup>	120/ 1,000 sq.ft. & 15/ Employee	156,250	Varies	29,911
Grocery w Meat Mkt &	120/ 1,000 sq.ft. (80%); 50/ 100 sq.ft. Meat Mkt. (10%); 50 / 100 sq.ft. Food stand(10%); & 25/employee	156,250	Varies	41,786

<sup>36</sup> Assuming a typical religious building is 6,875 sq.ft. with 153 seats, there is 45 sq.ft. of building area per seat. The generic subtype used is Church/ synagogue with a Kitchen but not including a food service facility, day care or camp.

<sup>37</sup> Uses 140/ sq.ft. per student. This multiplier is consistent with averages in Wohlers’ “Gross Square Feet Per Student - IssueTrak: A Council of Education Facility Planners International Brief on Educational Facility Issues”, 1991.

<sup>38</sup> One-half (50%) of the ‘Office &/or Light Industrial’ floor space expected to be constructed at maximum buildout within the OAs is assigned as ‘Factories’. This Light Industry is classified as ‘Exclusive of Industrial Waste’, plus it is presumed there are not ‘showers’ onsite, so no flow is added for showers. It is also generically assumed during one work shift there is 453 sq.ft./employee within a typical Light Industrial building/ land use.

<sup>39</sup> Another 50% of ‘Office &/or Light Industrial’ floor space at maximum buildout within OAs is assigned as Offices. It appears that either of two factors in Town Requirements, Table 1, can be used. A conservative factor was chosen of "Per shift" 25 gal/person with a presumption there is 193 sq.ft. per employee within future generic offices.

<sup>40</sup> Shops represent ¼ of the retail class. A generic assignment equates to 350 sq.ft. per employee for shopping center, such as which sell clothes/ other goods.

Food Service <sup>41</sup>				
Service Station <sup>42</sup>	400/ WC (Toilet)	78,125	32 stations	37,500
Restaurant <sup>43</sup>	40 Per Seat	156,250	1,563 seats	62,500
Business (Other Services) <sup>44</sup>	25/ Employee	78,125	223 employees	5,580
	<b>SQ.FT.</b>	<b>3,616,704</b>	<b>GPD Flow</b>	<b>367,945</b>
				<b>Say: 368,000</b>

For development planned there is also a generic modelling of a maximum buildout according to a mix of future non-residential building that could arise under a set of potential land uses. As shown in Table 6.5-5, with the calculation in the table rounded-up, there is maximum potential for up to approximately 368,000 gpd of non-residential sanitary flow.

### *Opportunity Areas Total Potential Flows*

Table 6.5-6 breaks out the flows expected within the three parts, or sub-areas, within the whole proposed Opportunity Area. The bulk of these future Opportunity Area flows emanate in Opportunity Area A, B and D. The actual demand could be lower, such as if there are high efficiency fixtures used within new construction. Obviously, this is generic analysis, as influenced by landowner choices, economic and market

<b>Opportunity Area Sub-Parts</b>	<b>Residential Portion (gpd)</b>	<b>Non-Residential Portion (gpd)</b>	<b>OA Sub-areas (gpd)</b>
<i>Opportunity Area A and B</i>	712,500	236,625	949,125
<i>Opportunity Area D</i>	510,750	87,525	598,275
<i>Opportunity Area E</i>	135,000	43,850	178,850
<b>Opportunity Area Total Projected Sanitary Flow (gpd)</b>			<b>1,726,250</b>

conditions, the mix of actual future land use may not buildout at the same proportions, levels, or pace.

Note that the Sewer Analysis report utilized preliminary existing and proposed buildout scenarios. Since the report was issued, the buildout scenarios have been further refined. The proposed zoning has since been refined to be less intensive use than originally proposed. The above table does not reflect the reduction in density. For the revised buildout scenarios under existing and proposed zoning, refer to Appendix B.

<sup>41</sup> Groceries represent ¼ of the retail class. Each store is generically assigned 10% of floor area as Meat Market and 10% as a Food Stand (aka Food Service). Within the Grocery it is assumed there is 350 sq.ft. per employee.

<sup>42</sup> Service Stations are assigned as 1/8th (12.5%) of all future Retail high-level buildout. Each one is assigned a floor space footprint of 2,500 sq.ft. along with a presumption there will be three (3) water closets (toilets) per station.

<sup>43</sup> For Restaurants, there is a generic assignment of 1/4 of the future Retail high-level buildout. It is assumed a typical Restaurant will consist of a 5,000 sq.ft. building and there will be 100 sq.ft. per seat (50 patrons).

<sup>44</sup> Other Retail could consist of uses without food stand like a repair service or a private indoor recreation facility. These type uses are assigned a generic space standard of 350 sq.ft. per employee.

### Capacity Assessment

The Town conducted an analysis of how future potential flows could impact the local sanitary sewer collection system. The results are contained in Northeast Ramapo Development Plan – Sewer Analysis, by GHD. The full results are contained in **Appendix E**.

Specifically, the engineering capacity assessment analyzes the local sanitary collection system and the potential impacts to it as a result of increased growth and density within Northeast Ramapo. This entails an evaluation of the impacts of new potential growth in the sub-areas. The intent was to examine the effect of the proposed zoning buildout upon current sewer infrastructure. For this analysis there was preparation of a basic model of the Town's sewer facilities in the northeast portion of Town. The model assists in identifying potential limitations/ restrictions within the existing system that must be overcome in order to reach the proposed zoning land use potential.

The model was developed from numerous sources to include existing as-built record information obtained for the Town sewer district and GIS data from RCSD #1 indicating pipes, pumping stations, and manholes. Modeling was prepared using the Bentley Sewer GEMS propriety software which runs a modified version of a Stormwater Management Model by USEPA, a common and standard hydraulic modeling program.

Where data was unavailable, sewer inverts were interpolated at an average slope using straight line interpolation along and based on general topographic and DEM data from New York State. Small local sewers servicing existing developments were not modeled, except that estimated flows for each one was calculated and input into the model representing the loadings that would come from each of these locations into the larger sewer system.

Modeling which included an analysis of sewage to the Mt. Ivy Pump Station was based on a report Wastewater System Report Prepared for Minisceango Park, while the remaining pump stations were assumed to have adequate capacity. Lastly, there was an effort to collect any existing flow metering information where available. No new physical field surveys of existing infrastructure conditions were performed for the analysis.

### *Opportunity Area A and B*

GHD indicates that Opportunity Area A and B is served by an 8-inch sewer line that flows northeast to the Mt. Ivy Pumping Station. Flow from there is conveyed into Haverstraw for treatment at their wastewater treatment plant. Currently, the system is operating adequately with no operational deficiencies identified.

Modeling shows that peak flows will exceed current capacity once full development is achieved in this area, including with a buildout of a site referred to as the Minisceango Park project. Both the 8-inch sewer and the County's pump station on US Route 202 are not anticipated to have adequate capacity to convey peak flows into the Haverstraw-Joint Regional Sewer System. Further, it would be necessary to confirm the Haverstraw system would agree to accept the new potential flows.

For this area, GHD indicates the following improvements should occur to accommodate future growth:

- Increase sewer capacity in the Opportunity Areas from 1.46 cfs (655 gpm) to accommodate 6.5 cfs (2,920 gpm).
- Increase capacity of the Town gravity sewer to 18-inches.
- Increase the capacity of the RCSD #1 Mount Ivy PS.

- Upsize the RCSD Mount Ivy Forcemain to 14-inches.
- Coordinate proposed flows with the Haverstraw.

### *Opportunity Area D*

This service area is characterized as being residential with existing non-residential uses including the Ateres Bais private school, Pomona Middle School (adjacent in Village of New Hempstead), and the Palisades Credit Union Park stadium. The current sewers are 8-inch lines on Camp Hill and Pomona Roads.

Flow for the Camp Hill Road segment is received from around the Town's Camp Hill Pump Station, just shy of US Route 202 in the North, and the Village of Pomona to the west. From there, flow is directed to the County's Pomona Pump Station. From the County Pump Station, sewage flow is directed southerly through a forcemain and multiple interceptors to the RCSD #1 WWTP.

GHD's flow study indicates the Town's Camp Hill Road Pump Station was designed to enable adjacent single-family residences to discharge into Town sewers and it will not be adequate into the future. Further, the Station's location close to the road substantiates the Town DPW's express interest in moving the Camp Hill Road Pump Station in order to minimize the risk of damage from vehicles. Should the Town seek to move the Station in the future, an expansion of upgrading flow capabilities should be explored at such a point.

Modeling shows that the 8-inch sewer on Camp Hill Road does not have adequate capacity to convey flow to that Pumping Station. Further, the anticipated peak flow to the RCSD #1 Pomona Pumping Station will be greater than capacity of the existing station, including based on growth in Opportunity Area D.

The Pomona Pumping Station discharges to the Hillcrest Interceptor, but additional flow is not anticipated to cause this interceptor to exceed its capacity. After the Hillcrest interceptor, flows discharge into three other interceptors which have historically been known to surcharge during storm events. Flow monitoring will be required to determine if the interceptors can accept added capacity from proposed development in such situations.

GHD's report indicates the following improvements should occur to accommodate future growth:

- Increase capacity of the Camp Hill Road Pump Station to convey 0.12 cfs (54 gpm) and relocate it as part of an upgrade project so it is better protected from vehicles.
- Increase the sewer capacity on Camp Hill Road from 1 cfs (450 gpm) to accommodate a peak flow of 7.7 cfs (3,455 gpm) from Opportunity Area D.
- Increase capacity of the gravity sewer to 18-inches.
- Increase the capacity of the RCSD #1 Pomona Pumping Station.
- Coordinate a flow study with RCSD #1 to verify that interceptors have capacity for added flows.

### *Opportunity Area E*

Currently, the Opportunity Area E is largely undeveloped excepting the Gracepoint Gospel Church fronting on New Hempstead Road. This location is served by 8-inch sewers with the flows dispersed to different pump stations depending on where they originate. Pump stations and interceptors servicing this area are the Rodman Place Town of Clarkstown Pumping Station, the RCSD #1 Conklin Road Pumping Station, and RCSD #1 Phillips Hill Road Interceptor.

At the Gospel OA, peak flow is expected to exceed capacity when fully developed. This will extend through and into sewers owned by the Town of Clarkstown and after that through flow into the RCSD #1 Phillips Hill Road Interceptor and possibly the North Pumping Station. Additional flow is not anticipated at this point to promote any restriction of flow through the RCSD #1 Upper Hackensack Interceptor based on this level of review; yet, additional study must be performed in order to confirm if capacity is available there.

GHD's report indicates the following improvements should occur to accommodate future growth by here:

- Increase sewer capacity on New Hempstead Road for the Gospel OA to enable 1.9 cfs (850 gpm).
- Increase the size of the gravity sewer to 12-inches.
- Coordinate a flow study with RCSD #1 to verify that downstream interceptors can accommodate an additional flow of 1.9 cfs (855 gpm).

### *Opportunity Area C*

This location is not discussed at length in the Report, but maps and narratives identify this area as adjacent to RCSD #1's infrastructure, including the Cooper Morris Pumping along State Route 45. GHD's Report indicates flows head to the RCSD #1 South Mountain Interceptor and then to the North Pumping Station. The South Mountain Interceptor has some historical flow restrictions associated with it, but any additional flow is not anticipated to be large enough to exacerbate such restrictions. Still, additional flow metering will be required to verify that the interceptor has available capacity.

The Cooper Morris Pumping Station is an older "can" type pumping station that is likely sized to convey flow from single-family homes, agricultural, and commercial properties in the vicinity. GHD advises that capacity of the station should be verified by a drawdown test before significant development occurs. The Report identifies the following needed improvements in order to accommodate future growth:

- Increase the capacity of the RCSD Cooper Morris Pumping Station in the northeast Arterial Area to accommodate 0.4 cfs (180 gpm). (Opportunity Area C)

### **6.5.1.3 Mitigation**

Note that the Sewer Analysis report utilized preliminary existing and proposed buildout scenarios. Since the report was issued, the buildout scenarios and methodologies have been further refined. The proposed zoning has since been refined to be less intensive use than originally proposed. The following discussion references the Sewer Analysis which evaluated a more intense level of development that is not expected. For the revised buildout scenario under existing and proposed zoning, refer to Appendix B.

### Town Sewer Capital Improvements

Based on GHD's Sewer Analysis, the probable costs for upgrades to the Town's sewers are presented in report Table 6.5-7. it advises that existing conditions should be surveyed prior to development to verify diameters, slopes and other sewer attributes, noting that record information in Northeast Ramapo was incomplete, since it is essential to ensure that complete information is obtained in order to get a fuller understanding of potential improvements that may be required. Based on GHD's report Table 6.5-7, the project capital costs that likely would be required for the Town of Ramapo to upgrade Town sewers is **\$x,xxx,xxx.**

<b>Improvement</b>	<b>Costs (Rounded)</b>
US Route 202 OA Town Sewer Upgrade	(Cost requested from GHD <sup>46</sup> ) \$XXX,xxx
FMGC OA and Transitional Area	\$1,500,000 <sup>47</sup>
Gospel OA	\$250,000
General Conditions, Bonds and Insurance	\$100,000
Contingency	\$1,800,000
Engineering, Administrative, and Legal	\$800,000
<b>Total Town Probable Project Costs</b>	<b>\$x,xxx,xxx</b>

### Other Sewer Capital Improvements, Including RCSD #1

Possible costs for upgrades to RCSD #1, Haverstraw, or Clarkstown sewers are undefined. The GHD Report recommends evaluations to determine costs for upgrades to RCSD #1 pumping stations and interceptors. Further, it notes that according RCSD #1, in most cases, improvements to pump station(s) in Northeast Ramapo will be required if any significant flows are added. The required improvements to pump stations will likely include establishment of all new electrical services, in addition to pump modifications. On a case-by case basis, forcemain upgrades may be required<sup>48</sup>.

As noted under existing policies, RCSD #1 imposes an impact fees on new development or rezoning. Currently the County’s Sewer Impact Fee is set at \$1,850 per each Unit of development. With the potential for up to 2,425 future residential units, the County Sewer District could receive up to \$4,486,250 for future residential growth.

<b>Type of Non-Residential Land Use</b>	<b>Property Classification/ Category (w Notes)</b>	<b>Estimate of Sewer Units</b>
Church (synagogue, etc.)	Small Congregation	29
School – Day	Junior High School Sub-category	29
Factory/ Distribution	Industrial Facilities (2007)	205
Office Building	Business Office	825
Shopping	Stores & commercial establishments	90
Grocery w Meat Mkt & Food Service	Delicatessen	224
Service Station	Service Station: each toilet or urinal	96
Restaurant	Eating establishment 36 to 50seats	250
Business (Other Services)	Stores & commercial establishments	45
<b>Total Estimated Future Units:</b>		<b>1,793</b>

As shown in Table 6.5-8, for the non-residential sector, per the attributed buildout and land use types as discussed earlier, there is a future potential for 1,793 Sewer Use Units. These Units are based on the 2010 Rockland County Sewer Use Law Article 13 Charges. With 1,793 estimated future Units, times a \$1,850 per Unit Impact Fee, this part of future revues would represent \$3,317,050.

<sup>45</sup> County projects not costed-out include: US Route 202 Pump Station/ Forcemain and Cooper Morris Pump Station.

<sup>46</sup> RCSD-owned utilities.

<sup>47</sup> Pomona PS and force main owned by RCSD not included in probable cost.

<sup>48</sup> Appendix E: Northeast Ramapo Development Plan Sewer Analysis

Combining this with the \$4,486,250 residential part means that RCSD #1's impact fees would generate roughly \$7,803,300 for RCSD #1 capital facilities development. These revenues would be used exclusively for County expenses for improvements, extensions, and debt. The Town sewer district would benefit indirectly from upgrades to county infrastructure because it would improve flows from Town sewers.

The GHD Report identifies priorities for sewer improvements and mitigation and necessary aspects of further study. Since there is significant new growth being channeled into areas proposed for rezoning, either the Town, or the Town and property owners who are interested in collaborating, could work further to define what will be the explicit requirements of the County. This will take staff and possible consultant time, but it can provide a way to streamline desired development and cut through uncertainty.

### Flow Minimization

The Northeast Ramapo Development Plan provides recommendations for structuring new development so there is low per unit rates of water consumption, with discussion of water conservation in Section 6.5.2 Water Utilities. For every drop of water not consumed, there could be better utilization of flows that do end up in sewers. This plan promotes municipal involvement in regional water conservation and management planning, which should generate many benefits.

### Wastewater Characterization & RCSD #1 Compliance

In an August 5, 2019 letter, RCSD #1 requested the Town to guide owners of approved projects to complete RCSD #1's Commercial/Non-residential Wastewater Questionnaire. The County seeks to certify compliance with any County requirements before any sewage would be permitted to be discharge from a subject site/use into RCSD #1's system. The Town Building Department appears to currently provide this role and it is expected to continue in that certificates of occupancy would not be allowed without submission to the Town of information documenting compliance.

### Infiltration & Inflow (I&I) Prevention

While there are no known I&I problems in Northeast Ramapo's local sewers, preventative maintenance and capacity management measures can be taken to ensure that I&I does not occur. While staff resources are finite, the Town Board should encourage DPW to allocate more time to mapping Northeast Ramapo collection systems, recording pump station flows, and identifying likely locations where there could be potential needs for facility maintenance and replacements. As part of its capital planning, DPW could indicate in a multi-year budget any requests for sewer camera work, cleaning, replacements, or upgrades.

Considering development priorities, attention should be paid to ways to aid realization of plans for Opportunity Areas and keeping the higher-order collection spines in good working order. Since the Opportunity Areas will experience new uses and buildout can cause some sewer reorganization, DPW can help by synchronizing its sewer facilities and other capital upgrades with private construction when it occurs. DPW can also facilitate sewer connections and supporting stormwater system installations and new street tree plantings (root control) so as not to disrupt sewer operations.

### Explore HJRSB's/ RCSD #1's Receptivity, Plus Cost-Benefits, of Sending Other Area Flows to Haverstraw

Since there is limited conveyance system capacity in RCSD #1's system downstream, where various trunks converge on the opposite side of the County, it may be worth examining if a greater percentage of the flow that will potentially be generated south of Mount Ivy can instead be directed towards the Haverstraw WWTP, like is done for US Route 202. The former golf course is not at a very different elevation than US

Route 202. It may be that this offers an advantage for all parties, but it requires study and if it does go forward it would entail some system retrofitting in order to send flows that way.

### Septic Waste Management & Incentive Zoning Sending Zone by South Mountain

Contrary to most of Northeast Ramapo, there are not sanitary sewers along the length of South Mountain Road, and it does not appear easily feasible to promote their establishment. While there is no indication that existing septic systems (subsurface disposal systems) are causing water quality problems, it still is desirable to manage new growth in this area and ensure proper siting of new onsite septic systems, plus continuing maintenance of existing ones. As part of managing environmental quality here, the Town of Ramapo advocates for Rockland County Department of Health's adoption/ enhancement of a program of routine inspections of onsite systems. The County is ideally suited for this role, rather than Town Building staff, because it already regulates wastewater disposal and approves designs of new systems.

Furthermore, as a way to incentivize and channel new growth within locations served by sanitary sewers, and sustain property values around South Mountain Road, there could be an allowance within the 'Opportunity Area Incentive Zoning Matrix' enabling acquisition of development rights from this locale. Provided there is a deed restriction stipulating that acreage is conserved as open space, it will allow the associated development right to be applied within the Opportunity Area. The right can be expressed in an Opportunity Area as three to six times the number of dwelling units or bedrooms that could be achieved by-right under existing zoning potential yield at South Mountain. This creates a strong value and demand for the development right. It could encourage existing landowners to perceive a benefit of putting developable acreage into conservation, while helping to sustain a core of open space around South Mountain which is targeted for further conservation of natural character.

Using the various mitigation discussed above, there is expected to be no adverse impacts as a result of the development, expansion of, and upgrades to Town sewer facilities in Northeast Ramapo. New growth promoted in the Opportunity Areas will establish mixed-use on sites that front on State and County roads that are locations adjacent to public sewer lines. The new growth can leverage capital investments that are needed to upgrade existing conveyance systems that require modernization in their current state. The "fair share" principles embraced in the 2004 Comprehensive Plan should continue to apply to needed infrastructure improvements that result from the Northeast Development Plan.

## 6.5.2 - Water Utility/ Drinking Water

This section augments the Inventory's descriptions by providing further descriptions and analysis of SUEZ Water NY's (SUEZ) regional water utility operations and capacity. It guides development so as to protect major wells and the groundwater environment, which is a major source of drinking water, recognizing that Section 6.1.2 Water Resources, discussed management and protection of surface waters.

Details are presented on SUEZ's system attributes and Annual Average Supply and Maximum Daily Supply features. It discusses how development under proposed zoning relates to efforts to establish public water service by using the Buildout Analysis to define the generic water demand that could accompany growth. It addresses patterns of fire hydrants service and requirements to supply water for firefighting. For mitigation, it covers conservation techniques that can be applied in buildings, such as high efficiency

fixtures, methods that can be used outdoors to help manage landscaping irrigation, plus it guides action to promote water conservation, the protection of groundwater quality, and its recharge.

### 6.5.2.1 Existing Conditions

#### Ground Water Environment in Greater Ramapo & Northeast Ramapo

Water soaks into the land surface from rain or other precipitation, like snowmelt, and moves downward to fill cracks and other openings in beds of rocks and sand and eventually recharge the water table. While groundwater can be considered a renewable resource, recharge rates vary according to environmental conditions. In Ramapo, groundwater is a significant supply source for SUEZ and other onsite wells or water systems. Adequate time is needed to replenish groundwater reservoirs, also known as aquifers. It is essential to arrange land use in order to aid appropriate groundwater recharge and regulate it so as to help prevent water-soluble wastes from infiltrating and polluting the underground supply.

As covered in Water Resources, Ramapo is in two primary watersheds. As depicted on the *Watersheds Map*, the Peekskill Hollow Creek (PHC) is a sub-watershed of the Lower Hudson. In the PHC Watershed, water flows northeast, ultimately draining into the Hudson River. The second sub-watershed in Northeast Ramapo is the Hackensack River-Hackensack-Passaic Watershed (HRHP), a part of the Hackensack-Passaic Watershed. The HRHP Watershed covers the southern and northeastern sections of the Northeast, outside of the PHC Watershed. Water in the HRHP Watershed ultimately flows south and into the Hackensack River.

As detailed in Geology, Soils & Topography, subsection 6.1.1, depth to groundwater in Northeast Ramapo varies. It is influenced by numerous conditions, including soil types, topography and prevalence of surface waters. NRCS and site-specific investigations conducted separately from this NRDP/DGEIS, show depths to groundwater varying between 1 and 10 feet or more in Northeast Ramapo, including at former golf course where depths to groundwater appear to average 15 or greater feet as influenced by seasonal variation and the soil-to-rock interface. Many areas have shallow depths to groundwater of between 1.5 and 2.5 feet, with additional seasonal influences.

A source for the majority of the Town's potable water is groundwater. Within the Town, there are three sole source aquifers: Highlands Aquifer, Ramapo River Aquifer and the Ridgewood Area Aquifer. All three are located predominantly outside of Northeast Ramapo. A detailed description of each can be found in the Inventory and is depicted on the *Aquifers Map*. The Ramapo River Aquifer is the site of the Ramapo Valley well field, the largest source of water supply to public wells.<sup>49</sup>

Since most drinking water appears to come from outside Northeast Ramapo, direct impacts on the Town's water quality are not anticipated. However, there are wells in Northeast Ramapo that generate potable water. Therefore, the protection of groundwater in Northeast Ramapo is important. A detailed discussion of the public drinking water sources in the Town and within Northeast Ramapo, is provided next.

*Sources of Drinking Water* – A majority of drinking water used by most land uses and residents in-Town is supplied by SUEZ Water New York (hereafter SUEZ), previously known as United Water NY. SUEZ is the major regional public water supplier in Ramapo/ Rockland County. It is regulated by the NYS Public Utility

<sup>49</sup> Van Abs, Daniel, J. PhD, PP/AICP. Rutgers – The State University of New Jersey, School of Environmental and Biological Sciences. 2017. Pg. 49.

Commission. Under NY Codes, Rules & Regulations, Subpart 5-1 – Public Water Supplies, which is part of Public Health Law, there is corresponding State Department of Health (DOH) regulation of Sources of Water Supply and Operation & Quality Control per standards effected by the DOH. The Rockland County Department of Health takes part in administering these standards and according to the 2011 County Plan, page 261, its Water Supply Bureau enforces the County’s Sanitary Code as well as portions of State Code pertaining to regulation of public water supplies, including Subpart 5-1.

For this NRDP/DGEIS, Public Water refers to service associated with SUEZ’s supplies and systems. Yet, technically according to State Public Health Law, public systems also represent another subset that provides water for human consumption through pipes or other constructed conveyances, which have at least five service connections, or regularly serve an average of 25 individuals daily. In this NRDP/DGEIS, those latter cases are termed Community Water Supplies in order to distinguish between systems of SUEZ and other public systems which are usually smaller.

SUEZ public water service in Northeast Ramapo is not universal. Rather, it is available in a majority of the existing street grid. Based on a review of Hydrant Map – Ramapo, NY, 2019, supplied by SUEZ<sup>50</sup>, which is used as a surrogate for locations where SUEZ service exists, there are no fire hydrants connected to public water mains in the north-northeast section of Town. When there are gaps in hydrant densities, by logical extension there are no public water mains.

Locations not served by SUEZ public water utilities service exist along and northeast of State Route 45 between the Town’s northern border with Haverstraw, by Andreanna Park Road/ Old US Route 202<sup>51</sup>, and extending east of the PIP to the south around the intersection by Pomona Road. Around there, hydrants are not displayed on South Mountain Road, or on Dogwood-, North-, and South-Dogwood Lanes in Skyview Acres subdivision (built circa 1990 to 2000). Finally, while there are hydrants on parts of US Route 202, Pomona Road, and Camp Hill Road, there are not water mains in Mount Ivy Environmental Park, or internally in the former Minisceongo Golf Course, or in the interiors of open, undeveloped parcels, like Opportunity Area E, or on other dedicated parkland that does not have internal water service, like Levy/ Reisman Park.

*Community Wells* – There are Community Water Supplies serviced by wells in three general locations in Northeast Ramapo. One covers two non-residential properties on opposite sides of State Route 45 by Pomona Road. Another is a private school east of Camp Hill Road by Isaac Ln. A final one is Conklin Orchards by South Mountain Road. Again, these supplies are public, but in Northeast Ramapo they are smaller and not regulated to the same extent as SUEZ. The locations are identified on an Aquifer & Wellhead Protection Zone Map, May 2004, by FP Clark Assoc. This Map is associated with Town of Ramapo Aquifer & Well Field Protection Zone Law, Town Code Ch. 96, and its Aquifer & Well Field Protection Zone. That policy is described in detail below under Existing Town Policies for Groundwater Resources. The map also identifies SUEZ wells in Northeast Ramapo, which are discussed under *SUEZ Northeast Ramapo Wells*.

<sup>50</sup> A map supplied by SUEZ in April 2019 with a March 2019 date was shared with the consultants for display. It contains a disclaimer for accuracy and precision and is secondary in that the data and depictions were created using Rockland Co. GIS data. This sourcing to Rockland County has not been verified and the data is of unknown base date, but it seems reasonable to rely on it to generally describe areas with existing water service mains.

<sup>51</sup> The location of hydrants in adjacent municipal jurisdictions, such as the Town of Haverstraw and the Village

It is assumed the onsite private wells serve individual properties like houses in a broad remaining area around State Route 45 and South Mountain Road. Private wells are regulated by the County Department of Health<sup>52</sup>. An estimated percentage of the whole County population served by wells is 4%<sup>53</sup>. While there are not identified problems with drinking water quality around the aforementioned areas, Town officials should contemplate whether it may be in the long-term public interest to promote portions of areas served by private wells to be connected to regulated public systems as a means to promote public health and safety. No County stances on this are identified in desktop research.

**SUEZ Water Sources** – SUEZ’s supply system for Rockland County serves an estimated 77.4% of County population; yet, based on examination of sources and their distribution in Northeast Ramapo, the level of service appears to be higher here<sup>54</sup>.

Overall, within its broad multi-town region, SUEZ’s system derives drinking water from four sources<sup>55</sup>:

- Individual System Wells (51 drilled wells<sup>56</sup>);
- Lake DeForest;
- Ramapo Valley Well Field (RVWF) – 9 individual wells; and
- Letchworth Reservoir.

<b>Source of Supply</b>	<b>Annual Average Supply (mgd)</b>	<b>Percent</b>
System Wells	16.49	47.8
Lake DeForest WTP	10.00	29.0
Ramapo Valley Well Field (RVWF)	7.00	20.3
Letchworth WTP	1.00	2.9
<b>Total</b>	<b>34.49</b>	<b>100.0</b>

Table 6.5-9– Breakdown of SUEZ’s Water Supply presents the proportions of supply emanating from each source in Million Gallons per Day (mgd) at the point of the beginning of 2019. It depicts Annual Average Supply (AAS) which is the reading of daily demand, in mgd, of treated drinking water, derived from actual

<sup>52</sup> A review of data derived per NYSCRR ECL 15-1525 and contained in a database available from NYSGIS Clearinghouse, which is sourced to NYSNYSDEC and captures private wells registered between 1990 to 2016, shows only one point recorded within all Northeast Ramapo (on South Mountain Road), while a scan of lands within 500 feet of the outer perimeter of Northeast Ramapo identifies one additional point within Clarkstown on Brook Road.

<sup>53</sup>Page 9, Draft Comprehensive Water Conservation & Implementation Plan, County of Rockland, July 15, 2019, author not identified.

<sup>54</sup> Ibid, Figure 3, page 10.

<sup>55</sup> SUEZ Water NY Inc. – Water Supply Capacity Report for 2019, 2019, by Buck, Seifert & Jost (BSJ), Inc.,

<sup>56</sup> In its Annual Water Quality Report, SUEZ identifies that in 2018 it drew upon 60 drilled wells.

consumption documented over a period. Per these figures, more than 2/3 of all SUEZ drinking water comes from drilled wells (68.1% or 23.49 mgd).

<b>Source of Supply</b>	<b>Maximum Daily Supply (mgd)</b>	<b>Percent</b>
System Wells	25.03	48.2
Lake DeForest WTP	4.00	7.7
Ramapo Valley Well Field (RVWF)	20.00	38.4
Letchworth WTP	3.00	5.7
<b>Total</b>	<b>52.03</b>	<b>100.0</b>

Maximum Daily Supply (MDS) is the highest volume of water consumed, in mgd, in a period. SUEZ uses this figure as its identified Total Peak Capacity. It is also termed the potential yield of its system. MDS is always higher than AAS. Within Ramapo, like in most places in New York State, typical daily consumption patterns vary on a seasonal basis. Peaks are influenced by climatic conditions and seasonal variation in behaviors. Various documents indicate that SUEZ’s patterns of demand relate to growing season and high temperatures with correlation with landscape/ lawn watering (irrigation) and other factors. Peak water production in the County typically begins July 1st and lasts until mid-September<sup>57</sup>. Comparing Table 6.5-9 with Table 6.5-10, it is apparent that less of the overall peak demand is derived from the Ramapo Valley Well Field and more from the other three sources, particularly Lake Deforest.

*SUEZ Northeast Ramapo Wells* -- Two of SUEZ’s Individual System Wells are in Northeast Ramapo and are depicted on the Aquifer & Wellhead Protection Zone Map, May 2004, by FP Clark Assoc. These ‘Pomona Wells’ (#’s 37 & 38) are close to one another, on SUEZ-owned land, on the east side of Camp Hill Road, west of the former Minisceongo Golf Course. According to SUEZ’s 2019 Annual Drinking Water Quality Report, on a scale ranging from Medium to Very High for Susceptibility to Contamination, the rating of these two wells for Microbial; Nitrates; Volatile Organic Compounds (VOCs); and Other sources are Medium-High (the report cites a NY State Dept. of Health 2004 Source Water Assessment).

Wells 37 and 38 are in the vicinity of the South Branch of the Minisceongo Creek (SBMC) and three NYSDEC Jurisdictional Wetlands, two by the FMGC and one by Beaver Dam Road in Pomona. These wetlands will continue to provide buffers and natural filtering of stormwater, thereby protecting drinking water.

Also in Northeast Ramapo, tributaries roughly east of State Route 45 flow towards Lake Deforest, SUEZ’s major supply reservoir in the Upper Hackensack River watershed (streams in the South Branch of Minisceongo Creek complex flow to the Hudson). The same Assessment, paraphrased on the Annual Report’s page 4, found Lake DeForest has elevated susceptibility to contamination, due to residential lands density in the area (presumed to mean particularly near its shores), with elevated potential for contamination from pesticides, sediments, Disinfection by-products precursors, phosphorus and microbials. It also identifies susceptibility to contamination from sources like Chemical Bulk Storage facilities and Hazardous Substances Emergency Events Surveillance facilities.

<sup>57</sup> 2019 Draft County Water Conservation Report, page 11.

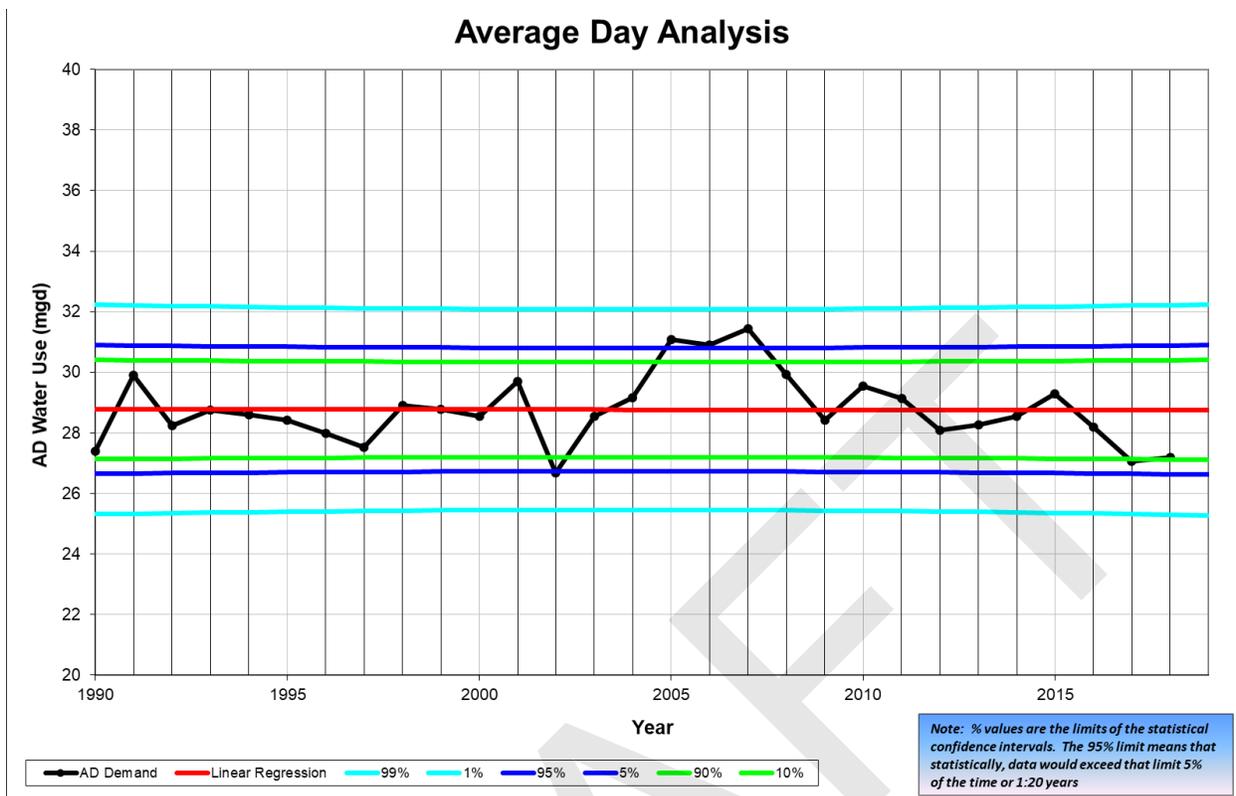


Figure 6.5-5 - SUEZ Average Day Analysis: 1998-2018, by BSJ, 2019

**Consumption Trends** – Characteristics of volumes of drinking water supplied by SUEZ are presented in the 2019 Report by BSJ. Figure 6.5-5 displays a time series representation of SUEZ’s Average Day Analysis. Over the last 20 years, from 1998 to 2018, the Average Day Demand (ADD) trend for typical production is roughly 28.8 mgd year over year within a rough range of 26.9 to 31.7 mgd. The 28.8 mgd is the most likely AAS demand forecast. The BSJ Report notes that no years (no data points) are excluded due to mandatory water restrictions. One year (2002) contained restrictions that did influence ADD, while there were also mandatory restrictions in 2016.

As depicted in the Figure 6.5-5, over the recent 10 years, between 1999 and 2018, there was relatively low ADD. Two of three of the lowest ADD levels overall in 28 years occurred in 2017 and 2018. Yet, it may be too soon to rely on this curve as highly definitive evidence that some aspect of changes within operations and/ or demand (consumption) is driving ADD lower. There is still limited probability this change may be due to random variation. Per the statistical method surrounding this graphic, there is a five (5) percent chance that any one year will display variation for ADD that is greater than or lower than a 90% confidence internal band (green upper and lower limits). Two points are on or outside these levels. If a trend for ADD of 28.0 mgd or lower continues, this will be a positive indication that demand is trending lower. If future points consistently dip below a 95% confidence interval (blue bands), this is even stronger correlation that ADD is declining below its normal range. (Discussion of SUEZ’s efforts to minimize Non-Revenue Water and that of SUEZ and the County to promote water conservation are picked-up below).

**Existing System Capital Plans** – SUEZ’s letter of April 1, 2019 to the Town indicates that supply capacities have remained the same since 2013. It identifies basic ongoing capital projects, like undefined pump replacements that may temporarily influence capacity at each supply source. A 2019 treatment upgrade was scheduled for the Grandview Well. SUEZ also indicated it was in the design phase for the existing Monsey Tank on Grove Street, plus it was replacing water mains in Monsey in 2019. Moreover, SUEZ is pursuing Lake DeForest Water Treatment Plant improvements, scheduled for construction in 2020-2022, that will increase reliability and help ensure water quality issues do not impact this sub-supply. Finally, it identifies intent to reach a rate of water main replacements of one (1) percent annually by 2020 and that it will rank conditions in choosing the segments that are upgraded.

In its April 2019 letter, SUEZ goes on to list no major improvements identified for Northeast Ramapo. Yet, The Report on Feasibility of Incremental Water Supply Projects & Conservation Opportunities in Rockland County, NY, 2015, by CDM Smith, for SUEZ, analyzes potential interconnections with other supplies. One, the Blaisdell Interconnection Option (see Figure 3-6), involved an option of putting a new 16-inch water main on New Hempstead Road. SUEZ does not have metering points at Town boundaries.

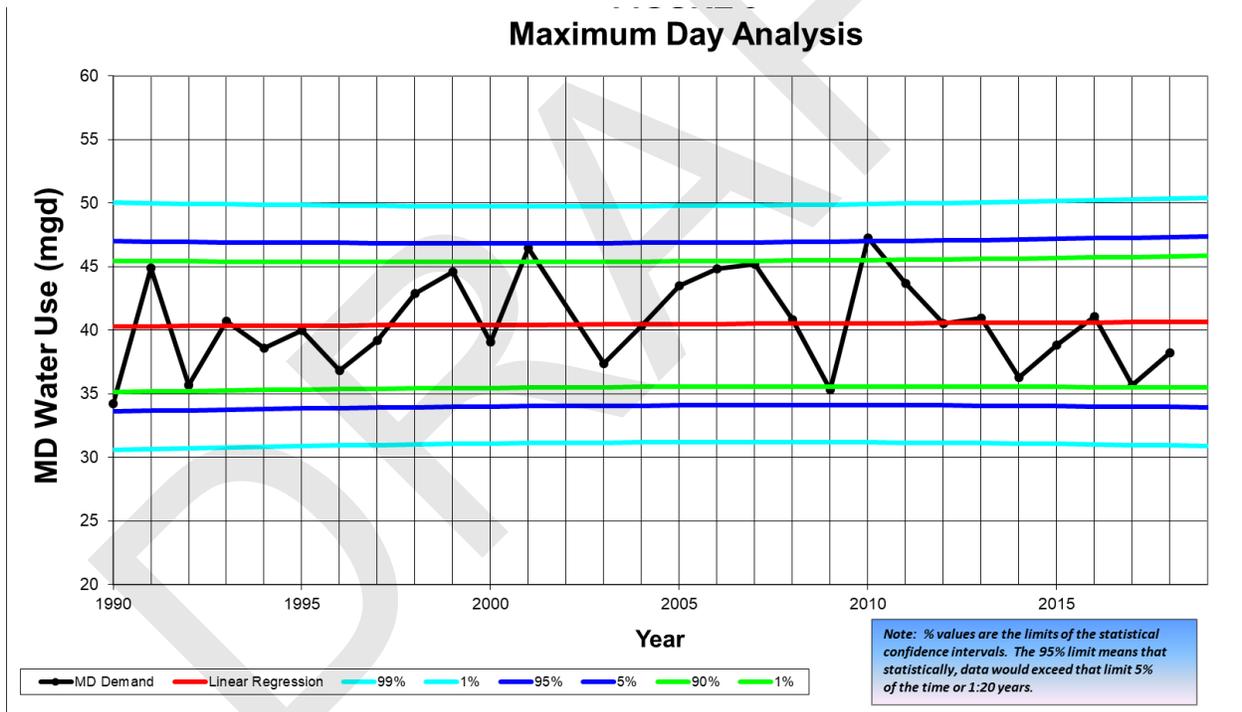


Figure 6.5-6 – Maximum Day Analysis, by BSJ, 2019

**Potential Yield** – Based on this data, SUEZ’s Maximum Day Demand can be considered to be roughly 1.4 times higher than ADD. For instance, while ADD discussed above is about 28.80 mgd from 1990 to 2018, MDD, as shown in Figure 6.5-6, displays a trend (red) of about 40.70 mgd. In Figure 6.5-6, one year, 2002, does not have a data point (it is excluded from analysis) because there were mandatory restrictions. In Figure 6.5-6, MDD, per year, occurred within a rough range of 34.4 to 47.2 mgd. Also, as per the graphic, MDD pushed-up by a very small increment of less than 0.5 mgd from 1990 to 2018.

<b>Table 6.5-11 Additional Supply Capacity Available - Annual Average Capacity</b>	
Total Average Capacity (beginning of 2019)	34.49 mgd
Projected High End Average Demand (end of 2019)	30.90 mgd
Projected Most Likely Average Demand (end of 2019)	28.80 mgd
Projected Growth in 2019	0.01 mgd
<b>Current Available Average Capacity for Growth at High End Production</b> <i>(Total Average Capacity minus Projected High End Average Demand)</i>	<b>3.6 mgd</b>

Using the above documented trends for ADD, SUEZ, per the 2019 BSJ Report, set a conservatively high level of ADD, of 30.9 mgd. As displayed in Table 6.5-11, this Projected High End Average Demand (end of 2019) is the volume of average supply that is attributed to (or assigned to) existing connected system users. This volume of 30.9 mgd is the part of the available yield allocated for existing users.

Also as shown in Table xx, Projected Growth in 2019 is a portion of demand that is attributed to altogether new growth, meaning new development that SUEZ forecasts will come on line in calendar year 2019 that will demand an additional increment of SUEZ's water supply. Projected Growth in 2019 is 0.01 mgd, or 10,000 gallons.

As per Table 6.5-11, Current Available Average Capacity for Growth at High End Production is 3.6 mgd. This is the volume of water supply, absent system changes that could increase supply, available to support growth through new service connections.

<b>Table 6.5-12 Additional Supply Capacity Available - Peak Growth</b>	
Total Peak Capacity (beginning of 2019)	52.03 mgd
Projected High End Peak Demand (end of 019)	47.38 mgd
Projected Most Likely Peak Demand (end of 2019)	40.7 mgd
Projected Growth in 2019	0.05 mgd
<b>Current Available Peak Capacity for Growth at High End Production</b>	<b>4.7 mgd</b>

Documented conditions are used to define the system wide MDD for 2019. The information is presented in BSJ's Water Supply Capacity Report. These are also used to define the peak capacity available for growth at high-end production. Table 6.5-12 shows that there is 4.7 mgd Current Available Peak Capacity for Growth at High End Production this is the surplus capacity at the system's peak. There is shown to be a surplus above any 2019 project commitments. This surplus is greater than the safe levels of reserves mandated by the federal drinking water best practices dictated by the Ten State Standards.

**SUEZ Water Conservation Programming** - SUEZ has initiatives it is currently using to minimize water loss and reduce water use through avoidance of leaks, identification and elimination of theft, and promotion of conservation by residential and non-residential consumers. This latter aspect is termed demand-side conservation. Leakage is termed Non-revenue Water (NRW). A primary way this NRW loss is minimized is through replacement of pipes that appear to be displacing sizable volumes. Achieving minimization of loss in any form aids supply and provides for sustainable draws upon the various sources.

The SUEZ Long Range Strategic Plan – Case 94-W-0066: For Years 2018-2027 addresses water supply and availability. The Underground Infrastructure Replacement Plan, objective is to increase the pace of distribution system replacements to 1% of pipe network annually by 2020. SUEZ is using multifactor evaluations, including pipe failure rates, establishment of District Metered Areas (DMAs), and water loss profiles to target capital improvements. SUEZ is pursuing asset replacements to reduce real losses and promote sustainability of efficient water loss levels over 30 to 40 years<sup>58</sup>.

DMAs have been installed by SUEZ to reduce the time it takes to identify non-surfacing leakage. Information from it can also be analyzed in conjunction with data garnered through Advanced Metering Infrastructure, which is currently under installment by SWNY, to enable quicker assessment of water consumption patterns<sup>59</sup>.

The SUEZ Strategic Plan also outlines outreach and education around water conservation. Goals for conservation include:

- A data-driven approach and prioritization of highest potential water savings;
- Program elements that emphasize public outreach and education;
- Identification of best practices to offer municipalities;
- Financial incentives (rebates) for implementing water saving measures;
- Evaluation of conservation rate strategies and conservation-oriented rate design; and
- Pursuit of cost-effective opportunities.

Conservation is advanced using free commercial water audits, via retail advertising, and retail rebates<sup>60</sup>. Smart landscape irrigation workshops have been organized in tandem with rebates.<sup>61</sup> Furthermore, in partnership with O&R electric and gas utility, SUEZ formed a customer conservation program, offering rebates for purchasing water-saving household appliances. The goal is to reduce water consumption by SUEZ customers by up to 1 mgd over 10-years which already accounts for a decline in per capita residential consumption and anticipated population growth<sup>62</sup>. About \$850,000 was expended in Rate Year 1 and will be allocated in Year 2. The Program collects data and feedback to refine these efforts.<sup>63</sup>

<sup>58</sup> SUEZ Long Range Strategic Plan For The Years 2018-2027, Page 2

<sup>59</sup> Re: Water Savings Opportunities Due to AMI & Quantification of Impacts Associated with NRW Reduction Activities, 2018, page 4.

<sup>60</sup> SUEZ Water New York Long Range Strategic Plan For The Years 2018-2027, Page 4-5

<sup>61</sup> SUEZ Water New York Water Conservation Program: Report on Rebate Utilization, Page 3

<sup>62</sup> SUEZ Water New York Long Range Strategic Plan For The Years 2018-2027, Page 4

<sup>63</sup> SUEZ Water New York Water Conservation Program: Report on Rebate Utilization, Page 4

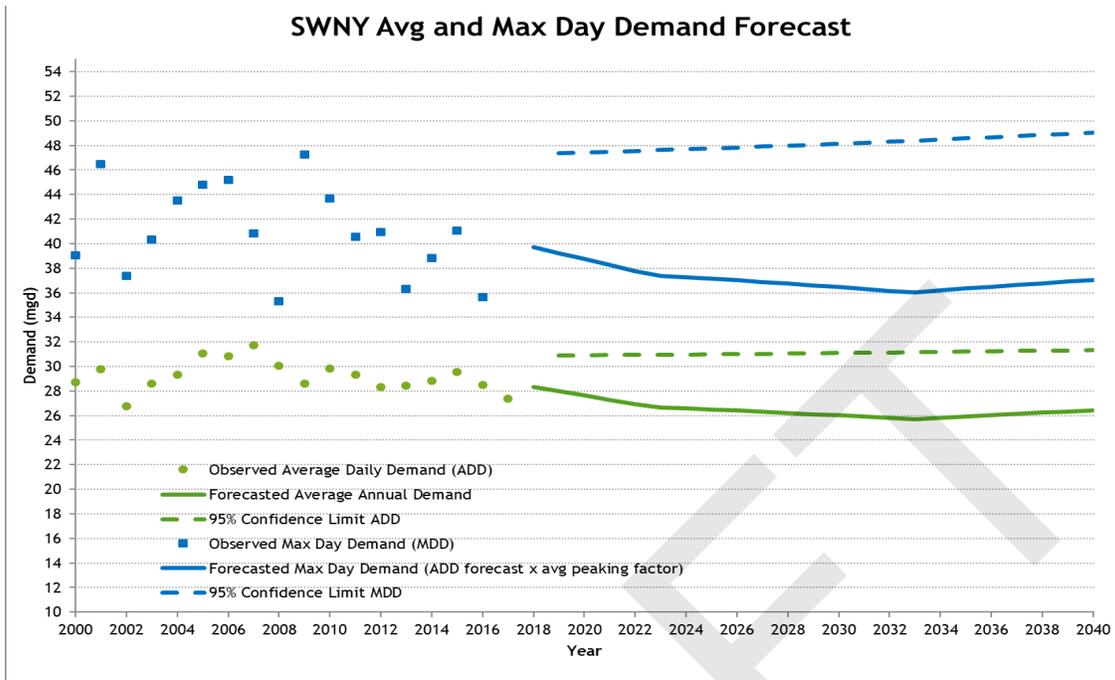


Figure 6.5-7 – SUEZ Average & Maximum Day Demand Forecast, by BSJ, 2019

SUEZ’s 2019 BSJ Report presents long-term system-wide demand projections. Figure 6.5-7 Average & Max Day Demand Forecast Displays Observed ADD (green) and Observed MDD (blue) for 2000 to 2016. It then forecasts these same demand factors out to 2040 based on service area population forecasts (by others), observed trends in residential per capita consumption, commercial/ industrial consumption trends, and planned non-revenue water targets. These projections for ADD (solid green line) and MDD (solid blue line) inform how future demand relates to system capacity. These projections are set against the 95% Confidence Limit forecasts for ADD (dotted green line) and MDD (dotted blue line).

Figure 6.5-7 shows that both regional demand projection trend lines slope down for at least the next decade. After 2033, SUEZ forecasts both facets of demand are projected to increase slightly from 2033 to 2040. Yet, it is noted that demand is projected to be highest in the first year of the 20-year forecast, in 2018. Overall demand is lower after 2018. Likewise, the figure shows that demand trends are closest to the 95% confidence intervals in 2018. From there, as time goes by, demand is projected to decrease by varying amounts while the two projected 95% confidence intervals increase slightly, year over year, throughout the forecast period. SUEZ indicates there is future water supply sufficient to accommodate growth within greater Ramapo at least over the next 10 years. While BSJ does not advise interpolating the

trendlines outside of 10 years, it appears that an adequate future supply could be available over a longer period.

### *Existing Town Groundwater Resource Protection Policy*

Town Code Ch. 96, Aquifer & Well Field Protection Zone Law is organized to protect the Town's watersheds. An official Aquifer & Wellhead Protection Zone Map, from May 2004, by FP Clark Associates, identifies an Aquifer and Well Field Protection Zone (96-4). Figure 6.5-8 is an excerpt covering Northeast Ramapo. It shows the locations of public wells, including SUEZ wells (blue dots) and what are termed herein as Community Wells (stars).

There are expressly prohibited activities listed in Chapter 96-5. These covers activities like disposal of toxic chemicals, industrial sludge, and radioactive materials. Other excluded activities include applications of pesticides and herbicides which shall be used only by NYSDEC, permit; and, salt stockpiles not enclosed to prevent seepage/ runoff.<sup>64</sup>

This law's Intent and legislative findings, part 96-2, indicates it is desirable to prevent the introductions of materials that pose a threat to the watershed. It goes on to note that with the advent of onsite stormwater runoff control systems, there is a potential to introduce these materials to the watershed if drainage facilities are not designed to prevent potential contamination.

This NRDP/DGEIS construes there will be proper design of stormwater management systems in accordance with best practices as prescribed by Town Code Chapter 237 Stormwater Management & Sediment & Erosion Control. Development in accordance with fully approved SWPPPs will ensure there will not be a significant potential for introduction of contamination into the groundwater environment, or watershed.

One expressly Prohibited activity within 96-5.C is the establishment of wastewater lagoons and pits. It is furthermore construed that wastewater lagoons are not stormwater management systems but rather that the law means systems for storage of concentrated material flows, like from agricultural or industrial activities. This is corroborated by the description within 96-5.C., which implies that such activities are regulated by the NYSDEC and must be inside buildings.

In the Aquifer & Well Field Protection Zone Code, regulated activities extend to activities like fuel dispensing, auto maintenance, and direct disposal of wastewater (not to a sewer). These are only allowed after Planning Board site plan approval (or Building Inspector regulation within small-scale development which does not rise to the level of Planning Board review) and these also require a review by the Town

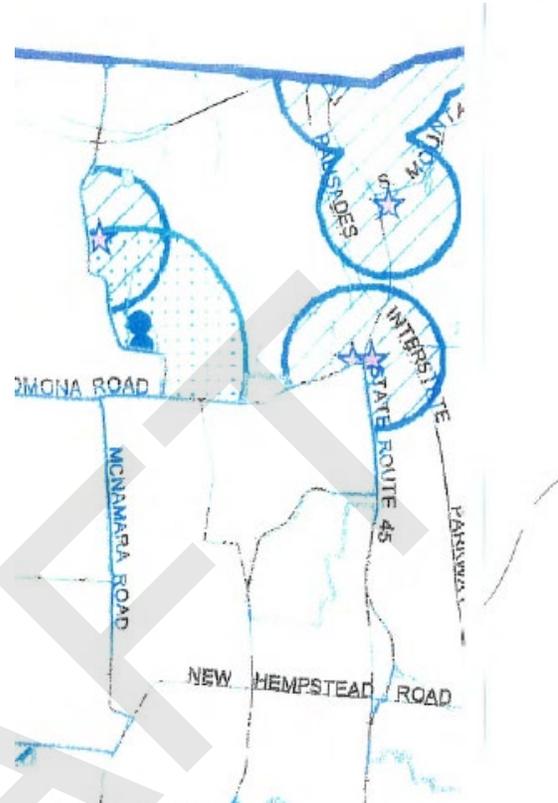


Figure 6.5-8 - Excerpt of Aquifer & Wellhead Protection Zone Map Displaying Northeast Ramapo

<sup>64</sup> Town of Ramapo Code Law Chapter 96-5: Prohibited Activities

DPW.<sup>65</sup> As there are multiple ways in which regulated activities can impact groundwater, these are provided with Aquifer & Well Field Protection Zone standards upon which regulated activities are reviewed against site plans in order to avoid water quality impacts. Collectively, these standards prevent degradation of groundwater by avoiding disruptions of subsurface flows, avoiding the introduction of contaminants or toxic materials, or the removal of soils or stone which are vital to aquifer function.<sup>66</sup>

This Aquifer & Well Field Protection Zone Code would remain in effect and broader Northeast Ramapo Development Plan would still be regulated according. Likewise, if during site-specific development there is identification of potential physical stormwater recharge limitations, such as potential shallow depths to groundwater, then it could be expected that soils additions could occur as part of siting new growth. Such soils augmentation can establish the separation of stormwater systems from groundwater.

**Hydrant System** – Town Code Chapter 144 Fire Prevention, Art. VIII. Fire Hydrants, sets standards for maintenance of fire hydrants, including for an occupant of real property to maintain 15 feet around a hydrant. The Town owns fire hydrants that are located in public streets/ public rights of ways which are connected to SUEZ’s system. On April 1, 2019 SUEZ shared a hydrant location map, sourced to Rockland County GIS, which depicts the general layout of the hydrant network in the Town. Figure 6.5-9 Hydrants Layouts in Northeast Ramapo is an excerpt from that map. The Town purchases the water supply used for firefighting from SUEZ.

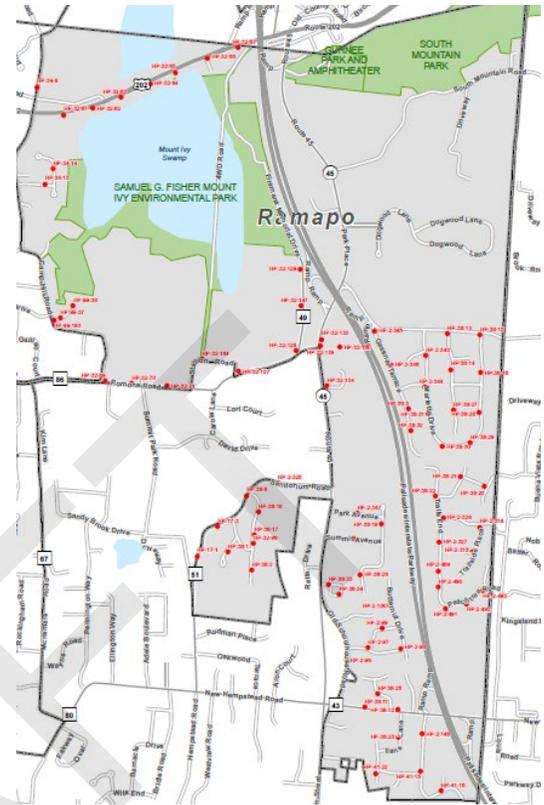


Figure 6.5-9- Hydrant Layouts in Northeast Ramapo. 2019 by SUEZ..

### 6.5.2.2 Potential Impacts

#### Proposed Zoning Buildout

The proposed buildout is used to define generic water demand that could accompany planned growth. The level of generic demand is derived using the same consumption metrics as used in Sanitary Sewers. Future demand is discussed in the content of SUEZ’s Average and Maximum Day Demand Forecasts, through 2040, from the 2019 Water Supply Capacity Report. No new analysis or source information is generated for this generic-level analysis besides the estimated water demand based on the Northeast Ramapo buildout.

<sup>65</sup> Town of Ramapo Code Law Chapter 96-6: Regulated Activities

<sup>66</sup> Town of Ramapo Code Law Chapter 96-7: Standards

Note that the Sewer Analysis report utilized preliminary existing and proposed buildout scenarios. Since the report was issued, the buildout scenarios and methodologies have been further refined. The proposed zoning has since been refined to be less intensive use than originally proposed. The following tables and discussion references the Sewer Analysis which evaluated a more intense level of development that is not expected. For the revised buildout scenario under existing and proposed zoning, refer to Appendix B.

### Total Estimated Water Demand Under a Northeast Ramapo Buildout

As depicted in Sanitary Sewers Section, 6.5.1, estimated future demand for sewer service, attributable to new development in Northeast Ramapo is 1,726,250 gallons per day. Using a conservative figure, there might be, within the rest of Northeast Ramapo, outside of the Opportunity Areas, growth in demand for sewer service of 51,450 gallons per day. That 51,450 gallons per day additional demand is a conservatively assigned 20% of the 257,250 figure.

Setting demand for SUEZ water service as equivalent to demand for sewer service, this means that overall, at full generic buildout in Northeast Ramapo, there could be demand for up to 1,944,377 gallons of drinking water per day. Compared with the above Table 6.5-11 Additional Supply Capacity Available, which shows Current Available Average Capacity for Growth at High End Production of 3,600,000 gallons, there would be over 1,600,000 gallons of additional supply capacity available for other building and population growth in other parts of SUEZ's service region.

The estimated demand for up to 1,944,377 gallons of drinking water per day based on a generic buildout of Northeast Ramapo including the zoning changes under the proposed development is considered a quite conservative scenario. In other word, it is considered unlikely that the new increment of demand reached in 2040 will exceed 1,944,377 gallons per day. If new growth demands water at lower unit rates, such as if new buildings are constructed in a way to generate low relative rates of water consumption per square foot, or if a culture of conservation takes stronger hold and residents and businesses consume less water, the groundwater reserves will likely be higher. Likewise, if a Northeast Ramapo buildout does not reach the levels estimated, there would be greater levels available for supporting growth in other areas.

### Opportunity Areas

These locations already receive or are directly adjacent to SUEZ water service locations. Thus, there are not anticipated to be issues involved in achieving future layouts of water systems within the Opportunity Areas which will augment existing distribution lines and supply the requisite pressures and fire flows.

As for all locations, the requisite water pressures and fire flows for buildings is set by New York State Building Codes and the New York State Fire Prevention Code. Certificates of Occupancy will not be issued by the Building Inspector without documented compliance.

When there are water system extensions, it is encouraged for water system loops to be established in these distribution systems. Furthermore, it is highly encouraged to layout these alignments within street rights of ways, as opposed to utilizing cross-county layouts which could be harder to monitor and control, so that buildings do not inadvertently become located above such pipes. Any layouts within private streets and driveways must be provided with permanent easements recorded with sufficient access enabled for sustainable maintenance and operations of the water system.

When development does occur in Opportunity Area A and B, as would be the case and prescription for any new land uses arising in the Northeast, there will be review of floor drains and proposed parking. This reinforces review of regulated activities in Chapter 96, including as it may pertain to the storage of internal combustion engines. It also ensures that floor drains within buildings can be managed in the unlikely event of a spill, so that spilled material is more likely contained and cleaned-up and properly disposed of and not cannot transit into the ground.

There is a gas transmission pipeline easement within some frontage on the southwest side of US Route 202. Progressing any service changes there must be done in a way that there is full coordination with the pipeline owner/ operator in order to ensure that there is not a potential breach of it.

It is presumed there is generally not currently SUEZ water service in the State Route 45 corridor north of Pomona Road. It is suggested to generically plan on providing a new service line in this corridor which could link this area with the southeast part of Mount Ivy in order to establish robust water service and a looped system. Given a low density of land use to the east of this major road corridor and a prior decision not to service Skyview Acres it does not seem necessary to plan on providing public utility water service to the east, around South Mountain Road.

Establishing public water service in locations that are proposed for rezoning which are not currently serviced by SUEZ can help alleviate a possible concern that a pattern of new individual onsite wells, or community wells, could exacerbate a condition of perceptible seasonal variability in the groundwater levels among the subset of land uses that rely on onsite wells. It will also allow locations with existing land uses to reduce their reliance on wells that may experience seasonal variations.

While higher density growth is potentially enabled in Opportunity Areas D and E, the effects of this growth will be fully mitigated, since there will be multiple components intended to regulate development so that is has compatible form and so that it is structured in order to complement site conditions and have a well-designed appearance. This will include efforts to cause onsite designs that use green infrastructure, and which will provide for appropriate groundwater recharge even as growth proceeds. When redevelopment occurs on those sites, the owners will be able to access water service, if they have not already. The new standards will provide for enhancements to onsite stormwater designs so there is an appropriate level of groundwater infiltration per an approved SWPPP in cases where there is proposed to be more than ½ acre of site disturbance.

**Open Space Preservation** - One strategy that could be employed to advance the conservation of open space would be to pursue permanent protection of one or more locations where it is or may be shown to be feasible to establish public water supply wells on properties, or buffer locations with public wells, or where new wells could be established, or which aid beneficial groundwater recharge. Besides the intrinsic value of conserving land, the value of ecosystem services provided by the open space be elevated by ensuring a greater than minimum required level of control on development in relation to features like wellheads. Like is discussed for the CFA, the Town could explore whether SUEZ might be interested in purchasing properties it controls for establishing new sources of water or protecting groundwater with it possibly also jointly used for desirable public purposes like open space recreation.

### 6.5.2.3 Mitigation

There is not a recitation of multiple mitigation methods identified in the Inventory<sup>67</sup> that SUEZ is implementing to provide a sustainable drinking water supply and highly operable system -- they focus on conservation and system efficiency. Suez is also using data to inform decision-making, they are engaging consumers and offering incentives in order to reduce demand and are making capital investments to institute advanced metering and reduce leaks. These appear to be helping demand management, so this subsection will review ways to advance socially and physically based strategies for water conservation, protect groundwater, and minimize demands upon ground water resources (and hydraulically linked surface waters).

While future development was identified within the Full Environmental Assessment Form (EAF) as having a potentially moderate to large impact on existing water supplies, through the thorough evaluation documented within this DGEIS, it is anticipated that any adverse impacts would be minimized through mitigation measures discussed below.

Growth, as identified in the Opportunity Areas as well as generally around the rest of Northeast, can be guided so that beneficial patterns emerge with lower levels of water consumption per square footage of buildings, or per person. For instance, certain Landscaping Guidelines promote conservation of water through landscaping (planting using xeriscaping) and irrigation system layouts. This subsection also discusses practically aiding aspects of the County's July 2019 Draft Comprehensive Water Conservation & Implementation Plan, plus it examines how open space conservation can aid drinking water protection, along with tactics to promote or incentivize reduced levels of consumption, such as using building efficiency programs. As part of potential to promote water resource management, it touches on potential to use municipal policies to influence the use of pesticides, herbicides, fertilizers, and/or chemical deicers as a means to help protect groundwater. Finally, there is examination of green infrastructure deployment, including by incentivizing its construction as a way to treat stormwater flows and enhance water table recharge.

**Ground Water Recharge / Groundwater Quality Management & Protection** – Prior sections in the NRDP/DGEIS make recommendations for infiltrating treated storm flows into the ground in urbanizing locations. They call for frequent use of green infrastructure to achieve a broad and distributed arrangements of stormwater processing onsite near points where rain and snowmelt fall. The technique would cause relatively high volumes to be captured, held, and metered-out, often with flows directed across the land surface so as to saturate into the ground close to where it first contacts land.

Importantly, soils capabilities influence potential recharge rates. Since many sites could receive substantial site work and grading, there can be efforts to structure drainage designs using management of cuts and fills and by augmenting soils. Reviewing agents must require presentation of grading plans along with soils testing and specifications for soils additions. This can be used to confirm there is sufficient elevation of the land surface in order to establish minimum requisite distances between the top of the ground and the level of groundwater. Providing soils amendments within engineered onsite systems can ensure there is recharge of groundwater with clean stormwater runoff.

<sup>67</sup> Appendix A

Presuming it is desirable to recharge large volumes of appropriately treated storm flows into aquifers, a notion could explore the potential to establish a prototype deep penetration well that would receive processed stormwater from one or more sites, with clean water pumped back into the ground after treatment and collection. While Northeast Ramapo generally does not overlay high yield parts of aquifers, since substantial new growth is being planned in compact locations, it is a reason for exploring the use of this technique. There would be a need to study locations where an approach like this might be deployed, perform regulatory analysis, and conduct stakeholder consultations. A review of the possibility of using this type of technique should include engineering analysis to confirm plausibility. No funds are budgeted for such an action under this NRDP/DGEIS, but detailed planning might be underwritten by a grant, particularly if SUEZ seeks to partner and contribute in-kind or direct funding support as a way to leverage feasibility analysis.

Finally, there could be new regulations, or adjustment to existing policy, in order manage the potential introduction of herbicides, pesticides, or fertilizers into groundwater. It seems that regional regulation of the use of chemicals like these is more advantageous since watersheds and groundwater features usually are at a larger scale than an individual municipality. Furthermore, it does not appear that New York State counties regulate the types or rates of applications; rather, the laws identified usually concern protocols for neighbor notification of the use of such substances. Therefore, it is suggested for the Planning Board to promote landowner self-imposed restrictions on the practices that will be conducted onsite. If the Town Board feels strongly about the need for a stronger regional policy change, they could advocate to State elected officials about the desire for change.

### Water Conservation

There are a variety of best practices the Town can use, or cause land developments to implement, in order to minimize the amount of water consumed per person and non-residential entity. It is highly beneficial for the Town to promote water conservation, as this will help optimize supply and demand of water. This strategy hones on possible actions by the Town to advance some measures in the County's 2019 Draft Comprehensive Water Conservation & Implementation Plan.

**Town Potential to Inform, Educate On, & Promote Water Conservation** – Rockland County's Draft Water Conservation Plan frames notes that, due to increasing population in the County and increased water usage, two general methods are available to approach future water supply needs:

1. Reduce overall and peak demands through conservation; or
2. Develop new water supply sources and upgrade water and wastewater treatment facilities to keep pace with change.

For the first of these, part of good practice is clear public communication regarding the need for conservation from local officials. An effective line of communication exists between the Town Board and residents to effectively ensure best practices regarding conservation are passed on. The Town Board can set tone as it relates to water conservation. Elected leaders can create a culture of conservation planning in the administration that is emphasized to staff, boards, commissions, and committees, residents, business leaders, and the development community.

Because the Town can expect significant population growth, when water is conserved, there will be a better capability to handle new development. One approach is to support Town-wide awareness programs, such as using flyers distribution, which outline the types of water conservation practices and

their advantages, including how they can save money, and generate beneficial environmental effects. The approach can also be practiced via social media.

Likewise, the Planning Board should promote water conservation in its interactions with landowners, engineers and architects. Particularly, it can foster measures in conjunction with development review by actively encouraging water conservation in buildings, like implementation of high efficiency fixtures, and effective landscaping irrigation in newly or substantially redeveloping properties. The County's Draft Water Conservation Plan identifies education/ promotion measures. The following actions are examples that appear well-suited to local development planning and are encouraged for local advancement. The Town could contribute in-kind support to help foster beneficial social changes like a:

- Water Conservation White Paper – a topic guide would be distributed to public officials and stakeholders, like builders and allied professions, outlining the benefits of water conservation, its purpose, possible approaches, and the need for support;
- Sustainable Landscaping Education Program, which encourages homeowners/ residents and the development community to use water saving landscape practices by examining benefits, costs savings, WaterSense brand products, and collection/ re-use of rain or greywater;
- Regional & Local Public Education Program – assist distribution of materials informing residents of the detrimental effects of water waste and how they can contribute to its avoidance. In Ramapo it may make sense to *Promote USEPA's WaterSense Program*, which is the USEPA's voluntary partnership program that establishes a brand, or label, for water-efficient products and service as a clearinghouse that can help people understand how to conserve water. The program helps consumers find water-efficient products and services that are certified to use at least 20 percent less water and perform as well as or better than the regular, less efficient models. The program's purpose is to promote an ethic of water efficiency and conservation. The WaterSense website explains why, how and where to use/ find the products and services found on it.<sup>68</sup>. Specifically, it will be advantageous for effective messages to be crafted that are likely to resonate with the community and help engender their support using the campaign framing principles of Product, Price, Place, and Promotions.

The County's Draft Water Conservation Plan does not focus on public education and involvement around groundwater quality protection; yet, the administration's additional support for public information and outreach on the ways that residents and the development community can act to manage the applications of herbicides, pesticides, and fertilizers, or reduce their use, as well as help limit the potential spread of common sources of contamination and prevent such sources from entering the water environment, will also assist in framing the need for change which can help set-up long-term benefits for the broader community. Conducting these types of marketing and promotional activities will also qualify as actions that can constitute progress against Minimum Control Measures addressed within the Town's Stormwater Management Program Plan and according to measurable goals that are set for advancing those MCMs.

<sup>68</sup> <https://www.epa.gov/watersense/about-watersense>

### Water Conservation Standards & Tactics

Regulations can be considered which will establish water conservation measures in new construction, but there should be a review of the pros and cons of having a local versus regional policy. Examples of relevant actions in the Draft County Water Conservation Plan for Northeast Ramapo include:<sup>69</sup>

- Standards for forming water conservation plans and elements in new development as an effort to advance property-scale management and avoid costly retrofitting.
- Lawn & Landscape Irrigation Schedules defining allowed irrigation patterns in order to limit water use, particularly during peak water demand.
- Green Building Codes that go beyond baseline building codes, which prompt high efficiency building. Following a standard like US EPA WaterSense New Home Specification would require buildings to be constructed so there are low relative levels of indoor and outdoor water usage. Alternatively, there could be guidelines for decreasing building-level consumption or establishing low thresholds for consumption using U.S. Green Building Council model codes and rating systems. They offer green buildings specifications for new buildings, existing building retrofits, and communities. Often these prompts 20% lower water use than typical codes, through reduced leakage, replacing fixtures, limits on running taps, efficient close washers, showers, and other high efficiency fixtures construction indoors and outdoors. Further, USGBC techniques recommend greywater use, where possible, for irrigation (watering) of plants and landscaping.

### Chemical Deicer (Including Road Salt) Practices for Application

During outreach on the NRDP, Rockland County Water Taskforce leadership emphasized groundwater protection. A topic discussed was desire to institute practices which can aid avoidance, or minimization, of applications of deicing chemicals on roads. There should be a scan of practices and establishment of a basic Town-wide policy on the use and management of road salt/ other de-icing chemicals. As part of a benefit-cost assessment, there can be an examination whether the Town uses road salt, and the relative merits, benefits, rates of use, and application practices surrounding this and other de-icing chemical applications. Salts can have detrimental effects on source waters and their elimination, or strategically reduced use, is sensible. A rapid scan around this could assess how reduced deicer use and management practices can be structured to save on direct cost outlays for products, or in terms of overhead involved in DPW conducting of winter road preparation/ safety. Besides a perceptible taste, high levels of chloride in drinking water can have detrimental effects on persons with diabetes or other health issues, although for this write-up it is not examined nor presumed that the concentrations of salts existing in area water resources approach such risk thresholds or are directly attributable to road deicing.

The Town does not operate the water regional drinking water supply system that overlays Northeast Ramapo. Therefore, it will be up to the SUEZ water utility to make required improvements. In terms of the strategic, long-term development of Northeast Ramapo, it will be necessary for SUEZ to define the water distribution improvements that are needed in the water system in order to support additional growth in Northeast Ramapo and then carefully help blend it with existing infrastructure. While the needed improvements within the water delivery system based on the new estimated growth in Northeast Ramapo are undefined, SUEZ's proposed capital improvement plans and its other routine long-range

<sup>69</sup> The Town board can advocate for regional policy if it desires, such as *Statewide Time of Sale Plumbing Standard* (pg. 58) requiring a property buyer or seller to replace inefficient plumbing fixtures upon sale of property.

planning will come forward as part of routine submissions to the New York State Public Utility Commission. As documented in the Inventory Report and this Section, SUEZ is providing extensive effort to manage groundwater supplies and optimize the operation of its system as well as upgrade it. This NRDP/DGEIS is being shared with SUEZ, which may in turn provide information as to their ability to support development with existing infrastructure or identify improvements that may be required.

Meanwhile, the Town can provide for coordination with SUEZ. For instance, it can attempt to coordinate capital improvements sequencing, such that if there are intentions for both entities to advance a capital project in the same location, there may be arrangements to undertake construction so that practical efficiencies are gained, such as because there is only one road opening. As growth occurs in the Northeast, if SUEZ needs to add new water lines, it is also encouraged for them to replace adjacent lines if they are near or at the end of their useful capital life.

Overall, based on the NRDP/DGEIS framework discussed, future land development projects expected in Northeast Ramapo are not anticipated to result in a potential adverse impact in terms of the effect upon groundwater or the regional utility's drinking water system (or other wells). Nor is it anticipated to disrupt the supply of water that will be available for firefighting.

It is important to conduct enhanced public education around the topic of conserving water. The Town's planners and elected officials can act to leverage community-based engagement so that a stronger culture of water conservation takes hold. The Town government administration is a useful existing platform that is readily available for conducting promotions. It can be used to aid the implementation of public education and engagement programs and projects that are led by SUEZ and entities like the County Water Task Force. Generally, education and advocacy can be structured so that it leverages existing administrative resources and through allocation of local in-kind assistance that will be low cost but can help achieve a long-term and significant benefit of reduced overall per capita or per square foot of building water consumption, which will enable the sustainable use of water resources.

### 6.5.3 Energy Distribution & Consumption

Energy use is expected to grow over 20 years across the U.S.<sup>70</sup>, and an increase in energy demand could also be expected in Ramapo as a result of the population growth anticipated under the Northeast Ramapo Development Plan/DGEIS. However, there is strong potential to improve the environmental and economic health of the community through the efficient use of energy, by maximizing the use of available energy resources, and by advancing the innovative use of emerging practices and technologies. Through this planning effort, future growth in the Opportunity Areas will enable energy-efficient land use patterns, advancing energy-efficient buildings, promoting renewable and higher-efficiency power generation from solar, geothermal, and hydrogen-based sources, and establishing innovative and resilient energy storage,

<sup>70</sup>See "Annual Energy Outlook 2020: With Projections to 2050" by the U.S. Energy Information Administration (U.S.EIA). Per 'Energy Consumption by Sector (2020 Reference Case)', pg. 10, with breakouts shown for the 'Electric power', 'Industrial' 'Transportation' 'Residential' and 'Commercial' sectors, the increases projected between 2020 and 2040 are primarily attributable to the electric power and industrial sectors.

distribution, and transmission infrastructure to drive low per capital energy consumption and serve as a model for smart growth.

The Comprehensive Plan's Inventory Report presents County-level energy consumption and usage by the transport, residential, commercial, and industrial sectors in Million British Thermal Units (MMBtu) in 201071. This consumption data is converted to per capita consumption at the County level. Also informing descriptions is NY Independent System Operator's data for the region's local service provider -- Orange & Rockland Utilities (hereafter O&R). The Inventory also touches on O&R actions around energy efficiency, smart metering, and a recent battery storage project in Pomona.

Turning to energy generation, distribution and consumption, the discussion herein evaluates the changes in land use, building, and policies that can beneficially influence patterns. Included is an examination of strategies available to reduce energy demand/ consumption, such as through promotion of higher efficiency building frameworks like EnergyStar ratings or USGBC LEED standards and criteria. There are also recommendations on local actions with respect to new development near natural gas transmission lines, plus there is examination of ways to shape infrastructure upgrades and assist local power generation and storage and the use distributed generation potential.

### **6.5.3.1 Existing Conditions**

#### Transmission Infrastructure

In Northeast Ramapo electrical power service is ubiquitous and O&R in-street natural gas service appears available in most of this urbanized area. This subsection discusses regional-scale distribution assets, like larger overhead electrical transmission wires or underground gas pipelines within Northeast Ramapo located in rights-of-way or easements and which are used to move energy from power sources to markets where it is consumed. The Infrastructure quality, its safe operation, and a reliable supply is important to businesses, organizations and residents alike. Regional transmission infrastructure is different from the lines that are designed to serve individual properties or small sets of parcels.

#### Regional Gas Transmission Line

The Columbia Gas Transmission pipeline (also referred to as Millennium Pipeline when it was being planned) is a 24-inch-high pressure natural gas pipeline running through Northeast Ramapo. According to the National Pipeline Mapping System (NPMS), 2019 data, the Columbia Gas Transmission pipeline is maintained by TC Energy (formerly TransCanada).

<sup>71</sup> This information is sourced from the 2014 'Mid-Hudson Region Sustainability Plan' by Orange County, NY.



Figure 6.5-9 - Columbia Gas Transmission Line (Red) Shown by the US Route 202 Opportunity Area



Figure 6.5-10 - Columbia Gas Transmission Line by the PIP & the Community Facilities Area

The Columbia Gas Transmission line enters Northeast Ramapo on the west edge of US Route 202. The first part, by Camp Hill Road, it is in or by the highway's frontage until it reaches the South Branch of Minisceongo Creek (SBMC). From there the gas line/ associated right of way continues east. After passing under the SBMC main stem near US Route 202, it goes in the rear of properties with buildings that front on US Route 202, running east along the northern edge of Samuel G. Fisher/Mt. Ivy Environmental Park, and then dipping south through the Park towards Firemans Way where the line then heads east, crossing under the PIP and State Route 45 by the northwest Community Facilities Area boundary which it hugs until reaching Clarkstown.

This NRDP/DGEIS will be shared with TC Energy as part of future SEQRA Involved/ Interested Agency distribution process. The right-of-way (ROW) for Columbia Gas Transmission pipeline is presumed to be a standard size 50 feet wide. There are no federal regulations that specifically deal with new land use near natural gas transmission lines. Companies responsible for maintaining the pipelines have specific requirements and processes in place to work with landowners and local governments proposing projects.

TC Energy does provide guidance on work near their pipelines. The primary recommendation is to contact them when physical work is planned. Approvals are required for any activity within their ROW. While there are no federal regulations related to new land uses near pipelines, the Pipelines & Informed Planning Alliance (PIPA), an organization sponsored by US DOT's, Pipeline & Hazardous Materials Safety Administration, Office of Pipeline Safety, does publish guidance documents. Specifically, PIPA's Partnering to Further Enhance Pipeline Safety in Communities Through Risk-Informed Land Use Planning Final Report of Recommended Practices, presents practices for pipeline safety.

PIPA recommends consultation zones of 660 feet on either side of the centerline of natural gas pipelines. For proposed developments in a consultation zone, an owner would initiate communication with the pipeline operator as early as possible in the planning process. This guidance is not specifically intended to restrict development within a certain distance of pipelines. A rationale for a 660-foot distance is that the accuracy of pipeline locations in the National Pipeline Mapping System (MPMS) vary by location and may be as much as +/- 500 ft. -- pipeline markers should not be relied upon for actual locations.

### Regional Electrical Transmission Line

There is one identified large overhead electrical transmission line. It enters south from the Village of New Square, by Howell Road and goes north on the west side of Hoover Lane within a roughly 80 foot wide right of way where it crosses New Hempstead Road and is adjacent to a 7.3-acre Parcel ID 42.15-15-2-13, at 430 New Hempstead Road, which appears to contain some sort of electrical transformer or switching station that is owned by O&R (the full use and purpose is not known). From there the overhead line goes northeast, crossing over the Palisades Parkway and cutting over the edge of the Opportunity Area E, and then over Wagon Wheel Drive and Sonata Drive, exiting the Town southeast of Ravenna Drive.

### Energy Consumption & Supply

The Comprehensive Plan Inventory Report Table 50 Rockland County Net Energy Consumption by Sector, 2010 breaks down residential, commercial, and industrial sectors fuels use occurring outside of the fuels used in the transportation sector. Since there is a large residential population base, in terms of fuel consumption, the residential sector within Rockland County currently consumes nearly twice as much fuel than the commercial and industrial sector combined.

Considering the mix of household fuels used in Rockland County, there is quite high reliance on natural gas as a heating fuel source<sup>72</sup>. The rate of natural gas use as a primary heating fuel, at 87% of households in 2010, is more than double the rate of 42% shown in a broader seven-county region which includes Rockland County. There is strong existing reliance on natural gas and systems that supply it.

All electrical energy and natural gas energy consumed within O&R accounts for one month<sup>73</sup>. Overall, converted to Megawatt hours (MWh), at a County-level, the rate of total electricity consumption in a

<sup>72</sup> Appendix A Table 51

<sup>73</sup> Ibid, Table 52

month was about 1.1 times total gas energy consumption at the same point. This perspective is provided in order to give context about how changes in energy use and the way power is supplied could play out in the future.

According to the 2016 Mid-Hudson Regional Sustainability Plan, in Rockland County in 2010, per capita energy consumption was 159.83 MMBtu per capita. This was near the average for a broader seven county region of 157.31 MMBtu (see Table 5.1, page 5-3). The whole Mid-Hudson Region is generally more energy efficient compared with the rest of the State that is situated outside of the broader New York City Metropolitan Area (New York City is highly energy efficient).

### State Energy Objectives

The NY State Energy Plan<sup>74</sup> provides initiatives and goals around topics like:

- Sustainable & Resilient Communities
- Infrastructure Modernization
- Renewable Energy
- Buildings & Energy Efficiency
- Transportation
- Clean Energy Finance

This NY State Energy Plan does not so much set full energy use targets as much it promotes a shift, establishing cleaner energy supplies and supply chains and other system improvements. Currently, there is a State goal to obtain 70% of electricity generation from renewable energy sources by 2030<sup>75</sup>. The NY State Energy Plan also sets a goal for 185 Trillion BTU's of energy efficiency by 2025. By 2040 there is a goal for zero Green House Gas (GHG) emissions from the electricity sector. Also underpinning the NY State Energy Plan is advancing objectives for:

- System reliability<sup>76</sup> and reducing outages that can disrupt households and commerce
- Maintaining energy affordability
- Modernizing and optimizing distribution so there is grid and overall system efficiency

### **6.5.3.2 Potential Impacts**

Construction of high-performance buildings and local systems of generating and delivering power to buildings will enable lower per capita energy use and better energy intensity of land uses. According to the 2015 NY State Energy Plan, buildings consume 60% of statewide energy<sup>77</sup>. If there were significant gains in building energy efficiency, this would be the same as reducing energy 20% or more off of 2012 levels, so when buildings are rehabilitated, it also makes sense to promote energy efficiency upgrades within them.

It is challenging to estimate how the NRDP could impact building energy demand within Walkable Neighborhoods compared with a buildout under existing zoning. Yet, given the extent of building and

<sup>74</sup> NY State Energy Plan, 2015, by the NY State Energy Planning Board, April 2020 amendments

<sup>75</sup> NYS Energy Planning Board website presentation for April 8, 2020.

<sup>76</sup> NY State Energy Plan, 2015, by the NY State Energy Planning Board, pg. 33

<sup>77</sup> The Energy to Lead: 2015 New York State Energy Plan, Pg. 77

building density that is expected, economies of scale should be more easily achieved which can enable cost-effective investment in high performance buildings on a per square foot basis. In other words, it should be possible to leverage better returns on investment in terms of higher efficiency within the larger buildings enabled under the new proposed zoning.

Achieving compact growth with higher building densities will also enable cost effective construction of utility infrastructure like transmission lines because of closer distances between land uses. When there is new building and incentives for renewable energy investment, it can enable direct use of renewable energy. There may be close proximity to distributed sources, like offsite solar photovoltaic arrays. Since electricity is lost in the process of transmission, there can be a better pattern of consumption when some energy is generated onsite and new transmission infrastructure serving a site does not cause as much energy loss during transmission.

### Energy & Transportation

Establishing walkable (and bikeable) neighborhoods and higher rates of transit use can enable reduced vehicle miles traveled (VMT). Volume 2 of the State Energy Plan, in discussing the Impact of Smart Growth on VMT and Transportation Energy Use, notes that a suite of local land use factors (density, mix, and design) can reduce per capita vehicle travel up to 20%.

In order to evaluate development strategies and potential to promote reductions of energy consumption in the transport sector, it can help to define regional context. According to the 2015 NY State Energy Plan, the transportation sector accounts for 34% of Statewide GHG emissions, and \$26.7 billion in fuel costs each year. Obviously, part of this is attributable to the use of petroleum in transport (fuel combustion), which is also a significant source of air quality impacts in New York and Rockland County.

The NY State Energy Plan supports expanded transportation alternatives, such as walking, biking and Zero-Emission Vehicles (ZEVs) (p41). The latter objective is embodied by State initiatives designed to elevate the utilization of plug-in electric vehicles [PEVs].

The community and developers are urged to establish abundant electrical vehicle (EV) infrastructure in the new neighborhoods. The proposed zoning can be required to provide for proportions of EV charging onsite. Moreover, parties are encouraged to plan for and pursue grants, financial incentives, and set asides for energy capital investments like these. As the regional auto pool electrifies, there might be some expected increases in demand for electrical energy in-part due to electrification in the transport sector.

### **6.5.3.3 Mitigation**

The development of clean energy systems and innovative infrastructure in new buildings and on individual properties and extending across properties can help drive revitalization and economic development. It can help ensure that future residents have access to cost-effective and reliable energy while also providing for more sustainable and green energy.

Moreover, a compact growth program in the Northeast Ramapo Development Plan will limit sprawl, advance efficient land uses and establish beneficial community-level patterns. This Plan promotes mixed-use and transit-oriented development. It also promotes efficient buildings that can consume low rates of energy. Advantages in terms of energy use can occur in transportation as well as in homes people occupy

and in private enterprises. The following proposed mitigation further discusses ways to promote energy-efficient future development.

When new construction occurs, there can be promotion of highly energy-efficient building. One option is to specify a preference for use of the new construction (ENERGY STAR® Homes) standard<sup>78</sup>. This federal standard specifies benchmark actions that are more energy-efficient than prevailing policies like required by the NYS Energy Code. Erecting high performance buildings which will exceed the current Energy Code standards for power consumption should enable lower long-term energy costs for residents. This Plan promotes Energy Star building and the use of commissioning, like the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) rating standards. There is some evidence that people living in green buildings may experience health benefits based on features like high levels of natural lighting and good air exchange, the latter as aided powerful and efficient heating ventilating and air conditioning, and the former which can enable lower energy outputs for interior lighting. An option available to the Town Board to encourage these types of new buildings could be to incentivize them, like through a small density bonus within site plan approvals in exchange for developers committing to achieving an 'Energy Star' rating; however, this is not a specific recommendation analyzed in this NRDP/DGEIS.

#### Require Consultation with Regional Gas Transmission Line Operators

In order to ensure a consistent process, any potential project or ground disturbance near the pipeline, within a Town-defined screening distance of 250 lateral (horizontal) feet of the right of way/ easement exterior edge, should be required to contact TC Energy by mail for confirmation that the activity described and specified will not directly physically disturb the ground within a location that TC Energy controls. When there is ground disturbance directly within the right of way/ easement, there should be written documentation by the landowner showing and confirming that the proposed construction specifications adhere to the maximum extent possible with Best Management Practices as defined in the latest edition of "Partnering to Further Enhance Pipeline Safety in Communities Through Risk-Informed Land Use Planning Final Report of Recommended Practices". All correspondence with TC Energy and related correspondence from TC Energy shall be supplied and be made part of any applications for permits and approvals from the Town.

#### Structure Energy Analysis within Local Capital Investment Planning/ Policy

When the Town prepares capital projects in Northeast Ramapo, it is advisable for these to be high performance in terms of energy use. For instance, there can be stipulations within municipal purchasing contracts that new pumps purchased for installation in the Town's sewer system meet accepted specifications and standards of quality in terms of efficient energy consumption. Likewise, Town Board is encouraged to commission high-performance building designs/ construction, such as according to a Leadership in Energy and Environmental Design (LEED) standards, as a way to raise awareness of how energy-efficient buildings can be modeled and possibly even to generate a faster return on investing by causing lower building energy operating costs. Similarly, contracts with non-profits, like emergency

<sup>78</sup> 'Natural Gas Energy Efficiency Resource Development Potential in NY, by Optimal Energy, Inc. prepared for NY State Energy Resource Development Authority, 2006, pg. E-7, identifies Energy Star as beneficial strategy in NY.

service providers, can call for the use of high-performance buildings and vehicles. Optimally, it can make sense for policy prescriptions like these to be established on a town-wide level.

### Synchronize with Regional Power Grid Modernization & Aligned Economic Development Initiatives

Locally, it is highly practical to promote regional utility upgrades to transmission and other infrastructure and encourage investments that will align with Town economic development objectives. There can be coordination to create a clean mix of local and regional power generation and plan and implement distributed generation and microgrid technologies that will aid community development (these latter topics are taken-up below).

New York State, as part of planning an adequate future energy supply, as well as a transition to cleaner power, within the Climate Leadership and Community Protection Act (CLCPA), has set a goal for 70% of power produced to be derived from renewable sources by 2030. This will likely include in its broad mix a high proportion of solar generation. There is also a State goal to dramatically accelerate the use of energy storage, which most likely will include a shift to the use of much higher amounts of battery technologies.

Since Ramapo is one of the fastest growing places in New York in terms of population change, it makes sense to facilitate complimentary public utility and private industry investment in grid modernization and clean energy. The ‘NY State Power Grid Study & Investment Plan’, which is under development in 2020, will seek to synchronize power grid investment by identifying distribution upgrades, local transmission upgrades, and bulk transmission investments that can help achieve New York State CLCPA targets.

### Energy Mix & Conservation & GHG Mitigation

New York State is promoting dramatic economic restructuring and changes in energy technologies in order to reduce harmful climate changing emissions. A recent Intergovernmental Panel on Climate Change report warns that the pace of climate change is dramatic and threatens public health. There is a benefit for local leaders to prepare for a potentially disruptive transition to what is likely to be a low carbon future.

Energy efficiency (both electric and thermal) is a powerful tool in achieving GHG reductions<sup>79</sup>. Moreover, assistance to low-income households in achieving weatherization and energy efficiency is a typical objective within Federal and State policies and programs. This benefits occupants by enabling them to divert some expenditures from gas and electric utility costs to other important purposes. However, in a strategy like this, promoting small heating and hot water equipment upgrades at the domestic/ household level or within certain commercial businesses like food service and processing businesses, it seems beyond the direct focus of this Plan. Rather, this Plan does encourage Town promotions were feasible.

Thinking about ways to provide for development that helps provide for a sustainable future, the 2020 NY State Climate Action Plan Interim Report, page 7-1, presents a ‘Land use planning’ vision”:

*New York communities will be compact, mixed-use and interconnected, keeping per capita Vehicle Miles Traveled (VMT) low. Residents, employees and visitors will rely primarily on public transit, walking, biking, telecommuting, and limited, short distance car trips to reach central locations with concentrations of commercial, residential, cultural,*

<sup>79</sup> <https://www.NYSDEC.ny.gov/energy/99223.html>

*recreational, social, civic, and educational activities. Neighborhoods will be designed to encourage non-motorized travel including walking and biking. Centers for goods distribution and consolidation will be located near consumer centers to minimize “last mile” travel; these centers will use advanced technology to minimize emissions, light pollution, and noise pollution.*

The Statewide Climate Plan, page 7-7, examines land use-transportation related policies like: promotion of Location Efficient Land Use, Transit-Oriented Development (TOD)/ Transit Supportive Development, and establishment of ‘Priority Growth Centers’. It notes, paraphrased, these are designed to influence future land use patterns in order to minimize VMT, and offer residents more choice in places to live and work. It notes these policies help achieve greater access to transit and shared modes that help minimize the need for motorized transport by increasing mixed use, density, and efficient design.

Within Ramapo the NRDP is akin to establishing priority growth centers (Opportunity Areas) and efficient land use. In more developed places in and around Spring Valley and Hillcrest, there is already mixed land use and infill underway. Likewise, where there is more sprawling form now, such as within the Northeast Study Area, the US Route 202 corridor, and other Opportunity Areas are prime locations to develop with density and infill, so there is inter-connectivity and walkability between residential uses and retail and other commercial services. This can provide for beneficial housing and jobs relationships, enable a diverse supply of housing in terms of sizes, tenures, and cost, and take advantage of the proximity of this location to multiple bus transit routes.

### Development of Green Jobs & Renewable Energy in Northeast Ramapo

A growing job sector in New York State broadly encompasses clean/ renewable energy. According to the 2019 ‘New York Clean Energy Industry Report’, since 2016 employment in clean energy grew about 9%<sup>80</sup>. It indicates growth should continue, citing potential for 7.7% growth in 2019<sup>81</sup>. As the Town contemplates its role helping cultivate an economic mix in Northeast Ramapo, there could be some effort to synchronize growth in green jobs and promote green development. This way Northeast Ramapo could be a showpiece for emerging practices and technologies and the Town could also look to benefit from cultivating job growth around vibrant industries.

Another advantage of leveraging investment in green energy or green building that should not be overlooked is the future savings and technological benefits that tenants, developers, and the Town could experience if aspects of the economy itself are structured along the lines of high amounts of environmental bottom line and sustainable and “green” returns. For example, the 2019 Mid-Hudson Progress Report notes an intent to structure a Regional Economic Development Councils (REDC) incentive, which would favorably score project applications for State grant assistance, that can claim benefits towards establishing renewable energy in their communities and regions.

Likewise, new growth in the Northeast can be encouraged to be constructed in line with green guidelines, such as for highly energy efficient buildings. The 2015 NY State Energy Plan, Volume 1, notes it is common for LMI residents pay a disproportionate share of their income towards energy costs. It advocates for

<sup>80</sup> 2019 New York Clean Energy Industry Report, Pg. 2

<sup>81</sup> Ibid, Pg. 5

increased accessibility of clean energy for LMI communities<sup>82</sup>. Newly constructed affordable housing in Northeast Ramapo that is designed to be highly energy efficient can help reduce the income and affordability gap by establishing a supply of building which should be more inexpensive for landlords, tenants, and homeowners because it consumes less energy on average (and the costs of installing efficient technologies themselves may be financially incentivized).

Moreover, the 2019 Mid-Hudson Progress Report identifies investment in the region's mature and emerging clusters as a primary strategy for stimulating growth<sup>83</sup>. It promotes targeting development in "tradeable" sectors of life sciences, advanced manufacturing, information technology, distribution, financial and professional services, and film & television production. It is assumed that growth in energy and environmental services could involve some proportion of professional type services, such as within engineering and design trades, as well as would be covered within other tradeable sectors.

### Preparing for Transport Shifts with Higher Rates of Electric Vehicles & Transit Usage

Among four energy consumption sectors nationwide, transportation currently consumes the second highest level after electric power. New York State has established a goal to achieve an 85% reduction in GHG emissions by 2050 and fossil fuel consumption can be expected to be targeted for decreased emissions, including transport fuels, since the 2015 New York State Energy Plan notes that transport accounts for over one-third of all of the State's GHG emissions (page 42).

Increased electric vehicle usage, including Zero-Emission Vehicles (ZEVs) is clearly going to become an increasing factor in New York State. State-level actions to stimulate sales of electric ZEVs are expected and the Town can continue work to align with regional resources directed towards reducing congestion and investing in energy-efficient ways to move people, including through greater utilization of transit.

While this NRDP/DGEIS promotes more walking and reliance on transit, which can become more feasible with advancement of the smart growth espoused though higher density, mixed-use and transit-oriented development, as the Northeast's buildout unfolds it is still reasonable to expect many households will retain access to automobiles. Therefore, this NRDP/DGEIS advocates for formation of town-wide zoning which will provide for building, site, and neighborhood-level standards which will cause the community to become equipped with infrastructure which can prepare for a transition to a much larger number of electric and alternative fueled autos. This will entail establishing mandatory proportions of vehicle parking spaces that are wired and serviced by charging stations.

Creating Walkable Neighborhoods and pursuing the other actions discussed will support the uptake of clean transport alternatives. The proposed community form and pattern of new building can help stimulate a local clean energy economy. The NRDP provides for substantial place-based growth, which could arise within a compact but fairly significant scale. Thus, in Northeast Ramapo, it should be possible to leverage building/ construction market activity in order to aid the adoption of desirable new energy technologies and overcome the challenges and gaps of a changing market. While this discussion has been mostly qualitative in nature, it is supposed that local reductions in the intensity of energy use in buildings

<sup>82</sup> The Energy to Lead: New York State Energy Plan, Volume 1, Pg. 14

<sup>83</sup> 2019 Mid-Hudson Progress Report, Pg. 7. See <https://regionalcouncils.ny.gov/sites/default/files/2019-10/2019MidHudsonProgressReport2.pdf>

and promoting changes in local transportation patterns and transportation efficiency could influence a 10% to 20% and perhaps even much larger decrease in per capita energy consumption. This will be highly positive and can help overcome the challenges of climate change.

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## 6.6 Transportation

Transportation considerations are of major importance in the Town of Ramapo and by extension the Northeast Corridor when planning for new development. The transportation system should be evaluated across all modes including pedestrians, motorists, cyclists, or transit users. The transportation system must be evaluated at all stages of growth and development and should also be examined in coordination with other elements of community development such as community character, housing, commercial growth and capital improvement planning.

### 6.6.1 Existing Conditions

Per past studies and current data, the automobile is the predominant mode of transport for the majority of Ramapo workers (75 percent of workers<sup>1</sup>). In addition to commuting to work, transportation by car is needed in many parts of Town for most functions of daily living including shopping, attending school or place of worship, or even visiting family and friends<sup>2</sup>.

To maintain the quality of life in the Town, it is important to enhance and preserve the character of Ramapo's neighborhoods and commercial corridors while maintaining community services and facilities provided to Town residents. An integrated and efficient transportation network can assist in achieving this<sup>3</sup>.

Northeast Ramapo is home to a myriad of land uses including single and multi-family residential, retail, office, and other commercial space, as well as numerous educational and religious uses. Northeast Ramapo also houses recreational uses like the New York Boulders minor league baseball stadium, Mt. Ivy County Park, and Gene Levy Park. Currently, land uses within the study area are primarily residential with some commercial. **Section 6.7** (Zoning) and **Section 6.8** (Community Character) discuss at great length, it is noted that the northern segment of the study area, adjacent to US Route 202 is primarily vacant land.

Descriptions of the study area existing plans, policies as they related to the transportation system, roadways, and study area intersections are included below.

#### 6.6.1.1 Existing Plans and Policies

##### Comprehensive Plan

The 2004 Comprehensive Plan asserts that as population in the Town and surrounding area continues to increase, additional demands will be placed on Town roadways. Supporting documentation identified a number of roadways and intersections currently experiencing traffic congestion. These include segments of NY Route 59, US Route 202, NY Route 45, NY Route 306, Maple Avenue, and College Road. Many of those roadways are two-lane and the traffic congestion identified during peak hours was typically at or near signalized intersections, similar to current situations. Traffic was and continues to be most often related to school or commuter traffic or be particularly busier in and around commercial establishments<sup>4</sup>.

<sup>1</sup> US Census Bureau. 2018 ACS 5 Year Estimate. Table S0801. Data Retrieved September 2020

<sup>2</sup> Town of Ramapo Comprehensive Plan. 2004. Pg C-1

<sup>3</sup> Ibid. Pg. C-2

<sup>4</sup> Ibid

Considering these circumstances, the 2004 Comprehensive Plan lays out goals and objectives for Transportation in the context for Northeast Ramapo. These goals and objectives are considered in the creation of this Northeast Ramapo Development Plan and Draft Generic Environmental Impact Statement.

Major Goals espoused in the 2004 Plan, related to transportation include the following<sup>5</sup>:

- Improvements should be made to the road network to relieve areas of specific traffic congestion and/or that mitigate traffic hazards. Specifically mentioned was an improved alignment of Interchange 13 of the Palisades Interstate Parkway (PIP), providing a new southbound entrance ramp directly from US Route 202. The Plan also discusses investigating roadway improvements, including realignment, elsewhere on other roads to relieve areas of specific traffic congestion/ hazards.
- Improve mass transit scheduling, service, and facilities in order to elevate resident's utilization. The Goal states the Town should work with the County to promote Park-and-Ride lots and good pedestrian connection and it discusses evaluating streets and residential areas near bus stops to ensure there are sufficient linkages to these locations.
- Support alternative transport modes, such as biking and walking by encouraging the construction of sidewalks, bicycle, and pedestrian trails, and designated bike routes along existing and future streets. Particularly mentioned is improvements along portions of NY Route 45 and other roadways that experience a high level of pedestrian activity (e.g., streets with a significant number of synagogues).
- Promote land use patterns which will use transportation systems most effectively and efficiently in order to minimize potential additional congestion. This would be achieved through the consideration for adequate and multimodal transportation early on in any planning or development process.

Of these Objectives, none have been totally met although some have seen significant progress, such as the Town seeking additional multimodal connections and the continual promotion of mass transit.

### Northeast Ramapo Development Plan

The Northeast Ramapo Development Plan (NRDP) emphasizes and promotes walkability and bikeability as well as encourages multimodal networks, complete street designs, and connections throughout the Study Area. As such, many disparate sections of this DGEIS and the NRDP promote alternative transport enhancements which will complement the existing 2004 Comprehensive Plan.

- The recreation section (**Section 6.2**) encourages multiuse trails, walking and hiking trails and discusses the benefits of non-motorized circulation. It further promotes linkages between recreational amenities throughout the Northeast.
- Community Character and Community Plans (**Section 6.8**) discusses streetscapes and corridor character, as well as its impact on aesthetics and quality of life.
- Historic, Cultural and Scenic Resources (**Section 6.3**) contains discussion related to transportation, including on corridors character and appearance. Within its discussions of Scenic Roads, the section illustrates a direct nexus to the 2004 Comprehensive Plans objectives related to Scenic Roads, supporting their importance and the methods of protection and preservation

The development of viable, efficient, and effective transportation networks, and planning for those to be accessible for all users regardless of age or ability is imperative. Many portions of this current planning effort

<sup>5</sup> Town of Ramapo Comprehensive Plan. 2004. Pgs. C19; C25-C29

further support goals and objectives outlined in the Comprehensive Plan and the NDRP presents an orderly, efficient, and aesthetically pleasing and viable transportation over the next 20 years, complementing local needs and the assumed development potential are of great importance for the successful development of northeast Ramapo.

### NY Route 59 Prior Report & Current Study<sup>6</sup>

Numerous reports have examined the NY Route 59 corridor. The first report, pertinent to this document is the 2016 NYSDOT Study, performed along a portion of the NY Route 59 Corridor. The study identifies problems and provides strategies for improvement. Strategies generally consist of a range of capital-type enhancements/improvements, benefiting pedestrians and motorists alike. Complementing the 2016 NYSDOT Report, a 2020 Study was conducted by New York Metropolitan Transportation Council (NYMTC). The 2020 Report delved into adjacent land uses and the effect on congestion land uses created and made recommendation to remedy negative effects. 2020 Recommendations advise utilizing existing mechanisms, such as zoning and land-use requirements to shape the corridor into a safer and more efficient route.

It should be noted, little is discussed in either report in direct relation to the Northeast Ramapo Study Area. With improvements here however it can be surmised that there will be improvements throughout the transportation network in Ramapo, including in the Northeast. As such, preemptive consideration should be given to US Route 202 and NY Route 45 for future development using the findings and recommendations found in these reports where applicable.

### Pedestrian Safety Action Plan

The Town of Ramapo was identified as a Focus Community in the 2018 round of the NYS Pedestrian Safety Action Plan (PSAP). Between 2009 and 2013 over 250 pedestrian crashes occurred in the Town ranking it within the top 20 communities for pedestrian crashes in New York State. Resulting from the Focus Community status, the Town was awarded state monies related to planning pedestrian safety improvements. Work on the funded projects was due to be completed in summer 2020 per the Town's submitted and funded application to NYSDOT<sup>7</sup>.

[Information forthcoming regarding Public Interests Concerning Northeast Ramapo]

### Village of New Hempstead Comprehensive Plan(s)

Although technically outside of the Northeast Study Area, the Village of New Hempstead Comprehensive Plan discusses traffic at NY Route 45 and New Hempstead Road, adjacent to the Study Area. This location has significant through traffic and is identified as a major truck route.

The 2006 Village Comprehensive Plan indicated that it would be desirable to study areas around existing commercial development at NY Route. 45 and New Hempstead Road to determine compatibility with surrounding residential neighborhoods and define plans for the surrounding area, as well as to plan for zoning on NY Route 45 just north of Sanatorium Road, which should be construed to be applicable to the east side of the route, in the Northeast Study Area.

<sup>6</sup> Town of Ramapo Comprehensive Plan. 2004 Pg. C20-C23.

<sup>7</sup> 2018 PSAP Application. Submitted to NYSDOT March 2018

The 2019 Village Comprehensive Plan, recommends supporting the already adopted Village Complete Streets Policy, improving pedestrian infrastructure, intersection improvements, traffic calming, and expanding trail networks. These recommendations are in concert with what was found as to be desirable in Northeast Ramapo.

### Public Opinion Survey<sup>8</sup>

As described in other sections herein, the Public Opinion survey, completed by Town residents at the onset of this Planning effort has been beneficial in shaping the Plan and DGEIS, and has particular relevance to transportation. In the Likert Scale questions, respondents agreed to a level of about 86.2%, with statements regarding the importance of character and charm in the Town, and the prevention of poor community design. Though not explicitly a transportation question, consideration of quality transportation networks and transit offerings adds to quality design and the community charm and character. In another Likert Scale question, and in recognizing transportation issues already existing in Ramapo, residents felt overwhelmingly that any future housing must provide conveniences on-site for basic consumer needs and not burden local roadways. The visual preference survey questions generally showed respondents favored compact streets with sidewalks. It also showed respondents favored a more human scale with buildings nearer to the street and pedestrian focus over that of autos.

### 2018 Charrette and Scoping Session

Further supporting the Public Opinion Survey as described above, the 2018 Charrette and Scoping Session elicited responses from those attending regarding a myriad of ideas for the future of Northeast Ramapo. As such, numerous comments and ideas were reviewed and/or discussed regarding transportation. Some ideas gained from the sessions included using Planned Use Developments (PUDs) with controls where the impact to local streets was negligible, the desire to keep scenic roads as they are, and the promotion of the ideals of transit-oriented development along NY Route 59 and in Spring Valley, while keeping the Northeast green were all seen as favorable. A One Word exercise was performed, where respondents said one word that comes to mind about Ramapo now and one word that came to mind when considering the future. Two responses were given for the future that was relevant to transportation; these responses included Main Streets, and Congestion, showing that residents desire the Main Street type appeal, and that they have concerns regarding congestion related to development.

In a keypad polling exercise 100% of all respondents stated that their primary transportation mode was a personal auto. This should not be a surprise given the focus of this effort was on the Northeast, an auto-centric corner of the Town. Keypad polling further indicated a favorability for smaller scale Neighborhood Streets with sidewalks and buildings closer to the street. Residents liked images of what was referred to as a Shopping Street, whereas the name suggests commercial uses are located close together, in a smaller scale when compared to typical suburban commercial design. Alternative transportation modes and methods were also seen as desirable in this exercise, with respondents viewing bicycle facilities and expansion of trail networks as favorable. Overall, when asked what was most important, residents indicated that safer streets for all users was among the top, coming in at the second most chosen category.

<sup>8</sup> Appendix I

### 6.6.1.2 Existing Roadways

Table 6.6-1 summarizes the functional classification, roadway cross-section, posted speed limit, and Average Annual Daily Traffic (AADT) volume for the key study area roadways. The AADT data included is based on the latest available data published by the New York State Department of Transportation (NYSDOT). The roadways are each described in more detail following the table. A full analysis of the traffic impacts was conducted and is attached as **Appendix F - Traffic Impact & Access Study**.

TABLE 6.6-1 – ROADWAY CLASSIFICATION CHARACTERISTICS <sup>9</sup>				
Location	Urban Functional Class	Cross-section	Posted Speed	AADT <sup>10</sup>
US Route 202	Minor Arterial	2, 11-12 ft lanes	40-50 mph	11,400 to 14,300 (2015)
NY Route 45 (north <sup>2</sup> )	Minor Arterial	2, 12 ft lanes	30 mph	14,000 (2013)
NY Route 45 (south <sup>2</sup> )	Principal Arterial Other	2, 11-12 ft lanes	45 mph	10,800 (2015)
Pomona Rd	Minor Arterial	2, 10-12 ft lanes	30 mph	5,100 (2015)
New Hempstead Rd	Minor Arterial	2, 10-12 ft lanes	30 mph	7,000 to 9,800 (2013)
NY Route 306	Minor Arterial	2, 11 ft lanes	45 mph	3,400 (2013)

#### US Route 202

US Route 202 is classified as an urban minor arterial generally providing east-west travel through the Town of Ramapo. In the study area, US Route 202 is a two-lane roadway with one 11 to 12-foot-wide travel lane in each direction and paved shoulders ranging from 2 to 8 feet wide. The posted speed limit on US Route 202 ranges from 50 mph towards the western end of the study area to 40 mph to the eastern end of the study area. Generally, there are no sidewalks along US Route 202 until reaching the PIP Southbound Ramps/Mounty Ivy Diner Driveway intersection where a sidewalk is provided on the south side of the road. Nearby land uses are primarily residential west of North/South Camp Hill Road and commercial, retail, and services uses to the east.

#### NY Route 45

NY Route 45 changes classification from an urban minor arterial between US Route 202 and the Palisades Interstate Parkway interchange to an urban principal arterial other south of the Palisades Interstate Parkway interchange. NY Route 45 provides north-south travel through the Town of Ramapo. In the study area, NY Route 45 is generally a two-lane roadway with one 12-foot-wide travel lane in each direction and paved shoulders of varying width. At the northernmost end of the study area, NY Route 45 is a multi-lane roadway with three northbound travel lanes and two southbound travel lanes that transitions to one northbound and one southbound

<sup>9</sup> Appendix F - M.J. Engineering and Land Surveying, P.C. Traffic Impact Study for Northeast Ramapo GEIS

<sup>10</sup> Most recent Annual Average Daily Traffic (AADT) volume available from NYSDOT expressed in vehicles per day.

travel lane at the PIP ramp/Mt. Ivy Trailer Park access. The posted speed limit on NY Route 45 in the study area is 45 mph. Sidewalks are generally not provided on NY Route 45 except for a 200-foot section at the intersection of US Route 202 and a ¼-mile segment on the east side of NY Route 45 near Pomona Road. Land uses on NY Route 45 vary with a mix of residential, commercial, educational, medical, and religious land uses. The Summit Park Elementary School and Gene Levy Park both have direct access from NY Route 45.

### Pomona Road

Pomona Road is designated as County Road 86 and is classified as an urban minor arterial providing east-west travel between NY Route 306 and NY Route 45. Pomona Road is a two-lane roadway with one 10- to 12-foot-wide travel lane in each direction and 1-foot-wide paved shoulders. The posted speed limit on Pomona Road is 30 mph. There is a sidewalk on the south side of Pomona Road starting approximately ½ mile west of NY Route 45 (Westminster Way) and continuing west to NY Route 306. A sidewalk is also provided on the north side of the street from the Pomona Middle School west to NY Route 306. There is a marked crosswalk across Pomona Road at the Middle School connecting the sidewalks on the north and south sides of the roadway. Land uses along Pomona Road are primarily residential with some community services such as a middle school and church, and some commercial space that includes a golf course and minor-league baseball stadium.

### New Hempstead Road

New Hempstead Road is designated as County Road 80 and is classified as an urban minor arterial generally providing east-west travel between Grandview and McNamara Avenues and County Road 29 (North Main Street). New Hempstead Road is a two-lane roadway with 10 to 12-foot-wide travel lanes in each direction and 1-foot-wide paved shoulders. The posted speed limit of New Hempstead Road is 30- mph. There is a sidewalk on the south side of New Hempstead Road between Fairway Oval and Ellington Way. Land uses along New Hempstead Road are primarily residential with some educational and religious uses like the Congregation Yeshiva of Greater Monsey, Gracepoint Gospel Fellowship, and the Reuben Gittelman Hebrew Day School, and some commercial land uses near NY Route 45 and the PIP.

### NY Route 306

NY Route 306 is classified as an urban minor arterial providing north-south travel between US Route 202 and NY Route 59. Between US Route 202 and Lime Kiln Road NY Route 306 is a two-lane roadway with 11-foot-wide travel lanes in each direction and 2 to 4-foot wide paved shoulders with a posted speed limit of 45 mph. There are no sidewalks on this segment of NY Route 306, so pedestrians and bicyclist share the road with motor vehicles or use the paved shoulder where available. Land use on NY Route 306 is primarily residential in this area. South of Lime Kiln Road, NY Route 306 provides sidewalks on at least one side of the roadway and the speed limit ranges from 30 to 40 mph. There are some commercial land uses along this segment of NY Route 306, but land use is primarily residential.

### **6.6.1.3 Existing Intersections**

Table 6.6-2 summarizes the intersections in the study area with a description and type. Locations being analyzed in the Traffic Impact & Access Study (TIAS) for the Northeast Ramapo Development Plan was provided by the town in accordance with final scoping document. A full description of the intersections follows the table.

**TABLE 6.6-2 – STUDY AREA INTERSECTIONS<sup>11</sup>**

<b>Intersection No.</b>	<b>Description</b>	<b>Type</b>
1	US Route 202/NY Route 306/Ladentown Road	Town Study Intersection
2	US Route 202/South and North Camp Hill Road	NE Study Area
3	US Route 202/PIP Southbound Ramps and Mount Ivy Diner Driveway	NE Study Area
4	Thiells-Mount Ivy Road (CR 47)/US Route 202	External Study Intersection
5	NY Route 45/US Route 202/Old County Road	External Study Intersection
6	NY Route 45/Old Route 202/Park & Ride Lot	External Study Intersection
7	NY Route 45/South Mountain Road	NE Study Area
8	Concklin Road/NY Route 45	NE Study Area
9	NY Route 45/PIP Southbound Ramps	NE Study Area
10	Concklin Road/Northbound PIP On-Ramp	NE Study Area
11	Concklin Road/Northbound PIP Off-Ramp	NE Study Area
12	Concklin Road/Buena Vista Road	External Study Intersection
13	Buena Vista Road/Old Phillips Hill Road	External Study Intersection
14	Old Phillips Hill Road/Phillips Hill Road	External Study Intersection
15	NY Route 306/New Pomona Road (CR 86)	Town Study Intersection
16	Pomona Road (CR 86)/McNamara Road (CR 67)	Town Study Intersection
17	Pomona Road (CR 86)/Summit Park Road/Golf Course Driveway	NE Study Area
18	Summit Park Road/Sandy Brook Drive/Visions Center on Blindness Driveway	Town Study Intersection
19	Pomona Road (CR 86)/Fireman's Memorial Drive	NE Study Area
20	NY Route 45/Pomona Road (CR 86)/Views Way	NE Study Area
21	NY Route 45/Sanatorium Road	NE Study Area
22	NY Route 306/Willow Tree Road	Town Study Intersection
23	NY Route 306/Grandview Avenue	Town Study Intersection
24	NY Route 306/Brick Church Road	Town Study Intersection
25	Union Road (CR 80)/Brick Church Road	Town Study Intersection
26	Union Road (CR 80)/Grandview Avenue	Town Study Intersection
27	New Hempstead Road (CR 80)/McNamara Road (CR 67)	Town Study Intersection
28	New Hempstead Road (CR 80)/Summit Park Road/Hempstead Road	Town Study Intersection
29	NY Route 45/New Hempstead Road (CR 80)	NE Study Area
30	New Hempstead Road (CR 80)/Buena Vista Road/Ramclark Lane	External Study Intersection
31	New Hempstead Road (CR 80)/West Clarkstown Road (CR 35A)	External Study Intersection
32	New Hempstead Road (CR 80)/North & South Little Tor Road (CR 33)	External Study Intersection

<sup>11</sup> M.J. Engineering and Land Surveying, P.C. Traffic Impact Study for Northeast Ramapo GEIS

### **1. US Route 202/NY Route 306/Ladentown Road**

The US Route 202/NY Route 306/Ladentown Road intersection is a four-leg intersection operating under traffic signal control. The eastbound and westbound US Route 202 intersection approaches provide a left-turn lane and a shared through/right-turn lane. The northbound NY Route 306 and southbound Ladentown Road intersection approaches each provide a single lane for shared travel movements. There are no pedestrian accommodations at the intersection including sidewalks, marked crosswalks or pedestrian signal equipment.

### **2. US Route 202/South and North Camp Hill Road**

The US Route 202/South and North Camp Hill Road intersection is a four-leg intersection operating under traffic signal control. All approaches of the intersection provide a single lane for shared travel movements. There are no pedestrian accommodations at the intersection including sidewalks, marked crosswalks or pedestrian signal equipment.

### **3. US Route 202/PIP Southbound Ramps and Mount Ivy Diner Driveway**

The US Route 202/Palisades Interstate Parkway (PIP) Southbound Ramps/Mount Ivy Diner Driveway intersection is a four-leg intersection operating under traffic signal control. The eastbound US Route 202 intersection approach provides a left-turn lane and a shared through/right-turn lane while the westbound approach provides a left-turn lane, a through lane, and a channelized right-turn lane for exclusive turning movements onto the PIP with no traffic control. The northbound Mount Ivy Diner approach provides a single lane for shared travel movements while the southbound PIP southbound ramps approach provides shared left/thru lane and a channelized right-turn lane, operating under yield control. There is a sidewalk located on the south side of US Route 202 across the diner frontage, but no other pedestrian accommodations are provided at the intersection including marked crosswalks or pedestrian signal equipment.

### **4. Thiells-Mount Ivy Road (CR 47)/US Route 202**

The Thiells-Mount Ivy Road (CR 47)/US Route 202 intersection is a three-leg intersection operating under traffic signal control. The traffic signal operates in coordination with the NY Route 45/US Route 202/Old County Road intersection. The southbound Thiells-Mount Ivy Road (CR 47) approach provides separate left turn and right turn lanes. The US Route 202 westbound approach provides two through lanes and channelized, yield-controlled right-turn lane. The US Route 202 eastbound approach provides a left-turn lane, a through lane, and a through lane designated for vehicles turning right at the adjacent intersection with NY Route 45. A sidewalk is provided on the south side of US Route 202 both east and west of the intersection and in the northeast quadrant of the intersection extending to the north along Thiells-Mount Ivy Road (CR 47) and the east along US Route 202. A marked crosswalk with pedestrian signal equipment is provided on the westbound intersection approach of US Route 202. A marked crosswalk is also provided across the westbound right-turn lane. It is noted that Thiells-Mount Ivy Road provides access from the PIP northbound direction of travel.

### **5. NY Route 45/US Route 202/Old County Road**

The NY Route 45/US Route 202/Old County Road intersection is a four-leg intersection operating under traffic signal control. The traffic signal operates in coordination with the US Route 202/Thiells-Mount Ivy Road intersection. The northbound NY Route 45 approach provides a left-turn lane, a shared left-turn/through lane, and a right-turn lane. The southbound, Old County Road approach provides a single lane for shared travel movements. The US Route 202 eastbound approach provides a left turn lane, a through lane, and a channelized right-turn lane operating under yield control. The US Route 202 westbound approach provides a left turn lane and

a shared through/right-turn lane. Sidewalks are provided on both sides of US Route 202 and NY Route 45. A marked crosswalk, without pedestrian signal equipment, is provided on the southbound approach. No other marked crosswalks or pedestrian accommodations are provided at this intersection. A bus stop with a shelter, bench, and bike rack is located on the southwest corner of the intersection along NY Route 45.

#### **6. NY Route 45/Old Route 202/Park and Ride Lot Driveway**

The NY Route 45/Old Route 202/Park and Ride Lot Driveway intersection is a four-leg intersection operating under traffic signal control. The northbound NY Route 45 approach provides a left-turn lane, a through lane, and a shared through/right-turn lane. The southbound NY Route 45 approach provides a shared left-turn/through lane and a right-turn lane. The Old Route 202 eastbound approach and the Park and Ride Lot Driveway westbound approach each provide a single lane for shared travel movements. Sidewalks are provided on both sides of NY Route 45 north of the intersection and along the south side of Old Route 202. Marked crosswalks with pedestrian signal equipment are provided on the southbound and westbound intersection approaches. Bus stops with benches and shelters are located on the northwest and southeast corners of the intersection along NY Route 45.

#### **7. NY Route 45/South Mountain Road**

The NY Route 45/South Mountain Road intersection is a three-leg unsignalized intersection operating under stop sign control on the westbound South Mountain Road approach. It is noted that the South Mountain Road approach splits for the last 50-feet onto NY Route 45 separating traffic entering or exiting South Mountain Road from the north and south on NY Route 45. All approaches of this intersection provide a single travel lane for shared travel movements. There are no pedestrian accommodations at this intersection including sidewalks or marked crosswalks.

#### **8. Concklin Road/NY Route 45**

The Concklin Road/NY Route 45 intersection is a three-leg intersection operating under traffic signal control. The northbound NY Route 45 approach provides a through lane and a channelized right-turn lane for exclusive right turn movements, operating under yield control. The channelized right-turn is located approximately 160 south of the intersection and is accompanied by a 200-foot exclusive right-turn lane. The southbound approach provides a single lane for shared travel movements. The westbound Concklin Road approach provides separate left-turn and right-turn lanes. No pedestrian accommodations are provided at this intersection including sidewalks, marked crosswalks, or pedestrian signal equipment. It is noted that Concklin Road provides access to and from the PIP northbound direction of travel.

#### **9. NY Route 45/PIP Southbound Ramps**

The NY Route 45/PIP Southbound Ramp intersection is a three-leg intersection operating under traffic signal control. The northbound NY Route 45 approach provides a left-turn and through lane. The southbound NY Route 45 approach provides a single travel lane for shared travel movements. The eastbound PIP Southbound Ramp approach provides a left-turn lane and a channelized right-turn lane operating under yield control where vehicles enter NY Route 45 approximately 200 feet south of the traffic signal. There are no pedestrian accommodations at this intersection including sidewalks, marked crosswalks, or pedestrian signal equipment.

#### **10. Concklin Road/Northbound PIP On-Ramp**

The Concklin Road/Northbound PIP On-Ramp intersection is a three-leg unsignalized intersection. The northbound Concklin Road approach provides a shared left-turn/through lane and a through lane and the southbound

approach provides a shared through/right-turn lane. The on-ramp approach is a one-way roadway travelling westbound onto the PIP. No sidewalks or marked crosswalks are provided at this intersection.

#### **11. Concklin Road/Northbound PIP Off-Ramp**

The Concklin Road/Northbound PIP Off-Ramp intersection is a three-leg unsignalized intersection operating under stop control on the eastbound off-ramp approach. The off-ramp approach provides a single lane for shared travel movements. The Concklin Road approaches each provide a single lane for through travel. No sidewalks or marked crosswalks are provided at this intersection.

#### **12. Concklin Road/Buena Vista Road**

The Concklin Road/Buena Vista Road intersection is a three-leg intersection operating under stop control on the eastbound Concklin Road approach. It is noted that the Concklin Road approach splits for the last 50-feet separating traffic entering or exiting Concklin Road from the north and south on Buena Vista Road. All approaches at this intersection provide a single travel lane for shared travel movements. There are no pedestrian accommodations at this intersection including sidewalks or marked crosswalks.

#### **13. Buena Vista Road/Old Phillips Hill Road**

The Buena Vista Road/Old Phillips Hill Road intersection is a three-leg intersection controlled by a stop sign on the westbound Old Phillips Hill Road approach. All approaches at this intersection provide a single travel lane for shared travel movements. There are no pedestrian accommodations at this intersection including sidewalks or marked crosswalks.

#### **14. Old Phillips Hill Road/Phillips Hill Road**

The Old Phillips Hill Road/Phillips Hill Road intersection is a three-leg intersection controlled by a stop sign on the eastbound Old Phillips Hill Road approach. All approaches at this intersection provide a single travel lane for shared travel movements. There are no pedestrian accommodations at this intersection including sidewalks or marked crosswalks.

#### **15. New Pomona Road (CR 86)/NY Route 306**

The Pomona Road (CR 86)/NY Route 306 intersection is a three-leg unsignalized intersection controlled by a stop sign on the westbound New Pomona Road approach. All approaches provide a single lane for shared travel movements. There are no marked crosswalks at the intersection, but sidewalks are provided on both sides of New Pomona Road.

#### **16. Pomona Road (CR 86)/McNamara Road (CR 67)**

The Pomona Road (CR 86)/McNamara Road (CR 67) intersection is a three-leg unsignalized intersection controlled by a stop sign on the northbound McNamara Road approach. All approaches provide a single lane for shared travel movements. There are no marked crosswalks at the intersection, but sidewalks are provided on both sides of Pomona Road.

#### **17. Pomona Road (CR 86)/Summit Park Road/Golf Course Driveway**

The Pomona Road (CR 86)/Summit Park Road/Golf Course Driveway is a four-leg unsignalized intersection controlled by a stop sign on the northbound and southbound approaches. All approaches provide a single lane for shared travel movements. There are no marked crosswalks at the intersection, but a sidewalk is

provided on the south side of Pomona Road. Summit Park Road is posted with a heavy vehicle restriction except local deliveries.

**18. Summit Park Road/Sandy Brook Drive/Visions Center on Blindness Driveway**

The Summit Park Road/Sandy Brook Drive intersection is a four-leg unsignalized intersection operating under stop control on the Summit Park Road and Sandy Brook Drive intersection approaches. It is noted that the northbound Visions Center on Blindness Driveway does not have a stop sign; however, drivers exiting this driveway would need to yield to traffic on the public roadways at the intersection. All other approaches include the “All Way” plaque posted under the stop sign. All approaches of the intersection have a single lane for shared travel movements. There is a sidewalk on the north side of Sandy Brook Drive on the west side of the intersection across the Sandy Brook Town Park frontage. There are no other pedestrian accommodations such as marked crosswalks at this intersection. It is noted that Sandy Brook Drive is posted with a heavy vehicle restriction except local deliveries.

**19. Pomona Road (CR 86)/Firemans Memorial Drive**

The Pomona Road (CR 86)/Firemans Memorial Drive intersection is a three-leg unsignalized intersection controlled by a stop sign on the southbound Firemans Memorial Drive approach. All approaches provide a single lane for shared travel movements. There are no pedestrian accommodations at this intersection including sidewalks or marked crosswalks.

**20. NY Route 45/Pomona Road (CR 86)/Views Way**

The NY Route 45/Pomona Road (CR 86)/Views Way intersection is a four-leg intersection operating under traffic signal control. The eastbound Pomona Road approach provides a left-turn lane and a shared through/right-turn lane while the westbound Views Way approach, a private road, provides a single lane for shared travel movements. The northbound NY Route 45 approach provides an exclusive left-turn lane and shared through/right-turn lane while the southbound approach provides left-turn, through, and right-turn lanes for exclusive travel movements.

There are no pedestrian accommodations at this intersection including marked crosswalks or pedestrian signal equipment. It is noted that there is a sidewalk on the east side of NY Route 45 and on the south side of Views Way.

**21. NY Route 45/Sanatorium Road/Authorized Personnel Driveway to Ramapo Sports Complex**

The NY Route 45/Sanatorium Road intersection is a four-leg intersection controlled by a traffic signal. The northbound NY Route 45 approach provides a left-turn and a shared through/right-turn lane while the southbound approach provides a shared left/through lane and a right-turn lane. The eastbound Sanatorium Road approach provides a left-turn and shared through/right-turn lane, while the westbound approach provides a single lane for shared travel movements. It is noted that the westbound approach of this intersection is not controlled by the traffic signal and there is no stop sign on this approach. Drivers exiting the driveway would yield to traffic on the public roadway network. The Driveway leads to the park maintenance building and is signed for authorized personnel only. There are no pedestrian accommodations at this intersection including sidewalks, marked crosswalks, or pedestrian signal equipment. Sanatorium Road is posted with a heavy vehicle restriction except local deliveries.

**22. NY Route 306/Willow Tree Road/East Willow Tree Road**

The NY Route 306/Willow Tree Road/East Willow Tree Road intersection is a four-leg intersection operating under traffic signal control. The northbound and southbound NY Route 306 approaches each provide left-turn and shared through/right-turn lanes. The eastbound and westbound Willow Tree Road and East Willow Tree Road approaches provide single lanes for shared travel movements. Willow Tree Road and East Willow Tree Road are signed for No Commercial Vehicles. Sidewalks are provided on the north side of Willow Tree Road and East Willow Tree Road and both sides of NY Route 306. There are marked crosswalks with pedestrian signal equipment on the southbound, eastbound, and westbound intersection approaches.

### **23. NY Route 306/Grandview Avenue**

The NY Route 306/Grandview Avenue intersection is a four-leg intersection operating under traffic signal control. The northbound and southbound NY Route 306 approaches provide left-turn and shared through/right-turn lanes. The eastbound and westbound Grandview Avenue approaches each provide single lanes for shared travel movements. Sidewalks are provided on the south side of the Grandview Avenue west of the intersection and on the east side of NY Route 306. A small sidewalk section is also provided in the southeast corner of the intersection and extends approximately 60' along Grandview Avenue. There are marked crosswalks with pedestrian signal equipment on the northbound and westbound intersection approaches.

### **24. NY Route 306/Brick Church Road**

The NY Route 306/Brick Church Road intersection is a three-leg intersection controlled by a stop sign on the westbound Brick Church Road intersection approach. Each approach to the intersection provides a single lane for shared travel movements. Brick Church Road is signed with a 9-ton weight restriction. A sidewalk is provided on the east side of NY Route 306 both north and south of the intersection. No other pedestrian accommodations are provided at this intersection, including marked crosswalks.

### **25. Union Road (CR 80)/Brick Church Road**

The Union Road (CR 80)/Brick Church Road intersection is a four-leg intersection controlled by stop signs on all intersection approaches. Each approach to the intersection provides a single lane for shared travel movements. It is noted that the two Brick Church Road approaches are offset by approximately 50-feet. Brick Church Road is posted with a 9-ton weight restriction. Sidewalks are provided on the east side of Union Road north of the intersection, in the southeast corner of the intersection, and on the north side of Brick Church Road. Marked crosswalks are provided on the southbound and westbound intersection approaches. It is noted that the Hempstead School is located in the northeast quadrant of the intersection.

### **26. Union Road (CR 80)/Grandview Avenue**

The Union Road (CR 80)/Grandview Avenue intersection is a three-leg intersection controlled by a stop sign on the eastbound Grandview Avenue intersection approach. Each approach to the intersection provides a single lane for shared travel movements. A sidewalk is provided on the east side of Union Road (CR 80) north of the intersection. No other pedestrian accommodations are provided at this intersection, including marked crosswalks.

### **27. New Hempstead Road (CR 80)/McNamara Road (CR 67)**

The New Hempstead Road (CR 80)/McNamara Road (CR 67) intersection is a three-leg intersection controlled by a stop sign on the eastbound McNamara Road approach. Each approach provides a single lane for shared travel movements. There is a sidewalk on the east side of New Hempstead Road but no other pedestrian accommodations at this intersection, including marked crosswalks.

### **28. New Hempstead Road (CR 80)/Summit Park Road (CR 51)/Hempstead Road**

The New Hempstead Road (CR 80)/Summit Park Road (CR 51)/Hempstead Road intersection is a four-leg intersection operating under traffic signal control. Each intersection approach provides a single lane for shared travel movements. The eastbound, westbound, and southbound intersection approaches are signed with right-turn on red restrictions. There is a sidewalk on the west side of the Hempstead Road northbound approach; however, there are no other pedestrian accommodations at this intersection including marked crosswalks or pedestrian signal equipment. Hempstead Road is posted with a heavy vehicle restriction with commercial vehicles excluded.

### **29. NY Route 45/New Hempstead Road (CR 80)**

The NY Route 45/New Hempstead (CR 80) intersection is a four-leg intersection controlled by a traffic signal. Each intersection approach provides a left-turn lane and a shared through/right-turn lane. There are no pedestrian accommodations at this intersection including sidewalks, marked crosswalks, or pedestrian signal equipment.

### **30. New Hempstead Road (CR 80)/Buena Vista Road/Ramclark Lane**

The New Hempstead Road (CR 80)/Buena Vista Road/Ramclark Lane intersection is a four-leg intersection operating under traffic signal control. The northbound Ramclark Lane approach and the southbound, Buena Vista Road approach each provide a single lane for shared travel movements. The New Hempstead Road eastbound and westbound approaches each provide a left-turn lane and a shared through/right-turn lane. It is noted that the Buena Vista Road and Ramclark Lane intersection approaches are offset by approximately 40 feet. Buena Vista Road is posted with a 4-ton weight restriction. There are no pedestrian accommodations at this intersection including sidewalks or marked crosswalks.

### **31. New Hempstead Road (CR 80)/West Clarkstown Road (CR 35A)**

The New Hempstead Road (CR 80)/West Clarkstown Road (CR 35A) intersection is a three-leg intersection operating under traffic signal control. The northbound West Clarkstown Road approach provides a left-turn lane and a right-turn lane. The New Hempstead Road westbound approach provides a left-turn lane and a through lane. The New Hempstead Road eastbound approach provides a single lane for shared travel movements. There are no pedestrian accommodations at this intersection including sidewalks, marked crosswalks, and pedestrian indicators. It is noted that there is a residential driveway on the north side of the intersection that is not controlled by the signal.

### **32. New Hempstead Road (CR 80)/North & South Little Tor Road (CR 33)**

The New Hempstead Road (CR 80)/North & South Little Tor Road (CR 33) intersection is a four-leg intersection operating under traffic signal control. The northbound South Little Tor Road approach provides a left-turn lane, a through lane, and a right-turn lane. The southbound, North Little Tor Road approach provides a left-turn lane and a shared through/right-turn lane. The New Hempstead Road eastbound and westbound approaches each provide a left-turn lane, a through lane, and shared through/right-turn lane. South Little Tor Road is posted with a 15-ton weight restriction except local deliveries. Sidewalks are provided south of the intersection on the east side of South Little Tor Road and east of the intersection along the south side of New Hempstead Road. There are also sidewalk segments in each quadrant of the intersection. There are marked crosswalks with pedestrian signal equipment on all approaches to the intersection.

### 6.6.1.4 Existing Traffic Volumes

Daily traffic volumes were collected on US Route 202 east of Ladentown Road and NY Route 45 north of South Mountain Road for the period from Monday, March 11, 2019 through Monday, March 18, 2019 using automatic traffic recorders (ATRs). Traffic volume data was collected when school was in session for the nearby colleges and when local elementary, middle, and high schools were in session. The traffic volume data is summarized in Table 6.6-3 The data summarized in table represents the raw traffic data, summarized as average daily traffic (ADT) that was collected specifically for the evaluation of this project.

TABLE 6.6-3 – EXISTING TRAFFIC VOLUME SUMMARY <sup>12</sup>							
Location	ADT <sup>13</sup>	Weekday AM Peak Hour			Weekday PM Peak Hour		
		Volume	K Factor <sup>14</sup>	Dir. Dist. <sup>15</sup>	Volume	K Factor	Dir. Dist.
US Route 202	17,550	1,280	7.3%	60% WB	1,380	7.9%	54% EB
NY Route 45	13,195	910	6.9%	61% SB	1,065	8.1%	67% NB

As shown, US Route 202 carries approximately 17,550 vehicles per day (vpd) on a typical weekday. Traffic is heavier in the westbound direction during the morning peak hour and slightly heavier in the eastbound direction during the afternoon peak hour.

NY Route 45 carries approximately 13,195 vpd on a typical weekday. Traffic is heavier in the southbound direction during the morning peak hour and heavier in the northbound direction in the afternoon peak hour.

Turning movement counts (TMC's) were conducted at four study area intersections on February 28, 2019 when schools were in session during the weekday AM and PM peak periods from 7:30 AM to 9:00 AM and 3:00 PM to 6:00 PM. Additional turning movement counts were conducted at 14 intersections on November 21, 2019.

Turning movement counts previously conducted on April 5, 2017 as part of the Millers Pond GEIS were used at the remaining 14 study area intersections. The source of the peak hour traffic volumes is summarized in Table 6.6-4 below:

<sup>12</sup> M.J. Engineering and Land Surveying, P.C. Traffic Impact Study for Northeast Ramapo GEIS

<sup>13</sup> Average Daily Traffic (ADT) volume expressed in vehicles per day.

<sup>14</sup> Represents the percent of daily traffic that occurs during the peak hour.

<sup>15</sup> Directional distribution of peak hour traffic.

**TABLE 6.6-4 – TURNING MOVEMENT DATA SOURCE<sup>16</sup>**

<b>Intersection No.</b>	<b>Description</b>	<b>Data Source</b>
1	US Route 202/NY Route 306/Ladentown Road	February 2019
2	US Route 202/South and North Camp Hill Road	February 2019
3	US Route 202/PIP Southbound Ramps and Mount Ivy Diner Driveway	February 2019
4	Thiells-Mount Ivy Road (CR 47)/US Route 202	November 2019
5	NY Route 45/US Route 202/Old County Road	November 2019
6	NY Route 45/Old Route 202/Park & Ride Lot	November 2019
7	NY Route 45/South Mountain Road	February 2019
8	Concklin Road/NY Route 45	April 2017
9	NY Route 45/PIP Southbound Ramps	April 2017
10	Concklin Road/Northbound PIP On-Ramp	April 2017
11	Concklin Road/Northbound PIP Off-Ramp	April 2017
12	Concklin Road/Buena Vista Road	November 2019
13	Buena Vista Road/Old Phillips Hill Road	November 2019
14	Old Phillips Hill Road/Phillips Hill Road	November 2019
15	NY Route 306/New Pomona Road (CR 86)	April 2017
16	Pomona Road (CR 86)/McNamara Road (CR 67)	April 2017
17	Pomona Road (CR 86)/Summit Park Road/Golf Course Driveway	April 2017
18	Summit Park Road/Sandy Brook Drive/Visions Center on Blindness Driveway	April 2017
19	Pomona Road (CR 86)/Fireman's Memorial Drive	April 2017
20	NY Route 45/Pomona Road (CR 86)/Views Way	April 2017
21	NY Route 45/Sanatorium Road	April 2017
22	NY Route 306/Willow Tree Road	November 2019
23	NY Route 306/Grandview Avenue	November 2019
24	NY Route 306/Brick Church Road	November 2019
25	Union Road (CR 80)/Brick Church Road	November 2019
26	Union Road (CR 80)/Grandview Avenue	November 2019
27	New Hempstead Road (CR 80)/McNamara Road (CR 67)	April 2017
28	New Hempstead Road (CR 80)/Summit Park Road/Hempstead Road	April 2017
29	NY Route 45/New Hempstead Road (CR 80)	April 2017
30	New Hempstead Road (CR 80)/Buena Vista Road/Ramclark Lane	November 2019
31	New Hempstead Road (CR 80)/West Clarkstown Road (CR 35A)	November 2019
32	New Hempstead Road (CR 80)/North & South Little Tor Road (CR 33)	November 2019

The peak hour traffic volume data is included in Appendix B of the TIAS<sup>17</sup>. The 2017 data was adjusted as applicable to represent existing 2019 conditions. Based on the data, the AM peak hour varies throughout the study area but generally occurs from 8:15 AM to 9:15 AM. The PM peak hour also varies but generally occurs between 4:45 PM to 5:45 PM.

<sup>16</sup> M.J. Engineering and Land Surveying, P.C. Traffic Impact Study for Northeast Ramapo GEIS

<sup>17</sup> M.J. Engineering and Land Surveying, P.C. Traffic Impact Study for Northeast Ramapo GEIS

### 6.6.1.5 Multimodal Accommodations

Public transportation is provided by Transport of Rockland (TOR) which is overseen by the Rockland County Department of Public Transportation. TOR provides ten fixed bus routes to include service along major corridors throughout Rockland County and provides access to other regional transit services. Several bus routes travel through a portion of the overall study area include the following:

- **Bus Route 91** – This route generally provides access between Nyack and Spring Valley via NY Route 45. Weekday and Saturday service is provided from approximately 5:30 AM to 1:30 AM with approximate 30-minute intervals. Sunday service is provided from 9:00 AM to 1:45 AM with one-hour intervals.
- **Bus Route 94** – This route generally provides access between the Spring Valley Transit Center and Tomkins Cove via NY Route 45, Pomona Road, and NY Route 306. Weekday service is provided from approximately 6:30 AM to 9:30 PM with approximate one-hour intervals. Saturday service is provided from approximately 6:30 AM to 11:30 PM with two-hour intervals for the first and last run while having one-hour intervals for the remainder of the day. It is noted that Route 94 does not provide service on Sunday.
- **Bus Route 95** – This route provided access between Rockland Community College and Haverstraw Village via US Route 202 and NY Route 306. Weekday service is provided from approximately 7:00 AM to 7:00 PM with one-hour intervals. It is noted that Route 95 does not operate on the weekend.

The study area generally lacks pedestrian and bicyclist accommodations. The number of pedestrian crossings occurring at the study intersections are summarized in Table 6.6-5 at the intersections where data is available. It is noted that pedestrian counts were conducted at 4 of the 14 intersections for which data from the Millers Pond GEIS was used. Table 6.6-5 summarizes the number of pedestrian crossings observed during both the AM and PM peak hours.

TABLE 6.6-5 – PEAK HOUR PEDESTRIAN CROSSINGS <sup>18</sup>			
Intersection No.	Description	AM Peak Hour	PM Peak Hour
1	US Route 202/NY Route 306/Ladentown Road	0	0
2	US Route 202/South and North Camp Hill Road	0	0
3	US Route 202/PIP Southbound Ramps and Mount Ivy Diner Driveway	2	6
4	Thiells-Mount Ivy Road (CR 47)/US Route 202	3	0
5	NY Route 45/US Route 202/Old County Road	3	1
6	NY Route 45/Old Route 202/Park & Ride Lot	7	4
7	NY Route 45/South Mountain Road	0	0
12	Concklin Road/Buena Vista Road	0	1
13	Buena Vista Road/Old Phillips Hill Road	0	1
14	Old Phillips Hill Road/Phillips Hill Road	0	0
16	Pomona Road (CR 86)/McNamara Road (CR 67)	0	1

<sup>18</sup> M.J. Engineering and Land Surveying, P.C. Traffic Impact Study for Northeast Ramapo GEIS

20	NY Route 45/Pomona Road (CR 86)/Views Way	4	0
22	NY Route 306/Willow Tree Road	2	0
23	NY Route 306/Grandview Avenue	4	5
24	NY Route 306/Brick Church Road	1	2
25	Union Road (CR 80)/Brick Church Road	2	4
26	Union Road (CR 80)/Grandview Avenue	0	0
27	New Hempstead Road (CR 80)/McNamara Road (CR 67)	0	0
29	NY Route 45/New Hempstead Road (CR 80)	2	3
30	New Hempstead Road (CR 80)/Buena Vista Road/Ramclark Lane	0	1
31	New Hempstead Road (CR 80)/West Clarkstown Road (CR 35A)	0	0
32	New Hempstead Road (CR 80)/North & South Little Tor Road (CR 33)	2	1
<p> <span style="display: inline-block; width: 10px; height: 10px; background-color: #d9ead3; border: 1px solid #000; margin-right: 5px;"></span> - Data collected in February 2019  <span style="display: inline-block; width: 10px; height: 10px; background-color: #d9ead3; border: 1px solid #000; margin-right: 5px;"></span> - Data collected in April 2017  <span style="display: inline-block; width: 10px; height: 10px; background-color: #d9ead3; border: 1px solid #000; margin-right: 5px;"></span> - Data collected in November 2019 </p>			

As shown in Table 6.6-5, there were very few pedestrian crossings at most of the study area intersections. The NY 45/Old Route 202 intersection, which is adjacent to the Park and Ride lot, experienced the highest number of pedestrian crossings with 7 during the morning peak hour and 4 during the afternoon peak hour. The US Route 202/PIP SB Ramps intersection experienced the second highest number of pedestrian crossings with 2 during the morning peak hour and 6 during the afternoon peak hour.

### 6.6.1.6 Vehicular Crash History

Crash data for the study area was obtained from NYSDOT for the latest available three-year period from November 1, 2015 to October 31, 2018 for the following roadway segments:

- US Route 202 from Cottage Lane to the east Old County Road (CR 202B) intersection
- NY Route 45 from US Route 202 to Old Schoolhouse Road
- NY Route 306 from US Route 202 to Old Pomona Road
- CR 86 (Pomona Road/New Pomona Road) from NY Route 306 to NY Route 45
- CR 80 (New Hempstead Road) from Fairway Oval to Gladys Drive
- Concklin Road from NY Route 45 to Buena Vista Rd

Review of the data shows that during the three-year period, a total of 840 crashes occurred on these six roadway segments. Table 6.6-6 summarizes the segment crashes and shows that of the 840 crashes, there were 2 fatal crashes, 240 injury crashes, 305 property damage collisions, and 293 non-reportable incidents, meaning there was no injury and less than \$1,000 in property damage.

<b>TABLE 6.6-6 – CRASH HISTORY SUMMARY – ROADWAY SEGMENT<sup>19</sup></b>					
<b>Roadway Segment</b>	<b>Total Crashes</b>	<b>Severity</b>			
		<b>Fatal</b>	<b>INJ</b>	<b>PDO</b>	<b>NR</b>
US 202 from Cottage Ln to Old County Rd	337	2	96	97	142
NY 45 from US 202 to Old Schoolhouse Rd	172	0	58	63	51
NY 306 from US 202 to Old Pomona Rd	38	0	12	20	6
Pomona Rd from NY 306 to NY 45	26	0	7	13	6
New Hempstead from Fairway to Gladys Dr	256	0	64	109	83
Concklin Rd from NY 45 to Buena Vista Rd	11	0	3	3	5
<b>Total</b>	<b>840</b>	<b>2</b>	<b>240</b>	<b>305</b>	<b>293</b>
Note: Study intersection crashes are included in the segment totals INJ = Injury PDO = Property Damage Only NR = Non-Reportable, no injury and less than \$1,000 in property damage					

Table 6.6-7 summarizes the intersection crashes within the roadway segments and shows that 326 of the 840 crashes occurred at 23 of the study area intersections with one fatality, 95 injury crashes, 103 property damage collisions, and 127 non-reportable incidents. The one fatality was reported at the Thiells-Mount Ivy Rd/US Route 202 study intersection.

<b>TABLE 6.6-7 – CRASH HISTORY SUMMARY – INTERSECTION<sup>20</sup> (ORIGINAL STUDY AREA)</b>						
<b>Intersection No.</b>	<b>Description</b>	<b>Total Crashes</b>	<b>Severity</b>			
			<b>Fatal</b>	<b>INJ</b>	<b>PDO</b>	<b>NR</b>
1.	US 202/NY 306/Ladentown Rd	25	0	4	10	11
2.	US 202/South & North Camp Hill Rd	24	0	8	10	6
3.	US 202/PIP SB Ramps/Mount Ivy Diner Dwy.	5	0	1	3	1
4.	Thiells-Mount Ivy Rd/US 202	68	1	18	11	38
5.	NY 45/US 202/Old County Rd	69	0	25	16	28
6.	NY 45/Old Route 202/Park and Ride Lot	5	0	1	1	3
7.	NY 45/South Mountain Rd	11	0	2	5	4
8.	NY 45/Concklin Rd	6	0	3	2	1
9.	NY 45/PIP SB Ramps	3	0	2	1	0
10.	Concklin Rd/NB PIP On-Ramp	1	0	0	0	1
11.	Concklin Rd/NB PIP Off-Ramp	4	0	2	1	1
12.	Concklin Rd/Buena Vista Rd	4	0	1	1	2
15.	NY 306/Pomona Rd	4	0	1	1	2
16.	Pomona Rd/McNamara Rd	1	0	1	0	0
17.	Pomona Rd/Summit Park Rd	2	0	0	1	1

<sup>19</sup> NYSDOT crash data dated November 1, 2015 through October 31, 2018

<sup>20</sup> NYSDOT crash data dated February 29, 2016 through February 28, 2019

18.	Summit Park Rd/Sandy Brook Dr	0	0	0	0	0
19.	Pomona Rd/Firemans Memorial Dwy	2	0	1	1	0
20.	NY 45/Pomona Rd	8	0	0	3	5
21.	NY 45/Sanatorium Rd	4	0	3	1	0
27.	New Hempstead Rd/McNamara Rd	21	0	2	14	5
28.	New Hempstead Rd/Summit Park Rd	11	0	4	6	1
29.	NY 45/New Hempstead Rd	31	0	11	11	9
30.	New Hempstead Rd/Buena Vista Rd	17	0	5	4	8
<b>Total</b>		<b>326</b>	<b>1</b>	<b>95</b>	<b>103</b>	<b>127</b>
INJ = Injury PDO = Property Damage Only NR = Non-Reportable, no injury and less than \$1,000 in property damage						

As the study area expanded to include additional intersections, crash data for the additional intersections that were not captured with the original data request was obtained from NYSDOT for the latest available three-year period from February 29, 2016 to February 28, 2019. Table 6.6-8 summarizes the additional intersection crashes and shows that a total of 104 crashes occurred at the additional 9 study area intersections with 29 injury crashes, 40 property damage collisions, and 35 non-reportable incidents. No fatalities were reported at the 9 study intersections.

TABLE 6.6-8 – CRASH HISTORY SUMMARY – INTERSECTION <sup>21</sup> (ADDITIONAL STUDY AREA)						
Intersection No.	Description	Total Crashes	Severity			
			Fatal	INJ	PDO	NR
13	Buena Vista Rd/Old Phillips Hill Rd	1	0	1	0	0
14	Old Phillips Hill Rd/Phillips Hill Rd	4	0	0	0	4
22	NY 306/Willow Tree Rd	6	0	5	1	0
23	NY 306/Grandview Avenue	16	0	3	9	4
24	NY 306/Brick Church Rd	13	0	5	4	4
25	Union Rd/Brick Church Rd	6	0	1	5	0
26	Union Rd/Grandview Avenue	17	0	4	12	1
31	New Hempstead Rd/West Clarkstown Rd	6	0	0	3	3
32	New Hempstead Rd/N. & S. Little Tor Rd	35	0	10	6	19
<b>Total</b>		<b>104</b>	<b>0</b>	<b>29</b>	<b>40</b>	<b>35</b>
INJ = Injury PDO = Property Damage Only NR = Non-Reportable, no injury and less than \$1,000 in property damage						

Through robust review of statewide crash data, the Town of Ramapo was identified by the NYSDOT as a Focus Community in the New York State Pedestrian Safety Action Plan (NYS PSAP) dated June 20, 2016. The purpose of the NYS PSAP was to identify safety conditions and provide engineering, education, and enforcement strategies

<sup>21</sup> M.J. Engineering and Land Surveying, P.C. Traffic Impact Study for Northeast Ramapo GEIS

to improve pedestrian safety. Crash data obtained and reviewed as part of the Northeast Ramapo DGEIS noted that 12 crashes involved pedestrians and two crashes involved bicyclists. The data indicates that this area of Ramapo is not experiencing a large number of pedestrian crashes; however, as growth and development occur as part of the proposed growth scenarios, consideration should be given to providing appropriate accommodations for these vulnerable users. The countermeasures identified in the NYS PSAP should be reviewed and implemented as appropriate with development in Northeast Ramapo.

The crash data reviewed is summarized below and is provided in **Appendix F**.

The following is noted regarding the intersection crashes:

1. **US Route 202/NY Route 306/Ladentown Rd** – The 25 crashes at the intersection included 12 rear-end crashes, as well as a mix of right angle, left-turn, overtaking, right-turn, sideswipe and crashes reported as “other”. The crashes were primarily caused by driver error, including driver inattention, following too closely, and failure to yield the right-of-way.
2. **US Route 202/South & North Camp Hill Rd** – The 24 crashes at the intersection included 9 right-angle and 7 rear-end crashes, as well as a mix of left-turn, overtaking, and crashes reported as “other”. The crashes were primarily caused by driver error, including following too closely, driver inattention, failure to yield the right-of-way, improper lane use, and turning improperly.
3. **US Route 202/PIP SB Ramps/Mount Ivy Diner Dwy.** – The 5 crashes at the intersection included 4 left-turn crashes and 1 rear-end crash. The crashes were primarily caused by driver error, including failure to yield the right-of-way, turning improperly, and following too closely.
4. **US Route 202/Thiells-Mount Ivy Rd.** – The 68 crashes at the intersection included 53 rear-end crashes, as well as a mix of overtaking, left-turn, right-angle, right- turn, and unknown crashes/crashes reported as “other”. Of the 53 rear-end crashes, 38 (72%) involved southbound travelling vehicles and were primarily attributed to driver inattention or following too closely. Review of the data shows that all of the intersection crashes were primarily caused by driver error, including driver inattention, following too closely, and failure to yield the right- of-way. It is noted that one of the left-turn crashes at this intersection, which involved a passenger vehicle making a left-turn and a motorcycle going straight, resulted in a fatality. The contributing factors for the fatality included the vehicle failing to yield the right-of-way and the motorcyclist traveling at an unsafe speed.
5. **US Route 202/NY Route 45/Old County Rd.** – The 69 crashes at the intersection included 36 rear-end crashes, 8 right-angle crashes, 8 left-turn crashes, and 6 overtaking crashes. The remaining crashes consisted of a mix of sideswipe, right- turn, head-on, and crashes reported as “other”. The crashes were primarily caused by driver error, including driver inattention, following too closely, and failure to yield the right-of-way. Of the 36 rear-end crashes, 20 (56%) involved northbound travelling vehicles and were attributed to driver inattention or following too closely. It should be noted that one of the “other” crash types involved a collision with a pedestrian which occurred under dark roadway with lighted conditions. The pedestrian was crossing in an unknown direction at the intersection without a signal or crosswalk and was struck by a vehicle travelling southbound, resulting in an injury.
6. **NY Route 45/Old Route 202/Park and Ride Lot** – The 5 crashes at the intersection included 2 rear-end crashes, 2 right-angle crashes, and 1 left-turn crash. The crashes were primarily caused by driver error, including driver inattention, and following too closely.
7. **NY Route 45/South Mountain Rd** – The 11 crashes at the intersection included 7 rear-end crashes, 1 left-turn crash, and 3 crashes reported as “other”. The crashes were primarily caused by driver error, including driver inattention and following too closely. It is also noted that two of the “other” crash types involved

collisions that were caused by animals crossing the road.

8. **NY Route 45/Concklin Rd.** – The 6 crashes that occurred at the intersection included, 2 rear-end crashes, 1 left-turn, 1 overtaking, and 2 crashes reported as “other”. The crashes were primarily caused by driver error including driver inattention, improper lane usage, failure to yield the right-of-way, and following too closely.
9. **NY Route 45/PIP SB Ramps** – The 3 crashes that occurred at the intersection included 2 rear-end collisions and 1 right-angle collision. The crashes were primarily caused by driver error, including following too closely and failure to yield the right-of-way.
10. **Concklin Rd./NB PIP On-Ramp** – The 1 crash that occurred at the intersection was a left-turn collision and was caused by turning improperly.
11. **Concklin Rd./NB PIP Off-Ramp** – The 4 crashes that occurred at the intersection included 2 left-turn crashes, 1 rear-end, and 1 crash reported as “other”, which involved a collision with curbing due to unsafe speed. The left-turn and rear end crashes were caused primarily by driver error, including driver inattention and disregarding the traffic control device.
12. **Concklin Rd./Buena Vista Rd** – The 4 crashes that occurred at the intersection included 1 right-turn crash and 1 sideswipe, and 2 crashes reported as “other”. One involved a collision with a deer due to the animal’s action and the other involved a motorcycle that ran off the road due to the driver’s reaction to an uninvolved vehicle. The right-turn and sideswipe crashes were caused by driver error, including passing improperly/improper lane use and failure to yield the right-of-way.
13. **Buena Vista Rd./Old Phillips Hill Rd.** – The 1 crash that occurred at the intersection was reported as an “other” type of collision. It involved a vehicle hitting a sign post and was caused by an animal’s action.
14. **Old Phillips Hill Rd./Phillips Hill Rd.** – The 4 crashes at the intersection involved 3 rear-end crashes and 1 left-turn crash. The crashes were caused by driver error, including failure to yield the right-of-way, following too closely and backing unsafely.
15. **NY Route 306/Pomona Rd.** – The 4 crashes that occurred at the intersection included 1 left-turn crash, 1 rear-end, 1 right-angle, and 1 crash reported as “other”, which involved a collision with an animal. The crashes were caused by animal’s action, as well as driver error, including failure to yield the right-of-way, following too closely, and turning improperly.
16. **Pomona Rd./McNamara Rd.** – The 1 crash that occurred at the intersection was a right-angle collision, which was caused by failure to yield the right-of-way.
17. **Pomona Rd./Summit Park Rd.** – The 2 crashes that occurred at the intersection included 1 collision with curbing due to reaction to an uninvolved vehicle. The second was a left-turn collision caused by turning improperly.
18. **Summit Park Rd./Sandy Brook Dr.** – No crashes occurred during the data period.
19. **Pomona Rd./Firemans Memorial Dwy.** – Of the 2 crashes that occurred at the intersection, both were reported as “other” for collision type. One involved a driver operating at an unsafe speed who then struck a sign post. The second crash was caused by a vehicle making a left-turn who failed to yield the right-of-way.
20. **NY Route 45/Pomona Rd.** – The 8 crashes that occurred at the intersection included 4 rear-end crashes, 2 right-angle crashes, 1 head on, and 1 sideswipe. The crashes were primarily caused by driver error, including driver inattention, turning improperly/improper lane usage, and driver inexperience.
21. **NY Route 45/Sanatorium Rd.** – The 4 crashes that occurred at the intersection included 2 rear-end

crashes, 1 right-angle, and 1 crash reported as “other”. The crashes were caused primarily by driver error, including driver inattention, disregarding traffic control devices, and following too closely.

22. **NY Route 306/Willow Tree Rd.** – The 6 crashes at the intersection included 2 rear-end crashes, 2 right-turn crashes, and 2 crashes that were reported as “other”. The “other” crashes included one collision with a tree due to slippery pavement conditions and one collision with a bicyclist during the daytime due to a failure to yield the right-of way by the vehicle. The rear-end and right-turn crashes were primarily caused by driver error, including failure to yield the right- of-way, following too closely, and driver inattention/inexperience.
23. **NY Route 306/Grandview Ave.** – The 16 crashes at the intersection included 5 rear-end and 5 right-angle crashes. The remaining crashes were a mix of left- turn, right-turn, overtaking, and crashes with unknown details or reported as “other” for collision type. The crashes were caused by traffic control devices not working, slippery pavement during snowy weather, as well as driver error, including driver inattention and following too closely.
24. **NY Route 306/Brick Church Rd.** – The 13 crashes at the intersection included 4 rear-end crashes and 6 crashes reported as “other” for collision type. It should be noted that one of the “other” crashes involved a collision with a pedestrian during the daytime that was due to driver inattention. The remaining crashes were a mix of left-turn and right-angle crashes. The crashes were primarily caused by driver error, including failure to yield the right-of-way, following too closely, and driver inattention.
25. **Union Rd./Brick Church Rd.** – The 6 crashes at the intersection included 3 right- angle crashes, 2 left-turn crashes, and 1 rear-end crash. The crashes were primarily caused by driver error, including failure to yield the right-of-way, driver inattention, and turning improperly.
26. **Union Rd./Grandview Ave.** – The 17 crashes at the intersection included 8 left- turn crashes and 3 rear-end crashes. The remaining crashes were a mix of right- angle and crashes reported as “other” for collision type. The crashes were primarily caused by driver error, including failure to yield the right-of-way, following too closely, and driver inattention.
27. **New Hempstead Rd./McNamara Rd.** – Of the 21 crashes that occurred at the intersection, 7 were-rear end crashes, 5 were right-angle crashes, and 5 were crashes reported as “other”, two of which involved collisions with fixed objects. The remaining 4 crashes were evenly split between overtaking crashes and left- turn crashes. The primary contributing factors were related to driver error, including driver inattention, failure to yield the right of way, following too closely, and turning improperly.
28. **New Hempstead Rd/Summit Park Rd.** – Of the 11 crashes that occurred at the intersection, 5 were rear-end crashes, 2 were right-angle, 1 was a left-turn, and the remaining crashes were either reported as “other” collision type or unknown. The crashes were primarily caused by driver error, including driver inattention, following too closely, and failure to yield the right-of-way.
29. **NY Route 45/New Hempstead Rd.** – The 31 crashes at the intersection included 12 rear-end crashes and 7 crashes reported as “other” for collision type. Two of the “other” type crashes involved collisions with pedestrians resulting in injuries. One pedestrian crash occurred under dark roadway with lighted conditions and was due to pedestrian error/confusion, while the other occurred under daylight conditions and was due to driver inattention. The remaining crashes were a combination of head on, left-turn, overtaking, right-angle, right-turn sideswipe and unknown. The crashes were primarily caused by driver error, including driver inattention, failure to yield the right-of-way, improper lane use, and following too closely.
30. **New Hempstead Rd./Buena Vista Rd.** – The 17 crashes at the intersection included 10 rear-end crashes. The remaining crashes were a mix of overtaking, sideswipe, and crashes reported as “other”. The crashes

were primarily caused by drivers following too closely.

31. **New Hempstead Rd./W. Clarkstown Rd.** – The 6 crashes at the intersection included 3 rear-end crashes and 1 right-angle crash. The remaining two crashes were reported as “other” for collision type. The crashes were primarily caused by driver error, including following too closely, driver inattention, and failure to yield the right-of way.
32. **New Hempstead Rd./N. & S. Little Tor Rd.** – The 35 crashes at the intersection included 13 rear-end crashes, 7 right-angle crashes, and 7 that were reported as “other” for collision type. It should be noted that one of the “other” crashes involved a collision with a bicyclist during the daytime that was due to both pedestrian error/confusion as well as the vehicle’s failure to yield the right-of way. The remaining crashes included a mix of right-turn, left-turn, and overtaking crashes. The crashes were primarily caused by driver error, including following too closely, failure to yield the right-of-way, traffic control devices disregarded, and driver inattention.

Review of the intersection crash data reveals that of the 430 total intersection crashes, approximately 46% (198) were reported as rear-end collisions. At the US Route 202/Thiells-Mount Ivy Road intersection approximately 70% of the rear-end crashes involved southbound vehicles while at the US Route 202/NY Route 45/Old County Road intersection about 55% of the rear-end crashes involved northbound vehicles. Additionally, two of the crashes at the NY Route 45/New Hempstead Road intersection, where there are no pedestrian accommodations to facilitate crossings, involved pedestrians. Generally, the crash data indicated that the crashes are primarily attributed to driver behaviors like following too closely, inattention, and facility to yield the right-of-way rather than to any physical conditions at the intersections. However, as future conditions are reviewed, mitigation measures that may reduce the potential for crashes will be considered.

## 6.6.2 Potential Impacts

To evaluate potential impacts of development in the proposed Opportunity Areas, the traffic analysis evaluates the conditions in the study area for the year 2040 to reflect the future conditions. Considering no-build conditions and build conditions can help compare the differences in development in the area. Furthermore, a capacity analysis was done with respect to 2019 Existing, 2040 No-Build, and 2040 Build traffic volume conditions and is included below.

### 6.6.2.1 No-Build Conditions

Traffic growth on area roadways is a function of the anticipated land development, environmental resources, and changes in demographics. To estimate the future traffic volumes in the Northeast Ramapo study area and surrounding study area intersections, regression analyses were completed using traffic volume data published by the NYSDOT. Additionally, growth projection information compiled by the New York Metropolitan Transportation Council (NYMTC) which is the local Metropolitan Planning Organization (MPO) for the five boroughs of New York City and Nassau, Putnam, Rockland, Suffolk, and Westchester Counties was reviewed. It is noted that the traffic volume data and growth projections available through NYSDOT and NYMTC represents travel trends prior to the COVID pandemic.

Evaluation of the traffic volume data available through the NYSDOT showed that traffic volumes in the study area are increasing on some roadways and decreasing on others. The information available through NYMTC indicates increased traffic volumes in the study area. It is noted that the NYMTC growth rates are presented by county and roadway classification and are not specific to municipality or roadway. In consideration of the available NYSDOT

and NYMTC data, a growth rate of 0.7% per year was applied to the 2019 Existing traffic volumes for 21 years to represent background growth up to the future 2040 evaluation year.

One large-scale development project located adjacent to the Northeast Ramapo study area was included in the future traffic volume conditions; trips associated with the Patrick Farm Subdivision project located on the south side of US Route 202 west of NY Route 306. The future volumes at this location were based on the most recent development plans prepared that were submitted to the Town. Since the site has not been approved, the future development plans may be different than the previously proposed development plans, but continued interest by the development community to build on this site indicates that there is strong potential for development in the coming years.

The use of a 0.7% per year annual growth rate accommodates other volume growth that may be associated with other development potential in the town and in the adjacent communities.

The 2040 No-Build peak hour traffic volumes, which include both a general background growth rate and site-specific trips, are provided **Appendix F**<sup>22</sup>, representing future traffic volumes in the study area without development.

### 6.6.2.2 Build Conditions

Build traffic volumes were determined by estimating site-generated traffic volumes associated with the most intense, or dense, buildout for the Opportunity Areas and distributing these volumes over the study area roadways.

#### Growth Scenario Traffic Volumes

The Town of Ramapo provided land use information for the build out of the Opportunity Areas. The concentration of land uses was divided into specific areas within the Northeast Ramapo study area based on the proposed Opportunity Areas. Each of these Opportunity Areas are described in more detail within Section 2.0. Each Opportunity Area has a growth potential as presented in Table 6.6-9 below. See **Appendix B** of DGEIS for methodology for determining growth potential. The 25 residential units located outside the Opportunity Areas are not included in the table below. The trips associated with these 25 residential units as part of the background growth.

TABLE 6.6-9 – Opportunity Area Growth Potential <sup>23</sup>					
Land Use	Opportunity Area				
	A	B	C	D	E
Non-Residential (SF)	439,580	138,302	197,518	40,000	15,871
Residential (Units)	144	43	NA	634	252

<sup>22</sup> M.J. Engineering and Land Surveying, P.C. Traffic Impact Study for Northeast Ramapo GEIS Appendix B, Figures 3 and 4

<sup>23</sup> M.J. Engineering and Land Surveying, P.C. Traffic Impact Study for Northeast Ramapo GEIS

To estimate the number of trips associated with the Moderate and High Growth Scenarios, the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition was utilized. The number of vehicle trips generated was based on the following ITE Land Use Codes (LUC):

- LUC 220 – Multi-family Housing (Low-Rise)
- LUC 820 – Shopping Center

The land use codes listed above have the potential to generate the most trips from the list of land uses included in the Final Scoping Document as follows:

- Retail
- Office
- Light Industrial
- Institutional

Institutional land use was also included for Opportunity Area C. This land use is not a permitted use by right in Opportunity Areas A or B. Educational uses anticipated for Northeast Ramapo are intended to primarily serve private religious schools which generate traffic at a different rate than presented by ITE. To accommodate for the area-specific educational trip generation, the Town of Ramapo provided peak hour trip generation rates to use for the educational land use. See TIAS in Appendix F for memo from the Town of Ramapo.

The nature of the proposed growth scenarios includes a mix of land uses within each development or Opportunity Area which results in interactions between land uses in the various growth areas and reduces the number of external trips on the roadway network. Vehicle credits, or trip reductions, were taken to account for the shared trips anticipated within each development area and are shown in Table 6.6-10 as multi-use credits. Due to the anticipated interaction between land uses within the Opportunity Areas, a 15% credit was applied to the vehicular trips for each development or Opportunity Area.

In addition, the Opportunity Areas will be developed with robust internal multimodal connections resulting in greater interaction between land uses and further reduction of external vehicle trips on the roadway network. To account for the anticipated and planned design to increase multimodal travel, a 5% walkability credit was applied to Opportunity Areas A, B, D, and E where the greatest potential exists for pedestrian trips. A walkability credit accounts for residents within a multi-use development to walk to the businesses in the same development which reduces the amount of external vehicular trips generated by the proposed development. The resulting reduction in vehicle trips associated with the walkability credit is shown in Table 6.6-10. The anticipated built environment that will foster pedestrian travel in these areas.

Finally, a number of trips to and from the Opportunity Areas will be pass-by trips; traffic that is already on the existing roadway network and is therefore not a new trip to the study area. For example, a driver that currently travels on US Route 202 to and from work may stop at a new land use in Opportunity Area A or B and then continue home. The pass-by credits were applied to the Shopping Center land use based on information published by ITE.

Table 6.6-10 summarize the overall trip generation estimate for the full buildout. The detailed breakdown of trips by Opportunity Area and development area is included in the Traffic Impact Study for Northeast Ramapo.

**TABLE 6.6-10 – FULL BUILDOUT OVERALL TRIP GENERATION<sup>24</sup>**

Land Use / Credit	Size	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
<b>Land Use</b>							
Shopping Center	816,800 SF	624	383	1,007	1,530	1,658	3,188
Low-Rise Multifamily	1,073 Units	110	367	477	342	201	543
Private School	1,176 Students	256	185	441	185	256	441
<b>Total Trips</b>		<b>990</b>	<b>935</b>	<b>1,925</b>	<b>2,058</b>	<b>2,114</b>	<b>4,172</b>
<b>Credits</b>							
Multi-Use	-15%	-88	-99	-188	-225	-218	-442
Walkability	-5%	-28	-17	-45	-68	-74	-141
Pass-By	-34%	-188	-115	-303	-461	-500	-961
<b>Total Credits</b>		<b>-304</b>	<b>-231</b>	<b>-536</b>	<b>-754</b>	<b>-792</b>	<b>-1,544</b>
<b>Total New Trips</b>		<b>686</b>	<b>704</b>	<b>1,389</b>	<b>1,304</b>	<b>1,322</b>	<b>2,628</b>

As shown in Table 6.6-10, the full buildout is expected to generate 1,925 new vehicle trips during the AM peak hour (990 entering and 935 exiting) and 4,172 new vehicle trips during the PM peak hour (2,058 entering and 2,114 exiting). After applying the multi-use, walkability and pass-by credits, the external roads are expected to see 1,389 trips during the AM peak (686 entering and 704 exiting) and 2,628 trips during the PM peak (1,304 entering and 1,322 exiting).

The multi-use trip credit of 15% was only applied to Opportunity Areas A, B, D, and E. The 5% walkability credit and 35% pass-by credit were applied to the shopping center land uses only after removal of the multi-use credit trips for Opportunity Areas A, B, D, and E.

### Trip Distribution, Assignment, and Build Traffic Volumes

The new trips destined to and from the development and Opportunity Areas will travel to and from other areas of the Town of Ramapo, neighboring municipalities, and will travel between the new development and Opportunity Areas in the northeast section of town. It is estimated that 20% of the total new trips will travel between the development and Opportunity Areas and the remaining 80% will travel to and from areas in other parts of the Town of Ramapo and adjacent municipalities. Table 6.6-11 summarizes the zone to zone and external trips for the full buildout.

<sup>24</sup> M.J. Engineering and Land Surveying, P.C. Traffic Impact Study for Northeast Ramapo GEIS

**TABLE 6.6-11 – ZONE TO ZONE AND EXTERNAL TRIPS<sup>25</sup>**

Description	AM Peak Hour			PM Peak Hour		
	Enter	Exit	Total	Enter	Exit	Total
New Trips	686	704	<b>1,389</b>	1,304	1,322	<b>2,628</b>
Zone to Zone Trips	69	93	<b>162</b>	177	164	<b>341</b>
External Trips	272	371	<b>643</b>	711	657	<b>1,368</b>

The zone-to-zone trips were distributed between the development and Opportunity Areas based on the trip generating potential of each development and Opportunity Area.

External trips were distributed through the rest of the Town of Ramapo and adjacent municipalities based on the existing regional travel patterns. Generally, depending on the development or Opportunity Area, 25% of the external trips will travel to and from the Palisades Interstate Parkway (PIP) and 10% to 20% will travel to and from the northeast, northwest, southeast, southwest, and south. The resulting trip assignment for the Full Buildout during the AM and PM peak hours are illustrated in the Traffic Impact Study for Northeast Ramapo GEIS. An analysis of the moderate growth of the Opportunity Areas was also completed. The moderate growth analysis utilized trip volumes that were approximately 75% of the full build-out.

The Trip Assignment volumes were added to the 2040 No-Build traffic growth volumes to develop the 2040 Build traffic volumes. Figures 8, 9, 11 and 12 illustrate the future Moderate and High Growth Scenario Build traffic volumes, respectively, for the weekday AM and PM peak hours.

### 6.6.2.3 Capacity Analysis

To assess the quality of traffic operations currently and moving forward, intersection capacity analyses were conducted with respect to 2019 Existing, 2040 No-Build, and 2040 Build traffic volume conditions. Capacity analyses provide an indication of how well the roadway facilities serve the traffic demands placed upon them. Roadway operating conditions are classified by calculated Level of Service (LOS). This section addresses intersection operations at the 32 study area intersection locations.

The LOS for an intersection is defined in terms of delay per vehicle and described as a qualitative measure describing operational conditions within a traffic stream, based on service measures such as speed and travel time, freedom to maneuver, traffic interruptions, comfort, and convenience. Levels of service are given letter designations, from A to F, with LOS A representing the best operating condition and LOS F the worst.<sup>26</sup> Table 6.6-12 below provides the ranges of LOS.

<sup>25</sup> M.J. Engineering and Land Surveying, P.C. Traffic Impact Study for Northeast Ramapo GEIS

<sup>26</sup> NYSDOT

**TABLE 6.6-12 – INTERSECTION LEVEL OF SERVICE RANGES<sup>27</sup>**

Level of Service	Unsignalized Intersection Delay (sec/veh)	Signalized Intersection Delay (sec/veh)	Description
A	≤ 10	≤ 10	Excellent
B	> 10 & ≤ 15	> 10 & ≤ 20	Very Good
C	> 15 & ≤ 25	> 20 & ≤ 35	Good
D	> 25 & ≤ 35	> 35 & ≤ 55	Acceptable
E	> 35 & ≤ 50	> 55 & ≤ 80	Poor
F	> 50	> 80	Failing

Generally, overall LOS D or better conditions are representative of desirable operations. However, these operational conditions are not always attainable due to physical constraints limiting the potential to add capacity at an intersection through a roadway network. Governing agencies may also choose to accept a reduced LOS and increased vehicle delays during peak periods to minimize environmental impacts associated with larger intersections. Larger intersections (intersections with more approach lanes) also take longer for pedestrians to navigate, thereby increasing pedestrian exposure time to vehicle conflict and reducing safety.

### 2019 Existing Conditions

To understand the LOS with development first, the existing 2019 LOS needs to be addressed. As shown in Table 6.6-13, the study intersections generally operate at LOS D or better. It is noted that nine (9) study area intersections operate with LOS E or F conditions, which only two (2) are located within the Northeast Ramapo Study Area. The following is noted regarding the intersections that operate with LOS E or F conditions and longer average vehicle delays under existing conditions:

- **Intersection 3** – US Route 202/PIP SB Ramps and Mount Ivy Diner Driveway is a traffic signal controlled intersection located in the Northeast Ramapo study area. The intersection operates at overall LOS F during the AM and PM peak hours.
- **Intersection 24** – NY Route 306/Brick Church Road is located in the Town of Ramapo but outside of the Northeast Ramapo study area. It is a three-leg intersection with stop control on the westbound Brick Church Road approach. The Brick Church Road approach to the intersection operates at LOS F during the AM peak hour and LOS E during the PM peak hour.
- **Intersection 26** – Union Road (CR 80)/Grandview Avenue is located in the Town of Ramapo but outside of the Northeast Ramapo study area. It is a three-leg intersection with stop control on the eastbound Grandview Avenue approach. The Grandview Avenue approach to the intersection operates at LOS F during the AM peak hour and LOS E during the PM peak hour.

<sup>27</sup> M.J. Engineering and Land Surveying, P.C. Traffic Impact Study for Northeast Ramapo GEIS

**TABLE 6.6-13– OVERALL INTERSECTION LOS TABLE  
2019 EXISTING CONDITIONS <sup>28</sup>**

Intersection / Movement		AM Peak Hour	PM Peak Hour
1	US 202/NY 306/Ladentown Rd (Signal)	6.6 (A)	6.5 (A)
2	US 202/South & North Camp Hill Rd (Signal)	10.7 (B)	7.7 (A)
3	US 202/PIP SB Ramps/Mount Ivy Diner Dwy (Signal)	100 (F)	101.1 (F)
4	Thiells-Mount Ivy Rd/US 202 (Signal)	32.6 (C)	40.1 (D)
5	NY 45/US 202/Old County Rd (Signal)	52.3 (D)	46 (D)
6	NY 45/Old Route 202/Park and Ride Lot (Signal)	9.8 (A)	7.6 (A)
7	NY 45/South Mountain Rd (Side Street Stop Controlled)		
	South Mountain Road WB LT	19.8 (C)	22.1 (C)
	South Mountain Road WB RT	10.7 (B)	14.8 (B)
8	NY 45/Concklin Rd (Signal)	16.4 (B)	17.9 (B)
9	NY 45/PIP SB Ramps (Signal)	3.3 (A)	1.6 (A)
10	Concklin Rd/NB PIP On-Ramp	No Controlled Approach	
11	Concklin Rd/NB PIP Off-Ramp (Side Street Stop Controlled)		
	PIP NB Off-Ramp EB LT/RT	13.3 (B)	19.5 (C)
12	Concklin Rd/Buena Vista Rd (Side Street Stop Controlled)		
	Concklin Rd EB LT	9.1 (A)	9 (A)
	Concklin Rd EB RT	9.1 (A)	8.7 (A)
13	Buena Vista Rd/Old Phillips Hill Rd (Side Street Stop Controlled)		
	Old Phillips Rd WB LT/RT	10.2 (B)	9.5 (A)
14	Old Phillips Hill Rd/Phillips Hill Rd (Side Street Stop Controlled)		
	Old Phillips Hill Rd EB LT/RT	13.5 (B)	12 (B)
15	NY 306/Pomona Rd (Side Street Stop Controlled)		
	Pomona Rd WB LT/RT	17.5 (C)	19.9 (C)
16	Pomona Rd/McNamara Rd (Side Street Stop Controlled)		
	McNamara Rd NB LT/RT	10.6 (B)	10.1 (B)
17	Pomona Rd/Summit Park Rd (Two-Way Stop Controlled)		
	Summit Park Rd NB LT/TH/RT	14.8 (B)	13.4 (B)
	Golf Course Dwy SB LT/TH/RT	13.8 (B)	13.1 (B)
18	Summit Park Rd/Sandy Brook Dr (All-Way Stop Controlled)	8.1 (A)	7.3 (A)
19	Pomona Rd/Firemans Memorial Dwy (Side Street Stop Controlled)		
	Firemans Memorial Dr SB LT/RT	14.9 (B)	18.9 (C)
20	NY 45/Pomona Rd (Signal)	10.4 (B)	13 (B)
21	NY 45/Sanatorium Rd (Signal)	5.7 (A)	11 (B)
22	NY 306/Willow Tree Rd (Signal)	5.7 (A)	11.5 (B)
23	NY 306/Grandview Avenue (Signal)	15.5 (B)	11.8 (B)
24	NY 306/Brick Church Rd (Two-Way Stop Controlled)		

<sup>28</sup> M.J. Engineering and Land Surveying, P.C. Traffic Impact Study for Northeast Ramapo GEIS

**TABLE 6.6-13– OVERALL INTERSECTION LOS TABLE  
2019 EXISTING CONDITIONS <sup>28</sup>**

Intersection / Movement		AM Peak Hour	PM Peak Hour
	Brick Church Rd WB LT/RT	287.7 (F)	40.2 (E)
25	Union Rd/Brick Church Rd (All-Way Stop Controlled)	44.5 (E)	14.4 (B)
26	Union Rd/Grandview Avenue (Two-Way Stop Controlled)		
	Grandview Ave EB LT/RT	157.5 (F)	46.8 (E)
27	New Hempstead Rd/McNamara Rd (Side Street Stop Controlled)		
	McNamara Rd EB LT/RT	32.7 (D)	21.1 (C)
28	New Hempstead Rd/Summit Park Rd (Signal)	14.7 (B)	11.8 (B)
29	NY 45/New Hempstead Rd (Signal)	24.7 (C)	20.5 (C)
30	New Hempstead Rd/Buena Vista Rd (Signal)	12.8 (B)	11.3 (B)
31	New Hempstead Rd/West Clarkstown Rd (Signal)	10.1 (B)	9.1 (A)
32	New Hempstead Rd/N. & S. Little Tor Rd (Signal)	24.7 (C)	22.7 (C)
Note: AM/PM Peak Hour values: Delay in seconds (LOS)			

### 2040 No-Build Conditions

As noted previously the future 2040 No-Build traffic volumes represent a 0.7% per year background growth rate including the Patrick Farms project located along US Route 202. The mitigation measures needed to accommodate the future No-Build growth are summarized below:

- **Intersection 3** – US Route 202/PIP SB Ramps and Mount Ivy Diner Driveway is a traffic signal controlled intersection located in the Northeast Ramapo study area. Improvements include signal timing adjustments and additional thru lanes for both eastbound and westbound US Route 202.
- **Intersection 4** – Thiells-Mount Ivy Road (CR 47)/US Route 202 is a traffic signal controlled intersection located in the Town of Haverstraw, which is outside of the Northeast Ramapo study area. Improvements include signal timing and phasing adjustments, additional westbound thru lane, and a southbound left turn lane.
- **Intersection 5** – NY 45/US 202/Old County Rd (Signal) is a traffic signal controlled intersection located in the Town of Haverstraw, which is outside of the Northeast Ramapo study area. Improvements include signal timing and phasing adjustments and additional thru lanes for eastbound and westbound US Route 202.
- **Intersection 6** – NY 45/Old Route 202/Park and Ride Lot is a traffic signal controlled intersection located in the Town of Haverstraw, which is outside of the Northeast Ramapo study area. Improvements include signal timing adjustments.
- **Intersection 8** – NY 45/Concklin Rd is a traffic signal controlled intersection located in the Northeast Ramapo study area. Improvements include signal timing adjustments.
- **Intersection 9** – NY 45/PIP SB Ramps is a traffic signal controlled intersection located in the Northeast Ramapo study area. Improvements include signal timing adjustments.
- **Intersection 20** – NY 45/Pomona Rd is a traffic signal controlled intersection located in the Northeast Ramapo study area. Improvements include signal timing adjustments.

- **Intersection 21** – NY 45/Sanatorium Rd is a traffic signal controlled intersection located in the Northeast Ramapo study area. Improvements include signal timing adjustments.
- **Intersection 22** – NY 306/Willow Tree Rd is a traffic signal controlled intersection located in the Town of Ramapo but outside of the Northeast Ramapo study area. Improvements include increase storage length of southbound left-turn lane.
- **Intersection 23** – NY 306/Grandview Avenue is a traffic signal controlled intersection located in the Town of Ramapo but outside of the Northeast Ramapo study area. Improvements include signal timing adjustments.
- **Intersection 24** – NY Route 306/Brick Church Road is located in the Town of Ramapo but outside of the Northeast Ramapo study area. It is a three-leg intersection with stop control on the westbound Brick Church Road approach. Improvements include installation of a traffic signal and the addition of a southbound left turn lane.
- **Intersection 25** – Union Road (CR 80)/Brick Church Road is located in the Town of Ramapo but outside of the Northeast Ramapo study area. It is a four-leg intersection operating with all-way stop control. Improvements include installation of a traffic signal and the addition of an eastbound right turn lane.
- **Intersection 26** – Union Road (CR 80)/Grandview Avenue is located in the Town of Ramapo but outside of the Northeast Ramapo study area. It is a three-leg intersection with stop control on the eastbound Grandview Avenue approach. Improvements include installation of a traffic signal and the addition of an eastbound right turn lane.
- **Intersection 27** – New Hempstead Road (CR 80)/McNamara Road (CR 67) is located in the Town of Ramapo but outside of the Northeast Ramapo study area. It is a three-leg intersection with stop control on the eastbound McNamara Road approach. Improvements include the addition of right turn lane to the eastbound and southbound approaches.
- **Intersection 29** – NY 45/New Hempstead Rd is a traffic signal controlled intersection located in the Northeast Ramapo study area. Improvements include signal timing adjustments.
- **Intersection 31** – New Hempstead Rd/West Clarkstown Rd is a traffic signal controlled intersection located in the Town of Ramapo but outside of the Northeast Ramapo study area. Improvements include increase storage length of westbound left-turn lane.

As shown in Table 6.6-14, with the identified mitigation measures, the intersections noted above will operate with generally good levels of service under the No-Build conditions. The following is noted regarding the intersections that operate with LOS E or F conditions and longer delays under the No-Build conditions where mitigation is not identified:

- **Intersection 15** – NY Route 306/New Pomona Road (CR 86) is located in the Town of Ramapo but outside of the Northeast Ramapo study area. It is a three-leg intersection with stop control on the westbound New Pomona Road approach. The New Pomona Road approach to the intersection operates at LOS D during the AM peak hour and LOS E at 36.2 seconds of delay during the PM peak hour. This delay is considered acceptable, and the longer delays are limited to a single peak hour; therefore, no mitigation recommended.
- **Intersection 17** – Pomona Road (CR 86)/Summit Park Road/Golf Course Driveway is a two-way stop-controlled intersection located in the Northeast Ramapo study area. The northbound Summit Park Road approach operates at LOS C during the AM peak hour and LOS E and 38.1 seconds of delay during the PM peak hour. This delay is considered acceptable, and the longer delays are limited to a single peak hour;

therefore, no mitigation recommended.

**TABLE 6.6-14 – OVERALL INTERSECTION LOS TABLE  
2040 NO-BUILD CONDITIONS<sup>29</sup>**

Intersection / Movement	2040 No-Build		2040 No-Build w/ Imp.	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1 US 202/NY 306/Ladentown Rd (Signal)	7.7 (A)	7.4 (A)	7.7 (A)	7.4 (A)
2 US 202/South & North Camp Hill Rd (Signal)	15.4 (B)	9.2 (A)	11.8 (B)	9.2 (A)
3 US 202/PIP SB Ramps/Mount Ivy Diner Dwy (Signal)	145.7 (F)	172.1 (F)	25.1 (C)	25.3 (C)
4 Thiells-Mount Ivy Rd/US 202 (Signal)	56.8 (E)	54.9 (D)	16 (B)	25.7 (C)
5 NY 45/US 202/Old County Rd (Signal)	77.3 (E)	72.7 (E)	43 (D)	43.8 (D)
6 NY 45/Old Route 202/Park and Ride Lot (Signal)	10.8 (B)	9.2 (A)	11 (B)	9.3 (A)
7 NY 45/South Mountain Rd (Side Street Stop Controlled)				
South Mountain Road WB LT	24.2 (C)	28.9 (D)	24.2 (C)	28.9 (D)
South Mountain Road WB RT	11.2 (B)	16.8 (C)	11.2 (B)	16.8 (C)
8 NY 45/Concklin Rd (Signal)	17.9 (B)	18.9 (B)	19.6 (B)	17.8 (B)
9 NY 45/PIP SB Ramps (Signal)	3.6 (A)	1.7 (A)	5.6 (A)	5.4 (A)
10 Concklin Rd/NB PIP On-Ramp	No Controlled Approach		No Controlled Approach	
11 Concklin Rd/NB PIP Off-Ramp (Side Street Stop Controlled)				
PIP NB Off-Ramp EB LT/RT	15.4 (C)	31.1 (D)	15.4 (C)	31.1 (D)
12 Concklin Rd/Buena Vista Rd (Side Street Stop Controlled)				
Concklin Rd EB LT	9.1 (A)	9 (A)	9.1 (A)	9 (A)
Concklin Rd EB RT	9.2 (A)	8.8 (A)	9.2 (A)	8.8 (A)
13 Buena Vista Rd/Old Phillips Hill Rd (Side Street Stop Controlled)				
Old Phillips Rd WB LT/RT	10.6 (B)	10 (A)	10.6 (B)	9.7 (A)
14 Old Phillips Hill Rd/Phillips Hill Rd (Side Street Stop Controlled)				
Old Phillips Hill Rd EB LT/RT	15.1 (C)	12.9 (B)	15.1 (C)	12.9 (B)
15 NY 306/Pomona Rd (Side Street Stop Controlled)				
Pomona Rd WB LT/RT	28.5 (D)	36.2 (E)	28.5 (D)	36.2 (E)
16 Pomona Rd/McNamara Rd (Side Street Stop Controlled)				
McNamara Rd NB LT/RT	11.3 (B)	10.5 (B)	11.3 (B)	10.5 (B)
17 Pomona Rd/Summit Park Rd (Two-Way Stop Controlled)				
Summit Park Rd NB LT/TH/RT	17.7 (C)	38.1 (E)	17.7 (C)	38.1 (E)
Golf Course Dwy SB LT/TH/RT	15.7 (C)	28.5 (D)	15.7 (C)	28.5 (D)
18 Summit Park Rd/Sandy Brook Dr (All-Way Stop Controlled)	8.2 (A)	7.2 (A)	8.2 (A)	7.2 (A)
19 Pomona Rd/Firemans Memorial Dwy (Side Street Stop Controlled)				

<sup>29</sup> M.J. Engineering and Land Surveying, P.C. Traffic Impact Study for Northeast Ramapo GEIS

**TABLE 6.6-14 – OVERALL INTERSECTION LOS TABLE  
2040 NO-BUILD CONDITIONS<sup>29</sup>**

Intersection / Movement	2040 No-Build		2040 No-Build w/ Imp.	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Firemans Memorial Dr SB LT/RT	17.7 (C)	27.3 (D)	17.7 (C)	27.3 (D)
20 NY 45/Pomona Rd (Signal)	12.9 (B)	15.2 (B)	21.9 (C)	21 (C)
21 NY 45/Sanatorium Rd (Signal)	10.3 (B)	11.8 (B)	12.3 (B)	15.1 (B)
22 NY 306/Willow Tree Rd (Signal)	14.7 (B)	12.4 (B)	14.7 (B)	12.4 (B)
23 NY 306/Grandview Avenue (Signal)	42.6 (D)	17.2 (B)	24 (C)	17 (B)
24 NY 306/Brick Church Rd (Two-Way Stop Controlled) (Improvement = Signal Install)			28.2 (C)	16.6 (B)
Brick Church Rd WB LT/RT	766.7 (F)	150.8 (F)		
25 Union Rd/Brick Church Rd (All-Way Stop Controlled)	96.8 (F)	19.6 (C)	11.1 (B)	9.2 (A)
26 Union Rd/Grandview Avenue (Two-Way Stop Controlled) (Improvement = Signal Install)			17.3 (B)	11 (B)
Grandview Ave EB LT/RT	408 (F)	121.6 (F)		
27 New Hempstead Rd/McNamara Rd (Side Street Stop Controlled)				
McNamara Rd EB LT/RT	69.4 (F)	29.8 (D)		
McNamara Rd EB LT			59.1 (F)	28.5 (D)
McNamara Rd EB RT			12.9 (B)	12.5 (B)
28 New Hempstead Rd/Summit Park Rd (Signal)	18.5 (B)	12.6 (B)	18.5 (B)	12.6 (B)
29 NY 45/New Hempstead Rd (Signal)	36.4 (D)	26.2 (C)	29.5 (C)	28 (C)
30 New Hempstead Rd/Buena Vista Rd (Signal)	17.3 (B)	15.7 (B)	17.3 (B)	15.7 (B)
31 New Hempstead Rd/West Clarkstown Rd (Signal)	13 (B)	10.8 (B)	13 (B)	10.8 (B)
32 New Hempstead Rd/N. & S. Little Tor Rd (Signal)	28.1 (C)	25.6 (C)	22.2 (C)	19.2 (B)
Notes: AM/PM Peak Hour values: Delay in seconds (LOS)				
■ – Denotes intersections with no recommended improvements				

### 2040 Build Conditions

The existing volumes were grown to the year 2040 with additional traffic for other projects around the study area included to determine the 2040 No-Build volumes. The 2040 Build volumes were derived from distributing the anticipated trips through the study area intersections and adding those volumes to the 2040 No-Build volumes for the Northeast Ramapo study area. The background growth rate used to project the volumes was 0.7%. Table 6.6-15 summarizes the results of the analysis of the 2040 Build and Build with improvement conditions. The Build model includes the mitigation required for the No-Build model and the Build with Improvements model includes the additional mitigation required to improve operations and maintain LOS D for the overall intersection or for intersection approaches controlled by a stop sign. The additional mitigation measures identified to accommodate the full buildout traffic volumes are summarized below.

- **Intersection 1** – US Route 202/NY Route 306/Ladentown Road – No additional improvements (Town Study Intersection)
- **Intersection 2** – US Route 202/South and North Camp Hill Road – Add eastbound and westbound left-turn lanes with protected signal phasing (Northeast Study Area Intersection)
- **Intersection 3** – US Route 202/PIP SB Ramps and Mount Ivy Diner Driveway – Increase storage lane length for eastbound left-turn lane (Northeast Study Area Intersection)
- **Intersection 4** – Thiells-Mount Ivy Road (CR 47)/US Route 202 – No additional improvements (External Study Intersection)
- **Intersection 5** – NY 45/US 202/Old County Rd (Signal) – No additional improvements (External Study Intersection)
- **Intersection 6** – NY 45/Old Route 202/Park and Ride Lot – No additional improvements (External Study Intersection)
- **Intersection 7** – NY Route 45/South Mountain Road – No additional improvements (Northeast Study Area)
- **Intersection 8** – NY 45/Concklin Rd – Add southbound left-turn lane with protected/permissive phasing and additional signal timing adjustments (Northeast Study Area)
- **Intersection 9** – NY 45/PIP SB Ramps – Add southbound right-turn lane and additional signal timing adjustments (Northeast Study Area)
- **Intersection 10** – Concklin Road/Northbound PIP On-Ramp – Install traffic signal clustered with Intersection 11 (Northeast Study Area)
- **Intersection 11** – Concklin Road/Northbound PIP Off-Ramp – Install traffic signal clustered with Intersection 10 (Northeast Study Area)
- **Intersection 12** – Concklin Road/Buena Vista Road – No additional improvements (Northeast Study Area)
- **Intersection 13** – Buena Vista Road/Old Phillips Hill Road – No additional improvements (Northeast Study Area)
- **Intersection 14** – Old Phillips Hill Road/Phillips Hill Road – No additional improvements (Northeast Study Area)
- **Intersection 15** – NY Route 306/New Pomona Road (CR 86) – Change intersection control to all-way stop controlled and add northbound right-turn lane (Town Study Intersection)
- **Intersection 16** – Pomona Road (CR 86)/McNamara Road (CR 67) – No additional improvements (Town Study Intersection)
- **Intersection 17** – Pomona Road (CR 86)/Summit Park Road/Golf Course Driveway – Install traffic signal (Northeast Study Area)
- **Intersection 18** – Summit Park Road/Sandy Brook Drive/Visions Center on Blindness Driveway – No additional improvements (Town Study Intersection)
- **Intersection 19** – Pomona Road (CR 86)/Firemans Memorial Drive – Install traffic signal coordinated with Intersection 20 (Northeast Study Area)
- **Intersection 20** – NY 45/Pomona Rd – Add additional eastbound left-turn lane and add second travel lane between Intersections 20 and 9 (Northeast Study Area)

- **Intersection 21** – NY 45/Sanatorium Rd – Install traffic signal head for westbound approach and signal timing adjustments (Northeast Study Area)
- **Intersection 22** – NY 306/Willow Tree Rd – Signal timing adjustments (Town Study Intersection)
- **Intersection 23** – NY 306/Grandview Avenue – Signal timing adjustments, add eastbound left-turn lane, increase northbound left-turn lane storage, and increase southbound left-turn lane storage (Town Study Intersection)
- **Intersection 24** – NY Route 306/Brick Church Road – increase storage length for southbound left-turn lane (Town Study Intersection)
- **Intersection 25** – Union Road (CR 80)/Brick Church Road – No additional improvements (Town Study Intersection)
- **Intersection 26** – Union Road (CR 80)/Grandview Avenue – Traffic signal timing adjustments and add eastbound right-turn lane (Town Study Intersection)
- **Intersection 27** – New Hempstead Road (CR 80)/McNamara Road (CR 67) – Add eastbound and southbound right-turn lanes (Town Study Intersection)
- **Intersection 28** – New Hempstead Road (CR 80)/Summit Park Road/Hempstead Road – Traffic signal timing adjustments (Town Study Intersection)
- **Intersection 29** – NY 45/New Hempstead Rd – Increase eastbound left-turn lane storage, add eastbound right turn lane, increase northbound left-turn lane storage, add northbound right turn lane, add westbound right-turn lane, and increase southbound left-turn lane storage (Northeast Study Area)
- **Intersection 30** – New Hempstead Road (CR 80)/Buena Vista Road/Ramclark Lane – Increase eastbound left-turn lane storage (External Study Intersection)
- **Intersection 31** – New Hempstead Rd/West Clarkstown Rd – Increase westbound left-turn lane storage (External Study Intersection)
- **Intersection 32** – New Hempstead Road (CR 80)/North & South Little Tor Road (CR 33) – Traffic signal timing adjustments (External Study Intersection)

It is noted that due to the large increase in traffic volumes associated with the full buildout, even with the many changes identified above, the following intersections will still operate at LOS E/F conditions:

- **Intersection 5** – NY 45/US 202/Old County Rd (Signal) (External Study Intersection) – The overall intersection operates at LOS E and F during the AM and PM peak hours. Given the proximity to local properties and other intersections, improvements are not feasible without major reconstruction and relocation of property owners. These operations will likely be restricted to the peak hours.
- **Intersection 7** – NY Route 45/South Mountain Road (Northeast Study Area) – The South Mountain Road left-turn is anticipated to operate at LOS F during both the AM and PM peak hours and the right-turn at LOS E during the PM peak hour. This condition is likely to be restricted to the peak hours of operation and any improvements would impact the vehicular traffic along NY Route 45 without providing substantial decrease in delay.
- **Intersection 27** – New Hempstead Road (CR 80)/McNamara Road (CR 67) (Town Study Intersection) – The McNamara Road left-turn is anticipated to operate at LOS F and E during the AM and PM peak hours respectively. This condition is likely to be restricted to the peak hours of operation.

Many of the identified mitigation measures require coordination with the New York State Department of Transportation, Rockland County, and Villages within the Town of Ramapo and are located outside of the Northeast Ramapo study area.

**TABLE 6.6-15 – OVERALL INTERSECTION LOS TABLE  
2040 BUILD CONDITIONS<sup>30</sup>**

Intersection / Movement		2040 Build		2040 Build w/ Imp	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1	US 202/NY 306/Ladentown Rd (Signal)	9 (A)	10.6 (B)	9 (A)	10.6 (B)
2	US 202/South & North Camp Hill Rd (Signal)	15.5 (B)	17.5 (B)	13.4 (B)	12.3 (B)
3	US 202/PIP SB Ramps/Mount Ivy Diner Dwy (Signal)	25.6 (C)	24.5 (C)	25.6 (C)	24.5 (C)
4	Thiells-Mount Ivy Rd/US 202 (Signal)	17 (B)	27.7 (C)	17 (B)	27.7 (C)
5	NY 45/US 202/Old County Rd (Signal)	56.6 (E)	92.8 (F)	56.6 (E)	92.8 (F)
6	NY 45/Old Route 202/Park and Ride Lot (Signal)	12.5 (B)	10.7 (B)	12.5 (B)	10.7 (B)
7	NY 45/South Mountain Rd (Side Street Stop Controlled)				
	South Mountain Road WB LT	97.4 (F)	296.2 (F)	97.4 (F)	296.2 (F)
	South Mountain Road WB RT	16.9 (C)	38.5 (E)	16.9 (C)	38.5 (E)
8	NY 45/Concklin Rd (Signal)	37 (D)	606 (F)	26.8 (C)	31.9 (C)
9	NY 45/PIP SB Ramps (Signal)	60.1 (E)	37.1 (D)	28.2 (C)	5.3 (A)
10	Concklin Rd/NB PIP On-Ramp (Improvement = Signal Install)			4.4 (A)	7.8 (A)
11	Concklin Rd/NB PIP Off-Ramp (Side Street Stop Controlled) (Improvement = Signal Install)			12 (B)	20.6 (C)
	PIP NB Off-Ramp EB LT/RT	21 (C)	94.2 (F)		
12	Concklin Rd/Buena Vista Rd (Side Street Stop Controlled)				
	Concklin Rd EB LT	9.2 (A)	9.2 (A)	9.2 (A)	9.2 (A)
	Concklin Rd EB RT	9.3 (A)	9 (A)	9.3 (A)	10.4 (B)
13	Buena Vista Rd/Old Phillips Hill Rd (Side Street Stop Controlled)				
	Old Phillips Rd WB LT/RT	11.4 (B)	10.4 (B)	11.4 (B)	10.4 (B)
14	Old Phillips Hill Rd/Phillips Hill Rd (Side Street Stop Controlled)				
	Old Phillips Hill Rd EB LT/RT	15.9 (C)	13.6 (B)	15.9 (C)	13.6 (B)
15	NY 306/Pomona Rd (Side Street Stop Controlled) (Improvement = Signal Install)			14.1 (B)	20.8 (C)
	Pomona Rd WB LT/RT	76.3 (F)	302.8 (F)		
16	Pomona Rd/McNamara Rd (Side Street Stop Controlled)				
	McNamara Rd NB LT/RT	12.3 (B)	11.8 (B)	12.3 (B)	11.8 (B)
17	Pomona Rd/Summit Park Rd (Two-Way Stop Controlled) (Improvement = Signal Install)			7.5 (A)	7.2 (A)
	Summit Park Rd NB LT/TH/RT	28.6 (D)	35.1 (E)		
	Golf Course Dwy SB LT/TH/RT	42 (E)	51 (F)		
18	Summit Park Rd/Sandy Brook Dr (All-Way Stop Controlled)	8.3 (A)	7.3 (A)	8.3 (A)	7.3 (A)

<sup>30</sup> M.J. Engineering and Land Surveying, P.C. Traffic Impact Study for Northeast Ramapo GEIS

**TABLE 6.6-15 – OVERALL INTERSECTION LOS TABLE  
2040 BUILD CONDITIONS<sup>30</sup>**

Intersection / Movement	2040 Build		2040 Build w/ Imp	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
19 Pomona Rd/Firemans Memorial Dwy (Side Street Stop Controlled) (Improvement = Signal Install)			5.5 (A)	8.4 (A)
Firemans Memorial Dr SB LT/RT	27.9 (D)	160 (F)		
20 NY 45/Pomona Rd (Signal)	54.9 (D)	49.3 (D)	12.7 (B)	16.3 (B)
21 NY 45/Sanatorium Rd (Signal)	13.4 (B)	18.2 (B)	11.2 (B)	17.4 (B)
22 NY 306/Willow Tree Rd (Signal)	17.4 (B)	13.9 (B)	16.1 (B)	13.9 (B)
23 NY 306/Grandview Avenue (Signal)	33.3 (C)	29.6 (C)	18.4 (B)	16.6 (B)
24 NY 306/Brick Church Rd (Two-Way Stop Controlled)	33.5 (C)	24.5 (C)	21.8 (C)	19.2 (B)
25 Union Rd/Brick Church Rd (All-Way Stop Controlled)	11.5 (B)	9.6 (A)	11.5 (B)	9.6 (A)
26 Union Rd/Grandview Avenue (Two-Way Stop Controlled)	23.9 (C)	14.7 (B)	22.3 (C)	12.9 (B)
27 New Hempstead Rd/McNamara Rd (Side Street Stop Controlled)				
McNamara Rd EB LT	84 (F)	39.3 (E)	84 (F)	36.4 (E)
McNamara Rd EB RT	13.6 (B)	13.5 (B)	13.6 (B)	13.3 (B)
28 New Hempstead Rd/Summit Park Rd (Signal)	21.5 (C)	13.5 (B)	16.8 (B)	13.5 (B)
29 NY 45/New Hempstead Rd (Signal)	45.3 (D)	116.2 (F)	31.9 (C)	34.9 (C)
30 New Hempstead Rd/Buena Vista Rd (Signal)	23 (C)	28 (C)	16.8 (B)	15.7 (B)
31 New Hempstead Rd/West Clarkstown Rd (Signal)	16.5 (B)	17.3 (B)	16.5 (B)	17.3 (B)
32 New Hempstead Rd/N. & S. Little Tor Rd (Signal)	24.2 (C)	21 (C)	22.6 (C)	19.9 (B)
Notes: AM/PM Peak Hour values: Delay in seconds (LOS)				
■ – Denotes intersections with no recommended improvements				

### 6.6.3 Mitigation

While future development was identified within the Full Environmental Assessment Form (EAF) as having a potentially moderate to large impact on transportation systems, through the thorough evaluation documented within this DGEIS, it is anticipated that any adverse impacts would be minimized through mitigation measures discussed below.

The areas of potential development include Opportunity Areas identified by the Town. To accommodate the vehicle traffic associated with the full buildout of the Opportunity Areas, mitigation measures are required to maintain acceptable operations at most of the study intersections. The mitigation measures summarized below are limited to the study intersections under the jurisdiction of the Town of Ramapo. There are three intersections where improvements were not proposed since the benefit was not substantial enough when compared to the cost of improvements or the reduced operations is likely restricted to the peak hours. It is noted that mitigation measures that increase capacity and reduce vehicle delays help to improve general response time for emergency

vehicles. The “fair share” principles embraced in the 2004 Comprehensive Plan should continue to apply to needed infrastructure improvements that result from the Northeast Development Plan.

### **Multimodal Accommodations**

The trip generation estimates for the full buildout include passenger vehicle trip reductions associated with walkability. Specific facilities for pedestrians should be constructed with all new development. The type of accommodation will vary depending on the traffic volume, travel speed, and classification of the adjacent roadway. Generally, sidewalks are the preferred facility for pedestrians to physically separate pedestrian traffic from vehicular traffic. On low volume, low speed roadways, pedestrians can safely share the road with vehicles which minimizes the overall corridor width and the environmental impacts associated with the construction of impervious surfaces. Bicyclists have different needs than pedestrians and should be accommodated differently. On low volume, low travel speed roadways bicyclists can share the road with vehicles. Bicyclists can also share the roadway with vehicles when the travel speeds and traffic volumes are higher than those for pedestrians. Pedestrian and bicycle facilities should be constructed as part of the proposed developments along the frontage to the extent practicable with an overall Town plan to provide connection to other facilities throughout the Town and provide a comprehensive and cohesive network for all modes of travel.

All transit improvements should be coordinated with Transport of Rockland. Generally, transit recommendations associated with the full buildout includes provision of bus stops with shelters and benches at higher density locations that develop along existing routes. Typically, transit providers prefer to avoid detouring from the main travel route; however, as each growth area develops, the Town and applicant should coordinate with Transport of Rockland to confirm placement of bus stops and the potential for bus routes to be modified to detour into the high-density Opportunity Areas.

### **Transportation Demand Management**

Transportation Demand Management (TDM) is a collection of strategies designed to reduce automobile trips, roadway congestion, and parking demand by redirecting travel towards other modes, times, and routes. TDM programs often focus on strategies to reduce vehicle demand on roadways by increasing the use of modes other than single occupancy vehicle trips. However, TDM programs can also involve changing commuter’s traveling behavior by improving attitudes toward transit, carpooling, vanpooling, biking, walking, and work routine schedules (e.g., telecommuting and flex scheduling).

The Town can support alternative modes, such as biking and walking, by encouraging the construction of sidewalks, bicycle and pedestrian trails, and designated bike routes along existing and future streets. Roadways that experience a high level of pedestrian activity, NY Route 45 for example, would benefit from these initiatives along with streets with a significant number of synagogues.

Improvements to mass transit scheduling, service, and facilities has the potential to elevate utilization. The Town should work with the County to promote Park-and-Ride lots with good pedestrian connection and evaluate streets and residential areas near bus stops to ensure there are sufficient linkages to these locations.

Promoting more land use patterns which will use transportation systems most effectively and efficiently to minimize potential additional congestion like multi-use sites that will reduce the need for residents to travel outside of the development. For trips required outside of these developments, consideration for multimodal transportation provided to the site should be included early on in any planning or development process.

## Special Events

Special events present their own specific non-recurring congestion from concentrated traffic volumes that can significantly impact the roadways surrounding the locations of said events. The Town should require a site and event specific Event Traffic Management Plan (ETMP) for events within Northeast Ramapo that have the potential to create unacceptable traffic conditions. The ETMP should consider the volume of vehicular traffic and the efficient ingress and egress. Not all events will require both ingress and egress plans due to the event-specific arrival and departure patterns. The requirements for and composition of an ETMP should be determined on a case-by-case basis.

## School Bussing Systems

Operational changes that assist districts and private providers in providing a more efficient and cost-effective bussing system would also aid in alleviating the impact on congestion. School bus routes have the potential to impact the operational characteristics of the roadways they use and any improvement in operational efficiency will benefit the other roadway users. Technology can be used to track the routes, and when students board and exit the bus. This tracking data can be vital to allowing the bus system managers to optimize the bus routes by reducing time idling and driving without students on board. There are new software systems being developed all the time that can accomplish the task of developing bus routes that are most efficient. This, in conjunction with other technology that enables system managers to collect, analyze, and use the data to improve operational efficiency.

## Other Roadway Improvements

Any new traffic signals should include marked crosswalks, pedestrian indicators and countdown timers with both pushbutton activation and passive activation. All sidewalks, ramps, and detectable warning should be compliant with the most recent Americans with Disabilities Act (ADA) guidelines. Transit riders should be accommodated with bus stops with shelters and benches at traffic signal controlled intersections in coordination with Transport of Rockland.

It is noted that any changes within the US Route 202 and NY Route 45 corridors will require coordination with the NYSDOT for design and permitting. The land use plans for the Opportunity Areas A, C, and E should be designed to minimize direct access to adjacent roadways using access management practices. This will reduce the impact to the adjacent roadway network and associated delays with additional controlled intersections. Access to the developed areas should, when possible, be aligned with roadways on the opposite side of the roadway and not create offset intersections which would decrease safety along the existing roadways.

Pedestrian and bicycle accommodations should be included in the site plans for redeveloped parcels along this corridor to the extent practicable to increase the walkability and accessibility for all modes of travel. Pedestrian facilities should consist of 5-foot-wide sidewalks installed along the roadways and bicycle facilities could include a minimum 5-foot-wide shoulder. These accommodations are only a part of the network in Northeast Ramapo. Consideration should be given to the connections to existing facilities or future plans for bicycle and pedestrian accommodations within the study area to provide connectivity to the Opportunity Areas from the local neighborhoods. This would allow for safer travel for all modes and reduce the dependence on vehicular use, resulting in decreased environmental impacts and an increase in public health.

## Improvement Costs

Roadway improvement costs have been developed for the mitigation measures identified in this TIAS. Mitigation measures were identified for the No-Build and Build conditions. The No-Build with improvements identified would be required without the expanded development expected in the Opportunity Areas. The difference between the No-Build and Build improvements can be attributable to the proposed development areas and the costs included reflect this difference in measures. Additionally, costs were developed for those intersections within the Town boundaries and outside of the Village boundaries. The cost for these intersections is summarized in Table 6.6-16.

**TABLE 6.6-16 – IMPROVEMENT COSTS<sup>31</sup>**

No.	Description	Type	Improvements	Construction Cost <sup>1</sup>	Right-of-Way Required <sup>2</sup>
2	US Route 202/South and North Camp Hill Road	NE Study Area	EB left turn lane WB left turn lane Signal adjustments	\$655,000	No
3	US Route 202/PIP Southbound Ramps and Mount Ivy Diner Driveway	NE Study Area	Signal timing improvements Extended EB left turn lane	\$285,000	No
8	Concklin Road/NY Route 45	NE Study Area	Signal timing improvements Signal adjustments SB left turn lane	\$725,000	Yes
9	NY Route 45/PIP Southbound Ramps	NE Study Area	Signal timing improvements SB right turn lane	\$200,000	Yes
10	Concklin Road/Northbound PIP On-Ramp	NE Study Area	Clustered traffic signal install	\$275,000	No
11	Concklin Road/Northbound PIP Off-Ramp	NE Study Area	Clustered traffic signal install	\$275,000	No
15	NY Route 306/New Pomona Road (CR 86)	Town Study Intersection	All-way stop controlled intersection NB right turn lane	\$175,000	Yes
17	Pomona Road (CR 86)/Summit Park Road/Golf Course Driveway	NE Study Area	Install Traffic Signal	\$275,000	N/A
19	Pomona Road (CR 86)/Fireman's Memorial Drive	NE Study Area	New traffic signal	\$275,000	No
20	NY Route 45/Pomona Road (CR 86)/Views Way	NE Study Area	Signal timing adjustments EB left turn lane NB travel lane	\$880,000	Yes
21	NY Route 45/Sanatorium Road	NE Study Area	Signal timing adjustments New signal head	\$80,000	No
22	NY Route 306/Willow Tree Road	Town Study Intersection	Signal timing adjustments Extended SB left turn lane	\$50,000	No
23	NY Route 306/Grandview Avenue	Town Study Intersection	New traffic signal EB left turn lane Extended NB left turn lane Extended SB left turn lane	\$625,000	Yes
24	NY Route 306/Brick Church Road	Town Study Intersection	SB left turn lane	\$75,000	Yes

<sup>31</sup> M.J. Engineering and Land Surveying, P.C. Traffic Impact Study for Northeast Ramapo GEIS

**TABLE 6.6-16 – IMPROVEMENT COSTS<sup>31</sup>**

No.	Description	Type	Improvements	Construction Cost <sup>1</sup>	Right-of-Way Required <sup>2</sup>
26	Union Road (CR 80)/Grandview Avenue	Town Study Intersection	Signal timing adjustments	\$40,000	No
29	NY Route 45/New Hempstead Road (CR 80)	NE Study Area	New traffic signal Extended EB left turn lane EB right turn lane Extended NB left turn lane NB right turn lane WB right turn lane Extended SB left turn lane	\$1,230,000	Yes
<b>Total</b>				<b>\$6,120,000</b>	
<p>Notes:</p> <p>1. Design and Construction Inspection costs are not included.</p> <p>2. Right-of-Way costs for the acquisition process and FEE takings are not included in the estimate. Assumptions for the need for ROW are based on Tax Map accuracy.</p>					

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## 6.7 Zoning and Development

### 6.7.1 Existing Conditions

#### 6.7.1.1 Northeast Ramapo Existing Zoning

There are 11 Zoning Districts in Northeast Ramapo which permit different densities and uses. The following information is examined within **Appendix A, Comprehensive Plan Update Town-wide Existing Conditions Report**:

- Narratives and a map depicting existing zoning, including a larger-scale map of the Northeast;
- Descriptions of land use in the Town and in Northeast Ramapo;
- A synopsis of land development policies and regulations, including discussion of the 'Table of Bulk Requirements' and descriptions of the zoning districts shown within **Appendix A, Comprehensive Plan Update Town-wide Existing Conditions Report, Map 10 Zoning**.

Building upon existing zoning descriptions within **Appendix A**, this section reviews the zoning in Northeast Ramapo, with a focus on the areas being considered for new proposed zoning. This section focuses on the existing zoning allocations in the 384 acres (17.5% of Northeast Ramapo) proposed to be affected by the zoning change.

#### Zoning Standards and Definitions

The Table of General Use Requirements<sup>1</sup> matrix in regulation 376-31 identifies uses allowed by right, accessory uses, and special permit uses by the Planning Board or the Town Board for each zoning district. The Table of Bulk Requirements<sup>2</sup> in regulation 376-41, specifies by use group the requirements for: minimum lot area, lot width, setbacks, required minimum frontage, development coverage, floor area ratio (FAR), as well as maximum building height.

**Development Coverage** specifies the percentage of the area of a lot covered by buildings, parking areas, accessory structures and any impervious materials, including natural impervious areas.

**Minimum and Maximum Densities** are the permissible number of lots or units determined by dividing the minimum lot area as set forth in § 376-41 by the number of lots or units allowed by zoning.

**Maximum Floor Area Ration (FAR)** is the gross floor area of all buildings on a lot divided by the area of the lot.

**Building Height** is defined as the vertical distance from the average elevation of the proposed finished grade along the wall of a building (or adjacent to the side of a nonbuilding use) to the highest point of the roof for flat roofs and to the mean height between eaves and ridge for gable, hip and gambrel roofs of

<sup>1</sup> [Ramapo Zoning Law § 376-31 - General Use Requirements](#)

<sup>2</sup> [Ramapo Zoning Law § 376-41 - Table of Bulk Requirements](#)

such building (or nonbuilding uses), except as specifically exempted in § 376-60 (Permitted Height exceptions).

Existing Zoning – Residential and Mixed-Use Districts

There are six existing residential zoning districts within Northeast Ramapo accounting for 83% of the area as shown in Table 6.7-1. These districts include Specialized Housing Residential (RSH), R-35, R-40, RR-50 and RR-80. Bulk requirements for each of these districts is dependent on use. However, the residential uses generally have maximum height of 35 feet and an FAR of 0.40.

**Table 6.7-1: Northeast Ramapo Zoning**

District	Acres	Percentage of Land Area
CS	71	3.2%
LO	221	10.1%
PI	37	1.7%
PO	14	0.6%
MU-2	29	1.3%
RSH	5	0.2%
R-35	578	26.5%
R-40	50	2.3%
RR-50	218	9.9%
RR-80	969	44.2%
<b>Totals</b>	<b>2,193</b>	<b>100.0%</b>

*Residential: RR-80*

The largest zoning district within Northeast Ramapo is the RR-80 district, accounting for 44% of the area. This district permits by right single-family detached residences with no more than one principal residential building on a lot a minimum of 80,000 square feet. Additional uses permitted by right include utilities, specific agricultural operations, houses of worship, and community residence facilities. Within this district, the maximum development coverage for residential uses is 20%.

*Residential: RR-50*

The RR-50 district covers 10% of Northeast Ramapo and permits by right single-family detached residences with no more than one principal residential building on a lot a minimum of 50,000 square feet. Additional uses permitted by right include utilities, specific agricultural operations, houses of worship, and community residence facilities. Within this district, the maximum development coverage for residential uses is 20%.

*Residential: R-40*

The RR-40 district covers 50 acres (2%) of Northeast Ramapo and permits by right single-family detached residences with no more than one principal residential building on a lot a minimum of 40,000 square feet. Additional uses permitted by right include utilities, specific agricultural operations, houses of worship, and community residence facilities. Within this district, the maximum development coverage for residential uses is 40%.

*Residential: R-35*

The second largest zoning district within Northeast Ramapo is the R-35 district, covering 27% of the area. This district permits by right single-family detached residences with no more than one principal residential

building on a lot a minimum of 35,000 square feet. Additional uses permitted by right include utilities, specific agricultural operations, houses of worship, and community residence facilities. Within this district, the maximum development coverage for residential uses is 40%.

#### *Specialized Housing Residential District (RSH)*

The RSH district is a specialized district covering 5 acres within Northeast Ramapo along Windsor Circle. There are no uses permitted by right within this district. Uses are allowed by special use permit of the Town Board. These special uses may include non-profit publicly assisted senior housing, housing development for physically disabled, congregated care housing developments, assisted living facilities as well as nursing homes. Bulk standards for this district are dependent on use.

#### Existing Zoning – Non Residential and Mixed Use Districts

Non-residential and Mixed-use zoning districts cover 17% (372 acres) of land in Northeast Ramapo and include the Mixed Use (MU-2), Community Shopping (CS), Laboratory-Office (LO), Planned Industry (PI), and Professional Office (PO) districts. These areas enable the servicing of a variety of needs for residents and people living in adjacent communities, and they provide for concentrations of employment, or other services.

#### *Mixed Use (MU-2)*

The MU-2 district covers two parcels in Northeast Ramapo along US Route 202, totaling 29 acres. This mixed-use district must contain at least 50% residential with commercial/ office uses of up to 50%. Uses permitted by right within this district include a range of uses including but not limited to: multifamily housing, local business, retail and services, libraries, restaurants, medical offices, and theatres. A maximum building height of 45 feet is permitted with a development coverage of 65% and a FAR of 0.65. A maximum of 12 residential units per acre for garden apartments, townhouses and multifamily dwellings is allowed.

#### *Community Shopping District (CS)*

The Community Shopping District on US Route 202 covers just over 3% of the Northeast area. The district permits by right parking lots and garages, a variety of retail stores and service establishments, auto washing, repair and maintenance, restaurants, medical offices/clinics, retail warehousing as well as cinemas. Of all the uses permitted by right, the maximum building height allowed it 35 feet, and the maximum FAR is 0.4. The maximum development coverage is dependent on use ranging from 5 – 75%.

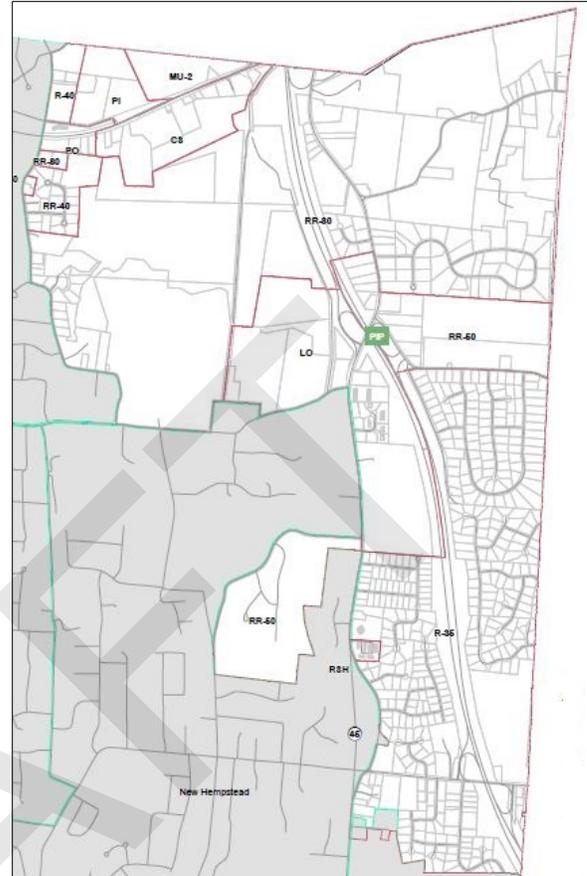


Figure 6.7-1 Excerpt from Map 10 Zoning within Appendix A, showing existing zoning within Northeast Ramapo

### *Laboratory-Office District (LO)*

The LO-Laboratory-Office district covers 10% of Northeastern Ramapo. The LO district permits by right public utility buildings, laboratories, research facilities, corporate parks, medical clinics/ health services, and business and professional uses including administrative, scientific, research and development, training, and financial purposes. The LO zone is mainly located on State Route 45 between Sanatorium Road on the south, PIP on the east, and a former railroad right of way on the west, just north of Station Road. Within this district, the minimum lot area is 60,000 square feet. Of all the uses permitted by right, the maximum building height allowed is 45 feet, the maximum FAR is 0.4, and the maximum development coverage is 80%.

### *Planned Industry District (PI)*

The PI-Planned Industry District, north of US Route 202 adjacent to MU-2 Zone covers 2% of lands in Northeast Ramapo. This district permits by right the same uses as LO plus industrial uses including: manufacturing, fabrication, processing, converting, altering, assembling, and testing, and wholesaling or warehousing without on-site retail sales. Within this district, the minimum lot area is dependent on use and ranges from 40,000 - 60,000 square feet. Of all the uses permitted by right, the maximum building height allowed is 45 feet, the maximum FAR is 0.4, and the maximum development coverage is 80%.

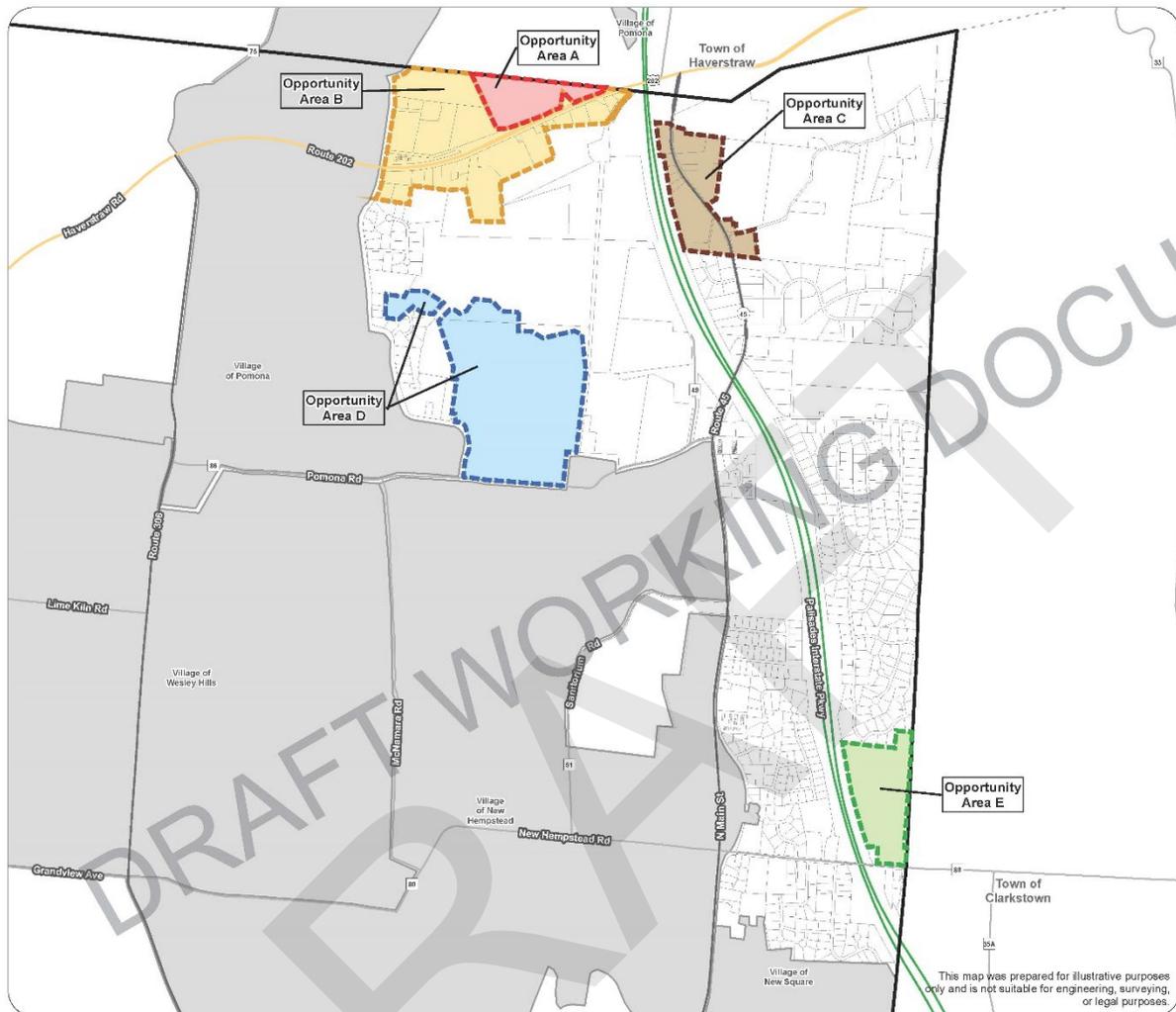
### *Professional Office District (PO)*

The Professional Office District (PO), the smallest non-residential district in Northeast Ramapo, represents less than 1% of the land area. Permitted uses by right include public utility buildings, libraries, museums, art galleries, professional and business offices and medical offices. Within this district, the minimum lot area is dependent on use and ranges from none to 60,000 square feet. Of all the uses permitted by right, the maximum building height allowed is 35 feet, the maximum FAR is 0.4, and the maximum development coverage is 75%.

## 6.7.2 Potential Impacts

The NRDP/DGEIS proposes zoning and land use regulations that facilitate development within key Opportunity Areas where a majority of future new growth is planned to occur. The proposed Opportunity Area footprints will be targets for placemaking and are intended to serve the needs of a growing community. The intent is to establish new integrated neighborhoods with a mix of uses that are close to major existing roads or provide for opportunities for additional needed neighborhood services near existing residential neighborhoods. The proposed Opportunity Areas are illustrated within **Figure 6.7-1** below.

**Figure 6.7-1 – Northeast Ramapo Proposed Opportunity Areas**



Future development within these key Opportunity Areas will be guided by new proposed zoning amendments within Northeast Ramapo:

- **Commercial Corridor Mixed Use District (CC)** – This new proposed zoning district is intended to create an area of focused, walkable mixed-use development allowing for a greater mix of commercial activity while supporting residential. Similar to the existing MU-2 district, the CC district encourages a greater commercial split with up to 70% of the proposed use as commercial and up to 30% residential. This zoning district is proposed within Opportunity Areas A and B, along the U.S. Route 202 corridor.
- **Neighborhood Shopping District (NS)** – This zoning district already exists within the Town of Ramapo. The intention of this zoning district is to allow for neighborhood commercial uses to support existing residential areas. The NRDP/DGEIS proposes to apply this zoning district within Opportunity Area C, at the northern end of State Route 45.

- **Flexible Overlay Planned Unit Development (FOPUD)** – This new proposed floating zone is intended to provide flexibility for future growth that considers options for new residential, commercial, mixed uses and amenities in which economies of scale or creative architectural or planning concepts may be utilized by the developer without departing from the spirit and intent of Chapter 376 (Zoning). Proposed development with this zone is intended to be respectful of the existing environment, make efficient use of the land and meet a set of design criteria. This zoning tool is intended to be utilized on lands of 20 acres or more that are not publicly owned, which may include Opportunity Areas A, D and/or E.

The NRDP/DGEIS does not propose zoning amendments outside of the Opportunity Areas. The full Action is further described within **Section 2.0**.

#### 6.7.2.1 Commercial Corridor Mixed Use District

The new Commercial Corridor (CC) Mixed Use District, proposed within Opportunity Areas A and B along US Route 202, encourages a mix of commercial and residential development. The new district is intended to create commercial growth within the OA and is anticipated to create new employment opportunities and a greater range of services.

Existing zoning within this potential district includes approximately 29 acres of MU-2, 48 acres of CS, 37 acres of PI, 13 acres of PO, 17 acres of R-40 and 4 acres of RR-80. The potential Commercial Corridor Mixed Use District would modify the zoning of approximately 148 acres.

The proposed CC district will create more consistency in design and use throughout the corridor. Existing zoning within the corridor currently spans six separate zoning districts with different allowed uses, area and bulk standards. By instituting one consistent set of allowed uses and bulk standards, the new district will foster placemaking and create an area of focused, walkable mixed-use development allowing for a greater variety of commercial activity while supporting residential uses.

The proposed district will encourage a greater percentage of commercial development by requiring at least 70% of development to be commercial and/or office uses and up to 30% residential uses, thereby encouraging mixed-use development types, with residential uses limited to the second and third floors. Commercial uses may include banks, day-care centers, restaurants, medical and dental offices, and retail stores on a scale consistent with existing development. Public opinion research indicates that there is support for housing density and mixed-use development within proximity to consumer needs and services.

The area and bulk standards for this proposed district will be consistent with the Town's existing MU-2 district as shown in table 6.7-1 below. The proposed Commercial Corridor zoning language, allowed uses as well as area and bulk standards can be found in **Appendix J**.

**Table 6.7-1 Proposed Commercial Corridor Bulk Requirements**

FAR, Maximum	Lot Width, Minimum	Development Coverage, Maximum	Street Frontage, Minimum	Maximum Stories
0.65	600 ft	65%	600 ft	3

To encourage walkability throughout the corridor, future development will include the installation of sidewalks within the required front yard/setback. When combined with the proposed focused, mixed-use development, the Commercial Corridor will create integrated neighborhoods that allow for pedestrian and vehicular connections between neighborhoods and the services that support them.

Buildings will be required to be further than 20 feet from the pavement edge on interior roadways. The Town road standards will not be modified as a result of the proposed zoning. Any proposed changes will be evaluated at the time of site plan review. Future proposed projects will be subject to current parking requirements set forth in Town Code Article VII.

The appearance of buildings and architectural elements including windows, doors, and other design elements will be regulated through architectural and site development plan review.

Additional commercial and residential growth is anticipated to occur as the result of the potential new zoning district. **Section 6.7.2.5** outlines the potential build-out of the Northeast Corridor with this new district.

As a result of development, potential impacts may include increased population, utility needs and traffic growth within the corridor as development occurs on vacant or underutilized parcels. Impacts related to transportation, population growth, utilities and community character are further explored within **Sections 6.5, 6.6 and 6.8**.

#### **6.7.2.2 Neighborhood Shopping District**

The Neighborhood Shopping (NS) District, proposed within Opportunity Area C, is intended to allow for neighborhood commercial uses, on a scale consistent with existing development in the area. The district is intended to support existing residential areas by allowing for a greater variety of services in close proximity which may include local convenience stores, groceries, offices, and laundromats within the character of the Route 45 corridor.

Existing zoning within this potential district is RR-80. As discussed in Section 6.7.1.1, this district generally allows for single family residential uses. The potential Neighborhood Shopping District would encompass approximately 48 acres, modifying the zoning of 48 acres of existing RR-80 zoning.

The NS district is currently in use in other areas of the Town outside the Northeast corridor. Uses allowed by right for this district include conveniences, local office, libraries, school of special instruction, as well as public utility buildings. While area and bulk standards for this district vary by use group, the majority of uses allowed by right fall under use group B. Bulk requirements for this group are shown in Table 6.7-2 below. The full table of uses as well as bulk standards can be found in the Town Zoning Code Chapter § 376.

**Table 6.7-2 Neighborhood Shopping District, Use Group B Bulk Requirements**

FAR, Maximum	Lot Width, Minimum	Development Coverage, Maximum	Street Frontage, Minimum	Maximum Height
0.40	100 ft	50%	100 ft	30 ft

The appearance of buildings and architectural elements including windows, doors, and other design elements will be regulated through site development plan review.

To encourage walkability and pedestrian access on State Route 45, future development could include the installation of sidewalks setback from shoulders. Sidewalks or multiuse paths could meander outside of the right-of-way. A pattern of setback or curvilinear sidewalks and landscape buffer could reinforce pedestrian refuge and establish open areas.

The Town road standards will not be modified as a result of the proposed zoning. Any proposed changes will be evaluated at the time of site plan review. Future proposed projects will be subject to current parking requirements set forth in Town Code Article VII.

Additional commercial growth is anticipated to occur as the result of the potential new zoning district, supporting the surrounding residential grow. **Section 6.7.2.5** outlines the potential build-out of the Northeast Corridor with this new district.

As a result of development, potential impacts may include increased population and traffic growth within the corridor as redevelopment occurs on vacant or underutilized parcels. Visual and/or community character impacts along the Route 45 corridor may also be possible with the introduction of neighborhood scale development. **Sections 6.2 Parks, Recreation and Open Space** and **6.8 Community Character** also identify potential impacts for this area. Transportation impacts are explored within **Section 6.6**.

### 6.7.2.3 Flexible Overlay Planned Unit Development (FOPUD)

The Flexible-Overlay Planned Unit Development (FOPUD) is a new floating zone that is intended to provide flexibility for future growth that considers options for new residential, commercial, mixed uses and amenities in which economies of scale or creative architectural or planning concepts may be utilized by the developer. Proposed development with the FOPUD is intended to be respectful of the existing environment, make efficient use of the land and meet a set of design criteria. This zoning tool is intended to be utilized on lands of 20 acres or more, potentially within Opportunity Areas B, D and/or E. The FOPUD

will allow for a range uses and housing types at different price points, supporting the current demand for single- and multi-family housing.

The FOPUD would be employed to encourage greater flexibility and creativity in new development within the Northeast Corridor and specifically within the Opportunity Areas. This tool was recommended in the Town's 2004 Comprehensive Plan, but not implemented. To implement this tool a local law to adopt Planned Unit Development Regulations within the Town of Ramapo Zoning Code as part of a Flex-Overlay PUD Zone would be required. A draft local law is included within **Appendix K**.

Potential impacts may include development on previously undeveloped lands, increase impervious surfaces, increased traffic and increased population growth. Positive impacts may include opportunities to shape new growth more creatively to meet future needs, provisions for open space and recreation as well as enhance walkability.

#### 6.7.2.4 Walkable Neighborhood Opportunity Areas (WNOA)

In addition to the proposed Opportunity Areas, a Walkable Neighborhood Opportunity Area (WNOA) within Arterial and Transitional corridors was explored.

The proposed WNOA Arterial Corridor would channel higher intensity growth into major road corridors including State Route 45 and the Palisades Interstate Parkway. Each road has distinct character, plus extensive transport, and utilities infrastructure. Guiding substantial infill alongside major routes could potentially bolster linkages with the broader community. Arterial zoning could support walking and use of transit. It can also foster place-making, greater and more types of housing, and the provision of services, such as limited retail within locations which are suitable and equipped to accommodate growth, and which afford convenient access to jobs and housing nearby and in the adjacent Gospel Site which is also fronts on New Hempstead Road.

The proposed WNOA Transitional Corridor adjacent to more intense proposed land uses. In this way, the Transitional Area would provide for gradual increases in density between the unchanged portions of existing single-family residential zoning districts and the new proposed zoning for Opportunity Areas. This Transitional Area would provide a further gradual blend of uses and density when established adjacent to the proposed Alternative- Arterial Area zone for the major corridors.

The WNOA Alternatives are described within **Sections 7.3 and 7.4**.

#### 6.7.2.5 Buildout Analysis

To evaluate the impacts of the proposed zoning on future development within Northeast Ramapo, two separate buildout analyses (each under existing and proposed zoning) were completed. The buildout analyses evaluated all lands currently assessed as vacant or identified as underutilized. Undevelopable areas were removed from the analysis which included environmentally constrained and conserved lands. The buildout analysis is further described within **Section 8.0**.

The proposed zoning buildout analysis was calculated for two development scenarios. Option A evaluated the buildout of Opportunity Area A under the Commercial Corridor Zoning, while Option B evaluated the

buildout of Opportunity Area A using estimated commercial area and dwelling units provided by the property owner for a proposed project. While it is unknown when full buildout may occur, it could be in 10, 20 or more years. The development scenarios evaluated for the proposed action are summarized within Table 6.7-1 below.

Under the Existing Buildout Scenario, the additional non-residential area within Northeast Ramapo is anticipated to be 439,618 sq ft. The number of additional dwelling units are anticipated to be 381.

Under the Proposed Zoning Buildout Scenario – Option A, the non-residential area within Northeast Ramapo is anticipated to increase by more than 390,000 sqft over the Existing Buildout Scenario from 439,618 to 831,271. The number of dwelling units is anticipated to increase by 717 from 381 to 1,098 over the Existing Buildout Scenario.

Under the Proposed Zoning Buildout Scenario – Option B, the additional non-residential area within Northeast Ramapo is anticipated to be comparable to the Existing Buildout Scenario at 410,941. The number of dwelling units for this development scenario is anticipated to increase by 809 from 381 to 1,190 over the Existing Buildout Scenario.

**Table 6.7-1 Summary of Buildout Scenarios**

	Non-Residential Area (sqft)	Dwelling Units
Existing Zoning Buildout	<b>439,618</b>	<b>381</b>
Proposed Zoning Buildout – Option A	<b>831,271</b>	<b>1,098</b>
Proposed Zoning Buildout – Option B	<b>410,941</b>	<b>1,190</b>

#### 6.7.2.6 Impacts to Population

The current Town wide population is anticipated to increase as a result of migration into the Town and future development. The impact of the future development on the Town population under existing and proposed zoning was evaluated Town wide and within Northeast Ramapo. An estimate of new residents and new school-aged children was calculated using the Town wide average of 3.58 residents per household<sup>3</sup>. An estimate of the new residents and additional school-aged children for the development scenarios are presented below within Table 6.7-2. Fiscal impacts relating to the anticipated population growth and increase in school aged children are further detailed within **Section 6.10 Fiscal Impacts**.

**Table 6.7-2 Impact of Development Scenarios on Population**

	Existing Zoning	Proposed Zoning - Option A	Proposed Zoning - Option B
Potential New Dwelling Units	381	1,098	1,190
Estimated New Residents	1,363	3,928	4,260
Estimated New Public School-aged Children	108	312	339

<sup>3</sup> Appendix G: Economic and Fiscal Impact Analysis

## 6.7.3 Proposed Mitigation

Overall, the proposed zoning changes provide positive benefits such as improving Northeast Ramapo's walkability and economic attractiveness, while preserving and protecting the community's existing character and natural resources. The proposed zoning encourages walkability and placemaking while incorporating a greater mix of use to reduce auto dependency and foster more integrated land uses.

### 6.7.3.1 Commercial Corridor Mixed Use District

Mitigation for potential impacts within the proposed new CC district (Opportunity Area B) would occur at time of either special use permit application or site plan review application. The installation of sidewalks, streetscape elements (such as street trees, pedestrian scaled lighting, benches, transit shelters, etc), consideration of shared parking and other good urban design approaches would be desired. Traffic improvements would follow the mitigation identified in **Section 6.6 Transportation**. Additional mitigation identified for Opportunity Area B in Sections 6.1 through 6.5 and Section 6.8 would also apply.

### 6.7.3.2 Neighborhood Shopping District

Mitigation for potential impacts within the proposed NS district (Opportunity Area C) would occur at time of either special use permit application or site plan review application. The installation of sidewalks, streetscape elements (such as street trees, pedestrian scaled lighting, benches, transit shelters, etc), consideration of shared parking and other good urban design approaches would be desired. Traffic improvements would follow the mitigation identified in **Section 6.6 Transportation**. Mitigation for potential visual impacts and/or community character impacts are identified in **Section 6.8 Community Character**. Additional mitigation identified for Opportunity Area C in Sections 6.1 through 6.5 would also apply.

### 6.7.3.3 Flexible Overlay Planned Unit Development (FOPUD)

Mitigation for potential impacts would include addressing of PUD district criteria, requirements as well as general design criteria during the establishment of the PUD district. (See **Appendix K** for proposed Local Law for PUD) Additionally, traffic mitigation would follow mitigation outlined in **Section 6.6 Transportation**.

Criteria for PUD District and Preliminary PUD Plan Approval are proposed as follows:

- a. That the proposal is consistent with the objectives of the Town Comprehensive Plan, as amended.
- b. That the proposal meets the intent and objectives of a planned unit development.
- c. That the proposal complies with the general requirements listed within the PUD local law.

- d. That the uses proposed shall be planned and designed so as to minimize land disturbance and, to the extent practicable, not be detrimental to the natural characteristics of the site or adjacent land uses.
- e. That each phase of the development, as it is proposed to be completed, contains a sufficient amount of parking facilities, landscaping, and utilities necessary to create and sustain each phase independently; provided, however, where applicable, that due consideration be given to reciprocal easements and operating agreements that may be required.
- f. That the proposal is conceptually sound in that it meets local and regional needs and that the proposed roadways, pedestrian system, land use configuration, open space system, stormwater management system and other site infrastructure, and scale of those elements shall function singly and cumulatively and conform to accepted design principles.
- g. That there are adequate services and utilities available or proposed to accommodate each phase of the development.
- h. That the existing transportation network, along with any proposed mitigation, will sufficiently handle all traffic generated by the proposal.

Possible requirements may include the following:

- a. Visual and/or acoustical screening;
- b. Land use mix;
- c. Schedule of construction and occupancy;
- d. Pedestrian and vehicular circulation system;
- e. Parking and snow removal;
- f. Sites for public services;
- g. Protection of natural and/or historical features;
- h. Pedestrian access;
- i. Parks, recreation and/or open space;
- j. Lighting;
- k. Area and bulk requirements; and
- l. Such other requirements for development of the PUD District that the Town Board deems appropriate.

General Design Criteria are proposed to include the following:

Design shall consider the following:

- a. Encourage compatibility between residential and commercial uses where existing residential zones abut commercial zones
- b. The variety of active uses should be complemented with facades that are articulated with a variety of depths and materials along the pedestrian ways.
- c. Create a network of active spaces and avoid disconnected spaces.
- d. Design rooftops for visual interest and screening of mechanical equipment

- e. Achieve compatible building styles and design and avoid incompatible elements.
- f. Create streetscapes that include appropriate, unified site furniture to encourage pedestrian activity, avoiding bleak streetscapes that discourage walking.
- g. The design treatments for the area should include details and materials that promote interest for users and visitors.

#### 6.7.3.4 Walkable Neighborhood Opportunity Areas (WNOA)

Introducing a greater level of growth within the WNOA Transitional and WNOA Arterial Corridors is not preferred at this time. This alternative will not be advanced. Therefore no mitigation is proposed.

DRAFT

## 6.8 Community Character & Community Plans

To examine how proposed changes will influence community character and quality of life, discussion will review whether proposals are inconsistent with local land use strategies or infrastructure recommendations. Specifically, this evaluation will consider how zoning can help blend new development density within these locales. The potential to reinforce existing patterns in existing residential zones that are not changed will be addressed. Yet, it is noted that lands specifically not included in this discussion include the County office campus on Sanatorium Road and the Palisades Credit Union Park stadium on Pomona Road. These locations are excluded from analysis since they are not expected to be redeveloped aside from their current uses, and if they are, those spots should be considered within distinct or supplemental environment analyses.

### 6.8.1 Existing Conditions

This subsection summarizes the 2004 local and 2011 County comprehensive plans' approach to managing community and regional appearance and character in and adjacent to Northeast Ramapo. It covers existing conditions within adjacent communities and how these jurisdictions are managing character per their long-range plans and zoning laws.

#### 6.8.1.1 Town of Ramapo Comprehensive Plan

The Town's Comprehensive Plan, as Amended in February 2020<sup>1</sup>, identifies the current Town Community Resources & Character Goal is to:

*Maintain quality of life in the Town by enhancing and preserving the character of Ramapo's neighborhoods and commercial corridors, maintaining the high quality of community services and facilities provided to Town residents, and providing an integrated and efficient transportation network.*

Corresponding objectives, paraphrased from the Comprehensive Plan<sup>2</sup> involve:

- Preserving Town neighborhoods through prevention of incompatible uses
- Ensuring development occurs to scale within residential and commercial areas
- Supporting new business, facilities, and events of interest to residents
- Providing a range of recreational and social facilities

<sup>1</sup> On February 26, 2020, the Town Board adopted amendments to the Comprehensive Plan that updated the portion of the Plan that considers the need in the Town for multifamily housing, and updated the locations identified as suitable sites in 2004 to reflect those locations which had been developed or otherwise not available for that purpose, and to include consideration of the Pascack Ridge properties as a suitable site for multifamily housing to meet that need.

<sup>2</sup> Town of Ramapo Comprehensive Plan Pg. C-2

- Encouraging improvements to transportation infrastructure, including transit and the provision of sidewalks, and support land use patterns that will use transport systems most effectively and minimize potential additional congestion

The Future Land Use Goal and objectives include (paraphrased):

Promoting a balanced pattern of land use that primarily encourages the concentration of future development in areas with adequate infrastructure and facilities, so as to make efficient utilization of the transport network and infrastructure, preserving the Town’s environmental and scenic resources, and providing a variety of additional housing opportunities in areas of Town most appropriate for such development.<sup>3</sup>

Some corresponding objectives, also paraphrased are to<sup>4</sup>:

- Ensure development occurs in locations that are most suitable in consideration of surrounding uses, transportation capacity and infrastructure
- Control the scale and intensity of land use development to minimize traffic congestion, encourage use of public transport, and support transit-oriented or planned development opportunities
- Permit a range of residential opportunities in terms of varied density, housing type and prices

Overall, the 2004 Town Comprehensive Plan’s approach to managing community appearance, character, and the provision of facilities and services is spread throughout this NRDP/DGEIS. The 2004 Comprehensive Plan’s proposed Land Use Plan discussed recommended development intensities, and how they may guide future development<sup>5</sup>. Within the discussion on Mixed-use, it notes that the Town’s Euclidean zoning may be inducing sprawling development character, and it examines attributes and benefits of blended development, promoting how MU-2 zoning can be appropriate for a location like US Route 202<sup>6</sup>. Then goes on to recommend, and it provides extensive discussion around the suggestion, which is directly advanced within this current NRDP, for the Town to:

[I]investigate the use of Planned Unit Development (PUD) regulations as a means to permit development of this area in accordance with the mixed-use, neo-traditional design principles.

### **6.8.1.2 Town Existing Zoning Regulations**

The Zoning Section provides detailed discussion on Zoning standards and changes. However, to support an examination of how character and scale of building is regulated now, there is an overview of the zoning that

<sup>3</sup> Town of Ramapo Comprehensive Plan Pg. D-1

<sup>4</sup> Town of Ramapo Comprehensive Plan Pg. D-1 to D-2

<sup>5</sup> Town of Ramapo Comprehensive Plan Pg. D-14 to D-15

<sup>6</sup> Town of Ramapo Comprehensive Plan Pg. D-17

currently overlies the opportunity areas.

### Opportunity Area A and B

The Opportunity Areas A and B are overlain by five zoning districts (See **Section 6.7 Zoning**). Generally, maximum allowed heights are 35 feet, like in the PO and CS districts, with an exception that P1 zone allows Offices, Medical Facilities, and Warehousing at heights of up to 45 feet. Generally, Maximum Floor Area Ratio (FAR)<sup>7</sup> is 0.40 (MU-2 is 0.65) and coverage are 65% to more often 75% to 80% in the mixed-use and other non-residential zones, but 40% in the sole residential R-40 zone. It does not appear there has been new growth in this location, so it is plausible that these standards are inhibiting property owner investments.

### Opportunity Area C and D

The existing zoning maximum allowable height is predominantly 35 feet, as most of this location is zoned RR-80; yet the LO zone overlying the American Legion property does allow 45-foot building heights. The RR-80 FAR Maximum is 0.40 with RR-80 front yard setbacks required to be 100 feet.

### Opportunity Area E

Both parcels at the OA location are in RR-35 zone. This provides for 0.40 FAR and 40% coverage.

## **6.8.1.3 Rockland Tomorrow: Rockland County 2011 Comprehensive Plan**

The County's 2011 Comprehensive Plan, in examining community context, notes the Town may have to balance development with infrastructure constraints and open space preservation<sup>8</sup>. In discussing land use controls notes that Planned Unit Developments (PUDs) can provide for a varied approach to applying zoning to specific tracts of land, allowing for more variability in the permitted uses and placement of buildings on the site and for relaxation of some development standards. The County Plan promotes six recommendations (which are recited in Table xx below), including:

- Concentrating growth in existing centers -- it presents US Route 202 as containing a concentration of commercial development
- Preserving existing commercial and industrial areas
- Protecting existing character and quality of life

In framing future development, the County Plan advocates for conserving working pastoral landscapes, it notes how significant parkland establishes character and the County Plan promotes special area character presentation. It also prompts local historic resource planning by municipalities, local infill building in scale with surroundings, preventing congestion and preservation of existing single-family zones.

<sup>7</sup> (FAR) Floor area ratio is the measurement of a building's floor area in relation to the size of the lot/parcel that the building is located on.

<sup>8</sup> ROCKLAND TOMORROW: Rockland County Comprehensive Plan Adopted March 1, 2011

The County uses the Plan's guidance in its GML §239-l, -m and -n reviews of proposed local planning actions and projects which may impact adjacent communities or influence county-wide considerations. An examination of how the NRDP's strategies compare with those in Rockland Tomorrow occurs at the end of this section. Generally, it seems that locations proposed for densification in the Northeast are preferable locations for growth given their relative lack of existing single-family housing, the fact that some contain high existing commercial zoning densities, plus these are adjacent to the PIP highway environment and other major roads, and in the case of Opportunity Area D, there is an isolated, developable location which can be planned in a way to conserve natural resource features.

### Findings from Public Opinion Research

Input on community appearance and design was generated from a combination online/ postcard survey administered by the Town in 2019, and feedback gathered at a Designing in Public Project Charrette occurring across multiple days in November 2018. Clearly, people perceive unique sense of place in parts of Northeast Ramapo, plus they are concerned for possible incompatibility of growth with existing character, with concern raised for whether and how the Stryker properties may develop. Some other main observations include these major ideas, perceptions, and expressions of interest:

- People seek integration of open space preservation within future development
- All aspects of housing in Ramapo are seen as more costly than in adjacent communities
- There is support for more compact community design, with varied housing types, walkable greenspaces and parks, and textured architecture, like within the facades in business districts
- People showed support for an improved trail network by Mount Ivy County Park and they identified support for multimodal designs and connections, particularly which they saw as safer
- Denser housing was seen as having potential to decrease taxes

#### **6.8.1.4 Northeast Ramapo Character**

A discussion of current land use and building patterns where development is being channeled provides context that defines existing community form and design. This is used to describe how growth is currently occurring. It underpins a discourse about how future design in Northeast Ramapo can achieve infill and with substantial new growth guided so that it does not sprawl and it blends with a pattern of developed cores framed by open space, with new housing and the non-residential component of mixed use channeled into New Walkable Neighborhood Opportunity Areas and major corridors that are equipped to accommodate a large supply of housing with infrastructure and services that enable mixed-use settings while creating sense of place and providing vitality.

Character is often experienced in communities when traveling along transport corridors. Therefore, a discussion of current land use and building patterns is provided to set context and define existing community form and design. The descriptions that follow of how growth is currently occurring focus on what is apparent from area roadways, and it sets-up examination about how future design in Northeast Ramapo can achieve

infill and substantial new growth in order to overcome sprawl and blend new growth with existing patterns of developed cores framed by open space.

### US Route 202 Character

This key surface route in Mount Ivy strongly relates to the PIP role as a major intersecting auto connection and gateway into Northeast Ramapo. The PIP provides an identifiable edge with distinct textures in its bridge, ramps, and landscaping. While there is some higher density in Mount Ivy in Haverstraw on the eastern side of the PIP, this is less apparent in

unincorporated Ramapo, where land uses are low profile one-story buildings and properties have auto-centric commercial designs and often contain expansive parking lots. Traveling west on US Route 202 in Mount Ivy, there is a concentration of services as expected on a major road, but the retail plazas and supermarket do not lend to a visually coherent pattern that



*Figure 6.8-1 US Route 202 Southbound*

reinforces this as a higher-order hamlet. The road is wide, but the corridor lacks distinction due to lost space beyond the initial setback highway retail frontages and a lack of sidewalks and more varied landscaping.

After traveling underneath, the PIP and entering Ramapo, there is a barren appearance on the languishing Minisceongo Park property, where it is not even easy to identify a wetland edge by the South Branch Minisceongo Creek and where the foreground has a sole derelict concrete block building sitting vacant 70 feet from US Route 202. Across from this mostly vacant underused grayfield area is the Mount Ivy Shopping Center, which has two one-story buildings setback almost three times farther from the highway. Since these buildings have mostly unarticulated façades, highway-oriented signage dominates the frontage. Then, two businesses on individual lots follow the plaza with separate driveways and setbacks of around 75 feet. These businesses adjoin the Mount Ivy Swamp that buffers the South Branch Minisceongo Creek.

Upon crossing the Creek, the scale of commercial buildings increases on the south side at Pacesetter Park retail plaza where a large expanse served by two driveways dominates over the multiple building's setback from 100 to 350 ft. from the road. After the plaza on the same side, a small office building that appears to have housed a radio station is followed by two structures housing a veterinarian and pet-related business accessible by a common driveway.

Across US Route 202 from the veterinarian is Ladentown Road, where the driveway into NYS DOT's property creates lost space within pavement, then the self-storage facility that is partly viewable from US Route 202.

Continuing west, on US Route 202 there is open, vegetated frontage until reaching the single-story US Post Office on the south side followed by a single-story doctor's office, each on their own lot with their own driveways. The latter building is a non-descript ranch style architecture with a long, close-to-the-ground profile, dominated by open parking lots in front of and around it, which make it hard to identify as a commercial use, much less part of an integrated commercial corridor. Approaching Camp Hill Road and the Village of Pomona, US Route 202 transitions to a more open character with two driveways on the south side and filtered views of the low-profile two-story townhouse-style office complex aligned parallel between US Route 202 and Ladentown Road (primary access is on Ladentown Road).

### Camp Hill Road Character

The segment of Camp Hill Road north of US Route 202 has stone walls, limited curb cuts and two setback houses. These features establish lower density along Pomona's border around and north of Pomona Village Hall. Proposed zoning allows for a transition from this lower density into a gradual mix of uses planned to step-up to the east going towards a new core proposed above the lowlands by the Creek.



*Figure 6.8-2 Camp Hill Road*

On the south side of US Route 202, Camp Hill Road forms a border with Pomona. This southern section has some trees in the frontage near Opportunity Area D, but it really is non-descript and unapparent. This 1.2-mile stretch is near Mount Ivy County Park just east of there. The street itself lacks sidewalks and is adjoined by houses and intersecting residential streets on the mid-section's east side. Southern Camp Hill Road is narrow and has some tight turns, which adds to a suburban, auto-centric feel. Still, the road and its adjacent environments provide a notable transition from the northerly, commercially oriented US Route 202 corridor.

It is unclear why this 1.2-mile segment is designated as a local Scenic Road. However, at the intersection of Camp Hill Road and Pomona Road there is tall, dense vegetative growth with nearly no shoulder except for a limited (informal) vehicle pull-over. Traveling north on Camp Hill Road, with the golf course property on the right, there is little visibility of Opportunity Area D interior due to vegetation by the road and extending east into Millers Pond property.

### Pomona Road Character

The Pomona Road/ Camp Hill Road intersection has a high tree line, a landscaped strip by the curb, and a series of utility poles. The trees are not dense, although they shield the former golf course from view. Within the former golf course there is a pond and stream on its southwest corner, but the pond is mostly blocked from

view by vegetation on Pomona Road. During the winter, with leaf-off, the ponds are more visible particularly as one travels north on Stonehurst Court towards the Pomona Road intersection.

The trees thin further east on Pomona Road south of the main parking lot of Millers Pond site. Utility poles are consistent, but the thinned tree line results in more open vistas, particularly by the main entrance, which is flanked by manicured stone walls/ entry gates fixed on either side of the entrance/ exit driveway. The clubhouse is only partly visible due to an incline upwards from Pomona Road past this entrance, but it is a dominant point of reference in relation to the parking lot. It also is more visible in winter.

The highly characteristic former school building and clubhouse is setback 315 feet from Pomona Road's edge. The architectural features are neo-classical in style – particularly its sides (and rear) which illustrate symmetrical rounded windows, a pediment roof, and columns centering on the back of the structure. The façade retains symmetry with rounded windows, an arched entrance, and pilasters, which may not fit with the more strictly neo-classical style of the rest of the building. A set of stone steps with handrails leads to the entrance from the parking lot.

People travelling north on Summit Park Road are afforded appealing views of the former golf course when approaching Pomona Road. Summit Park Road intersects with Pomona Road directly across from the main entrance to the Millers Pond site. The relatively open character of the frontage at this point exhibits the property's landscaped natural character.

The tree line that dominates the frontage prior to the golf course's main entrance resumes east of it. Exceptions are a view of a residential building with a wooden fence and gaps which afford scattered views of lawn beyond (there are also utility poles), until reaching Station Road which forms a Town border.



*Figure 6.8-3 Pomona Road Locus (from 'Architectural Overview – Millers Pond', 2020, page 3*

### Station Road Character

Travelling north on Station Road, the street slopes slightly uphill to the north, and the view looking west is obstructed by trees, although the view opens after passing a building on the former golf course's grounds, followed by a hedgerow, over which one can observe lawns/ trees internal on Miller's Pond site.



*Figure 6.8-4 Station Road*

Station Road curves around to the east and descends slightly to the indistinguishable point of the formal railroad right of way. The gateway to the rail trail, which heads north into the County's Environmental Park, is also obscured because wood signage announcing this parkland and entryway to this public trail is setback 150 feet from the road, making it hard to notice and view the trailhead. Moreover, there are not landscaping features to distinguish this trail asset from the American Legion's lawn.

The American Legion property has a 1/4-acre parking lot on Station Road with nothing but asphalt along an undefined edge along the road, such as would be provided by a curb and median. This makes it hard to distinguish where the street ends and the lot begins.

After 100 feet of parking area frontage on Station Road, the main American Legion building occupies slightly less frontage, but some coniferous trees within a vegetated setback, combined with the rising incline on the road, aid in helping to obscure the existing building's view, even though this one and a half story building is setback only about 25 feet from the edge of Station Road's pavement. The eastern edge of Opportunity Area D ends at the east side of that side lot line.

### New Hempstead Road Character

Perhaps evolving out of its long-standing role as a major east-west connector, New Hempstead Road serves high volumes of traffic, but it retains unique character due to higher topography adjacent to the route on the west side, plus buildings uniformly setback from the road's edges, plus some tree buffers. The pattern particularly around Old Schoolhouse Road lends some context to the roadway, although east of that point character is diluted by the lack of sidewalks and overhead utilities along the street.



*Figure 6.8-5 New Hempstead Road*

Right by the PIP, there is an interruption in the pattern of development due to non-residential driveways in quick succession on the north immediately west of the PIP and then there is substantial spacetaken-up in the PIP's highway interchange infrastructure. Immediately east of the PIP, the frontage is characterized by a dense tree line. A chain link fence adjacent to this is covered in vegetation and the adjacent residential use on a 0.9-acre parcel, which is directly part of the Opportunity Area E, is east of the fence. Here the frontage on New Hempstead Road briefly opens-up to show a house setback 225 feet from the road, with the driveway into that lot flanked by a chain link fence and a white picket fence, as well as a utility pole and a lawn reaching to the curb on the east side of the driveway.

At the church parking lot and approaching the church building, frontage becomes open. A landscaped island with shrubs and utility poles separates the parking lot from the road. The depth of vision increases in this parking area and across from the PIP on/off ramp. This pattern continues with driveways and parking in the foreground by New Hempstead Road, with the church just beyond that. The roughly 40-foot-high church building is close to the road, at 75 feet from the road edge. The building's massing and its façade dominate the foreground, with depth of vision reduced and limited landscaping in front.

Adjacent to the church building there is a driveway on the east side, which is the border with Clarkstown. Further east in Clarkstown, there is parking lot surrounding the small, one and a half story wood building with a sloped roof. This causes the foreground along New Hempstead Road to open with limited trees and utility poles viewable in the frontage leading towards Buena Vista Road.

### Buena Vista Road Character

The lots on the west side of Buena Vista Road are almost wholly in Clarkstown. The tree line beginning at Buena Vista Road and New Hempstead Road continues north up Buena Vista Road until a driveway into the Gracepoint Gospel Fellowship site, with one brief break before that for a residential driveway. There are also various street signs. Then, at Beatrice Lane, along Buena Vista Road, there is a moderate setback of roughly 50 feet for existing houses, with lawns adjacent to the curb along with some shrubs.



*Figure 6.8-6 Intersection of Buena Vista and New Hempstead Road*

### State Route 45 Character

Within Mount Ivy, south of Old Route 202, the north bound on-ramp for the Palisades Parkway, on the west side of State Route 45, is in Ramapo. The mobile home community on the opposite side straddles Ramapo and Haverstraw. Uphill and south of that is Gurnee County Park entrance. When heading north, there is visual texture introduced over a short distance by undulating topography, a nursery/ landscaping business on State Route 45, and limited and open land uses further south by Concklin Orchards and South Mountain Road. The

frontage for the mobile home community has a narrow shoulder with multiple curb cuts along State Route 45. The area in or near the frontage is used for parking for adjacent residences, while there is no sidewalk on the highway.

### 6.8.1.5 Adjacent Communities – Character, Zoning & Long-Range Plans

This section discusses the character and appearance of places near Northeast Ramapo by examining the frontages and land in adjacent communities within ½ mile of the Town’s boundaries. This is accompanied by an assessment of the current zoning programs and land use plan guidance for each adjacent municipality. This discussion follows a counterclockwise arrangement, going in the order:

- Town of Haverstraw to the north
- Village of Pomona, also to the west
- Village of New Hempstead to the southwest
- Village of New Square to the south
- Town of Clarkstown to the east

An analysis of existing zoning (applicable districts and bulk regulations) for municipalities adjacent to Northeast Ramapo supports examination of how the Northeast Ramapo Development Plan relates to the context of its surroundings. There are also the comprehensive plans from bordering municipalities with a focus on understanding what is planned for adjacent to Northeast Ramapo. While each municipality has its own plan and zoning, for Villages that evolved out of the Town of Ramapo, there are some similarities in terms of their zoning districts, lot sizing and densities with the Town. Within discussions of zoning that follow, the focus is on uses that are allowed by-right, as this is a straightforward way to compare zoning. Within all districts analyzed, additional uses may be allowed as special use permits; yet the focus is on the basic types of development provided for in the adjacent communities.

#### Town of Haverstraw

##### *Haverstraw Character*

Thinking in terms of Opportunity Area A and B, east of the PIP and straddling US Route 202 on the north and south is a mobile/manufactured housing development which presents higher density housing. Directly north of Parkway Mobile Homes is lower-density housing stretching east throughout Haverstraw. Also east of the PIP is a narrow commercial district with some light industry and a municipal Park & Ride. All this land use is contained within the Mount Ivy Hamlet and the higher densities of land use in Mount Ivy are, except for the Village of New Square, the higher densities adjacent to Northeast Ramapo. West of the PIP, but east of the South Branch Minisceongo Creek, land use character is sparser. Directly northwest of Quaker Road is a large vacant factory, signaling industrial use. Another high-density mobile home park lies north of the factory. West of the South Branch Minisceongo Creek is residential development.

### Haverstraw Zoning

Haverstraw’s Town Zoning Code is found in Chapter 167. The Zoning Districts in Haverstraw bordering Northeast Ramapo are: Low-Density Residential R-40 and R-25 Districts; a piece of Low-Medium-Density Residence District (R-15) by US Route 202; the higher-order Mobile Home Residence District (RMH); Planned Industrial Office (PIO); and the Commercial (C) District. See the below figure for a picture of adjacent zoning.<sup>9</sup>



Figure 6.8-7 Town of Haverstraw adjacent zoning indicated by circled area. Rockland County 2019

**Table 6.8-1: Haverstraw Adjacent Zoning Districts & Bulk Standards**

District	Use(s)	Lot Area (ft <sup>2</sup> )	Width (ft.)	Front Yard (ft.)	Side Yard (ft.)	Rear Yard (ft.)
R-40	1-Family detached residences	40,000	150	50	30	50
R-25	1-Family detached residences	25,000	125	35	25	40
RMH	1-Family detached residences	15,000	80	25	15	25
	Mobile homes	5,000	50	20	10	10
C	Uses Permitted by Right	10,000	100	100	10 to 25	25
PIO	Uses Permitted by Right	40,000	150	100	50	50

Where Haverstraw and Pomona come together, west of the PIP, a large area east of Quaker Road is zoned R-25, across from Ramapo’s R-40 District east of Camp Hill Road. This R-25 zone is again more moderate in density than in Ramapo, and it is termed low-medium density by Rockland County’s 2011 Comprehensive Plan Figure

<sup>9</sup> The R-15 District in Haverstraw is not analyzed since the generally minimal in area by the border is contained in the Palisades Parkway Right-of-Way, but it is noted that this R-15 District density is higher than any fully Residential Zone found in Northeast Ramapo.

5.3 compared to R-40 in Ramapo which is categorized as the lowest residential density. This makes for low zoning density in Ramapo somewhat of an anomaly.

Concentrated adjacent to the Palisades Parkway in Haverstraw is a Commercial (C) District east and west of the Parkway, and a Planned Industrial Office District (PIO) west of the Parkway. This is typical of zoning and land uses often found along major corridors. Haverstraw's C District is adjacent to Ramapo's Mixed Use-2 District (MU-2), and Haverstraw's PIO zone is generally adjacent to Ramapo's Planned Industry District, which is similar in allowable uses and dimensional requirements.

Closer to the northern central border of the Study Area, and east of the Parkway is RMH zone in Haverstraw, although there is no similar counterpart in Ramapo. Although a mobile homeland use straddles both communities, the Town of Ramapo's zoning is RR-80. The residential zones further east of Palisades Parkway in Haverstraw, which overlay parklands, are zoned R-40 with 40,000 sq. ft. lot sizes. This contrasts with RR-80 over Gurnee and South Mountain County Parks.

#### *Haverstraw Comprehensive Plan*

Haverstraw supplied a Master Plan and Zoning Review Memo from June 2000 which identifies changes necessary to implement their Plan. These are reported as their latest Planning documents as of January 2020. The Master Plan discusses demographics, land resources, and desired zoning changes, and it reviews regional plans as of 2000. It appears to have little bearing on development in Northeast Ramapo, as it is general and its proposed changes mainly affect interior portions of Haverstraw, plus changes it recommends do not appear to have been implemented. At this point, it is unclear as to when a Haverstraw Plan update will take place.

#### Village of Pomona

##### *Village of Pomona Character*

Camp Hill Road forms the entire boundary between Pomona and unincorporated Northeastern Ramapo, except for one short segment that intersects with Quaker Road in the northwest edge. In the Villagenorth of US Route 202, along Camp Hill Road and Quaker Road there are some single-family residential lots. Village Hall is located at the intersection of Camp Hill Road and US Route 202. Then, south of US Route 202 along Camp Hill Road, the existing land use is predominantly single-family residential, except for a large undeveloped area fronting on Camp Hill Road opposite of Isaac Drive and the Bais Yaakov Chofetz Chaim of Pomona private school in Northeast Ramapo. All of Camp Hill Road lacks sidewalks even though there are many single-family houses in the Village south of US Route 202.

##### *Pomona Zoning & Comprehensive Plan*

Pomona Zoning, Village Code §130, allows limited uses by-right plus some by special permit. The information below provides a comparison to adjacent areas in the Town.

**Table 6.8-2: Pomona Adjacent Zoning Districts & Bulk Standards**

District	Use(s)	Area (ft.)	Width(ft.)	Front Yard (ft.)	Side Yard (ft.)	Rear Yard (ft.)
R-40	All Permitted Uses	40,000	150	50	25	30

Pomona has one homogeneous R-40 Zoning District that is primarily low-density residential. In adjacent Ramapo, three zoning districts border the Village: RR-80; R-40; and Professional Office (PO). There are some contiguous areas of relatively low-density residential zoning Pomona, while there is a lower density zoning assignment in the Town south of Isaac Drive in Northeast Ramapo. The PO - Professional Offices zoning in the Town adjacent to US Route 202 seems somewhat more advantageous to capitalizing on highway adjacency than the R-40 zone assignment within Pomona, but if a limited R-40 zoning buildout holds in Pomona, this could establish a lower density and residential edge which would contrast with and frame the more urban form planned in the Northeast Ramapo Opportunity Areas.

The Village of Pomona acknowledged having a Comprehensive Plan in phone communications; yet none was provided for review per requests. Based on a review of the Village’s zoning and its modifications over the last 10 years, minimal land use code changes appear to have occurred.<sup>10</sup>

### Village of New Hempstead

#### *Village of New Hempstead Character*

Land use in New Hempstead consists largely of low-density single-family residential development with some community services. In the north, there is single-family residential land use along Pomona Road as well as some recent townhome development, plus a relatively intense land use in the form of telephone utility operation on the south side of Station Road. The northern section of New Hempstead forms the intersection of State Route 45 and County Route 51 up to the intersection of State Route 45 and Pomona Road is characterized by low-density development and open space. Some low-density housing and two nurseries define the area west of Eugene Levy Memorial Park. Low-density single family again defines land use along Rella Drive, with Summit Park Elementary School situated near it. There is an open land use pattern west of Medical Park Drive. By the intersection of New Hempstead Road and State Route 45 there are some limited offices, while just northeast of there, Village Hall is situated on the east side of Old Schoolhouse Road near the Village’s southern border where a patch of mostly open land stretches north between State Route 45 and Old Schoolhouse Road with only two single-family residential structures within it.

#### *Village of New Hempstead Zoning*

Almost all of New Hempstead is classified as Residential zoning within districts providing for one- or two-

<sup>10</sup> This data was derived from Town of Ramapo planning consultant – Laberge Group - research and efforts to obtain a zoning map, comprehensive plan and other materials, with calls and emails made in late 2019 into early 2020.

family residential lot sizes between 15,000 to 50,000 square feet, with most zones adjacent to Northeast Ramapo representing the higher-end lot sizes. An exception is the Laboratory Office (LO) Zoning District by Pomona Road and State Route 45 west to Station Road. Along the northern tier of the Village, by Pomona Road, besides PO zoning, the designations are primarily in the single-family residence (1R-40) and single-family residence (1R-50) Districts. Along State Route 45, south of PO zone extending south to New Hempstead Road, the assignments are generally 1R-50 and single-family residence (1R-35) Zoning Districts.

### *Village of New Hempstead 2006 Comprehensive Plan*

The Village of New Hempstead's current Comprehensive Plan contains recommendations that are open to refinement and improvement as the Village develops. Its Goals are to:

- Preserve and enhance high quality residential character
- Enhance pedestrian safety/accessibility to provide a more convenient walking environment
- Explore opportunities to create small parks for sitting areas and tot lots in conjunction with a comprehensive sidewalk system

The 2006 Plan proposed Planned Unit Development (PUD) and "cluster" forms of development. These methods were suggested to establish flexible design approaches, particularly as relates to large lots that were undeveloped; however, it does not appear the changes were implemented.

The Village developed a new Comprehensive Plan which emphasizes low and moderate residential densities, improved public amenities such as parks and sidewalks, development of sense of place, and establishment of a community center. It recommends zoning restructuring in order to facilitate growth on large parcels, maintaining the Village's suburban character and, conservation of open space, plus pedestrian safety and walkability is also emphasized. Goals of the 2020 Plan are organized in planning themes: Quality Neighborhoods; Village Parks & Recreation; Transportation/Traffic; Land Use & Zoning; and Village Government & Overall Economic Development. One action suggested to ensure its continued relevance is the establishment of a Comprehensive Plan Implementation Committee.

### Village of New Square

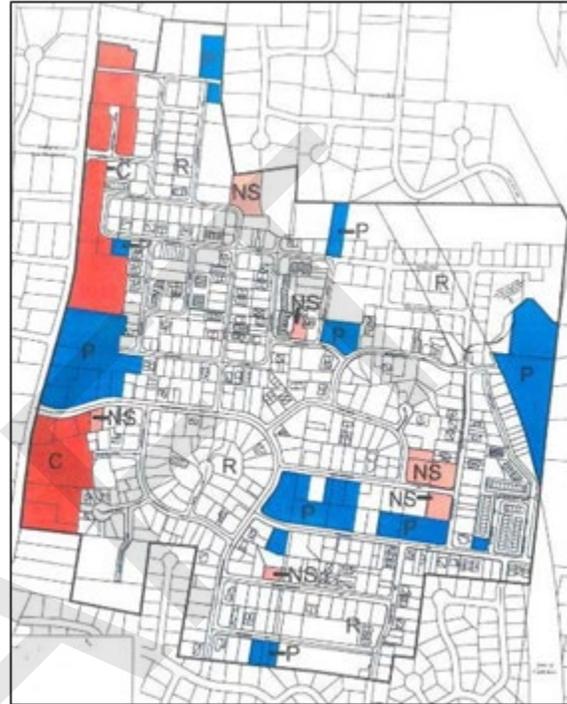
#### *Village of New Square Character*

New Square has high residential population density, rivaling even parts of New York City, so there is established density along Northeast Ramapo's southern border. The pattern along New Square's northern border is transitioning, with construction of more intense residential uses, however, the influence on New Hempstead Road environments appears limited since the Village generally does not interconnect with the study area's southern edge. Also, the northeast corner of the Village, above Yeshiva of New Square, is undeveloped; which matches land use southwest of the Palisades Parkway in Northeast Ramapo, where low-density residential use patterns exist; yet, in the Village around Kiddush Hachame Way, Regan Road, plus Bush Road, Mezritch

Road, Polnoya Road, Slavita Road, and Apta Boulevard, the latter five which border Northeast Ramapo, there is growth in high-density housing.

### *Village of New Square Zoning*

New Square's zoning is not available online, so this review was performed based on the Village's 2019 Comprehensive Plan. New Square Zoning allows for higher intensity development, in terms of units per structure and density on lots. Per the Village's Plan, there are eight (8) zoning districts. Four zones: R-1 (Residential for 1 and 2 family Dwellings); R-2 (R-1 uses and Multi-family Dwellings); C-1 (Retail Business); and C-2 (Central Business), were established in 1967. Four more were added in 2007, including: NS (Neighborhood Shopping); GB (General Business); LDR (Multi-family); and HDR (Multi-family and Townhouses). Four (4) zoning districts are enumerated: R (Residential); P (Public); C (Commercial); and NS (Neighborhood Shopping) New Square has residential zones in northern and central areas, plus residential zones in the south for Public Housing. Meanwhile, the Neighborhood Shopping Zone is scattered throughout the Village. The heaviest commercial zoning is on State Route 45. The zoning in New Square allows small lot sizes, limited setbacks, high lot coverages, and multiple accessory dwelling units.



*Figure 6.8-8 Village of New Square Zoning*

### *New Square Comprehensive Plan*

The New Square Comprehensive Plan of 2019 lays a foundation for the future. It discusses land use, housing, transit, environmental issues, and recreation, and the plans of the County and Town of Ramapo (Section 2). It provides a framework for future re-zoning, which will enable the conversion of single- and two-family homes to multi-family units and it ensure locations are zoned to match their current use to ensure a variance is not needed for conversions, thereby streamlining development. Overall, the New Square zoning plan will not alter development patterns in the Village, it will just bring development into compliance and it promotes a Village goal to meet the needs for expanded housing options.

The Plan also addresses improving sidewalks, cooperating on transit development, and establishing internal connections. It further discusses signal timing at State Route 45, which can affect transport in Northeast Ramapo, so a cooperative approach regarding signal timing in both areas can aid growth in both places. Other recommendations include improving drainage ways and providing street trees to "green up" the village, while it sets out to develop parklands in the Village which would serve all.

## Town of Clarkstown

### *Clarkstown Character*

Land use in Clarkstown adjacent to Northeast Ramapo alter between the north section southeast of South Mountain and further south along Buena Vista Road, where density increases, and it becomes highest by New Hempstead Road. The general pattern is lower-density residential interspersed with open land north of the electric line, including Davenport Reserve. Following Buena Vista Road south, residential density increases, culminating in medium-density neighborhoods of single-family homes and a small commercial zone on New Hempstead Road. The intersection of Saw Mill Road and Buena Vista Road see an increase in residential land uses.

### *Clarkstown Zoning*

Clarkstown Town Code §290 Zoning is a complex zoning law and the below information is a general survey of regulations and comparison to adjacent areas in Ramapo. Clarkston has different standards for uses allowed by-right; as single-family residences have one set of bulk standards, whereas other by-right uses have other more restrictive standards<sup>11</sup>. Clarkstown’s residential districts have by-right zoning for Places of Worship, Schools, Cemeteries, and agriculture. The following summary is derived from the Town of Clarkstown Zoning Regulations.

**Table 6.8-3: Clarkstown Adjacent Zoning Districts & Bulk Standards**

District	Use	Lot-Area(ft.)	Width (ft.)	Front Yard (ft.)	Side Yard (ft.)	Rear Yard (ft.)
RR-160	Single-family residences	160,000	175	50	50	100
	Other uses for which stds. are not specified	280,000	250	75	80	160
R-80	Single-family residences	80,000	175	50	30	50
	Other uses for which stds. are not specified	140,000	250	75	60	80
R-40	Single-family residences	40,000	150	50	30	50
	Other uses for which stds. are not specified	100,000	200	60	40	80
R-22	Single-family residences	22,500	125	35	20	35
	Other uses for which stds. are not specified	80,000	175	50	40	60
LS	Single-family Residence	80,000	175	50	30	50
	Other uses for which stds. are not specified	8,000	50	25	25	25

The Northeast Ramapo study area has a long border with Clarkstown. A majority of Clarkstown’s adjacent zoning districts are residential and at low to low-medium densities. The least dense district bordering

<sup>11</sup> The Table’s “Other uses for which stds. are not specified” references by-right uses other than Single-family.

Northeast Ramapo is the Low-Density R-160 zone by South Mountain Road, northwest of Northeast Ramapo. This 160,000 sq. ft. zone is adjacent to Ramapo's RR-80 zone, calling for 80,000 sq. ft. single family lots. Together this means existing density is sparse across an area north of Conklin Road. Then, there is R-40 just south of there in Clarkstown, adjacent to Ramapo's R-35. In these locations, density is greater in Ramapo, but only slightly by 5,000 sq. ft.

Clarkstown does have a small R-22 district which allows for smaller lot sizes than found in the Northeast; however, this location is isolated from Ramapo by the Parkway. There is also one small Local Shopping-LS zoning district designation in Clarkstown on New Hempstead Road, east of Grace Fellowship Church in Ramapo. This LS zone is adjacent to Ramapo's R-35 zone on this corridor.

### *Clarkstown Comprehensive Plan*

The 2009 Clarkstown Comprehensive Plan focuses on Hamlet Centers and major corridors, which are targets for mixed-use. The more open areas in the north part of Town and along the border to Northeast Ramapo are not identified for change. The Plan also seeks to develop zoning and building regulations that reduce or restrict odors, sounds, commercial traffic, light pollution and other adverse environmental impacts on residential areas taking a performance-based approach to compatibility.

### Adjacent Community's Existing Zoning, Plans & Character Conclusions

Opposite municipal boundaries, adjacent zoning and district layouts are somewhat similar with Ramapo's existing zoning. The Town of Clarkstown provides for low densities to the east, while New Hempstead and Pomona are providing for a bit more moderate densities on the west. At the same time, New Square is providing for high densities, but is poorly connected with unincorporated Ramapo's adjacent R-35 zone. Meanwhile, Haverstraw enables higher densities besides State Route 45 and by the Palisades Parkway and Mount Ivy's core. This varies from unincorporated Ramapo's adjacent areas, particularly by US Route 202 which have generally lower densities and have languished and been slow to experience development, such as in non-residential and mixed-use zones and to an extent in relatively lower density residential zones by the Ramapo border and the Parkway.

## 6.8.2 Potential Impacts

Zoning changes are proposed within key Opportunity Areas to establish new integrated neighborhoods with a mix of uses that are close to major existing roads or provide for opportunities for additional needed neighborhood services near existing residential neighborhoods. Zoning changes proposed for the Opportunity Areas within Northeast Ramapo are anticipated to result in future development and redevelopment. Potential impacts of development to community character are discussed within this section. Since the location of future development is not known, these impacts are discussed generically for the Northeast corridor.

Future development consistent with the proposed zoning changes is not anticipated to be in sharp contrast to the existing land use types within the corridor since current zoning already allows for residential,

commercial, and mixed uses within Northeast Ramapo. However, development could potentially influence character, in terms of general heights and scales of buildings, density, and loss of undeveloped space. While the level of analysis that follows is generic, it examines how land use in Opportunity Areas could impact community character as well as surrounding residential zones and natural edges.

The impacts of the proposed zoning on community character are discussed below. Note that impacts related to population and socioeconomic are discussed within **Section 6.4**. Public service impacts are discussed within **Section 6.4** and **Section 6.10**.

### 6.8.2.1 Proposed Commercial Corridor

Commercial Corridor zoning, proposed within Opportunity Area B along US Route 202, encourages a mix of commercial and residential development. The new district is intended to create a revitalized area of focused, walkable mixed-use development allowing for a greater variety of commercial activity while supporting residential uses. The proposed zoning will support enhancement of this corridor as a complete street with high utility and amenity value and draw public attention to this commercial and mixed-use node.

This proposed zoning district would be in place of the current RR-40, Community Shopping (CS), Professional Office (PO) and Planned Industry (PI) districts within the US Route 202 corridor. Currently, residential uses along US Route 202 are restricted to the RR-40 and MU-2 districts.

Proposed Commercial Corridor zoning is intended to encourage a greater variety of commercial uses throughout the corridor and allow for mixed use development. Future development under the proposed zoning will be at least 70% commercial, with up to 30% residential. Residential uses will include multifamily housing and will be limited to the second and third floor of any structure.

A buildout analysis was completed to estimate the potential growth in commercial and residential area based on future development within this Opportunity Area. According to the buildout analysis, there is potential for an estimated 43 - 187 additional multi-family residences and 138,000 – 578,000<sup>12</sup> square feet of additional non-residential space. Compared to full buildout under existing zoning, as discussed in **Section 8.0**, this represents an increase in commercial density and decrease in residential density within the US Route 202 Corridor.

Commercial uses within the proposed Commercial Corridor district may include banks, day-care centers, restaurants, medical and dental offices, and retail stores on a scale consistent with existing development. Additional uses allowed by special permit include theatres, cinemas, gas stations as well as schools and houses of worship. Public opinion research, discussed within **Section 6.4**, indicates that there is support for housing density and mixed-use development within proximity to consumer needs and services.

Building heights within the proposed district are limited to three stories. This represents a reduction in height compared to the current MU-2 district which allows for buildings up to 45 feet in height.

Under existing zoning, setback requirements throughout the US Route 202 corridor vary considerably by use type from 30 to 100 feet. The proposed Commercial Corridor zoning would enact consistent setback requirements throughout corridor, creating a more visually consistent character.

<sup>12</sup> Appendix B: Buildout Analysis

Future development within the proposed district would create a pedestrian realm through requirements for sidewalks and pedestrian friendly landscaping and lighting, thus encouraging walkability and creating a more inviting corridor. The incorporation of a multi-use path could further encourage safe pedestrian activity and use of area transit.

### **6.8.2.2 Proposed Neighborhood Shopping District**

The Neighborhood Shopping District, proposed within Opportunity Area C along State Route 45, is intended to allow for neighborhood commercial uses, on a scale consistent with existing development in the area. Land use patterns in this area can be sustained and added to in order to establish a distinct southern gateway into Mount Ivy. This will bolster the hamlet's edge and form a transition as people move from and onto State Route 45. The proposed district is intended to support existing residential areas by allowing for a greater variety of services. The Neighborhood Shopping district is anticipated to introduce elements that encourage walkability while maintaining existing character such as sidewalks and pedestrian scale lighting. Incorporation of these elements will be addressed at time of site plan review.

The Neighborhood Shopping district is currently in use in Ramapo, outside of the Northeast corridor. The proposed zoning district would be in place of the current RR-80 zoning which primarily allows for single family homes, as well as community residence facilities and houses of worship.

The Neighborhood Shopping district would allow for the development of neighborhood scale commercial uses that may include local convenience stores, groceries, offices, laundromats, neighborhood restaurants as well as schools of special instruction. While residential uses would not be permitted within this district, the additional commercial opportunities would further support the needs of the surrounding residential areas.

A buildout analysis was completed to estimate the potential growth in commercial and residential area based on future development within this Opportunity Area. According to the buildout analysis, there is potential for an estimated 198,000<sup>13</sup> square feet of non-residential/commercial space. Compared to full buildout under existing zoning, as discussed in Section 8.0, this represents an increase in commercial density and decrease in residential density.

Building heights within the proposed district vary by use and are limited to three stories. This is consistent with the heights currently allowed within the existing RR-80 district, depending on use type.

### **6.8.2.3 Proposed Flexible-Overlay Planned Unit Development**

The Flexible-Overlay Planned Unit Development (FOPUD) is a new floating zone that is intended to provide flexibility for future growth that considers options for new residential, commercial, mixed uses and amenities in which economies of scale or creative architectural or planning concepts may be utilized by the developer. The FOPUD is intended to minimize the impacts of suburban sprawl, more efficiently use land, and encourages site design to include a network of active spaces. Proposed development with the FOPUD is intended to be respectful of the existing environment, make efficient use of the land and meet a set of design criteria, fostering placemaking. This zoning tool is intended to be utilized on non-public lands of 20 acres or more. The flexible nature of the FOPUD can provide opportunities for a mix of multi-family and commercial uses. Through creative site design, the tool can encourage the incorporation of open space resources such as

<sup>13</sup> Appendix B: Buildout Analysis

parks, trails to serve the needs of the surrounding residential area. Incorporation of these elements will be addressed at time of site plan review.

Use types within the FOPUD may include residential, commercial, office, retail, or other land uses, or any combination thereof that may be authorized in a flexible manner so as to achieve the goals of the Town Comprehensive Plan.

The FOPUD design criteria encourage the incorporation of a network of active spaces, rooftop designs with visual interest and design treatments that include details and materials that promote visual interest. Site design will include streetscapes that encourage pedestrian activity by incorporating unified site furniture. The FOPUD will encourage the compatibility between residential and commercial uses where these zones abut. Future development will be complemented with facades that are articulated with a variety of depths and materials along the pedestrian ways.

While it is unknown where development may occur, since the FOPUD is intended to be utilized on non-public lands of 20 acres or more, it may potentially be utilized within Opportunity Areas A, D or E.

For each area below, impacts related to incorporation of an FOPUD, including discussion of the buildout analysis are presented. Buildout analysis methodology is further described within **Appendix B – Buildout Analysis**. Populations associated with build out scenarios also described within **Section 6.4 Community Services**.

### Opportunity Area A

Opportunity Area A is located within the proposed Commercial Corridor district; however, the area potentially fits the criteria of an FOPUD. The proposed zoning would be in place of the current MU-2 zoning district.

A project currently proposed for this Opportunity Area includes the development of multifamily residential housing and commercial area. According to the buildout analysis, there is potential for an estimated 236 residences and 19,000<sup>14</sup> square feet of additional non-residential space. Compared to full buildout under existing zoning, as discussed in **Section 8.0**, this represents a decrease in commercial density and decrease in residential density.

### Opportunity Area D

Opportunity Area D is located within the former Minisceongo Golf course. Since the property is privately owned and greater than 20 acres, it potentially fits the criteria of an FOPUD. The proposed zoning would be in place of the current RR-80 zoning district which primarily allows for single family homes, as well as community residence facilities and houses of worship.

While no projects have been formally proposed, should the property owner seek to pursue an FOPUD, according to the buildout analysis, there is potential for an estimated 634 residences and 40,000<sup>15</sup> square feet of additional non-residential space. Compared to full buildout under existing zoning, as discussed in **Section 8.0**, this represents an increase in both commercial and residential density. See Appendix M which contains preliminary concept plans for a mixed use residential project known as Millers Pond.

<sup>14</sup> Appendix B: Buildout Analysis

<sup>15</sup> Ibid

## Opportunity Area E

Opportunity Area E, located on the East side of the PIP, north of New Hempstead Road also potentially fits the criteria of an FOPUD. The proposed zoning would be in place of the current R-35 zoning district which primarily allows for single family homes.

While no projects have been formally proposed, should the property owner seek to pursue an FOPUD, according to the buildout analysis, there is potential for an estimated 252 residences and 16,000<sup>16</sup> square feet of additional non-residential space. Compared to full buildout under existing zoning, as discussed in **Section 8.0**, this represents an increase in both commercial and residential density.

### **6.8.2.4 Impacts to Surrounding Areas**

While the NRDP/DGEIS does not propose zoning amendments outside of the Opportunity Areas, the potential for adverse impacts to adjacent areas exists.

Future development consistent with the proposed zoning changes has the potential to increase outdoor lighting, resulting in a sky glow brighter than existing area conditions.

Impacts to surrounding residential areas will be addressed at time of site plan review. For instance, the Neighborhood Shopping district requires the buffering of new development from existing residential lots.

The proposed zoning changes are not anticipated to authorize or encourage any adverse impacts on surface waters. Wetlands, streams, ponds, lakes and other surface waters are protected by federal, State, County and local laws, rules and regulations. Additionally, the proposed zoning changes are not anticipated to authorize or encourage development within a floodplain. Future development will be required to comply with federal, State and local regulations.

Impacts within the Scenic Road District, which includes the Palisades Interstate Parkway (PIP), US Route 202, Camp Hill Road, and South Mountain Road are not anticipated. Any development within this district is not permitted without Town Planning Board Approval.

Impacts related to natural resources and open space are further discussed within **Section 6.1 Natural Resources** and **Section 6.2 Parks and Recreation**.

### **6.8.2.5 Additional Design Considerations and Overall Impacts**

During the development of the NRDP, a variety of alternatives were explored including a Walkable Neighborhood Opportunity Area (WNOA), Open Space Preservation, Community Facilities Area as well as an Affordable Business Space Incentive. Section 7.0 further describes these alternatives as well as a discussion of recommendations for physical appearance.

Based on the above discussion, the NRDP/DGEIS will provide for general growth that is consistent with regional plan objectives. Importantly, it will reinforce existing centers along major roads, or proposed for establishment by major routes, while it provides for a greater mix of housing and new non-residential space

<sup>16</sup> Appendix B: Buildout Analysis

that can support community vitality, sound land-use transportation relationships, housing choices and economic development.

### 6.8.3 Mitigation

Future development within Northeast Ramapo has potential to positively influence and benefit community character. Notably, the Opportunity Areas are in important, central locations on major roads and on the edge of urbanized locations. Yet, these same places are currently designated often for lower-density residential growth or could provide for limited commercial development or mixed-use. This form and pattern will contribute to sprawling character and a disjointed appearance which will not serve community needs in terms of supplying a diversity of housing, mixed and efficient land use, and proximity of housing, services and jobs. While heights, and density must increase in Northeast Ramapo to meet community needs, the negative impacts can be mitigated through site plan review, design guidelines and zoning treatments.

While future development consistent with the proposed zoning changes was identified within the Full Environmental Assessment Form (EAF) as potentially being inconsistent with the architectural scale and character of the Northeast area and natural landscape, through the evaluation documented within this DGEIS, it is anticipated that any adverse impacts would be minimized through mitigation measures discussed below. The neighborhood and open space character of Northeast Ramapo is defined in part by permanently conserved lands at South Mountain, the Mt. Ivy Environmental Park, Conklin Orchards, the Palisades Interstate Parkway as well as existing natural resources such as wetlands and streams. Future development consistent with the proposed zoning changes is not anticipated to adversely affect the enjoyment of these resources. Additionally, future development consistent with the proposed zoning changes is not anticipated to adversely impact aesthetic resources.

Future development consistent with the proposed zoning changes could potentially increase outdoor lighting within Northeast Ramapo, resulting in a sky glow brighter than existing area conditions. However, it is anticipated that any adverse impacts would be minimized through thoughtful lighting selection and design at time of site plan review. The incorporation of "Dark sky friendly" lighting such as shoebox light fixtures and downlit lighting is encouraged.

Future development in Northeast Ramapo will be guided by existing zoning laws and regulated through site development plan approval and architectural review in order to minimize impacts to the visual character of the surrounding area.

As new development occurs, consideration should be given to the buffering of development from existing residential neighborhood. Elements such as landscape buffers and setback requirements will be addressed at the time of site plan review.

Future applications for an FOPUD will be subject to review and approval by the Town Board. All uses permitted within an FOPUD District shall be determined by the Town Board pursuant to the Preliminary PUD Plan for that District along with any permitted accessory uses. Permitted use language and required approvals elsewhere in the Zoning Code, inconsistent with the FOPUD regulations, will not be applicable. The Town Board may also require visual buffering, pedestrian accesses, public services sites, as well as recreation/open space facilities at their discretion.

Future applications for site plan and subdivision review must comply with existing zoning requirements. Bulk area requirements are specified by use and are described within the Town Zoning Code Table of General Use Requirements. The Table of Bulk Requirements in regulation 376-41, specifies by use group the requirements

for: minimum lot area, lot width, setbacks, setbacks, required minimum frontage, development coverage, floor area ratio (FAR), as well as maximum building height. Adherence to these requirements is anticipated to mitigate the impact on open space.

Any development in proximity to the Scenic Road District, which includes the Palisades Interstate Parkway (PIP), US Route 202, Camp Hill Road, and South Mountain Road is not permitted without Town Planning Board Approval. Development in these areas should be compliant with Town Code Chapter 215 which provides extensive area and site level recommendations for how the pattern, form, and appearance of development can occur. The Town Board may require additional plantings or buffering to protect key scenic views.

### 6.8.3.1 Proposed Greenprint

The current Town wide population is anticipated to increase as a result of migration into the Town as well as future development within the proposed Opportunity Areas. Based on these projections, it is anticipated that there will be a greater need for recreational opportunities than what has already been identified.

In order to help meet these needs, a Greenprint is proposed to reinforce the landscape which will complement the development occurring in the proposed Opportunity Areas. A Greenprint is a linked system of open space and natural areas, such as wetlands, forests, existing parks, preserved land, and multiuse paths or trails that establish and connect the Northeast's natural and cultural features and character. The accompanying **Figure 6.8-9 Greenprint Map** illustrates, at a conceptual level, future linkages, and connections to existing open space, parklands, trails, and the proposed Opportunity Areas.

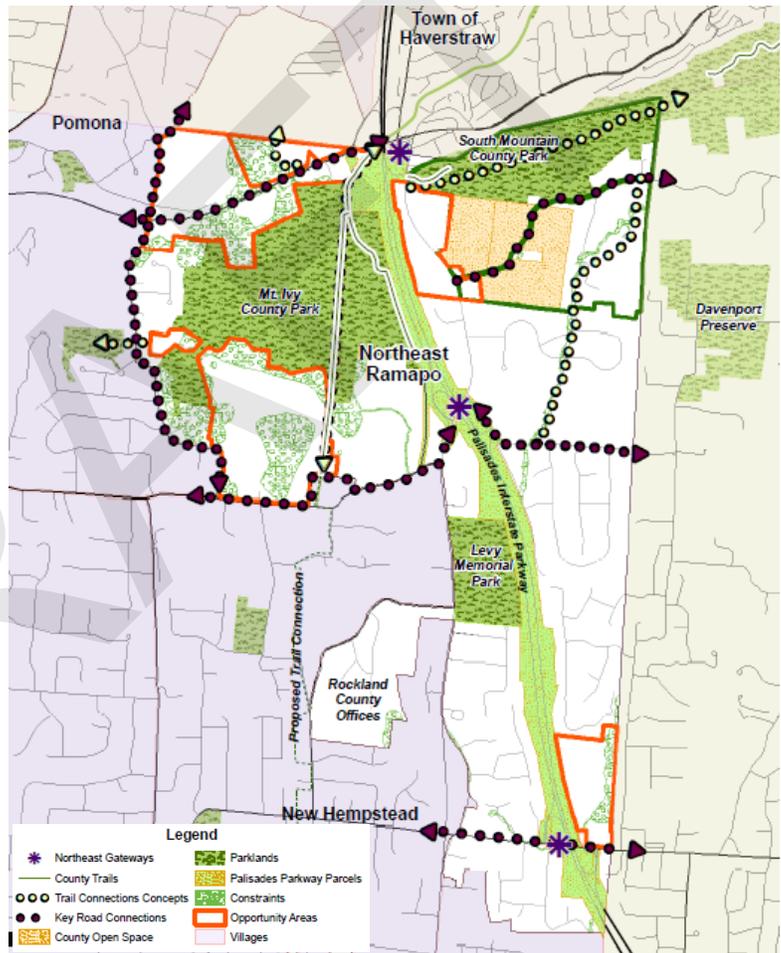


Figure 6.8-9 – Proposed Greenspring Map. Source: LaBerge Group

Elements of the Greenprint include the establishment of multimodal connections along key roadways and gateways including Camp Hill Road, US Route 202, South Mountain Road, Pomona Road, Conklin Road, and New Hempstead Road. Additionally, there are opportunities to establish trail linkages through existing public and open space lands such as through South Mountain County Park.

In addition to recreation benefits, efforts to bolster the Greenprint could enhance community character, foster placemaking and benefit community resiliency. As development occurs, the Town of Ramapo can also examine additional ways to link open space and recreational resources through site plan review. Additional

discussion of the Greenprint is included in **Section 7.0 Alternatives**.

DRAFT

## 6.9 Climate Change

Climate change is largely driven by human emissions of Green House Gas (GHG) from burning fossil fuels for electricity, heat, and transportation. Building upon section 6.5.3 Energy Distribution and Consumption the proposed pattern of compact growth being fostered within this Plan/DGEIS will advance less sprawling land use, more efficient building stock and rates of energy consumption, lessened emissions from mixed-land use, and land use efficiency. In addition, this Plan/DGEIS will enable lower per capita auto trips, and encourage walking and use of public transit. All of this will combine to enable a beneficial shift in how energy is consumed in the transportation and building sector, thereby lowering the potential production of GHG. There is also potential to improve how energy is produced and distributed locally to cause lower GHG emissions.

Since lower energy consumption is linked with lower levels of climate harming emissions, this section addresses resource planning and mitigation of community GHG by examining guidance from the 2013 Mid-Hudson Sustainability Plan and recent State policies. The Sustainability Plan provides identification of regional per capita GHG emissions in million tons of carbon dioxide (CO<sub>2</sub>) equivalent used in 2010. This discussion focuses on ways to plan and track decarbonization in Northeast Ramapo's economy. It will be possible to grow the housing and economic base while promoting lower equivalent amounts of GHG per capita moving forward.

### 6.9.1 Existing Conditions

#### Town Plans and Policies

The Town of Ramapo has a number of plans and policies to begin the foundation of sustainable planning. Town specific plans include the 2004 Comprehensive Plan and the 2018 Rockland County Hazard Mitigation Plan.

While there is no discussion about climate change, energy conservation, or community resiliency in the Comprehensive Plan adopted in 2004 and amended in 2020, a Natural Resources and Open Space goal does promote preservation and protection of floodplains, aquifers, and open space. Also, a reference to sustainability discusses future land use and recommends examining the potential to return to traditional neighborhood patterns (e.g., tree lined streets with mixtures of uses and housing types), which are termed essential to restoring functional and sustainable communities.

A subject-focused 2018 Rockland County Hazard Mitigation Plan (by Tetra Tech) was developed by the County and contains a jurisdictional annex for the Town. The Annex examines resiliency in the event of severe hazards like floods or severe storms that can occur in conjunction with climate change. The Town's Annex focuses on coordinating development to avoid building within potentially hazard-prone locations, improving critical sewer pump stations in low-lying elevations which can flood, and planning land use so stormwater designs attenuate flows on site in order to help avoid flooding.

### Rockland County Comprehensive Plan

From a regional perspective, Rockland County has also begun the framework for sustainable planning. Regional plans include the 2011 County Comprehensive Plan, 2020 Route 59 Area Transportation and Land Use Study, and the Mid-Hudson South Region Bicycle and Pedestrian Master Plan.

The land use and sustainability goal in the 2011 Rockland County Comprehensive Plan acknowledges the impact of climate change on planning and County operations. It calls for County departments to explore sustainable development measures and the use of green technologies to adapt to and mitigate its effects.<sup>1</sup> Meanwhile, its Natural and Environmental Resources preamble advocates for regional sustainable growth, and actions like channeling growth into centers, retaining trees and using landscaping design in development, and establishing mixed-use in proximity to transit routes<sup>2</sup>. These types of objectives are also contained within the Northeast Ramapo Development Plan/DGEIS.

The County Comprehensive Plan also seeks Rockland County's involvement in the NYSDEC Climate Smart Communities (CSC) program. Furthermore, it calls for the creation of tax incentives for green building and conservation measures, plus it advocates for an environmental task force to provide trainings around climate change initiatives.<sup>3</sup> The County is a CSC program registrant since 2010, the current Bronze certification for the County will expire on August 31, 2024.

### 2020 Route 59 Area Transportation and Land Use Study

The 2020 Route 59 Area Transportation and Land Use Study identified and evaluated transportation and development issues and future improvement recommendations in the 4.5-mile stretch of State Route 59 that runs from Airmont Road in the Village of Airmont east through the hamlet of Monsey and Town of Ramapo to South Pascack Road in the Village of Spring Valley. This study goes through the analysis of multimodal enhancement, indirectly addressing climate change adaptation and mitigation.

### The Mid-Hudson South Region Bicycle & Pedestrian Master Plan

The Mid-Hudson South Region Bicycle & Pedestrian Master Plan (2001) provides planning for alternatives to auto travel, which can aid reductions in tailpipe emissions and a shift to fewer vehicle miles travelled. While it is somewhat dated, techniques it proposes for advancing non-motorized transport and safety are consistent with the types of actions put forth in this NRDP/DGEIS.

<sup>1</sup> Rockland Tomorrow: Rockland County Comprehensive Plan Rockland County New York March 1, 2011, by BFJ Planning page 3.

<sup>2</sup> *ibid.* pages 143-144.

<sup>3</sup> *ibid.* page 335.

## Per Capita Emissions

The Mid-Hudson Regional Greenhouse Gas Emissions Inventory, by ICF International (2012), presents activities responsible for GHG emissions, covering stationary energy emissions like those caused by the direct and indirect combustion of fuels and in the generation of electricity, mobile energy associated with some form of transportation, plus emissions attributable to solid waste, wastewater treatment, industrial processes, agriculture, and energy supply, the latter meaning resulting from power transmission/distribution. This data is presented within Table 53 in the *Town-wide Existing Conditions Report*, which is included as Appendix A.

The 2012 ICF Emissions Inventory quantifies the levels of emissions for each activity within each individual municipality for 2010. Within the Town, across those seven activities there was a cumulative total of 1,057,690 Metric Tons Carbon Dioxide equivalent GHG emissions.<sup>4</sup>

Using the Town-wide Existing Conditions Report US Census count of population for 2010, there were 125,595 people residing in the Town, inclusive of villages. At a per capita level, dividing the 2010 town wide emissions by the number of persons, there was 8.42 Metric Tons Carbon Dioxide equivalent emitted per person. For comparison, the State emits roughly 11 Metric Tons Carbon Dioxide equivalent emitted per persons<sup>5</sup>. This rate is in line with the rest of the County. While rates for the portions of the Town outside of Villages have not been broken out, it is likely that the per capita emissions there would be lower since much of the unincorporated Town population is based in relatively high-density Monsey and Hillcrest areas where there anecdotally there appears to be higher relative rates of people walking and lower per capita levels of car ownership.

Within the above mix, Stationary Energy consumption and Transport Energy consumption drive emissions. In 2010 this breakout is quantified as follows in Ramapo:

- 45.2% Stationary (with 277,478 Metric Tons Carbon Dioxide equivalent GHG emissions Residential and 202,766 Metric Tons Carbon Dioxide equivalent GHG Commercial and Industrial).
- 40.0% Mobile (422,7410 Metric Tons Carbon Dioxide equivalent GHG).
- 14.8% All Other Activities.

Residential use as compared to commercial or industrial represents the largest source of Stationary Energy GHG emissions.

<sup>4</sup> Final Report for Mid-Hudson Tier II Regional Greenhouse Gas Emissions (GHG) Inventory December 13, 2012, by ICF International Table 26 – Rockland County; Total Emissions by Municipality and Sector, MTCO<sub>2e</sub>

<sup>5</sup> NY State Greenhouse Gas Inventory: 1990-2014 Final Report, 2017, by NY State Energy Research Development Authority, Figure S-6 and page S-12.

## 6.9.2 Potential Impacts

This section is organized in concert with discussion in the Energy Distribution & Consumption Section 6.5.3, which provides for lower per capita energy consumption based on the planned evolution in the pattern of development, because compact and higher density land use is anticipated to encourage elevated rates of people walking and using mass transit. The Energy section also promotes buildings that are more energy efficient, which correlate with fewer GHG emission per capita, or per square foot of building. Since the Energy Section addresses measures to enable better patterns of energy use, this discussion focuses on actions to aid climate and sustainability planning and facilitate reductions in the levels of GHG emissions in the community and prepare for resiliency in the face of climate change.

### Climate Smart Communities (CSC) Planning

Given widespread potential for adverse effects from global warming, it is logical for the Town to promote economic development that aligns with the rapidly emerging priority to decarbonize New York State's economy. Currently, the State of New York has a goal to achieve an 85% percent reduction in GHG emissions by 2050. In a nearer term, the State has a goal for zero carbon emissions from the electricity sector by 2040. This will be accompanied by a push for more power to emanate from sources like solar Photovoltaic (PV) technologies or wind sources, some of which would be sited within local communities.

The NY State CSC program is a New York State DEC-led initiative that can be used to plan local mitigation and adaptation to climate change. Since it is a readily available and known tool for assessing and structuring action, this NRDP/DGEIS promotes enlisting in and starting to use CSC benchmarking since CSC participation can also be used to access grant funding (and rebates) for implementing actions already set forth in this NRDP/DGEIS.

CSC benchmarks and technical assistance are designed for use by local governments establishing practices and pathways for reducing GHG emissions and adapting to the changing climate. Town Registration in the CSC program would be a first step, which would come in the form of a resolution of support of a CSC Pledge. Participation in the CSC program is voluntary.

Ideally, Town leaders would prioritize completing a GHG inventory as a foundational step. It would enable establishment of a baseline against which to measure progress. Since municipal use of energy expends operating funds, it also can make sense to separately quantify energy use and associated emissions within the local government sector. If the Town performs energy use audits for individual buildings, this can aid optimization of expenditures on energy efficiency and planned capital investments. This can also model Town government's commitment to making improvements, plus it will provide useful background on how critical facilities can be made resilient during power outages.

More broadly, many NRDP/DGEIS actions fit with CSC program objectives, such as:

- Promoting green building;

- Providing for installation of highly efficient street lighting and converting traffic signals to Light Emitting Diode (LED) type fixtures; and
- Conducting feasibility studies for community- or small area or site-level renewable energy installations or installing solar hot water and/or solar PV power technology on public properties.

In discussing sustainability planning, the Mid-Hudson Regional Sustainability Plan<sup>6</sup>, notes that actions around climate and sustainability planning connect with economic development because they aid efficiency of resource use. They also support investment in quality infrastructure and aid growth in new industries, which can help revitalize communities.

The Town has limited staff available who can conduct such planning, but through access to external technical assistance, it could be possible to establish helpful baseline information and benchmarking data. Funding support could also be accessed for key capital projects which will support community wellness and economic development.

### 6.9.3 Mitigation

The Mid-Hudson Regional Sustainability Plan proposes the Town as a Center for Growth. This signifies that it clearly makes sense to equip Northeast Ramapo for new growth. Throughout this Plan, there is promotion of smart growth-oriented land-use and walkable, vibrant neighborhoods with higher rates of travel involving pedestrians and bicyclists, public transit, and electric vehicles. These are the same types of sustainability elements that are central aspects of the CSC program's recommendation for advancing sustainable growth, so clearly there are many beneficial aspects within this plan. Moreover, the NRDP/DGEIS sets up adaption to climate change and it promotes:

- Green economic development
- Decreased dependence on fossil fuels and support for energy efficiency and renewable energy production

Within its discussion of efficient land use and smart growth, the Regional Sustainability Plan promotes:

- Reduced stationary fuel consumption of GHG emissions
- Reduced transportation fuels use per registered vehicle
- Reduced vehicle miles traveled
- Reduced vehicle (auto) ownership
- Reduced transportation fuel use
- Reduced transportation GHG emissions per capita

<sup>6</sup> Mid-Hudson Regional Sustainability Plan, 2013, page 9-2

This DGEIS prompts such changes, but documentation developed does not quantify current conditions around these measures. However, it does encourage CSC Community registration and energy use and emissions benchmarking, the latter particularly if external underwriting and/or technical support can be achieved to assist the Town in documenting the characteristics of energy use and GHG emissions on a Town-wide level, as well as at the level of the Town governmental sector.

As a buildout of Northeast Ramapo progresses, local reductions in the intensity of energy use in buildings, a denser pattern of building, and changes in transportation patterns and efficiency could influence decreases in per capita energy consumption. The per capita GHG emissions could see reductions based upon the adoption of smart growth-oriented land-use measures, achieving higher rates of travel involving pedestrians and bicyclists, public transit, and electric vehicles, through more efficient building, and establishing some renewable power generation and upgrades in transmission and storage infrastructure.

The compact and directed growth enabled in the new zoning will also help avoid potential to be adversely impacted by floods because in Northeast Ramapo new construction is promoted outside of locations with severe flooding potential, including the 500-year floodplain. Furthermore, the infrastructure serving new growth will be hardened and involve greener, more sustainable practices. Therefore, the potential for adverse impacts from climate change associated with the new growth planned within Northeast Ramapo has been mitigated through these initiatives.

## 6.10 Fiscal Impacts

This section provides a summary of the economic and fiscal impacts for existing and proposed zoning changes. These estimates are based on the full buildout of Northeast Ramapo under existing and proposed zoning based on assumptions about what the end uses will be. The true build out is still to be determined, however the data in the economic and fiscal impact analysis provides an understanding of potential impacts upon full build out of both the existing zoning and two proposed zoning changes (collectively referred to as the Development Scenarios) in terms of jobs, earnings, sales, and fiscal impacts. The full report is attached as **Appendix G Economic and Fiscal Impact Analysis**.

A buildout analysis was performed on Northeast Ramapo which estimated the additional commercial area and residential units for potentially developable lands at under current zoning and proposed zoning. The proposed buildout analysis estimated the additional commercial area and residential units for potentially developable lands within the proposed Opportunity Areas, as well as those lands outside the proposed Opportunity Areas where development may occur. The proposed buildout analysis considered two Development Scenarios: with Opportunity Area A under Commercial Corridor Zoning (Option A), and with Opportunity Area A developed under the proposed 'Minisceongo Park' project (Option B).

Commercial Corridor zoning, proposed within Opportunity Area B along US Route 202, encourages a mix of commercial and residential development. The new district is intended to create an area of focused, walkable mixed-use development allowing for a greater variety of commercial activity while supporting residential uses. Residential growth within the OA is anticipated to add 43<sup>1</sup> additional multi-family residences, supporting the need for rental housing. Commercial growth within the OA is anticipated to create new employment and a greater range of services. Commercial growth within Opportunity Area B is anticipated to add over 138,000 square feet of additional non-residential space<sup>2</sup>. Commercial uses may include banks, day-care centers, restaurants, medical and dental offices, and retail stores on a scale consistent with existing development.

The Neighborhood Shopping District, proposed within Opportunity Area C, is intended to allow for neighborhood commercial uses, on a scale consistent with existing development in the area. Commercial growth within Opportunity Area B is anticipated to add over 197,000 square feet of additional commercial space<sup>3</sup>. The district is intended to support existing residential areas by allowing for a greater variety of services which may include local convenience stores, groceries, offices, and laundromats.

The Flexible-Overlay Planned Unit Development (FOPUD) is a new floating zone that is intended to provide flexibility for future growth that considers options for new residential, commercial, mixed uses and amenities in which economies of scale or creative architectural or planning concepts may be utilized by the developer. Proposed development with the FOPUD is intended to be respectful of the existing environment, make efficient use of the land and meet a set of design criteria. This zoning tool is intended to be utilized on lands of 20 acres or more, potentially within Opportunity Areas B, D and/or E. The FOPUD

<sup>1</sup> Appendix B: Buildout Analysis

<sup>2</sup> Ibid.

<sup>3</sup> Ibid

will allow for a range uses and housing types at different price points, supporting the current demand for single- and multi-family housing. Development within these areas has the potential to add over 75,000 square feet of commercial space and 1,122 new residential units.

The timeline of when full buildout may occur is difficult to determine and is dependent on a number of factors. The Economic and Fiscal impacts estimated below are reported in terms of total annual impact at full buildout under each development scenario rather than a 20-year projection.

## 6.10.1 Economic Impact Analysis

An economic impact analysis was performed to estimate the total cumulative changes in employment, earnings, and output under a full buildout under existing and proposed zoning. Impacts under proposed zoning were estimated using two Development Scenarios – Option A and Option B. The economic impacts upon the town are the result of new permanent jobs and spending by new households.

Economic impact estimates were developed for direct impacts (new spending or jobs) as well as indirect, and induced impacts. Estimates of direct economic activity were developed and used as the direct inputs for an economic impact model. The economic impact model calculated the indirect and induced impacts which estimates the result of the direct impacts circulating through the Ramapo economy. Finally, total economic impacts were calculated which include the direct, indirect and induced impacts.

### 6.10.1.1 Impacts of New Household Spending

To determine the annual economic impact of the Project on the town, the first step is to calculate the number of households that can be considered “net new” to the town’s economy. In other words, the number of households that, but for the Project, would not exist in the Town of Ramapo. Due to the generic nature of this analysis, we are assuming that all the households are net new to the Town since we are assuming full build out of existing and proposed zoning. Therefore, if full build out were not to occur then these new households would not exist in the town.

Table 6.10-1

<b>New Households</b>		
<u>Existing</u>	<u>Option A</u>	<u>Option B</u>
381	1,098	1,190

Source: MJ Engineering

### Spending by New Households

The new residents would make purchases in the town, thereby adding new dollars to the Ramapo economy. For this analysis, spending patterns by households in the northeast were researched.

Using a spending basket for the region which details household spending in individual consumer categories by region of residence, likely household spending was analyzed. According to the 2018-2019

Consumer Expenditure Survey, households in the northeast have annual expenditures (excluding housing and utility costs) of \$33,886.

Table 6.10-2 below displays the total spending by retail category per household. It is assumed that approximately 25%<sup>4</sup> of total expenditures would occur within the Town of Ramapo and, therefore, have an impact on the Ramapo economy. This amount is multiplied by the number of new net units (381 under existing zoning, 1,098 under Option A, and 1,190 under Option B) to determine the total amount spent in the town attributed to the Development Scenarios.

Table 6.10-2

Category	Impact of Household Spending					
	Spending Per HH	% Spent in Town	Amount Spent in Town	Existing (381 HH)	Option A (1,098 HH)	Option B (1,190 HH)
Food	\$ 8,047	28%	\$ 2,268	\$ 864,246	\$ 2,490,661	\$ 2,699,351
Household Furnishings	\$ 2,062	11%	\$ 225	\$ 85,623	\$ 246,757	\$ 267,433
Apparel and Services	\$ 1,883	13%	\$ 243	\$ 92,473	\$ 266,497	\$ 288,827
Transportation	\$ 10,507	14%	\$ 1,470	\$ 560,072	\$ 1,614,066	\$ 1,749,307
Health Care	\$ 5,081	64%	\$ 3,226	\$ 1,229,283	\$ 3,542,659	\$ 3,839,493
Education	\$ 1,425	32%	\$ 457	\$ 174,211	\$ 502,058	\$ 544,125
Entertainment	\$ 3,158	11%	\$ 341	\$ 129,860	\$ 374,244	\$ 405,601
Personal Care	\$ 777	38%	\$ 295	\$ 112,489	\$ 324,180	\$ 351,342
Misc.	\$ 946	10%	\$ 98	\$ 37,157	\$ 107,084	\$ 116,056
<b>Total</b>	<b>\$ 33,886</b>	<b>25%</b>	<b>\$ 8,623</b>	<b>\$ 3,285,416</b>	<b>\$ 9,468,205</b>	<b>\$ 10,261,534</b>

Source: Emsi, Camoin 310, Consumer Expenditure Survey, U.S. Bureau of Labor Statistics, September, 2020

As shown in Table 6.10-2 above, spending in the town by all new households would generate additional sales for town businesses under full build out of the Development Scenarios. This spending is allocated based on the above spending basket amounts to calculate the direct, indirect, and total impact of the Development Scenarios on the town. To do this, we attributed the various spending categories to the appropriate NAICS codes based on current sales and consumer habits in the Town of Ramapo.

Using the total new consumer spending in town under the Development Scenarios as the new sales input, an economic impact model was used to determine the indirect, induced, and the total impact of the project. Table 6.10-3 below outlines the findings of this analysis.

Table 6.10-3

<sup>4</sup> Based on an analysis of resident demand in each spending category that is met within the Town of Ramapo. Source: Emsi.

**Economic Impact of Households**

<b>Existing</b>			
	<u>Jobs</u>	<u>Earnings</u>	<u>Sales</u>
Direct	30	\$ 1,339,769	\$ 3,285,416
Indirect	5	\$ 249,926	\$ 681,545
Induced	3	\$ 181,734	\$ 467,741
<b>Total</b>	<b>38</b>	<b>1,771,429</b>	<b>4,434,701</b>

<b>Option A</b>			
	<u>Jobs</u>	<u>Earnings</u>	<u>Sales</u>
Direct	88	\$ 3,861,067	\$ 9,468,205
Indirect	13	\$ 720,259	\$ 1,964,139
Induced	8	\$ 523,737	\$ 1,347,977
<b>Total</b>	<b>109</b>	<b>5,105,064</b>	<b>12,780,321</b>

<b>Option B</b>			
	<u>Jobs</u>	<u>Earnings</u>	<u>Sales</u>
Direct	95	\$ 4,184,581	\$ 10,261,534
Indirect	15	\$ 780,609	\$ 2,128,711
Induced	9	\$ 567,621	\$ 1,460,922
<b>Total</b>	<b>118</b>	<b>\$ 5,532,810</b>	<b>\$ 13,851,167</b>

Source: Emsi, Camoin 310

**6.10.1.2 Impacts of New Commercial Development**

Upon full build out of the Development Scenarios, there will be significant amount of new commercial space in the Town of Ramapo. Using typical square foot per employee estimates for different use types, the following table estimates the total number of new jobs that will exist in the Town of Ramapo upon full build out.

Table 6.10-4

	<b>Impact of the Development Scenarios on Job Creation</b>							
	<u>Sq. Ft.</u> <u>per Job</u>	<u>Existing</u>		<u>Option A</u>		<u>Option B</u>		
	<u>Square Feet</u>	<u>New Jobs</u>	<u>Square Feet</u>	<u>New Jobs</u>	<u>Square Feet</u>	<u>New Jobs</u>		
Community Shopping (CS)	225	54,069	240	NA	NA	NA	NA	
Mixed-Use District (MU-2)	240	328,960	1,382	NA	NA	NA	NA	
Professional Office District (PO)	285	58,588	208	NA	NA	NA	NA	
Commercial Corridor (CC)	225	NA	NA	138,302	615	138,302	615	
Commercial Corridor (CC) - Former MU - 2 Parcel	225	NA	NA	439,580	1,954	19,250	86	
Neighborhood Services (NS)	240	NA	NA	197,518	823	197,518	823	
Flex Overlay Planned Unit Development (FOPUD) (Miller Pond)	240	NA	NA	40,000	167	40,000	167	
Flex Overlay Planned Unit Development (FOPUD) (Gospel)	240	NA	NA	15,871	66	15,871	66	
<b>Total</b>		<b>439,618</b>	<b>1,808</b>	<b>831,271</b>	<b>3,624</b>	<b>410,941</b>	<b>1,756</b>	

Source: MJ Engineering, Camoin 310

These new jobs are then allocated to typical industry NAICS codes based on existing development in Ramapo to calculate the direct, indirect, and total impact of the Project on the county. Using the jobs figures as the new jobs input, an economic impact model was used to determine the indirect, induced, and the total impact of the project. Table 6.10-5 outlines the findings of this analysis.

Table 6.10-5

<b>Economic Impact of Commercial Development</b>			
<b>Existing</b>			
	<u>Jobs</u>	<u>Earnings</u>	<u>Sales</u>
Direct	1,808	\$ 81,115,421	\$ 194,430,098
Indirect	253	\$ 13,584,945	\$ 37,213,345
Induced	163	\$ 10,738,004	\$ 27,594,494
<b>Total</b>	<b>2,225</b>	<b>\$ 105,438,370</b>	<b>\$ 259,237,936</b>
<b>Option A</b>			
	<u>Jobs</u>	<u>Earnings</u>	<u>Sales</u>
Direct	3,624	\$ 162,577,197	\$ 389,690,390
Indirect	508	\$ 27,227,896	\$ 74,585,587
Induced	327	\$ 21,521,858	\$ 55,306,813
<b>Total</b>	<b>4,459</b>	<b>\$ 211,326,951</b>	<b>\$ 519,582,790</b>
<b>Option B</b>			
	<u>Jobs</u>	<u>Earnings</u>	<u>Sales</u>
Direct	1,756	\$ 78,773,900	\$ 188,817,574
Indirect	246	\$ 13,192,794	\$ 36,139,125
Induced	158	\$ 10,428,035	\$ 26,797,936
<b>Total</b>	<b>2,160</b>	<b>\$ 102,394,730</b>	<b>\$ 251,754,635</b>

Source: Emsi, Camoin 310

### 6.10.1.3 Total Economic Impact

The annual impact from new households is combined with the annual impacts from commercial development to calculate the total annual impact of full build out of the Development Scenarios, shown in the table below.

Table 6.10-6

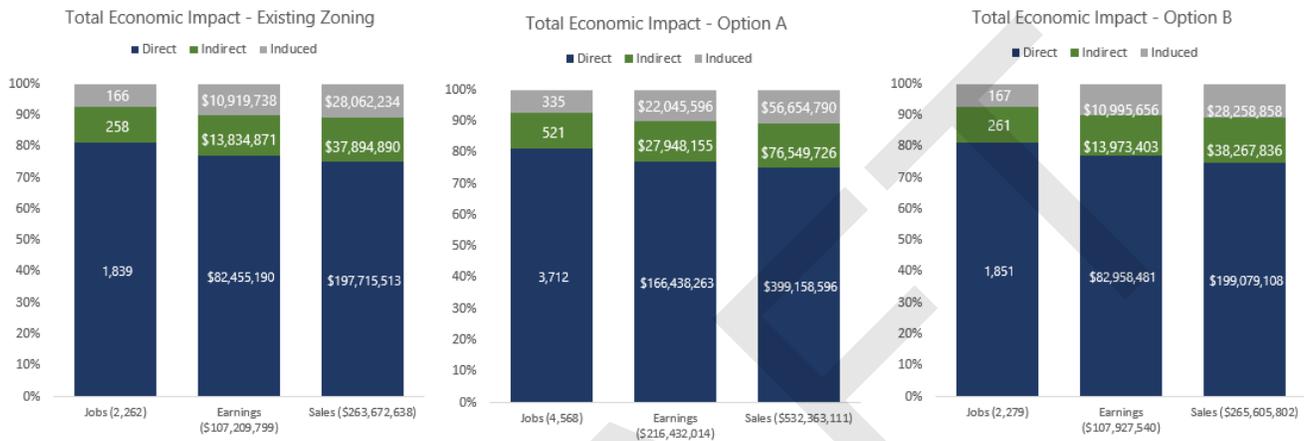
<b>Total Annual Economic Impact of Full Build Out</b>			
<b>Existing</b>			
	<u>Jobs</u>	<u>Earnings</u>	<u>Sales</u>
Direct	1,839	\$ 82,455,190	\$ 197,715,513
Indirect	258	\$ 13,834,871	\$ 37,894,890
Induced	166	\$ 10,919,738	\$ 28,062,234
<b>Total</b>	<b>2,262</b>	<b>\$ 107,209,799</b>	<b>\$ 263,672,638</b>
<b>Option A</b>			
	<u>Jobs</u>	<u>Earnings</u>	<u>Sales</u>
Direct	3,712	\$ 166,438,263	\$ 399,158,596
Indirect	521	\$ 27,948,155	\$ 76,549,726
Induced	335	\$ 22,045,596	\$ 56,654,790
<b>Total</b>	<b>4,568</b>	<b>\$ 216,432,014</b>	<b>\$ 532,363,111</b>
<b>Option B</b>			
	<u>Jobs</u>	<u>Earnings</u>	<u>Sales</u>
Direct	1,851	\$ 82,958,481	\$ 199,079,108
Indirect	261	\$ 13,973,403	\$ 38,267,836
Induced	167	\$ 10,995,656	\$ 28,258,858
<b>Total</b>	<b>2,279</b>	<b>\$ 107,927,540</b>	<b>\$ 265,605,802</b>

Source: Emsi, Camoin 310

The Development Scenarios will create new commercial activity and households in the Town of Ramapo. The Existing Zoning scenario would result in 2,262 jobs and associated earnings in the Town of Ramapo.

For the proposed zoning options, Option A would result in 4,568 jobs and Option B would create 2,279 in the Town.

Figure 6.10-1



## 6.10.2 Fiscal Impact Analysis

A fiscal impact analysis was performed for the Town of Ramapo and the East Ramapo Central School districts at full buildout under existing and proposed zoning. Impacts under proposed zoning were estimated using two Development Scenarios – Option A and Option B.

Fiscal impacts are estimated in terms of net annual impacts for each of the development scenarios.

The methodology employed is a “Proportional Evaluation Method” that uses the proportion of local property the development comprises (typically measured by assessed value.) For example, if the development in Town A increases the town’s total assessed value by 1%, then under this method it is assumed that the town’s costs and revenues will increase by 1%. This 1% factor is only applied to those costs and revenues likely to be affected by the Project. This is considered an appropriate methodology for an analysis of this scale and type.

### 6.10.2.1 Town of Ramapo

The Town of Ramapo’s FY21 adopted budget was reviewed<sup>5</sup>. Each line item was then assigned to “Fixed” if it would not change due to the project, “Variable” if it would change in proportion to the overall growth

<sup>5</sup> Note: The Town of Ramapo Public Works Department and Police Department were both contacted in March, 2021. No response received from the Public Works Department. A conversation was had with the Police Department, however additional information was requested in order to offer insights as to the impact on the department and that information was not available at that time.

of the Town as measured by change in assessed value or population, or “Special” if it required further analysis<sup>6</sup>.

Note that specific impacts related to Police, EMS and Fire as well as other Community Facilities are explored within Section 6.4 Community Services.

### Fiscal Impact Variables

#### *Residents*

As the overall population of the Town increases, certain department expenses are projected to increase proportionally. Due to the generic nature of this analysis, this analysis uses the current ratio of household units to total population to estimate the new population. There are 3.58 residents per household unit in the Town of Ramapo.

Table 6.10-7

<b>Average Number of Residents per Unit in Ramapo</b>	
Total Residents	134,571
Total Household Units	37,618
<b>Residents Per Household Unit</b>	<b>3.58</b>

Source: Esri

The calculation of new residents for the Town of Ramapo under the Development Scenarios is displayed in Table 6.10-8 below. The new residents from the Development Scenarios will result in a 1.01%, 2.74%, and 3.17% increase in town wide population, respectively.

Table 6.10-8

<b>Impact of the Development Scenarios on Population</b>				
	<u>Existing</u>	<u>Option A</u>	<u>Option B</u>	
Dwelling Units	381	1,098	1,190	
Resident per Household Unit	3.58	3.58	3.58	
Total New Residents	1,363	3,928	4,260	
Percent Increase	1.01%	2.92%	3.17%	

Source: Esri, MJ Engineering, Camoin 310

#### *Assessed Value*

To determine the change in assessed value because of the Development Scenarios, an average cost of construction was applied to the commercial square footage and an average assessed value per unit was applied to the new residential units.

- ◆ **Commercial:** A review of typical construction costs per square foot for the type of development being proposed under the Development Scenarios found that it will be approximately \$185 per

<sup>6</sup> Appendix G Development Impact Analysis, Attachment C: Town of Ramapo Budget FY2021

square foot to build. This results in increased assessed value for the Town once adjusted for the equalization rate of 11%.

- ◆ **Residential:** Using the current assessed value of property categorized as “Homestead” divided by the total number of housing units, provided an estimate for the average assessed value per housing unit. This figure was then applied to the number of new housing units that are proposed under the Development Scenarios.

Table 6.10-9

<b>Impact of Development on Townwide Assessed Value</b>			
<b>Commercial Development</b>			
	<b>Existing</b>	<b>Option A</b>	<b>Option B</b>
Commercial Square Feet	439,618	831,271	410,941
Cost of Construction Per Square Foot	\$ 185	\$ 185	\$ 185
Market Value Upon Completion	\$ 81,329,318	\$ 153,785,135	\$ 76,024,085
Equalization Rate	11.44%	11.44%	11.44%
<b>Total New Assessed Value from Commercial</b>	<b>\$ 9,304,074</b>	<b>\$ 17,593,019</b>	<b>\$ 8,697,155</b>
<b>Residential Development</b>			
	<b>Existing</b>	<b>Option A</b>	<b>Option B</b>
Current Townwide Homestead AV	\$ 1,362,295,250	\$ 1,362,295,250	\$ 1,362,295,250
Total Existing Household Units	37,618	37,618	37,618
Average AV Per Household Unit	\$ 36,214	\$ 36,214	\$ 36,214
Total New Household Units	381	1,098	1,190
<b>Total New Assesd Value From Residential</b>	<b>\$ 13,797,504</b>	<b>\$ 39,762,884</b>	<b>\$ 43,094,565</b>
<b>Total Impact of Development on Assessed Value</b>			
	<b>Existing</b>	<b>Option A</b>	<b>Option B</b>
New Assessed Value from Commercial	\$ 9,304,074	\$ 17,593,019	\$ 8,697,155
New Assesd Value From Residential	\$ 13,797,504	\$ 39,762,884	\$ 43,094,565
<b>Total New Assessed Value from Build Out</b>	<b>\$ 23,101,578</b>	<b>\$ 57,355,904</b>	<b>\$ 51,791,720</b>
Current Townwide AV	\$ 2,083,709,432	\$ 2,083,709,432	\$ 2,083,709,432
<b>Percent Increase in Townwide AV</b>	<b>1.11%</b>	<b>2.75%</b>	<b>2.49%</b>

Source: RS Means, Town of Ramapo 2021 Adopted Budget, Camoin 310, MJ Engineering

## Town Budget – Expenses

### *Variable Expenses*

There are variable expenses<sup>7</sup> that the Town will incur because of full build out of the Development Scenarios. Based on the FY21 budget, over \$54.8 million in expenses vary with assessed value and nearly \$7.4 million vary with the population. Based on the change in assessed value and residents that will result from the Development Scenarios, there will be additional increased costs calculated in the table below.

Table 6.10-10

<sup>7</sup> Note that EMS and Fire Department services are not part of Ramapo Municipal Government and are therefore not included in this analysis. Impacts related to EMS and Fire as well as other Community Facilities are explored within Section 6.4

**Impacts of Change in Assessed Value and Population on Townwide Budget**

	Existing	Option A	Option B
Change in Assessed Value	1.11%	2.75%	2.49%
Costs that Vary with Assessed Value	\$ 54,810,260	\$ 54,810,260	\$ 54,810,260
New Costs	\$ 607,668	\$ 1,508,700	\$ 1,362,339
Change in Population	1.01%	2.92%	3.17%
Costs that Vary with Population	\$ 7,399,040	\$ 7,399,040	\$ 7,399,040
New Costs	\$ 74,938	\$ 215,964	\$ 234,236
<b>Increase in Other Costs Upon Full Build Out</b>	<b>\$ 682,606</b>	<b>\$ 1,724,664</b>	<b>\$ 1,596,575</b>

Source: Town of Ramapo 2021 Adopted Budget, Camoin 310

**Town Budget – Revenues**

Full build out of the Development Scenarios will generate recurring annual revenue for the Town in the form of new variable revenues (which includes property tax revenue) and sales tax revenue.

*Variable Revenue*

Like the variable costs to the Town that are generated because of increased commercial assessed value and population, there will also be new variable revenues<sup>8</sup>. Based on the FY21 budget, nearly \$99 million in revenue varies with population and non-residential assessed value. Upon full buildout of the Development Scenarios, the town will receive additional revenue as calculated in Table 6.10-11 below.

Table 6.10-11

**Impacts of Change in Assessed Value and Population on Townwide Budget**

	Existing	Option A	Option B
Change in Assessed Value	1.11%	2.75%	2.49%
Revenues that Vary with Assessed Value	\$ 98,908,353	\$ 98,908,353	\$ 98,908,353
New Revenue	\$ 1,096,573	\$ 2,722,538	\$ 2,458,420
<b>Increase in Other Revenues Upon Full Build Out</b>	<b>\$ 1,096,573</b>	<b>\$ 2,722,538</b>	<b>\$ 2,458,420</b>

Source: Town of Ramapo 2021 Adopted Budget, Camoin 310

*Sales Tax Revenue*

The new sales and earnings resulting from the new households and commercial activity in the town will generate additional sales tax revenue for the Town. Currently, Rockland County has a 4% sales tax, of which 0.125% is distributed to towns and villages based on population. The Town of Ramapo accounts for approximately 42% of the county’s population, and therefore would get 42% of the 0.125% sales tax revenue, or 0.0525%, assuming all else is held constant.

The Town will receive sales tax revenue from the Development Scenarios because of the new sales occurring within the town from the new households and the new commercial development, as well as from a portion of the new employee earnings being spent in town (6.10.1 Economic Impact Analysis). The tables below estimate the amount of new sale tax that the Town will receive as a result of full build out of the Development Scenarios.

<sup>8</sup> Property tax revenue accounts for the largest portion of this variable revenue. Due to the generic nature of the analysis and limited details on what actual build out will include the property tax is included in this variable revenue calculation.

Table 6.10-12

<b>Annual Sales Tax Revenue</b>			
<b>Total New Sales</b>			
	<u>Existing</u>	<u>Option A</u>	<u>Option B</u>
Total New Spending	\$ 263,672,638	\$ 532,363,111	\$ 265,605,802
Percent Taxable		30%	
Ramapo Sales Tax Distribution Amount		0.0525%	
<b>New Sales Tax Revenue</b>	<b>\$ 41,533</b>	<b>\$ 83,857</b>	<b>\$ 41,838</b>
<b>Total New Earnings</b>			
	<u>Existing</u>	<u>Option A</u>	<u>Option B</u>
Total New Earnings	\$ 107,209,799	\$ 216,432,014	\$ 107,927,540
Percent Spent in Ramapo		25%	
Percent Taxable		30%	
Ramapo Sales Tax Distribution Amount		0.0525%	
<b>New Sales Tax Revenue</b>	<b>\$ 4,222</b>	<b>\$ 8,523</b>	<b>\$ 4,250</b>
<b>Total New Sales Tax Revenue</b>	<b>\$ 45,755</b>	<b>\$ 92,380</b>	<b>\$ 46,088</b>

Source: NYS Department of State, Camoin 310

### Total Revenue

The table below calculates the total new revenue the Town will receive because of full build out of the Development Scenarios.

Table 6.10-13

<b>Total New Revenue to the Town of Ramapo</b>			
	<u>Existing</u>	<u>Option A</u>	<u>Option B</u>
Variable Revenue	\$ 1,096,573	\$ 2,722,538	\$ 2,458,420
Sales Tax Revenue	\$ 45,755	\$ 92,380	\$ 46,088
<b>Total Revenue</b>	<b>\$ 1,142,328</b>	<b>\$ 2,814,918</b>	<b>\$ 2,504,509</b>

Source: Camoin 310

### Net Fiscal Impact

Full build out of the existing a proposed zoning will have a net positive fiscal impact on the Town's budget. The net annual fiscal impact of the Development Scenarios is displayed in Table XX below.

The net fiscal impact of full build out of the Development Scenarios on the Town's budget is positive. Upon full buildout, revenues exceed costs under all scenarios.

Table 6.10-14

**Town of Ramapo  
Net Annual Impact Upon Full Build Out**

	<u>Existing</u>	<u>Option A</u>	<u>Option B</u>
New Revenue	\$ 1,142,328	\$ 2,814,918	\$ 2,504,509
New Costs	\$ 682,606	\$ 1,724,664	\$ 1,596,575
<b>Net Fiscal Impact</b>	<b>\$ 459,722</b>	<b>\$ 1,090,254</b>	<b>\$ 907,934</b>

Source: Camoin 310

### 6.10.2.1 East Ramapo Central School District

In addition to the fiscal impact on the Town, the impacts of the Development Scenarios on the ERCSD were also calculated. To do so, the number of new school children in the district was calculated and the costs and revenues associated with these children were calculated.<sup>9</sup>

#### Fiscal Impact Variable

##### *School-Age Children*

A portion of the new residents will be public school children. A methodology like the one used to calculate new residents was used to calculate new public school-age children (PSAC). Currently in the Town, 29% of children enrolled in school are enrolled in public school, or approximately .28 PSAC per household unit. Table 6.10-15 below outlines this calculation.

Table 6.10-15

<b>Average Number of School Aged Children per Unit in Ramapo</b>	
Total Household Units	37,618
Total Children Enrolled in School	36,504
Total Children Enrolled in Public School	10,702
Percent Enrolled in Public School	29%
<b>Total Public School Aged Children per Unit in Ramapo</b>	<b>0.284491</b>

Source: Esri, Camoin 310

Note: This table is town wide, not just the East Ramapo CSD which is why the public school enrollment figure is different.

Table 6.10-16 applies the ratio of PSAC per unit to full build out of the Development Scenarios and calculates the percent increase in total PSAC for the school district. Based on the most recently available data from the NYSED, the ERCSD had 8,834 students for the 2018-2019 school year.

Table 6.10-16

<sup>9</sup> Note: The East Ramapo Central School District was contacted for information in March, 2021 by phone and email with no response.

**Impact of the Development Scenarios on East Ramapo CSD**

	<u>Existing</u>	<u>Option A</u>	<u>Option B</u>
Dwelling Units	381	1,098	1,190
Public School Aged Children per Unit	0.28	0.28	0.28
Total New PSAC	108	312	339
Percent Increase for East Ramapo CSD	1.23%	3.54%	3.83%

Source: Esri, MJ Engineering, Camoin 310

East Ramapo Central School District – Costs

According to NYSED figures, the ERCSD per pupil operating expenditures are approximately \$14,684 for general education. Assuming full build out of the Development Scenarios, the impact of the annual costs to the ERCSD are shown below.

Table 6.10-17

**Impact of the Development Scenarios on East Ramapo CSD**

	<u>Existing</u>	<u>Option A</u>	<u>Option B</u>
Total New PSAC	108	312	339
Cost Per Student	\$ 14,684	\$ 14,684	\$ 14,684
Total New Cost Upon Full Build Out	\$ 1,591,617	\$ 4,586,865	\$ 4,971,193

Source: NYS Education Department, Camoin 310

East Ramapo Central School District – Revenues

Following a similar methodology used for the Town fiscal impact, the following table calculates the change in assessed value within the ERCSD.

Table 6.10-18

**Impact of Development on East Ramapo CSD Assessed Value**

<b>Commercial Development</b>			
	<b>Existing</b>	<b>Option A</b>	<b>Option B</b>
Commercial Square Feet	439,618	831,271	410,941
Cost of Construction Per Square Foot	\$ 185	\$ 185	\$ 185
Market Value Upon Completion	\$ 81,329,318	\$ 153,785,135	\$ 76,024,085
Equalization Rate	11.44%	11.44%	11.44%
<b>Total New Assessed Value from Commercial</b>	<b>\$ 9,304,074</b>	<b>\$ 17,593,019</b>	<b>\$ 8,697,155</b>
<b>Residential Development</b>			
	<b>Existing</b>	<b>Option A</b>	<b>Option B</b>
Current East Ramapo CSD Homestead AV	\$ 963,842,373	\$ 963,842,373	\$ 963,842,373
Total Existing Household Units*	26,709	26,709	26,709
Average AV Per Household Unit	\$ 36,087	\$ 36,087	\$ 36,087
Total New Household Units	381	1,098	1,190
<b>Total New Assessed Value From Residential</b>	<b>\$ 13,749,185</b>	<b>\$ 39,623,634</b>	<b>\$ 42,943,647</b>
<b>Total Impact of Development on Assessed Value</b>			
	<b>Existing</b>	<b>Option A</b>	<b>Option B</b>
New Assessed Value from Commercial	\$ 9,304,074	\$ 17,593,019	\$ 8,697,155
New Assessed Value From Residential	\$ 13,749,185	\$ 39,623,634	\$ 42,943,647
<b>Total New Assessed Value from Build Out</b>	<b>\$ 23,053,258</b>	<b>\$ 57,216,654</b>	<b>\$ 51,640,802</b>
Current East Ramapo CSD AV	\$ 1,353,677,105	\$ 1,353,677,105	\$ 1,353,677,105
<b>Percent Increase in East Ramapo CSD AV</b>	<b>1.70%</b>	<b>4.23%</b>	<b>3.81%</b>

Source: RS Means, East Ramapo CSD 2019-2020 Budget, Town of Ramapo Assessor, Camoin 310, MJ Engineering

\*The East Ramapo CSD Homestead AV is 71% of the Town wide Homestead AV, so the total number of household units was adjusted to be 71% of the town wide household units.

According to 2019/2020 Adopted Budget and Supplemental Information document, the ERCSD property tax levy was \$154,490,277. Assuming that the increase in ERCSD assessed value will increase the total amount of property tax raised for the school district proportionally, the table below calculates the new revenue for the ERCSD upon full build out of the Development Scenarios.

Table 6.10-19

<b>Impacts of Change in Assessed Value and Population on East Ramapo CSD Budget</b>			
	<b>Existing</b>	<b>Option A</b>	<b>Option B</b>
Change in Assessed Value	1.70%	4.23%	3.81%
Tax Levy	\$ 154,490,227	\$ 154,490,227	\$ 154,490,227
New Revenue	\$ 2,630,984	\$ 6,529,928	\$ 5,893,576
<b>Increase in Revenue Upon Full Build Out</b>	<b>\$ 2,630,984</b>	<b>\$ 6,529,928</b>	<b>\$ 5,893,576</b>

Source: East Ramapo CSD 2019-2020 Budget, Town of Ramapo Assessor, Camoin 310

**Net Fiscal Impact**

Full build out of the existing and proposed zoning are projected to increase the number of school age children attending public school in the Town. The Northeast Corridor of the town is served by the ERCSD. The introduction of new students into ERCSD will result in new costs and new revenue for the school district. Table 6.10-20 below summarizes the annual fiscal impact of full build out of the existing and proposed zoning (Option A and B) on ERCSD. The net fiscal impact is positive upon full buildout under all development scenarios.

Table 6.10-20  
**East Ramapo Central School District**  
**Net Annual Impact Upon Full Build out**

	<u>Existing</u>	<u>Option A</u>	<u>Option B</u>
New Revenue	\$ 2,630,984	\$ 6,529,928	\$ 5,893,576
New Costs	\$ 1,591,617	\$ 4,586,865	\$ 4,971,193
<b>Net Fiscal Impact</b>	<b>\$ 1,039,367</b>	<b>\$ 1,943,063</b>	<b>\$ 922,384</b>

Source: Camoin 310

### Conclusion

Different development scenarios, property use, and valuations have varying impacts on the economic and fiscal impacts for the community. This analysis did not conduct a sensitivity test on different valuations due to the generic nature and size/scope of the analysis and challenges associated with making assumptions around market trends. However, alternative property development mixes were analyzed through the three different scenarios (Existing, Option A, Option B) and the net fiscal impact was calculated, as shown in Table 6.10-20.

## 7.0 Alternatives

This section addresses the Alternatives identifies in the Final Scoping document. Each Alternative is reviewed below in terms of the potential significant adverse impacts and corresponding mitigation. Adoption of any number of Alternatives, or variations thereof, could be implemented after completing the NRDP/DGEIS review processes. Adoption of these Alternative scenarios is not mutually exclusive. In other words, any number of Alternatives, or variations thereof, could be implemented after completing the SEQR and Comprehensive Plan review process.

### 7.1 No Action

One Alternative, which must be analyzed, is taking ‘No Action’. In such a case, the land use laws and development policies and programs remain unchanged from current existing arrangements, as does the land use pattern.

Continuing the status quo involves administering land development the same way as is done now under existing zoning. This reinforces current practices, and it generally ensures general consistency with the 2004 Comprehensive Plan, as amended in 2019. Maintaining the status quo would preclude form-based techniques in parts of the Northeast Ramapo community that appear suitable for compact growth. Nor would there be strategic planning to bolster unique places, based upon needs assessment, capital budgeting, and amended land use polices which are calibrated to current goals and conditions. Furthermore, ‘No Action’ will sustain an incremental, ad hoc approach to development, which can contribute to poorly coordinated infrastructure and land use and unabated suburban sprawl, causing adverse effects on community character, traffic congestion and safety, and loss of open spaces.

Ramapo is already experiencing major change. As a place steadily growing in population, No Action will hamper direction of growth and management planning. Without strategically planning for future growth, it will be challenging to accommodate diverse housing needs and provide supporting services, leading to sprawl and limited housing type diversity. Likewise, there may not be robust services planning, or adequate guidance and resources available for sustaining water, sewer, and emergency and community systems/ services.

No Action will inhibit performance-based planning that can guide suitable open landscape and mixed-use building. This means that continuing current trends, under No Action, the Northeast will be devoid of attractive and amenity rich mixed-use development within hamlet-like and corridor-based places where many residents can live, work, and play.

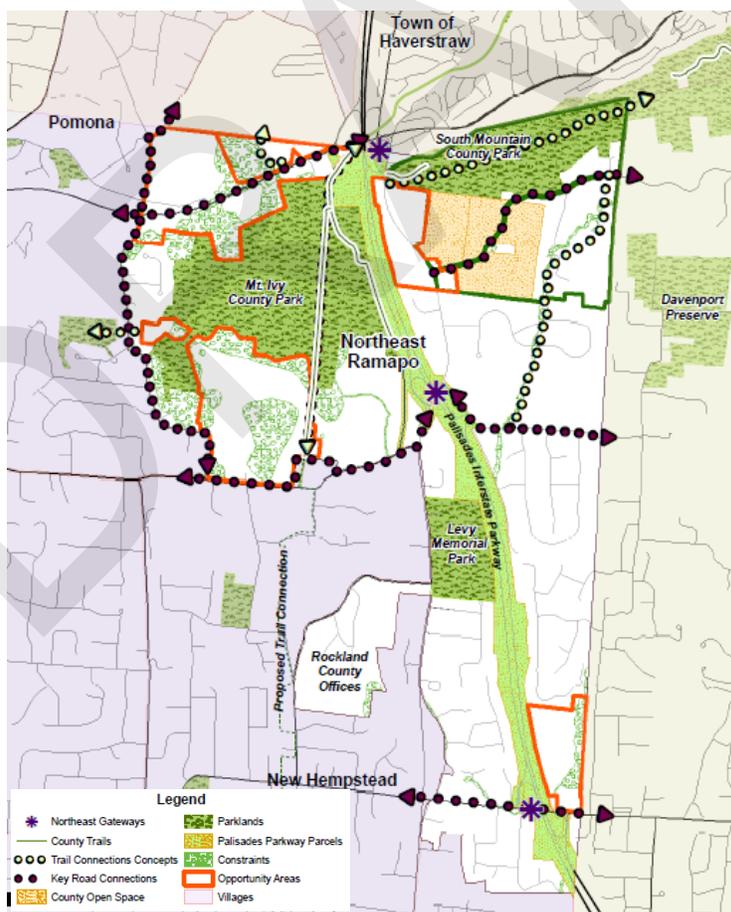
Under ‘No Action’, an inefficient land use pattern with limited walking and multimodal infrastructure will persist, with few new or rehabilitated existing buildings which can provide diverse and quality spaces for people to live, as well as for business development and growth, and especially without modernization which will support the property tax base and enable energy efficiency. A lack of investment in new and existing buildings and infrastructure, will ensure limited climate change mitigation, because there will remain limited and outmoded buildings and high reliance on autos, as opposed to some shifts to greater levels of walking and fewer vehicle miles that is made possible by mixed-use.

Overall, under No Action, land use, community services, environmental, social, and economic conditions will remain generally the same as now, with poorly aligned zoning and without integrated area planning.

One further issue to contend with is the COVID-19 pandemic, which due to its potential for a lingering negative economic impact may constrain the Town’s ability to effectively operate, including land use approval processes. If there is a sustained economic downturn, without contemporary strategies for achieving and guiding desired growth, the Town may not be as able to control its economic and social outcomes as it would through tailored land use and capital planning that is linked to opportunities that are determined to be priorities based on analysis and public process.

## 7.2 Open Space Preservation

This option covers various strategies to conserve open space in conjunction with other Northeast Ramapo Development Plan objectives. It examines techniques that can be used to conserve land and reinforce the ‘Greenprint’ and landscape form which will complement the density that is being channeled into the Opportunity Areas. The accompanying **Figure 7.2-1 Greenprint Map** illustrates, at a conceptual level, future linkages, and connections to existing open space, parklands, trails, and the proposed Opportunity Areas.



**Figure 7.2-1: Greenprint Map**

Techniques for achieving heightened open space preservation through this Alternative may include:

- Heightened conservation financing and budgeting for enhanced land acquisition on an annual basis with these purchases put in permanent municipal preservation;
- Variations of incentive zoning, or creating a Transfer of Development Rights (TDR) policy, the latter which allows higher density onsite in exchange for conserving land elsewhere;
- Conservation of lands the Town already owns as Parkland.
- Establishing a conservation partnership arrangement involving the local government and a non-profit, like a willing land trust, which could aid conservation and management of open space.
- Changing policies, such as through enhanced 'cluster' zoning' (open space development), or other planned unit development (PUD).

In the 2004 Comprehensive Plan, there are open space conservation and planning strategies<sup>1</sup> which may fit with the NRDP. The following are the strategies considered germane and these are woven into discussion that follows:

- Amendments to Subdivision Regulations and Local Environmental Protection Laws, including the Watershed Protection Law /Well-Field Protection Program;
- Designation of a Torne Valley Critical Environmental Area (CEA);
- Clustering; and
- Open Space Preservation.

Moreover, Rockland Tomorrow, lays out preservation strategies, such as to:

- Work with municipalities to inventory, maintain, use, and steward open space/ parkland;
- Expand the trail and bikeway network;
- Protect and support Rockland's farms and orchards;
- Protect private recreational facilities from development pressures;
- Maintain and improve access to the Hudson River;
- Continue open space and parkland acquisitions;
- Preserve open space using conservation easements;
- Support Brownfield cleanup and reuse; and
- Establish full participation in the Hudson River Valley Greenway Program<sup>2</sup>.

For Northeast Ramapo it will take resources to permanently protect open space and/or acquire additional open space and manage it. Efforts to bolster the Greenprint could deliver natural systems support and benefit community resiliency and enhance area character.

## Clustering

Adopting flexible zoning to enable clustering could permanently preserve some open area on sites while simultaneously allowing a concentration of building and infrastructure on parts of the same site. Clustering can be mandatory or voluntary. In the Northeast, clustering might be an opportunity with the

<sup>1</sup> Town of Ramapo 2004 Comprehensive Plan, Pgs. A5 – A-28

<sup>2</sup> Rockland Tomorrow: Rockland County Comprehensive Plan, 2011, Pgs. 161 - 166

proposed Planned Unit Development (PUD) alternative. If clustering were enabled in the appropriate Opportunity Areas, clustering may consider additional building height for each decrease in allowed development footprint as a way to retain potential for adequate future building. It is unclear how the market would respond to an allowed increase in building stories.

The current 2004 Plan discusses Clustering on page 7 and existing Zoning's §376-161 'Public Parkland Development Procedures' was adopted per this strategy (pp A10-12). The procedure is akin to clustering, but its 500-acre threshold must be changed, or it is unlikely the technique will be used. If incentives or mandatory requirements are added for small-scale clustering, since there is limited development potential in the Northeast outside of the Opportunity Areas, this probably will not impact future land use and form since given this expectation for low levels of growth outside the Opportunity Areas. The benefits of instituting town-wide cluster zoning are not analyzed herein.

## **TDRs**

Transfer of Development Rights (TDR) systems may be established and implemented by local municipalities. TDR allows property owners to send development rights from one parcel to another, with the development rights extinguished or restricted on the sending parcel. However, TDR is often difficult to implement, and the technique is seldom used in New York. In addition, utilizing TDR in only one part of the Town (Northeast Ramapo) would have limited utility.

## **Acquisition/ Dedication**

### Rockland County Open Space Acquisition Program

This program, started in 1999, aims to acquire sensitive lands. Per the County Plan<sup>3</sup> (pg. 171), five properties were preserved in Ramapo; however, this program has been inactive, with no apparent acquisitions in five years. There should be a determination whether it may be re-activated since regional conservation planning may establish a broader financing and collaboration base. Regional open space planning could also realize economies of scale based on existing organizational structure like the GIS mapping/analytical capacity that is already established in the County administration.

### Local Open Space Planning

Based on the existing 2004 Comprehensive Plan's 'Open Space Preservation' Recommendation/Implementation Strategy #10, pp A17-A25, an Open Space Committee advised on land purchase like the acquisition of Torne Valley wellhead lands. Funds may be available through parkland fees, grants and budgeting.

<sup>3</sup> Rockland Tomorrow: Rockland County Comprehensive Plan, Pg. 171

### Conservation of Town-Owned Lands

In 2018/ 2019 the Town Asset Committee Review (TARC) inventoried all Town-owned properties. It started review of land characteristics and the potential future use or sale of these properties, including the possible desirability of preserving sites as open space. TARC information is on the Town website<sup>4</sup>.

There are eight Town parcels in the Northeast which are on the Inventory, not including existing dedicated parkland like Levy/ Reisman Park<sup>5</sup>. Those parcels include:

- 982 State Route 45 [33.15-1-5];
- 98 Concklin Road [33.15-1-10];
- 30 Concklin Road [33.15-1-12];
- 96 Camp Hill Road [33.05-2-3];
- 58A South Mountain Road [33.08-1-10];
- 48 South Mountain Road [33.12-1-1];
- 92 South Mountain Road [33.08-2-13]<sup>6</sup>; and
- 42 Hoover Lane [42.20-2-2].

Some sites may be suitable for recreation. In addition to Town-owned lands, Skyview Land Trust owns and manages land in the vicinity.

### **New or Expanded Environmental Protection Laws including a Northeast Ramapo Critical Environmental Area (CEA)**

Altering local environmental policies could establish new standards governing the type or intensity of development allowed on certain types of land according to particular environmental threshold criteria. One option is the designation of a Critical Environmental Area (CEA). Currently, no CEAs existing within Northeast Ramapo. Depending on the intent and approach, a CEA does not typically prohibit development, but requires more stringent review of a development application.

### **Conclusion**

There are opportunities for open space preservation including mandatory and voluntary. There are opportunities to preserve open space through the land development process and new zoning tools such as the FOPUD through conservation easements and outright purchase. Each opportunity will be unique and must be evaluated based on a unique set of circumstances for that property.

<sup>4</sup> <http://www.ramapo.org/page/town-asset-review-committee-tarc-149.html>

<sup>5</sup> Property comprising the location at and by Rockland Boulders Stadium is owned by the Local Development Corporation. This location is excluded from analysis within this Plan/DGEIS.

<sup>6</sup> This property is actually located in Town of Clarkstown. It is 700 feet outside Northeast Ramapo; however, this site, known as the Henry Varnum Poor House or 'Crow House' is owned by the Town.

The decision whether to pursue enhanced open space preservation through direct annual budgeting, or borrowing of funds, with the proceeds of either of these used for land acquisition and permanent parkland is a choice of elected officials. If there were a choice to finance conservation of land, this would involve a considerable fiscal commitment.

Local elected officials would have to decide whether such a commitment could displace other desirable investments, and whether restrictions on future development potential are desirable in terms of undefined direct and indirect effects, like the choice to forego potential property tax revenues from future development, as well as the effects of constraining land markets, which could result in commensurately less residential and nonresidential development, and could affect the formation of jobs, or the costs of housing, as well as possibly alter the costs to the municipality in serving the community with public services.

### 7.3 Walkable Neighborhood Opportunity Area (WNOA) Arterial Corridors

An Alternative to existing zoning along State Route 45 and New Hempstead Road, is a potential Walkable Neighborhood Opportunity Area (WNOA) Arterial Area Zoning. Arterial Area Zoning would channel higher intensity growth into these major road corridors. Each road has distinct character, plus extensive transport and utilities infrastructure. Guiding substantial infill alongside major routes will bolster linkages with the broader community. Arterial zoning can support walking and use of transit. It will also foster place-making, greater and more types of housing, and the provision of services, like limited retail within locations which are suitable and equipped to accommodate growth, and which afford convenient access to jobs and housing nearby and in the adjacent Gospel Site which is also fronts on New Hempstead Road.

Figures 7.3-1 and 7.3-2 show the location of the proposed Arterial Zone's two sub-parts, or sub-areas envisioned in the scoping document, in context to the Opportunity Areas. The largest Arterial Area is located on most of both sides of State Route 45 and extends to Haverstraw's border, overlapping with Opportunity Area C. A smaller segment of proposed Arterial Area is located along New Hempstead Road and is mostly west of the Palisades Parkway. There are approximately 146 acres and 160 lots in the Arterial Zone. All Alternatives are shown in Figure 7.3-3.

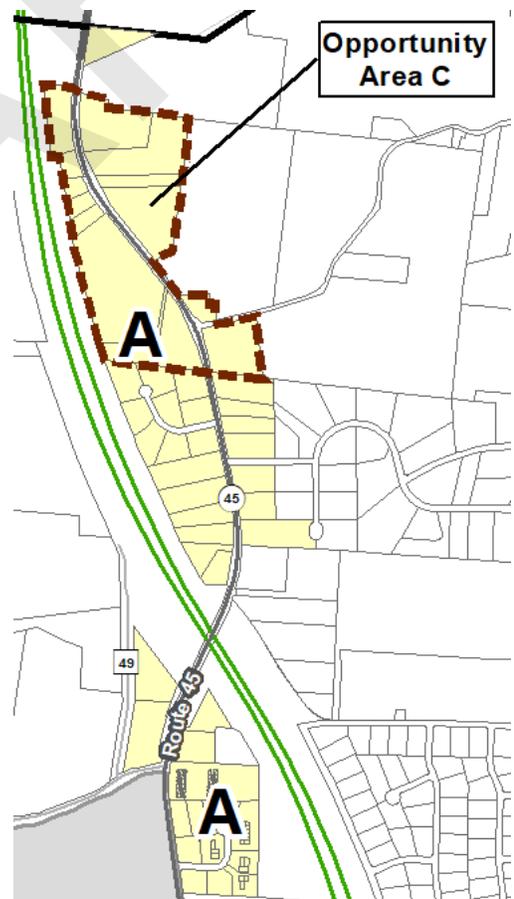
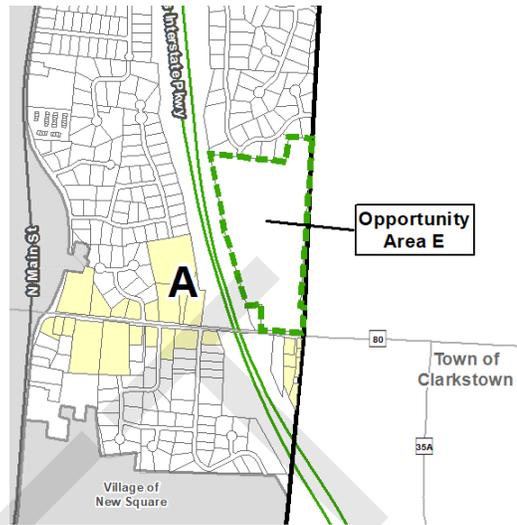


Figure 7.3-1 - The State Route 45 Arterial Area

Along New Hempstead Road, the existing zoning is R-35. On State Route 45, the existing zoning is a combination of mostly RR-80, with roughly equal smaller parts of LO and RR-50.

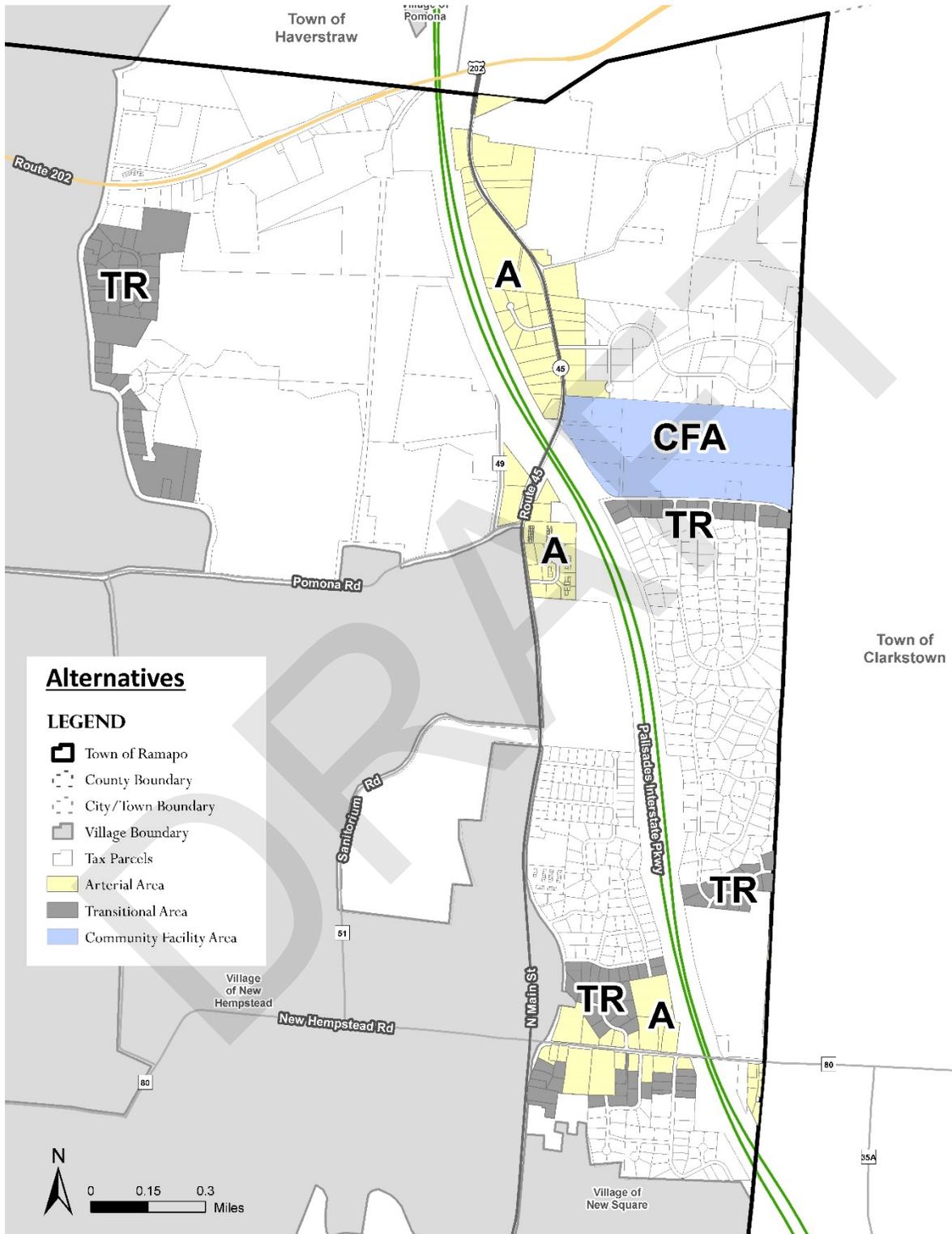
The WNOA Arterial Corridor Alternative was envisioned to achieve high proportions of light industrial and offices on State Route 45, with multifamily residential units and mixed-use along New Hempstead Road. Zoning and land development code modifications would be required to allow for these uses and density. In addition to these modifications, design standards for right-of-way, sidewalks, streetscapes and parking requirements were considered and are discussed below.



*Figure 7.3-2 – The New Hempstead Rd. Arterial Area.*

DRAFT

Figure 7.3-3 – Map of Alternatives Discussed in Section 7.3, 7.4 and 7.5



## WNOA Arterial Alternative Design Standards

### *Sidewalks*

Pedestrian access on State Route 45 should be set back from shoulders. Sidewalks/ multiuse paths can meander outside of the right-of-way. A pattern of setback or curvilinear sidewalks and landscape buffer could reinforce pedestrian refuge and establish open area. It would separate pedestrians from traffic and mimic patterns south at Levy/ Reisman Park and at Summit Park Elementary School in the Village of New Hempstead. Conversely, on New Hempstead Road, sidewalks will be adjacent to the street due to space availability, but here traffic speeds are lower.

Contemplating future density and design within this alternative, New Hempstead Road may be suitable for medium-scale offices, and some limited retail services on 1st floors. Offices and institutional uses can also be developed on upper floors of multi-story buildings along with multifamily residences. For instance, it is assumed that doctor's offices, and other professional businesses, can be established on 2nd and 3rd floors of buildings, with the rest of any three- or four-story layouts consisting of residential space. Emblematic of this demand, just across the border in Clarkstown, a new retail plaza was recently established at Buena Vista Road.

### *Streetscape*

Stronger and more complete streets are important in the Arterial Zone alternative, but space is limited besides these major roads and may influence efforts to enhance them. There must always be access management and layouts which serve walking and use of transit; however, the design objectives for street edges may vary by location and context. Likewise, street planting programs could vary. Whereby it will be desirable to establish street tree fenestration, as practicable, in developing New Hempstead Road's frontage, on State Route 45, the required plantings may be on the Frontage's outer edge within onsite Minimum Landscaped Open Spaces. Also, in terms of activating the street, establishing pedestrian scale and vitality, and focusing attention on building entrances on New Hempstead Road can create space for features like outdoor dining.

### *Parking Requirements & Performance*

As a way to establish and reinforce character of these major corridors, parking should be screened by trees and shrubs. As a way to aid redevelopment, achieve compact form and provide attractive site layouts. Some parking may be provided within structures, such as within parking garages, or tucked under the rear of buildings on New Hempstead Road.

*After further consideration, the potential level of future residential and non-residential development associated with this Alternative is not desired. Existing zoning is intended to remain unchanged for these locations. The existing Neighborhood Services zoning district is proposed to be applied to 14 parcels along the Route 45 corridor from approximately South Mountain Road north to Old Route 202 (Opportunity Area C) to provide more flexibility for support services to existing neighborhoods and other smaller scale commercial activity within the context and character of the Route 45 corridor.*

*Additionally, Opportunity E, known as the Gospel Site may retain existing zoning and be eligible for a FOPUD to allow for more flexible development should the property owner and Town Board choose to apply a FOPUD to that property.*

## 7.4 Walkable Neighborhood Opportunity Area (WNOA) Transitional Areas

Another Alternative proposed in the Final Scoping Document would involve the establishment of a potential Walkable Neighborhood Opportunity Area (WNOA) Transitional Area (TR) zoning. This Alternative envisioned creating a Transitional Area adjacent to more intense potential land uses. The Transitional Area could provide for gradual increases in density between the unchanged portions of existing single-family residential zoning districts and the potential zoning for Opportunity Areas. The WNOA Transitional Area Alternative was envisioned to buffer higher-density land uses from lower-density areas. The uses envisioned within Alternative include small scale commercial and residential uses. This Transitional Area would provide a further gradual blend of uses and density when established adjacent to the proposed Alternative- Arterial Area zone for the major corridors.

The Transitional Area envisioned in the Scoping Document would be located north of Opportunity Area E (Gospel Site), south of the Stryker Property and along the eastern side of Camp Hill Road.

This area currently comprises mostly R-35 Zoning. Existing lot sizes are often relatively small, many between  $\frac{1}{2}$  (21,780 ft<sup>2</sup>) to 1 acre (43,560 ft<sup>2</sup>) in size and most contain existing buildings.

The Alternative –Transitional Area envisioned in the scoping document could include five parts as shown in Figures 7.4-1 through 7.4-3. These locations encompass 113 parcels and 122.3 acres, not including public road rights of ways. A map of Alternatives discussed in Sections 7.3, 7.4 and 7.5 is shown in the above section in **Figure 7.3-3**.

The largest segment of Transitional Area was envisioned on the east edge of Camp Hill Road, south of US Route 202. Other areas were envisioned on the south side of Conklin Road, extending from Gessner Terrace in the west to Clarkstown’s border in the east; on the northern edge of the Gospel OA, along Peachtree Road/ Trail’s End; near New Hempstead Road by Ilana and Hoover Lanes south of New Hempstead Road; and Conway Court and Stoneham Lane north outside Arterial zone that directly abuts New Hempstead Road.

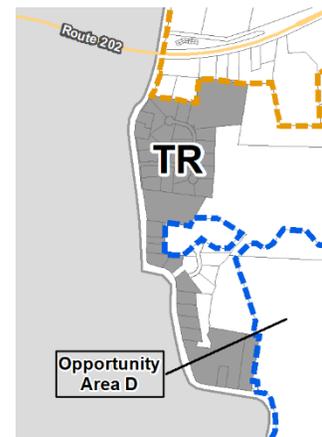


Figure 7.4-1 - Camp Hill Rd. Transitional Area

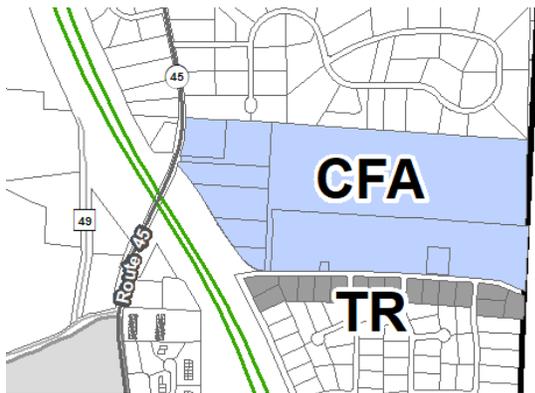


Figure 7.4-2 - Concklin Rd. Transitional Area

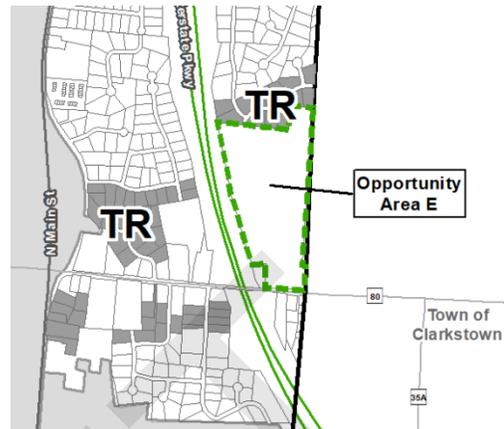


Figure 7.4-3 - New Hempstead & Peachtree Roads Transitional Areas

## WNOA Transitional Alternative Design Standards

### *Streetscapes and Right-of-Way*

Most existing right-of-ways that are adjacent to parts of this Transitional Area are currently 50 feet wide. However, many existing streets do not contain sidewalks. Since there are no sidewalks within Camp Hill and Concklin Roads, one continuous sidewalk one side of each of these roads could be considered. Adding sidewalks, or an adjacent landscaped pedestrian walking path on Concklin Road may also be considered.

In order to ensure adequate space for sidewalk alignments, new buildings should ensure adequate space for new sidewalks either in or adjacent to streets. Property owners should also be encouraged to dedicate easements for future sidewalks.

### *Building Form and Scale*

Besides targeting implementation of sidewalks, considering a front setback to establish open area within lots is proposed. It will reinforce a sense of lower density, by providing sizable open areas within front yards.

Transitional Zone 'Building Stories' are proposed to vary between one and three stories. This is comparable to heights typical of new buildings within existing residential zoning districts. Evidence of this comes from the building heights in the recent new housing construction on Peachtree Lane.

### *Parking Requirements and Performance*

Parking could be encouraged to be provided within areas shared between adjacent lots. It may be desirable for adjacent properties to share curb cuts as a way to conserve road safety and capacity. Parking and driveways should not be added or reconfigured so it causes vehicles to back into high volume streets. Rather, lower volume side streets or access configurations abutting the back of a property should be considered.

After further consideration, the potential additional non-residential and residential development associated with this Alternative is not desired due to concern with the close proximity to existing residential areas. Existing zoning is intended to remain unchanged for these locations.

## 7.5 Community Facility Area Educational Campus/Institution

### Overview

This section addresses an Alternative for an Educational Campus/ School 'Institutional' zone standard, as per the DGEIS Final Scoping Document. An objective for a Community Facilities Area (CFA) is to facilitate an enhanced supply of private and public educational institutions, possibly along with other civic land uses, in an orderly manner in a defined location that is mostly open and undeveloped now.

The "Community Facilities Area" is akin to campus zoning. The CFA Alternative would use open space/ cluster style design to facilitate educational and institutional land uses in this 90-acre area with frontage along NYS Route 45's east side, just northeast of the Palisades Parkway as shown below in **Figure 7.5-1**. The CFA would form a place where an educational and institutional setting could emerge within a relatively contained, unique campus with the pre-planning provided for a generic master plan for this location that sets-up a unified campus layout and form. A campus can be designed to fit with the open and scenic landscape at this location and the more limited density existing to the north.

Significant portions of this location overlay 'Stryker' lands, undeveloped properties that are owned by the Town and bordered on the south by Concklin Road. Utilizing the 'Stryker' parcels, the CFA could be a Civic District where multiple Civic land uses can locate and would generate institutional land use character. Institutional uses would benefit from being located adjacent to other institutional uses, thereby supporting the evolution of the educational community.



Figure 7.5-1 - Community Facility Area Location

Based on general background growth of the community's school-age population it appears that additional public school space will be needed. Further, it is fully expected there will be continued growth in the private school population. As a result, both public and private educational institutions may be interested in exploring future development opportunities at the proposed CFA.

There will be a need for flexibility in order to define how to organize development so there is an optimal mix of new institutional building and open space conservation. Achieving campus form could help enable civic and institutional vitality and cooperation, which will benefit the community and learning environment.

### **Current Zoning, Land Use, and Other Features at Location of CFA Alternative**

Figure 7.5-1 'Community Facilities Area Location' above shows a 90-acre area north of Concklin Road which could be considered for establishment of a Community Facilities Area (CFA). The CFA is bordered by Concklin Road to the south, both Concklin Road and State Route 45 to the west, the Town of Clarkstown to the east and the 'Skyview Acres' neighborhood to the north.

The current RR-50 Zoning permits single-family detached residences on minimum lots of 50,000 Sq. Ft. Schools for general or religious instruction, libraries and nursery schools are allowed by special use permit by the Planning Board per 376 Attachment 4 – Table of General Use Requirements.

Ten parcels occupy this location. The Town owns three parcels which comprise a majority of the land area at this location. These are Parcel IDs (PID): 33.15-1-10; 33.15-1-12; and 33.15-1-5.

Much of the land in the proposed CFA footprint is undeveloped, although there are some occupied buildings on and surrounding the CFA. Going counterclockwise within the CFA footprint there is:

- A single-family residence fronting on State Route 45, set back 200 feet from the highway.
- Opposite the PIP entrance/exit ramps, on Concklin Road's west side, is the Unitarian Universalist Congregation of Rockland (PID 33.15-1-8), with two separate one-story buildings set back 55 to 70 feet from the road, with a parking area on the northeastern corner.
- Further east, before Marietta Road, is RCSD #1's Pump Station (PID 33.15-1-11). This infrastructure is surrounded by chain link fence and is set back 30 feet from Concklin Road.
- A residential property sits north of Concklin Road in the CFA (PID 33.16-1-18). This single-family structure is set back roughly 105 feet from Concklin Road.

Surrounding existing uses include:

- On the south side of Concklin Road there are single-family houses in the R-35 Zone from Gessner Terrace to Buena Vista Road. Typical set backs from Concklin Road are 50 to 70 feet.
- The PIP abuts on the west with two residential lots on the opposite side of State Route 45.
- Skyview Acres residential development abuts to the north within the RR-80 Zone.
- On the east, the CFA abuts five slivers of residential land located in the Town of Ramapo and Zoned RR-50. The remaining acreage associated with these lots is in the Town of Clarkstown.

Underlying this development pattern, an unnamed stream runs south/ north just west of the CFA midsection, which the Rockland County Parcel Viewer (using NYS DEC data) defines as part of “West Branch Hackensack, Upper, and Tribbs”. The eastern part of the site is a hillside with some highly sloped grades that may limit development. There is also an underground pipeline – the Columbia aka Millennium Gas Transmission Line – which runs within a 50-foot-wide utility right of way along the inside northeastern and northern perimeter of the proposed CFA.

### **Existing Zoning Buildout Potential at Proposed CFA Location**

Considering existing zoning for the 89.7 acres within the CFA Zone Alternative, an estimated 1.9 acres is constrained from development by features like the aforementioned NYSDEC Class C (T) stream and some contiguous National Wetland Inventory (NWI) wetland and FEMA Floodplain. There is an estimated potential for 63 new dwelling units under existing RR-50 Zoning if additional area is reserved for new infrastructure, and the church lot and two lots with existing houses are not treated as readily developable.

### **Proposed CFA Options & Development Impacts**

The CFA presents a framework (concept) for institutional zoning to enable a campus, which would be primarily educational in nature. It could be occupied by multiple schools using a design that preserves a “Greenprint” centering on the stream. For future educational land uses, besides classrooms, there will need to be parking and drop-off areas, and provisions for emergency vehicle access.

A separate part of the Plan/DGEIS analyzes potential new educational land use and space standards for establishing schools in the Opportunity, Arterial and Transitional Areas. This Section addresses CFA zoning program for an institutional campus at this particular location. The main idea in the CFA is to achieve some conserved open spaces, both in terms of natural areas and programmed lawns or playing fields, with clustered streets and buildings.

The CFA Alternative could be structured as an institutional campus which will provide for a unified and integrated setting. This could provide land use efficiencies with buffering from surroundings, while the use of clustering techniques can help retain desirable open landscape form. While each school can be distinct, joint sitings can also enable sharing of resources such as meeting rooms, theaters, or storage space. Outdoor recreational areas can also be shared. There could be benefits generated in terms of area transport access, formulation of common (shared) parking, and efficient school bussing.

### **Safety/ Emergency Support**

In any institutional building, as would be the case for any new construction, there must be requisite systems for fire suppression and easy access to building utility shut offs. As discussed below, a circulation system grid design can enable efficient navigation by emergency vehicles. In addition, the pattern of landscaping and construction by buildings must enable access of emergency vehicles and support their maneuvering and weight requirements; thus, in a campus network, paths and space surrounding buildings must be designed to facilitate adequate emergency access into the campus core.

## **Building & Circulation Network Form**

Achieving a limited new grid and space for clustered building arrangements will establish and accentuate contiguous open areas. Consideration of street design standards would establish a connected, but limited, circulation system that supports a campus setting with minimal curb cuts on existing roads and with open character by the PIP.

### Shared Space Objective

A CFA can enable development of shared spaces like auditoriums, libraries, administrative office space, theatres, and gymnasiums. External to buildings there can be shared parking, bus and car drop-offs, sidewalks, playing and sitting areas. Joint development and use can be economical and efficient, and it may enable broader service than could be achieved at single schools.

This Alternative contemplates the creation of small, individual lots that align with the clustering arrangement, but which also achieves a form compatible to the location. Building and site arrangement could establish a set back from the Concklin Road right-of-way with parking encouraged behind buildings and screened from and by the preservation of existing vegetation along Concklin Road. A multiuse path would be constructed within this preserved set back rather than a traditional sidewalk adjacent to the road, further contributing to the desired institutional campus form.

An ability to locate multiple schools in one place should also have construction advantages. With clustered buildings it will not be as costly to construct infrastructure as would be the case on larger, sprawling sites, such as called for under existing zoning. This could help achieve lower construction costs, which can enable lower taxes and fees, or directing resources into other educational priorities.

### CFA Buffering

The layout of the CFA Alternative could be designed to isolate the CFA's interior from adjacent neighborhoods. This is a function of the existing development pattern, site features, the existing and potential future street network, frontage arrangements, and the way new building placement is regulated in relation to Concklin Road.

Situated to the CFA's north is Skyview Acres. This low-density residential subdivision has a limited grid consisting of Twin Pines Dr., Dogwood Pl., Dogwood Lane S., and Dogwood Lane N. Based on the parcel configurations, there does not appear to be potential for street through-projections northwards into Skyview Acres. Without desirable grid connectivity, Skyview Acres will be isolated from the CFA. Also, since the 50' transmission pipeline right-of-way runs along the CFA's northern perimeter, building cannot be sited within this easement, thereby reinforcing a 50-foot buffer within this part of the CFA.

Additionally, due to natural characteristics of land and developable area, a swath in the northern edge of the CFA, south of this pipeline easement, could remain as open space. Some of this is stream channel, but additional upland open space is depicted beyond the stream. Directly north of Carteret Drive, some developable land exists along the edge of the aforementioned 'Transmission Easement.' However, at a distance of over 500 feet from the road location and the parallel easement line, it seems plausible that future building or parking could be closer to the road.

The CFA's northeastern corner, and all of the CFA's eastern edge, has undulating topography, with some grades which may limit development. That eastern border of the CFA is adjacent to large lot housing off of Buena Vista Road and Brook Road in the Town of Clarkstown. Development within the CFA could be buffered from this existing housing by planned open space in the CFA.

Any future building pattern should mimic the building pattern in the existing RR-35 Zone on the south side of the street. This approach would help ensure future land use compatibility and the degree that building massing and scale can be perceived from the street.

### **Sidewalks/ Pedestrian Environment**

In this Alternative, there is 465 feet of CFA frontage on State Route 45 and 3,675 feet on Concklin Road. Building setbacks and landscaping can establish compatible land use appearance adjacent to these streets. The closest existing building to the right of way edge is the Unitarian Universalist Church at a 55-foot setback. There appears to be adequate space available to install a sidewalk or multiuse trail separated from existing road edges. Constructing a sidewalk or a shared multiuse path on or adjacent to Concklin Road could equip the CFA's southern boundary as a safe and complete street. Serving pedestrian mobility through sidewalks or paths can enhance the recreation value of the CFA and contribute to a campus feel. Sidewalks foster safe pedestrian movements and could link with pedestrian accommodations and enhancements on State Route 45. New streets within the proposed CFA should also possess sidewalks.

With a high proportion of students expected to be below driving age, a sidewalk or shared multiuse path and additional pedestrian improvements for State Route 45 become more of a priority. Possible design improvements on State Route 45 could connect the sidewalk, or shared multiuse path, with a transit stop located at that State Route 45 and Concklin Road intersection. State Route 45 is serviced by Transit of Rockland (TOR).

### **Transit/ School Bussing**

School bus service can be safely and easily afforded in a CFA Alternative. A central campus containing multiple schools would enable economical and safe, community-level student transit. This benefit would arise because pupils could be bussed to one location. This may be preferred over a pattern of decentralized school locations, with each one requiring separate bus service rather than achieving an efficiency of school bus service of multiple schools at the CFA. With school destinations consolidated at a central location, the number of bus trips will be reduced. This would save money and reduce energy/emissions compared with a having more widely dispersed/ distributed bus trips.

Also, within a multi-school campus, with a unified circulation network lay out, the sidewalk and path network can connect and align with new streets and a campus building arrangement, which will aid safety, and general walkability. This could influence fewer auto trips to the site, and internally, thereby reducing traffic and supporting the safety of adjacent residents.

Safe Routes to School guidelines present ways to advance safe design and operation of bussing. These include single-file, right wheel to the curb staging; a drop-off area design that does not require backward movement by buses; one-way, counter-clockwise drop-offs to ensure loading/unloading occurs on the right hand side adjacent to the building; pick-ups designed to prevent children from walking between

busses; drop-off areas that do not straddle pedestrian crossings; and if possible, separation of bussing zones from the driveways used for parent or other auto traffic.<sup>7</sup>

A campus design can establish safe auto circulation without sacrificing pedestrian-friendly design. For drop-off and pick-ups, students can remain safely buffered from autos. This is especially relevant to the CFA's border with Route 45, which is a busy corridor that sees a high volume of traffic every day, and which will act as a main CFA access point.

## **Mitigation in the CFA**

### CFA Greenprint

This Plan/DGEIS promotes clustering new building in the CFA, thereby conserving open space as practicable. This can provide for efficient layouts of buildings and infrastructure and a more functional Greenprint.

This Alternative recognizes the possibility of conserving open space on the eastern and northern border of the CFA, around the stream corridor, and on the southwest. A deliberate offsetting of development and natural features could support a landscape-scale campus design.

Putting the CFA's northern edge in the Greenprint would accentuate the large lots and corresponding open space within Skyview Acres (the gas pipeline easement itself cannot contain buildings). The eastern end of the CFA could also be included in the Greenprint as there is a ravine there and conserving the broader hillside and top of this slope would sustain habitat and wildlife migration.

In the mid-section of the CFA, a swath of Greenprint can extend horizontal of the stream. There is an opportunity to provide an additional buffer along the contiguous stream/ wetland/ floodplain.

On the CFA's west side, by Concklin Road and State Route 45, there is a residential home in the northern corner and the Unitarian Universalist Church (Parcel ID 33.15-1-8). During initial public meetings on this Plan, representatives of the Church expressed desire for the Church's undeveloped land to the south, by the curve on Concklin Road, to be conserved. Preservation of that area could assist with forming the CFA's Greenprint and would mesh with the objective to conserve the character of land opposite the Parkway's entrance/ exit ramps. As the PIP is a Town-designated Scenic Road, promoting open space adjacent to Concklin Road would enhance the corridor's ambiance.

CFA "Greenprint" open areas could provide area that could be used by students and the general population alike. Any trails established in the CFA could link with the wider Greenprint in Northeast Ramapo.

Connecting the CFA with open spaces in the north could extend recreation access, as neighborhoods south of Concklin Road do not currently have readily available access to open space or parkland since, for example, the PIP inhibits direct access to Reisman/ Levy Park. North of Skyview Acres, South Mountain

<sup>7</sup> Safe Routes to School On-Site Design Briefing Sheet, Pg. 2

Park and Burnee Park represent significant open spaces, and conservation of some of the CFA and the provision of trails access, could forge open space connections in Northeast Ramapo.

## **CFA Conclusion**

Although the existing zoning allows for some level of educational uses, since schools, general or religious instruction, libraries and nursery schools are presently allowed by special use permit by the Planning Board per 376 Attachment 4 – Table of General Use Requirements, a CFA Alternative would allow focused planning on an educational campus. Further consideration of this Alternative would require preparation of a supplemental EIS to further identify and evaluate potential environmental impacts and mitigation.

## **7.6 Affordable Business Space Incentive**

### **Rationale for Business Incubation & Establishing Affordable Business Space Amenity**

Business incubation can assist business development and reinforce Ramapo’s economic base. An effort to establish jobs and tax ratables using the Affordable Business Space (ABS) Incentive Alternative may support quality of life and economic tax base within the Town.

Strategic business incubation can promote physical and social infrastructure and conditions that may facilitate business and sustain non-residential growth. Instilling business formation can help form and bolster local trade areas. It can help provide goods and services residents (and other businesses) demand and consume. It can also leverage growth in new or emerging sectors, advance objectives of employing the resident workforce, help create high wage jobs, and link local businesses.

### **Overview**

This Alternative addresses a zoning incentive that would allow an owner to build additional non-residential space, in exchange for set-asides of defined proportions of space that are reserved for occupation by non-residential uses at below market rates for specified periods. Creating supplies of light industry, office, and retail space types of ‘Affordable Business Space’ aims to foster a diverse and resilient non-residential building supply that can emerge according to demands and as markets evolve.

Rockland County has high property taxes, which can hinder new businesses. Moreover, a location on New York City Metro region’s fringe, based on anecdotes prior to Spring 2020, appears to influence relatively high per square foot costs of commercial rental space. High rents can inhibit some entrepreneurs and those they would employ.

Incubator style spaces could provide low cost, temporary and flexible places for startups seeking to get a foothold. Incubators are often operated by colleges or universities, business-oriented non-profits, or governmental entities, and sometimes they are private enterprises. Separately, a business space option gaining popularity involves co-working facilities, which have an advantage of enabling the use of common amenities, like conference rooms, printers, and computers, or production equipment, while sometimes enabling shared labor, like for clerical staff.

This Alternative assumes that lower rents in quality spaces can enhance potential for success. But inherent in a business incubation model is having some entity lead, monitor, and guide the program and its processes. This could include providing tenants with management guidance and tailored consulting and support, helping achieve business success as well as an equitable approach.

## **Targets & Development of Affordable Business Space Models/ Prototypes**

The NRDP provides for additional non-residential, retail, and office space. This Alternative would present and effort to assist small businesses to get a footing.

Incentives would allow developers to build additional non-residential space in exchange for set-asides of ABS at below market rates for a specific period in an effort to incubate new businesses and services. Utilizing density incentives, a developer would be encouraged to program ABS into a building. While there would be limits on rents, the structure would still enable owners to receive a discounted income stream.

Depending on the type of business, the types of ABS may be specialized, possess location attributes, and be configured by size. For example, retail spaces might be envisioned as smaller. Another idea for retail is a cooperative arrangement where one or more tenants occupy space that creates street level vitality and bolsters the markets emerging from development in the Opportunity Areas.

For Light Industrial ABS, there is potential for seeding cottage industries. There can be spaces for sewing, jewelry trades, compilation of other products, food processing and catering, along with storage and shipping of the products generated to consumers or retailers. 'Flex spaces' may also be considered which provide open, adaptable floor plans/ configurable spaces.

Technology/business incubators promote economic growth by supporting entrepreneurship and the development of new innovative companies into successful business ventures. Key distinguishing features and major benefits of successful incubators include the provision of administrative and business services, professional consulting, mentoring, networking, educational opportunities, access to capital and a work ready space. This Alternative could encourage the development of new local businesses along with new employment opportunities once the initial startups move beyond the incubator. Ultimately, such a facility has the potential to provide opportunities for new business growth and job creation and retention in the Town of Ramapo.

## **Requirements & Operations**

The creation of ABS would be primarily developer driven. An enforceable agreement would be necessary to ensure discounted rents for a specified period.

## **Affordable Business Space Incentive Conclusion**

In order to implement Affordable Business Space arrangements, additional details will need to be addressed. Terms and management structure would have to be developed. Standards and metrics should be formed for monitoring, evaluating, and guiding participants.

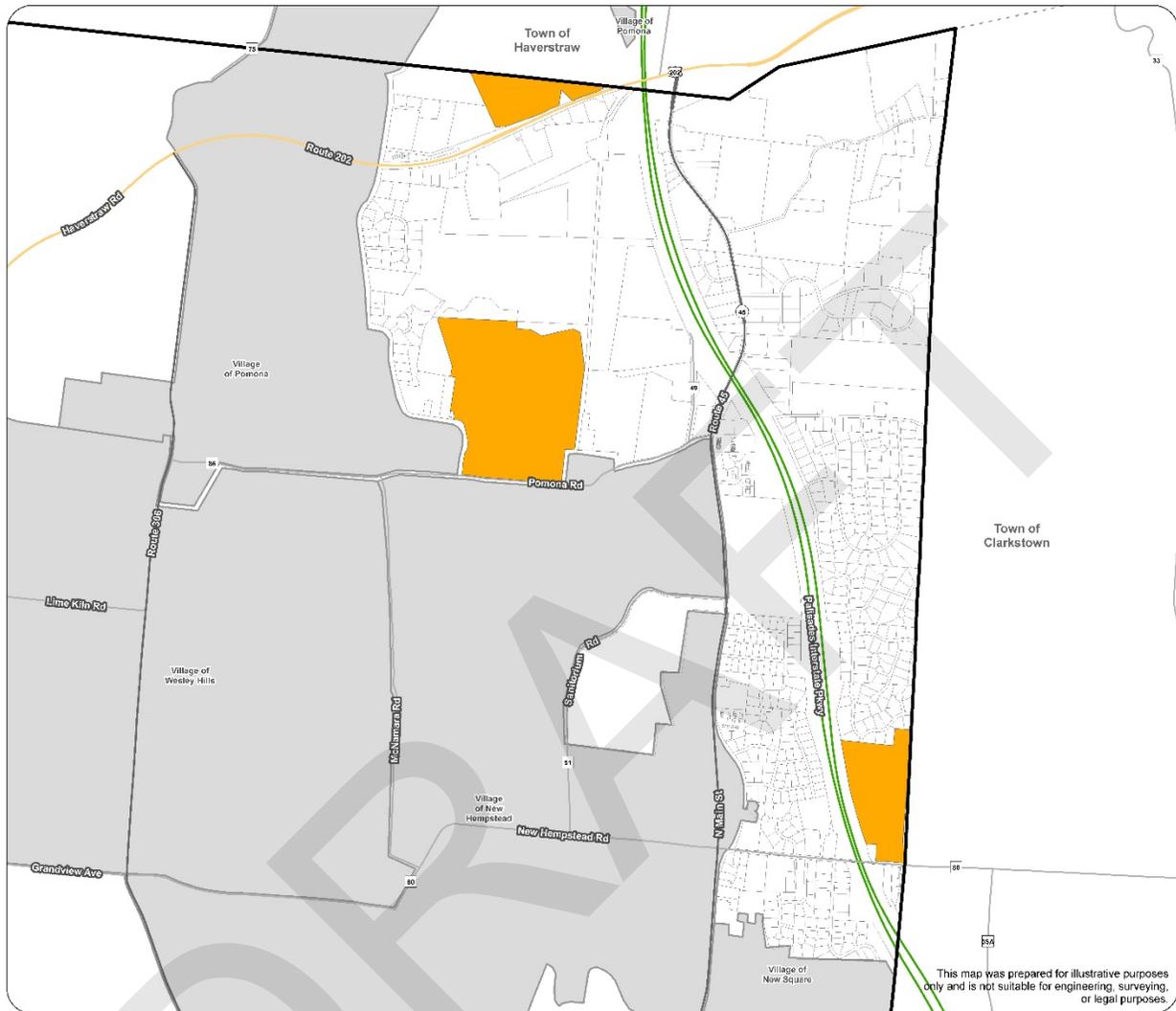
## 7.7 Planned Unit Development Overlay

### Overview

The Flexible-Overlay Planned Unit Development (FOPUD) Alternative would be a new floating zone intended to provide flexibility for future growth that considers options for new residential, commercial, mixed uses and amenities in which economies of scale or creative architectural or planning concepts may be utilized by the developer. Development with the FOPUD is intended to be respectful of the existing environment, make efficient use of the land and meet a set of design criteria. This zoning tool would be utilized on lands of 20 acres or more which may consist of one or more tax parcels in common ownership, potentially within Opportunity Areas B, D and/or E. The FOPUD would allow for a range of uses and housing types. The accompanying **Figure 7.7-1 Privately Owned Parcels Greater Than 20 Acres** illustrates, based on current tax parcel information privately owned parcels greater than 20 acres within the Northeast Corridor for which the PUD overlay might be applicable.

This Alternative would be employed to encourage greater flexibility and creativity in new development within the Opportunity Areas. This tool was recommended in the Town's 2004 Comprehensive Plan, but not implemented. To implement this tool a local law to adopt Planned Unit Development Regulations within the Town of Ramapo Zoning Code as part of a Flex-Overlay PUD Zone would be required. A draft local law is included within **Appendix K**.

**Figure 7.7-1 Privately Owned Parcels Greater Than 20 Acres**



### **Intent**

The intent of enacting this Local Law and the related PUD provisions is to minimize the negative impacts associated with suburban sprawl as noted in the Town's Comprehensive Plan (2004 as amended). Planned Unit Development is intended to allow flexibility in planning and designing land development proposals. Ideally, this flexibility results in a development that is planned and designed as an integrated land use that makes more efficient use of land while reducing disturbance and avoiding environmentally sensitive areas on the site, resulting in a development that shares common infrastructure that can be operated and maintained effectively and efficiently, and which is more desirable to live and work in than one produced in accordance with typical zoning and subdivision controls.

## Density

The Town Board, in its sole discretion, would determine whether to establish a PUD district on a particular parcel and to establish the permitted land use intensity, including the number and type of dwelling units, retail, or office space square footage for the PUD District. This would be completed as part of a Preliminary PUD Plan. Under the draft local law, the density would not exceed the maximum allowable density in any zoning district established by Chapter 376 [Zoning] and the FAR would not exceed the greater of the FAR in the district where the property is located or fifty percent (50%) of the highest FAR in any zoning district in the Town. In establishing such density or intensity of use, the availability of central water and sewer infrastructure to serve the PUD would need to be evaluated.

## FOPUD Process

The proposed process to establish a PUD would involve multiple steps as outlined below. Draft details of requirements and components of each step are found in **Appendix K**.

1. Application for establishment of a PUD district and Preliminary PUD plan to be made to the Town Board.
2. Submission of application materials, PUD district text and Preliminary District Plan.
3. PUD District and Preliminary PUD Plan review by the Town Board based on criteria below (includes Rockland County Planning Board and Town of Ramapo Planning Board referrals as well as SEQRA compliance and public hearing). Draft criteria for PUD District and Preliminary PUD Plan Approval are as follows:
  - a. That the proposal is consistent with the objectives of the Town Comprehensive Plan, as amended.
  - b. That the proposal meets the intent and objectives of a planned unit development.
  - c. That the proposal complies with the general requirements listed within the PUD local law.
  - d. That the uses proposed shall be planned and designed so as to minimize land disturbance and, to the extent practicable, not be detrimental to the natural characteristics of the site or adjacent land uses.
  - e. That each phase of the development, as it is proposed to be completed, contain a sufficient amount of parking facilities, landscaping, and utilities necessary to create and sustain each phase independently; provided, however, where applicable, that due consideration be given to reciprocal easements and operating agreements that may be required.
  - f. That the proposal is conceptually sound in that it meets local and regional needs and that the proposed roadways, pedestrian system, land use configuration, open space system, stormwater management system and other site infrastructure, and scale of those elements shall function singly and cumulatively and conform to accepted design principles.
  - g. That there are adequate services and utilities available or proposed to accommodate each phase of the development.

- h. That the existing transportation network, along with any proposed mitigation, will sufficiently handle all traffic generated by the proposal.
4. Preliminary PUD Plan Review by Town Board. Possible requirements may include the following:
  - a. Visual and/or acoustical screening;
  - b. Land use mix;
  - c. Schedule of construction and occupancy;
  - d. Pedestrian and vehicular circulation system;
  - e. Parking and snow removal;
  - f. Sites for public services;
  - g. Protection of natural and/or historical features;
  - h. Pedestrian access;
  - i. Parks, recreation and/or open space;
  - j. Lighting;
  - k. Area and bulk requirements; and
  - l. Such other requirements for development of the PUD District that the Town Board deems appropriate.
5. Final PUD Plan Review/Site Development Plan Review (includes public hearing) by Planning Board.

### **Draft General Design Criteria**

Projects seeking PUD District approval would need to incorporate site and architectural design elements into the project. Key elements to consider include existing attractive architectural character of the neighborhood/district; continuity of building scale and architectural massing; transition to adjacent developments; treatment of the street-level and upper-level architecture detailing; rhythm of windows and doors; relationship of the buildings to public spaces such as streets, plazas, other open space, and public parking. Design shall consider the following:

- a. Encourage compatibility between residential and commercial uses where existing residential zones abut commercial zones
  - b. The variety of active uses should be complemented with facades that are articulated with a variety of depths and materials along the pedestrian ways.
  - c. Create a network of active spaces and avoid disconnected spaces.
  - d. Design rooftops for visual interest and screening of mechanical equipment
  - e. Achieve compatible building styles and design and avoid incompatible elements.
  - f. Create streetscapes that include appropriate, unified site furniture to encourage pedestrian activity, avoiding bleak streetscapes that discourage walking.
  - g. The design treatments for the area should include details and materials that promote interest for users and visitors.

## **Conclusion**

This option provides an opportunity for implementing creative design and placemaking principles on remaining large parcels within the Northeast Corridor. By applying general criteria and traditional neighborhood design criteria, future growth within a PUD can meet the needs of the Northeast Corridor while maintaining context-sensitive design and development.

DRAFT

## 8.0 Summary of Impacts & Mitigation

The following section presents an overview of the potential impacts and proposed mitigation for the proposed action. Please refer to Section 6.0 for a detailed description of specific impacts and mitigation.

### 8.1 Growth Inducing Impacts

Through the SEQRA process, New York State requires an analysis of growth-inducing aspects of proposed actions when the action may lead to new development. The proposed action is anticipated to result in future development and redevelopment within Northeast Ramapo. This section describes the potential impacts on future growth within the Opportunity Areas as a result of the proposed action. A buildout analysis under existing and proposed zoning is presented. Impacts from growth related to population, utility expansion, transportation and economic impacts are discussed.

#### 8.1.1 Buildout Analysis

To evaluate the impacts of the proposed zoning on future development within Northeast Ramapo, two separate buildout analyses (one under existing and two under potential zoning changes) were completed. A summary of the methodology and results are presented below.

To evaluate the impact of development under current zoning, an existing zoning buildout analysis was completed. The buildout analysis evaluated all lands currently assessed as vacant or identified as underutilized. Undevelopable areas were removed from the analysis which included environmentally constrained and conserved lands. The resulting subset of tax parcels spanned 7 zoning districts (CS, MU-2, PO, R-35, R-40, RR-50, and RR-80). Zoning requirements, including minimum lot sizes, maximum building height, residential density, and floor area ratio (FAR) were applied to each parcel. While a range of uses are permitted, the evaluation was completed using the most intense use permitted by right. The result of the evaluation was an estimate of new non-residential development, in square feet, and new dwelling units anticipated at full buildout under existing zoning regulations. For parcels exceeding the minimum lot size requirements, the number of dwelling units was increased to include the potential for subdivision.

The results of the existing zoning buildout are presented below within Table 8.1-1, broken down by existing zoning district. The detailed methodology for the existing zoning buildout can be found within **Appendix G**.

**Table 8.1-1 Existing Zoning Buildout Analysis**

Zoning District	Total Acreage	# Parcels	Commercial Area (sqft)	Dwelling Units
Community Shopping (CS)	6.11	2	54,069	0
Mixed-Use District (MU-2)	26.09	1	326,960	250
Professional Office District (PO)	3.80	2	58,588	0
Residential District - 35K (R-35)	8.49	5	0	10
Residential District - 40K (R-40)	1.02	1	0	1
Residential District - 50K (RR-50)	4.05	1	0	3
Residential District - 80K (RR-80)	225.03	11	0	117
			<b>439,618</b>	<b>381</b>

To evaluate the impact of development under the potential amended zoning, a potential zoning buildout analysis was completed. Similar to the methodology for the buildout under existing zoning, the proposed zoning buildout analysis evaluated all lands currently assessed as vacant or identified as underutilized. Undevelopable areas were removed from the analysis, which included environmentally constrained and conserved lands. Potential amended zoning requirements were applied to the resulting subset of parcels located within Opportunity Areas A, B, C, D, and E. The analysis also considered the buildout of parcels outside of the opportunity areas that would remain under the existing zoning. While a range of uses are permitted, the evaluation was completed using the most intense use permitted by right. The result of the evaluation was an estimate of new non-residential development, in square feet, and new dwelling units anticipated at full buildout under potential amended zoning regulations. For parcels exceeding the minimum lot size requirements, the number of dwelling units was increased to include the potential for subdivision.

The proposed zoning buildout analysis was calculated for two development scenarios. Option A evaluated the buildout of Opportunity Area A under the Commercial Corridor Zoning, while Option B evaluated the buildout of Opportunity Area A using estimated commercial area and dwelling units provided by the property owner for a project.

The results of the potential amended zoning buildout are presented below within **Table 8.1-2**, broken down by Opportunity Area. A summary of all buildout scenarios is presented within **Table 8.1-3**. The detailed methodology for the proposed zoning buildout can be found within **Appendix G**.

**Table 8.1-2 Potential Zoning Buildout Analysis**

Opportunity Area	Total Acreage	# Parcels	Option A		Option B	
			Non-Residential Area (sqft)	Dwelling Units	Non-Residential Area (sqft)	Dwelling Units
Opportunity Area A	26.09	1	439,580	144	19,250	236
Opportunity Area B	10.93	5	138,302	43	138,302	43
Opportunity Area C	13.34	2	197,518	NA	197,518	NA
Opportunity Area D	144.09	3	40,000	634	40,000	634
Opportunity Area E	42.96	1	15,871	252	15,871	252
<b>Additional Potential Growth Outside Opportunity Areas under Existing Zoning</b>						
R-35	8.49	5	NA	10	NA	10
RR-50	4.05	1	NA	3	NA	3
RR-80	26.46	6	NA	12	NA	12
			<b>831,271</b>	<b>1,098</b>	<b>410,941</b>	<b>1,190</b>

The potential zoning buildout analysis was calculated for two development scenarios. Option A evaluated the buildout of Opportunity Area A under the Commercial Corridor Zoning, while Option B evaluated the buildout of Opportunity Area A using estimated commercial area and dwelling units provided by the property owner for a proposed project. The development scenarios evaluated for the proposed action are summarized within Table 8.1-3 below.

**Table 8.1-3 Summary of Buildout Scenarios**

	Non-Residential Area (sqft)	Dwelling Units
Existing Zoning Buildout	<b>439,618</b>	<b>381</b>
Potential Zoning Buildout – Option A	<b>831,271</b>	<b>1,098</b>
Potential Zoning Buildout – Option B	<b>410,941</b>	<b>1,190</b>

Under the Existing Buildout Scenario, the additional non-residential development within Northeast Ramapo is estimated to be 439,618 sqft. The number of additional dwelling units is estimated to be 381.

Under the Potential Zoning Buildout Scenario – Option A, non-residential development within Northeast Ramapo is estimated to increase by more than 390,000 sqft over the Existing Buildout Scenario, from 439,618 to 831,271. The number of dwelling units is anticipated to increase by 717 over the Existing Buildout Scenario from 381 to 1,098.

Under the Potential Zoning Buildout Scenario – Option B, the additional non-residential development within Northeast Ramapo is estimated to be comparable to the Existing Buildout Scenario at 410,941. The number of dwelling units for this development scenario is estimated to increase by 809 over the Existing Buildout Scenario from 381 to 1,190.

## 8.1.2 Population

The current Town wide population is anticipated to increase as a result of migration into the Town and future development. The impact of the future development on the Town population under existing and potential zoning was evaluated Town wide and within Northeast Ramapo. An estimate of new residents and new school-aged children was calculated using the Town wide average of 3.58 residents per household<sup>1</sup>. An estimate of the new residents and additional school-aged children for the development scenarios are presented below within Table 8.1-4. Fiscal impacts relating to the anticipated population growth and increase in school aged children are further detailed within **Section 6.10 Fiscal Impacts**.

**Table 8.1-4 Impact of Development Scenarios on Population**

	Existing Zoning	Potential Zoning - Option A	Potential Zoning - Option B
Potential New Dwelling Units	381	1,098	1,190
Estimated New Residents	1,363	3,928	4,260
Estimated New School-aged Children	108	312	339

## 8.1.3 Utility Expansion

It is anticipated that public utility infrastructure including public water, sewer and stormwater will be expanded to accommodate future development and redevelopment. The expansion of these municipal utilities as a result of development has the potential to drive continued growth within Northeast Ramapo. Please refer to **Section 6.5 Utilities** for a detailed description of specific impacts and mitigation.

## 8.1.4 Transportation

The proposed action is anticipated to necessitate improvements to the existing transportation infrastructure in Northeast Ramapo in order to meet the increase in traffic volumes at full buildout. Infrastructure improvements may include signal and circulation improvements at key intersections,

<sup>1</sup> Appendix G: Economic and Fiscal Impact Analysis

additional pedestrian facilities as well as public transit connections. Please refer to **Section 6.6 Transportation** for a detailed description of specific impacts and mitigation.

### 8.1.5 Economic Impacts

The proposed action will provide significant additional tax revenue to the Town of Ramapo upon full buildout, as is discussed in **Section 6.10 Fiscal Impacts**. This additional tax revenue could be utilized to provide new, improved or expand existing public services. How these additional tax revenues would be specifically utilized would be determined by the Town Board.

### 8.2 Cumulative Impacts

Future development in Northeast Ramapo estimated within Section 8.1.1 and further described within Section 2.0 is anticipated to require the expansion of public utilities including public water, sewer and stormwater. The cumulative effects of this expansion may include the encouragement of continued growth within Northeast Ramapo. Potential impacts and proposed mitigation measures are further described within **Section 6.5 Utilities**.

Additionally, future development, in combination with background regional growth may necessitate improvements to shared public services including police, fire and Ambulance/EMS. Many of these services encompass surrounding Towns and Villages. Potential impacts may include the need for additional emergency services personnel, equipment and expansion of facility space. Specific potential impacts and proposed mitigation are described within Section 6.4 Community Services.

The impacts of background regional growth in addition to the growth directly attributed to future development were evaluated within Section 6.5 Transportation. Evaluation of the traffic volume data available through the NYSDOT showed that traffic volumes in the study area are increasing on some roadways and decreasing on others. The information available through the New York Metropolitan Transportation Council (NYMTC) indicates increased traffic volumes in the study area. Background growth rates were evaluated using NYSDOT and NYMTC data and estimated at a rate of 0.7%. Potential impacts to transportation infrastructure as well as proposed mitigation measures are further explored within **Section 6.5 Transportation**.

### 8.3 Irreversible & Irretrievable Commitment of Resources

Land development under existing zoning and under potential amended zoning will result in the removal of vegetation and the development of currently vacant and/or redevelopment of underutilized land. Once constructed, the development of vacant lands cannot be reversed and would be unavailable for future uses. The future development is, from a practical perspective, an irreversible and irretrievable commitment of resources (however, any future development could conceivably be demolished, and the land reclaimed for alternative uses or returned to a natural state).

Future development within the Opportunity Areas is not anticipated to occur simultaneously. Various types of construction materials and building supplies will be committed to future development. The use of these materials will represent a long-term commitment of these resources, which will not be available for other projects. Although some of these materials (e.g., steel, glass) could be recovered and recycled if future development were demolished, the use of these materials from a practical perspective represents an irreversible and irretrievable commitment of resources. At this time, such resources are considered to be readily available and should not present a burden upon scarce materials or resources.

## 8.4 Identified Unavoidable Adverse Impacts

Development pursuant to potential code amendments would occur such that adverse temporary and permanent environmental impacts will be minimized, avoided, or mitigated to a degree possible in accordance with applicable laws and regulations. Potential impacts and mitigation are detailed within **Section 6.0**.

Temporary impacts due to construction activities are anticipated. The impacts may include but are not limited to construction noise, vibrations, and smells. These activities are unavoidable; however they are anticipated to be temporary in nature. Specific mitigation for these activities is detailed within **Section 6.1**.

Adverse impacts that have been identified that cannot be minimized, avoided, or mitigated include the following:

- The conversion of vacant land to developed land within Opportunity Areas.
- Removal of existing vegetation as a result of development.
- Increase in impervious surfaces.
- Increase in population and school-aged children.
- Additional need for public services (including extension or expansion of municipal water, sewer and stormwater infrastructure)

While these impacts are unavoidable, the potential code amendments will help to meet the demand of additional housing while creating centers of concentrated commercial development to support residential needs. They are anticipated to maintain the existing community character by focusing on key areas of growth while limiting suburban sprawl. The focused areas of development will create a more walkable community with expanded access to public and retail services to meet the needs of a growing population.

## 8.5 Summary of Impacts and Mitigation

The following tables provide a summary of potential impacts and mitigation for a range of topic areas. For more detail regarding specific impacts and mitigation, refer to **Section 6.0**.

**Table 8.5-1 Summary of Potential Impacts**

<b>Topic</b>	<b>Potential Impact</b>
<b>Geology, Soils and Topography</b>	<ul style="list-style-type: none"> <li>• Soil disturbance.</li> <li>• Potential slope disturbance.</li> <li>• Potential increase in sedimentation and runoff.</li> <li>• Potential bedrock disturbance during construction.</li> </ul>
<b>Water Resources</b>	<ul style="list-style-type: none"> <li>• Alteration of stormwater drainage patterns due to increase in impervious surfaces.</li> <li>• Potential increase in erosion and stormwater runoff.</li> <li>• Potential impacts to groundwater.</li> </ul>
<b>Ecological Resources – Habitats, Flora and Fauna</b>	<ul style="list-style-type: none"> <li>• Potential loss of vegetation.</li> <li>• Potential disturbance of wildlife habitat.</li> </ul>
<b>Parks, Recreation, and Open Space</b>	<ul style="list-style-type: none"> <li>• Potential loss of vegetation and undeveloped land</li> <li>• Increase in pedestrian facilities.</li> </ul>
<b>Historic and Archeological Resources</b>	<ul style="list-style-type: none"> <li>• No anticipated significant adverse impacts to historic or archeological resources are anticipated.</li> <li>• Potential visual impacts in proximity to the Scenic Road District and Palisades Interstate Parkway.</li> </ul>
<b>Community Services</b>	<ul style="list-style-type: none"> <li>• No anticipated significant adverse impacts related to socio-demographic, housing &amp; economic considerations.</li> <li>• No significant adverse impacts to schools anticipated.</li> <li>• Potential increase in emergency service demand.</li> </ul>
<b>Utilities</b>	<ul style="list-style-type: none"> <li>• Increased demand on municipal potable water system and municipal sanitary sewer system.</li> <li>• Lower per capita energy use anticipated.</li> </ul>
<b>Transportation</b>	<ul style="list-style-type: none"> <li>• Additional roadway, pedestrian and signaling improvements at key intersections, including road widening may be necessary.</li> <li>• Additional public transit connections may be necessary.</li> </ul>
<b>Zoning and Development Program</b>	<ul style="list-style-type: none"> <li>• Changes in land use or intensity as result of proposed zoning.</li> </ul>
<b>Community Character</b>	<ul style="list-style-type: none"> <li>• Development is anticipated to limit suburban sprawl through focused development.</li> <li>• Potential visual impacts from additional development.</li> </ul>
<b>Climate Change</b>	<ul style="list-style-type: none"> <li>• Overall impacts of focused development and increased pedestrian facilities anticipated to result in lower per capita energy use and greenhouse gas emissions.</li> </ul>
<b>Fiscal Impacts</b>	<ul style="list-style-type: none"> <li>• Net positive impact on economy as a result of new households and commercial development.</li> <li>• Anticipated increase in jobs as a result of new commercial development.</li> <li>• Net positive fiscal impact anticipated.</li> </ul>

	<ul style="list-style-type: none"> <li>• Increase in school age children attending public school.</li> <li>• Net positive fiscal impact on East Ramapo CSD.</li> </ul>
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**Table 8.5-2 Summary of Proposed Mitigation**

Topic	Proposed Mitigation
<p><b>Geology, Soils and Topography</b></p>	<ul style="list-style-type: none"> <li>• Compliance with NYSDEC Stormwater regulations including sediment and erosion controls during and after construction.</li> <li>• Discouragement of development on slopes greater than 15%.</li> <li>• Geotechnical investigations in areas with shallow depth to bedrock.</li> <li>• Compliance with Town Code Chapter 104 if blasting is required.</li> <li>• Additional mitigation for Opportunity Area A: <ul style="list-style-type: none"> <li>○ Subgrade improvement program as necessary.</li> <li>○ Compliance with mitigation described in existing approved GEIS, SEIS and FEIS for proposed project.</li> </ul> </li> <li>• Additional mitigation Opportunity Area D: <ul style="list-style-type: none"> <li>○ Perform supplemental geotechnical engineering study during design phase.</li> <li>○ Perform additional test pits, borings as necessary to confirm depth to groundwater.</li> </ul> </li> </ul>
<p><b>Water Resources</b></p>	<ul style="list-style-type: none"> <li>• Coordination with NYSDEC, USACOE to confirm boundaries and jurisdiction of regulated waterbodies and wetlands.</li> <li>• Compliance with Town Code Chapter 237, SWPPP and NYSDEC SPDES General Permit for Construction Activity. Stormwater management controls designed to avoid net increase in off-site discharge from existing conditions.</li> <li>• Compliance with Rockland County Drainage Agency if development in proximity to County Regulated Streams.</li> <li>• Compliance with Town Code Chapter 96 if applicable.</li> <li>• Additional mitigation for Opportunity Area A: <ul style="list-style-type: none"> <li>○ Compliance with mitigation described in existing GEIS, SEIS and FEIS for proposed project.</li> </ul> </li> <li>• Additional mitigation Opportunity Area D: <ul style="list-style-type: none"> <li>○ Development of the site to be carried out in a manner to avoid the discharge of dredged or fill material into the delineated waters.</li> <li>○ Stream crossings subject to approval by USACOE to minimize or prevent impacts to regulated waters.</li> <li>○ Site design to include the maintenance or enhancement of vegetive buffers in proximity to waterbodies, streams, and wetlands where feasible</li> </ul> </li> </ul>

<b>Ecological Resources – Habitats, Flora and Fauna</b>	<ul style="list-style-type: none"> <li>On site surveys to confirm presence of significant habitats, threatened and/or endangered species.</li> </ul>
<b>Parks, Recreation, and Open Space</b>	<ul style="list-style-type: none"> <li>Future development to include preservation of forested areas where practical and the construction of lawns and landscaping that provide green space.</li> <li>Development is anticipated to result in an overall improvement in pedestrian connections from the current condition.</li> </ul>
<b>Historic and Archeological Resources</b>	<ul style="list-style-type: none"> <li>Compliance with Town Code Chapter 215 for development in proximity to the Scenic Roads District. Additional plantings or visual buffers may be required.</li> </ul>
<b>Community Services</b>	<ul style="list-style-type: none"> <li>Potential increase in emergency services staffing.</li> </ul>
<b>Utilities</b>	<ul style="list-style-type: none"> <li>Improvements to municipal water and sewer systems will be completed in coordination with the local utilities as needed.</li> <li>Coordination with O&amp;R for new connections as needed.</li> <li>Encouragement of energy efficient building design.</li> </ul>
<b>Transportation</b>	<ul style="list-style-type: none"> <li>Coordination with jurisdictional agencies including NYSDOT, Rockland County and the Town of Ramapo for improvements to transportation infrastructure as identified in <b>Section 6.7</b>.</li> <li>Compliance with ADA guidelines for improvements to pedestrian infrastructure.</li> <li>Public transportation improvements to be completed in consultation with Transport of Rockland.</li> </ul>
<b>Zoning and Development Program</b>	<ul style="list-style-type: none"> <li>Future development to adhere to the uses and bulk requirements defined within the Town’s zoning regulations, as may be amended.</li> <li>Future development to be reviewed through appropriate application process (PUD, Site Plan, Special Use Permit, etc)</li> </ul>
<b>Community Character</b>	<ul style="list-style-type: none"> <li>Visual impacts mitigated through site plan review and building architecture.</li> </ul>
<b>Climate Change</b>	<ul style="list-style-type: none"> <li>Promotion of economic development that aligns with NY State goals for greenhouse gas reduction.</li> <li>Town participation in NY Climate Smart Communities Program.</li> </ul>
<b>Fiscal Impacts</b>	<ul style="list-style-type: none"> <li>Positive fiscal and economic impacts anticipated. No mitigation required.</li> </ul>

## 9.0 Future Action Strategy / Program Implementation

The Northeast Ramapo Development Plan (NRDP)/DGEIS shapes the future of the Northeast corridor and will ultimately be included as part of a future Town-wide comprehensive plan update.

This NRDP/DGEIS facilitates evaluation of environmental, social, and economic factors in planning and policymaking and will be used to assemble relevant criteria upon which the Town Board's decisions will be made.

In order to enable a consistent and streamlined review process for future land development actions, the NRDP/DGEIS has explored potential impacts of growth for Northeast Ramapo and identified mitigation measures. This DGEIS has analyzed the potential significant environmental impacts and assessed these impacts to the extent details are available. The DGEIS has assessed major impacts that are contemplated to arise within the framework of future land development pursuant to a buildout for Northeast Ramapo under current zoning and the potential Alternatives and land development programs for the Northeast. It has assessed impacts per the infrastructure investment and other policy implementation actions for Northeast Ramapo.

This DGEIS will be reviewed by the Town Board. Once the Town Board has determined that the DGEIS is adequate with respect to the scope and intent, a public review period will commence. Following a public comment period and public hearing for the DGEIS, the preparation of a Final GEIS (FGEIS) and preparation of a Findings Statement will commence.

It is the responsibility of the Lead Agency to oversee GEIS completion. While no agency other than the Town Board is able to approve or directly undertake this Action, through the coordinated review process, multiple municipalities, agencies, organizations and the public will have an opportunity to comment on the Action. This includes Rockland County Planning which, per NY State General Municipal Law §239-m, will be formally referred a submission of the GEIS, proposed Comprehensive Plan Amendments and proposed Code Amendments.

Based on the anticipated Final GEIS and Findings Statement, it is probable that the Lead Agency and/or other land use permitting and approval entities could use the SEQRA documentation for subsequent SEQRA administration. That may involve the review of individual land development applications which meet Type I or Unlisted Action thresholds, or it could encompass Town Code change(s) which are determined to be consistent with an adopted Northeast Ramapo Development Plan/FGEIS.

### Implementation

Subsequent land development actions carried out in the future in conformance with the adopted NRDP/DGEIS, FGEIS, and Findings Statement may require limited SEQRA review. Per NYCRR Part 617.10:

- No further SEQR compliance is required if a subsequent proposed action will be carried out in conformance with the conditions and thresholds established for such actions in the FGEIS or its Findings Statement
- An amended findings statement must be prepared if the subsequent proposed action was adequately addressed in the FGEIS but was not addressed or was not adequately addressed in the findings statement for the FGEIS.
- A negative declaration must be prepared if a subsequent proposed action was not addressed or was not adequately addressed in the FGEIS and the subsequent action will not result in any significant environmental impacts.
- A supplement to the FGEIS must be prepared if the subsequent proposed action was not addressed or was not adequately addressed in the FGEIS and the subsequent action may have one or more significant adverse environmental impacts.
- In connection with projects that are to be developed in phases or stages, agencies should address not only the site-specific impacts of the individual project under consideration, but also, in more general or conceptual terms, the cumulative impacts on the environment and the existing natural resource base of subsequent phases of a larger project or series of projects that may be developed in the future. In these cases, this part of the generic EIS must discuss the important elements and constraints present in the natural and cultural environment that may bear on the conditions of an agency decision on the immediate project.

## Decision Making and Findings

If an action has been evaluated within the DGEIS, the lead agency may determine SEQR is satisfied. If not, a supplemental EIS may be necessary. That determination would be made by the lead agency at the time of review. . Per NYCRR Part 617.11:

- Prior to the lead agency's decision on an action that has been the subject of a EIS, it shall afford agencies and the public a reasonable time period (not less than 10 calendar days) in which to consider the final EIS before issuing its written findings statement. If a project modification or change of circumstance related to the project requires a lead or involved agency to substantively modify its decision, findings may be amended and filed in accordance with section 617.12(b) of the NYCRR State Environmental Quality Review.
- In the case of an action involving an applicant, the lead agency's filing of a written findings statement and decision on whether or not to fund or approve an action must be made within 30 calendar days after the filing of the final EIS.
- No involved agency may make a final decision to undertake, fund, approve or disapprove an action that has been the subject of a final EIS, until the time period provided in subdivision (a) of this section has passed and the agency has made a written findings statement. Findings and a decision may be made simultaneously.
- Findings must:
  - Consider the relevant environmental impacts, facts and conclusions disclosed in the final EIS;
  - weigh and balance relevant environmental impacts with social, economic and other considerations;

- provide a rationale for the agency's decision;
  - certify that the requirements of this Part have been met; and
  - certify that consistent with social, economic and other essential considerations from among the reasonable alternatives available, the action is one that avoids or minimizes adverse environmental impacts to the maximum extent practicable, and that adverse environmental impacts will be avoided or minimized to the maximum extent practicable by incorporating as conditions to the decision those mitigative measures that were identified as practicable.
- No state agency may make a final decision on an action that has been the subject of a final EIS and is located in the coastal area until the agency has made a written finding that the action is consistent with applicable policies set forth in 19 NYCRR 600.5. When the Secretary of State has approved a local government waterfront revitalization program, no state agency may make a final decision on an action, that is likely to affect the achievement of the policies and purposes of such program, until the agency has made a written finding that the action is consistent to the maximum extent practicable with that local waterfront revitalization program.

DRAFT