

**MINISCEONGO PARK  
DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)**

Project Description: The development, Minisceongo Park, would consist of 279 multifamily and one-family attached (i.e., townhome) dwellings. Of the total dwellings, 96 multifamily dwellings and 19 townhomes would be located in Ramapo, and 164 townhomes would be located in Haverstraw. Two commercial building sites, consisting of a total of 11,200 square feet of commercial space, would be constructed in Ramapo. A recreational complex would serve the residential portion of the development.

Location: The project site consists of approximately 53.3 acres that straddle the Town of Haverstraw and Town of Ramapo boundary. The site maintains frontage on the north side of U.S. Route 202, and is located just west of the Palisades Interstate Parkway in Rockland County, New York.

Tax Map

Identification: Town of Haverstraw: Section 25.18, Block 2, Lots 3 and 4  
Town of Ramapo: Section 33.06, Block 1, Lots 1 and 2

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Lead Agency Acceptance Date: November 8, 2006

Date of Public Hearing: December 13, 2006

Deadline for Receipt of Public Comments: December 28, 2006

November 8, 2006

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**MINISCEONGO PARK**  
**Draft Environmental Impact Statement (DEIS)**

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## **1.0 EXECUTIVE SUMMARY**

### **1.1 Brief Description of the Proposed Action**

Davies Farm, LLC (the “applicant”) proposes to develop a mixed use residential and commercial development on approximately 53.3 acres that straddle the Town of Haverstraw and Town of Ramapo boundary, north of Route 202 and just west of the Palisades Interstate Parkway in Rockland County, New York. The project site is identified on the Town of Haverstraw and Town of Ramapo tax maps as follows:

- Town of Haverstraw: Section 25.18, Block 2, Lots 3 and 4
- Town of Ramapo: Section 33.06, Block 1, Lots 1 and 2

The development, Minisceongo Park, would consist of 279 multifamily and one-family attached (i.e., townhome) dwellings. Of the total dwelling units, 115 dwellings would be located in Ramapo and 164 units would be located in Haverstraw. The applicant proposes to construct townhomes only in Haverstraw. In Ramapo, the applicant would construct a mix of 96-multifamily dwellings and 19 townhome dwellings.

The project sponsor also proposes two commercial building sites with frontage on Route 202 in the Town of Ramapo. The easterly building would be 7,000 sf with ancillary parking. The westerly building would be 4,200 sf with ancillary parking. The two buildings would obtain access from the internal boulevard road, not Route 202.

An on-site recreational complex is proposed to be located almost entirely in the Haverstraw portion of the site. Only residents of Minisceongo Park would have access to, and use of, the recreational complex. Land associated with the development would be owned by a homeowners association (“HOA”), and all common areas as well as the recreational complex and on-site infrastructure would be maintained by the HOA.

A preliminary site plan has been prepared for this project and is the subject of this DEIS. Large-scale plans accompany the DEIS document. As the SEQRA process continues, the site plan will be refined and revised based on input from the various agencies having review responsibilities for the proposal. The site plan is also in a preliminary stage, since the development of the Haverstraw portion of the site requires an amendment of the zoning code and map approved by the Town of Haverstraw Town Board.

The project site adjoins the south branch of Minisceongo Creek to the west, Barr Laboratories to the north, Quaker Road and a southbound access ramp to the Palisades Interstate Parkway to the east, and U.S. Route 202 to the south. Primary access to the site would be from Route 202. An emergency access drive would connect to Quaker Road in the Town of Haverstraw. A second emergency access road would connect to Route 202 just east of the primary access boulevard.

Three stormwater basins would be constructed to handle the increase in the amount of stormwater runoff that would result from construction of the project. The basins would also treat runoff prior to discharging off site in order to protect adjoining NYSDEC-regulated freshwater wetlands associated with the south branch of Minisceongo Creek. Post-development stormwater rates would meet “zero net increase in rate of runoff” standards. No disturbances are proposed to the wetlands or the 100-foot wetland buffer, except for installation of a

stormwater discharge pipe for the proposed detention pond No. 1 which would extend through the buffer. No federally-regulated wetlands would be disturbed.

It is anticipated that construction would take approximately 42 months from beginning to completion.

The proposed Minisceongo Park development is subject to the regulations implementing the New York State Environmental Quality Review Act ("SEQRA"). The Haverstraw Planning Board is acting as Lead Agency for this proposed action. This DEIS has been prepared in accordance with Section 8-0101, et. seq. of the Environmental Conservation Law, and the regulations contained in 6NYCRR, Part 617, implementing same.

## **1.2 Potential Impacts and Proposed Mitigation Measures**

### **1.2.1 Soils and Topography**

#### Potential Impacts

No impacts to bedrock geology are anticipated. According to a geotechnical report included as Appendix C, bedrock was not encountered in any of the borings conducted on the site. Thus, no rock removal or blasting is anticipated.

Impacts to slopes on the property would be minimal. The project site is mostly flat due to previous mining activities conducted on the site. There are very limited areas of steep slopes (35 percent and greater) constituting 0.45 acres of the site along the project site's northeasterly property boundary.

The majority of the commercial, residential road and parking construction will occur within soils previously disturbed and mapped as "pit, gravel" soils. Suitable fill will be brought to these areas to construct the development. The Carlisle muck soils, indicative of wetlands, will not be disturbed.

As a result of the subsurface investigations conducted for the project site, a subgrade improvement program is necessary to construct the Minisceongo Park development.

According to HDR/LMS, the estimated volume of construction and demolition debris and similar material existing on the site is over 43,000 cubic yards. Costs associated with the excavation, transport and disposal of this volume of material would be prohibitive toward the development of the site. Therefore, the most cost effective way to address the material is for it to be handled on site with a deed restriction and engineering controls to limit potential future human contact with the material.

The existing subsurface conditions include uncontrolled fill and underlying compressible organic soils. Without a subgrade improvement program, construction of the existing soils would result in unacceptable settlement of structures.

Separate surcharge and fill engineered plans have been prepared for this phase of the project and accompany this DEIS. The 10-sheet set depicts existing site conditions, pre-construction limits, soil erosion control measures to be put in place prior to surcharge activities, fill area locations, a stormwater pollution prevention plan and fugitive dust control measures.

A two phase improvement program will occur. The program will consist of a combination of a surcharge program in the area of the western portion of the site which has not been previously surcharged, combined with surface compaction throughout the site. Areas to be surcharged are shown in Figure 3.11-2, Surcharge Plan, in the Construction-Related Effects section of the DEIS. The actual duration of surcharge will be determined by the Geotechnical Engineer based on settlement monitoring. Settlement plates will be installed and monitored by the Geotechnical Engineer retained to oversee the surcharge program to ensure that the majority of the settlement has been completed prior to construction of utilities and surface features. If the recommended ground improvement program is followed, it is expected that total long-term settlements for the proposed structures would be on the order of one inch. Differential settlements between adjacent columns are expected to be less than  $\frac{3}{4}$ -inch.

Throughout the site, footing subgrades must be surface compacted with at least six passes of a smooth drum vibratory roller having a minimum static drum weight of 7 tons. This will compress loose areas with uncontrolled fill and improve the overall engineering properties of the material.

Fill will be required to raise grades within the site. The construction fill phase will require the importation of fill suitable for the surcharge and surface compaction program. The amount of fill to be imported is approximately 449,000 cubic yards<sup>1</sup>. It is expected that soils excavated for the townhome floorings, cuts for roads, and other excavated materials can be used to raise the site to final grade.

During the surcharge and fill placement phase of the project, the applicant proposes to disturb more than 5 acres of area at any one time. A waiver from the SPDES general permit requirements will be obtained from the NYS DEC prior to the preparation of the final SWPPP and will be incorporated into the final SWPPP.

After surcharge and surface compaction occurs, final grading and recontouring of soils will be required. Areas of proposed grading and soil disturbance for the site are shown in the detailed grading plan provided as drawings in the site plan. The total area of site disturbance is estimated to be 35.6 acres of the site.

The potential for soil erosion will be greatest during the initial surcharge and surface compaction phase, and then during site work and grading, when soils are exposed. This will require mitigation.

#### Mitigation Measures

The development will require a NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities (Permit No. GP-02-1) as it proposes to disturb more than one (1) acre of land. In addition, the project must conform to the Soil Erosion and Sediment Control Law of the Town of Haverstraw (Chapter 140 of the Code of the Town of Haverstraw). The Town of Ramapo does not have a separate local law regulating soil erosion and sediment control. This is addressed through site plan review and approval.

#### Soil Remediation

Deed restrictions are recommended to be imposed to protect future property owners so that the new owners are aware of the site conditions and restrictions associated with those conditions.

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<sup>1</sup> Gross, or "bank run", amount of fill.

Areas that contain objectionable material, such as the tires that were encountered in Test Pit TP-35, will be excavated and transported to a facility that is appropriately licensed to accept the material. Engineering controls will need to be established to reduce the potential impact to humans. These controls may include a vapor barrier, active or passive venting layer, and appropriate thickness (two feet or more) of cover material or a combination of these measures. The placement of the additional material to raise the site elevation will serve as a buffer for the construction and demolition materials that exist on site. Based on the lack of odors and photoionization detector readings above background concentrations, a vapor barrier and/or active or passive venting layer does not appear to be necessary for this site.

A second option for the site development may be to consolidate materials at areas of the site where buildings will not be constructed or in areas of limited or no human exposure. These areas may include under roadways or concrete surfaces or in landscape areas.

As part of the substantive review of the DEIS, the project sponsor's representatives will continue to meet and confer with the NYS DEC to determine how to best remediate the unacceptable materials found at the project site. With appropriate mitigation measures in place, the project site will be made suitable for use as a residential development.

#### Proposed Method for Accepting Fill at Project Site

Section 3.1 presents methods to ensure that acceptable fill is brought to the site. The contractor retained for the purposes of acquiring, transporting, and handling backfill will be required to prepare a Site Management Plan under the Technical Specification for Material excavation, handling, stockpiling and backfilling. In the Site Management Plan, the Contractor will discuss the proposed procedures for identifying the off-site borrow sources and/or recycling facilities for backfill material to be used on site. The owner and/or the Owner's representative will review the Site Management Plan before any material handling occurs on site.

At a minimum, any off-site fill material brought to the site for filling and grading purposes shall be from an acceptable borrow source free of industrial and/or other potential sources of chemical or petroleum contamination. Off-site borrow sources should be subject to collection of one representative composite sample per source. The sample shall be analyzed for TCL VOCs, SVOCs, pesticides, PCBs, and TAL metals plus cyanide. The soil will be acceptable for use as cover material if all parameters meet the NYSDEC recommended soil cleanup objectives included in TAGM 4046.

The designated site representative will be contacted before the off-site material is ready for backfilling. As long as the property remains under development, the Owner shall be responsible for having a qualified Environmental Professional (EP) present at the site of the work within a reasonable time. The qualifications of the EP are set forth in Section 3.1 of the DEIS.

#### *Soil Erosion and Sediment Control Plan*

Erosion and sedimentation will be controlled during the construction period by temporary devices in accordance with the Erosion Control Plan developed specifically for this project site as seen in Figure 3.1-7 and described in Appendix D of this document. The details for erosion control devices are shown in Figure 3.1-8.

The project engineer has developed a proposed Stormwater Pollution Prevention Plan, Soil Erosion Controls, and fugitive dust measures that would be installed prior to surcharge

operations, and would continue in place to completion of the project. The proposed Stormwater Pollution Prevention Plan is included in report format in Appendix D and as Drawing 9 of 10 of the surcharge and fill plan set, and the fugitive dust control measures are described on Drawing 10 of 10 of the same plan set. The final SWPPP shall be provided in report format with appendices to include all calculations, the NOI, General Permit, and other elements. The final SWPPP will be provided upon site plan approval and shall be signed and sealed by the engineer of record.

Prior to any remediation activities noted above, pre-construction limits would be established around the perimeter of the site. The perimeter would be established outside wetland areas and the 100-foot buffer. A construction fence and/or silt fence would be erected at the perimeter, except along the easterly property line which is naturally "contained" by the presence of steep slopes in that location. A construction entrance would also be installed.

Three ponds would be installed as shown on the plans. Proposed swales would be constructed to capture any runoff and direct flow to the two ponds that would capture runoff during surcharge and fill operations. These structures would be in place for the duration of the construction process.

The following best management practices are followed in the development of the erosion control plan:

Divert clean runoff - Diversion of 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 - To the extent practical, the 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 until the preceding phase is substantially complete. As per NYSDEC requirements, only 5 acres will be disturbed at any one time, unless a waiver is received from the NYSDEC as part of the SPDES permit issued for this project. The applicant is requesting a waiver as part of the surcharge fill and grading activities.

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 unless construction will begin within 30 days, soil will be stabilized by seeding or mulching. Following completion of grading operations, level areas will be immediately seeded and mulched. Sloped areas, such as fill slopes may be seeded or stabilized depending upon weather conditions at the time of carrying out the work.

Minimize the length and steepness of slopes - The steepness and length of slopes have been 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. The check dams will be placed so that unchecked flow lengths will not be greater than 100 feet.

Maintain low runoff velocities - To protect disturbed areas from storm water runoff, haybale diversion berms and/or soil diversion berms and channels will be installed wherever runoff is likely to traverse newly exposed soil. Immediately following the clearing and stripping of topsoil, 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 on-site 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 either impound sediment-carrying runoff and or to filter the runoff as it flows through an area. Silt fencing, augmented by haybale barriers installed on the upgradient side of the silt fencing, will be used wherever land disturbance occurs within 100 feet of the on-site NYSDEC wetlands. A stabilized construction entrance will be installed at the single construction entrance to prevent construction vehicles from tracking soil onto public roads. All temporary erosion control devices will be installed prior to the commencement of construction. The permanent storm water management systems will be installed in conjunction with the residential 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 that they function properly. In addition to inspections by Town of Ramapo and Haverstraw officials, the applicant will be responsible for monitoring and maintaining the soil erosion and sediment controls at all times.

Assign responsibility for the maintenance program - The responsibility for the monitoring and maintenance of the Erosion Control Plan has been detailed in the SWPPP drawing. The project sponsor shall be required to retain a qualified professional responsible for overseeing the inspection and maintenance protocol. The qualified professional must be someone knowledgeable in the principles and practices of erosion and sediment controls, such as a licensed professional engineer, Certified Professional in Erosion and Sediment Control (CPESC), soil scientist.

#### Fugitive Dust Controls

To mitigate against potential impacts associated with fugitive dust, a separate fugitive dust control plan has been developed and is included as Appendix G of the DEIS. The fugitive dust control measures are also listed on Drawing 10 of 10 of the surcharge and fill program plan set. The fugitive dust control and management measures include earth-moving operation controls, track-out controls, high wind condition controls, and stabilizing soil stored or stockpiled on the project site.

The Job Supervisor would be responsible for ensuring the appropriate controls are implemented during day-to-day operations. Implementation of these controls would prevent dust from exiting the property, and prevent public nuisances.

Details of the erosion control measures to be implemented are described in Section 3.1 of the DEIS. With these controls in place, it is anticipated that there will be no significant impacts that result from site disturbances to soils and topography.

## **1.2.2 Surface Water Resources**

### Potential Impacts

#### *Direct Impacts to Wetlands and Surface or Ground Waters*

No roads, buildings or other direct impacts to existing surface water features are proposed. There would be no disturbance to the 100-year floodplain. A pipe would be installed within the 100-foot buffer of the NYSDEC-regulated wetland so that flows from Pond #1 could drain to the Minisceongo Creek. Impacts to surface water resources are from the indirect effects resulting from changes to stormwater runoff.

The overall increase in impervious coverage will result in increases in the rate and volume of stormwater runoff in the absence of appropriate stormwater controls. Changes to the existing drainage patterns of the site will also occur as the land is regraded to construct buildings, parking areas, and roads. If not properly mitigated, these activities could cause stream erosion and flooding due to uncontrolled stormwater increases, and change the hydrology of associated wetlands and floodplains. In order to offset these changes, the design of the development incorporates three stormwater management basins. Each basin will discharge to the South Branch Minisceongo Creek via outlet control structures that will reduce all post-development peak outflows from the basins and lower the overall site runoff to less than the pre-development runoff from the unconstrained watersheds, thus satisfying the “zero net increase of peak flow” provisions of state stormwater regulations. There would be no flooding of adjacent properties, including Barr Labs and local downstream areas. All proposed stormwater facilities will result in flows off-site that will be maintained at or below pre-development levels.

#### *Water Quality*

The stormwater management plan is required to incorporate structures and methods designed to satisfy provisions specified in the most recent (August 2003) version of the NYSDEC Stormwater Design Manual that incorporates Phase II stormwater regulations. As the NYSDEC manual requires that 90% of the average annual runoff volume be treated, this requirement was used to determine the water quality storage volumes for the project site. The sizing and design of the water quality ponds and the conveyance systems were based on these calculated volumes.

The use of an approved erosion and sediment control plan will incorporate Best Management Practices to comply with NYS regulations for suspended sediment control in runoff water from construction sites. With proper stormwater management and the use of erosion control BMPs, site development can occur while minimizing or avoiding impacts to downstream receiving waters. The proposed plans are designed to comply with the requirements of the SPDES General Permit for Stormwater Discharges so that such potential impacts are mitigated prior to stormwater discharge into the receiving stream.

### Mitigation Measures

#### *Stormwater Runoff Quality Treatment Measures*

The applicant has submitted plans that propose to conform to the criteria established by the NYSDEC. These plans include the use of erosion controls, phased site development and

stormwater management practices (SMPs) that are acceptable to the NYSDEC and described in their Stormwater Management Design Manual (August 2003).

The proposed stormwater management design utilizes SMPs to provide acceptable water quality treatment prior to runoff being discharged from the project site. The project proposes to utilize three separate wet extended detention ponds and dry drainage swales, which will be generally located along the perimeter areas of the development. As detailed in Appendix D, each of these stormwater ponds would employ multiple forebays, permanent pools and flow control structures at each pond drain. All three of these wet extended detention ponds were designed in accordance with NYSDEC sizing criteria to treat a portion of the water quality volume by detaining storm flows above a permanent pool for a specified minimum detention time. Also, the proposed wet extended detention ponds are capable of achieving the desired goal of 80 percent TSS and 40 percent TP removal, have exhibited acceptable longevity in the field, and provide pretreatment capabilities. These structures were also designed to provide channel protection as well as overbank and extreme flood attenuation. The proposed pond discharge outlet points, where the collected stormwater runoff will eventually be discharged from the ponds, would be located along the east bank of the South Branch Minisceongo Creek.

#### *Erosion and Sediment Control Measures*

A comprehensive erosion control plan will be employed to minimize the potential adverse impacts resulting from the proposed clearing, excavation and grading necessary to undertake the proposed project. The plan will be based on and developed by reference to recent standard regulatory documents, including the 2003 NYSDEC Stormwater Management Design Manual (August 2003) and the US EPA National Management Measures to Control Nonpoint Source Pollution from Urban Areas (November 2005). Erosion control plans for this project are included as part of the site plan and presented in Appendix D. The plan shall incorporate various measures to reduce erosion during construction and trap sediment and prevent it from being carried from areas being actively graded. The measures will be installed in accordance with the New York "Standards and Specifications for Erosion and Sediment Control", dated April 2005. In addition, the project will conform to the Soil Erosion and Sediment Control Law of the Town of Haverstraw (Chapter 140 of the Code of the Town of Haverstraw). Several key measures that are proposed to improve the quality of stormwater discharged from the site and reduce the impact on downstream waters incorporate methods to improve soil stabilization, runoff control and sediment control including:

1. Soil covers/Temporary seeding
2. Silt fences
3. Curb inlet protections
4. Check dams

Following final grading operations, topsoil will be spread and the ground surface revegetated promptly using trees, shrubs, ground covers and grasses as set forth in the landscape plan.

The sediment and erosion control plan will be part of the site plan approval and construction bid documents. Therefore, the contractor will be obligated to provide routine inspections by a qualified professional as specified in the New York "Standards and Specifications for Erosion and Sediment Control" to assure the maintenance of each sediment and erosion control measure throughout all construction phases of the project. Inspections should be conducted weekly, as well as after any rainfall of 0.5 inches or greater. The inspections will continue until

the site has undergone final stabilization and the designated project operator has filed a "Notice of Termination" with the NYSDEC.

#### *Stormwater Pollution Prevention Plan*

As noted, the applicant will submit a Stormwater Pollution Prevention Plan (SWPPP) to the NYSDEC for review and approval. The objective of the SWPPP is to control runoff of pollutants from the project site during and after construction activities by complying with the NY State Pollutant Discharge Elimination System (SPDES) Stormwater Permit for construction activities. The SWPPP will implement the following practices:

- Reduction or elimination of erosion and sediment loading to waterbodies during construction;
- Control of the impact of stormwater runoff on the water quality of the receiving waters;
- Control of the increased volume and peak rate of runoff during and after construction; and
- Maintenance of stormwater controls during and after completion of construction.

The SWPPP will incorporate the proper selection, sizing and siting of the SMPs to protect water resources from stormwater impacts. The design of the proposed SMPs were determined using current engineering methodologies to provide appropriate sizing criteria to avoid overburdening stormwater conveyance structures.

#### *Long Term Operation, Maintenance, and Inspection*

SMP Stormwater Ponds must be properly operated and maintained if they are to function as intended over a long period of time. The Homeowners Association, which will be responsible for the long-term operation and maintenance of the stormwater ponds for this project, should use the Stormwater Pond Operation, Maintenance and Management Inspection Checklist forms developed for this project and included in Appendix D to document current conditions.

### **1.2.3 Ecology and Wetlands**

#### Potential Impacts

##### *Vegetation*

The project will not result in the loss of any significant woodlands as this site has been extensively disturbed due to past mining activities. Trees on the project site are generally smaller, second growth deciduous trees existing as successional woodland on embankments along the road corridors bordering the site. Development of Minisceongo Park would result in an overall net reduction in some marginal habitat of successional fields, but would preserve all of the existing riparian habitat associated with the South Branch Minisceongo Creek watercourse.

Most of the previously disturbed, old field habitat on the site would be removed, while all of the 13.4 acres of wetlands and the 100 foot adjacent lands around the wetlands would be protected.

Review of the NHP database search indicates that there are no state protected significant habitat or community types on this property. No state listed rare or endangered plant or animal

species have been identified on the site by the NYS DEC<sup>2</sup> or were observed during visits to the site by project consultants.

#### *Sensitive Vegetative Species*

Willdenow's sedge was not observed on the project site. Given the very lengthy period of time (>125 years) since the last recorded sighting in Haverstraw and the fact that the site does not contain habitat associated with this sedge, the species is not expected to be encountered on the project site.

#### *Wildlife*

Aerial views of the project site (see Fig. 3.3-1) show that it is isolated from other larger open space areas by existing highway and commercial developments. The old field habitat that predominates on the site is of marginal value to wildlife, as it consists of mined and surcharged areas of poor soils and low plant diversity. The overall diversity of wildlife in the area is expected to be low and dominated by generalist species capable of tolerating human contact.

#### *Sensitive Wildlife Species*

The site was surveyed to determine the potential presence of the following species:

*Indiana bat (Myotis sodalis)*: An on-site survey was conducted in September 2005 within the areas of the property's successional fields, riparian areas and wetlands and "border" woodland to determine the presence or absence of large- or small-scale habitats that could be used to sustain populations of Indiana bats. Indiana bats have not been observed on the Minisceongo Park site.

*Bog turtle (Clemmys muhlenbergii)*: Bog turtles have not been observed on the Minisceongo Park site. Based on the indicators observed during field visits to assess the habitats present on the site, none of the three criteria for suitable bog turtle habitat (presence of cool, shallow, slow-moving water, deep soft muck soils, and tussock-forming herbaceous vegetation) are met by the wetlands on or immediately adjacent to the site.

*Gray petaltail (Tachopteryx thorey)*: Gray petaltail have not been observed on the Minisceongo Park site. Due to prior mining disturbances, the site does not contain the coldwater seeps and Piedmont forested habitat that would be preferred by this species (NYSDEC Comprehensive Wildlife Conservation Strategy (draft), 2005).

#### *Minisceongo Creek*

Several physical features act to limit the habitat complexity of this reach of the South Branch Minisceongo Creek including, a sluggish current due to the gentle grade and mostly uniform stream bed. Slow flowing and stagnant water environments tend to have limited oxygen supply, and thus support communities with a low diversity of tolerant fish species. According to the site plan, all trees west of South Branch Minisceongo Creek and those within the wetlands or the wetlands buffer zone along the eastern side of the stream would not be disturbed during the construction of the development. As such, impacts associated with the loss of stream side vegetation, particularly thermal degradation, are not anticipated.

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<sup>2</sup> Charlene Houle, NYS DEC Natural Heritage Program, letter dated September 9, 2005.

### *Wetland and Buffer Area Disturbances*

Wetlands were delineated on the site in June 2005, by CEA, Inc. NYSDEC has subsequently visited the site to re-verify the location of the wetlands. Recertification of the wetland boundary is in process and a NYSDEC signed map validating the wetland boundary will be submitted to the Lead Agency upon receipt. A portion of the westerly limits of the NYSDEC wetland and its 100-foot adjacent area have been modified as a result of the NYS DEC reflagging. The stormwater basin located in close proximity to the buffer has been relocated to remain outside the 100-foot adjacent area.

The proposed project would not disturb any on-site regulated NYSDEC freshwater wetlands or the 100-foot buffer area of the wetlands except for a stormwater discharge pipe that would be constructed to discharge at the east bank of the creek. The project would not result in any short-term or long-term modifications to the functions of on-site wetlands. Indirect impacts that could result from the Minisceongo Park development would include potential water quality impacts associated with uncontrolled discharge of stormwater runoff which will be mitigated by implementation of the stormwater pollution prevention plan. Erosion and sedimentation from lands cleared during development can cause indirect impacts to adjacent wetland areas. The proposed development could also increase pollutant loadings found in site stormwater runoff. This is addressed by the Stormwater Pollution Prevention Plan.

### Mitigation Measures

Stormwater management facilities incorporate standards presented in the latest New York State Stormwater Management Design Manual (August 2003). Three stormwater detention basins with forebays would be created on the site (refer to Appendix D of the DEIS). An Erosion and Sediment Control (ESC) plan has been developed and provided on the site plan. All soil erosion and sediment controls would be installed in accordance with Best Management Practices, Rockland County Soil Conservation Service, and the town municipal codes.

Most of the property to be developed consists of sparsely vegetated successional old field habitat. By restricting development to these more marginal areas, no adverse wildlife impacts are expected to occur related to the loss of any significant habitat areas. Clearing limit lines would be established in the field on the site prior to commencing any construction activities to protect wetlands

### *Implementation of a Landscape Plan*

The project includes lawn and landscape and stormwater basin plantings that would include a mixture of native and ornamental species. While less valuable to some wildlife than the existing old field habitat, the trees and shrubs planted in accordance with the landscape plan would provide both food and nesting sites for squirrels, songbirds and other avian species that are tolerant of man-made landscapes.

Fertilizer and pesticide applications conducted as part of any landscaping maintenance program are not anticipated to have an impact on water resources on or in the immediate vicinity of the project site. Applications must be applied by a certified commercial pesticide applicator in a manner that conforms to the requirements of the NYSDEC Regulation 6 NYCRR Part 325 Application of Pesticides. Prior to any pesticide or fertilizer applications, the Homeowners

Association should execute a written contract and should verify that the certified commercial pesticide applicator has a valid identification card issued by the NYSDEC.

#### **1.2.4 Land Use and Zoning**

##### Potential Impacts

##### *Land Use*

The overall project is compatible with the pattern of land use and development that has occurred in the vicinity of the Exit 13 interchange of the PIP with Route 202. In this vicinity, commercial uses and retail uses serve and are interspersed with the higher residential density neighborhoods that have been constructed in proximity to the PIP, a major regional transportation corridor linking commuters to regional workplaces. In particular, the east side of the PIP demonstrates this mix of uses. The same mix of commercial with residential use is envisioned for the west side of the interchange.

The nearest use, a mini-storage facility, is located approximately 800 feet from the nearest residential building. The developed portion of Minisceongo Park would be distant from the nearest residence fronting on Quaker Road, and would thus have no land use impact on the residential neighborhood located there. To the south, the project adjoins Route 202 and commercial uses are located on the south side of the road. The project would result in a positive impact, introducing new customers that would likely make purchases and patronize the shops along Route 202. Only three residential buildings, located on the east side of the proposed on-site commercial use, directly adjoin Route 202.

To the east, the site adjoins the access ramp to the southbound PIP. There are no uses here which would conflict with the proposed residential uses. As mentioned previously, proposed residential uses would be buffered from the access ramp by a 50-foot front yard, and a combination berm and landscaping plantings to provide privacy for the two residential buildings that are located near the ramp.

To the north, the project site shares approximately 3,300 feet of its northern boundary with Barr Laboratories. Of this total, approximately 1,500 feet of the project site's boundary adjoins buildings and parking areas, and the remaining 1,800 feet of the site's perimeter adjoins wetland areas located on the Barr property. Four residential buildings with 15 dwellings would be located 50 feet from the shared property line with Barr Labs. Three buildings with 18 dwellings would be located no less than 75 feet from the property line. The residential dwellings will be screened and buffered from Barr Labs via landscaping plantings to be installed within the site's side yard. Figure 3.10-13 illustrates a conceptual landscape plan for the project. A line of coniferous and deciduous trees would be planted along the property line north of the stormwater basin to be located there. Additional plantings would be installed at the top of the berm creating the basin. The applicant also proposes to install a solid wood fence to attenuate noise emanating from the transformers located on the Barr Labs property at the property line. With these improvements, the residential uses are anticipated to be buffered from this adjoining use.

No adverse land use impacts are anticipated as a result of construction and occupation of Minisceongo Park. The proposed layout avoids disturbance within 100 feet of regulated wetlands on the western portion of the site, while maintaining compatibility with the project vicinity's land use patterns and residential densities.

*Zoning*

No use variance or zone change is being requested to develop the Ramapo portion of the site. The Ramapo portion of the project site is located in the MU-2, Mixed Use Highway, zoning district. The proposed uses, multiple family dwellings and townhouses, are used permitted by right in the MU-2 district. In addition, banks, local convenience commercial uses, local office business uses, and retail stores are uses that would be allowed by right in the commercial component of the Ramapo portion of the development.

The proposed development in the Town of Haverstraw, single-family attached dwellings, is not permitted in the "C" district. Thus, the applicant has submitted a zone petition request to the Haverstraw Town Board, consisting of a proposed zoning map amendment to rezone the site from "C" to the "RG" district. In addition, zoning text amendments would allow the construction of single-family attached dwellings exclusively on the Haverstraw portion of the project site. The zone petition is included as Appendix A of this DEIS.

The proposed rezoning to the RG district, and text amendments that would create a special use permit for attached dwellings would not affect any existing RG districts as these districts are fully developed.

The rezoning would preclude any future commercial development on the Haverstraw portion of the project site. The project sponsor contends that based on the extensive amount of existing commercial space located on the south side of Route 202 in proximity to the site, the introduction of residential uses would discourage over-commercialization of this stretch of Route 202. It is the applicant's belief that RG zoning would also be more compatible with the adjoining MU-2 district in the Town of Ramapo.

Minimum front, side and rear yards at the perimeter of the project site shall be 50 feet. The maximum building height is 45 feet, or 4 stories. The townhomes would be 38 feet in height measured from the ground to the roof ridge. The multifamily buildings in Ramapo would not exceed 45 feet. Proposed buildings cannot exceed 200 feet in building length, and no more than 7 dwelling units can occupy one building. The zone petition also sets forth requirements for minimum distances to be maintained between principal buildings, accessory buildings, and parking areas. The zoning also establishes minimum requirements for accessory private outdoor space.

Permitted uses in the RG District include "multifamily residences". However, since the Town's existing code states that a multifamily residence is a dwelling which is either "rented, leased, let or hired out...", it was determined that a new definition should be petitioned to be added to the zoning law to allow owner-occupied, one-family attached residences in the RG district. The proposed definition is:

*"Residence, One-Family Attached – A type of multifamily residence consisting of a building comprised of one dwelling unit for one family and which is attached or connected to another dwelling unit along a common party wall, the length of which represents at least 50% of the total sidewall length of which the party wall is a part, and which adjoins another dwelling unit along a common party wall, or open space. A one-family attached residence may be located on its own lot, or may be located on a lot in condominium ownership."*

With the exception of the front yard depth and the maximum density allowed by the current regulations, the project conforms to a large degree with the existing RG bulk requirements.

Accessory uses would be those permitted by the Towns' zoning laws.

*Comprehensive Planning*

The Town's 1990 Master Plan Report, the most recent report that examines land use policies, goals, objectives, and land use patterns on a Townwide basis, identified the project site as one of two sites to be developed for commercial uses. Since 1990, a commercial shopping center has been developed at the intersection of Rosman Road and Route 202, and a shopping center exists presently on Route 202 south of the project site that presently serves Haverstraw residents. Thus, elimination of the "C" zoning from this parcel is not anticipated to have a significant land use impact on the Town, given the availability of other commercial areas available in the community and adjoining areas.

In the 1990 Master Plan Report, commercial development on the project site is cited as a land use that would have a positive impact on the Town's ratable base. The proposed project is anticipated to be tax positive as set forth in Section 3.8 of the DEIS. Thus, Minisceongo Park would not negatively impact the Town of Haverstraw's ratable base.

A planning goal of the 1990 Master Plan Report is to encourage an adequate quantity and variety of sound housing to serve diverse income levels and age groups (p.25). If the 1990 Report and the existing zoning map are a reflection of current Town's land use goals and objectives, then the objective to promote residential areas that allow a diversity of housing types is still be valid. This objective cannot be met based on the current zoning since the RG zoning district is fully developed as described previously. Rezoning the project site to the RG District would allow the Town to continue to meet the land use objective of promoting a diverse range of housing types. Also, the project site meets the locational requirements set forth in the Master Plan Report for RG zoning districts, including adequate access to major roadways on land with slight environmental constraints. In this case, the residential development would be located on a previously disturbed site, and would not disturb on-site wetlands or the buffer area. The proposal would include a slightly higher density, 6.4 dwellings per acre, than recommended in the Report. Residential development on the Haverstraw portion of the site would be compatible with recent zoning amendments enacted for the Ramapo portion of the project site.

The rezoning would result in a loss of potential future commercial development in the Town. Although zoned "C" for some time, the site has yet to be developed for commercial uses due to a lack of market demand, according to the project sponsor.

*Town of Ramapo*

The Minisceongo Park development would provide a balance between accommodating additional population growth while preserving the site's existing natural resources, specifically, on-site wetlands.

Minisceongo Park would represent a well designed and landscaped development. The development includes a discernible center in the form of community center and recreational complex located on-site and within a five-minute walk of the proposed dwellings - all dwellings would be within 2,000 feet of this center. A mix of multifamily dwellings and townhouses are proposed - all units would be owner-occupied. A pedestrian path system would link the various areas of the development, and the site would be generously landscaped as shown on the accompanying landscape plan. The project is consistent with the Town's adopted Comprehensive Plan.

*Rockland County Comprehensive Plan*

The Rockland County Comprehensive Plan recommends that large scale vacant/underutilized parcels be reused and redeveloped in a coordinated manner providing identified housing, recreation, open space, institutional and economic development needs for the local community, as well as improved infrastructure that might be necessary to support such reuse and redevelopment. The future use of the project site ensures that the vacant land is redeveloped into a mixed use development that fits into the existing community character.

It is the applicant's opinion that given regional limitations to industrial access (PIP does not permit truck traffic), future use of the site for light industrial uses would not be as appropriate, and difficult to effectively market. The Town of Ramapo has rezoned the property to allow mixed use residential and commercial uses; light industrial uses are no longer permitted on the Ramapo portion of the site.

It is the applicant's position that the recently adopted MU-2 zoning district in the Town of Ramapo (adopted 11/04) is not consistent with the County Plan, since the Town's zoning law was adopted subsequent to adoption of the County Plan (2001).

The Ramapo rezoning, and the Minisceongo Park development, is consistent with the County Plan, in that both achieve a land use objective of the plan to "focus commercial and high-density residential development in existing mixed use centers and retain the existing open space and quality of life of neighborhoods outside of the centers. The project would be developed in the Mt. Ivy-Thiels-Pomona mixed use hub centered around Route 202's interchange with the Palisades Interstate Parkway.

*Highlands Conservation Act*

Although the project site lies within the Highlands region, it has been identified as a property with "low to lower" conservation value. The site has been previously disturbed and existing vegetation was removed. The portions of the site with conservation value, i.e., freshwater wetlands and the south branch of Minisceongo Creek, would be undisturbed by the development and would remain as open space.

Mitigation Measures

As the proposed project would have no significant impact on land use and zoning, no mitigation measures are proposed. A landscaping plan has been developed to screen the Barr Labs property from the project site. This will provide a visual buffer between the residences proposed on the project site, and would to a limited degree, attenuate noise that may emanate from Barr Labs.

**1.2.5 Transportation**

Potential Impacts and Mitigation Measures

A Traffic Impact Study, was conducted by John Collins Engineer's, P.C., dated October 11, 2005. This study assesses the traffic impacts associated with the Minisceongo Park development and is included as Appendix E of this DEIS.

The following are the intersections analyzed, the locations of which are highlighted in Figure 3.5-1 of the DEIS:

1. Intersection of NYS Route 202 & Route 45
2. Intersection of NYS Route 202 & Thiells-Mount Ivy Road
3. Intersection of NYS Route 202 & Palisades Interstate Parkway Southbound Ramp (Exit 13)
4. Intersection of Route 202 & Camp Hill Road
5. Intersection of Thiells Mount Ivy Rd & Palisades Interstate Parkway Northbound Ramp
6. Intersection of Quaker Rd. & Palisades Interstate Parkway Access Ramp
7. Intersection of Route 202 & Shopping Center Driveway /proposed Main Site Access Driveway
8. Intersection of Route 202 & Pacesetter Park (Super Stop & Shop)
9. Intersection of Route 202 & Ramapo Plaza/proposed Secondary Site Access Driveway
10. Intersection of Route 202 & Martino Way

The following is a brief description of each of the intersections analyzed, the results of the capacity analyses and any corresponding recommended improvements.

Minisceongo Park would become the fourth leg of the Route 202 and Shopping Center Drive-way intersection. The project's proposed internal roadway network and access points are shown on Figure 2-2 of the DEIS and on the site plan accompanying the DEIS. The roadway network internal to the project site would be owned and maintained by the Homeowners Association. Access to the emergency roads would be controlled by breakaway gates as noted on the site plan accompanying the DEIS.

U.S. Route 202 and NYS Route 45: NYS Route 45 intersects with U.S. Route 202 at a signalized intersection. Capacity analyses for 2008 Build condition indicate that the intersection will continue to operate at an overall Level of Service "C" during the peak AM hour and at an overall Level of Service "D" during the peak PM hour. No mitigation measures are proposed.

U.S. Route 202 and Thiells - Mt. Ivy Road: Thiells - Mt. Ivy Road intersects with U.S. Route 202 opposite an existing Park and Ride facility at a signalized intersection. Capacity analyses for the 2008 Build condition indicate that the intersection will continue to operate at an overall Level of Service "E" during the weekday peak AM hour and will continue to operate at an overall Level of Service "C" during the weekday peak PM hour. The NYSDOT proposes improvements (P.I.N. 8093.48) to enhance the operation of this intersection by eliminating the existing park and ride entrance opposite Thiells - Mt. Ivy Road and replacing it with a right turn entry only driveway to the west and a right turn exit only driveway to the east. In addition, the U.S. Route 202 westbound approach will be widened to provide an additional through lane which will tie into the westbound right turn lane at the Palisades Interstate Parkway southbound on/off ramp. As part of this project, the U.S. Route 202 eastbound right turn lane at NYS Route 45 will be extended to the west past the Thiells - Mt. Ivy Road intersection. It is anticipated that these improvements will be in place by the end of 2006. Construction of these improvements has commenced. Capacity analyses conducted with this project indicate that an improved, overall Level of Service "D" will result during the weekday peak AM hour and an overall Level of Service "C" will be maintained during the weekday peak PM hour.

U.S. Route 202 and PIP Southbound On/Off Ramp: The Palisades Interstate Parkway Southbound On/Off Ramp intersects with U.S. Route 202 opposite the Mt. Ivy Diner at a signalized intersection. Capacity analyses conducted for the 2008 Build condition indicate that the intersection will continue to operate at an overall Level of Service "C" during the peak AM hour and will continue to operate at an overall Level of Service "B" during the peak PM hour. With the

construction of the proposed Minisceongo Park development, this segment of Route 202 will be widened and will provide additional storage for the U.S. Route 202 eastbound left turn. This widening, together with the coordination of the traffic signal at the Minisceongo Park development, will improve operating conditions at this location.

U.S. Route 202 and Camp Hill Road: Camp Hill Road intersects with U.S. Route 202 at a signalized intersection. Capacity analyses conducted for the 2008 Build condition indicate the intersection will operate at an overall Level of Service "C" during the weekday peak AM and weekday peak PM hours.

Thiells - Mt. Ivy Road and PIP Northbound Off Ramp: The Palisades Interstate Parkway Northbound Off Ramp intersects with Thiells - Mt. Ivy Road at an unsignalized intersection. Capacity analyses for the 2008 No-Build and 2008 Build conditions indicate that the PIP Northbound Off Ramp will operate at a Level of Service "F" during the weekday peak AM and PM hours. In order to improve the operation of this intersection regardless of the proposed development, a traffic signal would be required. With signalization, this intersection will operate at an overall Level of Service "C" during both the weekday peak AM and PM hours for the 2008 No-Build and Build conditions.

PIP Southbound On/Off Ramp and Quaker Road: Quaker Road intersects with the Palisades Interstate Parkway Southbound On/Off Ramp at an unsignalized intersection. Capacity analyses for the 2008 No-Build and 2008 Build conditions indicate that the Quaker Road approach will operate at a Level of Service "F" during the weekday peak AM and PM hours. In order to improve the operation of this intersection regardless of the proposed development, a traffic signal would be required as well as a separate left turn lane to Quaker Road. With these improvements, this intersection will operate at an overall Level of Service "C" or better during the weekday peak AM and PM hours for the 2008 No-Build 2008 Build conditions.

U.S. Route 202 and Proposed Site Access: Access to the Minisceongo Park is proposed via a full movement access road to U.S. Route 202 to be constructed opposite an existing shopping center driveway. It is recommended that a separate left turn lane on U.S. Route 202 be constructed. In addition, it is also recommended that a separate right turn lane on U.S. Route 202 for traffic entering the site be constructed. The proposed driveway should be constructed to provide two exiting lanes. A traffic signal should be installed to control the turning movements at this location. Capacity analyses conducted with these improvements indicate that this intersection will operate at an overall Level of Service "C" or better during the weekday peak AM PM hours.

U.S. Route 202 and Pacesetter Shopping Center: The Pacesetter Shopping Center intersects with U.S. Route 202 at a signalized intersection. Capacity analyses for the 2008 Build condition indicate that the intersection will continue to operate at an overall Level of Service "B" during the peak AM hour and at an overall Level of Service "C" during the peak PM hour.

U.S. Route 202 and Ramapo Plaza: Ramapo Plaza intersects with U.S. Route 202 at an unsignalized intersection. Capacity analyses for the 2008 Build condition indicate that the intersection will operate at Level of Service "F" during the weekday peak AM and PM hours. With the construction of the proposed Minisceongo Park development, this section of U.S. Route 202 will be widened. This widening, together with the coordination of the traffic signal at the Minisceongo Park development, should improve operating conditions at other driveways including Ramapo Plaza.

U.S. Route 202 and Martino Way: Martino Way intersects with U.S. Route 202 at an unsignalized intersection. Capacity analyses for the 2005 Existing condition indicate that the intersection is currently operating at a Level of Service “F” during the weekday peak AM and PM hours and would continue to operate at these levels for the Build condition.

#### *Saturday Traffic Conditions*

John Collins Engineers compared the weekday peak PM existing traffic volumes analyzed in the October 11, 2005 Traffic Impact Study with the Saturday peak hour traffic counts at two key locations. Based upon this comparison, it was found that the Saturday traffic volumes were significantly lower than those during the weekday peak PM hour. The proposed project will generate less traffic during the Saturday Peak Hour than during the weekday peak PM hour.

Saturday conditions have been evaluated in the Traffic Impact Study, even though this time period was determined to be less critical than the weekday PM peak hour, due to lower existing and future traffic volumes during the Saturday peak hour. The traffic volume graphics, Level of Service summary tables, and capacity analyses are included in Appendix E of the DEIS.

#### *Sight Distance*

The Traffic Impact Study identifies various speed limits on the area roadways. The access to the site was designed to align with the existing shopping center driveway and to comply with the recommendations of the NYS DOT. The sight distance provided at this location will satisfy both NYS DOT and AASHTO sight distance criteria. The proposed access point will be signalized, providing a measure of traffic control which duplicates the objectives of recommended sight distances.

#### *Barr Laboratories*

The traffic analysis evaluated operations at the intersection of Quaker Road and the Palisades Interstate Parkway on/off ramp. The analysis includes evaluation of Existing, No-Build and Build conditions. As specified in the Traffic Study, improvements to this location should be considered with or without the project including potential signalization.

#### *Summer Day Camps*

Area summer day camps were contacted to determine their hours of operation, typical transportation schedules, and use of local roads. Five summer day camps were determined to be in relative proximity to the project site based on a review of addresses for these establishments.

In general, the day camps shared limited information on their operations.<sup>3</sup> The four day camps that were interviewed indicated that their summer hours of operation are generally from 9 AM to 4 PM; Gate Hill opens earlier at 8:30 AM. The camps operate from the end of June to mid-end of August. The camps utilize mini-buses and vans; camp representatives indicate that the children are not dropped off by parents or guardians. Most vans/buses travel to and from southern locations, and many travel on portions of Route 202 and on the Palisades Interstate Parkway in the vicinity of the project site. Based on the schedule above, the camps let out prior to the critical PM peak hour of traffic operation.

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<sup>3</sup> Phone interviews with Ms. Karen Roe (Deer Kill); Ms. Joan Orilia (Ramaquois); Ms. Mary Morgiewicz (Gate Hill); and “Josh” (Deer Mountain), May 22, 2006.

The Traffic Study is based on typical traffic conditions and includes the effect of school bus traffic, commuter traffic and the peak hour site generated traffic. During summer months when day camps are in session, the commuter traffic on the road system is typically between 5-10% lower than normal conditions. During summer months, the overall peak hour traffic volumes for the project as well on the road system would be lower and therefore, would be less critical than that analyzed in the DEIS.

#### *Traffic from Construction Activity*

During the surcharge phase, approximately 100,000 cubic yards (gross) of fill will be brought to the site via 20 cubic yard (28 ton) trucks. From Monday to Friday, the project sponsor would allow the delivery of soil from 7 AM to 5 PM. On Saturdays, construction would occur between the hours of 8 AM and 4 PM (8 hour workday). Each week from Monday through Saturday, 13,920 cubic yards of fill would be delivered to the site. Based on these estimates, it would be approximately 7.2 weeks to complete the surcharge portion of the fill operation.

An additional 349,000 cubic yards of fill is required to grade the remainder of the site. Based on the same delivery schedule identified above (6 days per week, 10-hour weekdays and 8-hour Saturdays, 12 truck deliveries per hour), it would take approximately 25 weeks to receive fill for the remainder of the project if the deliveries are performed on a continuous basis.

An analysis of the impact which can be expected from truck traffic (12 truck trips entering and 12 truck trips exiting) during the surcharge operation was conducted by Tim Miller Associates, Inc., for the intersection of Route 202 and Route 45. There was no change to the level of service at any of the approaches or to the overall level of service at this intersection. However, each approach experienced additional delays of one to three seconds. The overall intersection delay increased from 36.1 seconds to 38.2 seconds. Refer to the traffic appendix for a copy of the surcharge level of service analysis.

After the fill phase, the greatest volume of construction traffic is expected to occur at the beginning of the construction when rough grading is conducted, and when asphalt and building materials are transported to the site.

It is anticipated that most construction trips would travel to and from the site via NYS Route 202. All construction vehicles will use the proposed main access to Route 202 for ingress and egress. Construction vehicles and employees will park on-site at all times. Materials and equipment will be stored on site to minimize vehicle trips.

#### *Pedestrian Circulation, Parking and Mass Transit*

There were no pedestrians observed during the traffic counts external to the project site. Sidewalks are proposed around the community center buildings on site to facilitate pedestrian movement within the Minisceongo Park environment. An informal walking path is also proposed as shown in the accompanying site plan. The applicant will consult with NYS DOT to determine designs that will encourage pedestrian connections between the north and south sides of Route 202 at the main entrance, including but not limited to push button sidewalk crossings and safe haven center islands. In the final design, the development will provide sufficient parking spaces to meet Town codes. Although the applicant does not propose jitney service, the applicant will coordinate with the Rockland County Transit Department to provide an on-site public bus stop to

accommodate residents. The location and design will be coordinated during the site plan approval process.

#### Mitigation Measures

According to the results of the *Traffic Impact Study* (Appendix E), there are certain existing traffic delays occurring during peak periods. With the completion of the improvements to NYS Route 202, completion of the improvements underway at the PIP/Thiells-Mt. Ivy Road intersections, the installation of a traffic signal at the proposed site access, and other mitigation measures discussed in Section 3.5.6 above, the traffic to and from Minisceongo Park can be accommodated and mitigated. Traffic flow and public safety along the frontage of the site will be provided as a result of the proposed road improvements and project mitigation measures.

Site access improvements, including an actuated signal, will be undertaken by the project sponsor as part of the Highway Work Permit process with the NYS DOT. The Applicant is also committed to a fair share contribution to improvements at Quaker Road and the PIP southbound on/off ramp. Other area improvements are planned by the NYS DOT on Route 202 including the intersections of Route 45 and Thiells-Mt Ivy Road. These are being completed regardless of the Minisceongo project.

### **1.2.6 Historic and Archaeological Resources**

#### Potential Impacts

##### *Historic Resources*

There are no buildings eligible or on the state or national registers of historic places, nor historic resources identified by the Rockland County Historical Society, on, adjacent to or within the viewshed of the proposed project. Minisceongo Park will not impact any historic structures. In a letter dated November 1, 2005, the NYS OPRHP has determined that the proposed project will have no adverse impact on properties in or eligible for inclusion in the State and National Registers of Historic Places. The letter is included in Appendix B of this DEIS.

##### *Archaeological Resources*

It is unlikely that there are archaeological resources would be present on the project site due to extensive disturbances that resulted from previous mining activities. In a letter dated September 2, 2005, the NYS OPRHP determined that the proposed project would have no impact on archaeological resources (see Appendix B). Therefore, no further analyses are warranted.

#### Mitigation Measures

No mitigation measures are proposed, as no potential impacts to historic or archaeological resources have been identified. Although the project would not impact the Palisades Interstate Parkway, the project site will be extensively landscaped and re-vegetated, including along the periphery of the site which would further screen glimpses of the site from the PIP. Refer to Section 3.10 for a discussion of the proposed landscaping plan.

## **1.2.7 Community Facilities and Services**

### Potential Impacts

#### *Demography*

The 279 dwelling units are projected to add 794 residents to the Towns of Ramapo and Haverstraw. Haverstraw's population would increase by 493 persons and Ramapo's would increase by 301 persons. Approximately 103 school age children are estimated from the development. All students would attend the East Ramapo Central School District.

The 2004 projected populations for the Towns of Haverstraw and Ramapo are 34,664 persons and 112,547, respectively. The addition of 493 persons to the Town of Haverstraw's 2004 population represents a 1.42 percent increase, while the addition of 301 persons to the Town of Ramapo's total projected population of 112,547 represents a 0.27 percent increase. The Rockland County Comprehensive Plan projects continued population growth within the County, with an additional 17 percent population increase anticipated over a 10-year period. The level of growth associated with the Minisceongo Park development is consistent with this anticipated level of growth.

#### *Police Protection*

According to Chief Charles Miller of the Town of Haverstraw Police Department, average response time to the project site depends on the nature of the call, the call volume at the time and the location of the area patrol calls. Chief Miller estimates that response time to the project site would be minimal. The project site would be accessible from two roads (Route 202 and Quaker Road), which Chief Miller indicated is ideal for emergency service providers. He indicated that the proposed Minisceongo Park development would not result in a need for additional manpower or equipment. The additional population from the proposed development would have no negative impacts on the ability of the Department to provide adequate police projection. The Haverstraw police department would receive annual revenues of \$70,990 from the construction of Minisceongo Park.

According to Lieutenant Gravini of the Town of Ramapo Police Department, the proposed Minisceongo Park development would not result in a need for additional manpower or equipment, and would have no negative impacts on the ability of the Department to provide adequate police protection. Projected annual tax revenues of approximately \$83,038 will accrue to the Ramapo police department

#### *Moleston Fire District*

The project site is located in the Moleston Fire District. The Hillcrest Fire Company No. 1 serves the Moleston Fire District. A letter was sent to the fire district regarding fire protection services. Hillcrest Fire Co. No. 1 protects over 10,000 residences and businesses in an area of about 36 square miles serving a population of 35,000 to 40,000 people. The company operate out of three stations with 16 pieces of apparatus. The all volunteer department services up to 900 calls a year. Minisceongo Park would generate property tax revenues to the Moleston Fire District of approximately \$53,840 annually. This additional revenue can be used to augment the Department's capabilities as necessary. The Fire Chief indicated that Minisceongo Park would not have an impact on fire protection services.

*Ambulance Service; Hospitals*

The Haverstraw Ambulance Corps and the Spring Hill Community Ambulance Corps would serve the project site in the Towns of Haverstraw and Ramapo, respectively.

The service area of Spring Hill Community Ambulance Corps extends from the Haverstraw line to the north, Old Nyack Turnpike to the south, Route 306 to the west and the border of the Town of Clarkstown to the east. The Corps is headquartered on Brick Church Road in Spring Valley in the Town of Ramapo. The Corps is New York State Department of Health certified and provide Basic Life Support services. The service area of the corps is approximately 50,000 to 60,000 people and the calls for service are dispatched to the Corps by the Ramapo Police Department communications center. The Corps work in close association with the Rockland Paramedic Services and share offices with them. There are approximately 80 members trained as New York State emergency medical technicians (EMTs) conducting 28 paramedic tours (12-hour tours) a week and 2 paramedics that are on-call 24 hours and 7 days a week.

The Haverstraw Volunteer Ambulance Corps is a 13 volunteer ambulance corps in Rockland County. The Corps responds to over 3,000 emergency calls annually. The Corps is headquartered on Route 9W in Haverstraw and are certified by the New York State Department of Health and provide Basic Life Support Services.

*Hospitals*

Nyack Hospital and Good Samaritan Hospital are located close to the project site. Both Spring Hill Community Ambulance Corps and Haverstraw Ambulance Corps take emergency calls to Nyack and Good Samaritan Hospitals.

The proposed project would not have a measurable impact on emergency services such as ambulance or hospital care. Haverstraw Ambulance would receive \$20,196 in the Town of Haverstraw and the Ramapo Ambulance District #1 would receive \$5,672 annually.

*East Ramapo Central School District*

A total of 103 school-age children would be generated by the Minisceongo Park development. According to the East Ramapo Central School District Superintendent, the additional enrollment of 103 students will not impact the school district since the schools' have existing excess capacity to absorb additional school children<sup>4</sup>. Costs to the School District would be offset by projected annual school tax revenues from the proposed project of \$1,675,517 . The proposed access boulevard for Minisceongo Park has been developed with a roundabout which is intended to allow for easy maneuvering of buses and emergency vehicles. A safe and convenient ingress and egress has been provided to pick up and drop off students.

*Recreation Facilities*

The proposed project will add 794 residents which may increase local demand for recreation facilities and open space. The land area of active recreation space and passive open space required to serve the development is estimated to be between 5.0 and 8.4 acres of land. A total of more than 31,863 acres of parkland is currently available for Rockland County residents and 561 acres in the Town of Ramapo and 751 acres in the Town of Haverstraw. Based on a per

<sup>4</sup> Conversation with Mr. Jason Friedman, Superintendent of Schools, East Ramapo Central School District on November 10, 2005.

capita estimates provided in Chapter 3.7 of the DEIS, there is adequate recreation facilities available to the Minisceongo Park residents within the project vicinity.

The Minisceongo Park site will provide on-site active and passive recreational facilities such as tennis courts, bocci courts, a fitness room and a swimming pool for the residents. A walking trail will also be installed to link the various residential areas in the development with the community building and recreational complex. The development plan of Minisceongo Park preserves the existing wetlands located on the western portion of the project site adjacent to the Minisceongo Creek which is an existing open space resource. The development would allow continuation of this open space system and is not expected to impact parkland resources of the Towns or County. As the proposed project will provide its own on-site recreational facilities, no significant demand is anticipated to be placed on townwide recreation facilities.

The project provides for the retention of 13.4 acres of wetlands and wetland buffer, 4.3 acres of old field/meadows and 1.6 acres devoted to an on-site recreational complex. This does not include land area dedicated for on-site walking paths. Although there are adequate recreation facilities both on-site and off-site, the Project Sponsor is offering additional land for recreation. The Project Sponsor controls a 34.32 acre site located at the intersection of Beach Road (a/k/a Grassy Point Road) and Ecology Lane in the West Haverstraw section of the Town (Tax Lots 20.20-3-61, 20.20-3-62, and 20.20-3-63). This site is currently a "brownfields" site, but can be remediated for recreation use. The Project Sponsor is offering the site for dedication to the Town. This offer, together with the on-site park and recreation facilities proposed, will fulfill the Project Sponsor's obligations under sections 274-a.6 and 277.4 of the Town Law and under the Town of Haverstraw's site plan and subdivision regulations (Chapters A173 and A176 of the Town Code) relating to the provision of recreation facilities for new dwelling units.

#### *Electricity*

Residential and commercial electricity and gas for the proposed Minisceongo Park would be provided by Orange and Rockland Utilities from a new underground distribution system that would need to be constructed to distribute electricity to the development. All power lines would be placed underground in the proposed development.

Based on discussions with O&R personnel, there are no adverse impacts anticipated to existing electrical services as a result of the proposed Minisceongo Park development

#### *Solid Waste*

The residential portion of the Minisceongo Park development would generate approximately 1.39 tons of solid waste per day. The commercial portion of the project would generate approximately 71 pounds per day.<sup>5</sup>

Dumpsters and solid waste storage areas are proposed for the multifamily residential buildings and the recreational complex. The commercial spaces would also have dumpsters installed. All refuse storage areas would be screened from view of public roads. For the townhouses, solid waste will be stored at each residence and collected according to the schedules applicable to each Town.

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<sup>5</sup> California Integrated Waste Management Board, 1992.

Mr. John Klos, Solid Waste Operations Manager for Rockland County Solid Waste Management Authority, indicates that the current facility used for Town of Ramapo and Haverstraw solid waste disposal has adequate capacity to handle waste generated by the proposed Minisceongo Park. The additional generation of 1.39 tons per day, resulting from the proposed development is still well within the handling capacity of the existing solid waste system. All properties within the Town of Ramapo and Haverstraw are taxed for solid waste disposal. The current tax rate is 2.0405 per \$1,000 of the assessed value for the Town of Haverstraw and 0.6781 per \$1,000 of the assessed value for the Town of Ramapo. Minisceongo Park is projected to generate \$10,406 and \$3,457 annually in taxes to pay for solid waste disposal in the Towns of Haverstraw and Ramapo, respectively.

### *Water Supply*

The project is anticipated to generate an average water demand of 124,300 gallons per day (GPD). Rounding to 125,000 GPD, the maximum (2.5 times average) water demand is estimated to be 312,500 GPD, or 13,000 gallons per hour (GPH). The peak water demand (3 times average) would be 375,000 GPD, or 260 gallons per minute (GPM).

Needed fire flow is estimated to be 3,250 GPM at a minimum pressure of 20 pounds per square inch (psi) for two hours. The development would be served by United Water New York.

According to Ms. Mary Serrara<sup>6</sup> of the Business Department for United Water New York, UWNKY will review the project upon receipt of a concept plan for the project. The DEIS and plans will be forwarded to UWNKY upon DEIS acceptance for this agency's comment.

The proposed project would connect to a 20-inch water main that exists in the right-of-way of Route 202. The connection would occur at the main access point. The location of the 20-inch main is shown on the site plan accompanying the DEIS. United Water New York would own all on-site water mains. Road easements would be provided for access to on-site utilities. The Rockland County Health Department and United Water New York, in addition to appropriate Town agencies, will review the site plan for all water utilities and will comment on the adequacy of the system, and whether upgrades are necessary.

Residents and commercial users would be billed by United Water New York based on monthly water consumption. Anticipated annual taxes generated by the proposed Minisceongo Park development would be \$5,355 and \$3,940 to the Town of Haverstraw and Ramapo, respectively, for water district services.

### *Sewer Services*

Average sewage flows were determined using Ten State Standards.<sup>7</sup> The 11,200 square feet of commercial space is estimated to generate 1,120 gallons per day (GPD). The residential component would generate an average of 106,800 GPD. Lastly, the community building and pool would generate 5,000 GPD of wastewater. Total average sewer flow would be 112,920 GPD. Based on a rounded estimate of 113,000 GPD, the maximum sewage flow (2 times average) would be 226,000 GPD, or 9,416 gallons per hour (GPH). The peak sewage flow (2.5 times average) would be 282,500 GPD, or 196 gallons per minute (GPM).

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<sup>6</sup> Phone interview of May 22, 2006.

<sup>7</sup> Estimates prepared by Edward A. Maikish, P.E., 71 Babcock Lane, Suffern, NY, 10901.

Sewage flow from the entire site would be directed to the JRSB wastewater treatment facility. According to Mr. Brady, it is anticipated that there is sufficient flow capacity to handle wastewater from the Minisceongo Park project. In addition, with the user unit charges, the Minisceongo Park project would generate user unit revenues to offset the cost of capital improvements to the WWTP and other elements of the conveyance system.

Proposed sewer lines are shown on the site plan accompanying the DEIS. The proposed project would connect to a 12- or 16-inch sewer main that exists in the right-of-way of Route 202 - the size of the main in the vicinity of the project site must be verified. The connection would occur at the main access point. Sewer lines would be owned and maintained by the Homeowners Association. The Rockland County Health Department, JRSB, and Rockland County Sewer District, in addition to appropriate Town agencies, would review the accepted DEIS and site plan for all wastewater utilities and comment on the adequacy of the system, including whether upgrades are necessary. Easements for access to these utilities will be established as requested by the reviewing agencies.

Annual taxes generated to the districts serving the proposed project are projected to be \$5,967 and \$25,811 annually to Haverstraw and Ramapo, respectively.

#### Mitigation Measures

No mitigation measures are proposed.

### **1.2.8 Fiscal Analysis**

#### Potential Impacts

The Minisceongo Park development would result in the conversion of vacant land and an automotive repair garage to a mixed use residential and commercial development. The increased market value of the project site, with these improvements, would result in an increase in property tax revenues.

The tax revenues to be generated by Minisceongo Park were determined using an average sales price (market value) of \$504,000 per townhome, and \$384,000 and \$430,000 per two-bedroom and three-bedroom multifamily condominium, respectively. The market value of the 4,200 square foot commercial building was estimated to be \$717,500, and the market value of the 7,000 square foot building was estimated to be \$1,260,000. The assessed value of the Haverstraw portion of the Minisceongo Park development is \$5,099,875, and the assessed value of the Ramapo portion is \$5,098,616 . Table 3.8-5 of the DEIS summarizes the annual property tax revenues that would be generated by the Haverstraw portion of the development.

#### *Town of Haverstraw*

The Haverstraw portion of the project would generate property tax revenues of \$1,886,395 annually. The Town of Haverstraw General Fund would receive \$282,227 annually. The Haverstraw Police Department would receive \$70,990 in annual property tax revenues. The Haverstraw Highway Department is anticipated to receive an estimated \$42,125 annually. An additional \$21,164 annually would be generated to the "part town" budget. Tax revenues to be paid to the Water District total \$5,355 annually. This tax is used to fund the costs for fire hydrant hookups and maintain infrastructure lines. Property tax revenues to be paid to Sewer District 2 are \$5,967 annually.

*Town of Ramapo*

The Town of Ramapo would receive property tax revenues of \$144,184 annually that would accrue to the Town General Fund, Part Town, and the Ramapo Police Department. The various utility districts and service providers would receive tax revenues to pay for solid waste, sewer, and water services provided to the development. The Town of Ramapo charges sewer and solid waste disposal fees on a per unit basis. As informed by the tax receivers office of the Town of Ramapo, the unit charge is based on the number of employees on the commercial development of the property or the number of residences in the residential portion of the development. Once the number of residents and employees is determined, the Town of Ramapo would receive additional fees for sewer and water service.

*Rockland County*

Rockland County would receive \$149,171 annually in property tax revenues. Additional revenues would accrue to the County sewer district for the portion of the project in the Town of Ramapo as shown in Table 3.8-7.

*East Ramapo Central School District*

Minisceongo Park would generate annual property tax revenues of \$1,675,517 to the East Ramapo Central School District. Costs associated with the school district are based on school district data summarized in Section 3.7 of this DEIS, and it is estimated that the additional 103 student introduced to the East Ramapo Central School District would increase the total costs to the District by \$1,393,075 annually. Based on the fiscal analysis, a surplus of \$282,442 would be generated to the school district.

Minisceongo Park would also generate \$59,516 annually in revenues to the Haverstraw King's Daughters Library and \$22,245 to the Finkelstein Memorial Library.

*Other Special Districts*

Annual tax revenues to the Moleston Fire District would be \$53,840. The Haverstraw Ambulance Corps would receive \$20,196 annually and the Spring Hill Community Ambulance Corps in Ramapo would receive \$5,672 annually.

*Costs*

Various service providers were interviewed to determine what demand, if any, would be created by the new development. Based on the these interviews, summarized in Section 3.7 of the DEIS, there should be no significant demand created by the development that would require a major expansion of service capacity, or major capital investment. Thus, costs to serve the project are anticipated to be minimal, and the property tax revenues generated by the project will be adequate to address service demand.

Mitigation Measures

As Minisceongo Park is not anticipated to have a significant fiscal impact on the Towns or other service agencies, no mitigation measures are proposed.

### **1.2.9 Noise and Air Resources**

#### Potential Impacts

##### *Noise*

##### *Short Term Effects*

Local daytime ambient noise levels will increase both on and off of the project site during construction of the proposed Minisceongo Park. Construction activities and the operation of construction equipment are an expected and required consequence of any new construction project and cannot be avoided.

Noise levels of trucks loading and moving the surcharge fill will depend on the distance from any location. The area to be surcharged is at least 500 feet from the nearest corner of the Barr Labs building. Generally, trucks operating at this distance would have noise levels in the 60-70 dBA range. This is a comparable range to existing ambient noise levels along the northern property line. During the compaction phase, rollers will be operating over most areas of the site to bring it to grade. In addition, during the building construction phase, noise levels would be greatest during construction of Buildings 25 through 29 which are located within 200 feet of the Barr Labs building, as well as construction of the detention pond along the northerly property line. The area of the project site within 200 feet of the Barr Labs building constitutes only about 2.4 acres of the overall approximately 53 acre site. Beyond this 200-foot limit, noise will drop off to existing ambient noise levels which are in the mid-60 dBA range, decreasing with distance from the northerly property line.

Noise levels generated by compaction and construction activities elsewhere on the site, beyond the 200-foot range, would drop off with increasing distance and would not be readily noticeable to Barr Labs given the existing ambient noise levels at the property line.

Since the nearest residences to the north and west of the site are approximately 1,000 feet from the portions of the project site to be disturbed, no short-term construction related noise impacts would result. The nearest single-family residence along Quaker Road is 250 feet north of the site and across from Barr Labs (this is an animal kennel shown on Rockland County land use maps as a commercial property) . Beyond, the existing mobile home park is approximately 400 feet north of the site and Barr Labs. These two residences may experience temporary short-term elevated ambient noise levels as a result of construction activities.

Elevated noise occurrences are typically sporadic during the construction period. Noise levels actually experienced on a nearby property would be expected to be lower, accounting for distance from the noise source and other attenuating factors. Blasting and rock removal are not anticipated for the project; thus there would be no noise-related impacts from these activities.

##### *Long-Term Noise Effects*

Minisceongo Park is a development that will result in ambient noise levels typical of residential neighborhoods. Sources of noise would include operating vehicles driving through the development, residents involved in recreational activities, and common area maintenance activities (e.g., lawnmowers). The two commercial pads are oriented to the south and adjacent

to Route 202. Noises generated at these locations would be primarily related to operating vehicles.

Concern has been expressed that the project may result in Barr Labs not being able to meet ambient noise level standards. Since the site was zoned for commercial uses in 1977, the standards applicable to the maximum acceptable noise levels will not change as a result of the rezoning and construction of the Minisceongo Park project. In 1977, the Minisceongo project site would have been Classified "B" as it was and is zoned for commercial use. Thus, as it applies to the Minisceongo Park site, noise emanating from Barr Labs would be required to conform to the Class B regulations. The Class "B" standards apply during the daytime as well as evening hours. This interpretation has been confirmed with Mr. Carl Dornbush, Associate Environmental Health Specialist <sup>8</sup> with the Rockland County Health Department, who was involved in the drafting of the County's noise regulations and is responsible for enforcement of these regulations. Barr Labs cannot exceed a maximum noise level of 65 dBA.

In order to assess the potential noise levels that would be associated with occupancy of the completed project, noise measurements were taken at Crystal Hill Club, a mixed residential development project located in the Town of Haverstraw that would be comparable to the Minisceongo Park development in terms of mix of residential uses and size of development. Noise measurements were taken at approximately 1 PM to 2 PM. An average of 54 dBA is used to determine the potential increase in ambient noise levels from occupancy of Minisceongo Park. As the project would be less dense, it is expected that noise levels may be lower than measured.

By comparison, noise levels measured at the Minisceongo Park site at noon measured between 50.1 and 66.4 dBA (at the Barr Labs property line). With the project, ambient noise levels would remain 66.4 dBA. Thus, the project would not be expected to increase ambient noise levels at this monitoring location which exhibited the highest ambient noise levels. On average, noise levels at this location #2 would average 65 dBA or less.

Barr Labs marginally meets noise standards at the property line adjacent to the transformers. The project sponsor proposes to attenuate noise levels adjacent to the transformer pads by erecting a solid wood panel fence along the berm adjacent to the transformer pads and installing a thick line of coniferous trees adjacent to the wall. This would assist in reducing noise levels at the property line to acceptable levels. According to NYS DEC, erecting sound barriers such as screens or berms around the noise generating equipment near the point of reception is one method of attenuating noise levels. According to the Federal Highway Administration, (FHWA), thick plantings can attenuate noise levels up to 3 dBA. A properly designed solid wall can attenuate noise up to 15 dBA. With these design measures in place, noise emanating from the Barr Labs transformers can be attenuated.

Noise generated from occupancy of Minisceongo Park at the nearest residence on Quaker Road would not result in any change in ambient noise levels at that location.

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<sup>8</sup> Phone interview May 22, 2006.

### *Air Resources*

#### *Short-term Construction Effects*

Potential short-term adverse air quality impacts that may result from the proposed project include fugitive dust and particulate matter from the project site, and emissions from construction equipment and vehicles. The construction of the proposed Minisceongo Park development will involve grading activities that may result in the release of fugitive dust and particulate matter from the project site. During this period, dust and particulate matter from the project site may be released into the air and carried off-site by wind. Construction-related air emissions will result from the use of diesel fuel as a source of energy for construction vehicles and equipment. Mitigation measures are proposed as a part of the project during construction to limit dispersal of particulate matter. Such increases in construction-related dust will be temporary. The NYS DEC does not regulate or model fugitive dust generated from construction operations<sup>9</sup>.

#### *Long-Term Air Quality Effects*

There are no proposed stationary air emission sources that would be introduced by this project. The primary generator of air emissions from any proposed residence is the operation of passenger vehicles. Given the proposed density of the project and the projected volume of traffic, no air quality impacts are expected to result from the proposed development.

The potential impact from the project-generated traffic was evaluated using the New York State Department of Transportation (NYSDOT) Environmental Procedures Manual (EPM) Chapter 1, Section 9, Projects Needing Air Quality Analysis (January, 2001). Carbon monoxide (CO) is the primary pollutant of concern for traffic generated air emissions and is used by the NYSDOT as a screening tool since CO generally has local impacts and higher concentrations of CO are limited within a short distance of heavily traveled roadways.

According to the NYSDOT Procedures Manual, signalized intersections with level of service (LOS) C or better, do not require air quality analysis. The two intersections occurring at U.S. Route 202 with NYS Route 45, and U.S. Route 202 with Thiells Mount Ivy Road, were evaluated as having a level of service (LOS) D for the build condition. Therefore, the NYSDOT Procedures Manual was used to further evaluate this intersection to determine the need for a microscale air quality analysis. Evaluation of the projected traffic and the screening criteria indicates the proposed project will not exceed any of the criteria to warrant detailed CO micro-scale analyses. All other intersections involved in the project area will be stop sign controlled. The NYSDOT EPM states: "*It is not expected that intersections in a build alternative controlled by stop signs will require an air quality analysis*".

#### *Short-term Fugitive Dust Emissions*

Construction activities on the project site may generate fugitive dust during ground clearing and excavation activities. Throughout the construction period, passage of delivery trucks and other vehicles over temporary dirt roads and other exposed soil surfaces could also generate fugitive dust. The anticipated duration of the construction period is approximately 42 months. Construction activity will be limited to the hours set forth in the Haverstraw and Ramapo laws. On-site mitigation measures are proposed as part of the project during construction to limit the dispersal

<sup>9</sup> Phone conversation with Robert Stanton at DEC Region 3, Air Resources, March 13, 2006.

of particular matter. No significant impacts to nearby residences on Quaker Road or Thiells Mount Ivy Road are expected to result from the construction-related dust emissions.

### Mitigation Measures

#### *Noise*

Construction activities must comply with the Towns' noise ordinances. To mitigate against potential noise impacts, construction will be limited as follows:

- In the Town of Haverstraw, construction activities will occur only between the hours of 7 AM to 7 PM on weekdays and from 8 AM to 5 PM on Saturdays. No work will be conducted on Sundays and legal holidays.
- In the Town of Ramapo, construction will not occur between the hours of 10:00 PM and 8:00 AM on weekdays, or at any time on Sundays or legal holidays.

The applicant may request waivers from the applicable jurisdiction to commence construction at 7 AM and discontinue activities at 9 PM. Once constructed, residents and commercial uses will be expected to comply with the noise codes applicable to each town jurisdiction as described previously.

#### *Air Resources*

To mitigate potential impacts associated with earthmoving activities, a fugitive dust control plan has been developed and is included as Appendix G of the DEIS. The fugitive dust control measures are also listed on Drawing 10 of the surcharge and fill program plan set. The fugitive dust control and management measures include earth-moving operation controls, track-out controls, high wind condition controls, and stabilizing soil stored or stockpiled on the project site.

The Job Supervisor, i.e., construction manager, would be responsible for ensuring the appropriate controls are implemented during day-to-day operations. Implementation of these controls would prevent dust from exiting the property, and prevent public nuisances.

### **1.2.10 Visual Resources**

#### Potential Impacts

##### *Proposed Buildings and Landscaping*

Construction of Minisceongo Park will alter views of the site from a primarily disturbed, vacant property to a mixed use residential and commercial development. The single-family attached dwellings would have a building height of three-and-one-half (3.5) stories, and multifamily residences would be located in a three (3) story building. Townhome buildings would have a ground to roof ridge height of 38 feet. Buildings may not exceed 45 feet in the MU-2 district in the Town of Ramapo. The zoning text amendment proposes a maximum building height of 45 feet for one-family attached dwellings in the Town of Haverstraw. The proposed commercial uses would be in buildings that would not exceed one (1) story in building height.

The residential buildings are proposed to be designed in two architectural styles: colonial style, and arts and crafts character. Figures 3.10-9 through 3.10-12 illustrate the building elevations for the various housing components of the Minisceongo Park project. The facade materials

would include brick, hardy plank, or shake siding. Two and three-story bays would add visual interest to various buildings. Other buildings will incorporate shake and plank siding and have a more arts and crafts style appearance. The two proposed architectural styles and variations of these two themes will be complementary in colors and will share some materials, and will ensure that the project is not monotonous in architectural style. Roofs will be broken up by dormer windows to add visual interest. Overall, the intent is to use a combination of materials, and vary the facades and rooflines to add visual interest to each building.

The building elevations and architecture will be reviewed by the Town of Ramapo and Haverstraw as part of the SEQRA review of the DEIS, and the applicant will work with each Town to come up with an appropriate, attractive and cohesive architectural theme. While the specific architecture of the commercial component has yet to be determined and will be tenant driven to some extent, the commercial buildings will be required to utilize similar materials and colors so that the development appears as an integrated whole.

The conceptual landscaping plan includes street trees, ornamental trees, shrubs and buffer plantings. Locations of street trees are shown in Figure 3.10-13. The street plantings would create a tree canopy and shade and create an attractive neighborhood setting. Along the periphery of the site, berms would be created and a mix of deciduous and evergreen plantings would be planted to screen views of the project site. Overall, the site will be generously revegetated to visually enhance the proposed residential neighborhood.

#### *Views from Route 202*

Minisceongo Park will be visible from Route 202. There are no significant scenic resources visible from this road that would be impacted by the site's alteration. Overall, views of the project site would be altered from a vacant, scrubby site, to a new, attractive residential and commercial development. The periphery of the site will be generously landscaped with a mix of deciduous and evergreen plantings. The boulevard entry, with a landscaped median, will provide an attractive focal entry point. The boulevard will end at the community building at a roundabout that will be landscaped, and a vertical focal point will be included. As a result of the construction of the project, the buildings and infrastructure associated with Barr Laboratories would no longer be visible from Route 202. Views of the westerly portion of the project will remain the same as the existing freshwater wetlands, 100-foot buffer and meadow would remain undisturbed. Overall, views of the new development are not anticipated to have a significant impact on aesthetic resources, and may result in a more attractive landscape than at present.

#### *Views from Quaker Road*

As per NYS DEC guidelines, Quaker Road is not considered a significant scenic road. Regardless, the project would not be visible from Quaker Road except at its intersection with the PIP Exit 13 southbound off ramp. At the site periphery, evergreen and deciduous plantings would assist in screening views of the project site. Views from Quaker Road are not considered significant aesthetic views.

#### *Views from Palisades Interstate Parkway/Long Path*

The Palisades Interstate Parkway (PIP) is listed on the National Register of Historic Places and is located adjacent to the project site, resulting in the potential for the project to impact views from the PIP. In addition, a regional trail, the Long Path, is located on the east side of the southbound access ramp.

Based on field surveys, the site's visibility from the "mainline" of the PIP is extremely limited. There is a limited gap in the treeline traveling northbound at the overpass where the site may be glimpsed. This view is limited and not prolonged given prevailing traveling speeds on the PIP.

The site is presently visible from portions of the southbound on and off-ramps for Exit 13. The buildings would be more prominent visually at the base of the access road than farther north near Quaker Road. Again, landscape plantings will have a significant screening effect on views of the site. The Minisceongo Park project will be substantially screened from views at the top of the ramp over time as the landscape plantings mature.

Views from the Long Path will be the same as views visible from the southbound access ramp. The path is approximately 100 feet from the easterly property line. The Long Path connects various parks and open spaces throughout the region, passing at times through existing suburban and urban areas along its length. Views from this trail are of modern commercial, industrial, and residential uses in the project vicinity. The Minisceongo Park project would be an attractive development, well screened, that would not be significantly different or in stark contrast to existing suburbanized landscape views visible from the path. Thus, no significant impacts are anticipated.

Upon DEIS acceptance, the site plan and concept landscaping plan will be transmitted to the PIPC for review and comment. A representative from the PIPC indicated that the PIPC would look favorably on a landscape plan that augments the existing buffer on PIP land. The landscape plan will include deciduous tree plantings which have a planting height of 8-10 feet, and evergreens with a planting height of 6-8 feet. With implementation of a landscaping plan, it is expected that views of the project site will be adequately screened from the PIP/Long Path.

#### *Views from Gurnee Park*

The project site would be visible from a viewpoint along the walking trail (the Long Path) within the park. Here, primary views from this vantage point consist of the commercialized corridor along Route 202 and its intersection with Thiells - Mt. Ivy Road. There are also views of the Palisades Interstate Parkway, and the high density multifamily residences to the east of Thiells-Mt Ivy Road within the viewshed foreground. Views from the park and trail are of a suburban landscape. Minisceongo Park would not be in stark contrast to these existing views. Thus, no significant impact is anticipated. The generous landscaping provided throughout the Minisceongo Park development would soften views of the project as vegetation and the tree canopy introduced to the site matures.

Minisceongo Park is located approximately ½-mile from this vantage point, and would be in the mid-ground. Views within the mid-ground include the Barr Labs buildings and commercial uses along Route 202 and would not be in stark contrast to these existing views.

The photo in Figure 3.10-8 provides an example of how buildings may appear if constructed at a lower building height than proposed presently. Because Gurnee Park is elevated above the foreground and midground viewshed, a reduced building height has little effect on the appearance of buildings in the viewshed. Rather, views of a multifamily development can be "softened" and partially screened through the installation of generous landscaping materials that break up views when a development has expanses of building and impervious surfaces.

The Minisceongo Park landscape plan included as 3.10-13 illustrates a concept where the project would be generously landscaped. Specifically, the plan shows that major (up to 60-100 feet in mature planting height) and minor deciduous trees (up to 30-40 feet in mature planting height) would be planted along the entire length of the internal driveway within the landscape islands between driveways and at the ends of buildings. A mix of deciduous and coniferous trees would be planted throughout the rear yard and side yards of buildings to provide privacy for persons who may be entertaining or relaxing on the outdoor decks. The plantings are done in groupings, rather than plantings of individual specimen trees, to provide a more naturalized appearance to the landscape. These landscape grouping, as they mature, would create a canopy effect that would soften and screen views of buildings from various vantage points.

The project sponsor would also use darker colors for roofing to de-emphasize the appearance of the buildings in the landscape.

The view of the project site from Gurnee Park is an off-leaf view that also includes the Barr Labs warehouse in the viewshed. Based on a discussion with the Town of Haverstraw Building Inspector, the warehouse is estimated to be 35 feet in building height based on zoning regulations. In contrast, the townhome buildings would be 38 feet from ground elevation to the roof ridge. Thus, the buildings would be no more imposing on the landscape, and would clearly not block views of the Ramapo Mountains in the background.

#### Mitigation Measures

As mentioned previously, landscape plantings will be utilized to compliment the natural landscape, to screen views into the site as well as screen views from adjoining roads, although views from these roads are not considered to be significant.

#### **1.2.11 Construction-related Effects**

Construction-related effects are described in the various sections of the DEIS, and summarized in this section for ease of review.

#### Potential Impacts

##### *Soil Erosion*

The potential for soil erosion exists as a result of the fill activities taking place on the site during the surcharge phase, and the grading activities that will occur during the site work phase which would also require importation of fill. As described in Section 3.1 of the DEIS, it is estimated that during the surcharge phase, approximately 100,000 cubic yards of fill will be brought to the site, which is estimated to take approximately 45 working days. During the site work phase, an additional approximately 349,000 cubic yards of fill will be imported to the site. Fill activities would occur over an approximately 120-day time period.

##### *Construction-Related Traffic*

During the surcharge phase, approximately 100,000 cubic yards (gross) of fill will be brought to the site via trucks with a capacity to haul 20 cubic yards (28 ton truck). From Monday to Friday, fill would be delivered during the hours of 7 AM to 5 PM. The site would receive and spread one (1) truckload of fill every 5 minutes, which would be 12 truckloads delivered to the site per hour. On a daily basis, it is estimated that the project site would receive 120 truckloads of fill per day

totaling 2,400 cubic yards of fill. On Saturdays, construction would occur between the hours of 8 AM and 4 PM (8 hour workday). Based on 12 truck deliveries per hour, a total of 96 trucks would travel to and from the site, delivering approximately 1,920 cubic yards of fill. Thus, each week from Monday through Saturday, 13,920 cubic yards of fill would be delivered to the site. Based on these estimates, it would be approximately 7.2 weeks to complete the surcharge portion of the fill operation.

An additional 349,000 cubic yards of fill is required to grade the remainder of the site. Based on the same delivery schedule identified above (6 days per week, 10-hour weekdays and 8-hour Saturdays, 12 truck deliveries per hour), it would take approximately 25 weeks to receive fill for the remainder of the project if the deliveries are performed on a continuous basis.

According to HDR/LMS, the project would not require a mining permit or a solid waste permit from NYSDEC.

Deliveries would be conducted in accordance with applicable town regulations limiting construction activities to certain hours of the day, and would also adhere to all road restrictions as to vehicle weight limitations. It is expected that trucks would travel on the major county roads and Route 202 in the project vicinity. Trucks are not permitted to use the Palisades Interstate Parkway.

It is anticipated that all construction-related trips would travel to and from the site via NYS Route 202. According to the project sponsor, fill brought to the site from locations south and west of the project site would utilize the following roads: Route 202 east directly to the site; north on Route 306 to Route 202 east to the site; and, Route 45 north to Route 202 east to the site. From the north, it is anticipated that trucks would travel Route 17 south to Route 202 east to the project site. If fill is coming from locations east of the project site, it is anticipated that trucks would travel the New York State Thruway west to Exit 12, to Route 303 north, to Route 9W, and then travel Route 202 west to the project site.

An analysis of the impact which can be expected from truck traffic (12 truck trips entering and 12 truck trips exiting) during the surcharge operation was conducted by Tim Miller Associates, Inc., for the intersection of Route 202 and Route 45 as described in detail in the traffic section of the DEIS.

There was no change to the level of service at any of the approaches or to the overall level of service at this intersection. The overall intersection delay increased from 36.1 seconds to 38.2 seconds.

All construction vehicles will use the proposed main access to Route 202 for ingress and egress.

#### *Noise Levels*

Noise impacts associated with construction of the proposed project are addressed in Section 3.9 of the DEIS. Local daytime ambient noise levels will increase both on and off of the project site during construction. Construction activities and the operation of construction equipment are an expected and required consequence of any new construction project and cannot be avoided. Noise resulting from construction activities is a temporary impact, and will cease upon completion of the project.

Since the nearest residence to the north and west is over 1,000 feet from the portions of the project site to be disturbed, no significant construction-related noise impacts are anticipated.

There would be no blasting or rock removal and thus no noise impacts from these activities.

#### *Air Quality*

Potential short-term adverse air quality impacts that may result from the proposed project include fugitive dust and particulate matter from the project site, and emissions from construction equipment and vehicles. The construction of the proposed Minisceongo Park development will involve grading activities that may result in the release of fugitive dust and particulate matter from the project site. Such increases in construction-related dust will be temporary.

Following project construction, previously disturbed areas on the site currently exposed to wind would be either developed or landscaped, thereby reducing the potential for dust generation from the project area long-term.

#### *Settlement*

The Surcharge Program would address the compressible organic soils found in the western portion of the project site. Generally, a surcharge program places extreme weight on the existing soils for a determined amount of time, thus compressing the subsurface materials and causing the anticipated settlement before construction begins.

The second part of the subgrade improvement plan incorporates mechanical compaction throughout the site by passing a smooth-wheeled vibratory roller over the area.

#### Mitigation Measures

The DEIS incorporates various mitigation measures, as described in other chapters of the document, to address construction-related impacts. The following provides an overview of these mitigation measures.

#### *Soil Erosion Control*

The development will require a NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities (Permit No. GP-02-1) as it proposes to disturb more than one (1) acre of land. The applicant will seek a waiver to exceed five acres of disturbance associated with the surcharge and fill operations. In addition, the project must conform to the Soil Erosion and Sediment Control Law of the Town of Haverstraw (Chapter 140 of the Code of the Town of Haverstraw). The Town's law requires that the applicant obtain a land disturbance permit from the Town Engineering Department. The purpose of these approvals is to ensure that all potential soil erosion impacts are mitigated through the preparation of an erosion and sediment control plan.

NYS DEC best management practices will be followed.

### *Construction-Related Traffic*

The increase in construction-related vehicular trips will be a temporary and unavoidable effect of building construction. To limit impacts to the roadway levels of service in the project vicinity, deliveries will be scheduled to avoid peak hour traffic periods.

### *Noise*

It is the applicant's opinion that noise levels generated by construction activities would be mitigated by limiting the hours of construction operation as described previously. The applicant may request waivers from these standards during particular phases of building construction. The purpose of this waiver would be to shorten the time period for construction activities, particularly the surcharge and fill program. During summer months, extending the daily duration of construction activities could decrease the overall length of time for the project's construction. The impacts associated with construction activity noise have been described previously. During substantive review of the DEIS, the Towns may determine that extended hours for construction activities may be reasonable depending upon the type of activity and the noise associated with the activity; other activities may not be reasonably conducted beyond the hours regulated above.

### *Air Resources*

To mitigate potential impacts associated with fugitive dust, a fugitive dust control plan has been developed and is included as Appendix G of the DEIS. The fugitive dust control measures are also listed on Drawing 10 of the surcharge and fill program plans. The fugitive dust control and management measures include earth-moving operation controls, track-out controls, high wind condition controls, and stabilizing soil stored or stockpiled on the project site.

### *Settlement*

As mentioned previously, the surcharge will be monitored through the installation of settlement plates that will be installed and monitored by the Geotechnical Engineer to ensure that the majority of the settlement has occurred prior to commencement of the site work phase. Monitoring of this process will be coordinated with the Town of Ramapo and Town of Haverstraw code compliance officers and the town engineering consultants to ensure that the Town's are satisfied with the results of the surcharge program and settlement results.

### *Fill Material Testing*

HDR/LMS is a consulting engineering firm retained by the project sponsor to develop a proposed protocol for managing fill material that is brought to the site.

The contractor retained for the purposes of acquiring, transporting, and handling backfill will be required to prepare a Site Management Plan under the Technical Specification for Material excavation, handling, stockpiling and backfilling. In the Site Management Plan, the Contractor will discuss the proposed procedures for identifying off-site borrow sources and/or recycling facilities for backfill material to be used on the site.

A designated site representative will be contacted before the off-site material is ready for backfilling. As long as the property remains under development, the Owner will be responsible for having a qualified Environmental Professional (EP) present at the site within a reasonable

time. The EP will meet certain qualifications which are detailed in Section 3.9 of the DEIS. Following approval of backfill material, the EP will document specific information that is relevant to the Site Management Plan as set forth in Section 3.9 of the DEIS. With this protocol in place, it is not anticipated that any hazardous fill would be brought to the site.

### **1.3 Summary of Project Alternatives**

The DEIS examines three alternatives as follows:

- 1) No Action Alternative
- 2) Commercial Mixed Use Alternative
- 3) RG Residence District Alternative

#### **1.3.1 No Action Alternative**

In accordance with SEQRA regulations, the No Action alternative must evaluate the adverse or beneficial site changes that are likely to occur in the reasonably foreseeable future in the absence of the proposed action. In this instance, the No Action alternative would result in the project site remaining primarily vacant except for the continued operation of an automotive repair establishment. There would thus be no demand placed on community services and facilities; no increase in traffic levels; no reclamation of the disturbed site; no additional property tax revenues. The No Action alternative is inconsistent with the objectives of the applicant/property owner. In order for the entire site, which is presently in private ownership, to remain in its current state or as open space, the Towns' or a land conservation organization would need to acquire the property for open space purposes and compensate the property owner accordingly.

#### **1.3.2 Commercial Mixed Use Alternative**

In the Town of Ramapo, 124 dwelling units and two commercial pads would be constructed, and the Town of Haverstraw portion of the site would be developed as a shopping center. The recreation area for the residential development would be eliminated. In Ramapo, five buildings with multifamily residences totaling 120 dwellings would be constructed. Four townhomes would also be constructed along Route 202. A slightly larger commercial building would be constructed at Pad 2 - this building would be 9,500 square feet, compared with the 7,000 square feet of space proposed for Minisceongo Park. The Haverstraw commercial development would consist of two buildings with 11 tenant spaces, totaling approximately 160,275 square feet, and positioned in a "U" shape at the north end of the site.

The limits of disturbance for this alternative would be the same as the proposed action. The same amount of clean fill would be required to surcharge the project site, and compaction would also be required. The total impervious area in the Town of Haverstraw would increase to 17 acres. This additional impervious area would increase storm water run-off generated by the site which would have to be detained.

This alternative may have reduced benefits to ecology since the shopping center would not be substantially landscaped. The proposed action will be revegetated substantially with a combination of deciduous and evergreen plantings, with some of the species selected for their benefits as mast and food for the wildlife species that are adaptable to suburban environments.

No zone changes in the Town of Haverstraw would be required. In the project sponsor's opinion, a commercial development of this magnitude is not consistent with the type of development envisioned for the MU-2 zone in the Town of Ramapo. The "C" zoning would eliminate the ability to create a more cohesive residential neighborhood to be constructed, i.e., one with substantial recreational amenities, walking paths, and transit-friendly improvements.

In terms of traffic, the PM peak hour traffic estimates would increase substantially to 1,141 trips, compared to the 369 trips generated by the proposed project.

This alternative would likely increase demand placed on police protection services, as the retail component would likely generate more calls to address tenant and customer complaints. The project would generate less schoolage children to the school district. The cost to police services would increase as a result of increased calls to address disturbances and complaints at the shopping center. However, the project would likely generate increased revenues to the school district as less schoolage children would be generated. However, a shopping center has not been a marketable project.

In the applicant's opinion, it is likely that there would be a greater impact on noise and air resources with the Commercial/Mixed-Use Alternative as compared to the proposed Minisceongo Park development since the commercial uses would generate substantially more traffic. Noise from commercial operations would extend into nighttime hours, as deliveries are often made after hours during the late PM and early AM hours. There would likely be an increase in pollutant levels as peak vehicular trips would increase over the proposed action.

This alternative would have a greater impact on visual resources due to the large expanses of open parking lots that would be visible from Quaker Road, the PIP access ramp and portions of Route 202. The commercial development would introduce night lighting, which would have to be controlled so as not to impact residences to the north and west of the site.

Lastly, there would be similar construction related impacts with this alternative. The surcharge and fill program would still be required to construct this development.

### **1.3.3 RG Residence District Alternative**

This alternative proposes that no more than six (6) dwelling units per acre be constructed on the Haverstraw portion of the project site. Presently, the proposed project is designed at 6.4 dwelling units per acre. This RG alternative reduces the number of townhomes in Haverstraw by nine (9) dwelling units, from 164 townhomes to 155 townhomes. In Ramapo, the total number of multifamily dwellings increases from 96 dwellings to 120 dwelling units. Also the number of townhomes is reduced from 19 townhomes to 8 townhome units. In total, this alternative proposes 283 dwelling units, or 4 more dwelling units than the proposed action. Table 5-1 provides a summary of the impacts associated with this alternative.

It is expected that the same amount of disturbance would occur with this alternative, as the disturbed portions of the project site would be reclaimed. The same surcharge and fill program would be required. The alternative would result in approximately ½-acre less of impervious surfaces compared with the proposed project. This reduction results from elimination of the townhome dwellings, and design changes within the Ramapo portion of the project.

There would be two (2) fewer townhome dwellings in proximity to the wetland buffer within the Town of Haverstraw (Building 22). The Ramapo portion of the project site abutting the wetland

buffer area is the same as the proposed action. As is the case with the proposed action, there would be no impacts to on-site wetlands or the 100-foot buffer except for minor disturbances associated with construction of the discharge pipe from detention pond 1.

This alternative would still require a zoning map and text amendments for the Haverstraw portion of the site. However, the Haverstraw portion of the development would be designed with nine (9) fewer townhomes than the proposed project. The effect is that several 6- and 7-unit buildings would be shortened by one unit, except for Building 2, which would be reduced by two (2) dwellings. Like the proposed project, this alternative would not be anticipated to result in any significant impact to adjoining land uses. Overall, the amount of multifamily housing would increase as a proportion of the total number of dwelling units proposed, from approximately 35 percent to 43 percent.

The number of traffic trips that would be generated by this alternative would be comparable to the proposed action. The levels of service would be approximately the same, since this alternative only introduces approximately two additional trips to the PM peak hour. Impacts during the AM and Saturday hours would be comparable.

The RG Alternative would have a comparable impact on historic resources. As there is no significant change in the number of dwelling units, the building heights, or the layout, the limited views of the site would be comparable. As there are no on-site historic or archaeological resources present, there would be no impacts to these resources.

Impacts to community facilities and utilities would be comparable to the proposed action. The population would be the same as the proposed action. However, the total number of students would decrease by two schoolage children. There would be slightly less water demand and wastewater generation. The total assessed value for this project would be about \$312,000 less than the proposed project; tax revenues would be reduced. Net revenues to the school district would be reduced under this alternative.

The RG alternative would have essentially the same noise and air quality effects as the proposed action. In terms of visual resources, the reduction of nine (9) dwelling units internal to the Haverstraw portion of the site would not result in any significant change to the visual environment. With the addition of a multifamily dwelling building along Route 202, the building mass visible from Route 202 would be increased under this alternative, although Route 202 is not deemed a scenic resource by any state, county or local agencies. Lastly, there would be comparable construction-related impacts associated with this alternative compared to the proposed project, as this alternative would require that the same land area be surcharged and filled.

#### **1.4 Permits and Approvals**

As the Lead Agency, the Town of Haverstraw Planning Board has primary responsibility for review of this application and for determining its conformity with the Town's zoning and subdivision regulations. The proposed action would require the following approvals or referrals:

**New York State**

New York State Department of Environmental Conservation

- SPDES General Permit for Stormwater Discharges from Construction Activities
- Water Quality Certification
- Stream Disturbance (storm drain discharge)
- Freshwater Wetland (disturbance to 100-foot regulated area)

New York State Department of Transportation

- Highway Work Permit

**Rockland County**

Rockland County Health Department

- Subdivision approval

Rockland County Planning Department

- 239-n GML review (Review of subdivision plat)

**Municipal**

Town of Haverstraw Town Board

- Zoning Text and Zoning Map Amendment

Town of Haverstraw Planning Board

- Site Plan Approval

**1.5 List of Involved Agencies and Interested Parties**

As per the adopted Scoping Document, the following are involved and interested parties to this action:

Involved Agencies

Town of Haverstraw Planning Board  
Town of Haverstraw Town Board  
Town of Ramapo Planning Board  
Rockland County Sewer District #1  
Town of Haverstraw Sewer District #2  
New York State Department of Health  
Rockland County Health Department  
New York State Department of Environmental Conservation  
U.S. Army Corps of Engineers  
New York State Department of Transportation

Interested Agencies

Rockland County Department of Highways  
Rockland County Planning Department  
NYS Office of Parks, Recreation and Historic Preservation  
Palisades Interstate Park Commission  
East Ramapo Central School District  
United Water of New York  
Moleston Fire District  
Village of Pomona Board of Trustees

## **2.0 PROJECT DESCRIPTION**

Davies Farm, LLC (“applicant”), proposes to construct a mixed use residential and commercial development on approximately 53 acres that straddle the Town of Haverstraw and Town of Ramapo boundary, north of Route 202 and just west of the Palisades Interstate Parkway in Rockland County, New York (see Figure 2-1). At the time the zone petition was submitted, the proposed number of dwelling units was 269, of which 173 townhouse units were proposed in the Town of Haverstraw, and 72 multi-family units and 24 townhomes were proposed in the Town of Ramapo. However, as a result of refinements to the plan made throughout the SEQRA review, the project that is the subject of this DEIS proposes 279 multifamily and one-family attached (i.e., townhome) dwellings (see Figure 2-2). Of the total dwelling units, 115 dwellings would be located in Ramapo and 164 units would be located in Haverstraw. The applicant proposes to construct townhomes only in Haverstraw. In Ramapo, the applicant would construct a mix of 96-multifamily dwellings and 19 townhome dwellings.

The project sponsor also proposes two commercial building sites with frontage on Route 202 in the Town of Ramapo. The easterly building would be 7,000 square feet with ancillary parking. The westerly building would be 4,200 square feet with ancillary parking. The two buildings would obtain access from the internal boulevard road, Road “A”. The commercial sites would not have direct access to and from Route 202.

A proposed on-site recreational complex would be located almost entirely within the Haverstraw portion of the site. Only residents of Minisceongo Park would have access to, and use of, the recreational complex. Land associated with the development would be owned by a homeowners association (“HOA”), and all common areas as well as the recreational complex and on-site infrastructure would be maintained by the HOA.

A preliminary site plan has been prepared for this project and is the subject of this DEIS. Large-scale plans accompany the DEIS document. As the SEQRA process continues, the site plan will be refined and revised based on input from of the various agencies having review responsibilities for the proposal. The site plan is also in a preliminary stage, since the development of the Haverstraw portion of the site requires map and text amendments to the Zoning Local Law of the Town of Haverstraw of 1990 (“zoning map and text amendments”). This is discussed in Section 2.2 below.

The project site adjoins the south branch of Minisceongo Creek to the west, Barr Laboratories to the north, Quaker Road and a southbound access ramp to the Palisades Interstate Parkway to the east, and U.S. Route 202 to the south. Primary access to the site would be from Route 202. An emergency access drive would connect to Quaker Road in the Town of Haverstraw. A second emergency access road would connect to Route 202 just east of the primary access boulevard.

Three stormwater basins would be constructed to handle the increase in the amount of stormwater runoff that would result from construction of the project. The basins would also treat runoff prior to discharging off site in order to protect adjoining NYSDEC-regulated freshwater wetlands associated with the south branch of Minisceongo Creek. Post-development stormwater rates would meet “zero net increase in rate of runoff” standards. No disturbances are proposed to the wetlands or the 100-foot wetland buffer, except for installation of a stormwater discharge pipe for the proposed detention pond No. 1 which would extend through the buffer. No federally-regulated wetlands would be disturbed. Since the application proposes

no disturbances to ACOE-regulated wetlands, a separate jurisdictional determination has not been sought by the project sponsor.

Among the various approvals being sought are zoning map and text amendments and site plan approval to construct the residential portion of the project to be situated in the Town of Haverstraw. The proposed mixed use development in the Town of Ramapo is a permitted use within the MU-2 zoning district and subject to site plan approval by the Ramapo Planning Board.

The proposed Minisceongo Park development is subject to the regulations implementing the New York State Environmental Quality Review Act ("SEQRA"). The Haverstraw Planning Board, acting as Lead Agency for this proposed action, determined that the development may have a significant impact on the environment and issued a Positive Declaration on April 8, 2005, requiring preparation of a draft environmental impact statement ("DEIS").

A draft Scoping Document was prepared to outline the specific impacts and mitigation measures to be considered in this DEIS. The Haverstraw Planning Board, as lead agency, coordinated the scoping process with the other involved agencies including the Town of Ramapo Planning Board. The draft Scoping Document was the subject of a public scoping session held on May 4, 2005. The Scoping Document for this DEIS was subsequently adopted on June 8, 2005. The adopted Scoping Document is included in Appendix A of this DEIS.

This DEIS has been prepared in accordance with Section 8-0101, et. seq. of the Environmental Conservation Law, and the regulations contained in 6NYCRR, Part 617, implementing same.

## **2.1 Site Location and Description**

The project site is located in the unincorporated area of the Towns of Haverstraw and Ramapo, Rockland County, New York (see Figure 2-1). The site is located immediately west of the Palisades Interstate Parkway and Quaker Road in the Town of Haverstraw, and immediately north of U.S. Route 202 in the Town of Ramapo. The project site is identified on the Town of Haverstraw and Town of Ramapo tax maps as follows:

- Town of Haverstraw: Section 25.18, Block 2, Lots 3 and 4
- Town of Ramapo: Section 33.06, Block 1, Lots 1 and 2

The zone petition requesting the zoning map and text amendment included a list of names and addresses of property owners in the Town of Haverstraw whose properties are located within 500 feet of the subject property. The following tax parcels adjoin or are located within 500 feet of the project site, and the names and addresses of the property owners are included in Appendix A of the DEIS:

- 25.18-2-1
- 25.18-2-2
- 25.18-2-7
- 25.18-1-5
- 25.17-4-10
- 25.17-4-11
- 25.17-4-12
- 25.17-4-13
- 25.18-2-6

## Project Description

November 8, 2006

The project site is mostly vacant, except for an automotive repair station that is situated on an approximately one acre parcel with frontage on Route 202 in Ramapo. Minisceongo Creek and a NYS DEC-regulated wetland complex associated with the creek are located on the project site and also extend onto adjoining property to the west. The wetland complex effectively “buffers” a residential neighborhood located northwest of the project site from the future Minisceongo Park development.

Historically, the site has been used extensively for sand and gravel extraction operations. In addition, a survey prepared in 1947 by the Palisades Interstate Park Commission indicate that a small private cemetery on a 1.56-acre portion of the project site had been located along the frontage of Route 202 at the east end of the property - the cemetery was not contained on a separate parcel. By 1982, the full extent of the site, as well as land adjoining the site to the north, was being mined or had been mined. Based on discussions with the Superintendent of the Brick Church Cemetery in Spring Valley, it has been determined that persons that had been interred at the private cemetery located previously on the project site were relocated to other cemeteries in 1966.<sup>1</sup> There are no graves present on the project site. The former cemetery is not identified on any list of cemeteries maintained by the New York State Department of State, Division of Cemeteries, or by Rockland County. There are no legal issues associated with the use of the area formerly used as a private cemetery which ceased to exist in the late 1960s.

The site is now vacant except for an automotive repair garage situated on the project site along the Route 202 frontage. As part of the project, the garage will be demolished. Any septic system, tanks associated with the garage and hydraulic lifts will be removed on accordance with all applicable regulations. Appendix F provides a summary of well water quality samples performed by Lawler, Matusky & Skelly Engineers on the well that serves Bulldog Automotive. Analytical results indicate that two compounds were detected at concentrations above the detection limit of 0.50 ug/L. These compounds are chloromethane (1.6 ug/L) and bromomethane (2.5 ug/L). Both of these compounds are below their respective Class GA Groundwater Standard of 5 ug/L. Both samples were also flagged with a “b” qualifier which indicates the compounds were also detected in the associated laboratory blank.

In terms of natural resources, most of the upland portion of the project site has been disturbed and has little value as ecological habitat due to this disturbance. However, the south branch of Minisceongo Creek is located on the westerly portion of the project site and flows in a south-north direction in the project vicinity. Wetlands are located on the site in association with the creek and are state-regulated and identified as Wetland TH-13. This wetland complex does provide habitat to various aquatic and terrestrial species as documented in Section 3.3 of the DEIS. The wetland complex is connected to other wetlands located off the site to the north and west. The wetland complex is part of the larger Mt. Ivy Swamp located south of the site and bisected by Route 202.

According to the project sponsor, there are no legal devices of easements, or restrictions, that would affect development of the property.

The project site is served by Orange and Rockland Utilities which would provide electricity and gas to the property. Public water would be provided by United Water New York. Based on discussions with Pat Brady, Executive Director of the Haverstraw Joint Regional Sewer Board (JRSB), all wastewater generated by the project, including the portion of the development located in Ramapo, would be treated at the JRSB wastewater treatment plant.

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<sup>1</sup> Paul Neil, Superintendent, Brick Church Cemetery, telephone conversation, 2005.

Minisceongo Park will have direct access to U.S. Route 202 via a proposed entry boulevard with a landscaped median. U.S. Route 202 is a major east/west arterial which traverses Rockland County through the Town of Ramapo (and its various incorporated villages), the Town of Haverstraw and east into the Village of Haverstraw. An emergency access road connecting the development to Route 202 would be provided to the east of the main access boulevard.

Access to the regional transportation network would be via the Palisades Interstate Parkway, a major north-south limited access highway which originates in New Jersey and travels through Rockland County and into Orange County, New York. Access to the PIP southbound is provided via U.S. Route 202. Access onto the PIP northbound is provided via NYS Route 45, and access from the PIP northbound is provided via Thiells - Mt. Ivy Road.

Quaker Road is a road in the Town of Haverstraw which originates in the vicinity of the project site at an intersection with the PIP southbound on/off ramp. Quaker Road continues in a northwesterly direction passing the Barr Labs complex and continues in a northwesterly direction into the Village of Pomona. A proposed emergency access road would connect to Quaker Road.

**2.2 Description of the Proposed Action**

**2.2.1 Project Description**

Proposed Use

Table 2-1 summarizes the proposed development program for Minisceongo Park.

<b>Table 2-1 Minisceongo Park Development Program</b>		
<b>Project Component</b>	<b>Ramapo</b>	<b>Haverstraw</b>
Acres	27.0	26.3
Dwelling Units	115	164
One-Family Attached Townhomes (du)	19	164
Number of Multifamily Dwellings (du)	96	0
Gross Density - Dwellings/Acre	4.3	6.2
Commercial Pad 1 (sf)	4,200	n/a
Commercial Pad 2 (sf)	7,000	n/a
* Source: Davies Farm, LLC., 2005.		

Development Concept

In the Town of Ramapo, the intent of the MU-2 zoning district is set forth in the Town’s adopted Comprehensive Plan. The Ramapo portion of the project site is specifically referenced in the Plan (see p. D-15 of the Ramapo Comprehensive Plan) as follows:

*“This property has been identified as a property that could be appropriately developed with a mixture of uses developed in accordance with neo-traditional design principles. Neo-traditional development is a reaction to the sprawling pattern of development found in most suburban community with its emphasis on large-lot single-family and strip type development along commercial corridors.”*

The basic elements of neo-traditional design described in the *Ramapo Plan* are outlined below (in italics). The response to the Town's discussion of neotraditional design principles follows after the italic description. Minisceongo Park meets many of these objectives as follows:

- *The development has a discernible center. This is often formal civic spaces and squares, and sometimes a busy or memorable street corner. Typically, a transit stop would be located at this center.* Response: The Minisceongo Park has been designed with an entry boulevard that would terminate at a community center building. The boulevard road has been designed to allow mass transit operators to bring a para-transit bus or a jitney to service the site. The roundabout would be designed as a formal park-like space to create a visual focal point. The roundabout would have a vertical visual element or other visually prominent or interesting feature. Sidewalks would be installed along the boulevard to link the community center area with the two commercial buildings proposed on the site, and to give access to Route 202.
- *Certain prominent sites at the termination of street vistas or in the neighborhood center are reserved for civic buildings. These provide sites for community meetings, education, religion or cultural activities.* Response: As mentioned above, a community meeting building would be situated at the terminus of the entry boulevard. This meeting building, while situated in the Town of Haverstraw, would serve the entire residential neighborhood.
- *Streets within the neighborhood are a connected network, typically in a grid-like pattern, which disperses traffic by providing a variety of pedestrian and vehicular routes to any destination.* Response: Given the shape of the property, and the constraints imposed by the on-site wetlands, a grid-like pattern is partly proposed, and balanced with the intent of limiting the amount of impervious surfaces to the site, in order to create green space between the buildings. While the development's internal driveways are connected, portions of the drives are laid out in a curvilinear pattern.
- *Most of the dwellings are within a five-minute walk of the center, an average of roughly 2,000 feet.* Response: All of the dwellings would be located within 2,000 feet of the community building and recreation center, which is the focal point for this development.
- *There is an inclusion of a variety of dwelling types - usually houses, rowhouses and apartments - allowing apartments to mix with houses, and rentals to mix with owner occupied housing so that younger and older people, singles and families, the poor and the wealthy may find places to live together.* Response: The Ramapo portion of the project proposes a combination of multifamily and one-family attached (townhome) dwellings. However, the project proposes owner-occupied, market-rate dwellings.
- *There are small playgrounds in every neighborhood.* Response: Smaller, pedestrian nodes linked by walking trails will be incorporated into the design of the project and located in several locations within the proposed common area.
- *The streets are relatively narrow and shaded by rows of trees in order to slow traffic and to create an environment suitable for pedestrians and bicycles.* Response: The conceptual landscape plan illustrates a well-landscaped site with street trees incorporated along the roads' edges. Roads would be 24- to 28-feet in width in accordance with Town road specifications.
- *Buildings in the neighborhood center are placed close to the street similar to placement of buildings in traditional downtowns.* Response: The community building will front to the proposed boulevard. The two commercial pads are proposed to front to Route 202, as this is the primary arterial and visual corridor.

- *Homes have front doors, porches, and windows that face the street. Parking lots and garage doors rarely front the street. Parking is relegated to the rear of buildings, usually accessed by alleys.* Response: Front doors and windows would face the street. As this is a primarily a townhome development, attached at grade garages necessarily face the street. Parking has not been relegated to the rear as the rear of the dwellings are designed with patios and private outdoor recreational space. Off-street parking spaces have been provided in various locations throughout the development. The building elevations provided in Section 3.10 of the DEIS also show a side entry option; the design of the building will be determined with input by the towns.

In the Town of Haverstraw, the project site would be rezoned to “RG”, General Residence district. The purpose and objectives of the RG district are not set forth in the zoning regulations. However, it may be concluded from a review of the permitted uses allowed in the various residential zoning districts in the Town of Haverstraw that the RG district is intended to permit a variety of housing types at a higher residential density than allowed elsewhere in the Town. Specifically, the RG district permits 1-family semi-attached and multifamily residences. Except for the WRD district which allows multifamily housing by special use permit approval of the Town Board, the RG district is the only district that allows multifamily residences as a permitted use. The applicant proposes to construct one-family attached dwellings in the Haverstraw portion of the site. As the other RG zoning districts in the Town of Haverstraw are already developed, it is not anticipated that the proposed zoning map and text amendment would induce additional townhome development within the RG districts of the Town.

#### Site Plan Discussion

The site plan for the project is shown in Figure 2-2. Entry to the project site is via a formal entry boulevard (Road A) consisting of two, 20-foot lanes separated by a 15-foot landscaped median. Two commercial sites would be located on either side of the boulevard with frontage on Route 202. A minimum 25-foot landscaped front yard is provided between Route 202 and the parking areas associated with the commercial buildings.

Continuing into the site, the boulevard would terminate at a roundabout with a 100-foot diameter which would be generously landscaped. A vertical visual element, or other focal point, would be incorporated into the landscaped roundabout. The roundabout has several entering and exiting legs, however, it has been designed for relatively low traffic volumes and low speeds. The design details will be finalized as part of the site plan review process. The roundabout shall be designed in accordance with FHWA and NYSDOT standards. Facing the roundabout is a proposed 4,000 square foot community building which would be the focus of community-based resident activities. A playground, pool, bocci courts, and two tennis courts are situated around the community building, and would meet the recreational demands of all age segments of the residential population, from children to active adults to seniors.

Immediately west and southeast of the roundabout are four, three-story multifamily buildings with 24 dwelling units each. The multifamily component of the development would consist of 48 2-bedroom, and 48 3-bedroom dwelling units. The units range in size between approximately 1,300 to 2,200 square feet. Each unit would have a living room, dining room, bathroom, kitchen, laundry room, master bedroom and master bath, and either one or two additional bedrooms. Each unit would also have its own private balcony, and most would have a one car garage. Eight, one-car garages would be located along the front facade, and five one-car garages would be located along either side facade. Proposed building overhangs would reduce visually the appearance of the garages along the building elevations. The roofline will be hipped and gables

will break up the expanse of the roof. Market values for the multifamily units are estimated to range between \$384,000 to \$430,000.

To the north and east of the roundabout would be the townhome portion of the development. The townhomes would be 3-bedroom dwellings with an average market value of \$504,000 per dwelling unit. The townhome buildings would contain between 3 to 7 dwelling units per building. The two end units of each building have been staggered and recessed from the front building line to break up the building mass when viewed from the street. The site plan portrays the end dwelling units with side entry doors. Each townhome dwelling would have a two-car garage with decorative garage door.

The buildings have been designed with “colonial” and “arts and crafts” architectural details. The building elevations in Section 3.10 illustrate various architectural styles that could be incorporated into the design of the residences in Minisceongo Park. The facade materials could include brick, hardy plank, or shake siding. Two and three-story bays would add visual interest to various buildings. Other buildings could incorporate shake and plank siding and have a more arts and crafts style appearance. The two proposed architectural styles and variations of these two themes will be complementary in colors and will share some materials, and will ensure that the project is not monotonous in architectural style. Roofs will be broken up by dormer windows to add visual interest. The specific architectural style of the buildings will be determined as the site plan progresses through SEQRA review.

While the specific architecture of the commercial component has yet to be determined and will be tenant driven to some extent, the commercial buildings will be required to utilize similar materials and colors so that the development appears as an integrated whole.

The landscape plan will introduce street trees and vegetative plantings to this site which has been largely clear cut of its natural vegetation. To the extent practicable, landscaping that is beneficial to wildlife, particularly songbirds, would be introduced, especially within the common areas and in proximity to the on-site wetlands. The stormwater basins will be vegetated with wetland-tolerant species. The perimeter of the site will be amply landscaped with a mixture of deciduous and evergreen trees to screen the residential development from adjoining properties and roads. Decorative street lamps will be used throughout the site.

Phasing and Construction Schedule

The phasing and schedule of construction is detailed in Figures 3.11-1 and 3.11-2 of the DEIS. Several phases will overlap:

Phase 1	Surcharge Program	180 days, including approximately 2 months for installation of soil erosion control measures, placement of surcharge fill, installation of surcharge plates, and stabilization of surcharge pile. Surcharge monitoring would occur for a period of approximately 4 months; 3 months for surcharge activity - 6 months total
Phase 2	Site Work	260 days, including reinstatement of soil erosion measures, additional fill activity, and installing permanent stormwater basins, utilities, building pads, and installation of road base course.

Phase 3	Building Construction	Approximately 557 days, including building construction, installation of project landscaping, and paving of final top course for roads
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The project would be completed within approximately 39 months from the beginning of surcharge operations. There would be an overlap between phases 2 and 3. Grading could be occurring in one portion of the site, while vertical building construction is occurring elsewhere on site. A project schedule is provided as Figures 3.11-1 and 3.11-2 of the DEIS.

### **2.2.2 Zoning and Existing Land Use**

Section 3.4 of the DEIS provides a detailed discussion of zoning and existing land use. The following is a summary of the findings contained in that section.

#### *Land Use*

The project site consists of approximately 53 acres of primarily vacant land that straddles the boundary between the Towns of Haverstraw and Ramapo. Approximately one acre of the site in the Town of Ramapo, with frontage on Route 202, is presently used as an automotive repair garage.

#### *Surrounding Land Use Patterns*

The Palisades Interstate Parkway is located along Minisceongo Park's easterly boundary. To the north, Barr Laboratories adjoins the Haverstraw portion of the project site. To the northwest and west, the project site adjoins vacant land, which is constrained by NYSDEC-regulated wetlands. To the south of the site and on the south side of Route 202 are a variety of commercial uses, including Pacesetter Park, which includes a Super Stop & Shop and various retail and commercial uses, as well as Ramapo Plaza, another retail strip shopping center. A diner is located near the intersection of Route 202 and the off-ramp to the Palisades Interstate Parkway southbound. Approaching Camp Hill Road along Route 202, commercial uses include offices, an animal hospital and kennel, horse stables, mini storage, and automotive garages. The Pomona post office is also located along Route 202.

Traveling north along Camp Hill Road and then traveling onto Quaker Road, the land uses are predominantly single-family residential and vacant land. Single-family residences are located on lot sizes ranging generally from 0.2 acres to two acres in size. A tree cutting service and automotive establishment is located along Quaker Road north of the project site and Barr Labs. Just north of Barr Labs, and along Quaker Road, is a mobile home park. A dog kennel is also located along Quaker Road near the road's intersection with the off-ramp for the Palisades Interstate Parkway.

Overall, land use surrounding the Palisade Interstate Parkway Exit 13 is suburban in character. On the east side of the PIP right-of-way along Thiells-Mt Ivy Road are a number of multifamily residential developments including Town and Country, Pomona Park, Summerset and Cedar Ridge developments. A fitness trail runs along the southern border of these residential complexes. Offices (Fairview Plaza) are located opposite the multifamily developments on Thiells-Mt Ivy Road, and the Mt Ivy Shopping Plaza provides retail uses in close proximity to

these residential developments. The Hillcrest Fire Company No. 1 is located on Thiells - Mt Ivy Road, as well as police barracks for New York State Police Troop F.

*Existing Zoning*

Figure 3.4-3 of the DEIS illustrates existing zoning of the Minisceongo Park property and adjoining properties. The Haverstraw portion of the site is presently zoned Commercial, or "C". In Ramapo, the site is zoned "Mixed Use Highway", or "MU-2", as a result of comprehensive zoning amendments adopted recently by the Town of Ramapo.

To the north in the Town of Haverstraw, Barr Labs is zoned Planned Industrial Office, or "PIO". The residential neighborhood located along Quaker Road, and outside the Village of Pomona, is zoned Medium Low Density Residence, or "R-25". On the east side of the PIP and surrounding the interchange area, properties are zoned a combination of Mobile Home Park Residence ("RMH"), "C", and General Residence, "RG" districts.

In the Town of Ramapo, on the south side of Route 202, properties are zoned "Community Shopping", or "CS". Farther west and approaching Camp Hill Road, properties on the south side of Route 202 are zoned Professional Office, "PO". West of the site, lands that are primarily constrained by NYSDEC freshwater wetlands are zoned Planned Industry, "PI". Beyond and west of this zone, land abutting the Village of Pomona in the Town of Ramapo, and on the north side of Route 202, is zoned Residential, "R-40" (40,000 square feet per lot).

In summary, existing zoning surrounding the PIP interchange with Route 202 consists of a mix of commercial, low-to-high density residential, office, mixed use and planned industry zones.

**2.2.3 Zoning/Site Plan Compliance**

The proposed project is a permitted use in the Town of Ramapo, and would be subject to site plan review and approval by the Ramapo Planning Board.

The portion of the project in the Town of Haverstraw requires that the Haverstraw Town Board adopt zone map and text amendments. The project would also require site plan approval from the Haverstraw Planning Board.

*Town of Ramapo*

No use variance or zone change is being requested to develop the Ramapo portion of the site. The Ramapo portion of the project site is located in the MU-2, Mixed Use Highway, zoning district. The proposed uses, multiple family dwellings and townhouses, are uses permitted by right in the MU-2 district. Banks, local convenience commercial uses, local office business uses, and retail stores are uses that would be allowed by right. The Ramapo development complies with the bulk requirements as demonstrated in Table 3.4-4 of the DEIS. The applicant does not anticipate any waivers or variances from the Town's zoning or site plan regulations.

*Town of Haverstraw*

The proposed development in the Town of Haverstraw, single-family attached dwellings, is not permitted in the "C" district. Thus, the applicant has submitted a zone petition to the Haverstraw Town Board requesting proposed zoning text and map amendments to rezone the site from "C" to the "RG" district. In addition, text amendments would allow the construction of single-family

attached dwellings exclusively on the Haverstraw portion of the project site. The zone petition is included in Appendix A of this DEIS.

The rezoning would preclude any future commercial development on the Haverstraw portion of the project site. The Town of Ramapo, based on the recent zone amendments adopted by the Town Board, intended to integrate high density residential land uses within this commercially developed portion of Route 202. Based on the extensive amount of existing commercial space located on the south side of Route 202 in proximity to the site, it was determined that residential uses would be a land use that would discourage over-commercialization of this stretch of Route 202. It is the applicant's opinion that RG zoning would also be more compatible with the recently adopted, adjoining MU-2 zoning district in the Town of Ramapo than developing the Haverstraw portion with commercial uses.

The intent of the proposed permitted use set forth in the zone petition, i.e., "medium density multifamily residences", would be to allow one-family attached dwellings in the General Residence ("RG") District where it is located in close proximity to retail, commercial and transportation amenities and is served by public water and public sewer services. The minimum lot area for the use is 20 acres, and the maximum density is 8 dwelling units/acre. The proposed project would be located on 26.3 acres, and would be no more than 6.4 dwelling units per acre. Presently, the Town's RG regulations allow 6 dwelling units per acre.

Minimum front, side and rear yard depths for the overall development tract would be 50 feet. The proposed maximum building height is 45 feet, or 4 stories. Proposed buildings cannot exceed 200 feet in building length, and no more than 7 dwelling units can occupy one building. The zone petition also sets forth requirements for minimum distances to be maintained between principal buildings, accessory buildings, and parking areas. The proposed zoning also establishes minimum requirements for accessory private outdoor space.

Permitted uses in the RG District include "multifamily residences". However, since the Town's existing code states that a multifamily residence is a dwelling which is either "rented, leased, let or hired out...", it was determined that a new definition set forth in the zone petition should be introduced to the zoning law to allow owner-occupied, one-family attached residences in the RG district. The proposed definition is:

*"Residence, One-Family Attached – A type of multifamily residence consisting of a building comprised of one dwelling unit for one family and which is attached or connected to another dwelling unit along a common party wall, the length of which represents at least 50% of the total sidewall length of which the party wall is a part, and which adjoins another dwelling unit along a common party wall, or open space. A one-family attached residence may be located on its own lot, or may be located on a lot in condominium ownership."*

Accessory uses permitted presently in the RG district include but are not limited to: accessory parking; loading; personal recreational facilities, such as swimming pools or tennis courts, for use only by residents and guests; and, accessory signs. The Haverstraw portion of the Minisceongo Park project proposes these types of accessory uses and buildings.

The bulk requirements that regulate development in the existing RG district are summarized in Table 2-2 and compared with the proposed bulk requirements that would be allowed by the zoning text amendment. With the exception of the front yard depth and the maximum density allowed by the current regulations, the project conforms with existing RG bulk requirements.

Table 2-2 RG Zoning District Bulk Requirements Town of Haverstraw			
	Required	Proposed Amendment	Proposed Plan Provided
Minimum Lot Area (square feet)	5 acres	20 acres	26.3 acres
Minimum Lot Width (feet)	350	350	690 feet
Minimum Lot Frontage (feet)	350	350	700 feet
Required Front Yard Depth (feet)	75	50	50
Required Side Yard Width (feet)	50	50	50
Required Side Total Yard Width (feet)	100	100	*
Required Rear Yard Depth (feet)	75	50	100
Maximum Building Height (feet)	8 stories	4 stories	4 stories
Maximum Density (per acre)	6 units	8 units	6.4 units

Source: Town of Haverstraw, Zoning Code, Tim Miller Associates, 2005.

\* The following amendment is proposed: *“The general bulk requirements shall not apply along any property line where a parcel or parcels being developed for medium density multifamily residences adjoins another parcel or parcels in the same ownership that are located in another municipality, and where all parcels are to be developed as one integrated development. For purposes of this section, “integrated development” shall mean that the parcels share common driveways and roads, parking areas, recreational facilities, and utilities, including stormwater management facilities. Notwithstanding the foregoing, the minimum distances between principal buildings contained in Section 167.67.1-G shall apply.”* This requirement is proposed in view of the fact that the site straddles the Haverstraw/Ramapo town line.

Because the existing RG standards for multifamily housing contained in Section 167-67 appear to be oriented to the construction of garden style apartments, a new section 167-67.1 is proposed and its language is included in the zone petition (Appendix A). In addition to allowing a longer building (the existing zoning regulations allow buildings with a length not to exceed 100 feet), the minimum distances between principal buildings have been reduced, and the maximum building height allowed by the proposed zoning would be limited to 45 feet. In contrast, the existing RG regulations allow eight (8) story buildings.

The proposed zoning has been drafted to allow a specific housing product, one-family attached dwellings, to be constructed in the Town of Haverstraw. The proposed project would comply with the site development plan standards set forth in the Town of Haverstraw Code. The potential impacts associated with the proposed zoning map and text amendments and development of the site for a mixed use development are the subject of this DEIS. As a result of the fiscal analysis conducted for this project, it has been determined that the Towns’ would benefit if the townhome dwellings were owned fee simple on individual lots, rather than condominium-owned. Thus, as the project layout is refined based on the substantive comments received from the various review agencies, a subdivision plan will be prepared for the project, and the zoning text amendments may be adjusted to reflect this recommended ownership form. The proposed definition for “Residence, One-Family Attached’ anticipated fee simple ownership for the townhome units.

It is noted that the project must also comply with the Construction Standards contained in Chapter A172 of the Town of Haverstraw Code both during and prior to building construction. In particular, the surcharge phase of the project would be subject to the requirements set forth in A172-2.1 and A172-2.2. The applicant is seeking approval of a grading plan from the Planning

Board prior to site plan approval so that surcharge activities can commence. This advanced surcharge program is required to allow the fill to settle in advance of building construction.

## **2.3 Project Purpose and Need**

### **2.3.1 Purpose of the Project Sponsor**

It is the purpose and objective of the project sponsor to construct a high-quality mixed use development that would provide varied housing opportunities in Rockland County through the construction of multifamily and one-family attached dwellings. The site is well suited for medium density residential development due to proximity to major transportation corridors, and the availability of public water, sewer, and other infrastructure.

### **2.3.2 Public Need**

#### *Town of Haverstraw*

As mentioned previously, the Town of Haverstraw comprehensive plan dates to the 1970s and its land use goals and objectives have been revisited several times. A 1990 Town Master Plan Report prepared by Manuel S. Emanuel Associates, Inc. reconsidered the 1970 Plan's land use policies. In that Report (p.32), it states that the "largest undeveloped commercial area is located just west of the intersection of the intersection of Route 202 and the Palisades Interstate Parkway....The area at the northeast corner of the Rosman Road and Route 202 is an additional commercial area...Designating the areas noted above will serve to fill the existing void in shopping facilities in Haverstraw." Since 1990, a shopping complex has been constructed at the Rosman Road/Route 202 intersection. In addition, there are several shopping centers located in the Town of Ramapo on the south side of Route 202 and west of the Palisades Interstate Parkway which serve residents of the Town of Haverstraw, although physically located in the Town of Ramapo.

In 2000, Michael F. Kauker Associates prepared a report entitled Master Plan and Zoning Ordinance Review Project. The study included a demographic update; an analysis of vacant land; adult entertainment zoning recommendations; and a review of RG zone designations, and zoning amendments that change certain procedural requirements. The study did not include any specific recommendations that relate to the project site.

According to the project sponsor, the site has remained vacant because it is not well-suited to the types of uses allowed within the "C" zoning district. A shopping center previously approved for the Haverstraw portion of the site was not constructed due to a lack of market interest for commercial uses at the site, especially since there is considerable existing retail and commercial space on the south side of Route 202 and elsewhere in the Towns of Haverstraw and Ramapo. The project sponsor, an experienced developer in Rockland County, believes there is a demand for high-quality housing that would cater to empty nesters that are downsizing and do not desire to maintain a single-family property. This is consistent with national demographic trends, which indicate that the aging of the baby boomer population is creating demand for alternative housing types to the conventional single-family detached dwelling. There is also significant demand for housing that would accommodate couples and families with young children looking to purchase their first home who would find the proposed multifamily and one-family attached dwellings affordable.

The New York State Division of Housing and Community Renewal has published the "New York State Consolidated Plan Federal Fiscal Years 2006 - 2010, and the Annual Action Plan for Program Year 2006" which provides a statewide housing market analysis.

According to that study, vacancy rates are a measure of the availability of housing:

"Statewide vacancy rates, calculated from 2000 Census data, were 5.5% for rental units and 1.5% for owner-occupied units. The national rates were 8.0% and 1.6% respectively in 2000. Based upon 2003 American Community Survey Estimates, Statewide vacancy rates decreased to 4.8% in 2003 for rental units and 1.4% for owner-occupied units. The rates nationally remained unchanged. This indicates a tight housing market in New York State, a trend which is likely to continue through 2005.."

When aggregate vacancy rates for metropolitan and non-metropolitan counties were compared, the vacancy rate was lower in metropolitan counties, at 4.69%, than in non-metropolitan counties where it was 6.4%, again suggesting a tighter market in the New York City suburbs, including Rockland County. The availability of housing varies by tenure and size of unit. In general, the vacancy rate declines as the size of the unit increases, making larger homes and apartments more difficult to find.

Again, according to the study, since 2000, additional households in the State have been accommodated in both new and existing vacant housing units. As vacant units are occupied, vacancy rates have declined. From 2000 to 2003, the rental vacancy rate has dropped from 5.5% to 4.8%, and the owner-occupied vacancy rate from 1.5% to 1.4%. These vacancy rates are lower than those of the nation, which were 8.0% and 1.6% respectively. In response to this imbalance between household growth and supply of available units, housing prices rose sharply in many areas of the State. Thus, the statewide housing analysis indicates a continued demand for housing in the region including Rockland County.

Residential uses on the Haverstraw portion would also be compatible with the used allowed in the adjoining MU-2 zone in the Town of Ramapo.

#### *Town of Ramapo*

Consistent with the Town of Ramapo Comprehensive Plan, the Minisceongo Park development would provide a balance between accommodating additional population growth while preserving the site's existing natural resources, specifically, on-site wetlands. Minisceongo Park would consist of a mix of commercial and residential development. It would represent a well designed and landscaped neighborhood. The development includes a discernible center in the form of community center and recreational complex located on-site and within a five-minute walk of the proposed dwellings - all dwellings would be within 2,000 feet of this center. A mix of multifamily dwellings and townhouses are proposed - all units would be owner-occupied. A pedestrian pathway system would link the various areas of the development, and the site would be generously landscaped as shown on the conceptual landscape plan. The project is consistent to a large extent with the Town's adopted Comprehensive Plan.

#### *Rockland County Comprehensive Plan*

The Rockland County Comprehensive Plan recommends that large scale vacant/underutilized parcels be reused and redeveloped in a coordinated manner providing identified housing, recreation open space, institutional and economic development needs for the local community,

as well as improved infrastructure that might be necessary to support such reuse and redevelopment. The future use of the project site ensures that the vacant land is redeveloped into a mixed use development that fits into the existing community character.

The “River to Ridge” Land Use Plan specifically designated Route 202 adjacent to the project site, that straddles the Haverstraw-Ramapo town line as “limited business corridor”. The commercial component of the project would be compatible with this designation. The project would be introducing residential uses where the County Plan envisioned light industrial uses. Given regional roadway limitations to truck traffic, future use of the site for light industrial uses is not deemed feasible by the project sponsor. It is noted that the recently adopted MU-2 zoning district in the Town of Ramapo (adopted 11/04) is not consistent with the County Plan, since the Town zoning was adopted subsequent to adoption of the County Plan (2001).

The Ramapo rezoning, and the Minisceongo Park development, is consistent with the County Plan, in that both achieve a land use objective of the plan to “focus commercial and high-density residential development in existing mixed use centers and retain the existing open space and quality of life of neighborhoods outside of the centers. The project would be developed in the Mt. Ivy-Thiells-Pomona mixed use hub centered around Route 202’s interchange with the Palisades Interstate Parkway.

#### *Highlands Conservation Act*

The proposed project would meet the demand for housing without impacting regional “high value” environmental areas. Although the project site lies within the Highlands region, it has been identified as a property with “low to lower” conservation value compared with other areas of the Towns of Ramapo and Haverstraw, namely the Ramapo Mountains and Torne Valley, which have been identified as conservation focal areas (refer to Figure 3.4-5 of the DEIS). The site has been heavily disturbed by soil and gravel mining and existing vegetation has been removed, thus, the development would have little impact to natural resources. The portions of the site with conservation value, i.e., freshwater wetlands and the south branch of Minisceongo Creek, will be undisturbed by the development and would remain as open space.

## **2.4 Approvals, Reviews and Permits**

### **2.4.1 Reviews, Permits and Approvals**

The following reviews, permits and approvals would be necessary to implement the action:

#### *Federal*

##### U.S. Army Corps of Engineers

- Nationwide Permit (stormwater discharge point)

#### *New York State*

##### New York State Department of Environmental Conservation

- SPDES General Permit for Stormwater Discharges from Construction Activities
- Water Quality Certification
- Permit to Disturb 100-foot Wetland Buffer (discharge point for stormwater basin)
- Stream Disturbance Permit

New York State Department of Transportation

- Highway Work Permit

New York State Department of Health

- Extension of Public Sewer and Water Service

*Rockland County*

Rockland County Health Department

- Extension of Public Sewer and Public Water Service

Rockland County Sewer District 1

- Extension of Sewer Service (Ramapo portion)

Rockland County Drainage Agency

- Permit to Discharge to County-regulated stream

Rockland County Planning Department

- 239 GML Review

*Municipal*

Town of Haverstraw Town Board

- Adoption of Zoning Map and Text Amendments

Town of Haverstraw Planning Board

- Site Plan Approval

Town of Haverstraw Architectural Review Board

- Architectural Approval of Building Elevations

Town of Haverstraw Shade Tree Commission

- Approval of new tree plantings

Town of Ramapo Planning Board

- Site Plan Review and Approval

**2.4.2 Involved and Interested Agencies**

As set forth in the adopted scoping outline for this project, this section lists involved and interested agencies.

Involved Agencies

*Federal*

U.S. Army Corps of Engineers

*New York State*

New York State Department of Environmental Conservation  
New York State Department of Transportation  
New York State Department of Health

*Rockland County*

Rockland County Sewer District #1  
Rockland County Health Department  
Rockland County Drainage Agency  
Rockland County Planning Department

*Town of Haverstraw*

Town of Haverstraw Planning Board  
Town of Haverstraw Town Board  
Town of Haverstraw Sewer District #2

*Town of Ramapo*

Town of Ramapo Planning Board

Interested Agencies

*New York State*

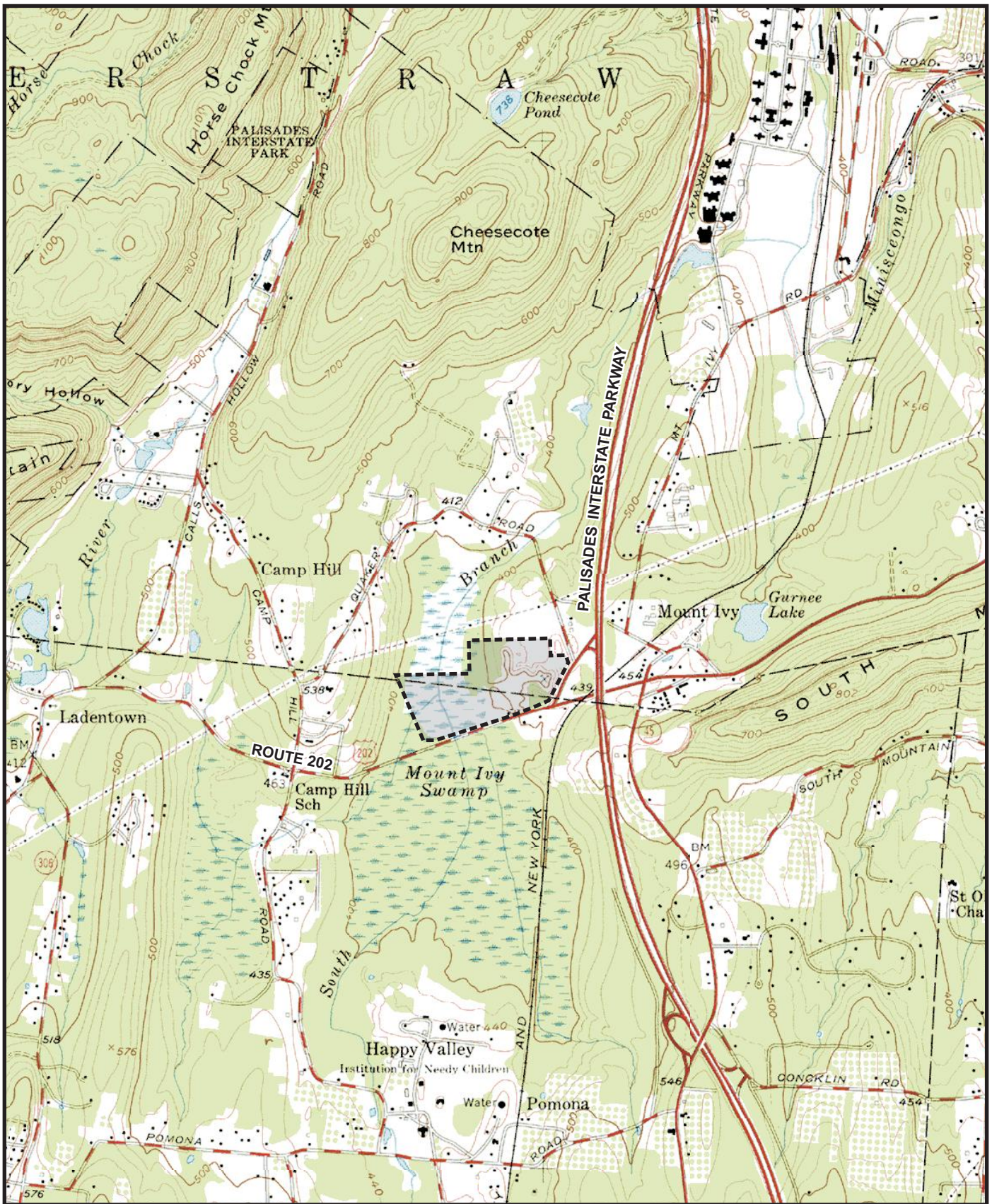
NYS Office of Parks, Recreation and Historic Preservation

*Rockland County*

Rockland County Department of Highways

*Other*

Palisades Interstate Park Commission  
East Ramapo Central School District  
United Water of New York  
Moleston Fire District  
Village of Pomona Board of Trustees



KEY

 Site Boundary

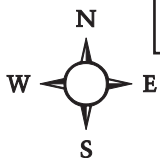


Figure 2-1: Regional Location Map  
Minisceongo Park

Towns of Haverstraw & Ramapo, Rockland County, New York

Source: USGS 7.5-minute Topographic, Thiells Quad

Scale: 1 inch = 2,000 feet

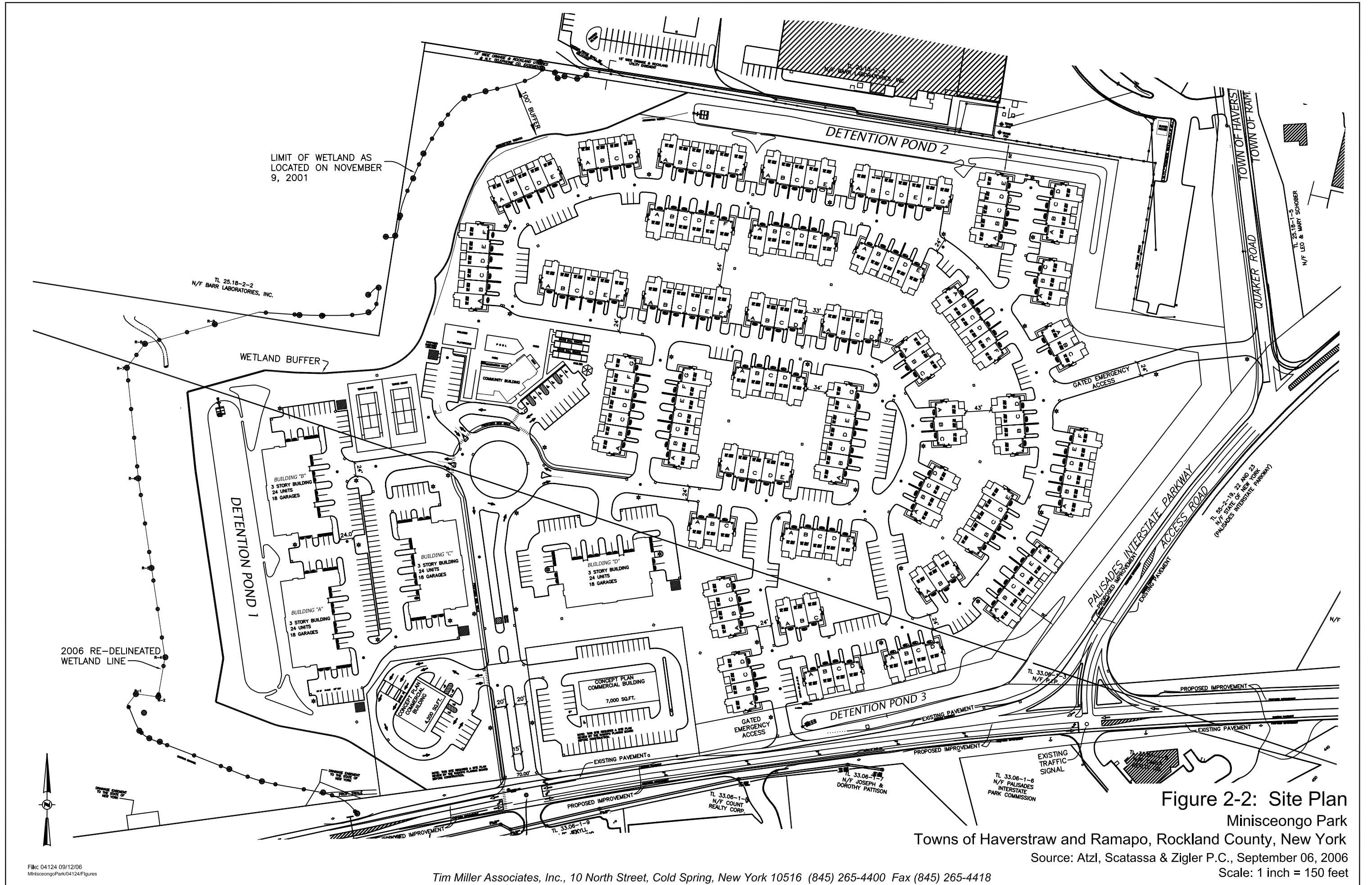


Figure 2-2: Site Plan  
Minisceongo Park

Towns of Haverstraw and Ramapo, Rockland County, New York

Source: Atzl, Scatassa & Zigler P.C., September 06, 2006

Scale: 1 inch = 150 feet

### **3.1 Geology, Soils and Topography**

#### **3.1.1 Existing Conditions**

##### Geology

The Minisceongo Park property lies within the Triassic Lowlands of the New England Upland physiographic province. In southern New York, this province is defined by broad, gentle valleys with a pattern of ridges. The site is underlain by the Brunswick Formation, which extends throughout the central portion of Rockland County and eastward towards the Hudson River. The Brunswick Formation is part of the Newark Group and is characterized by sandstone, siltstone and mudstone.

Ridgelines in the majority of this physiographic province trend from the southwest corner of the county to the northeast corner. The basic patterns of hills and valleys reflect the structure and variation of the composition of the underlying rock. In general, the hills and drainage patterns of the landforms trend southwest to northeast. The local drainage patterns reflect this underlying pattern. The south branch of Minisceongo Creek, flowing through the westerly portion of the property, travels generally in a northeasterly direction where it joins the main branch of the creek, ultimately discharging to the Hudson River.

##### Topography

The property has very gently sloping to nearly level topography, except along the easterly and northeasterly periphery of the site, which slopes up to Quaker Road and the Palisades Interstate Parkway ramp. The topography of the site has been heavily disturbed due to prior sand and gravel removal in the "upland" portion of the property. Topography in the vicinity of the property is primarily flat to gently sloping as shown on Figure 3.1-1 Local Topography. The property is located in a valley bounded generally by Cheesecote Mountain to the north, South Mountain to the east, and the Ramapo Mountains to the west. A very limited portion of the site contains steep slopes as shown in Figure 3.1-2.

The majority of the site east of Minisceongo Creek is disturbed and consists of open meadow with shrubby vegetation. Grasses and low brush cover much of the site. A stream runs from south to north across the western third of the site. The main stream channel and a second smaller channel run under Route 202 and are part of a wetland complex along the southern edge of the property. An on-site wetland complex totals approximately 13.4 acres. Wetlands on the project site are part of a larger complex bisected by Route 202 and known locally as the Mt Ivy Swamp.

On-site slopes are shown on Figure 3.1-2 - Existing Slopes Map. The upland portion of the site gradually slopes up to the east. Slopes in excess of 20 percent comprise a small portion of the property, 0.61 acres of a 53.3 acre site, and are located along the northeasterly and easterly boundaries of the site.

The highest elevations on the Minisceongo Park site are found along the easterly boundary at an approximate elevation of 430 feet. The lowest elevations on the site are located in the wetland area at an approximate elevation of 390 feet. There are no prominent or unique geologic or topographic features on the project site. Table 3.1-1 summarizes the amount of slopes found on-site by slope range: 20-25 percent, 25-30 percent, 30-35 percent, and slopes greater than 35 percent. The majority of the site, approximately 52.69 acres of the

site, is comprised of slopes with 0%-15% slopes. Slopes greater than this are scattered throughout the site due to the previous disturbances on the site but mostly along the northeasterly and easterly property boundary.

Table 3.1-1 Existing Slopes	
Slope Category	Approximate Acres Existing
20% to 25%	0.12
25% to 30%	0.03
30% to 35%	0.01
>35%	0.45

Source - Atzl, Scatassa, & Zigler, P.C., 2005.

### Soil Types

The soils on the Minisceongo Park property have been identified using the soil classifications of the USDA Soil Conservation Service (SCS). Descriptions of soils are taken from the *Soil Survey of Rockland County* (SCS, October 1990). The property is underlain primarily by three (3) soil types: Pits, gravel, which is found in the central portion of the site; Hinckley gravely loamy sand, which is found on the eastern boundary of the site; and Carlisle muck, which is found on western boundary of the site. "Urban land" is also located on the site. The distribution of the soil types on the property is shown on Figure 3.1-3, Soils Map. The characteristics of each soil type are described below.

#### *Pits, gravel (Pt)*

This unit consists of land that has been excavated for sand and gravel. Slopes within this soil unit are mainly slight with steeper slopes along the edges of the excavated area. The rate of permeability is rapid in this unit and the water table is at or near surface most of the year in some areas of the soil unit. According to the Survey, a few areas can be found adjacent to streams and may be subjected to periodic flooding. This soil unit is not a hydric soil. This soil area encompasses most of the upland portion of the property.

#### *Hinckley gravely loamy sand (HcA)*

This soil is very deep to nearly level, and excessively drained and is considered non-hydric. This soil can be found on stream terraces and terraced hillsides. The slopes ranging from 0 to 3 percent. The water table can be found more than six (6) feet below the ground surface while the bedrock can be found more than 60 inches below the ground surface. Permeability is rapid in the surface layer and subsoil and very rapid in the substratum, but the available water capacity in the soil is low. This soil type is located to the east of the "pits, gravel" soils on the property, see Figure 3.1-3.

#### *Carlisle muck (Ca)*

The Carlisle Muck soils consist of very deep, nearly level, and very poorly drained soils. These soils can be found in broad, depression-like or basin-like swamps and bogs that have water on the surface for extensive periods. This soil type is considered a hydric soil. Slopes

within this soil series are less than two percent (2%) and the water table is six inches above the surface to one foot below the surface during the months of September to June. Permeability is moderately slow to moderately rapid throughout. The depth to bedrock is more than 60 inches. Carlisle muck soils are located on the western portion of the property and are associated with the wetland complex, see Figure 3.1-3.

#### *Urban Land (Ux)*

This soil unit consists of areas where at least 50 percent of the surface is covered by buildings, parking lots or other impervious areas. The slope of this unit is nearly level but may contain areas of gentle slopes. Specific soil features are not described in the Soil Survey due to the developed nature of areas identified as urban land. This soil type is observed along the southerly boundary of the project site adjacent to Route 202. Based on field surveys, "urban land" on this site would be associated with the buildings, driveways and parking areas accessory to the existing automotive repair garage found on site.

#### Soil Characteristics

##### *Rockland County Soil Survey*

Soil characteristics are described in Table 3.1-2, below. The degree and kind of soil limitations that may affect typical building site development are also described in Table 3.1-2. This information has been compiled from data in the SCS *Soil Survey of Rockland County*. Development limitations are considered *slight* where soil properties are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties are less favorable for the indicated use and special planning, design or maintenance may be needed to overcome or minimize the limitations; and *severe* if soil properties require special design and will necessitate increased costs to construct and possibly increased maintenance.

As noted in Table 3.1-2, the SCS identifies these soils as possessing potential limitations for development of roads, buildings and lawns or landscaping, where such limitations may require planning consideration prior to development. The presence of these constraints does not mean the land is undevelopable. The ratings reflect the difficulty and relative costs of corrective measures that may be necessary (e.g. erosion controls, footing drains or other drainage improvements) for development. The limiting characteristics of these soils require thoughtful project planning, design and management. Design recommendations to respond to these conditions have been addressed and are provided in Section 3.1.3, Mitigation Measures.

Table 3.1-2 Soil Characteristics and Limitations						
Soil Series	Hydrologic Group <sup>1</sup>	Permeability (in./hr.)	Erosion Factor K <sup>2</sup>	Potential Limitations for:		
				Local Roads, and Streets	Buildings w/ basements	Lawns and Landscaping
Pits, Gravel (Pt)	Not described by the Soil Survey of Rockland County					
Hinckley (HcA)	A	0.6-2.0 (0-17 in) >20 (17-60 in)	0.17-0.10	Slight	Slight	Severe: drought.
Carlisle Muck (Ca)	C	0.2-6.0 (0-80 in)	---	Severe: subsides, ponding, and frost action.	Severe: subsides, ponding, and low strength.	Severe: ponding, and excess humus.
Urban Land (Ux)	Not described by the Soil Survey of Rockland County					
<sup>1</sup> Hydrologic groups are used to estimate runoff from precipitation; they range from high infiltration (A) to low infiltration (D). <sup>2</sup> Erosion Factor K indicates susceptibility to sheet and rill erosion (expressed in tons/acre/year). K values range from 0.05 to 0.69. Source: Soil Survey of Rockland County, New York, USDA SCS, 2005.						

### *Subsurface Investigations*

The results of various geotechnical surveys provide data on subsurface conditions that are prevalent on the project site. According to a Geotechnical Report (see Appendix C), results of subsurface investigations indicate that the subsurface consists of miscellaneous fill underlain by glacial materials which consist of sands and silty sands with varying amounts of gravel, silt and clay throughout the site. However, the available subsurface data indicate that the fill material on the western portion of the site is underlain by a layer of highly compressible organic material followed by a layer of clay and silt prior to encountering glacial materials.

A description of each strata in descending order from the ground surface is provided below. For a detailed description, refer to the report in Appendix C.

Miscellaneous Fill - The fill layer generally consists of brown to greenish brown coarse to fine sand and silty sand with varying amounts of silt, gravel, cobbles, boulders, and debris. The fill layer is approximately 2 to 13 feet in thickness, and is thickest on the western portion of the site.

Organic Layer - The fill material on the western portion of the site is underlain by a layer of highly compressible organic material which ranges in thickness from approximately 1 to 6 feet. The organic layer generally consists of a combination of both highly compressible brown fibrous peat and brown to black organic silts. The moisture content within this layer ranged from as low as 21 percent in the organic silts to as high as 53 percent in the peat.

Silt and Clay Layer - The organic layer in the southwestern portion of the site is underlain by a layer of silt and clay which generally consists of silty clay to clayey silt with trace amounts of fine sand, gravel and vegetation. The silt and clay layer ranges in thickness from approximately 4 to 29 feet, averaging approximately 14 feet, with the layer thickness increasing towards the southwestern most portion of the site. The moisture content for this layer ranged from approximately 22 to 32 percent.

Glacial Materials - The underlying glacial materials generally consist of medium dense to dense sand to silty sand with varying amounts of gravel, and silt and clay seams, throughout the site. The glacial material was encountered at depths ranging from 2 to 39 feet.

Groundwater - Below the above mentioned layers, groundwater was encountered at depths ranging from one to 10 feet across the site.

The implications of these subsurface soil investigations on the use of the site for a mixed use development are described in the impact section below. Percolation tests of soils where the stormwater management basins are proposed are included at the end of Appendix D.

In March 2006, HDR/LMS conducted additional subsurface investigations of the site. The objective of the investigation was to delineate the extent of the fill material and to assess the chemical nature of the material. The summary report is included as Appendix F of the DEIS. HDR/LMS observed the advancement of 37 test pits during the subsurface investigation. A site map with test pit locations is included in Appendix F. The material encountered consisted mainly of sand with construction and demolition materials intermixed. The construction and demolition materials were described as containing asphalt, concrete, and bricks. Metal, wood, cut stone and roofing shingles were observed in occasional test pits. In general, the thickness of the fill ranged up to approximately 5 feet. Based on the distribution of waste over the property, it is estimated that over 43,000 cubic yards of this type of material exists at the site.

Soil samples were collected from eight (8) selected test pits based on the field scientist's observations and field instrument readings. The soil samples were tested for semi-volatile organic compounds (SVOCs), metals, pesticides, and PCBs. The results of the soil sampling were compared to the recommended soil cleanup objectives presented in NYSDEC Technical and Administrative Guidance Memorandum 4046 (TAGM) and the proposed Brownfields Cleanup Standards. Presently, NYSDEC is in the process of issuing new soil cleanup standards based on the end use of the property. Three distinct areas of the project site are noted and described based on the results. A map of these areas and detailed discussion of the results is provided in Appendix F.

Area 1 - This is in the northeast portion of the property. Test pits advanced here encountered construction and demolition debris. The results of soil samples show that up to seven (7) SVOCs were detected in concentrations that exceed Recommended Soil Cleanup Objectives (RSCOs). With the exception of two SVOCs detected in Test Pit TP-19, the exceedences were on the same or one order of magnitude above RSCOs. At TP-19, the concentrations of benzo(a)pyrene and dibenzo(a,h)anthracene were two orders of magnitude above the RSCOs. No pesticides or PCBs were detected above RSCOs or restricted cleanup objectives. Up to seven metals were detected in concentrations exceeding the RSCOs. However, only the barium concentration in the sample collected from TP-1 was above the restricted residential cleanup objectives.

Area 2 - This area is located at the western section of the site. A pit advanced in this area (TP-35) encountered construction and demolition debris as well as multiple buried tires. The possibility of additional buried tires exists at this test pit location. A soil sample collected from this test pit and results from the sample indicate four SVOCs exceed TAGM 4046 at the same or one order of magnitude above the RSCOs. Concentrations of these compounds are below the proposed restricted residential cleanup objectives. Five metals were detected in concentrations that exceed the TAGM RSCOs. However, each of these metal concentrations are below the restricted residential cleanup objectives. One metal (magnesium) also exceeded the Eastern USA background concentrations listed in TAGM. No pesticides or PCBs were detected in this sample.

Area 3 - The third area is the Bulldog Automotive property. An analysis performed by Lawler, Matusky & Skelly Engineers is included in Appendix F. An underground storage tank and hydraulic lift will need to be removed.

**3.1.2 Potential Impacts**

Geology

No impacts to bedrock geology are anticipated as a result of geotechnical investigations summarized in a Geotechnical Engineering Report dated November 5, 2003 (see Appendix C). According to that report, bedrock was not encountered in any of the borings conducted on the site, the deepest of which extended to 82.5 feet. Thus, no rock removal or blasting is anticipated.

Slopes

Soil erosion during construction is related in part to the amount of disturbance to steep slopes which would be susceptible to erosion. As described previously, only one percent (1%) of the entire site consists of slopes greater than 15 percent. Impacts to slopes on the property are presented in Figure 3.1-4 - Slopes Disturbance Map. Impacts to slopes would be minimal for the Minisceongo Park development because of the flatness of the site and the limited areas of steep slopes to be disturbed.

Table 3.1-3 provides an estimate of the amount of disturbance by slope range.

<b>Table 3.1-3 Slope Disturbance</b>	
<b>Slope Category</b>	<b>Approximate Acres Disturbed</b>
20% to 25%	0.08
25% to 30%	0.02
30% to 35%	0.01
>35%	0.30
Source - Atzl, Scatassa, & Zigler, P.C., 2005.	

## Soil Suitability

### *Suitability of Soils Based on Rockland County Soil Survey*

The majority of the commercial, residential road and parking construction will occur within soils previously disturbed and mapped as “pit, gravel” soils. The Rockland County Soil Survey does not provide information on soil limitations for this soil type. However, the original soil was originally comprised of sand and gravel suitable as fill for construction. Because of the historic mining of the site, and its subsurface conditions, fill is needed to make this site suitable for the proposed project. Suitable fill will be brought to these areas to construct the development. Fill activities are described below and in Section 3.11 - Construction Effects.

Hinckley soils pose slight limitations for the construction of local roads and streets as well as the construction of buildings with basements. However, the soil poses severe limitations for lawns and landscaping due to “roughness”<sup>1</sup>. According to the proposed plans and Figure 3.1-5 Disturbance Area Map, construction of a detention pond and an emergency access road would occur here. Landscaping that may occur in these soils would take into consideration limiting soil conditions by adding topsoil or peat moss to the soil mix to retain moisture content.

Carlisle muck soils pose severe limitations to development due to wetness, ponding, and low strength of the soils. Carlisle muck soils are associated with the mapped wetlands located on the project site. According the proposed plans, shown in the Disturbance Area map, Figure 3.1-5, Carlisle muck soils and the wetland areas are avoided and no buildings or roads are proposed to be constructed within these wetland soils.

### Subsurface Improvement Program

As a result of the subsurface investigations conducted for the project site, a subgrade improvement program is necessary to construct the Minisceongo Park development. The existing subsurface conditions include uncontrolled fill and underlying compressible organic soils. Without a subgrade improvement program, construction on the existing soils would result in settlement of structures. Upon completion of the proposed subgrade improvement program, the proposed residences would be constructed on shallow foundations resting in the engineered fill material. While post-settlements may still occur, the magnitude of such settlement is expected to be under two inches and relatively uniform.

### *Soil Testing Results*

According to HDR/LMS, the estimated volume of construction and demolition debris and similar material existing on the site is over 43,000 cubic yards. Costs associated with the excavation, transport and disposal of this volume of material would be prohibitive toward the development of the site. Therefore, the most cost effective way to address the material is for it to be handled on site with a deed restriction and engineering controls to limit potential future human contact with the material. Methods to mitigation against human contact with these materials is described under Mitigation Measures below.

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<sup>1</sup> “Droughtiness” is an undefined term used in the Rockland County Soil Survey to describe certain soils that are excessively drained.

### *Surcharge/Fill Placement Program*

A two phase improvement program will occur. The program will consist of a combination of a surcharge program in the area of the western portion of the site which has not been previously surcharged, combined with surface compaction throughout the site. Areas to be surcharged are shown in Figure 3.11-2, Surcharge Plan, in the Construction-Related Effects section of the DEIS.

Separate surcharge and fill engineered plans have been prepared for this phase of the project and accompany this DEIS. The 10-sheet set depicts existing site conditions, pre-construction limits, soil erosion control measures to be put in place prior to surcharge activities, fill area locations, a stormwater pollution prevention plan and fugitive dust control measures.

The proposed surcharge program would involve areas of roadway and building construction west of the proposed entrance to the development on Route 202, except the area which was previously surcharged as a result of previous proposed site development. The extent of the proposed surcharge area, along with the previously surcharged area are shown in Figure 3.11-2. A separate geotechnical report addressing potential long-term building settlement, post-construction, is included as Appendix C of this DEIS. This includes a memo addendum addressing settlement issues based on a review of the most recent grading plan. A description of the proposed surcharge program in both building and roadway areas is as follows:

Building Surcharge Program - The geotechnical consultants recommend a surcharge program for the proposed buildings consisting of approximately 7 feet of surcharge above the finished floor elevations of the townhomes placed for a period of approximately 3-4 months. The top of the surcharge should extend a minimum of 10 feet past the building limits..

Roadway Surcharge Program - The geotechnical consultants recommend a surcharge program for the proposed roadways that would consist of approximately 3 feet of surcharge above the finished roadway elevations of the townhomes placed for a period of approximately three months .

The actual duration will be determined by the Geotechnical Engineer based on settlement monitoring. The surcharge and fill program are depicted on plans accompanying the DEIS.

Settlement plates will be installed and monitored by the Geotechnical Engineer retained to oversee the surcharge program to ensure that the majority of the settlement has been completed prior to construction of utilities and surface features. If the recommended ground improvement program is followed, it is expected that total long-term settlements for the proposed structures would be on the order of 1 inch. Differential settlements between adjacent columns are expected to be less than ¾-inch.

### *Surface Compaction*

Throughout the site, footing subgrades must be surface compacted with at least six (6) passes of a smooth drum vibratory roller having a minimum static drum weight of 7 tons. This will compress loose areas with uncontrolled fill and improve the overall engineering properties of the material. Any soft or wet areas exhibiting excessive pumping, rutting, or

other evidence of poor subgrade must be removed to competent material and replaced with granular fill. Once exposed, individual footing locations will then be proof rolled with at least six (6) passes of a one-ton walk-behind roller to confirm the absence of soft or deleterious material prior to construction.

#### *Fill Placement*

Based on proposed site grading, fill may be required to raise grades within the site. The fill would be granular material, with no more than 15 percent fines and no pieces larger than 6 inches. The fill would not contain wood, metal, or other deleterious materials.

As discussed in Section 3.11 - Construction Effects, the construction fill phase will require fill suitable for the surcharge and surface compaction program. The amount of fill to be imported is approximately 449,000 gross cubic yards. It is expected that soils excavated for the townhome floorings, cuts for roads, and other excavated materials can be used to raise the site to final grade.

During the surcharge and fill placement phase of the project, the applicant proposes to disturb more than 5 acres of area at any one time. A waiver from the SPDES general permit requirements will be sought from the NYS DEC.

Soil erosion control measures during the surcharge and fill placement phase are described below.

#### *Grading Plan*

After the surcharge and surface compaction occurs, final grading and recontouring of soils will be required. Areas of proposed grading and soil disturbance for the site are shown in the detailed grading plan provided as drawings in the site plan. The total area of grading or site disturbance is estimated to be 35.6 acres of the site.

#### *Soil Erosion during Construction*

The potential for soil erosion will be greatest during the initial surcharge and surface compaction phase, and then during site work and grading, when soils are exposed. These construction-related impacts would be temporary and would be mitigated by a Soil Erosion and Sediment Control Plan (see mitigation section below). As final grades are achieved, disturbed areas will be stabilized, seeded and landscaped.

#### Cut and Fill

In terms of the amount of cut and fill to occur during construction, the site would be filled during the construction fill phase (see Section 3.11 - Construction Effects). Limited grading will occur along the easterly boundary which contains Hinckley gravely sandy loam to construct detention pond "B". Areas of cut and fill are shown in Figure 3.1-6.

After the construction fill phase, the total cut estimated for earthwork is approximately 6,600 cubic yards (cy). The fill estimate is approximately 451,500 gross or "bank run" cubic yards. In order to construct the project, fill will need to be imported to the site. The proposed plan requires approximately 449,000 gross cy of clean fill (truck volume) to be brought onto the site. The compaction factor is unknown at this time, as it is not known where the fill will originate from. This fill will be imported onto the site during the surcharge and site work phases described in Section 3.11 of the DEIS.

### **3.1.3 Mitigation Measures**

#### Soil Remediation

Deed restrictions are recommended to be imposed to protect future property owners so that the new owners are aware of the site conditions and restrictions associated with those conditions. Areas that contain objectionable material, such as the tires that were encountered in Test Pit TP-35, will be excavated and transported to a facility that is appropriately licensed to accept the material. Engineering controls will need to be established to reduce the potential impact to humans. These controls may include a vapor barrier, active or passive venting layer, and appropriate thickness (two feet or more) of cover material or a combination of these measures. The placement of the additional material to raise the site elevation will serve as a buffer for the construction and demolition materials that exist on site. Based on the lack of odors and photoionization detector readings above background concentrations, a vapor barrier and/or active or passive venting layer does not appear to be necessary for this site.

A second option for the site development may be to consolidate materials at areas of the site where buildings will not be constructed or in areas of limited or no human exposure. These areas may include under roadways or concrete surfaces or in landscape areas.

As part of the substantive review of the DEIS, the project sponsor's representatives will continue to meet and confer with the NYS DEC to determine how to best remediate the unacceptable materials found at the project site. With appropriate mitigation measures in place, the project site will be made suitable for use as a residential development.

#### Proposed Method for Accepting Fill at Project Site

The contractor retained for the purposes of acquiring, transporting, and handling backfill will be required to prepare a Site Management Plan under the Technical Specification for Material excavation, handling, stockpiling and backfilling. In the Site Management Plan, the Contractor will discuss the proposed procedures for identifying the off-site borrow sources and/or recycling facilities for backfill material to be used on site. The owner and/or the Owner's representative will review the Site Management Plan before any material handling occurs on site.

At a minimum, any off-site fill material brought to the site for filling and grading purposes shall be from an acceptable borrow source free of industrial and/or other potential sources of chemical or petroleum contamination. Off-site borrow sources should be subject to collection of one representative composite sample per source. The sample shall be analyzed for TCL VOCs, SVOCs, pesticides, PCBs, and TAL metals plus cyanide. The soil will be acceptable for use as cover material if all parameters meet the NYSDEC recommended soil cleanup objectives included in TAGM 4046.

The designated site representative will be contacted before the off-site material is ready for backfilling. As long as the property remains under development, the Owner shall be responsible for having a qualified Environmental Professional (EP) present at the site of the work within a reasonable time. The EP will have the following qualifications:

- Have a working familiarity of the site conditions, remedy, and conditions of the approved specifications, Site Management Plan, or final Report that outlines the redevelopment conditions and recertification requirements that must be met.
- Be familiar with NYSDEC Part 360 and the definitions of construction and demolition (C&D) debris, recycling facility operating criteria, and the types and limit for acceptable material for a facility of that type.
- Have the experience on previous projects to understand and be able to identify material visually that would not be acceptable immediately upon observation. Such material includes, but is not limited to, petroleum impacted material, material mixed with industrial waste, and material that does not qualify as uncontaminated C&D even after processing.
- Be able to review documents from any recycling facility to determine the applicability of the material that is proposed for backfill and in comparison to the registration, in addition to the validity of the facility documents as the documentation is presented.
- Have the ability to request any additional applicable information to assist in making the determination for the acceptance of the fill material.

Following approval of backfill material, the EP will document the specific information that is relevant to the Site Management Plan, including:

1. Name of facility providing material
2. Copy of facility registration (current)
3. Volume of material imported for fill
4. Volume of material that was disposed of off site and all pertinent sampling data
5. Disposal facility accepting excess material (if any)
6. Map of the site showing dimensions and locations of where work was performed.
7. A statement relating to the recapping of those areas where work has occurred that the Site maintains the approved conditions.
8. The imported fill material was observed and physically meets all of the criteria for uncontaminated processed C&D such as: no odors of petroleum or other chemicals, staining or discoloration.

With these measures in place, the project site would be safeguarded against the deposition of unacceptable fill material.

#### Soil Erosion and Sediment Control Plan

The development will require a NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities (Permit No. GP-02-1) as it proposes to disturb more than one (1) acre of land. In addition, the project must conform to the Soil Erosion and Sediment Control Law of the Town of Haverstraw (Chapter 140 of the Code of the Town of Haverstraw). The Town's law requires that the applicant obtain a land disturbance permit from the Town Engineering Department. These approvals ensure that all potential soil erosion impacts are mitigated through the preparation of an erosion and sediment control plan. The Town of

Ramapo does not have a separate local law regulating Soil Erosion and Sediment Control. This is addressed through site plan review and approval.

The project engineer has developed a proposed Stormwater Pollution Prevention Plan, Soil Erosion Controls, and fugitive dust measures that would be installed prior to surcharge operations, and would continue to completion of the project. The proposed Stormwater Pollution Prevention Plan is included as Drawing 9 of 10 of the surcharge and fill plan set, and the fugitive dust control measures are described on Drawing 10 of 10 of the same plan set. The final SWPPP will be provided in report format with appendices that would include all calculations, the NOI, the General Permit, and other required elements of the SWPPP. The Final SWPPP shall be provided upon site plan approval and shall be signed and sealed by the engineer of record.

Prior to any remediation activities, pre-construction limits would be established around the perimeter of the site. The perimeter would be established outside wetland areas and the 100-foot buffer. A construction fence and/or silt fence would be erected at the perimeter, except along the easterly property line which is naturally "contained" by the presence of steep slopes in that location. A construction entrance would also be installed.

Three ponds would be installed, one along the northerly property line adjoining Barr Labs, another along the southerly property line, and the 3rd along the westerly border just beyond the 100-foot NYSDEC buffer line. Proposed swales would be constructed to capture any runoff and direct flow to the two ponds that would capture runoff during surcharge and fill operations. These structures would be in place for the duration of the construction process.

Erosion and sedimentation will also be controlled during the building construction period, and subsequent to the surcharge program, by temporary devices in accordance with the Erosion Control Plan developed specifically for this project site as seen in Figure 3.1-7 and described in Appendix D of this document. The details for erosion control devices are shown in Figure 3.1-8.

Detailed erosion control measures during building construction are depicted on Drawings 6 through 9 of 15 of the site plan set that accompanies the DEIS.

The erosion control plan has been prepared by Atzl, Scatassa, & Zigler, P.C., and Ray Ahmadi, PhD, P.E., and addresses erosion control and slope stabilization during all construction phases of the project. These plans were developed in accordance with the Erosion and Sediment Control Guidelines in the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities (Permit No. GP-02-1). The plans includes limitations on the area of disturbance and devices to be used to help control soil erosion such as silt fencing, storm inlet protection and a stabilized construction entrance.

Erosion controls include silt fencing to surround all grading activities as well as the installation of curb inlet sediment traps for the proposed stormwater drains along the access roads. The plan proposes one (1) construction entrance which would be stabilized and used for the duration of construction. The stabilized entrance will prevent soil from being carried onto the adjacent and nearby roads. The stabilized construction entrance is located along the southern boundary of the site, with access onto Route 202.

Two phases are proposed for the erosion control plan. During Phase 1, immediately after construction commencement, a stabilized construction entrance will be constructed using

2-inch stone, or reclaimed recycled concrete. It will be not less than 50 feet in length, not less than 6 inches thick and 12-feet wide (minimum) but not less than the full width at points where ingress and egress occur or 24-feet in the case it is the only entrance to the site. Filter cloth will be placed over the entire area prior to the placement of stone. All surface water that is currently flowing or diverted to the construction entrance will be piped across the entrance. If the piping is impractical, a mountable berm with 5:1 slopes will be permitted. The entrance will be maintained in a condition to prevent tracking or flowing of sediment onto the public right of way. Any sediment that is spilled, dropped, washed or tracked onto the public right of way will be removed immediately. If washing is required it will be done in an area stabilized with stone, which drains to an approved sediment trapping device. Inspection and needed maintenance will be provided after each rain.

Silt fencing will also be placed around all proposed roads, along the northerly property line, and along but outside the 100-foot wetland buffer, during the initial phase of the erosion control process. When two pieces of filter cloth adjoin each other they will be overlapped by at least 6-inches and folded, to maintain the proper erosion control function. Maintenance will be performed on the fabric as needed and material will be removed when "bulges" develop in the silt fence.

Phase 2 of the erosion control phasing requires the installation of stormwater inlet traps, immediately after the installation of the sewer and drainage. The following are specification for the storm inlet protection:

- ♦ All sediment will be removed and the trap will be returned to its original dimensions when the sediment has accumulated to  $\frac{1}{2}$  the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode;
- ♦ The volume of sediment storage shall be 1,800 cubic feet per acre of contributory drainage;
- ♦ The structure shall be inspected on a weekly basis and after rainfalls of 0.5 inch or greater and repairs made as needed;
- ♦ Construction operations shall be carried out in such a manner that erosion and water pollution shall be minimized;
- ♦ The sediment trap shall be removed and the area stabilized when the constructed drainage area has been properly stabilized; and
- ♦ All cut slopes shall be 3:1 or flatter.

#### Best Management Practices (BMPs)

The following best management practices are followed in the development of the erosion control plan:

- ♦ Divert clean surface water before it reaches the construction area;
- ♦ Control erosion at its source with temporary and permanent soil protection measures;
- ♦ Capture sediment-laden runoff from areas of disturbance and filter the runoff prior to discharge; and,
- ♦ Decelerate and distribute storm water runoff through natural vegetative buffers or structural means before discharge to off-site areas.

These objectives will be achieved by utilizing a collective approach to managing runoff, i.e. Best Management Practices (BMPs).

Divert clean runoff - Diversion of 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 - To the extent practical, the 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 until the preceding phase is substantially complete.

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 unless construction will begin within 30 days, soil will be stabilized by seeding or mulching. Following completion of grading operations, level areas will be immediately seeded and mulched. Sloped areas, such as fill slopes may be seeded or stabilized depending upon weather conditions at the time of carrying out the work.

Minimize the length and steepness of slopes - The steepness and length of slopes have been 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. The check dams will be placed so that unchecked flow lengths will not be greater than 100 feet.

Maintain low runoff velocities - To protect disturbed areas from storm water runoff, haybale diversion berms and/or soil diversion berms and channels will be installed wherever runoff is likely to traverse newly exposed soil. Immediately following the clearing and stripping of topsoil, 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 on-site 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 either impound sediment-carrying runoff and or to filter the runoff as it flows through an area. Silt fencing, augmented by haybale barriers installed on the upgradient side of the silt fencing, will be used wherever land disturbance occurs within 100 feet of the on-site NYSDEC wetlands. A stabilized construction entrance will be installed at the single construction entrance to prevent construction vehicles from tracking soil onto public roads. All temporary erosion control devices will be installed prior to the commencement of construction. The permanent storm water management systems will be installed in conjunction with the residential 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 that they function properly. In addition to inspections by Town of Ramapo and Haverstraw officials, the applicant will be responsible for monitoring and maintaining the soil erosion and sediment controls at all times.

Assign responsibility for the maintenance program - The responsibility for the monitoring and maintenance of the Erosion Control Plan has been detailed in the SWPPP sheet . The project sponsor shall be required to retain a qualified professional responsible for overseeing the inspection and maintenance protocol. The qualified professional shall be someone knowledgeable in the principles and practices of erosion and sediment controls, such as a licensed professional engineer, Certified Professional in Erosion and Sediment Control (CPESC), or soil scientist..

### Fugitive Dust Controls

To mitigate against potential impacts associated with fugitive dust that may be generated by earthwork activities, a separate fugitive dust control plan has been developed and is included as Appendix G of the DEIS. The fugitive dust control measures are also listed on Drawing 10 of 10 of the surcharge and fill program plan set. The fugitive dust control and management measures include earth-moving operation controls, track-out controls, high wind condition controls, and stabilizing soil stored or stockpiled on the project site.

A summary of fugitive dust controls to be implemented and that are described in detail in Appendix G are as follows:

- **Earth-moving operation controls:**

- Apply water by means of truck, hoses, and/or sprinklers prior to and during earthwork and construction activity.
- Apply non-toxic soil stabilizers or dust suppressants.
- Install wind fences and barriers
- Cover trucks with a tightly secured cover (tarp) and provide at least 6 inches of freeboard before leaving the project site.
- Implement traffic and speed restrictions.
- Compact disturbed soil daily.
- Phase the project to limit and minimize the area disturbed at any one time.

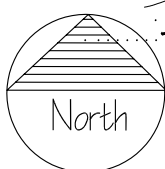
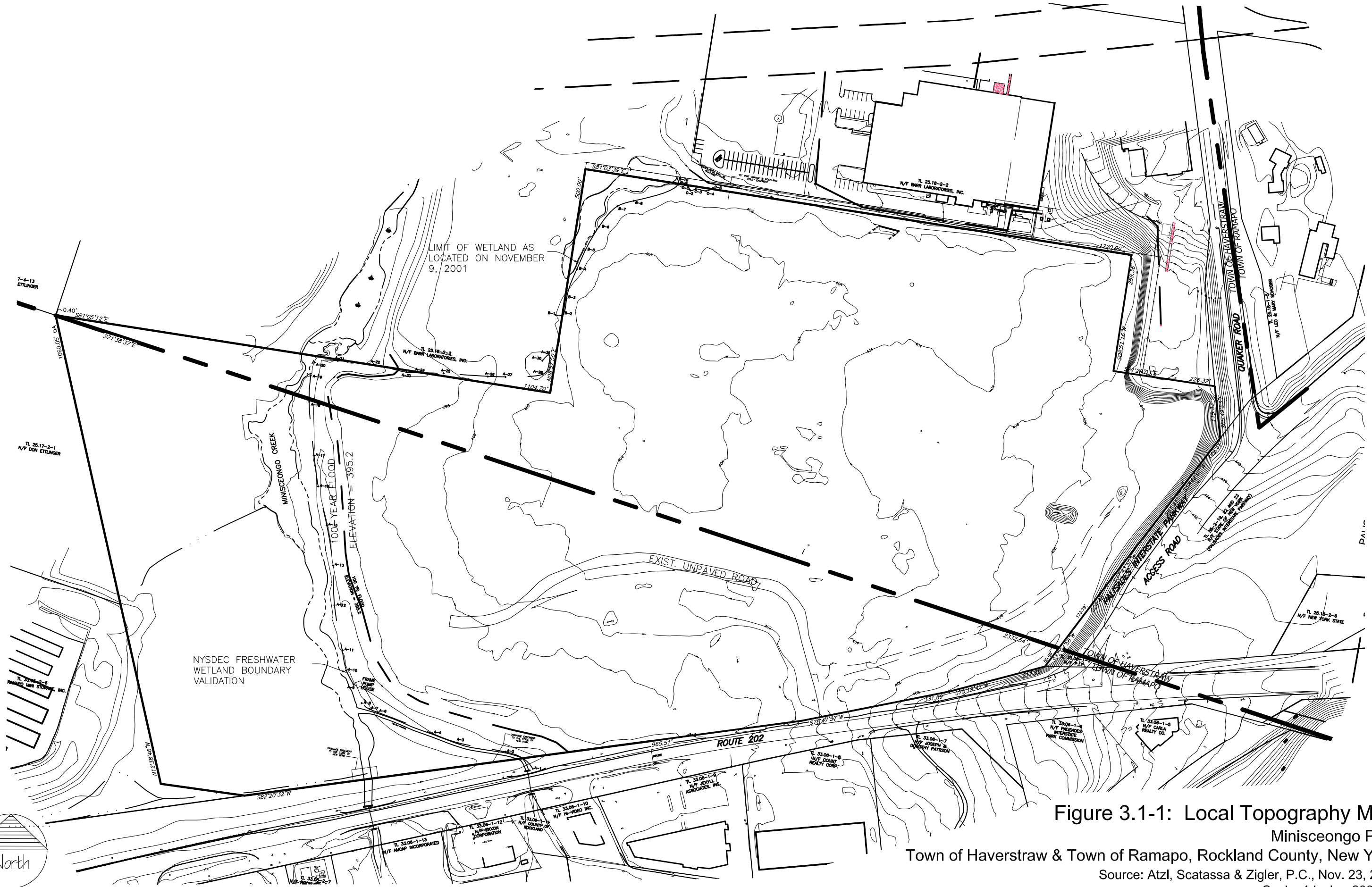
- **Track-out controls**

- A stabilized construction entrance will be provided with a lined stone and gravel pad of appropriate dimensions to reduce the transport of soil to adjacent roadways.
- Wash, vacuum, or sweep to remove materials from the exterior of the trucks over gravel pad before leaving the site to prevent track-out of bulk material onto public paved roadways.
- Limit load size and cover trucks with a tightly secured cover (tarp) and provide at least 6 inches of freeboard before leaving the site.
- Water or chemically stabilize the load being transported in the trucks.
- Sweep and keep clean public roadways to remove all visible dust tracked-out upon public roadways as a result of active operations.
- Sweep or vacuum public sidewalks and median strips at least once per day during active operations.

- **High wind condition controls**
  - When wind gusts exceed 25 mph, employ the following measures:
    - All vehicles must be covered with a tightly secured cover (tarp), or
    - All vehicle traffic must be stopped.
  
- **Soil stored or stockpiled**
  - Any exposed soils that are exposed and left bare for a period of 14 days which are not being graded, not under active construction for 21 days or more, or not scheduled for permanent seeding within 21 days will be treated.
  - Mulching (including gravel mulch) or hydroseeding will be applied to ground with low slopes that have been stripped of natural vegetation.
  - Rip rapping or sodding will be applied to soils for permanent stabilization if conditions warrant.

The Job Supervisor, i.e., the construction manager, would be responsible for ensuring the appropriate controls are implemented during day-to-day operations. Implementation of these controls would prevent dust from exiting the property, and prevent public nuisances.

With these controls in place, it is anticipated that there will be no significant impacts that result from site disturbances to geology, soils and topography.

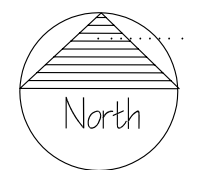


**Figure 3.1-1: Local Topography Map**  
 Minisceongo Park  
 Town of Haverstraw & Town of Ramapo, Rockland County, New York  
 Source: Atzl, Scatassa & Zigler, P.C., Nov. 23, 2005  
 Scale: 1 inch = 200 feet



**SLOPE LEGEND**

SLOPE = 20%-25%	<span style="display:inline-block; width:15px; height:10px; background-color:lightgreen;"></span>	0.12 ACRES
SLOPE = 25%-30%	<span style="display:inline-block; width:15px; height:10px; background-color:yellow;"></span>	0.03 ACRES
SLOPE = 30%-35%	<span style="display:inline-block; width:15px; height:10px; background-color:lightblue;"></span>	0.01 ACRES
SLOPE = 35%+	<span style="display:inline-block; width:15px; height:10px; background-color:lightcoral;"></span>	0.45 ACRES



**Figure 3.1-2: Existing Slopes Map**

Minisceongo Park

Town of Haverstraw & Town of Ramapo, Rockland County, New York

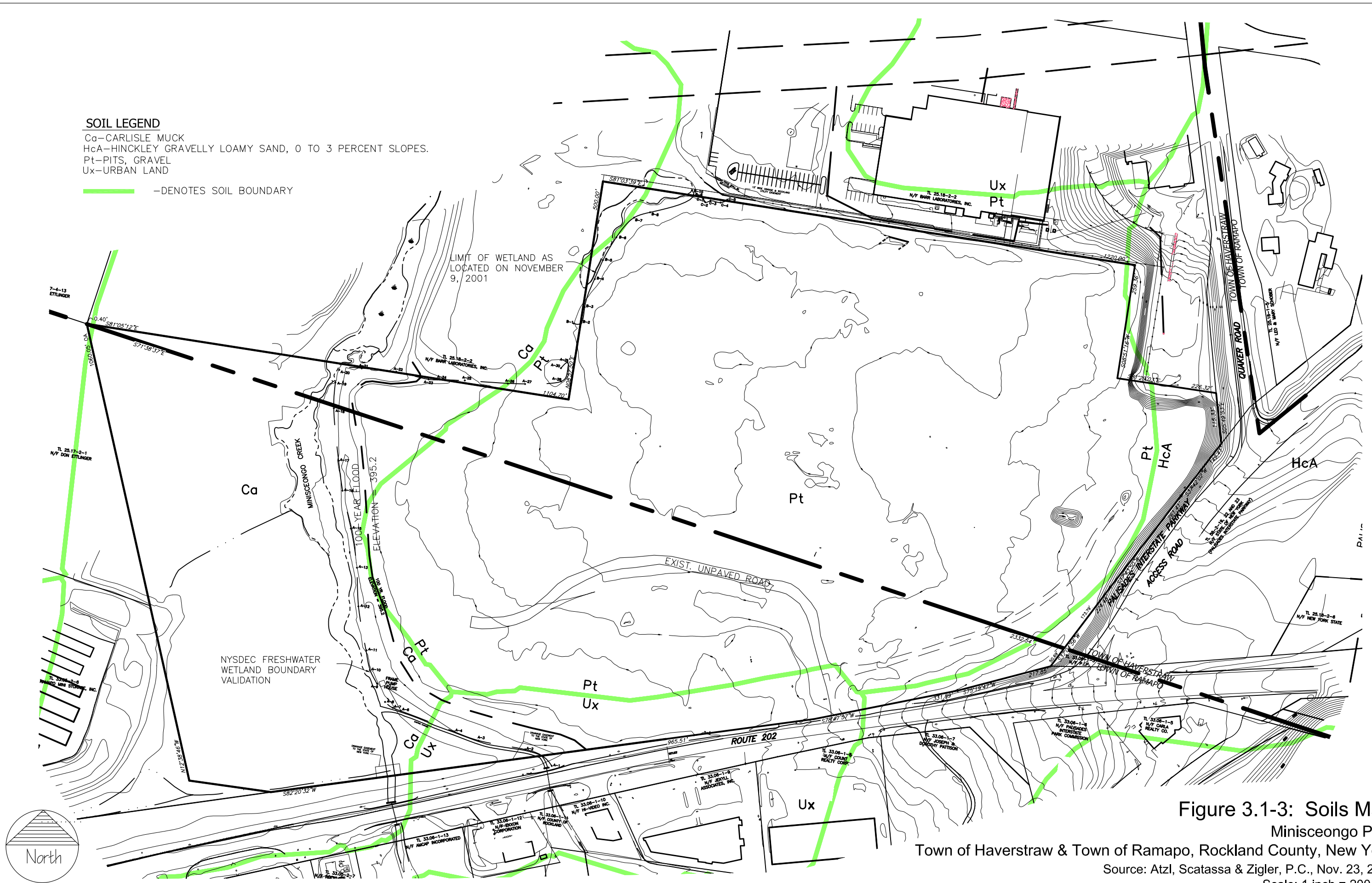
Source: Atzl, Scatassa & Zigler, P.C., Nov. 23, 2005

Scale: 1 inch = 200 feet

**SOIL LEGEND**

Ca-CARLISLE MUCK  
 HcA-HINCKLEY GRAVELLY LOAMY SAND, 0 TO 3 PERCENT SLOPES.  
 Pt-PITS, GRAVEL  
 Ux-URBAN LAND

 -DENOTES SOIL BOUNDARY



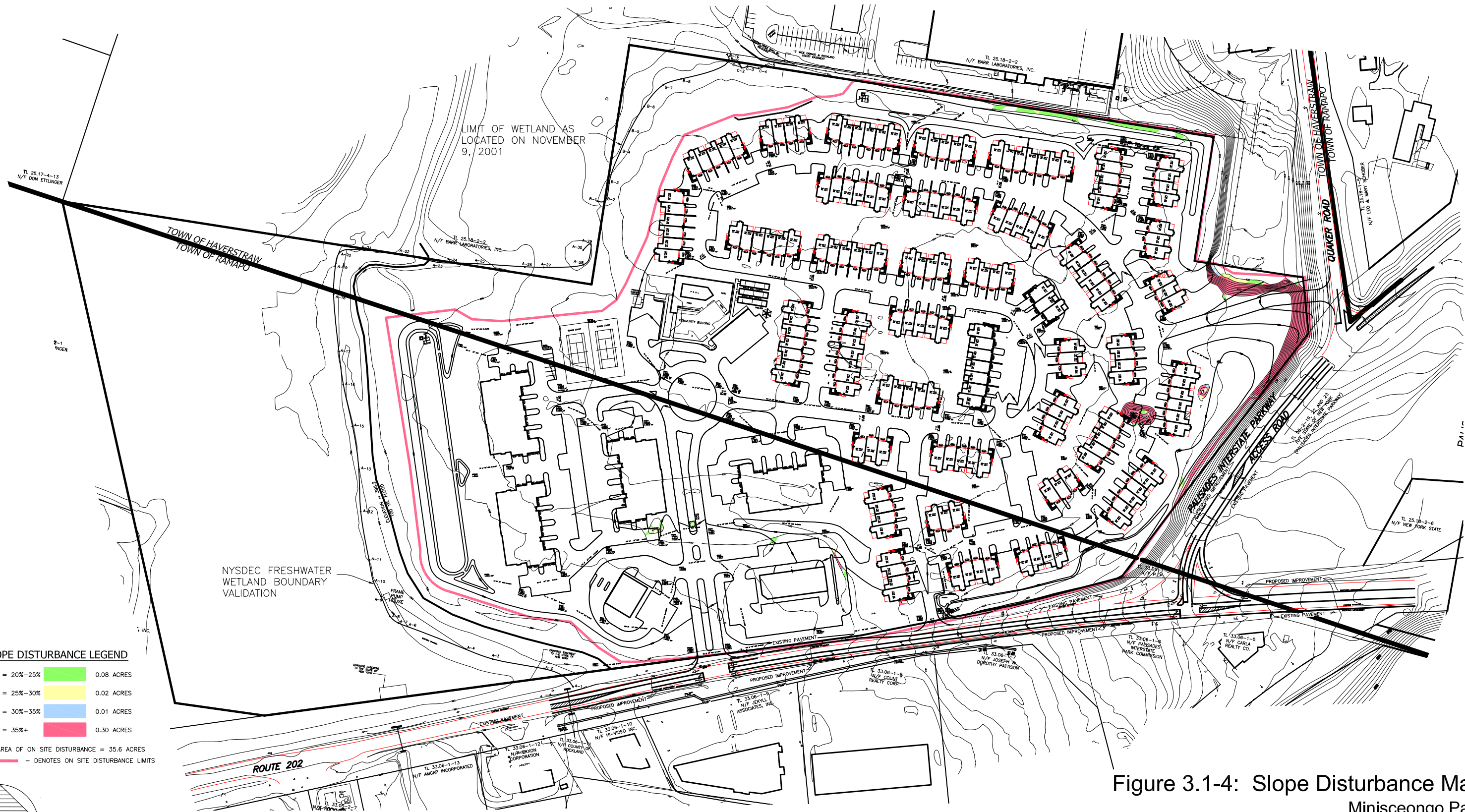
**Figure 3.1-3: Soils Map**

Minisceongo Park

Town of Haverstraw & Town of Ramapo, Rockland County, New York

Source: Atzl, Scatassa & Zigler, P.C., Nov. 23, 2005

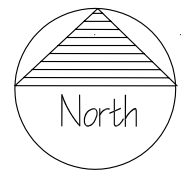
Scale: 1 inch = 200 feet



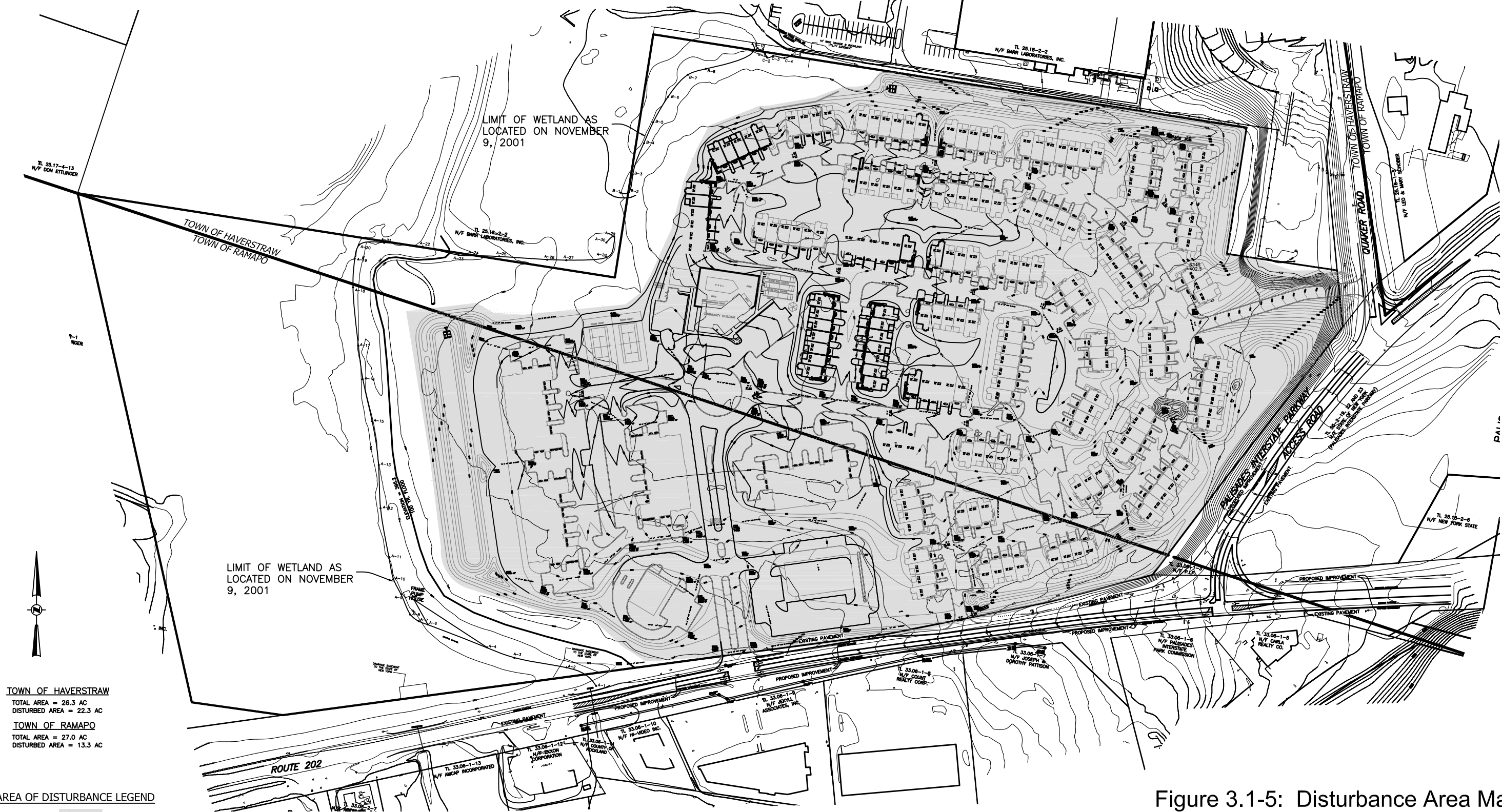
**SLOPE DISTURBANCE LEGEND**

SLOPE = 20%-25%	0.08 ACRES
SLOPE = 25%-30%	0.02 ACRES
SLOPE = 30%-35%	0.01 ACRES
SLOPE = 35%+	0.30 ACRES

TOTAL AREA OF ON SITE DISTURBANCE = 35.6 ACRES  
 --- DENOTES ON SITE DISTURBANCE LIMITS



**Figure 3.1-4: Slope Disturbance Map**  
 Minisceongo Park  
 Town of Haverstraw & Town of Ramapo, Rockland County, New York  
 Source: Atzl, Scatassa & Zigler, P.C., May 23, 2006  
 Scale: 1 inch = 200 feet



**TOWN OF HAVERSTRAW**  
 TOTAL AREA = 26.3 AC  
 DISTURBED AREA = 22.3 AC

**TOWN OF RAMAPO**  
 TOTAL AREA = 27.0 AC  
 DISTURBED AREA = 13.3 AC

**AREA OF DISTURBANCE LEGEND**

DISTURBED AREA 35.6 ACRES TOTAL

- - DENOTES ON SITE DISTURBANCE LIMITS

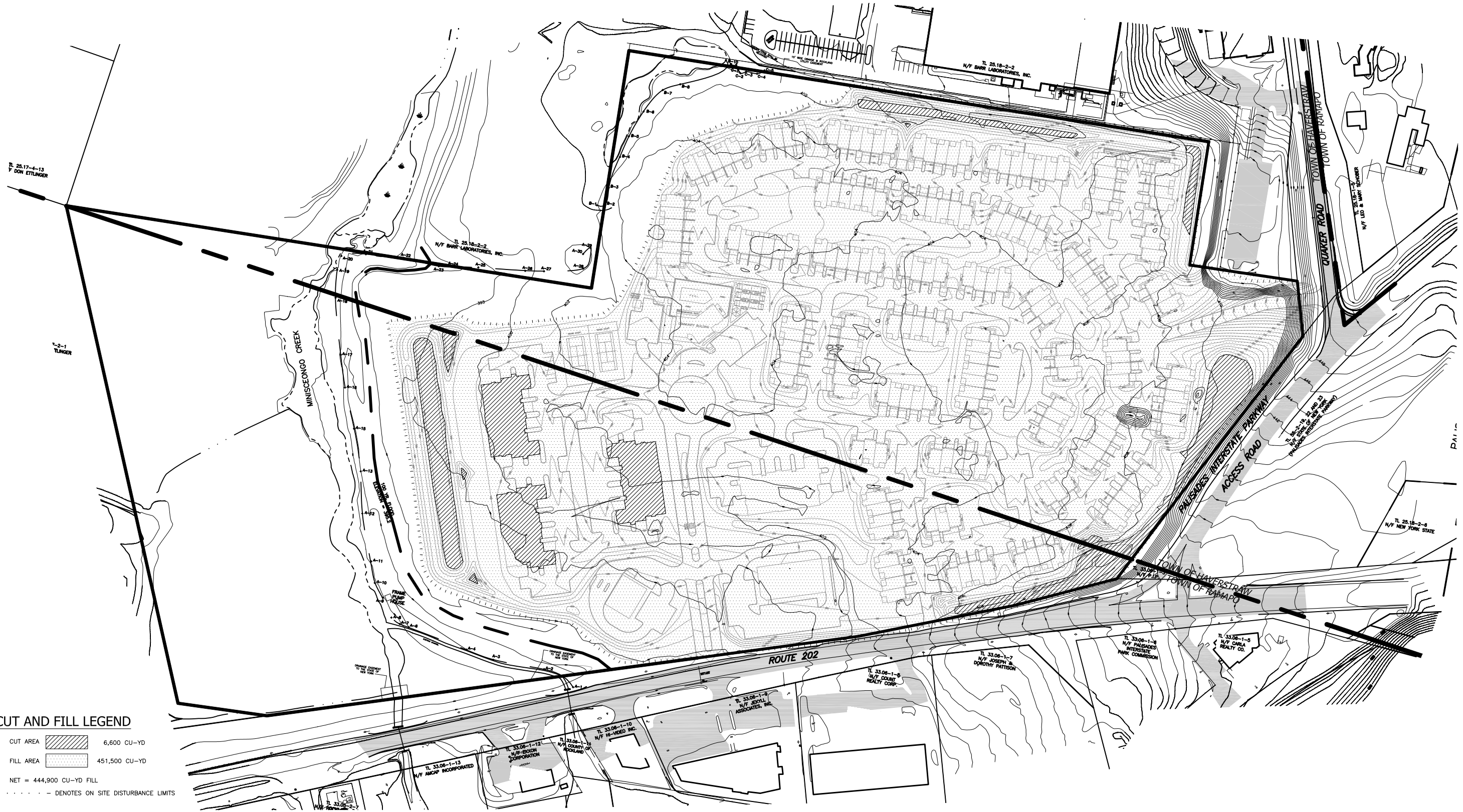
Figure 3.1-5: Disturbance Area Map

Minisceongo Park

Towns of Haverstraw and Ramapo, Rockland County, New York

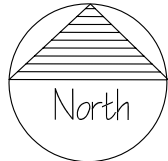
Source: Atzl, Scatassa & Zigler P.C., May 23, 2006

Scale: 1 inch = 200 feet



**CUT AND FILL LEGEND**

- CUT AREA 6,600 CU-YD
- FILL AREA 451,500 CU-YD
- NET = 444,900 CU-YD FILL
- ..... DENOTES ON SITE DISTURBANCE LIMITS



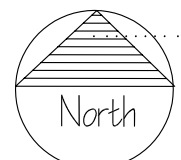
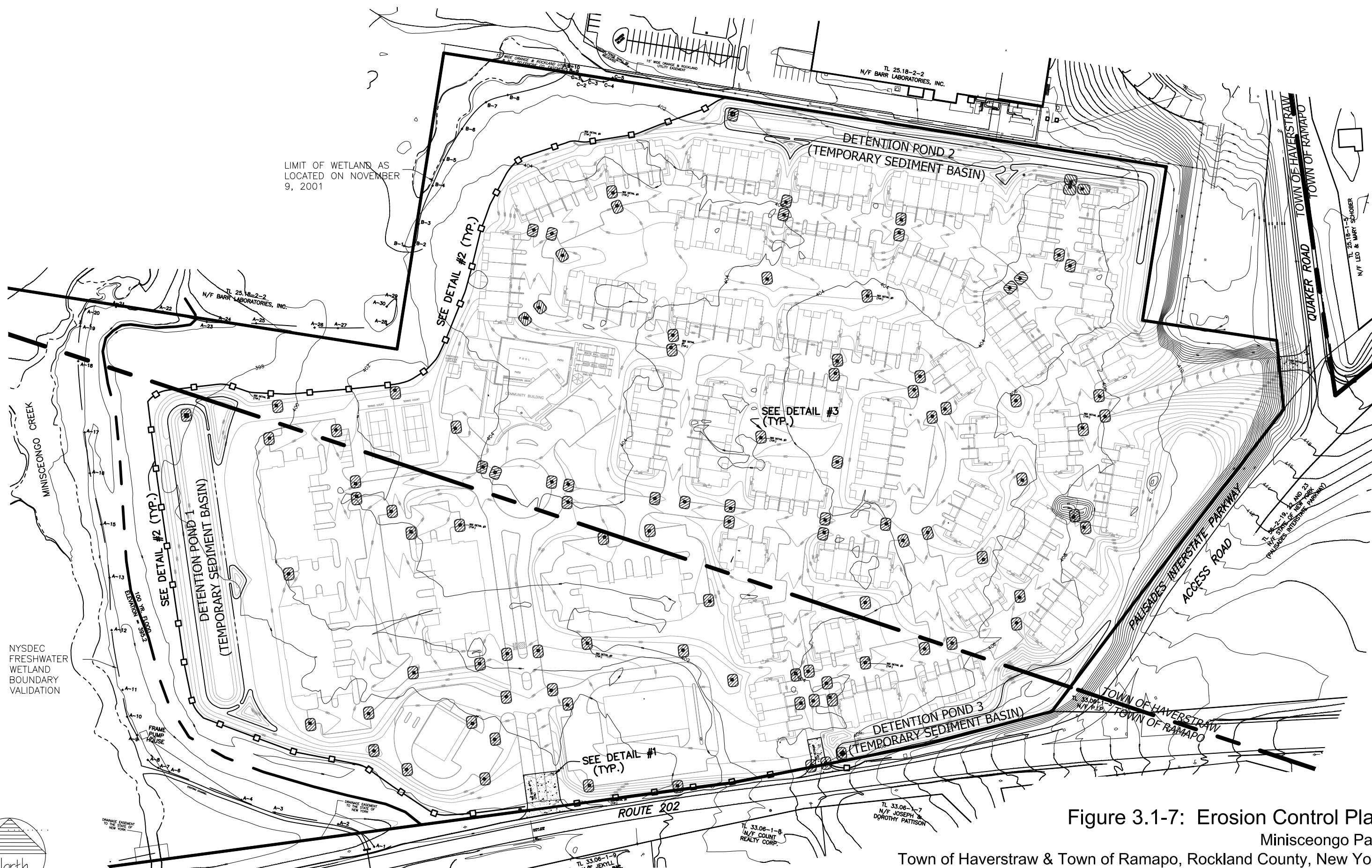
**Figure 3.1-6: Cut and Fill Map**

Minisceongo Park

Town of Haverstraw & Town of Ramapo, Rockland County, New York

Source: Atzl, Scatassa & Zigler, P.C., Nov. 23, 2005

Scale: 1 inch = 200 feet



**NOTE:** Refer to Figure 3.1-8 for Details

**Figure 3.1-7: Erosion Control Plan**

Minisceongo Park

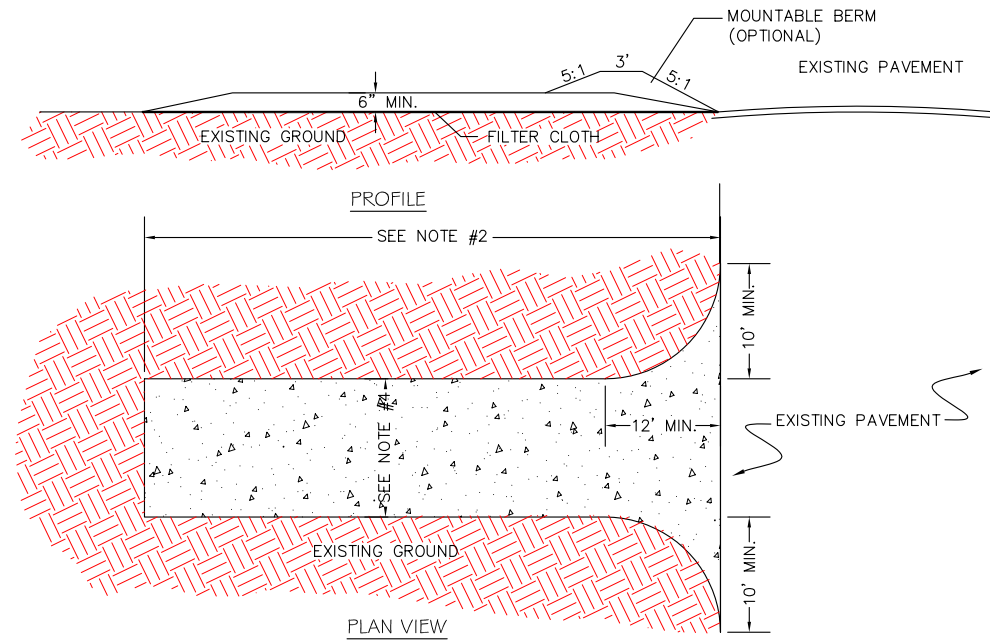
Town of Haverstraw & Town of Ramapo, Rockland County, New York

Source: R.A. Associates Consulting Engineers, Nov. 23, 2005

Scale: 1 inch = 200 feet

**SEDIMENT & EROSION CONTROL NOTES**

1. FABRIC FENCE WILL BE INSTALLED ALONG THE PROPOSED ROAD AND THE ADJACENT PROPERTY OWNERS AND ALL DISTURBED AREAS.
2. TEMPORARY SEEDING SHALL BE APPLIED TO DISTURBED AREAS THAT ARE LEFT BARE FOR 15 DAYS UNLESS CONSTRUCTION WILL BE BEGIN WITHIN 30 DAYS. IF CONSTRUCTION IS SUSPENDED OR COMPLETED, AREAS SHALL BE SEEDED OR MULCHED IMMEDIATELY.
3. STRUCTURAL MEASURES MUST BE MAINTAINED TO BE EFFECTIVE. IN GENERAL, THESE MEASURES MUST BE PERIODICALLY INSPECTED TO INSURE STRUCTURAL INTEGRITY, DETECT VANDALISM DAMAGE, AND FOR MAINTENANCE AND REPAIR WHENEVER NECESSARY.
4. A STABILIZED CONSTRUCTION ENTRANCE SHALL BE INSTALLED AT THE BEGINNING OF THE PROPOSED ROAD.
5. MACADAM SURFACES SHALL BE SWEEP "BROOM CLEAN" AT THE END OF EACH DAY DURING CONSTRUCTION.
6. CONSTRUCTION EQUIPMENT SHALL BE LIMITED TO AREAS WITHIN THE SILT FENCE SEDIMENT PROTECTION AREA.



**DETAIL #1 CONSTRUCTION ENTRANCE**  
N.T.S.

**SPECIFICATIONS FOR CONSTRUCTION ENTRANCE**

1. STONE SIZE – USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH – NOT LESS THAN 50 FT. (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FT. MINIMUM LENGTH WOULD APPLY).
3. THICKNESS – NOT LESS THAN 6 IN..
4. WIDTH – 12 FT. MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS AND EGRESS OCCUR. 24 FT. IF SINGLE ENTRANCE TO SITE.
5. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO THE PLACEMENT OF STONE.
6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS TO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

**EROSION CONTROL PHASING**

**PHASE I – IMMEDIATELY AFTER CLEARING**

- 1) STABILIZED CONSTRUCTION ENTRANCE (DETAIL #1)
- 2) SILT FENCING (DETAIL #2)

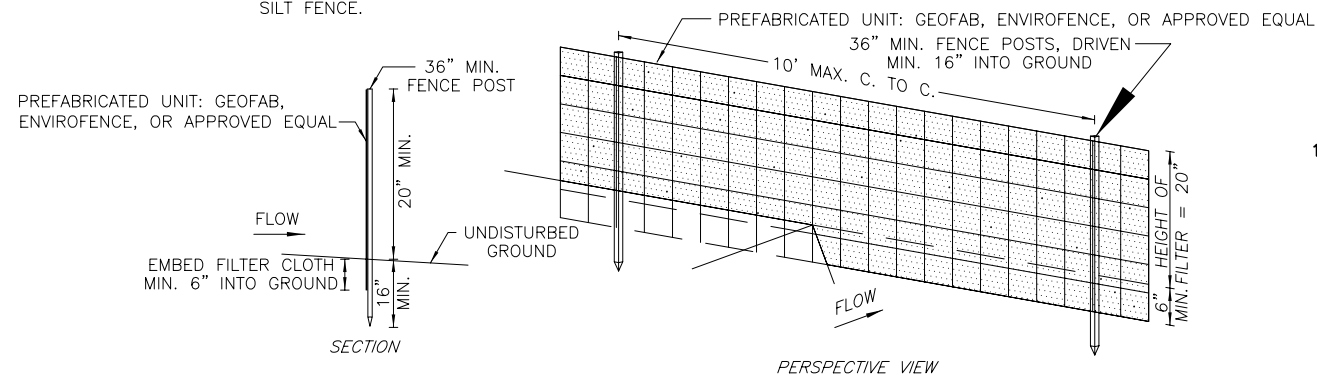
**PHASE II – IMMEDIATELY FOLLOWING INSTALLATION OF SEWER & DRAINAGE**

- 1) STORM INLET TRAP (DETAIL #3) AROUND ALL CATCH BASINS

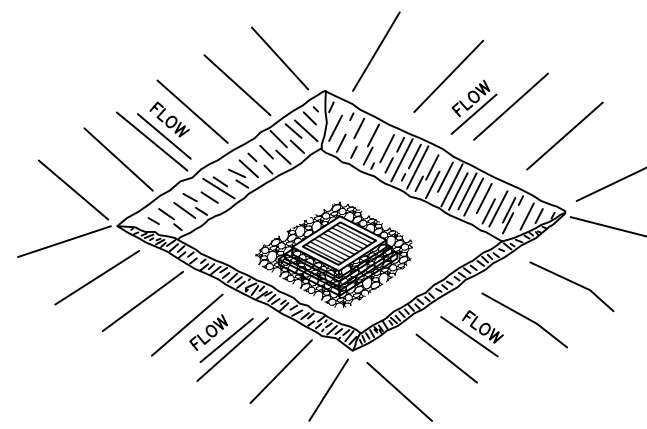
**CONSTRUCTION NOTES FOR PRE FABRICATED SILT FENCE**

PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL

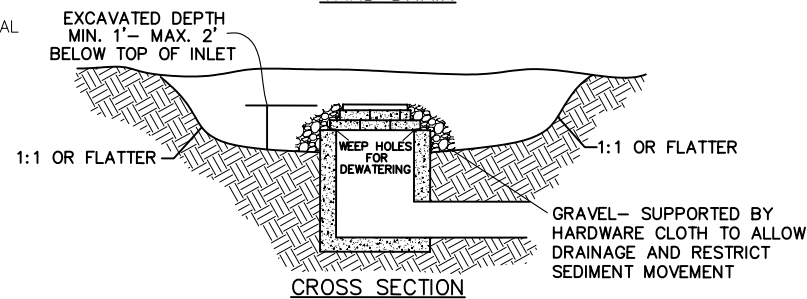
1. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
2. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.



**DETAIL #2 SILT FENCE**  
N.T.S.



**YARD DRAIN**



**DETAIL #3 STORM INLET PROTECTION**  
N.T.S.

**SPECIFICATIONS FOR STORM INLET PROTECTION**

1. SEDIMENT SHALL BE REMOVED AND THE TRAP RETURNED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
2. THE VOLUME OF SEDIMENT STORAGE SHALL BE 1800 CUBIC FEET PER ACRE OF CONTRIBUTORY DRAINAGE.
3. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
4. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION SHALL BE MINIMIZED.
5. THE SEDIMENT TRAP SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE CONSTRUCTED DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
6. ALL CUT SLOPES SHALL BE 1:1 OR FLATTER.

**Figure 3.1-8: Details**

Minisceongo Park

Town of Haverstraw & Town of Ramapo, Rockland County, New York

Source: Atzl, Scatassa & Zigler, P.C., Nov. 23, 2005

Scale: None

**3.2 Surface Water Resources**

**3.2.1 Existing Conditions**

Surface Water Resources

Existing surface water features and drainage areas are shown on the full-scale plan entitled “Minisceongo Park Drainage Map, Existing Conditions, RA Associates” (“Existing Conditions Drainage Map”) that accompanies this DEIS. (Appendix D). The project site contains a wetland complex that surrounds a perennial watercourse, identified as the South Branch of Minisceongo Creek. The on-site wetlands are a portion of the larger NYSDEC Wetland TH-13, which extends downstream from the site for a distance of approximately 0.5 miles. The South Branch has a watershed basin of approximately 5.86 square miles, including the 50.87 acres of upland area on the site that drains to the creek. The creek flows north to a confluence with the North Branch Minisceongo Creek, and the combined streams flow as Minisceongo Creek into the Lower Hudson River at the hamlet of Stony Point, New York.

Letter classes such as A, B, C, and D have been assigned to most inland surface waters in the state, with the highest values assigned to “Class A” waters and the lowest to “Class D” waters. Surface water classifications are presented in Title 6 Chapter X of the New York State Conservation Law, Parts 800-941. “Best uses” assigned to various surface water classifications by NYSDEC are described in Table 3.2.-1. The South Branch (Waters Index Number H-43-1-10) tributary of the Minisceongo is classified as a Class C watercourse. Class C waters are defined in NYS Code Part 701 as having a best usage of fishing and being supportive of fish propagation. The water quality in these streams should also be suitable for primary and secondary contact recreation.

<b>Table 3.2-1 Best Usage of Surface Water</b>		
<b>Fresh Surface Water Classification</b>	<b>Section</b>	<b>Best Usage</b>
<b>A</b>	701.6	The best usages are: a source of water supply for drinking, culinary or food processing purposes; primary and secondary contact recreation; and fishing. The waters shall be suitable for fish propagation and survival.
<b>B</b>	701.7	The best usages are primary and secondary contact recreation and fishing. These waters shall be suitable for fish propagation and survival.
<b>C</b>	701.8	The best usage is fishing. These waters shall be suitable for fish propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.
<b>D</b>	701.9	The best usage is fishing. Due to such natural conditions as intermittency of flow, water conditions not conducive to propagation of game fishery, or stream bed conditions, the waters will not support fish propagation. These waters shall be suitable for fish survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.
Source: Environmental Conservation Law, NYCRR Title 6, Chapter X.		

*100-year Floodplain*

The limits of the 100-year flood plain are shown on Figure 3.2-1. The 100-year flood plain limit coincides with the 395.2-foot elevation, and is associated with the portion of Minisceongo Creek which traverses the westerly portion of the project site. The 100-year flood zones shown on Federal Emergency Management Agency (FEMA) maps for the site are limited to portions of the site which are within the protected NYSDEC wetlands. Figure 3.2-1 reflects the 100-year floodplain as shown on the FEMA Flood Insurance Rate Maps for the Town of Haverstraw (FEMA community Panel Number 360681 0009C) and Town of Ramapo (FEMA community Panel Number 365340 0005C). Other areas of the site are either within FEMA designations of Zone C or Zone X, zones which are described as having “minimal flooding” potential or are fully outside of the 500-year flood areas.

*Existing Stormwater Runoff Conditions*

Drainage from the site in the existing pre-developed condition is collected into two watershed areas, shown as WS#1 and WS #2 on the Existing Conditions Drainage Map.. Stormwater runoff from the Minisceongo Park site flows in a westerly direction through the wetland complex on-site and is conveyed off-site. Watershed area #1 (WS#1) encompasses approximately 34.85 acres in the central to southern portion of the site, while watershed area #2 (WS#2) encompasses 16.02 acres in the central to northern portion of the site<sup>1</sup>. Runoff from WS#1 drains from east to west to the existing wetland complex on the western portion of the site. Runoff from WS#2 also drains from east to west and into the same wetland complex. Stormwater runoff from both areas drain to the South Branch Minisceongo Creek.

Existing runoff rates and volumes from the project site have been calculated for the 1-year, 2-year, 5-year, 10-year, 25-year, 50-year and 100-year storm events. All assumptions for land cover types, soil groups, slopes and curve number calculations are provided in the project engineer’s stormwater management report (Appendix D). Under existing conditions, the site contributes a peak flow of approximately 15.4 cubic feet per second (cfs) for a one-year storm event, to in excess of 135 cfs for the 100-year storm event (Table 3.2-2).

<b>Table 3.2-2 Peak Pre-development Flow Summary for 24-Hour Design Storms (Cubic Feet per Second)</b>							
<b>Design Point</b>	<b>1-Year</b>	<b>2-Year</b>	<b>5-Year</b>	<b>10-Year</b>	<b>25-Year</b>	<b>50-Year</b>	<b>100-Year</b>
WS-1	10.51	21.24	36.95	45.53	63.57	82.49	92.06
WS-2	4.94	9.99	17.39	21.43	29.90	38.79	43.35
Outlet	15.42	31.14	54.34	66.96	93.47	120.97	135.41
Source: Stormwater Management Report, (p.1-26), RA Associates, Consulting Engineers, 2005							

Detailed information pertaining to the existing watersheds and site drainage features is provided in the stormwater management report prepared for this project (Appendix D). The Existing Conditions Drainage Map depicts the existing (pre-development) drainage areas on the project site.

<sup>1</sup> Note: The acreage of the drainage areas will not coincide with the total site acreage. The drainage area acreages include portions of the Barr Labs property to the north and east of the project site, but exclude the areas of the project site to remain undeveloped located west of the Minisceongo Creek stream.

### 3.2.2 Potential Impacts

#### *Direct Impacts to Wetlands and Surface or Ground Waters*

No roads, buildings or other direct impacts to existing surface water features are proposed. There would be no disturbance to the 100-year floodplain. A pipe would be installed within the 100-foot buffer of the NYSDEC-regulated wetland so that flows from Pond #1 could drain to the Minisceongo Creek. Impacts to surface water resources are from the indirect effects resulting from changes to stormwater runoff.

#### *Future Runoff Conditions*

The proposed overall increase in impervious coverage on the project site will result in increases in the rate and volume of stormwater runoff in the absence of appropriate stormwater controls. Changes to the existing drainage patterns of the site will also occur as the land is regraded to construct buildings, parking areas, and roads. If not properly mitigated, these activities could cause stream erosion and flooding due to uncontrolled stormwater increases, and change the hydrology of associated wetlands and floodplains. In order to offset these changes, the design of the development incorporates three stormwater management basins (ponds) and associated dry swales to control and convey stormwater runoff to the South Branch Minisceongo Creek.

A full-scale plan entitled "Minisceongo Park Drainage Map, Development Condition, RA Associates" ("Developed Condition Drainage Map") at accompanies the DEIS (Appendix D) illustrates the post-development drainage areas. The direction of flow for each watershed is shown on the Developed Condition Map (Appendix D) and will be influenced by the final grading of the site that will establish a general slope of 1% from the southwest corner to the northeast corner.

The three proposed detention ponds and their associated dry swales would be located along three boundaries of the site, including one pond that would be located immediately outside of protected wetland areas along the South Branch Minisceongo Creek. Watershed WS#1 would collect runoff from the central portion of the site and drain to Pond 1 that is located west of the NYSDEC regulated wetlands. Watershed WS#2 would collect runoff from the northeast portion of the site and drain to Pond 2. Watershed WS#3 would collect runoff from the eastern portion of the site and drain to Pond 3.

One area, WS#4, consisting of sloped areas between Barr Lab and the northerly property line, will flow along the north side of a proposed berm and then to WS#5. Two of the post-development watershed areas, WS#5 and WS#6, will drain directly into the South Branch Minisceongo Creek. The other three watershed areas will drain into the stormwater basin systems on the site before being discharged to Minisceongo Creek.

Each of the stormwater basins will discharge to the South Branch Minisceongo Creek via outlet control structures that will reduce all post-development peak outflows from the basins and lower the overall site runoff to less than the pre-development runoff from the unconstrained watersheds (Table 3.2-3), thus satisfying the "zero net increase of peak flow" provisions of state stormwater regulations.

<b>Table 3.2-3</b> <b>Peak Flow Comparisons for 24-Hour Design Storms:</b> <b>Pre- and Post-Development Conditions</b> <b>(Cubic Feet per Second)</b>							
	1-Year	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year
Pre-Development	15.42	31.14	54.34	66.96	93.47	120.97	135.41
Post-Development	15.32	26.56	42.07	50.19	66.76	83.90	92.60
Change (CFS)	-0.1	-4.58	-12.27	-16.77	-26.71	-37.07	-42.81
Source: RA Associates, Stormwater Management Report (p.1-43), RA Associates, Consulting Engineers, 2005							

The hydrology report provides details on the post-development drainage basins resulting from the proposed development of the project site. Drawings included with the report depict drainage areas associated with the development and provide information on basin sizing and flow control structures.

There would be no flooding of adjacent properties, including Barr Labs and local downstream areas. All proposed stormwater facilities will result in flows offsite that will be maintained at or below pre-development levels. As indicated by the calculations provided in the stormwater management report, the results of which are summarized in the tables above, the proposed stormwater facilities will meet those standards.

*Water Quality*

The introduction of impervious surfaces and residential or commercial uses may influence the quality of stormwater runoff compared to a site's undeveloped condition. Concentrations and types of pollutants introduced from automobiles, pet waste, herbicide and pesticide application and atmospheric deposition could increase.

The stormwater management plan is required to incorporate structures and methods designed to satisfy provisions specified in the most recent (August 2003) version of the NYSDEC Stormwater Design Manual that incorporates Phase II stormwater regulations.

The NYSDEC Stormwater Management Design Manual presents sizing and performance criteria for developing site-specific stormwater management practices (SMP) that can provide acceptable water quality treatment for stormwater runoff. An acceptable SMP will capture and treat 90 percent of the average annual runoff volume from stormwaters and be capable of removing 80 percent of the Total Suspended Solids and 40 percent of the Total Phosphorous in the runoff water.

As the NYSDEC manual requires that 90% of the average annual runoff volume be treated, this requirement was used to determine the water quality storage volumes for the project site. The sizing and design of the water quality ponds and the conveyance systems were based on these calculated volumes.

The NYSDEC requirement of providing 24-hour detention of the 2-year, 24-hour storm event would be met by the stormwater Best Management Practices (BMPs) designed for this project.

The use of an approved erosion and sediment control plan will incorporate Best Management Practices to comply with NYS regulations for suspended sediment control in runoff water from

construction sites. With proper stormwater management and the use of erosion control BMPs, site development can occur while minimizing or avoiding impacts to downstream receiving waters. The proposed plans are designed to comply with the requirements of the SPDES General Permit for Stormwater Discharges so that such potential impacts are mitigated prior to stormwater discharge into the receiving stream.

As described under "Mitigation" below, the proposal as submitted will mitigate against potential soil erosion and sedimentation by the phasing of site construction, use of rapid site stabilization after grading, provision of lawn and landscaping in disturbed areas, and the use of extended detention basins and other BMPs. These basins are designed to remove up to 80 percent of the remaining suspended sediment load after site stabilization. Sediment loading post construction is not expected to represent an adverse environmental impact to the receiving waters.

Fertilizer and pesticide applications, as conducted by landscape contractors in accordance with state and manufacturer guidelines, are not anticipated to have an impact on water resources on or in the immediate vicinity of the project site.

It is noted that the NYSDOT issued a substantive review letter dated January 26, 2006, which is included in Appendix B of this DEIS. The comments have been addressed through the course of Town reviews and the subsequent revisions that have been made to the site plan since these comments were issued. Upon the Town of Haverstraw's acceptance of the DEIS for public review, the DEIS and plans will be resubmitted to the NYSDOT for any additional comments that agency may have with regard to the proposed project and drainage system.

### **3.2.3 Mitigation Measures**

#### Stormwater Runoff Quality Treatment Measures

The applicant has submitted plans that propose to conform to the criteria established by the NYSDEC. These plans include the use of erosion controls, phased site development and stormwater management practices (SMPs) that are acceptable to the NYSDEC and described in their Stormwater Management Design Manual (August 2003).

The proposed stormwater management design utilizes SMPs to provide acceptable water quality treatment prior to runoff being discharged from the project site. The project proposes to utilize three separate wet extended detention ponds and dry drainage swales, which will be generally located along the perimeter areas of the development. As detailed in Appendix D, each of these stormwater ponds would employ multiple forebays, permanent pools and flow control structures at each pond drain. All three of these wet extended detention ponds were designed in accordance with NYSDEC sizing criteria to treat a portion of the water quality volume by detaining storm flows above a permanent pool for a specified minimum detention time. Also, the proposed wet extended detention ponds are capable of achieving the desired goal of 80 percent TSS and 40 percent TP removal, have exhibited acceptable longevity in the field, and provide pretreatment capabilities. These structures were also designed to provide channel protection as well as overbank and extreme flood attenuation. The proposed pond discharge outlet points, where the collected stormwater runoff will eventually be discharged from the ponds, would be located along the east bank of the South Branch Minisceongo Creek.

Erosion and Sediment Control Measures

A comprehensive erosion control plan will be employed to minimize the potential adverse impacts resulting from the proposed clearing, excavation and grading necessary to undertake the proposed project. The plan will be based on and developed by reference to recent standard regulatory documents, including the 2003 NYSDEC Stormwater Management Design Manual (August 2003) and the US EPA National Management Measures to Control Nonpoint Source Pollution from Urban Areas (November 2005). Erosion control plans for this project are included as part of the site plan and presented in Appendix D. The plan shall incorporate various measures to reduce erosion during construction and trap sediment and prevent it from being carried from areas being actively graded. The measures will be installed in accordance with the New York "Standards and Specifications for Erosion and Sediment Control", dated April 2005. In addition, the project will conform to the Soil Erosion and Sediment Control Law of the Town of Haverstraw (Chapter 140 of the Code of the Town of Haverstraw). Several key measures that are proposed to improve the quality of stormwater discharged from the site and reduce the impact on downstream waters incorporate methods to improve soil stabilization, runoff control and sediment control including:

1. Soil covers/Temporary seeding
  2. Silt fences
  3. Curb inlet protections
  4. Check dams
- **Soil Covers/Temporary Seeding.** Any exposed soils that are exposed and left bare for a periods 15 days which are not being graded, not under active construction for 30 days or more, or not scheduled for permanent seeding within thirty days will be treated. Mulching or hydroseeding will be applied to ground with low slopes that have been stripped of natural vegetation. Riprapping or sodding will be applied to soils for permanent stabilization if conditions warrant.
  - **Silt Fences.** Silt fence will be installed along the toe of slopes below areas to be graded. Silt fence allows runoff to pass through the fabric while trapping coarse sediments. A double row of silt fence will be installed in locations where the topography slopes toward watershed properties.
  - **Curb Inlet Protections.** All active drain inlets will be provided with drain inlet protection during construction. Stone, hay bales, fabric or excavated depressions will be established around inlets to filter sediments from the runoff.
  - **Check Dams.** Temporary check dams are proposed at locations across the downstream end of the future site of wet ponds #2 and #3 to limit erosion by temporarily reducing velocities and capturing any sediment within the over-excavated pond storage areas.

Following final grading operations, topsoil will be spread and the ground surface revegetated promptly using trees, shrubs, ground covers and grasses as set forth in the landscape plan.

The sediment and erosion control plan will be part of the site plan approval and construction bid documents. Therefore, the contractor will be obligated to provide routine inspections by a qualified professional as specified in the New York "Standards and Specifications for Erosion and Sediment Control" to assure the maintenance of each sediment and erosion control

measure throughout all construction phases of the project. Inspections should be conducted weekly, as well as after any rainfall of 0.5 inches or greater. The inspections will continue until the site has undergone final stabilization and the designated project operator has filed a "Notice of Termination" with the NYSDEC.

#### Stormwater Pollution Prevention Plan

As noted, the applicant will submit a Stormwater Pollution Prevention Plan (SWPPP) to the NYSDEC for review and approval. The objective of the SWPPP is to control runoff of pollutants from the project site during and after construction activities by complying with the NY State Pollutant Discharge Elimination System (SPDES) Stormwater Permit for construction activities. The SWPPP will implement the following practices:

- Reduction or elimination of erosion and sediment loading to waterbodies during construction;
- Control of the impact of stormwater runoff on the water quality of the receiving waters;
- Control of the increased volume and peak rate of runoff during and after construction; and
- Maintenance of stormwater controls during and after completion of construction.

The SWPPP will incorporate the proper selection, sizing and siting of the SMPs to protect water resources from stormwater impacts. The design of the proposed SMPs were determined using current engineering methodologies to provide appropriate sizing criteria to avoid overburdening stormwater conveyance structures.

#### Long Term Operation, Maintenance, and Inspection

SMP Stormwater Ponds must be properly operated and maintained if they are to function as intended over a long period of time. The Homeowners Association, which will be responsible for the long-term operation and maintenance of the stormwater ponds for this project, should use the Stormwater Pond Operation, Maintenance and Management Inspection Checklist forms developed for this project and included in Appendix D to document current conditions.

Each of the three wet extended detention ponds should be inspected monthly for the first six months of operation after construction and on an annual basis thereafter. The structure should also be inspected following any major storm rainfall event. Inspection priorities should include checking the embankment for subsidence, erosion, cracking, tree growth, and the presence of burrowing animals. Also, the condition of the emergency spillway and drain; the accumulation of sediment; clogging of the barrel and outlet; the adequacy of erosion control measures in the contributory drainage; and the adequacy of the channel erosion control measures at the outlet should be inspected.

Establishment of trees and woody shrubs should always be prevented on embankments, emergency spillways and buffer areas through periodic mowing (a minimum of six times per year). Debris and litter should be removed from the surface of the pond, surrounding buffer areas, and riser and outlet areas in conjunction with, but prior to, the mowing operations. Accumulated debris and litter should also be removed following any major storm event.

Eroding soils in the drainage area that are contributing to the wet ponds should be stabilized immediately with vegetative or other erosion control practices. Also, soils may slump from areas surrounding the edges of the wet ponds, outer side-slopes or emergency spillways. When this

occurs, corrective measures such as regrading and revegetation may be necessary to maintain stable slopes. Similarly, the riprap protecting the channel downstream from the outlet channel may have to be repositioned and stabilized to maintain effectiveness.

In some instances, insects, weeds, odors and algae may become a problem or nuisance in wet ponds. Problems such as these occur rarely in wet ponds except under extremely dry weather conditions. These nuisance conditions are preferably controlled by using biological controls rather than by the application of chemicals. Biological controls usually involve the introduction of fish to prey on insect larvae in the wet pond. Any introduction of a fish species to a wet pond should be done with the concurrence and approval of the NYSDEC.

The various concrete inlet and outlet control devices and riser structures will deteriorate with time and may need to be repaired or replaced. These concrete structures have a useful design life of approximately 50 to 75 years or longer.

Significant quantities of sediment can accumulate in an extended detention pond. In order to preserve the available stormwater management capacity of a pond, sediment buildup should be properly removed from the forebay areas prior to the accumulation reaching fifty percent of the design depth. While more frequent clean-out may be needed around outlet control structures, a typical clean-out cycle for an extended detention facility should range from 5 to 10 years.

#### Fertilizer Application Mitigation

Applications will be applied by a certified commercial pesticide applicator in a manner that conforms to the requirements of the NYSDEC Regulation 6 NYCRR Part 325 Application of Pesticides. Prior to any pesticide or fertilizer applications, the Homeowners Association will execute a written contract and will verify that the certified commercial pesticide applicator has a valid identification card issued by the NYSDEC.

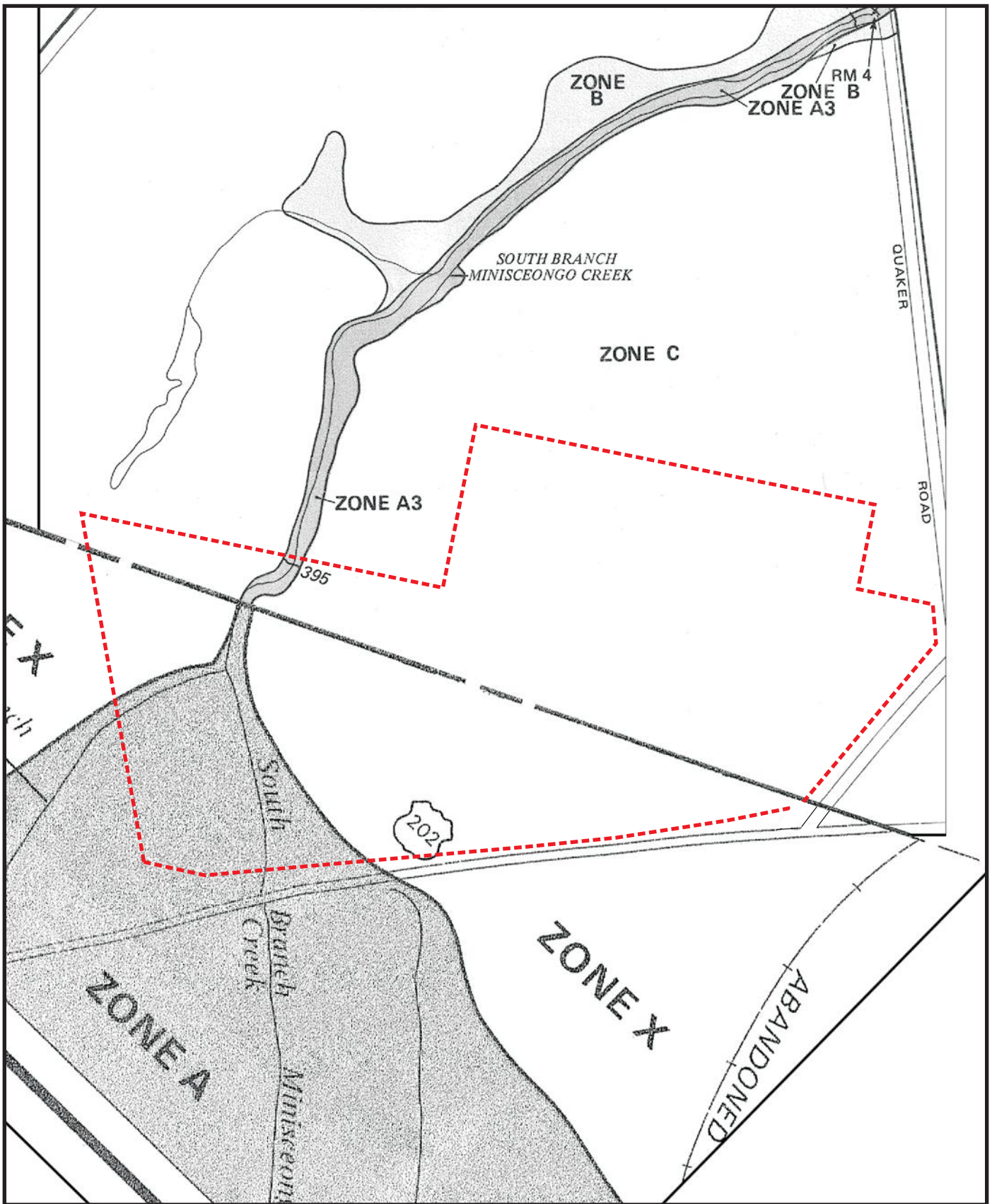


Figure 3.2-1: Project Site on FEMA Map

Minisceongo Park

Towns of Haverstraw & Ramapo, Rockland County, New York

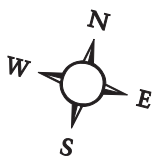
Source: Federal Emergency Management Agency

Flood Insurance Rate Map, Community Panels 360681-0009-C, 365340-0005-C

Scale: 1 inch = 400 feet

KEY

Site Boundary



### **3.3 Ecology and Wetlands**

#### **3.3.1 Existing Conditions**

Site evaluations for vegetation, wildlife and habitat potential were conducted by Bruce Friedmann and Steve Marino of Tim Miller Associates, Inc. Steve Marino is a Senior Environmental Planner and Certified Professional Wetland Scientist with a degree in Biology and 20 years of professional experience. Bruce Friedmann is an Environmental Scientist with a degree in Zoology and over 25 years of professional experience. Wetlands were delineated by Ralph Huddleston of Carpenter Environmental Associates, Inc. in November 2001 and in June 2005.

#### Vegetative Communities and Plant Species

The majority of the 53.3 acre project site exists as non-vegetated or sparsely vegetated flat and mounded areas of rock, earth or fill. There are two dominant vegetative community types on the remaining acreage of the site. These community types are described in the following sections. An aerial photograph showing the existing vegetation on the project site and adjacent areas in the year 2004 is provided in Figure 3.3-1. A list of observed plant species on the project site, including common and botanical names, is included in Table 3.3-1.

The New York State Department of Environmental (NYSDEC) publication "Ecological Communities of New York State" (2002)<sup>1</sup> provides generalized descriptions and classifications of the wide array of different ecological communities found within New York State. Based on the vegetative descriptions in that publication, approximately 38.9 acres of the project site closely matches the description of the "Successional Old Field" ecological community type due to effects of prior mining activities on-site and the present domination of forbs and grasses throughout most of the parcel.

The project site also includes lesser acreage of approximately 13.4 acres that consists of wetlands, including the channel and banks of a portion of the South Branch (NYSDEC Waterbody Index No. H-43-1-10) Minisceongo Creek and associated wooded/shrub land. Based on existing vegetation, these wetlands most closely match the broad ecological community description of "Hardwood Floodplain Forests." These palustrine areas of the site vary from stands of emergent vegetation, primarily common reed (*Phragmites australis*) to thinly forested areas of second growth trees and shrubs dominated by willows (*Salix* spp.), red maple (*Acer rubrum*), ash (*Fraxinus* spp.), hickories (*Carya* spp.) and sycamore (*Platanus occidentalis*), with an undergrowth including dogwoods (*Cornus* spp.) and Japanese barberry (*Berberis thunbergii*).

The remaining acre consists of the automotive repair garage and accessory parking.

#### *Successional Old Field*

Most of the site was previously disturbed by extractive sand and gravel mining operations and the impacts of those operations and the associated surcharging of mined areas have continued to maintain these areas in "old field" conditions. Trees in these areas are present

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<sup>1</sup> Edinger, G.J. et al, eds. 2002. Ecological Communities of New York State. Second Edition. New York Natural Heritage Program, NYSDEC. Albany, NY. 134 pp.

only as isolated individuals or small stands, primarily consisting of poplars (*Populus* spp.) and black locust (*Robinia pseudo-acacia*), pioneer species that provide no continuous areas of forested cover. The herbaceous cover includes mugwort (*Ambrosia vulgaris*), ragweed (*Ambrosia artemisiifolia*), goldenrods (*Solidago* spp.), wild carrot (*Daucus carota*), asters (*Aster* spp.), common evening primrose (*Oenothera biennis*), and several field grasses. Along the south, east, and north boundaries of the old field area is a generally continuous but narrow (less than 50 foot wide) band of forested regrowth. This growth is comprised of a diverse community of shrubs and trees that exist as roadside vegetation along the access ramps and roads that border the property.

Historic records of site vegetation which might be archived by local resource agencies or groups were sought by contacting the Rockland County Division of Environmental Resources and the Rockland Chapter of the Audubon Society. Correspondence from these groups is provided in Appendix B. Table 3.3-1 lists the trees, shrubs, forbs and grasses identified on the site during field visits in Summer/Fall, 2005.

Table 3.3-1 Project Site Vegetation			
Common Name	Scientific Name	Common Name	Scientific Name
Hickory	<i>Carya</i> spp.	Brambles	<i>Rubus</i> spp.
Eastern red cedar	<i>Juniperus virginiana</i>	Morrow's honey suckle	<i>Lonicera morrowii</i>
Black willow	<i>Salix nigra</i>	Smooth sumac	<i>Rhus glabra</i>
Ashleaf maple	<i>Acer negundo</i>	Japanese barberry	<i>Berberis thunbergii</i>
Sugar maple	<i>Acer saccharum</i>	American hackberry	<i>Celtis occidentalis</i>
Crabapple	<i>Malus</i> spp.	Northern bayberry	<i>Myrica pennsylvanica</i>
Eastern cottonwood	<i>Populus deltoides</i>	Autumn-olive	<i>Elaeagnus umbellata</i>
Green ash	<i>Fraxinus pennsylvanica</i>	Burmarigold	<i>Bidens</i> spp.
Flowering dogwood	<i>Cornus florida</i>	Ox-eye daisy	<i>Chrysanthemum leucanthemum</i>
Black locust	<i>Robinia pseudoacacia</i>	Mugwort	<i>Artemisia vulgaris</i>
Grey birch	<i>Betula populifolia</i>	Multiflora rose	<i>Rosa multiflora</i>
Red maple	<i>Acer rubrum</i>	New York aster	<i>Aster novae-belgii</i>
Red-osier dogwood	<i>Cornus stolonifera</i>	Curly dock	<i>Rumex crispus</i>
Quaking aspen	<i>Populus tremuloides</i>	Red clover	<i>Trifolium pratense</i>
Pin oak	<i>Quercus palustris</i>	Goldenrod species	<i>Solidago</i> spp.
Red oak	<i>Quercus rubra</i>	Purple loosestrife	<i>Lythrum salicaria</i>
Catalpa	<i>Catalpa bignonioides</i>	Pennsylvania smartweed	<i>Polygonum pennsylvanicum</i>
Black cherry	<i>Prunus serotina</i>	Common mullein	<i>Verbascum thapsus</i>
Big tooth aspen	<i>Populus grandidentata</i>	Virginia creeper	<i>Parthenocissus quinquefolia</i>
Willow	<i>Salix</i> spp.	Common evening primrose	<i>Oenothera biennis</i>
American elm	<i>Ulmus americana</i>	Self-heal	<i>Prunella vulgaris</i>
White oak	<i>Quercus alba</i>	Queen Anne's Lace	<i>Daucus carota</i>
White mulberry	<i>Morus alba</i>	Bird's foot trefoil	<i>Lotus corniculatus</i>
White ash	<i>Fraxinus americana</i>	Oriental bittersweet	<i>Celastrus orbiculatus</i>
Bebb willow	<i>Salix bebbiana</i>	English plantain	<i>Plantago lanceolata</i>
Sycamore	<i>Platanus occidentalis</i>	Dogbane	<i>Apocynum</i> spp.
Tree of Heaven	<i>Ailanthus altissima</i>	White snakeroot	<i>Eupatorium rugosum</i>
Weeping willow	<i>Salix babylonica</i>	Grape	<i>Vitis</i> spp.
Tussock sedge	<i>Carex stricta</i>	Spotted knapweed	<i>Centaurea maculosa</i>
Woolly grass bulrush	<i>Scirpus cyperinus</i>	Heath aster	<i>Aster ericoides</i>
Common reed	<i>Phragmites australis</i>	Coltsfoot	<i>Tussilago farfara</i>
Chicory	<i>Cichorium intybus</i>	Ragweed	<i>Ambrosia artemisiifolia</i>
Sedge species	<i>Carex</i> spp.	Slender gerardia	<i>Gerardia tenuifolia</i>
Barnyard grass	<i>Echinochloa muricata</i>	Black-eyed Susan	<i>Rudbeckia hirta</i>
Moth mullein	<i>Verbascum blattaria</i>	Common plantain	<i>Plantago major</i>
Climbing false buckwheat	<i>Polygonum scandens</i>	Common milkweed	<i>Asclepias syriaca</i>

Source: Tim Miller Associates, Inc., 2005.

### *Floodplain Forest and Wetlands*

The wooded and shrub wetlands are located near the western portion of the project site on either side of the channel of the South Branch Minisceongo Creek. The wetlands associated with South Branch Minisceongo Creek and its tributaries are bisected by Route 202 and are known locally as "Mt. Ivy Swamp," including the lands of Mount Ivy County Park (Samuel G. Fisher Environmental Park) to the south of Route 202. These wetlands contain a mixture of species including wetland and upland vegetation such as willows, red maple, American elm (*Ulmus americana*), cottonwood (*Populus deltoides*), green ash (*Fraxinus pennsylvanica*), multi-flora rose (*Rosa multiflora*) and common reed (*Phragmites australis*).

The "Floodplain Forest" community type generally maintains a 50 percent or greater closed tree canopy with a moderate amount of understory and herbaceous vegetation. Wooded wetlands are typically comprised of second growth vegetation with many of the trees having an 8-16 inch diameter at breast height (DBH, or approximately at a height of 4 ½ feet). In this size class, trees would be approximately 30 - 50 years old.

The channel of the South Branch Minisceongo Creek where it crosses the site exists as an unconfined riverine community, characterized as very low gradient main channel streams with meanders, high levee banks and typically low flows of temperate and usually turbid water. South Branch Minisceongo Creek is a Class C waterbody in the NYSDEC stream classification system. NYS Environmental Conservation Law (Title 6, Chapter X Section 701.9) defines the best usage of Class C waters as fishing, and further states that water conditions are conducive to both the survival and propagation of game fishes. The water quality is suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.

### Wildlife

The following narrative describes the potential presence of wildlife species on the site based on the particular community types located there. Field observation methods used to collect data included the walking of transects through the site for wildlife observation, observation of biological indices (i.e. scat, prints, carcasses, etc.) and prolonged observation at several locations on the site. Wildlife surveys did not include trapping, mist netting or other means of animal collection to inventory on-site wildlife species.

### *Successional Old Field*

This community type includes only limited areas of shelter or browse for larger mammals such as deer, fox or coyote, although the proximity of these areas to the wetland along Minisceongo Creek provides additional benefit to wildlife by offering a water source and additional forage opportunities. Lack of a significant understory and thickets limits its use as cover for some smaller ground-based creatures. A limited number of trees on the periphery of the site that are either standing dead or damaged may provide limited habitat for a number of cavity dwellers (i.e., owls, chipmunks, etc.). As the tree canopy is not wide or dense, sunlight is promoting the beginnings of an understory of shrub and herbaceous vegetation. This includes the development of thickets, which are valuable to smaller mammal species and many species of birds, particularly songbirds. These thickets provide cover and food sources for a variety of smaller woodland species. Indicators of higher predatory species (i.e., coyote, foxes) have not been found on the site.

Whitetail deer were observed in motion or bedding on the field areas of the property during site visits. It is likely that deer travel through the wooded and wetland portions of the site and use the open areas for foraging as well as bedding.

#### *Wooded and Shrub Wetlands*

Deer scat and beaver-felled trees were observed in the wooded wetlands. These wetlands are also likely to provide habitat for a number of other animal species that are listed in Table 3.3-2.

In addition to the two habitat types listed above, the project site and surrounding properties also contain limited areas of "edge habitat" that occur at the interface of different habitat types (i.e. between woodlands and landscaped areas). These edge habitats are often utilized by foraging wildlife species such as deer, especially during the early morning and evening hours.

Table 3.3-2 includes a list of actual observations and expected occurrences of wildlife species on the project site. Occurrences of wildlife recorded at Mount Ivy County Park are included in the table as they represent more extensive multi-year observations made at a local park resource located approximately 3 miles south of the Minisceongo Park property. That park includes wetlands and palustrine forested areas around headwaters of the South Branch Minisceongo Creek that are similar in nature, although more extensive, than the similar areas on the project site. The Rockland County Chapter of the National Audubon Society has reported 82 species of birds in the vicinity of Mount Ivy County Park.

Based on field observations, mammals that may regularly occur on the project site are likely to include whitetail deer, gray squirrel, eastern chipmunk, raccoon, opossum, deer mouse, and woodchuck. Dominant avian species are likely to include resident songbirds (chickadee, nuthatch, vireos, cardinals, warblers, etc.), downy woodpecker, blue jay, crow, mourning dove, and mockingbird.

All of the dominant species at the site are considered to be highly mobile and generally adaptable to the existing suburban setting of the region. The observed wildlife population densities at the project site are considered to be in the low to normal range. This is attributable to the small size, isolated nature, and predominantly low quality second growth vegetation (predominantly poplar, willow and black locust trees) at the site which limits the diversity and value of the on-site wildlife habitat. The medium density residential suburban setting of the property and its proximity to the Palisades Parkway corridor and commercial developments along US Route 202 also contribute to an expectation of low to moderate wildlife densities.

Table 3.3-2 Project Site Wildlife			
Common Name	Scientific Name	Common Name	Scientific Name
<b>Mammals</b>		<b>Birds (Continued)</b>	
Whitetail deer*	<i>Odocoileus virginianus</i>	Kingfisher	<i>Ceryle</i> spp.
Raccoon	<i>Procyon lotor</i>	Eastern kingbird	<i>Tyrannus tyrannus</i>
Opossum	<i>Didelphis virginiana</i>	Woodcock	<i>Scolopax minor</i>
Gray squirrel	<i>Sciurus carolinensis</i>	Flycatchers	<i>Empidonax</i> spp.
Striped skunk	<i>Mephitis mephitis</i>	Eastern phoebe	<i>Sayornis phoebe</i>
Beaver*	<i>Castor canadensis</i>	Easter wood pewee	<i>Contopus virens</i>
Woodchuck*	<i>Marmota monax</i>	Bank swallow	<i>Riparia riparia</i>
		Brown creeper	<i>Certhia americana</i>
		Veery	<i>Catharus fuscescens</i>
<b>Reptiles</b>		Hermit thrush	<i>Catharus guttatus</i>
Box turtle	<i>Terrapene carolina</i>	Killdeer	<i>Charadrius vociferus</i>
Painted turtle*	<i>Chrysemys picta</i>	Wood thrush	<i>Hylocichla mustelina</i>
Garter snake	<i>Thamnophis sirtalis</i>	Ovenbird	<i>Seiurus aurocapillus</i>
Wood turtle	<i>Coluber constrictor</i>	Warbler	<i>Dendroica</i> spp.
		Red-eyed vireo	<i>Vireo olivaceus</i>
<b>Amphibians</b>		Wren*	<i>Troglodytes</i> spp.
Two-lined salamander	<i>Eurycea bislineata</i>	Great blue heron*	<i>Ardea herodias</i>
Spring peeper	<i>Hyla crucifer</i>	Turkey vulture*	<i>Cathartes aura</i>
American toad	<i>Bufo americanus</i>	Blue jay	<i>Cyanocitta cristata</i>
Northern cricket frog	<i>Acris crepitans</i>	Gnatcatcher	<i>Poliopotila</i> spp.
Pickrel frog	<i>Rana palustris</i>	Common yellowthroat	<i>Geothlypis trichas</i>
Bullfrog	<i>Rana catesbeiana</i>	Eastern screech owl	<i>Otus asio</i>
Green frog	<i>Rana clamitans</i>	Great horned owl	<i>Bubo virginianus</i>
Wood frog	<i>Rana sylvatica</i>	Robin*	<i>Turdus migratorius</i>
		Cooper's hawk	<i>Accipiter cooperii</i>
<b>Birds</b>		Mourning dove*	<i>Zenaida macroura</i>
Ruffed grouse	<i>Bonasa umbellus</i>	Grosbeak	<i>Hesperiphona</i> spp.
Black duck*	<i>Anas rubripes</i>	Pileated woodpecker	<i>Dryocopus pileatus</i>
Wood duck*	<i>Aix sponsa</i>	Yellow-billed cuckoo	<i>Coccyzus americanus</i>
Mallard*	<i>Anas platyrhynchos</i>	Canada goose*	<i>Branta canadensis</i>
Sharp-shinned hawk	<i>Accipiter striatus</i>		
* Direct or indirect observation at the project site. This list includes species observed at the project site and other species reported observed at Mount Ivy County Park. Source: Tim Miller Associates, Inc., 2005.			

The South Branch Minisceongo Creek as it crosses the site is a sluggish waterbody draining a watershed which consists primarily of residential developments, hardwood forests, hardwood swamps and broad wetlands of emergent vegetation. The NYS DEC last sampled this drainage in July, 1936, when the creek waters were still in use for gravel washing operations associated with the local mines. Six fish species were captured by their sampling effort. The fish community in the creek would likely include other representatives of warmwater species common in similar drainages of the Lower Hudson River basin such as sunfishes, catfishes, and minnows (Table 3.3-3). Presently, the NYS DEC includes the main branch of Minisceongo Creek in its Spring trout stocking program with plantings of brown trout (*Salmo trutta*) in the portions of the drainage that originate from Lake Welch in Harriman State Park. The main branch is located 2.5 miles downstream of the site.

Table 3.3-3 Potential Resident and Migratory Fish- South Branch Minisceongo Creek		
Common Name	Scientific Name	Collected by NYS DEC in 1936
Brown bullhead	<i>Ictalurus nebulosus</i>	✓
White sucker	<i>Catostomus commersoni</i>	
Largemouth bass	<i>Micropterus salmoides</i>	
Chain pickerel	<i>Esox americanus</i>	✓
American eel	<i>Anguilla rostrata</i>	
Creek chub	<i>Semotilus atromaculatus</i>	
Comely shiner	<i>Notropis amoenus</i>	
Creek chubsucker	<i>Erimyzon oblongus</i>	✓
Common shiner	<i>Notropis cornutus</i>	✓
Bridle shiner	<i>Notropis bifrenatus</i>	
Golden shiner	<i>Notemigonus crysoleucas</i>	✓
Blunt nose minnow	<i>Pimephales notatus</i>	
Fathead minnow	<i>Pimephales promelas</i>	
Banded killfish	<i>Fundulus diaphanus</i>	
Red breast sunfish	<i>Lepomis auritus</i>	
Pumpkinseed	<i>Lepomis gibbosus</i>	
Bluegill	<i>Lepomis macrochirus</i>	✓
Note: The above list is based on NYS DEC 1936 sampling records and fish species association information provided in: Smith, C.L., 1985. The Inland Fishes of New York State. New York State Department of Environmental Conservation, New York.		

#### Protected Habitats, Natural Communities or Plant/Animal Species

Correspondence from the United States Fish and Wildlife Service (US FWS)<sup>2</sup> lists no habitat in the project area as currently designated or proposed “critical habitat” in accordance with the Endangered Species Act. Correspondence from the NYS DEC Natural Heritage Program (NHP) identifies the existence of an unlisted community type, Rocky Summit Grassland, within a one mile radius of the site. Rocky Summit Grassland is a community type defined by grasslands which occur on rocky summits and slopes sparsely wooded by Eastern red cedar (*Juniperus virginiana*) and red oak (*Quercus rubra*)<sup>3</sup>. The project site does not contain any habitat consistent with this community type.

The US FWS letter indicates that there is potential for two Federally listed species to occur within the project area. These species are the Federally- and New York State-listed endangered Indiana bat (*Myotis sodalis*) and the Federally-listed threatened and State-listed endangered bog turtle (*Clemmys muhlenbergii*). This letter is included in Appendix B.

<sup>2</sup> David Stilwell, US FWS, Cortland, NY, letter dated October 18, 2005.

<sup>3</sup> Edinger, G.J. et al, eds. 2002. Ecological Communities of New York State. Second Edition. New York Natural Heritage Program, NYSDEC. Albany, NY. 134 pp.

*Indiana bat (Myotis sodalis)*

The Indiana bat in New York overwinters in the caves or mines of five counties, all to the north of Rockland County. In springtime, migrations of 40 miles or more are made to summer roosting areas. The US FWS letter indicates that the nearest overwintering location for Indiana bat is located in Ulster County, approximately 48 miles from the project site and identifies the nearest summer roosting locations for Indiana bat to be approximately 17 miles from the property. Summer roosts and nursery and feeding activity are associated with forested and old field or riparian habitats. Preferred forested roosting habitat includes the presence of medium to large trees with snags or strongly exfoliating bark and/or dense stands of evergreen trees. The likelihood of any bat usage of the subject site is considered to be extremely low.

*Bog turtle (Clemmys muhlenbergii)*

The US FWS letter indicates that the nearest known population of bog turtle is within ten miles of the project site. The bog turtle is a semi-aquatic species, preferring habitat with cool, shallow, slow-moving water, deep soft muck soils, and tussock-forming herbaceous vegetation. Nesting typically occurs on top of relatively tall and sparsely vegetated tussocks while shrub and tree root systems are frequently associated with hibernation sites. The subject site does not contain the habitat needed to support bog turtles.

*Gray petaltail (Tachopteryx thoreyi)*

The NHP database identified one state-listed animal species recorded within the vicinity of the project site, a petaltail dragonfly, the gray petaltail (*Tachopteryx thoreyi*).

According to NHP records, the gray petaltail is an unlisted species of special concern that has been reported in the Town of Ramapo. The gray petaltail has been reported from seven counties in New York State, including Orange and Rockland County, and the four northern counties in New Jersey. It is a large dragonfly with individuals obtaining lengths of greater than three inches and wing spans greater than two inches. The species is considered to be quite habitat specific, with a preference for forested habitats, utilizing tree trunks for perching and breeding in cold water seeps.

*Willdenow's sedge (Carex willdenowii var. willdenowii)*

The NHP database identified historical findings for only one state-listed plant species, Willdenow's sedge (*Carex willdenowii var. willdenowii*), within the immediate vicinity of the project site. The NHP letter is included in Appendix B.

According to NHP records, Willdenow's sedge is a state-protected species due to its status as a threatened plant. Its last recorded local sighting occurred prior to 1875 at an undisclosed location in the Town of Haverstraw. This eight inch tall plant is an herbaceous perennial graminoid species with characteristics typical of sedges, including narrow grass-like leaves and triangular stems. The Plants Database of the United States Department of Agriculture describes it as an unlisted species by the Federal government, with a range extending through 24 states, from New England in the northeast to Texas and Florida in the south. Its diagnostic characteristics include its dry woodland habitat and its generally small vegetative and fruiting stages. *Carex willdenowii* is typically found on upland

ridge tops and adjacent high slopes in dry-mesic deciduous forests and where soils are silty/clay acidic loams<sup>4</sup> The NYS DEC reports that it has recently searched two sections of Haverstraw for the species without finding any specimens.

### Wetlands

A detailed wetland delineation was conducted on the project site in accordance with both the US Army Corps of Engineers (ACOE) as well as the New York State Department of Environmental Conservation guidelines. The Corps of Engineers Wetland Delineation Manual (Environmental Laboratory, 1987) and supplemental guidelines were used to delineate federal wetlands pursuant to the ACOE. The NYSDEC Freshwater Wetland Delineation Manual (1995) was used to delineate state wetlands. The Town of Haverstraw Town Code has freshwater wetlands protection provisions which incorporate by reference Article 24 of the NYS Environmental Conservation Law.

As recommended in the guidelines, available data on the site were obtained from US Geological Survey quadrangle maps, US Fish and Wildlife Service National Wetlands Inventory Maps (NWI), NYSDEC Freshwater Wetland Maps, US Department of Agriculture Soil Survey maps for Rockland County and other relevant sources.

The NWI maps show the general configuration, location and category of wetlands found within a given area of coverage. The NWI wetland map for Thiells, New York (on a 7.5 minute USGS topographic base) includes the project site and adjacent lands (Figure 3.3-2).

The NWI map for the region shows seven distinct wetland systems in or extending upon the project site. The largest of these are three adjacent areas of Palustrine Emergent or Scrub-Shrub wetlands identified in the western portion of the site along the South Branch Minisceongo Creek. These areas are identified as persistent wetlands which are temporarily or seasonally flooded. A small area of Palustrine Semi-permanently Flooded and Excavated wetland is shown spanning the north-central portion of the site. The remaining three NWI identified wetlands were small Palustrine Emergent or Scrub-Shrub Seasonally Flooded wetlands shown in the eastern portion of the site.

Because the NWI maps are limited in precision by their scale (1:24,000) and by the identification method used, the presence and boundaries of wetlands shown on the NWI maps need to be more precisely verified in the field. Commonly, small wetland areas, and, less frequently, large wetland areas are not precisely located on NWI maps and may not be wetlands that exhibit the three parameters set forth in ACOE guidance.

The NYSDEC is responsible for mapping larger freshwater wetlands that are 12.4 acres in size or greater, or some smaller wetlands that are of unusual local importance (Environmental Conservation Law, Article 24). The NYSDEC Freshwater Wetlands Map for Thiells, New York covers the site area (Figure 3.3-3). The NYSDEC Freshwater Wetlands Map identifies a single wetland (TH-13) extending onto the western portion of the site.

Wetlands were delineated on the site in June 2005, by CEA, Inc. NYSDEC has subsequently visited the site to re-verify the location of the wetlands. Recertification of the wetland boundary is in process and a NYSDEC signed map validating the wetland boundary will be

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<sup>4</sup> Naczi, R.R.C., A.A. Reznicek, and B.A. Ford. 1998. Morphological, geographical, and ecological differentiation in the *Carex willdenowii* complex (Cyperaceae). *Am. J. Botany* 85(3):434-447.

submitted to the Lead Agency upon receipt. The locations of these delineated wetlands are shown on Figure 3.3-4. During the delineation survey it was determined that areas of wetlands on this property were less frequent than the NWI mapping indicated, and no areas of wetland were delineated in the eastern portion of the site. Surface drainage from all wetlands and other portions of the site presently runs to the South Branch Minisceongo Creek.

The largest area delineated was designated Wetland A, and is part of the eastern portion of the NYS DEC designated wetland, TH-13. Two smaller areas, identified as Wetland B and Wetland C, are associated with drainage ditches and structures which are located along the northern boundary of the property. Each of these two wetlands extends off site as portions of the larger wetland complex. In total, there are approximately 13.4 acres of wetlands on the project site.

New York Environmental Conservation Law (NYS ECL) cites the natural resource benefits of wetlands to include various provisions of flood protection, wildlife habitat, open space uses and water resource protection. Wetland A includes a portion of the South Branch Minisceongo Creek and is the largest and only wetland with permanent surface water on this site. These characteristics allow Wetland A to be considered to provide greater wetlands benefits than the two smaller wetlands.

Wetland A is also included within the larger NYS DEC Wetlands TH-13 that extends downstream from the site, alongside either bank of South Branch Minisceongo Creek. TH-13 is classified by the state as a Class II wetland. NYS ECL ranks all State wetlands into one of four regulatory classes (from Class I, that supply greatest wetlands benefits, to Class IV) depending on the relationship of any wetland to each of nine identified areas of wetland benefits. A Class II NYS DEC designation is conferred on any State wetland that has at least one of 17 ecological characteristics as listed in Part 664.5 of the NYS Environmental Conservation Law. TH-13 is ranked as Class II due to its connection to the permanent open water of the South Branch Minisceongo Creek. Certain activities proposed within the 100-foot buffer surrounding the wetland are regulated by the NYSDEC.

Wetland B and Wetland C are each much less than a quarter acre in size on the property and their smaller sizes and lack of permanent standing water limits their value in contributing to local wetlands benefits. An assessment of the on-site wetlands with respect to the nine freshwater wetland benefits identified in Article 24 of the NYS Environmental Conservation Law is provided in Table 3.3-4.

<b>Table 3.3-4 Assessment of On-site Freshwater Wetland Benefits</b>			
<b>Freshwater Wetland Benefit</b>	<b>Wetland A</b>	<b>Wetland B</b>	<b>Wetland C</b>
1) Flood and storm control by the hydrologic absorption and storage capacity of freshwater wetlands.	High	Medium	Low
2) Wildlife habitat by providing breeding, nesting and feeding grounds and cover for many forms of wildlife, wildfowl and shorebirds, including migratory wildfowl and rare species such as the bald eagle and osprey.	High	Low	Low
3) Protection of subsurface water resources and provision for valuable watersheds and recharging groundwater supplies.	High	Medium	Low
4) Recreation by providing areas for hunting, fishing, boating, hiking, bird watching, photography, camping and other uses:	Medium	N/A	N/A
5) Pollution treatment by serving as biological and chemical oxidation basins.	High	High	Medium
6) Erosion control by serving as sedimentation areas and filtering basins, absorbing silt and organic matter and protecting channels and harbors.	High	High	Medium
7) Education and scientific research by providing readily accessible outdoor bio-physical laboratories, living classrooms and vast training and education resources.	Low	Low	N/A
8) Open space and aesthetic appreciation by providing often the only remaining open areas along crowded riverfronts and coastal regions.	Medium	N/A	N/A
9) Sources of nutrients in the freshwater food cycles and nursery grounds and sanctuaries for freshwater fish.	High	N/A	N/A
Sources: Environmental Conservation Law, Article 24, Title 1, Section 24-0105-7 and Tim Miller Associates, Inc., 2005.			

### 3.3.2 Potential Impacts

#### Vegetation

The project is not expected to result in the loss of any significant woodlands. As previously noted, the trees on the project site are generally smaller, second growth deciduous trees existing as successional woodland on embankments along the road corridors bordering the site. Tree protection measures would be implemented to save trees that exist near the limits of disturbance on the boundaries of the Minisceongo Park development.

Development of Minisceongo Park would result in an overall net reduction in some marginal habitat of successional fields, but would preserve all of the existing riparian habitat associated with the South Branch Minisceongo Creek watercourse (Figure 3.3-4).

Approximately 35.6 acres (88 percent) of the existing old field habitat on the site would be disturbed, while all of the 13.4 acres of wetlands and the 100 foot adjacent lands around the wetlands would be protected. The land cover in the post-development condition is illustrated in the Landscape Plan in Section 3.10 of the DEIS.

The total disturbance represents approximately 35.6 acres (65 percent) of the site. The existing vegetative cover and habitat on the remaining 17.7 acres (35 percent) of the site would not be disturbed by the project. The proposed areas of disturbance are summarized in Table 3.3-5. Most of the disturbed habitat consists of successional old field areas.

<b>Table 3.3-5 Existing and Proposed Approximate Land Coverage</b>				
	Existing		Proposed	
	Acres	Percent	Acres	Percent
Meadowland/brushland/old field	38.9	73.0	4.3	8.1
Wetlands	13.4	25.1	13.4	25.1
Impervious Areas (includes buildings, driveways, sidewalks)	1.0	1.9	17.9	33.6
Landscaping/re-vegetated areas (includes basin plantings)	0.0	0.0	17.7	33.2
		100.00		100.00
Source: Tim Miller Associates, Inc., 2005.				

*Willdenow's sedge (Carex willdenowii var. willdenowii)*

Review of the NHP database search indicates that there are no state protected significant habitat or community types on this property. No state listed rare or endangered plant or animal species have been identified on the site by the NYS DEC<sup>5</sup> or were observed during visits to the site by project consultants.

Willdenow's sedge was not observed on the project site. Given the very lengthy period of time (>125 years) since the last recorded sighting in Haverstraw and the fact that the site does not contain habitat associated with this sedge, the species is not expected to be encountered on the project site.

Wildlife

From a habitat perspective, the aerial view of the project site (see Fig. 3.3-1) shows that it is isolated from other larger open space areas by existing highway and commercial developments. Nearby residential and nonresidential developments along US Route 202, Quaker Road and the Palisades Interstate Parkway separate the site from the larger wetlands complex and forested habitat areas in the parklands located in this area of the county, including Mt. Ivy County Park, South Mountain County Park and Cheesecote Mountain Town Park. The old field habitat that predominates on the site is of marginal value to wildlife, as it consists of mined and surcharged areas of poor soils and low plant diversity. Areas along the South Branch Minisceongo Creek with its associated wetlands, Carlisle muck soils and wetland buffer zones provide a more diverse plant community that is not to be directly impacted by project development.

Due to the small area (53.3 acres) of the site and the suburban landscape that surrounds it, the overall diversity of wildlife in the area is expected to be low and dominated by generalist species capable of tolerating human contact. Such species include small mammals like chipmunks (*Tamias striatus*), gray squirrels (*Sciurus carolinensis*), raccoons (*Procyon lotor*), opossums (*Didelphis virginiana*), cottontail rabbits (*Sylvilagus floridanus*), deer mouse (*Peromyscus maniculatus*) and woodchucks (*Marmota monax*).

As noted above, the acreage of the site is significantly smaller than the home range of deer, that travel continuously for food and cover. By itself, the site under existing conditions, as well as post-development conditions does not "support" deer populations, although deer certainly do and would continue to occur on the site. With the proposed development, it is

<sup>5</sup> Charlene Houle, NYS DEC Natural Heritage Program, letter dated September 9, 2005.

likely that deer would occur less frequently on the site due to the reduction in browse and the increased human activity. Deer would continue to pass through neighboring properties.

In general, as a project site is developed, some species would relocate to similar habitats off-site. The composition of the wildlife population on the project site may be altered immediately adjacent to developed areas, as species able to adapt to a suburban environment (such as raccoons, opossum, woodchucks, mice, songbirds, etc.) would have a greater ecological advantage in comparison to species that are less tolerant of human activity.

*Indiana bat (Myotis sodalis)*

Indiana bats have not been observed on the Minisceongo Park site. An on-site survey was conducted in September 2005 within the areas of the property's successional fields, riparian areas and wetlands and "border" woodland to determine the presence or absence of large- or small-scale habitats that could be used to sustain populations of Indiana bats. The successional fields and border woodland are located on the central and eastern portions of the property. The riparian lands are associated with Minisceongo Creek and wetlands along the western portion of the property, although none of these areas are to be impacted directly by project construction activities. The following describes the factors in determining the potential presence of this species.

- Overwintering - The USFWS letter identifies that the nearest overwintering location for Indiana bat is located in Ulster County, approximately 48 miles from the project site. The project site offers no exposed rock cave or crevices which might be utilizable as roosts for this species.
- Nursery/Summer roosting - The USFWS letter identifies the nearest summer roosting locations for Indiana bat to be approximately 17 miles from the property. Indiana bats have been reported to exploit several tree species for summer and nursery roosts, including deciduous trees with strongly exfoliating bark, coniferous trees providing dense shelter from wind and rain, and dead trees or branches which provide snags. There is the potential for the species to exist in the area as a migrant or seasonal resident during dispersal from winter roosts. However, the overall composition of the tree community in the areas observed during this survey is not compatible with the reported summer and nursery roosting preferences reported for Indiana bat. The dominant tree species observed during the survey were poplars and willows. One tree species frequently, but not always, cited as generally useful for nursery roosts is the shagbark hickory (*Carya ovata*). The shagbark hickory is broadly endemic throughout most of New York State. However, no hickories were identified as shagbark hickories on the site during the field visit. Dead or dying trees with snags also may provide roost sites, however no large trees on site were observed to have snags or large cavities. Stands of coniferous trees may provide shelter from inclement weather for bats. However, few conifers are present on the site, and these are almost exclusively represented by isolated specimens of Eastern red cedars (*Juniperus virginiana*), one of the smaller eastern conifers.
- Foraging - Foraging habitat for insectivorous bats exists over and under forest tree canopy and over riparian, open water and field areas. The site does provide areas of each of these potential foraging habitats for bats.

*Bog turtle (Clemmys muhlenbergii)*

Bog turtles have not been observed on the Minisceongo Park site. Based on the indicators observed during field visits to assess the habitats present on the site, none of the three criteria for suitable bog turtle habitat (presence of cool, shallow, slow-moving water, deep soft muck soils, and tussock-forming herbaceous vegetation) are met by the wetlands on or immediately adjacent to the site. The limited and seasonal presence of surface water outside of the deep channel of the creek and the coarse texture of the soils of the property and the adjacent buffer areas are not considered adequate to meet bog turtle general foraging and burrowing needs. Nor was it observed that the on-site portion of these wetlands contains the structural features required to support nesting, which typically occurs on top of relatively tall and sparsely vegetated tussocks.

*Gray petaltail (Tachopteryx thoreyi)*

Gray petaltail have not been observed on the Minisceongo Park site. Due to prior mining disturbances, the site does not contain the coldwater seeps and Piedmont forested habitat that would be preferred by this species (NYSDEC Comprehensive Wildlife Conservation Strategy (draft), 2005). Thus the species is not expected to be resident or likely to be encountered on the site.

Project specific site walks and searches of natural resource agency records have not shown that any protected wildlife species has been reported or observed on the project site.

The Minisceongo Park development would not preclude future use of the developed and undeveloped portions of the property by most wildlife species now reported from the area.

Stream Corridor Impacts

Several physical features act to limit the habitat complexity, and thus the potential fishery resource, of this reach of the South Branch Minisceongo Creek. For one, this portion of the stream has a very sluggish current due to the gentle grade and mostly uniform stream bed. Important fish habitat features such as fast flowing riffles and cascades are lacking from this section of South Branch Minisceongo Creek. Such slow flowing and stagnant water environments tend to have a more limited oxygen supply, and thus support communities with a low diversity of tolerant fish species. Additionally slower stream typically have bottoms with finer, muddier sediments that limit spawning habitat for fish species that prefer rocky, more vegetated and more oxygenated environments for egg laying. In addition, the abundance and diversity of aquatic macroinvertebrates is frequently limited in streams with silty bottoms and slow currents. These organisms, when present, are an important food resource for many fish species.

Stormwater emitted from stormwater detention basins on the site may be warmer or cooler during summer and winter than the water of the South Branch at the point of discharge to the creek. Discharges from these basins are subject to state regulations (NYCRR §704.2) that require thermal discharges to surface waters of New York State be capable of retaining the natural seasonal and daily fluctuations within receiving waters.

The removal of stream side vegetation can result in a variety of impacts to a stream ecosystem and the organisms that inhabit it. One of the most significant impacts is thermal degradation. Shading by a riparian forest canopy helps regulate a stream's water

temperature and minimize temperature extremes. In particular, the loss of stream side canopy cover can result in higher maximum temperatures in summer. Higher water temperatures may directly reduce the diversity of fish within a stream or may affect fish indirectly by effects such as lowering the dissolved oxygen content of the water and increasing ammonia toxicity.

According to the current site plan, all trees west of South Branch Minisceongo Creek and those within the wetlands or the wetlands buffer zone along the eastern side of the stream would not be disturbed during the construction of the development. As such, impacts associated with the loss of stream side vegetation, particularly thermal degradation, are not anticipated as a result of this project.

#### Wetland and Buffer Area Disturbances

The proposed project would not disturb any on-site regulated NYSDEC freshwater wetlands or the 100-foot buffer area of the wetlands except for a stormwater discharge pipe that would extend into the buffer to discharge to the creek.

If the final approved plan for this project includes an impact to greater than one-tenth of an acre of federally regulated wetland, the Corps will be notified via a pre-construction notification (PCN), as required by the current nationwide permits.

#### Short-term and Long-term Modifications to Wetlands Functions

The project would not result in any short-term or long-term modifications to the functions of on-site wetlands.

Indirect impacts that could result from the Minisceongo Park development would include potential water quality impacts associated with uncontrolled discharge of stormwater runoff. To address this potential impact, a stormwater pollution prevention plan (Appendix D) has been prepared and is described under "Mitigation Measures" below which provides physical and biological controls over the post-development runoff rates and water quality conditions.

#### Description of Required Permits

The development will require a NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities (Permit No. GP-02-1) as it proposes to disturb more than one (1) acre of land. In addition, the project must conform to the Soil Erosion and Sediment Control Law of the Town of Haverstraw (Chapter 140 of the Code of the Town of Haverstraw).

There are no direct impacts proposed to Wetlands A, B and C. Additionally, there are no direct impacts to the NYSDEC Adjacent Area (100 foot buffer) around these wetland other than the siting of the discharge point of one of the on-site stormwater basins within the buffer of Wetland A. For this siting, a NYSDEC freshwater wetland permit and a Rockland County Drainage Agency permit would be obtained.

### Qualitative Analysis of Construction-Related Impacts

Erosion and sedimentation from lands cleared during development can cause indirect impacts to adjacent wetland areas. A Soil Erosion and Sediment Control plan is provided with the site plan and described in Section 3.1 of the DEIS.

Although construction of the project would require significant regrading over most of the central and eastern portions of the site, existing drainage patterns would generally remain the same, with all drainage occurring to the South Branch Minisceongo Creek to the west. However, as a result of additional impervious area, more surface runoff would occur and stormwater basins would be developed to control runoff characteristics. A hydrologic analysis has been prepared to estimate the increase in runoff from the proposed development. Peak rates of surface runoff would significantly increase on both the eastern and western portions of the site if not mitigated.

The proposed development would also increase pollutant loadings found in site stormwater runoff. During construction activities, potential short-term effects from regrading and stockpiling of soil materials can impact surface water quality by the loss of sediment and suspended solids to on-site and downstream waters. Long-term impacts to surface water quality can result after developments are completed and operational. Increases in levels of pollutants typically associated with residential and commercial land use activities, including stormwater runoff from pavements, rooftops as well as landscaped areas can be expected if not properly mitigated.

#### **3.3.3 Mitigation Measures**

Mitigation measures can be adopted which can reduce or avoid potential significant adverse environmental impacts. The project sponsor is committed to minimizing impacts to wetlands attributable to construction and development activities. The development team has designed the project to reduce or avoid all direct impacts to wetlands and wetland buffer zones. Some of these measures are identified and addressed below, while others are derived indirectly after mitigation of other potential impacts of the project, such as alterations to surface waters, soils or the visual landscape, and are presented in other sections specific to those topics.

#### Stormwater Pollution Prevention Plan

To address impacts to surface water quality, stormwater quality measures have been engineered in accordance with NYSDEC requirements. The designs would incorporate the standards presented in the latest New York State Stormwater Management Design Manual (August 2003). Three stormwater detention basins with forebays would be created on the site. The plan is presented in Appendix D of the DEIS.

The three proposed water quality basins would include wetland plantings selected for enhancing water quality improvements and wildlife benefits. Although not proposed as wetland mitigation, these created ponds would provide comparable functions and values as some of the wetlands in the area, and would generally compensate for any minimal impacts to these wetlands. All water discharged from the water quality basins would flow to the South Branch Minisceongo Creek, similar to the pre-development drainage pattern of the site.

These basins would each be designed to provide water quality benefits to the runoff water. The three stormwater detention basins have individual storage volumes of 3.57 acre-feet, 1.14 acre-feet and 1.94 acre-feet, or a total storage volume of approximately 2,170,000 gallons of stormwater runoff.

The outflow features of the basins will allow them to function as detention basins in order to attenuate the post-development stormwater peak discharges to pre-development levels for rain events up to the magnitude of the regional 100-year storm. The calculated 100-year peak runoff from the basins for the developed condition of the site is 92.6 cubic feet per second (CFS), which is less than the existing runoff rate of 136.0 CFS from the site.

#### Erosion and Sediment Control Plan

Erosion and sedimentation from construction and development are potential indirect impacts to adjacent wetland areas. An Erosion and Sediment Control (ESC) plan has been developed and provided on the site plan. All soil erosion and sediment controls would be installed in accordance with Best Management Practices, Rockland County Soil Conservation Service, and the town municipal codes.

The development will require a NYS DEC SPDES General Permit for Stormwater Discharges from Construction Activities (Permit No. GP-02-1) as it proposes to disturb more than one (1) acre of land. In addition, the project must conform to local code, including the Soil Erosion and Sediment Control Law of the Town of Haverstraw (Chapter 140 of the Code of the Town of Haverstraw). The Town's law requires that the applicant submit a ESC plan to the Town Engineering Department for review and approval prior to issuance of a land disturbance permit from the Town. The purpose of these approvals is to ensure that all potential soil erosion impacts are mitigated through the preparation of an appropriate erosion and sediment control plan.

The primary aim of the ESC plan is to minimize the potential for soil erosion from areas exposed during construction and prevent sediment from reaching the downgradient wetlands and watercourses. Erosion and sediment control measures would be placed in accordance with the specifications on the construction drawings. Perimeter silt fencing would be installed prior to any other construction activities and the development of major soil erosion and sedimentation controls such as runoff swales and temporary sedimentation basins would be completed prior to the commencement of significant land clearing operations. The areas of the site disturbed during development would be contained within three subareas, each of which would drain into a temporary silt/sedimentation pond. The temporary ponds would be in the locations of the permanent basins to be used for stormwater control. Future stormwater basins that are to act as temporary sediment traps during the construction phase would be over-excavated initially to provide extra volume for sediment entrapment. Temporary soil coverings such as mulching, seeding, or the placement of erosion control matting would be established and maintained in good condition and left in place until permanent vegetative cover is established.

The construction contractor will be responsible for installing all sediment and erosion control measures and maintaining them throughout the entire construction process. These measures will be monitored during construction by the project engineer, and representatives of the Towns.

The proposed ESC plan would minimize the area of soil exposure an any time to the greatest extent practicable in accordance with the conditions of the NYS DEC SPDES general permit for stormwater control. Controls specified on the ESC plan would be developed specifically for this project to provide both temporary controls during the construction period and permanent controls to be in place and functioning at the completion of construction.

As described in Chapter 3.1 and depicted on the full size plan, the ESC plan would include guidelines and controls for conducting construction elements such as:

- Installation of protective fencing around trees and other features to be preserved.
- Installation of temporary perimeter silt fencing around the construction area.
- Installation of temporary swales and berms as needed to direct runoff to temporary sediment traps during construction.
- Clearing and grubbing of vegetation, removal of existing structural debris.
- Provision of temporary sediment protection at all stormwater inlets.
- Maintenance of silt fence barriers, sediment traps, and other erosion control measures in working order throughout the construction period.
- Planting, seeding or paving of all disturbed areas in a timely manner to prevent or minimize erosion.
- Construct of permanent water quality and detention basins.
- Monitoring all provisions over time to ensure successful establishment of all landscape plantings and other permanent erosion control measures at the site, including the prompt stabilization and restoration of damaged plantings and seeded areas.

To mitigate for increased surface runoff, stormwater facilities have been engineered to prevent impacts to on-site wetlands and downstream areas. All stormwater basins are designed as detention ponds in order to reduce post-development peak flow rates from the site to levels below existing rates.

#### Utilization of Existing Cleared Areas

To reduce the loss of wildlife or vegetative habitat from land development, disturbance can be focused within portions of a property that have been previously disturbed or cleared and where the ecological integrity has remained compromised as a result of such previous disturbances.

On this project site, almost the entire property to be developed consists of sparsely vegetated successional old field habitat. By restricting development to these more marginal areas of the site and the narrow strip of wooded land along the roadways/driveways adjacent to the property, no adverse wildlife impacts are expected to occur related to the loss of any significant habitat areas.

### Establishment of Clearing and Grading Lines

Clearing limit lines would be established in the field on the site prior to commencing any construction activities (Chapter 3.1). No significant trees in healthy condition beyond these limits would be disturbed. These limits would be delineated by silt fencing or similar methods. The establishment of disturbance limit lines is an effective way to reduce potential impacts during construction activities. In particular, the clearing limit lines will protect any potential disturbances to the on-site NYSDEC regulated wetlands and the associated 100-foot buffer.

### Implementation of a Landscape Plan

A conceptual landscape plan is provided as Figure 3.10-13 of the DEIS. The project includes lawn and landscape and stormwater basin plantings that would include a mixture of native and ornamental species. While less valuable to some wildlife as the existing old field habitat, the trees and shrubs planted in accordance with the landscape plan provide both food and nesting sites for squirrels, songbirds and other avian species that are tolerant of man-made landscapes. While the site is not large enough to support a resident deer population under existing or proposed conditions, it is likely that deer would continue to browse on the site. As the site plan progresses through the site plan review stage, landscape plantings will be selected for foraging and other wildlife benefits they may provide.

With the proposed preservation of the wetlands and the stream corridor and the creation of three vegetated stormwater basins on the perimeter of the property, the quality of foraging habitat for insectivorous bats would be minimally impacted by the project development. The replacement of existing areas of upland old field habitat by the creation of open-canopy wetland areas within the water quality ponds of the three stormwater basins would provide additional foraging and nesting opportunities for some of the smaller species of animals which presently inhabit the nearby more extensive wetlands of the South Branch watershed.

Fertilizer and pesticide applications conducted as part of any landscaping maintenance program are not anticipated to have an impact on water resources on or in the immediate vicinity of the project site. Applications must be applied by a certified commercial pesticide applicator in a manner that conforms to the requirements of the NYSDEC Regulation 6 NYCRR Part 325 Application of Pesticides. Prior to any pesticide or fertilizer applications, the Homeowners Association should execute a written contract and should verify that the certified commercial pesticide applicator has a valid identification card issued by the NYSDEC.

### Screening to Reduce Impacts on Neighboring Properties

As shown on the conceptual landscape plan, evergreen and deciduous plants are proposed to be installed along the perimeter of the site adjacent to the neighboring properties and roadways to maintain a visual vegetative buffer from off-site view points. The addition of evergreen plantings along the existing narrow strip of deciduous tree/shrub embankment would enhance the value of this habitat for small mammal and bird species, as evergreen plantings would provide enhanced cover and shelter opportunities, especially during inclement weather and winter months.



Figure 3.3-1: Aerial View of the Project Site  
Minisceongo Park

Towns of Haverstraw & Ramapo, Rockland County, New York

Source: NYS GIS Clearinghouse 2004 Aerial

Approx. Scale: 1 inch = 660 feet





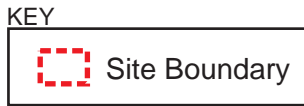
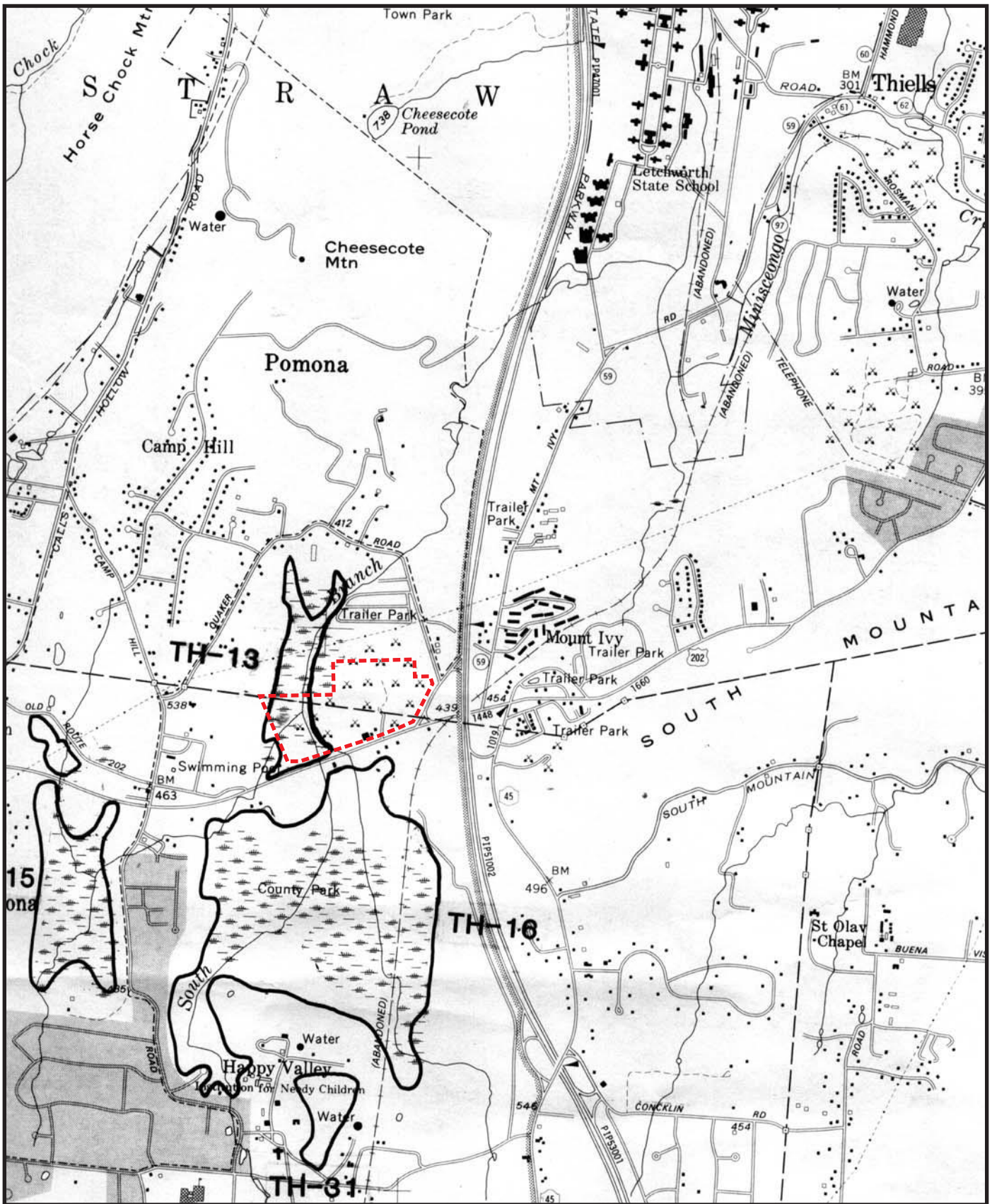
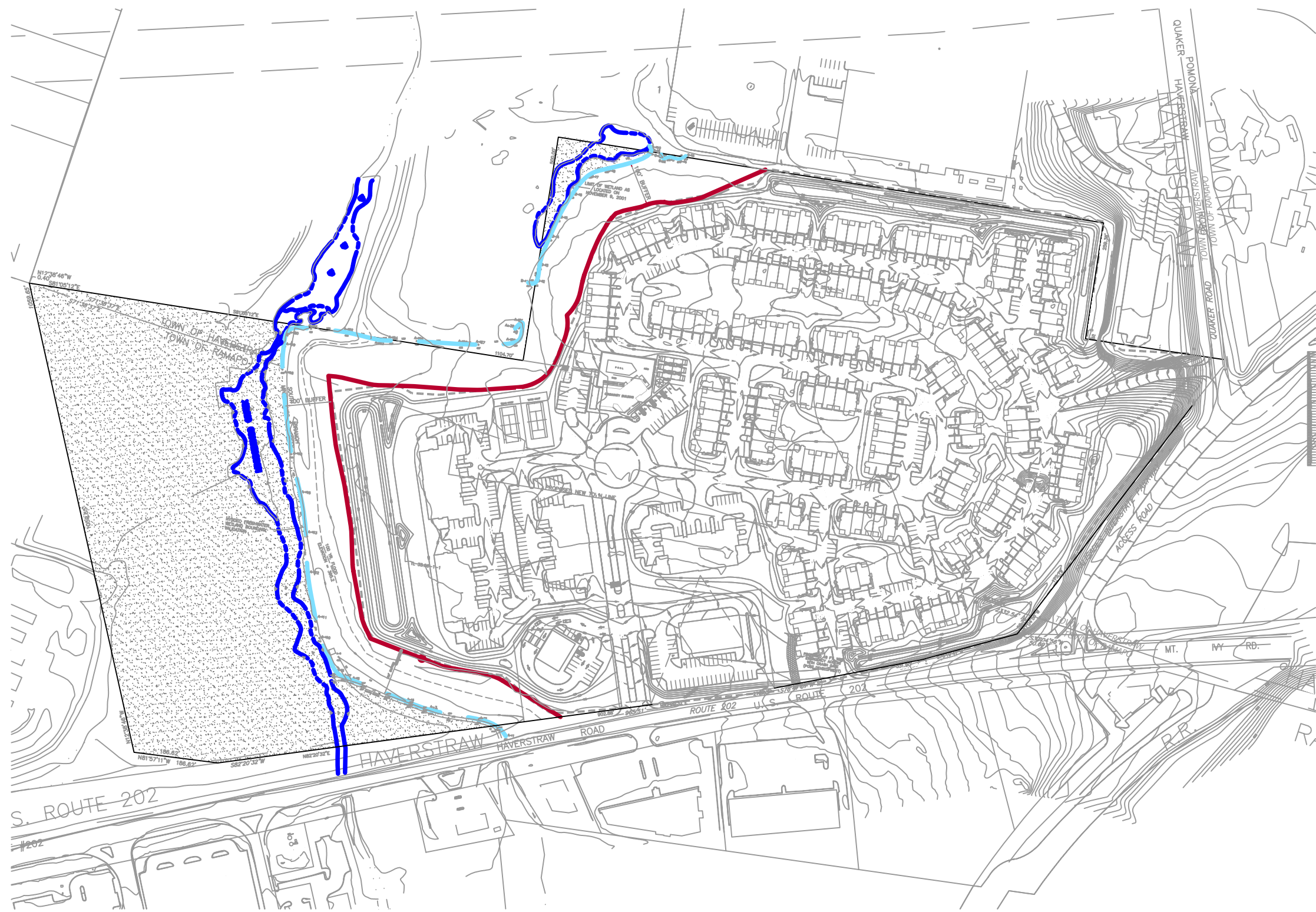


Figure 3.3-3: Project Site on NYSDEC  
Freshwater Wetlands Map  
Minisceongo Park

Towns of Haverstraw & Ramapo, Rockland County, New York

Source: NYSDEC Freshwater Wetlands Map, Thiells Quad

Scale: 1 inch = 2,000 feet





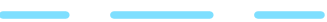

-  WETLAND AREA
-  MINISCEONGO CREEK
-  WETLAND BOUNDARY
-  100' REGULATED BUFFER

Figure 3.3-4: On-site Delineated Wetlands

Minisceongo Park  
 Town of Haverstraw and Ramapo, Rockland County, New York

Source: Carpenter Environmental Associates

Scale: 1 inch = 250 feet

